Chapter 9: Africa
Supplementary Material

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Notes: TSU Compiled Version

Table SM9.1: Africa supplemental to Figure 9.6 Africa Burning Ember

project_name	**Africa Key Risks**
project_source	Expert Elicitation
project_version	2
project_revision_date	26.08.2021
haz_name	Global mean temperature increase above pre-industrial
haz_unit	°C
haz_top_value	4
leg_title	Level of additional impact/risk due to climate change
software_version_min	1.5.0

Africa Burning Embers

Name	Risk Transition	Global mean surface temperature change above pre-industrial levels °C		Confidence
Biodiversity loss and ecosystem disruption	Undetectable to Moderate	Min	0,5	*High*
		Median	0,6	
		Max	1,0	
	Moderate to High	Min	1,1	*High*
		Median	1,5	
		Max	1,8	
	High to Very High	Min	1,9	*High*
		Median	2,1	
		Max	2,5	
Mortality and morbidity from heat and infectious disease	Undetectable to Moderate	Min	0,8	*Medium*
		Median	1,0	
		Max	1,1	
	Moderate to High	Min	1,3	*High*
		Median	1,5	
		Max	1,8	
	High to Very High	Min	2,0	*High*
		Median	2,1	
		Max	2,6	
Reduced food production from crops, fisheries and livestock	Undetectable to Moderate	Min	0,6	*High*
		Median	0,8	
		Max	1,0	
	Moderate to High	Min	1,3	*Medium*
		Median	1,5	
		Max	2,0	
	High to Very High	Min	2,0	*High*
		Median	3,0	

		Max	4,0	

Table SM9.2: Africa supplemental to Figure 9.17 Africa Ecosystems Vegetation Change

Full reference	**Citation**	**Country**	**Latitude**	**Longitude**	**Method**	**Year -start**	**Year -end**	**Change type**	**Cause**
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Angola	-14	18.4388572	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Angola	-11.88	23.39269971	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Botswana	-25.63	22.07710778	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Botswana	-23.64	27.04505642	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Botswana	-18.84	24.04015845	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Botswana	-21.98	20.88057099	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Chad	10.6	20.04049009	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported

Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Chad	12.28	15.64106495	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Ethiopa	8.56	45.00663565	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Ethiopa	3.81	39.10834979	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Ghana	10.39	-14.65339308	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Kenya	0.61	37.37262965	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Mozambique	-23.96	32.23328276	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Mozambique	-13.56	35.5228366	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Namibia	-19.8	18.47643733	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported

Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Namibia	-22.83	18.72714949	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Namibia	-24.46	17.57178928	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Nigeria	13.62	11.28240618	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Nigeria	12.56	24.00842579	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Senegal	15.2	-14.52032219	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Somalia	4.04	44.04290157	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Somalia	7.71	48.36322623	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Somalia	9.44	49.68485644	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported

Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	South Africa	9.36	24.6406157 1	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	South Africa	6.68	30.9690879 8	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Sudan	9.65	28.4817348 8	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Sudan	13.1	29.1956306 4	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Sudan	15.25	26.9440050 9	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Tanzania	-7.44	33.5510833 6	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Tanzania	-8.95	38.5182859 3	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Tanzania	-2.53	35.1216859 4	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported

Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Uganda	3.99	33.4177587	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Zambia	-14.76	24.41813177	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Axelsson, C. R., & Hanan, N. P. (2018). Rates of woody encroachment in African savannas reflect water constraints and fire disturbance. Journal of biogeography, 45(6), 1209-1218. https://doi.org/10.1111/jbi.13221	(Axelsson and Hanan, 2018)	Zimbabwe	-18.6	27.00054802	aerial photographs	2002	2016	Shrub/woodland cover gain	Not reported
Bassett, T. J., & Zu li, K. B. (2000). Environmental discourses and the Ivorian Savanna. Annals of the Association of American Geographers, 90(1), 67-95. https://doi.org/10.1111/0004-5608.00184	(Bassett and Zuéli, 2000)	Ivory coast	9.75	-5.96	aerial photos (textuaral analysis)	1956	1989	Shrub/woodland cover gain	Not climate change related
Bassett, T. J., & Zu li, K. B. (2000). Environmental discourses and the Ivorian Savanna. Annals of the Association of American Geographers, 90(1), 67-95.	(Bassett and Zuéli, 2000)	Ivory coast	9.333	-5.6667	aerial photos (textuaral analysis)	1956	1993	Shrub/woodland cover gain	Not climate change related
BENTOUATI, A. and BARITEAU, M., R flexions sur le d perissement du C dre de l Atlas des Aur s (Alg rie). Association For t M diterran enne, 14 rue Louis Astouin, 13002 MARSEILLE, France.	2006	Algeria	35.31683	6.534	not reported	2000	2008	Forest/woodland decline	Correlated with climate change driver
Britz, M. L., & Ward, D. (2007). Dynamics of woody vegetation in a semi-arid savanna, with a focus on bush encroachment. African Journal of Range and Forage Science, 24(3), 131-140. https://doi.org/10.2989/AJRFS.2007.24.3.3.296	(Britz and Ward, 2007)	South Africa	-28.5	24.6847	aerial photographs supervised classification	1957	1993	Shrub/woodland cover gain	Not reported
Eckhardt, H. C., Wilgen, B. W., & Biggs, H. C. (2000). Trends in woody vegetation cover in the Kruger National Park, South Africa, between 1940 and 1998. African Journal of Ecology, 38(2), 108-115. https://doi.org/10.1046/j.1365-2028.2000.00217.x	(Eckhardt et al., 2000)	South Africa	-24.59	31.83	aerial photographs	1940	1998	Shrub/woodland cover gain	Not climate change related

Eckhardt, H. C., Wilgen, B. W., & Biggs, H. C. (2000). Trends in woody vegetation cover in the Kruger National Park, South Africa, between 1940 and 1998. African Journal of Ecology, 38(2), 108-115. https://doi.org/10.1046/j.1365-2028.2000.00217.x	(Eckhardt et al., 2000)	South Africa	-24.59	31.83	aerial photographs	1940	1998	Forest/woodland decline	Not climate change related
El Abidine, A.Z., 2003. Forest decline in Morocco: causes and control strategy. Science et changements planetaires/Secheresse, 14(4), pp.209-218.	(Abdendi Zine El, 2003)	Morocco	33.31	-5.06	Dendrochronolgy, data review	2002	2008	Forest/woodland decline	Correlated with climate change driver
Foden, W., Midgley, G.F., Hughes, G., Bond, W.J., Thuiller, W., Hoffman, M.T., Kaleme, P., Underhill, L.G., Rebelo, A. and Hannah, L., 2007. A changing climate is eroding the geographical range of the Namib Desert tree Aloe through population declines and dispersal lags. Diversity and Distributions, 13(5), pp.645-653. https://doi.org/10.1111/j.1472-4642.2007.00391.x	(Foden et al., 2007)	Namibia	-25	15	Field based, photographs	1904	2002	Forest/woodland decline	Correlated with climate change driver
Gautier, L. (1989). Contact for t-savane en C te d'Ivoire centrale: volution de la surface foresti re de la r serve de Lamto (sud du V-Baoul). Bulletin de la Soci t Botanique de France, 136(3), 85-92. https://doi.org/10.1080/01811789.1989.10826960	(Gautier, 1989)	Ivory coast	6.23	5	aerial surveys	1963	1988	Forest cover gain	Not climate change related
Gautier, L. (1989). Contact for t-savane en C te d'Ivoire centrale: volution de la surface foresti re de la r serve de Lamto (sud du V-Baoul). Bulletin de la Soci t Botanique de France, 136(3), 85-92. https://doi.org/10.1080/01811789.1989.10826960	(Gautier, 1989)	Ivory coast	6.23	5.1	aerial photographs	1963	1988	Shrub/woodland cover gain	Not climate change related
Goetze, D., H rsch, B., & Porembski, S. (2006). Dynamics of forest savanna mosaics in north?eastern Ivory Coast from 1954 to 2002. Journal of Biogeography, 33(4), 653-664. https://doi.org/10.1111/j.1365-2699.2005.01312.x	(Goetze et al., 2006)	Guinea	8.333	-3.25	aerial photos / spot - % fores patch dissapearance or gain	1954	1996	Forest/woodland decline	Correlated with climate change driver

Goetze, D., H rsch, B., & Porembski, S. (2006). Dynamics of forest savanna mosaics in north?eastern Ivory Coast from 1954 to 2002. Journal of Biogeography, 33(4), 653-664. https://doi.org/10.1111/j.1365-2699.2005.01312.x	(Goetze et al., 2006)	Guinea	8.333	-3.25	aerial photos / spot - % fores patch dissapearance or gain	1954	1996	Forest cover gain	Not climate change related
Gonzalez, P., 2001. Desertification and a shift of forest species in the West African Sahel. Climate research, 17(2), pp.217-228. 10.3354/cr017217	(Patrick, 2001)	Senegal	15.5843	16.4838	Field - based & aerial photographs	1945	1993	Forest/woodland decline	Not reported
Gordijn, P. J., Rice, E., & Ward, D. (2012). The effects of fire on woody plant encroachment are exacerbated by succession of trees of decreased palatability. Perspectives in Plant Ecology, Evolution and Systematics, 14(6), 411-422. https://doi.org/10.1016/j.ppees.2012.09.005	(Gordijn et al., 2012)	South Africa	-27.5014	31.4181	aerial photographs (textural analysis)	1943	2007	Shrub/woodland cover gain	Correlated with climate change driver
Grellier, S., Kemp, J., Janeau, J. L., Florsch, N., Ward, D., Barot, S., ... & Valentin, C. (2012). The indirect impact of encroaching trees on gully extension: A 64year study in a sub-humid grassland of South Africa. Catena, 98, 110-119. https://doi.org/10.1016/j.catena.2012.07.002	(Grellier et al., 2012)	South Africa	-28.8103	29.3553	aerial photos	1945	2009	Shrub/woodland cover gain	Not reported
Guillet, B., Achoundong, G., Happi, J. Y., Beyala, V. K. K., Bonvallot, J., Riera, B., ... & Schwartz, D. (2001). Agreement between floristic and soil organic carbon isotope (13C/12C, 14C) indicators of forest invasion of savannas during the last century in Cameroon. Journal of Tropical Ecology, 17(06), 809-832. doi:10.1017/S0266467401001614	(Guillet et al., 2001)	Cameroon	4.3333	13.7333	Aerial photos (backed by species studies and isotopes)	1952	1993	Forest cover gain	Not reported
Hottman, M. T., & O'Connor, T. G. (1999). Vegetation change over 40 years in the Weenen/Muden area, KwaZulu-Natal: evidence from photo-panoramas. African Journal of Range and Forage Science, 16(2-3), 71-88. https://doi.org/10.2989/10220119909485721	(Hottman and O'Connor, 1999)	South Africa	-28.8667	30.25	fixed point photos	1955	1998	Shrub/woodland cover gain	Not climate change related

Hudak, A. T., & Wessman, C. A. (2001). Textural analysis of high resolution imagery to quantify bush encroachment in Madikwe Game Reserve, South Africa, 1955-1996. International Journal of Remote Sensing, 22(14), 2731-2740. https://doi.org/10.1080/01431160119030	(Hudak and Wessman, 2001)	South Africa	-25	26.0333	Textural analysis, aerial photos and spot	1955	1996	Shrub/woodland cover gain	Not climate change related
Kakembo, V. (2001). Trends in vegetation degradation in relation to land tenure, rainfall, and population changes in Peddie district, Eastern Cape, South Africa. Environmental Management, 28(1), 39-46. 10.1007/s002670010205	(Kakembo, 2001)	South Africa	-33.1167	27.2	erial photos	1938	1988	Shrub/woodland cover gain	Not climate change related
Levick, S. R., & Rogers, K. H. (2011). Context-dependent vegetation dynamics in an African savanna. Landscape ecology, 26(4), 515-528. https://doi.org/10.1007/s10980-011-9578-2	(Levick and Rogers, 2011)	South Africa	-22.9867	31.276	aerial photographs	1942	2001	Shrub/woodland cover gain	Not reported
Levick, S. R., & Rogers, K. H. (2011). Context-dependent vegetation dynamics in an African savanna. Landscape ecology, 26(4), 515-528. https://doi.org/10.1007/s10980-011-9578-2	(Levick and Rogers, 2011)	South Africa	-23.1248	31.4575	aerial photographs	1942	2001	Shrub/woodland cover gain	Not reported
Lwanga, J.S., 2003. Localized tree mortality following the drought of 1999 at Ngogo, Kibale National Park, Uganda. African Journal of Ecology, 41(2), pp.194-196.	(Lwanga, 2003)	Uganda	0.483483	30.3837	Field based	1999	1999	Forest/woodland decline	Correlated with climate change driver
Macgregor, S.D. and O'Connor, T.G., 2002. Patch dieback of Colophospermum mopane in a dysfunctional semi?arid African savanna. Austral Ecology, 27(4), pp.385-395. https://doi.org/10.1046/j.1442-9993.2002.01192.x	(Macgregor and O'Connor, 2002)	South Africa	-22	29.3	Field -based	1988	1992	Forest/woodland decline	Correlated with climate change driver
Mapaure, I. N., & Campbell, B. M. (2002). Changes in miombo woodland cover in and around Sengwa Wildlife Research Area, Zimbabwe, in relation to elephants and fire. African Journal of Ecology, 40(3), 212-219. https://doi.org/10.1046/j.1365-2028.2002.00355.x	(Mapaure and Campbell, 2002)	Zimbabwe	-28.2347	18.1167	aerial photos (dot grid method)	1958	1996	Forest/woodland decline	Not reported

Mapaure, I. N., & Campbell, B. M. (2002). Changes in miombo woodland cover in and around Sengwa Wildlife Research Area, Zimbabwe, in relation to elephants and fire. African Journal of Ecology, 40(3), 212-219. https://doi.org/10.1046/j.1365-2028.2002.00355.x	(Mapaure and Campbell, 2002)	Zimbabwe	-28.2347	18.1167	aerial photos (dot grid method)	1958	1996	Forest/woodland decline	Not reported
Mapedza, E., Wright, J., & Fawcett, R. (2003). An investigation of land cover change in Mafungautsi Forest, Zimbabwe, using GIS and participatory mapping. Applied Geography, 23(1), 1-21. https://doi.org/10.1016/S0143-6228(02)00070-X	(Mapedza et al., 2003)	Zimbabwe	-18.2167	28.9333	aerial photos	1976	1996	Forest cover gain	Not reported
Mapedza, E., Wright, J., & Fawcett, R. (2003). An investigation of land cover change in Mafungautsi Forest, Zimbabwe, using GIS and participatory mapping. Applied Geography, 23(1), 1-21. https://doi.org/10.1016/S0143-6228(02)00070-X	(Mapedza et al., 2003)	Zimbabwe	-18.2167	28.9333	aerial photos	1976	1996	Forest/woodland decline	Not reported
Marston, C. G., Aplin, P., Wilkinson, D. M., Field, R., & O Regan, H. J. (2017). Scrubbing up: multi-scale investigation of woody encroachment in a southern African savannah. Remote Sensing, 9(5), 419. https://doi.org/10.3390/rs9050419	(Marston et al., 2017)	South Africa	-25.5	31.25	Aerial photographs and Landsat	2001	2014	Shrub/woodland cover gain	Proposed climate change driver
Mitchard, E. T. A., Saatchi, S. S., Gerard, F. F., Lewis, S. L., & Meir, P. (2009). Measuring woody encroachment along a forest-savanna boundary in Central Africa. Earth Interactions, 13(8), 1-29. https://doi.org/10.1175/2009EI278.1	(Mitchard et al., 2009)	Cameroon	6.0228	12.8111	NDVI Landsat, envi	1986	2006	Forest cover gain	Proposed climate change driver
Mosugelo, D. K., Moe, S. R., Ringrose, S., & Nellemann, C. (2002). Vegetation changes during a 36?year period in northern Chobe National Park, Botswana. African Journal of Ecology, 40(3), 232-240. https://doi.org/10.1046/j.1365-2028.2002.00361.x	(Mosugelo et al., 2002)	Botswana	-18.796	24.364	aerial photo & field-based	1962	1998	Forest/woodland decline	Not climate change related
Mosugelo, D. K., Moe, S. R., Ringrose, S., & Nellemann, C. (2002). Vegetation changes during a 36?year period in northern Chobe	(Mosugelo et al., 2002)	Botswana	-18.796	24.364	aerial photo	1962	1998	Shrub/woodland cover gain	Correlated with climate

National Park, Botswana. African Journal of Ecology, 40(3), 232-240. https://doi.org/10.1046/j.1365-2028.2002.00361.x									change driver
O Connor, T. G. (2001). Effect of small catchment dams on downstream vegetation of a seasonal river in semi?arid African savanna. Journal of Applied Ecology, 38(6), 1314-1325. https://doi.org/10.1046/j.0021-8901.2001.00680.x	(O'Connor, 2001)	South Africa	-22.3833	29.3	aerial photos	1955	1987	Shrub/woodland cover gain	Not reported
O Connor, T. G. (2001). Effect of small catchment dams on downstream vegetation of a seasonal river in semi?arid African savanna. Journal of Applied Ecology, 38(6), 1314-1325. https://doi.org/10.1046/j.0021-8901.2001.00680.x	(O'Connor, 2001)	South Africa	-22.3833	29.3	aerial photos	1991	1991	Forest/woodland decline	Not reported
O Connor, T. G. (2001). Effect of small catchment dams on downstream vegetation of a seasonal river in semi?arid African savanna. Journal of Applied Ecology, 38(6), 1314-1325. https://doi.org/10.1046/j.0021-8901.2001.00680.x	(O'Connor, 2001)	South Africa	-22.3833	29.3	aerial photos	1998	1998	Forest/woodland decline	Not reported
O'Connor, T. G., & Crow, V. R. T. (1999). Rate and pattern of bush encroachment in Eastern Cape savanna and grassland. African Journal of Range and Forage Science, 16(1), 26-31. https://doi.org/10.2989/10220119909485715	(O'Connor and Crow, 1999)	South Africa	-32.667	27.6667	stratified sampling of aerial photos	1938	1986	Shrub/woodland cover gain	Proposed climate change driver
O'connor, T. G., Haines, L. M., & Snyman, H. A. (2001). Influence of precipitation and species composition on phytomass of a semi?arid African grassland. Journal of Ecology, 89(5), 850-860. https://doi.org/10.1046/j.0022-0477.2001.00605.x	(O'Connor et al., 2001)	South Africa	-22.38	29.3	Aerial photographs	1955	1987	Shrub/woodland cover gain	Not reported
O'connor, T.G., 1998. Impact of sustained drought on a semi?arid Colophospermum mopane savanna. African Journal of Range & Forage Science, 15(3), pp.83-91. https://doi.org/10.1080/10220119.1998.9647948	(O'Connor, 1998)	South Africa	-22.21	29.15	Field -based	1982	1997	Forest/woodland decline	Not reported

Poulsen, Z.C. and Hoffman, M.T., 2015. Changes in the distribution of indigenous forest in Table Mountain National Park during the 20th Century. South African Journal of Botany. 101, 49-56. https://doi.org/10.1016/j.sajb.2015.05.002	(Poulsen and Hoffman, 2015)	South Africa	-33.56	18.25	aerial and repeated ground-based photographs, spp and cover abundance of woody plants	1944	2008	Forest cover gain	Not reported
Prins, H. H., & van der Jeugd, H. P. (1993). Herbivore population crashes and woodland structure in East Africa. Journal of Ecology, 305-314. https://doi.org/10.2307/2261500	(Herbert and van der Jeugd, 1993)	Tanzania	-3.502	35.75	aerial photos	1985	1991	Shrub/woodland cover gain	Not climate change related
Prins, H. H., & van der Jeugd, H. P. (1993). Herbivore population crashes and woodland structure in East Africa. Journal of Ecology, 305-314. https://doi.org/10.2307/2261500	(Herbert and van der Jeugd, 1993)	Tanzania	-3.504	35.75	aerial photos	1985	1991	Shrub/woodland cover gain	Not climate change related
Prins, H. H., & van der Jeugd, H. P. (1993). Herbivore population crashes and woodland structure in East Africa. Journal of Ecology, 305-314. https://doi.org/10.2307/2261500	(Herbert and van der Jeugd, 1993)	Tanzania	-3.5056	35.75	aerial photos	1985	1991	Shrub/woodland cover gain	Not climate change related
Prins, H. H., & van der Jeugd, H. P. (1993). Herbivore population crashes and woodland structure in East Africa. Journal of Ecology, 305-314. https://doi.org/10.2307/2261500	(Herbert and van der Jeugd, 1993)	Tanzania	-3.5	35.75	aerial photos	1985	1991	Shrub/woodland cover gain	Not climate change related
Puttick, J. R., Hoffman, M. T., & Gambiza, J. (2011). Historical and recent land-use impacts on the vegetation of Bathurst, a municipal commonage in the Eastern Cape, South Africa. African Journal of Range & Forage Science, 28(1), 9-20. https://doi.org/10.2989/10220119.2011.570946	(Puttick et al., 2011)	South Africa	-33.523	26.8167	aerial photos (grid overay 30x30m)	1942	2004	Shrub/woodland cover gain	Not reported
Puttick, J. R., Hoffman, M. T., & Gambiza, J. (2011). Historical and recent land-use impacts on the vegetation of Bathurst, a municipal commonage in the Eastern Cape, South Africa. African Journal of Range & Forage Science, 28(1), 9-20. https://doi.org/10.2989/10220119.2011.570946	Puttick, 2011 #331}	South Africa	-33.51	26.8167	aerial photos (grid overay 30x30m)	1942	2004	Shrub/woodland cover gain	Not reported
Puttick, J. R., Hoffman, M. T., & Gambiza, J. (2011). Historical and recent land-use impacts on the vegetation of Bathurst, a municipal commonage in the Eastern Cape, South Africa.	Puttick, 2011 #331}	South Africa	-33.5	26.8167	aerial photos (grid overay 30x30m)	1942	2004	Shrub/woodland cover gain	Not reported

African Journal of Range & Forage Science, 28(1), 9-20. https://doi.org/10.2989/10220119.2011.570946									
Puttick, J. R., Hoffman, M. T., & Gambiza, J. (2014). The impact of land use on woody plant cover and species composition on the Grahamstown municipal commonage: implications for South Africa's land reform programme. African Journal of Range & Forage Science, 31(2), 123-133. https://doi.org/10.2989/10220119.2014.910835	(Puttick et al., 2014a)	South Africa	-33.3017	26.5358	aerial photos (grid overay 30x30m)	1942	2004	Shrub/woodland cover gain	Not reported
Puttick, J. R., Hoffman, M. T., & Gambiza, J. (2014). The influence of South Africa's post-apartheid land reform policies on bush encroachment and range condition: a case study of Fort Beaufort's municipal commonage. African Journal of Range & Forage Science, (ahead-of-print), 1-11. https://doi.org/10.2989/10220119.2014.880943	(Puttick et al., 2014b)	South Africa	-32.7749	26.6344	aerial photos (grid overay 30x30m)	1949	2004	Shrub/woodland cover gain	Not reported
Puttick, J. R., Hoffman, M. T., & Gambiza, J. (2014). The influence of South Africa's post-apartheid land reform policies on bush encroachment and range condition: a case study of Fort Beaufort's municipal commonage. African Journal of Range & Forage Science, (ahead-of-print), 1-11. https://doi.org/10.2989/10220119.2014.880943	(Puttick et al., 2014b)	South Africa	-32.7747	26.6344	aerial photos (grid overay 30x30m)	1949	2004	Shrub/woodland cover gain	Not reported
Puttick, J. R., Hoffman, M. T., & Gambiza, J. (2014). The influence of South Africa's post-apartheid land reform policies on bush encroachment and range condition: a case study of Fort Beaufort's municipal commonage. African Journal of Range & Forage Science, (ahead-of-print), 1-11. https://doi.org/10.2989/10220119.2014.880943	(Puttick et al., 2014b)	South Africa	-32.7745	26.6344	aerial photos (grid overay 30x30m)	1949	2004	Shrub/woodland cover gain	Not reported
Rohde, R. F., & Hoffman, M. T. (2012). The historical ecology of Namibian rangelands: Vegetation change since 1876 in response to local and global drivers. Science of the Total Environment, 416, 276-288. https://doi.org/10.1016/j.scitotenv.2011.10.067	(Rohde and Hoffman, 2012)	namibia	-24	18	Fixed point	1876	2009	Shrub/woodland cover gain	Correlated with climate change driver

Rohde, R. F., & Hoffman, M. T. (2012). The historical ecology of Namibian rangelands: Vegetation change since 1876 in response to local and global drivers. Science of the Total Environment, 416, 276-288. https://doi.org/10.1016/j.scitotenv.2011.10.067	(Rohde and Hoffman, 2012)	namibia	-22	17	fixed point	1876	2009	Shrub/woodland cover gain	Correlated with climate change driver
Rohde, R. F., Hoffman, M. T., Durbach, I., Venter, Z., & Jack, S. (2019). Vegetation and climate change in the Pro-Namib and Namib Desert based on repeat photography: Insights into climate trends. Journal of Arid Environments, 165, 119-131. https://doi.org/10.1016/j.jaridenv.2019.01.007	(Rohde et al., 2019)	Namibia	-22.570715	14.645362	fixed point photos	1876	2016	Shrub/woodland cover gain	Correlated with climate change driver
Rohde, R. F., Hoffman, M. T., Durbach, I., Venter, Z., & Jack, S. (2019). Vegetation and climate change in the Pro-Namib and Namib Desert based on repeat photography: Insights into climate trends. Journal of Arid Environments, 165, 119-131. https://doi.org/10.1016/j.jaridenv.2019.01.007	(Rohde et al., 2019)	Namibia	-21.636014	15.25969	fixed point photos	1876	2016	Shrub/woodland cover gain	Correlated with climate change driver
Roques, K. G., O'connor, T. G., & Watkinson, A. R. (2001). Dynamics of shrub encroachment in an African savanna: relative influences of fire, herbivory, rainfall and density dependence. Journal of Applied Ecology, 38(2), 268-280. https://doi.org/10.1046/j.1365-2664.2001.00567.x	(Roques et al., 2001)	Swaziland	-26.26678	31.9	stratified sampling of aerial photos	1947	1997	Shrub/woodland cover gain	Not reported
Roques, K. G., O'connor, T. G., & Watkinson, A. R. (2001). Dynamics of shrub encroachment in an African savanna: relative influences of fire, herbivory, rainfall and density dependence. Journal of Applied Ecology, 38(2), 268-280. https://doi.org/10.1046/j.1365-2664.2001.00567.x	(Roques et al., 2001)	Swaziland	-26.26679	31.9	stratified sampling of aerial photos	1947	1997	Shrub/woodland cover gain	Not reported
Roques, K. G., O'connor, T. G., & Watkinson, A. R. (2001). Dynamics of shrub encroachment in an African savanna: relative influences of fire, herbivory, rainfall and density dependence. Journal of Applied Ecology, 38(2), 268-280. https://doi.org/10.1046/j.1365-2664.2001.00567.x	(Roques et al., 2001)	Swaziland	-26.26676	31.9	stratified sampling of aerial photos	1947	1997	Shrub/woodland cover gain	Not reported

Roques, K. G., O'connor, T. G., & Watkinson, A. R. (2001). Dynamics of shrub encroachment in an African savanna: relative influences of fire, herbivory, rainfall and density dependence. Journal of Applied Ecology, 38(2), 268-280. https://doi.org/10.1046/j.1365-2664.2001.00567.x	(Roques et al., 2001)	Swaziland	-26.26675	31.9	stratified sampling of aerial photos	1947	1997	Shrub/woodland cover gain	Not reported
Roques, K. G., O'connor, T. G., & Watkinson, A. R. (2001). Dynamics of shrub encroachment in an African savanna: relative influences of fire, herbivory, rainfall and density dependence. Journal of Applied Ecology, 38(2), 268-280. https://doi.org/10.1046/j.1365-2664.2001.00567.x	(Roques et al., 2001)	Swaziland	-26.26674	31.9	stratified sampling of aerial photos	1947	1997	Shrub/woodland cover gain	Not reported
Roques, K. G., O'connor, T. G., & Watkinson, A. R. (2001). Dynamics of shrub encroachment in an African savanna: relative influences of fire, herbivory, rainfall and density dependence. Journal of Applied Ecology, 38(2), 268-280. https://doi.org/10.1046/j.1365-2664.2001.00567.x	(Roques et al., 2001)	Swaziland	-26.26673	31.9	stratified sampling of aerial photos	1947	1997	Shrub/woodland cover gain	Not reported
Russell, J. M., & Ward, D. (2014). Remote sensing provides a progressive record of vegetation change in northern KwaZulu-Natal, South Africa, from 1944 to 2005. International Journal of Remote Sensing, 35(3), 904-926. https://doi.org/10.1080/01431161.2013.873154	(Russell and Ward, 2014b)	South Africa	-28.23	30.36	aerial photo	1944	2005	Shrub/woodland cover gain	Correlated with climate change driver
Russell, J. M., & Ward, D. (2014). Remote sensing provides a progressive record of vegetation change in northern KwaZulu-Natal, South Africa, from 1944 to 2005. International Journal of Remote Sensing, 35(3), 904-926. https://doi.org/10.1080/01431161.2013.873154	(Russell and Ward, 2014b)	South Africa	-28.211	30.39	aerial photo	1944	2005	Shrub/woodland cover gain	Correlated with climate change driver
Russell, J. M., & Ward, D. (2014). Remote sensing provides a progressive record of vegetation change in northern KwaZulu-Natal, South Africa, from 1944 to 2005. International Journal of Remote Sensing, 35(3), 904-926. https://doi.org/10.1080/01431161.2013.873154	(Russell and Ward, 2014b)	South Africa	-28.21	30.32	aerial photo	1944	2005	Shrub/woodland cover gain	Correlated with climate change driver
Russell, J. M., & Ward, D. (2014). Remote sensing provides a progressive record of	(Russell and Ward, 2014b)	South Africa	-28.212	30.32	aerial photo	1944	2005	Shrub/woodland cover gain	Correlated with

vegetation change in northern KwaZulu-Natal, South Africa, from 1944 to 2005. International Journal of Remote Sensing, 35(3), 904-926. https://doi.org/10.1080/01431161.2013.873154									climate change driver
Russell, J., & Ward, D. (2013). Vegetation change in northern KwaZulu-Natal since the Anglo-Zulu War of 1879: local or global drivers?. African Journal of Range & Forage Science, (ahead-of-print), 1-17. https://doi.org/10.2989/10220119.2013.827740	(Russell and Ward, 2014a)	South Africa	-28.1	30.24	fixed point photos	1879	2011	Shrub/woodland cover gain	Proposed climate change driver
Tafangenyasha, C. (1997). Tree loss in the Gonarezhou National Park (Zimbabwe) between 1970 and 1983. Journal of Environmental Management,49(3), 355-366. https://doi.org/10.1006/jema.1996.9987	(Tafangenyasha, 1997)	Zimbabwe	-21.75	33.3833	Fixed point	1970	1984	Forest/woodland decline	Not climate change related
Tafangenyasha, C., 2001. Decline of the mountain acacia, Brachystegia glaucescens in Gonarezhou National Park, southeast Zimbabwe. Journal of Environmental Management, 63(1), pp.37-50. https://doi.org/10.1006/jema.2001.0458	(Tafangenyasha, 2001)	Zimbabwe	-22.05	32.167	Field observations	1970	1982	Forest/woodland decline	Not reported
Tafangenyasha, C., 2001. Decline of the mountain acacia, Brachystegia glaucescens in Gonarezhou National Park, southeast Zimbabwe. Journal of Environmental Management, 63(1), pp.37-50. https://doi.org/10.1006/jema.2001.0458	(Tafangenyasha, 2001)	Zimbabwe	-22	32.167	Field observations	1991	1992	Forest/woodland decline	Not reported
Van Langevelde, F., Van De Vijver, C. A., Kumar, L., Van De Koppel, J., De Ridder, N., Van Andel, J., ... & Rietkerk, M. (2003). Effects of fire and herbivory on the stability of savanna ecosystems. Ecology, 84(2), 337-350. https://doi.org/10.1890/0012-9658(2003)084[0337:EOFAHO]2.0.CO;2	(Van Langevelde et al., 2003)	Tanzania	-4.02	36.4167	PCQ	1971	1996	Forest/woodland decline	Not climate change related
Van Langevelde, F., Van De Vijver, C. A., Kumar, L., Van De Koppel, J., De Ridder, N., Van Andel, J., ... & Rietkerk, M. (2003). Effects of fire and herbivory on the stability of savanna ecosystems. Ecology, 84(2), 337-350. https://doi.org/10.1890/0012-9658(2003)084[0337:EOFAHO]2.0.CO;2	(Van Langevelde et al., 2003)	Tanzania	-4	36.4167	PCQ	1971	1996	Forest/woodland decline	Not climate change related

Viljoen, A.J., 1995. The influence of the 1991/92 drought on the woody vegetation of the Kruger National Park. Koedoe, 38(2), pp.85-97. https://doi.org/10.4102/koedoe.v38i2.316	(Viljoen, 1995)	South Africa	-23	31	Field observations & surveys, aerial photographs	1991	1993	Forest/woodland decline	Correlated with climate change driver
Ward, D., Hoffman, M. T., & Collocott, S. J. (2014). A century of woody plant encroachment in the dry Kimberley savanna of South Africa. African Journal of Range & Forage Science, (ahead-of-print), 1-15. https://doi.org/10.2989/10220119.2014.914974	(Ward et al., 2014)	South Africa	-28.96	24.69	aerial photos (textuaral analysis)	1940	2009	Shrub/woodland cover gain	Correlated with climate change driver
Ward, D., Hoffman, M. T., & Collocott, S. J. (2014). A century of woody plant encroachment in the dry Kimberley savanna of South Africa. African Journal of Range & Forage Science, (ahead-of-print), 1-15. https://doi.org/10.2989/10220119.2014.914974	(Ward et al., 2014)	South Africa	-28.9825	25.093	fixed point photos	1900	2010	Shrub/woodland cover gain	Not reported
Ward, D., Hoffman, M. T., & Collocott, S. J. (2014). A century of woody plant encroachment in the dry Kimberley savanna of South Africa. African Journal of Range & Forage Science, (ahead-of-print), 1-15. https://doi.org/10.2989/10220119.2014.914974	(Ward et al., 2014)	South Africa	-29.416	24.368	fixed point photos	1899	2010	Shrub/woodland cover gain	Correlated with climate change driver
Ward, D., Hoffman, M. T., & Collocott, S. J. (2014). A century of woody plant encroachment in the dry Kimberley savanna of South Africa. African Journal of Range & Forage Science, (ahead-of-print), 1-15. https://doi.org/10.2989/10220119.2014.914974	(Ward et al., 2014)	South Africa	-28.9825	25.093	fixed point photos	1919	2010	Forest/woodland decline	Correlated with climate change driver
Ward, D., Hoffman, M. T., & Collocott, S. J. (2014). A century of woody plant encroachment in the dry Kimberley savanna of South Africa. African Journal of Range & Forage Science, (ahead-of-print), 1-15. https://doi.org/10.2989/10220119.2014.914974	(Ward et al., 2014)	South Africa	-28.69	24.63	fixed point photos	1989	2010	Shrub/woodland cover gain	Not reported
Wigley, B. J., Bond, W. J., & Hoffman, M. (2010). Thicket expansion in a South African savanna under divergent land use: local vs. global drivers?. Global Change Biology, 16(3), 964-976. https://doi.org/10.1111/j.1365-2486.2009.02030.x	(Wigley et al., 2010)	South Africa	-28.04196	32.041963	aerial photographs	1937	2004	Shrub/woodland cover gain	Proposed climate change driver

Wigley, B. J., Bond, W. J., & Hoffman, M. (2010). Thicket expansion in a South African savanna under divergent land use: local vs. global drivers?. Global Change Biology, 16(3), 964-976. https://doi.org/10.1111/j.1365-2486.2009.02030.x	(Wigley et al., 2010)	South Africa	-28.0313	32.143899	aerial photographs	1937	2004	Shrub/woodland cover gain	Proposed climate change driver
Wigley, B. J., Bond, W. J., & Hoffman, M. (2010). Thicket expansion in a South African savanna under divergent land use: local vs. global drivers?. Global Change Biology, 16(3), 964-976. https://doi.org/10.1111/j.1365-2486.2009.02030.x	(Wigley et al., 2010)	South Africa	-28.015662	32.21004	aerial photographs	1937	2004	Shrub/woodland cover gain	Proposed climate change driver
Masubelele, M. L., Hoffman, M. T., & Bond, W. J. (2015). A repeat photograph analysis of long?term vegetation change in semi?arid South Africa in response to land use and climate. Journal of Vegetation Science, 26(5), 1013-1023. https://doi.org/10.1111/jvs.12303	(Masubelele et al., 2015)	South Africa	-30.316	26.20462	fixed point photos	1950	2010	Grass cover gain	Proposed climate change driver
Masubelele, M. L., Hoffman, M. T., & Bond, W. J. (2015). A repeat photograph analysis of long?term vegetation change in semi?arid South Africa in response to land use and climate. Journal of Vegetation Science, 26(5), 1013-1023. https://doi.org/10.1111/jvs.12303	(Masubelele et al., 2015)	South Africa	-33.343297	25.002542	fixed point photos	1950	2010	Grass cover gain	Proposed climate change driver
Masubelele, M. L., Hoffman, M. T., & Bond, W. J. (2015). A repeat photograph analysis of long?term vegetation change in semi?arid South Africa in response to land use and climate. Journal of Vegetation Science, 26(5), 1013-1023. https://doi.org/10.1111/jvs.12303	(Masubelele et al., 2015)	South Africa	-33.343	25.0026	fixed point photos	1950	2010	Shrub/woodland cover gain	Proposed climate change driver
Masubelele, M. L., Hoffman, M. T., & Bond, W. J. (2015). A repeat photograph analysis of long?term vegetation change in semi?arid South Africa in response to land use and climate. Journal of Vegetation Science, 26(5), 1013-1023. https://doi.org/10.1111/jvs.12303	(Masubelele et al., 2015)	South Africa	-33.343	25.0026	fixed point photos	1950	2010	Shrub/woodland cover gain	Proposed climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production	(Brandt et al., 2019)	Sahel	16.4708	-14.80252	remote sensing	1987	2016	Grass cover gain	Correlated with climate change driver

in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9									
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	15.4145	-5.617953	remote sensing	1987	2016	Grass cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	15.3297	0.31466	remote sensing	1987	2016	Grass cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	13.20038	2.42403	remote sensing	1987	2016	Grass cover loss	Not climate change related
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	14.71433	8.42257	remote sensing	1987	2016	Grass cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	13.371465	16.113004	remote sensing	1987	2016	Grass cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	14.24097	21.770963	remote sensing	1987	2016	Grass cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall	(Brandt et al., 2019)	Sahel	12.68108	21.842374	remote sensing	1987	2016	Grass cover loss	Not climate

distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9										change related
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	16.84188	-15.21725	remote sensing	1987	2016	Shrub/woodland cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	14.94002	-14.64596	remote sensing	1987	2016	Shrub/woodland cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	14.174408	-5.505343	remote sensing	1987	2016	Shrub/woodland cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	16.336497	0.427274	remote sensing	1987	2016	Shrub/woodland cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	14.259607	8.7878	remote sensing	1987	2016	Shrub/woodland cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	12.806996	21.20242	remote sensing	1987	2016	Shrub/woodland cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ...	(Brandt et al., 2019)	Sahel	11.819518	15.028104	remote sensing	1987	2016	Forest/woodland decline	Not climate

& Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9									change related
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	15.258234	2.52566	remote sensing	1987	2016	Forest/woodland decline	Not climate change related
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	16.77878	-14.239474	field study	1987	2016	Grass cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	16.820857	-14.920626	field study	1987	2016	Grass cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	16.526174	-14.953585	field study	1987	2016	Grass cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	15.8509	-14.547091	field study	1987	2016	Grass cover gain	Correlated with climate change driver
Brandt, M., Hiernaux, P., Rasmussen, K., Tucker, C. J., Wigneron, J. P., Diouf, A. A., ... & Abel, C. (2019). Changes in rainfall distribution promote woody foliage production in the Sahel. Communications biology, 2(1), 1-10. https://doi.org/10.1038/s42003-019-0383-9	(Brandt et al., 2019)	Sahel	15.162821	-15.239229	field study	1987	2016	Grass cover gain	Correlated with climate change driver

Li, W., Buitenwerf, R., Munk, M., Amoke, I., B cher, P. K., & Svenning, J. C. (2020). Accelerating savanna degradation threatens the Maasai Mara socio-ecological system. Global Environmental Change, 60, 102030. https://doi.org/10.1016/j.gloenvcha.2019.102030	(Li et al., 2020a)	Kenya	-1.26859	34.774001	remote sensing	1985	2016	Forest/woodland decline	Not climate change related
Li, W., Buitenwerf, R., Munk, M., Amoke, I., B cher, P. K., & Svenning, J. C. (2020). Accelerating savanna degradation threatens the Maasai Mara socio-ecological system. Global Environmental Change, 60, 102030. https://doi.org/10.1016/j.gloenvcha.2019.102030	(Li et al., 2020a)	Kenya	-1.309096	34.7685	remote sensing	1985	2016	Grass cover loss	Not climate change related
Li, W., Buitenwerf, R., Munk, M., B cher, P. K., & Svenning, J. C. (2020). Deep-learning based high-resolution mapping shows woody vegetation densification in greater Maasai Mara ecosystem. Remote Sensing of Environment, 247, 111953. https://doi.org/10.1016/j.rse.2020.111953	(Li et al., 2020b)	Kenya	-1.388725	34.91751	remote sensing	2015	2018	Shrub/woodland cover gain	Proposed climate change driver
Li, W., Buitenwerf, R., Munk, M., B cher, P. K., & Svenning, J. C. (2020). Deep-learning based high-resolution mapping shows woody vegetation densification in greater Maasai Mara ecosystem. Remote Sensing of Environment, 247, 111953. https://doi.org/10.1016/j.rse.2020.111953	(Li et al., 2020b)	Kenya	-1.248686	34.72937	remote sensing	2015	2018	Shrub/woodland cover gain	Proposed climate change driver
Li, W., Buitenwerf, R., Munk, M., B cher, P. K., & Svenning, J. C. (2020). Deep-learning based high-resolution mapping shows woody vegetation densification in greater Maasai Mara ecosystem. Remote Sensing of Environment, 247, 111953. https://doi.org/10.1016/j.rse.2020.111953	(Li et al., 2020b)	Kenya	-1.396275	35.014327	remote sensing	2015	2018	Shrub/woodland cover gain	Proposed climate change driver
Venter, Z. S., Scott, S. L., Desmet, P. G., & Hoffman, M. T. (2020). Application of Landsat-derived vegetation trends over South Africa: Potential for monitoring land degradation and restoration. Ecological	(Venter et al., 2020)	South Africa	-30.526	29.05	fixed point photos	1948	2018	Shrub/woodland cover gain	Proposed climate change driver

Indicators, 113, 106206. https://doi.org/10.1016/j.ecolind.2020.106206									
Venter, Z. S., Scott, S. L., Desmet, P. G., & Hoffman, M. T. (2020). Application of Landsat-derived vegetation trends over South Africa: Potential for monitoring land degradation and restoration. Ecological Indicators, 113, 106206. https://doi.org/10.1016/j.ecolind.2020.106206	(Venter et al., 2020)	South Africa	-32.331	24.441	fixed point photos	1968	2018	Grass cover gain	Proposed climate change driver
Venter, Z. S., Scott, S. L., Desmet, P. G., & Hoffman, M. T. (2020). Application of Landsat-derived vegetation trends over South Africa: Potential for monitoring land degradation and restoration. Ecological Indicators, 113, 106206. https://doi.org/10.1016/j.ecolind.2020.106206	(Venter et al., 2020)	South Africa	-28.308	24.779	fixed point photos	2004	2018	Grass cover gain	Proposed climate change driver
Venter, Z. S., Scott, S. L., Desmet, P. G., & Hoffman, M. T. (2020). Application of Landsat-derived vegetation trends over South Africa: Potential for monitoring land degradation and restoration. Ecological Indicators, 113, 106206. https://doi.org/10.1016/j.ecolind.2020.106206	(Venter et al., 2020)	South Africa	-28.309	24.77904	fixed point photos	2004	2018	Forest/woodland decline	Not reported
Venter, Z. S., Scott, S. L., Desmet, P. G., & Hoffman, M. T. (2020). Application of Landsat-derived vegetation trends over South Africa: Potential for monitoring land degradation and restoration. Ecological Indicators, 113, 106206. https://doi.org/10.1016/j.ecolind.2020.106206	(Venter et al., 2020)	South Africa	-28.589	20.156	fixed point photos	1987	2013	Grass cover loss	Proposed climate change driver
Aleman, J. C., Jarzyna, M. A., & Staver, A. C. (2018). Forest extent and deforestation in tropical Africa since 1900. Nature ecology & evolution, 2(1), 26-33. https://doi.org/10.1038/s41559-017-0406-1	(Aleman et al., 2018)	Central African republic	5.21988	20.551616	remote sensing and modelling	NA	NA	Forest cover gain	Proposed climate change driver
Aleman, J. C., Jarzyna, M. A., & Staver, A. C. (2018). Forest extent and deforestation in tropical Africa since 1900. Nature ecology & evolution, 2(1), 26-33. https://doi.org/10.1038/s41559-017-0406-1	(Aleman et al., 2018)	Gabon	-1.308905	14.343386	remote sensing and modelling	NA	NA	Forest cover gain	Proposed climate change driver

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Table SM9.3: Africa supplemental to Figure 9.17 Africa Ecosystems Lake Water Warming

Lake name	Sub-Region	Countries	Total Dec C increase	Decadal DegC increase	Trend	Measured years	Calculated per	Lake zone	Study period	Measured how	Reference	DOI
Abaya	North Africa	Ethiopia		0.19	pos	15	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Albert	East Africa	DRC and Uganda		0.62	pos	15	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Albert	East Africa	DRC, Uganda		na	pos	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Chad	West Africa	Niger, Chad, Cameroon, Nigeria		0.34	pos	19	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Cheshi	Southern Africa	Zambia		0.11	pos	25	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Chilwa	Southern Africa	Malawi		0.41	pos	24	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Chilwa	Southern Africa	Malawi		na	pos	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Chivero	Southern Africa	Zimbabwe	0.34	0.1	pos	35	measured years	Epilimnion	1970-2005	In situ	(Magadza, 2018)	https://doi.org/10.1111/lre.12215
Edward	East Africa	DRC, Uganda		na	pos	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Eyasi	East Africa	Tanzania		0.56	pos	20	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Kainji	West Africa	Nigeria		0.32	pos	18	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Kariba	Southern Africa	Zambia, Zimbabwe	1.9	0.76	pos	25	measured years	Epilimnion	1986-2011	In situ	(Mahere et al., 2014)	https://doi.org/10.2989/16085914.2014.927350
Kariba	Southern Africa	Zambia, Zimbabwe	1.7	0.39	pos	44	measured years	Surface	1965-2009	In situ	(Ndebele-Murisa et al., 2014)	https://doi.org/10.1007/s10750-013-1660-0
Kariba	Southern Africa	Zambia, Zimbabwe		0.13	pos	22	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235

Kivu	East Africa	DRC, Burundi	0.5	0.13	pos	40	measured years	Surface	1972-2012	In situ	(Katsev et al., 2014)	https://doi.org/10.1371/journal.pone.0109084
Kivu	East Africa	Uganda		0.18	pos	14	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Kivu	East Africa	Rwanda		na	pos	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Kyoga	East Africa	Uganda		na	pos	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Lake Bangweulu	Southern Africa	Zambia		0.17	pos	24	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Malawi	East and Southern Africa	Malawi, Mozambique, Tanzania		0.11	pos	24	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Malawi	East and Southern Africa	Malawi, Mozambique, Tanzania		na	pos	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Mweru	East and Southern Africa	DRC, Zambia		0.2	pos	24	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Mweru	East and Southern Africa	DRC, Zambia		na	pos	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Naivasha	East Africa	Kenya		na	pos	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Nasser	North Africa	Egypt		0.26	pos	21	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Nkuruba	East Africa	Uganda	0.09	0.05	pos	20	measured years	Unspecified	1992 to 2012	In situ	(Saulnier-Talbot et al., 2014)	https://doi.org/10.1371/journal.pone.0086561
Rukwa	East Africa	Tanzania		0.2	pos	24	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Rukwa	East Africa	Tanzania		na	pos	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Sidi	North Africa	Morrocco	0.198	0.06	pos	35	measured years	Epilimnion	1979-2014	In situ	(Haddout et al., 2018)	https://doi.org/10.1051/limn/2017029
Tana	North Africa	Egypt		0.16	pos	24	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Tana	North Africa	Ethiopia		na	neg	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Tanganyika	East and Southern Africa	Tanzania, DRC, Burundi, Zambia	1.7	0.34	pos	50	measured years	Surface	1950-2000	In situ	(Cohen et al., 2016)	https://doi.org/10.1073/pnas.1603237113

Tanganyika	East and Southern Africa	Tanzania, DRC, Burundi, Zambia		0.19	pos	24	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Tanganyika	East and Southern Africa	Tanzania, DRC, Burundi, Zambia		na	pos	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Turkana	East Africa	Kenya, Ethiopia		0.22	pos	24	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Turkana	East and North Afrcia	Kenya, Ethiopia		na	pos	10	decade	Surface	2002-2011	Satellite	(Loiselle et al., 2014)	https://doi.org/10.1371/journal.pone.0093656
Upemba	Central Africa	DRC		0.43	pos	24	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235
Victoria	East Africa	Kenya, Uganda,Tanzania	1.34	0.17	pos	81	measured years	Pelagic	1927-2008	In situ	(Marshall et al., 2013)	https://doi.org/10.2989/16085914.2013.810140
Victoria	East Africa	Kenya, Uganda,Tanzania		0.3	pos	19	decade	Surface	1985 to 2009	Satellite	(O'Reilly et al., 2015)	https://doi.org/10.1002/2015GL066235

Table SM9.4a: Africa biodiversity Change with GW Figure 9.19m Panel a

					Projected impact					**Warming**		
Citation	**Taxon Category**	**Sample size**	**Impact Category**	**Impact**	**Description**	**Signal positive negative or neutral**	**Current year**	**Future year**	**Impact**	**Preindustrial To Base**	**Base to future**	**Total**
1	Amphibians	34 species	Biodiversity response	Habitat suitability change	Reduced climate suitability	Negative	1985.5	2040	-0.872	0.32	1.51	1.83
1	Amphibians	34 species	Biodiversity response	Habitat suitability change	Reduced climate suitability	Negative	1985.5	2070	-0.872	0.32	2.38	2.7
1	Amphibians	29 species	Biodiversity response	Habitat suitability change	Reduced climate suitability	Negative	1985.5	2100	-0.744	0.32	3.33	3.65
1	Bird	13 species	Biodiversity response	Habitat suitability change	Reduced climate suitability	Negative	1985.5	2040	-0.296	0.32	1.51	1.83
1	Bird	11 species	Biodiversity response	Habitat suitability change	Reduced climate suitability	Negative	1985.5	2070	-0.25	0.32	2.38	2.7
1	Bird	12 species	Biodiversity response	Habitat suitability change	Reduced climate suitability	Negative	1985.5	2100	-0.273	0.32	3.33	3.65

1	Mammal	26 species	Biodiversity response	Habitat suitability change	Reduced climate suitability	Negative	1985.5	2040	-0.51	0.32	1.51	1.83
1	Mammal	22 species	Biodiversity response	Habitat suitability change	Reduced climate suitability	Negative	1985.5	2070	-0.431	0.32	2.38	2.7
1	Mammal	25 species	Biodiversity response	Habitat suitability change	Reduced climate suitability	Negative	1985.5	2100	-0.49	0.32	3.33	3.65
2	NA	6272 spp	Biodiversity response	Habitat suitability change	Loss of endemic species due to loss of analogue climate	Negative	1970-2000	2070-2099	-0.336	0.41	2.57	2.98
2	NA	6272 spp	Biodiversity response	Habitat suitability change	Loss of endemic species due to loss of analogue climate	Negative	1970-2000	2070-2099	-0.002	0.41	2.57	2.98
2	NA	1867 spp	Biodiversity response	Habitat suitability change	Loss of endemic species due to loss of analogue climate	Negative	1970-2000	2070-2099	-0.318	0.41	2.57	2.98
2	NA	3359 spp	Biodiversity response	Habitat suitability change	Loss of endemic species due to loss of analogue climate	Negative	1970-2000	2070-2099	-0.011	0.41	2.57	2.98
2	NA	2905 spp	Biodiversity response	Habitat suitability change	Loss of endemic species due to loss of analogue climate	Negative	1970-2000	2070-2099	-0.333	0.41	2.57	2.98
2	NA	1973 spp	Biodiversity response	Habitat suitability change	Loss of endemic species due to loss of analogue climate	Negative	1970-2000	2070-2099	-0.333	0.41	2.57	2.98
2	NA	2458 spp	Biodiversity response	Habitat suitability change	Loss of endemic species due to loss of analogue climate	Negative	1970-2000	2070-2099	-0.333	0.41	2.57	2.98
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.67	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.45	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.43	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.34	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.34	0.47	1.87	2.34

3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.55	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.7	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.7	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.46	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.35	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.55	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.65	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.71	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.58	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.61	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.3	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.9	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.49	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.12	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.32	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.66	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.56	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.72	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.37	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.34	0.47	1.87	2.34

3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.78	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.7	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.47	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.57	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.71	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.45	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.48	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.19	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.04	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.24	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.5	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.67	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.64	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.3	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.65	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.24	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.24	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.37	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.31	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.34	0.47	1.87	2.34

3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	-0.22	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34

3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34

3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
3	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1971-2005	2040-2080	NA	0.47	1.87	2.34
4	Plant	NA	Biodiversity response	Abundance change	Reduced biomass	Negative	1860	2100	-0.07	-0.05	4.34	4.29
4	Plant	NA	Biodiversity response	Abundance change	Reduced biomass	Negative	1860	2100	-0.02	-0.05	4.34	4.29
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	0	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.097	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.038	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.045	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.166	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.091	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.015	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.03	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.322	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.12	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.214	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.219	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.491	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.417	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.148	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.352	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.62	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.389	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.361	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.457	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.787	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.537	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.556	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.627	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.484	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.613	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.161	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.419	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.548	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.419	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.516	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.495	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.774	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.645	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.484	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.634	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.163	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.156	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.121	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.147	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.214	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.358	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.239	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.271	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.27	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.309	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.281	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.287	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.313	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.339	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.208	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.287	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.37	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.58	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.459	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.47	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.452	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.665	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.434	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.517	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.085	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.102	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.044	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.077	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.153	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.357	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.227	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.246	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.268	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.432	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.27	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.323	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.22	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.238	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.089	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.182	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.182	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.457	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.292	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.311	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.304	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.523	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.308	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.378	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.5	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.542	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.187	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.41	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.729	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.375	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.417	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.507	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.854	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.417	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.583	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.618	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.036	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.017	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.056	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.036	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.047	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.019	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.032	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.011	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.165	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.103	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.094	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.052	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.059	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.046	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.132	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.04	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.012	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.255	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.094	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.058	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.08	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.229	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.034	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.092	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.26	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.089	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.095	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.148	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.559	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.539	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.339	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.479	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.689	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.582	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.559	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.61	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.034	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.039	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.057	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.043	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.218	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.048	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.088	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.118	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.273	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.042	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.209	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.175	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.233	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.182	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.065	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.16	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.236	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.41	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.25	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.299	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.285	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.487	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.271	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.348	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.02	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.019	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.046	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.016	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.064	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.017	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.085	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.001	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.123	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.061	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.057	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.039	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.644	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.661	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.305	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.537	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.61	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.288	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.492	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.463	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.763	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.407	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.644	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.605	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.015	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.161	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.095	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.09	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.332	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.563	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.327	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.407	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.457	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.482	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.452	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.464	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.406	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.283	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.036	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.242	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.587	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.297	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.333	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.406	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.761	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.457	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.514	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.577	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.7	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.8	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.26	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.587	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.82	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.48	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.56	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.62	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.92	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.62	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.62	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.72	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.141	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.13	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.021	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.097	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.212	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.313	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.217	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.247	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.339	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.421	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.303	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.355	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.245	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.253	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.109	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.202	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.24	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.214	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.094	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.182	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.258	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.112	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.187	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.186	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.367	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.246	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.18	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.264	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.621	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.599	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.451	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.557	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.791	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.66	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.685	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.712	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.251	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.166	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.168	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.195	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.494	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.057	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.298	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.283	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.661	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.302	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.474	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.479	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.147	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.112	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.032	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.097	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.359	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.365	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.239	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.321	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.496	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.379	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.457	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.444	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.198	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.11	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.023	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.11	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.458	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.463	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.236	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.386	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.612	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.498	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.469	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.526	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.537	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.431	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.195	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.388	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.593	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.35	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.39	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.444	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.724	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.577	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.545	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.615	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.138	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.266	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.043	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.057	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	0	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.521	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.021	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.181	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.17	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.521	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.277	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.323	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.068	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	0	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.063	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.044	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.616	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.042	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.084	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.219	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.742	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.084	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.574	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.467	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.219	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.071	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.167	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.041	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.319	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.405	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.062	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.262	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.529	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.481	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.371	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.46	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.224	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.151	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.05	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.142	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.359	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.409	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.204	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.324	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.511	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.366	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.42	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.432	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.038	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.102	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.075	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.072	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.128	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.133	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.175	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.145	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.188	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.142	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.195	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.175	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.5	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.125	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.375	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.083	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.75	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.75	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	1	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.833	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.5	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.125	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.375	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.333	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.218	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.211	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.162	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.197	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.418	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.292	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.333	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.348	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.611	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.363	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.506	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.493	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.732	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.659	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.537	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.642	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.854	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.927	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.78	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.854	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.805	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.805	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.732	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.78	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.142	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.112	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.11	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.121	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.341	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.124	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.166	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.21	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.402	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.137	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.318	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.286	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.303	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.261	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.208	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.257	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.736	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.596	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.505	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.612	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.876	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.691	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.782	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.783	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.5	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.385	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.385	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.423	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.692	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.538	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.577	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.603	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.923	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.654	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.885	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.821	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.107	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.018	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.039	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.055	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.328	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.034	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.201	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.188	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.438	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.143	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.326	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.303	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.196	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.176	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.142	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.171	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.434	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.357	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.377	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.389	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.617	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.352	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.544	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.504	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.129	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.254	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.075	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.067	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.276	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.317	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.179	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.073	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.436	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.038	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.138	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.179	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.051	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.067	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.073	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.064	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.191	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.106	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.12	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.139	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.294	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.108	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.245	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.216	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.142	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.089	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.075	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.102	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.388	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.243	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.288	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.306	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.549	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.366	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.429	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.448	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.088	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.25	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.162	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.167	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.368	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.912	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.412	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.564	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.426	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.897	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.412	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.578	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.427	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.36	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.24	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.342	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.787	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.747	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.64	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.724	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.84	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.707	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.8	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.782	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.049	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.009	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.072	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.043	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.274	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.398	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.126	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.001	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.454	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.106	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.299	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.216	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.202	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.265	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.11	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.192	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.415	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.455	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.317	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.396	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.57	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.5	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.5	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.523	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.183	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.394	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.202	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.26	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.413	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.577	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.394	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.462	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.413	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.423	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.433	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.423	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.011	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.006	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.055	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.017	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.026	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.046	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.014	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.002	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.005	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.134	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.011	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.046	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.217	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.29	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.193	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.233	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.457	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.519	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.429	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.468	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.517	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.481	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.524	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.507	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.19	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.146	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.154	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.163	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.425	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.218	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.344	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.329	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.585	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.278	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.553	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.472	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.16	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.157	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.214	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.177	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.34	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.283	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.295	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.306	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.413	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.178	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.401	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.331	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	1.057	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	1.208	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	1.509	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	1.258	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.83	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	1.717	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	1.075	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	1.208	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	1.83	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	2.226	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	2.094	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	2.05	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.089	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.196	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.061	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.115	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.063	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.662	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.254	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.326	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.266	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.599	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.368	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.411	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.017	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.173	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.082	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.079	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.017	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.248	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.153	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.128	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.02	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.027	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.129	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.04	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.243	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.225	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.215	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.227	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.519	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.349	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.427	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.431	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.686	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.485	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.642	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.604	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.435	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.37	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.379	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.395	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.716	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.546	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.677	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.646	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.852	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.694	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.822	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.789	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.127	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.074	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.064	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.088	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.172	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.167	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.167	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.168	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.044	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.275	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.093	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.046	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.17	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.263	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.195	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.209	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.01	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.117	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.152	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.087	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.098	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.101	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.144	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.049	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.204	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.161	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.222	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.196	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.237	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.226	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.258	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.24	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.387	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.057	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.376	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.274	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.85	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.7	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.55	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.7	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-1	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-1	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.85	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.95	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.95	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-1	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.9	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.95	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.111	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.296	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.148	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.012	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.556	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.63	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	0	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.395	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.704	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.704	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.444	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.617	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.172	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.09	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.015	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.082	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.112	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.399	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.182	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.231	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.3	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.438	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.082	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.273	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.184	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.195	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.272	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.217	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.507	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.298	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.501	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.435	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.723	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.435	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.689	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.616	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.223	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.233	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.229	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.228	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.412	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.458	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.416	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.429	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.555	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.418	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.561	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.511	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.239	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.22	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.185	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.215	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.465	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.293	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.325	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.361	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.621	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.419	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.522	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.521	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.244	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.256	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.113	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.204	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.581	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.475	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.638	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.565	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	1	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	1.231	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.813	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	1.015	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.07	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.095	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.007	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.053	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.026	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.256	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.127	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.119	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.007	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.315	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.008	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.106	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.314	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.232	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.372	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.306	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.71	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.343	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.652	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.568	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.918	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.652	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.899	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.823	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.111	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.07	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.074	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.085	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.31	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.108	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.222	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.213	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.463	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.299	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.394	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.385	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.121	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.061	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.045	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.035	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.352	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.248	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.221	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.274	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.509	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.073	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.312	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.298	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.314	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.422	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.26	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.332	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.381	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.632	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.516	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.51	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.574	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.561	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.664	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.599	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.15	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.121	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.16	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.144	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.394	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.189	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.268	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.283	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.504	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.239	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.404	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.382	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.13	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.02	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.051	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.067	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.424	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.032	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.243	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.233	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.543	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.299	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.306	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.383	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.286	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.218	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.109	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.204	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.392	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.242	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.45	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.362	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.533	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.305	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.613	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.483	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.017	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.087	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.091	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.007	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.167	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.179	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.089	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.026	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.205	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.172	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.181	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.071	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.4	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.6	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.533	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.511	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.333	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.067	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.6	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.289	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.6	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.067	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.4	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.311	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.371	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.262	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.197	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.277	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.578	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.596	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.45	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.541	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.738	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.649	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.652	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.68	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.004	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2025	0.11	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.126	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.007	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.297	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.256	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.215	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2055	0.256	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.402	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.85	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.236	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Increased abundance/sightings	Positive	2012	2085	0.496	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.505	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.3	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.375	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.393	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.781	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.484	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.587	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.617	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.802	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.763	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.784	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.783	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.864	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.818	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.636	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.773	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-1	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-1	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.864	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.955	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-1	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-1	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.682	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.894	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.032	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.15	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.177	0.78	0.26	1.04

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.12	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.204	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.142	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.105	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.15	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.228	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.131	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.115	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.158	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.195	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.16	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.143	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.166	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.481	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.366	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.396	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.414	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.643	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.469	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.581	0.78	1.6	2.38

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.565	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.117	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.069	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.358	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.181	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.318	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.31	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.347	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.325	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.471	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.215	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.478	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.388	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.058	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.062	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.139	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2025	-0.086	0.78	0.26	1.04
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.201	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.301	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.309	0.78	0.92	1.7

5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2055	-0.27	0.78	0.92	1.7
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.402	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.278	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.402	0.78	1.6	2.38
5	Bird	1 species	Biodiversity response	Abundance change	Decreased abundance or sightings	Negative	2012	2085	-0.36	0.78	1.6	2.38
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.407	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.119	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.754	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.913	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.874	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.994	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range expansion	Positive	1960-2000	2080-2100	0.039	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range expansion	Positive	1960-2000	2080-2100	0.123	0.37	2.72	3.09
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.491	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.931	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range expansion	Positive	1960-2000	2080-2100	0.504	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range expansion	Positive	1960-2000	2080-2100	0.258	0.37	2.72	3.09
6	Insect	1 species	Biodiversity response	Range change	Range expansion	Positive	1960-2000	2080-2100	0.413	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range expansion	Positive	1960-2000	2080-2100	0.431	0.37	2.72	3.09
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.224	0.37	2.72	3.09

6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.044	0.37	2.72	3.09
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.519	0.37	2.72	3.09
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.829	0.37	2.72	3.09
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.64	0.37	2.72	3.09
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.938	0.37	2.72	3.09
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.324	0.37	2.72	3.09
6	Insect	1 species	Biodiversity response	Range change	Range contraction	Negative	1960-2000	2080-2100	-0.908	0.37	2.72	3.09
6	Insect	1 species	Biodiversity response	Range change	Range expansion	Positive	1960-2000	2080-2100	0.147	0.37	3.31	3.68
6	Insect	1 species	Biodiversity response	Range change	Range expansion	Positive	1960-2000	2080-2100	0.046	0.37	2.72	3.09
7	Amphibians	37 species	Biodiversity response	Range change	Range contraction	Negative	1950-2000	2080	-0.7	0.35	2.83	3.18
7	Amphibians	37 species	Biodiversity response	Range change	Range contraction	Negative	1950-2000	2080	-0.6	0.35	2.12	2.47
8	Plant	1 species	Biodiversity response	Habitat suitability change	Decreased climatic suitability	Positive	1970-2000	2050	NA	0.41	1.49	1.9
8	Plant	1 species	Biodiversity response	Habitat suitability change	Decreased climatic suitability	Positive	1970-2000	2050	NA	0.41	1.38	1.79
8	Plant	1 species	Biodiversity response	Habitat suitability change	Decreased climatic suitability	Positive	1970-2000	2050	NA	0.41	1.49	1.9
8	Plant	1 species	Biodiversity response	Habitat suitability change	Decreased climatic suitability	Positive	1970-2000	2050	NA	0.41	1.38	1.79
9	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1950-2000	2050	-0.169	0.35	1.59	1.94
9	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1950-2000	2050	-0.322	0.35	1.59	1.94
9	Plant	1 species	Biodiversity response	Range change	Range contraction	Negative	1950-2000	2050	-0.32	0.35	1.59	1.94

10	Bird	NA	Biodiversity response	Habitat suitability change	Increase in environmentally suitable area	Positive	1961-1990	2050	0.176	0.31	1.62	1.93
10	Bird	NA	Biodiversity response	Habitat suitability change	Increase in environmentally suitable area	Positive	1961-1990	2050	0.448	0.31	1.48	1.79
10	Bird	NA	Biodiversity response	Habitat suitability change	Decreased in environmentally suitable area	Negative	1961-1990	2050	-0.057	0.31	1.62	1.93
10	Bird	NA	Biodiversity response	Habitat suitability change	Increase in environmentally suitable area	Positive	1961-1990	2050	0.259	0.31	1.48	1.79
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.65	0.12	2.19	2.31
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.5	0.12	2.19	2.31
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.5	0.12	2.19	2.31
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.5	0.12	2.19	2.31
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.5	0.12	2.19	2.31
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.1	0.12	2.19	2.31
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.95	0.12	2.19	2.31
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.5	0.12	2.19	2.31
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.95	0.12	3.92	4.04

11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.9	0.12	3.92	4.04
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.9	0.12	3.92	4.04
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.9	0.12	3.92	4.04
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.9	0.12	3.92	4.04
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.7	0.12	3.92	4.04
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-1	0.12	3.92	4.04
11	Multiple	NA	Biodiversity response	Habitat suitability change	decrease in climatic refugia	Negative	1975.5	2071-2100	-0.95	0.12	3.92	4.04
12	Plant	10	Biodiversity response	Habitat suitability change	loss of existing suitable habitat across the genus (under zero-dispersal assumption)	Negative	1950-2000	2040-2069	-0.9	0.35	1.8	2.15
13	Plant	101	Biodiversity response	Habitat suitability change	loss of existing suitable habitat across the genus	Negative	1950-2000	2040-2069	-0.705	0.35	1.8	2.15
14	Plant	43	Biodiversity response	Habitat suitability change	loss of existing suitable habitat across the genus (under zero-dispersal assumption)	Negative	1950-2000	2040-2069	-0.7	0.35	1.88	2.23
15	Plant	6	Biodiversity response	Habitat suitability change	loss of existing suitable habitat across the genus (under zero-dispersal assumption)	Negative	1950-2000	2040-2069	-0.68	0.35	1.8	2.15
16	Plant	57	Biodiversity response	Habitat suitability change	loss of existing suitable habitat across the genus (under zero-dispersal assumption)	Negative	1950-2000	2040-2069	-0.5	0.35	1.88	2.23

17	Plant	101	Biodiversity response	Habitat suitability change	loss of existing suitable habitat across the genus	Negative	1950-2000	2040-2069	-0.338	0.35	1.88	2.23

Table SM9.4b: Citation details

Ref	DOI	Citation	Full citation
1	10.1111/ddi.12337	(Baker et al., 2015)	Baker, D.J., Hartley, A.J., Burgess, N.D., Butchart, S.H.M., Carr, J.A., Smith, R.J., Belle, E. and Willis, S.G., 2015. Assessing climate change impacts for vertebrate fauna across the West African protected area network using regionally appropriate climate projections. Diversity and Distributions, 21(9), pp.991-1003.
2	10.1111/geb.12228	(Bellard et al., 2014)	Bellard, C., Leclerc, C., Leroy, B., Bakkenes, M., Veloz, S., Thuiller, W., & Courchamp, F. (2014). Vulnerability of biodiversity hotspots to global change. Global Ecology and Biogeography, 23(12), 1376-1386.
3	10.1007/s10531-018-1643-6	(Bentley et al., 2018)	Bentley, L. K., M. P. Robertson, and N. P. Barker. 2019. Range contraction to a higher elevation: the likely future of the montane vegetation in South Africa and Lesotho. Biodiversity and Conservation 28:131-153.
4	10.1038/ngeo1741	(Huntingford et al., 2013)	Huntingford, C., P. Zelazowski, D. Galbraith, L. M. Mercado, S. Sitch, R. Fisher, M. Lomas, A. P. Walker, C. D. Jones, B. B. B. Booth, Y. Malhi, D. Hemming, G. Kay, P. Good, S. L. Lewis, O. L. Phillips, O. K. Atkin, J. Lloyd, E. Gloor, J. Zaragoza-Castells, P. Meir, R. Betts, P. P. Harris, C. Nobre, J. Marengo, and P. M. Cox. 2013. Simulated resilience of tropical rainforests to CO2 -induced climate change. Nature Geoscience 6:268-273.
5	10.1111/j.1472-4642.2012.00890.x	(Huntley and Barnard, 2012)	Huntley, B., and P. Barnard. 2012. Potential impacts of climatic change on southern African birds of fynbos and grassland biodiversity hotspots. Diversity and Distributions 18:769-781.
6	10.1111/j.1472-4642.2011.00877.x	(Kuhlmann et al., 2012)	Kuhlmann, M., D. Guo, R. Veldtman, and J. Donaldson. 2012. Consequences of warming up a hotspot: Species range shifts within a centre of bee diversity. Diversity and Distributions 18:885-897.
7	10.17159/sajs.2015/20140389	(Mokhatla et al., 2015)	Mokhatla, M. M., G. Kemp, D. R_dder, and G. J. Measey. 2015. Assessing the effects of climate change on distributions of Cape Floristic Region amphibians. South African Journal of Science Volume 111:1-7.
8	10.1007/s10661-015-4415-8	(Padalia et al., 2015)	Padalia, H., Srivastava, V., & Kushwaha, S. P. S. (2015). How climate change might influence the potential distribution of weed, bushmint (Hyptis suaveolens)?. Environmental monitoring and assessment, 187(4), 210.
9	10.17159/sajs.2015/20140280	(Pienaar et al., 2015)	Pienaar, B., D. I. Thompson, B. F. N. Erasmus, T. R. Hill, and E. T. F. Witkowski. 2015. Evidence for climate-induced range shift in Brachystegia (miombo) woodland. South African Journal of Science 111:1-9.
10	10.1111/aje.12143	(Walther and van Niekerk, 2015)	Walther, B. A., and A. van Niekerk. 2015. Effects of climate change on species turnover and body mass frequency distributions of South African bird communities. African Journal of Ecology 53:25-35.
11	10.1007/s10584-018-2158-6	(Warren et al., 2018)	Warren, R., Price, J., VanDerWal, J., Cornelius, S. and Sohl, H., 2018. The implications of the United Nations Paris Agreement on climate change for globally significant biodiversity areas. Climatic change, 147(3-4), pp.395-409.
12	10.1016/j.jaridenv.2016.02.005	(Young et al., 2016)	Young, A. J., , D., Desmet, P. G., & Midgley, G. F. (2016). Biodiversity and climate change: Risks to dwarf succulents in Southern Africa. Journal of Arid Environments, 129, 16-24.
13	10.1016/j.jaridenv.2016.02.005	(Young et al., 2016)	Young, A. J., , D., Desmet, P. G., & Midgley, G. F. (2016). Biodiversity and climate change: Risks to dwarf succulents in Southern Africa. Journal of Arid Environments, 129, 16-24.
14	10.1016/j.jaridenv.2016.02.005	(Young et al., 2016)	Young, A. J., , D., Desmet, P. G., & Midgley, G. F. (2016). Biodiversity and climate change: Risks to dwarf succulents in Southern Africa. Journal of Arid Environments, 129, 16-24.

15	10.1016/j.jaridenv.2016.02.005	(Young et al., 2016)	Young, A. J., , D., Desmet, P. G., & Midgley, G. F. (2016). Biodiversity and climate change: Risks to dwarf succulents in Southern Africa. Journal of Arid Environments, 129, 16-24.
16	10.1016/j.jaridenv.2016.02.005	(Young et al., 2016)	Young, A. J., , D., Desmet, P. G., & Midgley, G. F. (2016). Biodiversity and climate change: Risks to dwarf succulents in Southern Africa. Journal of Arid Environments, 129, 16-24.
17	10.1016/j.jaridenv.2016.02.005	(Young et al., 2016)	Young, A. J., , D., Desmet, P. G., & Midgley, G. F. (2016). Biodiversity and climate change: Risks to dwarf succulents in Southern Africa. Journal of Arid Environments, 129, 16-24.

Table SM9.5: Africa supplemental to Figure 9.22 major Staple crops

Crop	Country	Region	Yield_change	Temperature_change	Adaptation	Citation	DOI
Maize	Benin	Africa	-15.1915	1.5	No	(Amouzou et al., 2019)	https://doi.org/10.1016/j.fcr.2019.02.021
Maize	Benin	Africa	-8.93617	1.5	Yes	(Amouzou et al., 2019)	https://doi.org/10.1016/j.fcr.2019.02.021
Maize	Benin	Africa	-10.7234	1.5	Yes	(Amouzou et al., 2019)	https://doi.org/10.1016/j.fcr.2019.02.021
Maize	Senegal	Africa	-13.3933	1.5	No	(Freduah et al., 2019)	https://doi.org/10.3390/agronomy9100639
Maize	Ghana	Africa	-10.29	1.5	No	(Freduah et al., 2019)	https://doi.org/10.3390/agronomy9100639
Maize	Benin	Africa	-6.25641	1.5	No	(Duku et al., 2018)	https://doi.org/10.1371/journal.pone.0192642
Maize	Benin	Africa	-17.519	1.5	No	(Duku et al., 2018)	https://doi.org/10.1371/journal.pone.0192642
Maize	Sudan Savanna	Africa	-1.37253	1.5	No	(Faye et al., 2018)	https://doi.org/10.1088/1748-9326/aaab40
Maize	Sudan Savanna	Africa	-3.63971	1.5	No	(Faye et al., 2018)	https://doi.org/10.1088/1748-9326/aaab40
Maize	Sudan Savanna	Africa	-6.78571	1.5	No	(Faye et al., 2018)	https://doi.org/10.1088/1748-9326/aaab40
Maize	Sudan Savanna	Africa	-10.0919	1.5	No	(Faye et al., 2018)	https://doi.org/10.1088/1748-9326/aaab40
Maize	Senegal	Africa	-9.36	1.5	No	(Rosenzweig et al., 2018)	https://doi.org/10.1098/rsta.2016.0455
Maize	Senegal	Africa	-8.86875	1.5	No	(Rosenzweig et al., 2018)	https://doi.org/10.1098/rsta.2016.0455
Maize	Senegal	Africa	-11.0089	1.5	No	(Rosenzweig et al., 2018)	https://doi.org/10.1098/rsta.2016.0455
Maize	Senegal	Africa	-11.5688	1.5	No	(Rosenzweig et al., 2018)	https://doi.org/10.1098/rsta.2016.0455
Maize	Egypt	Africa	-100	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-24.4306	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-26.1779	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-27.8357	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-38.4626	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-42.4073	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-42.1418	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818

Maize	Malawi	Africa	-27.281	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-29.0585	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-32.0649	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-46.0112	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-40.474	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-48.2229	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-11.2383	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-15.343	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-17.2627	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-29.706	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-34.8609	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-34.8455	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-64.6306	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-66.6298	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-65.0218	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-22.6993	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-24.2249	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-25.6976	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-35.9913	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-40.0552	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-38.5803	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-26.5379	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-27.977	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-31.1052	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-45.743	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-40.185	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-47.8266	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-8.38323	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-11.9688	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818

Maize	South Africa	Africa	-13.0286	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-28.703	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-33.7527	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-33.8896	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-62.4549	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-64.3771	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-62.0696	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-23.2819	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-42.4931	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-32.6551	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-51.6386	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-15.0812	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-29.4632	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-70.3274	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-20.9605	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-39.5706	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-31.2474	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-51.1692	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-11.1917	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-28.2488	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-67.8732	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-19.8888	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-41.2546	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-27.1725	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-55.3903	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-9.68336	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-26.9854	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-70.3558	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818

Maize	Ethiopia	Africa	-17.8033	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-38.8958	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-25.7841	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-54.9311	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-6.14965	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-25.8879	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-68.6978	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	0.142029	1.5	No	(Luhunga et al., 2017)	https://doi.org/10.2166/wcc.2016.055
Maize	Tanzania	Africa	-0.5	1.5	No	(Luhunga et al., 2017)	https://doi.org/10.2166/wcc.2016.055
Maize	Tanzania	Africa	1.077465	1.5	No	(Luhunga et al., 2017)	https://doi.org/10.2166/wcc.2016.055
Maize	Tanzania	Africa	-2.87324	1.5	No	(Luhunga et al., 2017)	https://doi.org/10.2166/wcc.2016.055
Maize	Tanzania	Africa	-0.73077	1.5	No	(Luhunga, 2017)	https://doi.org/10.3389/fenvs.2017.00051
Maize	Tanzania	Africa	-2.55652	1.5	No	(Luhunga, 2017)	https://doi.org/10.3389/fenvs.2017.00051
Maize	Tanzania	Africa	-0.63333	1.5	No	(Luhunga, 2017)	https://doi.org/10.3389/fenvs.2017.00051
Maize	Tanzania	Africa	-3.47971	1.5	No	(Luhunga, 2017)	https://doi.org/10.3389/fenvs.2017.00051
Maize	Ethiopia	Africa	1.456667	1.5	No	(Araya et al., 2015)	https://doi.org/10.1016/j.agrformet.2015.08.259
Maize	Ethiopia	Africa	1.736207	1.5	No	(Araya et al., 2015)	https://doi.org/10.1016/j.agrformet.2015.08.259
Maize	Egypt	Africa	-38.9098	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-60.7471	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-38.8771	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-38.8141	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-38.6057	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-15.5346	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-15.1425	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-20.5824	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-11.6823	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-11.5183	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-11.0304	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-10.1779	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-9.9884	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-13.9494	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-12.9821	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Uganda	Africa	-7.66964	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-6.91852	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-6.85008	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-6.8058	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-6.56124	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-6.5204	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-6.37084	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-6.36916	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-6.35156	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-5.8772	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-5.8626	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-5.81984	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-9.03175	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-5.5794	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-5.34372	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-5.29464	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-5.25924	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-5.16012	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-5.09868	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-7.94538	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-5.03028	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-7.82081	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-8.90335	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-4.87048	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-4.85408	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-4.84012	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-7.52831	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-4.7818	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-4.70164	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-4.53124	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-4.50984	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-4.39964	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Nigeria	Africa	-6.70694	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-4.25552	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-4.14292	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-4.14292	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-4.1414	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-3.9614	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-3.88294	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-3.84384	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-3.82634	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-3.7857	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-3.7857	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-3.7795	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-3.77502	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-3.73801	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-3.73801	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-3.69611	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-3.67502	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-3.62578	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-3.54588	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-3.47416	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-3.43186	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-3.37692	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-3.32574	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-3.25706	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-3.16634	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-3.16634	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-3.02387	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-2.99734	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-2.99734	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-2.81308	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-2.78658	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-2.68603	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Nigeria	Africa	-2.67586	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-2.67359	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-2.62718	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-2.57064	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-2.55874	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-2.5449	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-3.74101	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-2.36377	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-2.36084	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-2.35	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-2.26878	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-2.2532	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-2.19746	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-2.1791	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-2.02861	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-2.00742	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-1.96871	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-1.89523	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-1.78151	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-1.76929	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-1.52448	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-1.44786	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-1.36354	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-1.3098	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-1.29631	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-1.12966	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-1.07002	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-1.05722	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-1.57245	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-0.97764	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-0.9423	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-1.30731	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Tanzania	Africa	-1.38002	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-0.70784	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-0.65228	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-0.95762	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-0.58211	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-0.57567	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-0.77023	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-0.42522	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-0.36855	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-0.36315	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-0.27037	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-0.24516	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-0.12229	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-0.07288	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	0.126542	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	0.192267	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	0.21734	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	0.358499	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	0.745581	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	0.5289	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	0.97984	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	0.565588	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	1.095055	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	0.63	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	0.63	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	0.650028	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	0.786388	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	1.319038	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	0.851856	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	0.879152	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	1.05876	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	1.06636	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	South Africa	Africa	1.694375	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	1.786656	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	1.305188	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	1.305188	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	1.321416	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	1.376196	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	1.466232	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	1.476132	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	1.522456	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	1.56246	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	1.72506	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	1.840192	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	1.845736	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	1.874568	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	1.874568	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	1.947052	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	1.990192	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	2.441444	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	2.681536	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	2.742716	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	2.817328	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	2.955916	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	3.04512	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	3.072296	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	4.884438	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	3.349528	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	3.418256	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	3.481016	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	3.530688	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	3.603764	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	3.608556	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	3.687168	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Kenya	Africa	3.788804	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	3.847196	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	6.999513	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	3.894576	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	3.907848	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	3.967604	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	4.22056	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	7.674327	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	4.45444	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	4.60128	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	8.788	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	4.84032	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	7.677563	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	7.899438	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	8.044875	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	5.34444	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	8.382188	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	5.47492	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	5.51684	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	5.58944	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	9.18475	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	6.12348	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	11.21396	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	6.17556	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	6.25356	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	6.52676	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	10.3965	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	6.6758	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	12.58545	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	7.00304	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	7.0894	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	7.10844	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Kenya	Africa	7.38852	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	7.59776	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	12.29219	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	14.38822	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	12.68638	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	12.74231	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	9.3102	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	9.41192	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	9.77716	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	9.88952	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	9.89348	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	10.07652	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	10.2028	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	10.87376	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	11.43624	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	11.54872	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	13.14872	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	21.45456	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	21.89963	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	14.95064	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	15.65788	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	28.97236	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	25.48244	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	18.68196	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	20.60504	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	37.83113	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	21.25804	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	34.05013	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	37.19125	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	46.89375	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	30.2016	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	52.6545	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Rice	Egypt	Africa	-18.0594	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-18.1629	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-19.4389	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	3.138366	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	3.038371	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	2.777968	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	3.416309	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	1.210526	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	0.396704	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-14.3259	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-13.7317	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-13.3761	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	8.188642	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	8.927173	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	10.47554	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	7.942775	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	6.403509	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	7.299359	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-17.2685	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	1.789746	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	1.234803	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-12.0644	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	8.640083	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	7.413588	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-19.4979	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	2.984176	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	1.919213	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-15.6539	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	8.477812	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	7.028911	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-9.9886	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Nigeria	Africa	-1.44518	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Rice	Egypt	Africa	-0.69526	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Nigeria	Africa	-0.3379	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Madagascar	Africa	0.866608	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Madagascar	Africa	0.949752	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Ethiopia	Africa	1.076667	1.5	Yes	Araya et al., 2020	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	1.076667	1.5	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	-0.38	1.5	No	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	2.533333	1.5	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	0.253333	1.5	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	-0.12667	1.5	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Morocco	Africa	-10.35	1.5	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	6.66	1.5	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	-6.48	1.5	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	10.44	1.5	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	-8.1	1.5	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	8.82	1.5	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Algeria	Africa	-35.3219	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-39.9105	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-38.669	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-23.5413	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-20.8018	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-26.6518	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-82.2058	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-87.1903	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-88.5487	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-29.149	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-24.0087	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-29.1351	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-67.358	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-69.0719	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-67.3031	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	4.2788	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818

Wheat	Syria	Africa	0.794016	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	1.216567	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-31.8729	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-35.9753	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-33.4966	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-20.6067	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-17.284	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-21.9107	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-80.1391	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-85.011	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-85.7712	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-26.0166	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-20.1688	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-24.237	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-64.4002	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-65.2138	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-62.3204	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	8.596321	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	5.595512	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	7.488919	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-37.6321	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-23.1468	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-82.7543	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-20.9436	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-60.8492	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	-0.35495	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-32.9493	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-19.0726	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-80.2704	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-16.0222	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-56.3501	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	5.178054	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818

Wheat	Algeria	Africa	-28.6681	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-23.71	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-82.4716	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-17.4677	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-58.5929	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	17.0559	1.5	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-24.4142	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-20.6204	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-79.8871	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-13.2132	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-55.135	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	22.22141	1.5	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-5.72012	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Morocco	Africa	3.702568	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Algeria	Africa	5.32764	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Egypt	Africa	5.41428	1.5	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Benin	Africa	-15.1915	2	No	(Amouzou et al., 2019)	https://doi.org/10.1016/j.fcr.2019.02.021
Maize	Benin	Africa	-16.0851	2	Yes	(Amouzou et al., 2019)	https://doi.org/10.1016/j.fcr.2019.02.021
Maize	Benin	Africa	-16.9787	2	Yes	(Amouzou et al., 2019)	https://doi.org/10.1016/j.fcr.2019.02.021
Maize	Ethiopia	Africa	3.461798	2	No	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Maize	Ethiopia	Africa	1.99322	2	No	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Maize	Senegal	Africa	-17.8033	2	No	(Freduah et al., 2019)	https://doi.org/10.3390/agronomy9100639
Maize	Ghana	Africa	-15.5167	2	No	(Freduah et al., 2019)	https://doi.org/10.3390/agronomy9100639
Maize	Ghana	Africa	-12.4133	2	No	(Freduah et al., 2019)	https://doi.org/10.3390/agronomy9100639
Maize	Ghana	Africa	-21.7233	2	No	(Freduah et al., 2019)	https://doi.org/10.3390/agronomy9100639
Maize	Benin	Africa	-11.4872	2	No	(Duku et al., 2018)	https://doi.org/10.1371/journal.pone.0192642
Maize	Egypt	Africa	-100	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-25.3062	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-30.8461	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-43.8108	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-51.1635	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818

Maize	Malawi	Africa	-38.5963	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-44.9305	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-55.3086	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-70.0964	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-17.8375	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-23.9817	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-35.7834	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-40.0439	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-65.6302	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-72.0985	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-21.41	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-26.5574	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-38.5973	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-43.8857	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-37.391	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-45.4956	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-54.6154	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-69.9036	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-11.1058	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-15.2278	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-33.685	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-39.0239	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-60.8556	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-64.4409	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-27.1108	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-46.8913	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-39.5807	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-71.1277	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-18.4596	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818

Maize	Tanzania	Africa	-36.4243	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-65.4924	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-21.7841	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-39.6481	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-37.862	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-70.6207	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-8.83384	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-34.3883	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-58.2394	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-1.07143	2	No	(Luhunga et al., 2017)	https://doi.org/10.2166/wcc.2016.055
Maize	Tanzania	Africa	-2.31111	2	No	(Luhunga et al., 2017)	https://doi.org/10.2166/wcc.2016.055
Maize	Tanzania	Africa	-3.35152	2	No	(Luhunga, 2017)	https://doi.org/10.3389/fenvs.2017.00051
Maize	Tanzania	Africa	-7.66061	2	No	(Luhunga, 2017)	https://doi.org/10.3389/fenvs.2017.00051
Maize	Nigeria	Africa	-8.65572	2	No	(Ahmed et al., 2015)	https://doi.org/10.1007/s10584-015-1462-7
Maize	Nigeria	Africa	-15.8951	2	No	(Ahmed et al., 2015)	https://doi.org/10.1007/s10584-015-1462-7
Maize	Ethiopia	Africa	1.785593	2	No	(Araya et al., 2015)	https://doi.org/10.1016/j.agrformet.2015.08.259
Maize	Ethiopia	Africa	-13.8833	2	No	(Kassie et al., 2015)	https://doi.org/10.1007/s10584-014-1322-x
Maize	Ethiopia	Africa	-17.9667	2	No	(Kassie et al., 2015)	https://doi.org/10.1007/s10584-014-1322-x
Maize	Ethiopia	Africa	61.71978	2	Yes	(Kassie et al., 2015)	https://doi.org/10.1007/s10584-014-1322-x
Maize	Ethiopia	Africa	89.05465	2	Yes	(Kassie et al., 2015)	https://doi.org/10.1007/s10584-014-1322-x
Maize	Ethiopia	Africa	51.41298	2	Yes	(Kassie et al., 2015)	https://doi.org/10.1007/s10584-014-1322-x
Maize	Ethiopia	Africa	80.57049	2	Yes	(Kassie et al., 2015)	https://doi.org/10.1007/s10584-014-1322-x
Maize	Ethiopia	Africa	-6.76524	2	Yes	(Kassie et al., 2015)	https://doi.org/10.1007/s10584-014-1322-x
Maize	Ethiopia	Africa	-9.48233	2	Yes	(Kassie et al., 2015)	https://doi.org/10.1007/s10584-014-1322-x
Maize	Ethiopia	Africa	-11.8854	2	Yes	(Kassie et al., 2015)	https://doi.org/10.1007/s10584-014-1322-x
Maize	Ethiopia	Africa	-12.0678	2	Yes	(Kassie et al., 2015)	https://doi.org/10.1007/s10584-014-1322-x
Maize	Egypt	Africa	-60.8702	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-60.6968	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-70.552	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-70.5091	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-34.571	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Nigeria	Africa	-27.4014	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-20.0294	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-22.9871	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-20.7128	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-20.2332	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-15.3454	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-14.2604	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-16.2909	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-13.7931	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-13.0616	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-14.8048	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-14.7423	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-14.2244	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-14.2239	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-12.6743	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-12.6743	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-10.8487	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-10.6789	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-10.4725	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-10.4239	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-12.0831	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-12.0831	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-11.7972	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-10.0928	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-9.99588	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-9.99588	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-9.87669	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-11.0197	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-9.30413	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-9.26	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-10.2814	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-10.2814	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Uganda	Africa	-8.71975	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-9.84851	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-9.84153	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-8.30056	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-7.89931	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-7.75825	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-7.57981	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-7.46381	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-8.66393	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-6.81819	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-7.75753	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-6.62275	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-7.55745	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-7.55745	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-7.55644	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-7.53629	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-6.27719	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-6.27719	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-7.03201	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-6.98559	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-5.96058	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-5.96058	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-5.79816	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-5.68338	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-5.64504	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-5.64504	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-6.49071	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-6.2463	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-5.30066	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-6.07971	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-6.07971	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-4.39492	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Uganda	Africa	-4.07016	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-3.84093	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-3.20804	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-3.10903	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-3.06966	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-2.9736	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-2.9736	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-3.34676	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-3.32095	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-2.7747	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-2.51978	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-2.51978	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-1.72676	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-1.95516	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-1.79088	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-1.34248	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-1.05203	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-1.20785	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-0.69821	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-0.63108	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-0.53414	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-0.53414	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-0.26468	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-0.19863	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-0.15046	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-0.09623	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-0.09623	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-0.0362	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	0.09739	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	0.197999	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	0.170933	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	0.259314	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Kenya	Africa	0.333649	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	0.831033	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	1.303469	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	1.322145	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	1.975731	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	3.516029	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	3.516029	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	3.599665	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	3.257444	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	3.257444	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	3.487231	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	4.073265	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	3.551631	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	3.555744	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	3.58665	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	3.913813	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	4.042913	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	4.734662	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	4.090169	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	5.110095	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	4.497188	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	4.5801	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	5.384102	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	5.645375	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	5.411388	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	5.495269	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	6.540691	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	5.734663	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	5.927863	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	6.881625	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	7.201563	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	7.201563	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Tanzania	Africa	7.250563	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	8.987055	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	9.043625	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	9.711375	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	11.937	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	14.1688	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	12.24419	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	12.42419	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	14.78727	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	12.92363	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	15.61215	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	16.01033	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	13.80331	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	15.04113	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	18.41724	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	19.44807	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	19.52829	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	17.58088	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	23.83644	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	20.5435	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	29.43702	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	27.68706	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	32.73076	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	32.02525	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	42.664	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	59.89287	2	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Egypt	Africa	-20.718	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-29.3452	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	1.052263	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	-0.17053	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	0.323625	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	-0.53437	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818

Rice	Egypt	Africa	-11.1319	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-16.1474	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	13.20112	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	17.82294	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	11.74508	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	16.30949	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-25.4479	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	0.768349	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	0.093359	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-12.6188	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	17.91093	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	16.65181	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Sudan	Africa	-5.6875	2	No	(Ahmed, 2020)	https://doi.org/10.1016/j.agwat.2020.106064
Wheat	Ethiopia	Africa	3.511667	2	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	2.776667	2	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	0.245	2	No	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	7.431667	2	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	0.898333	2	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	2.858333	2	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Morocco	Africa	-14.3556	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	-16.02	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	6.233333	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	3.87	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	-6.8	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	-9.54	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	14.92222	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	11.97	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	-10.1056	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	-9.81	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	10.76667	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	11.25	2	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Algeria	Africa	-34.8283	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818

Wheat	Algeria	Africa	-41.2323	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-23.66	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-30.2504	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-80.5946	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-92.252	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-18.2781	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-23.5146	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-74.1472	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-80.6648	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	-2.76837	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	-3.78334	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-25.2849	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-28.6259	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-16.1462	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-19.2285	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-74.906	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-87.0882	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-8.71914	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-9.36696	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-66.6013	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-69.9301	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	6.857561	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	10.55686	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-40.092	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-27.0407	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-79.5604	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-23.8464	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-80.2309	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	13.95758	2	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-27.6819	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-16.9003	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-71.4736	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818

Wheat	Morocco	Africa	-10.9434	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-70.8182	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	29.63474	2	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-70.622	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-60.5967	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-40.3771	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-30.4004	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-30.0385	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-24.8839	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-25.8335	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-19.1992	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-18.9015	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-21.8436	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-18.1803	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-21.0531	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-17.886	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-17.5902	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-17.0718	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-17.009	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-19.5963	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-16.6075	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-18.8412	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-15.7026	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-18.0988	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-17.7136	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-14.4489	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-14.0583	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-13.6923	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-15.3945	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-15.1684	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-13.0221	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-13.0131	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Malawi	Africa	-12.8369	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-12.6274	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-14.0442	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-14.0073	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-13.6627	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-11.7396	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-11.5053	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-12.451	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-10.6757	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-10.2738	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-9.99525	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-9.89194	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-11.4112	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-9.50806	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-9.24231	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-10.4647	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-8.91869	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-9.95171	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-8.54463	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-8.187	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-6.79975	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-6.73367	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-5.52839	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-5.28353	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-5.13124	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-5.03497	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-4.99578	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-4.97409	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-4.87065	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-4.72911	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-4.01732	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-4.52001	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Ethiopia	Africa	-3.67431	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-3.61718	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-4.12852	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-3.39826	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-3.89858	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-3.21216	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-3.41109	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-2.83798	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-2.75033	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-2.1812	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-1.93976	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-1.02427	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	0.698825	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	0.85725	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	1.049675	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	1.643105	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	1.812113	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	2.646888	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	3.317825	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	3.091544	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	3.772022	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	3.42925	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	4.116781	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	4.657356	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	5.362581	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	6.282655	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	5.947825	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	6.573625	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	6.9335	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	8.136073	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	10.01069	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	9.877813	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	South Africa	Africa	10.71275	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	12.68269	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	12.83006	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	15.37913	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	16.43844	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	21.37396	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	22.01389	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	23.08569	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	27.93607	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	24.84375	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	31.18349	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Benin	Africa	-12.0714	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Burkina Faso	Africa	-21.3571	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Cote D'lvoire	Africa	-12.0714	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Cameroon	Africa	-3.71429	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Ghana	Africa	-18.5714	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Gambia	Africa	-23.2143	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Mali	Africa	-30.6429	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Mauritania	Africa	6.5	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Niger	Africa	-26.9286	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Nigeria	Africa	-27.8571	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Senegal	Africa	3.714286	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Egypt	Africa	-17.6429	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Kenya	Africa	-31.5714	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Madagascar	Africa	-12.0714	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Rwanda	Africa	-50.1429	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Tanzania	Africa	-34.3571	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Benin	Africa	-20.4286	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Burkina Faso	Africa	-31.5714	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Cote D'lvoire	Africa	-12.0714	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Ghana	Africa	-16.7143	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Gambia	Africa	26	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967

Rice	Mali	Africa	9.285714	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Nigeria	Africa	-24.1429	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Ethiopia	Africa	-36.2143	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Madagascar	Africa	-14.8571	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Tanzania	Africa	-21.3571	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Uganda	Africa	-39.9286	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Zambia	Africa	-51.0714	3	No	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Benin	Africa	12.07143	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Burkina Faso	Africa	6.5	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Cote D'lvoire	Africa	15.78571	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Cameroon	Africa	13	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Ghana	Africa	12.07143	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Gambia	Africa	5.571429	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Mali	Africa	-6.5	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Mauritania	Africa	19.5	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Niger	Africa	-9.28571	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Nigeria	Africa	5.571429	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Senegal	Africa	16.71429	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Egypt	Africa	5.571429	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Kenya	Africa	26	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Madagascar	Africa	19.5	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Rwanda	Africa	29.71429	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Tanzania	Africa	28.78571	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Benin	Africa	12.07143	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Burkina Faso	Africa	2.785714	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Cote D'lvoire	Africa	10.21429	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Ghana	Africa	10.21429	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Gambia	Africa	15.78571	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Mali	Africa	1.857143	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Nigeria	Africa	9.285714	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Ethiopia	Africa	13.92857	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Madagascar	Africa	13.92857	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967

Rice	Tanzania	Africa	-1.85714	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Uganda	Africa	1.857143	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Zambia	Africa	13	3	Yes	(van Oort and Zwart, 2018)	https://doi.org/10.1111/gcb.13967
Rice	Egypt	Africa	-6.75069	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Nigeria	Africa	-6.54438	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Nigeria	Africa	-4.90791	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Madagascar	Africa	2.689431	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Madagascar	Africa	2.974856	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Egypt	Africa	3.8879	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Ethiopia	Africa	-18.3436	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Morocco	Africa	2.409519	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Algeria	Africa	10.80369	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Egypt	Africa	16.27719	3	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Benin	Africa	-39.3191	4	No	(Amouzou et al., 2019)	https://doi.org/10.1016/j.fcr.2019.02.021
Maize	Benin	Africa	-41.1064	4	Yes	(Amouzou et al., 2019)	https://doi.org/10.1016/j.fcr.2019.02.021
Maize	Benin	Africa	-42	4	Yes	(Amouzou et al., 2019)	https://doi.org/10.1016/j.fcr.2019.02.021
Maize	Ethiopia	Africa	-1.2427	4	No	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Maize	Benin	Africa	-43.5443	4	No	(Duku et al., 2018)	https://doi.org/10.1371/journal.pone.0192642
Maize	Egypt	Africa	-100	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-41.0845	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-58.742	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-69.8471	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-90.6338	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-42.8496	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Tanzania	Africa	-56.6659	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-83.5239	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-100	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Ethiopia	Africa	-39.3832	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Kenya	Africa	-49.0792	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Malawi	Africa	-75.2846	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Nigeria	Africa	-90.4879	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	South Africa	Africa	-35.9346	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818

Maize	Tanzania	Africa	-61.4326	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Uganda	Africa	-72.2082	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Maize	Egypt	Africa	-68.9856	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-62.2969	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-47.5222	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-47.3543	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-44.4332	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-42.3481	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-39.6909	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-39.2212	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-39.0429	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-39.0124	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-35.1873	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-33.9317	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-33.6731	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-31.2389	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-30.7684	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-30.2758	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-29.4531	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-28.1801	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-26.0117	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-25.1688	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-24.2783	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-23.7383	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-23.2297	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-22.3995	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-21.1474	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-21.1064	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-20.7725	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-19.7865	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-19.708	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-19.5604	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	Uganda	Africa	-19.3339	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-18.1444	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-17.8729	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-16.9911	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-15.3855	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-14.8649	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-14.7961	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-14.1572	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-14.0521	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-13.818	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Uganda	Africa	-12.5212	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-12.4684	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-12.2313	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Nigeria	Africa	-11.7207	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	-10.0353	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-8.87033	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-8.12793	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-7.97593	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	-7.28509	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-5.80127	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-5.32145	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-1.71115	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	-1.5521	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	-0.66183	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	-0.26292	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	-0.22003	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	1.790138	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	3.561004	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	4.654487	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	6.16384	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Kenya	Africa	7.733818	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Tanzania	Africa	8.2784	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110

Maize	South Africa	Africa	8.724727	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Malawi	Africa	10.44269	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Ethiopia	Africa	20.08815	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	South Africa	Africa	22.76015	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize	Egypt	Africa	71.9888	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Egypt	Africa	-49.971	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	-2.75491	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	-3.97156	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Egypt	Africa	-30.854	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Madagascar	Africa	32.31756	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	22.6003	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Rice	Nigeria	Africa	-23.2609	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Nigeria	Africa	-21.5473	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Egypt	Africa	-5.38721	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Madagascar	Africa	-0.22173	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Madagascar	Africa	0.157282	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Rice	Egypt	Africa	8.8104	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Ethiopia	Africa	-9.65556	4	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	-26.2456	4	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	-0.52667	4	No	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	-9.83111	4	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	-1.58	4	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	-10.3578	4	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	4.125556	4	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	0.351111	4	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	-0.35111	4	No	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	8.075556	4	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	-1.58	4	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Ethiopia	Africa	4.125556	4	Yes	(Araya et al., 2020)	https://doi.org/10.1016/j.scitotenv.2020.139094
Wheat	Morocco	Africa	-28.5222	4	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	5.855556	4	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	-17.5667	4	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2

Wheat	Morocco	Africa	22.47778	4	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	-14.9222	4	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Morocco	Africa	25.31111	4	Yes	(Bouras et al., 2019)	10.1038/s41598-019-55251-2
Wheat	Algeria	Africa	-44.9142	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-43.502	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-95.5141	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-37.5163	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-95.1007	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	18.9791	4	No	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Algeria	Africa	-19.6153	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Egypt	Africa	-26.173	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-85.8744	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Morocco	Africa	-9.99275	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	South Africa	Africa	-77.8178	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Syria	Africa	54.84179	4	Yes	(Iizumi et al., 2018)	https://doi.org/10.1002/joc.5818
Wheat	Ethiopia	Africa	-37.9339	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Morocco	Africa	-3.16245	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Algeria	Africa	20.41855	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Wheat	Egypt	Africa	21.3584	4	Yes	(Rosenzweig et al., 2014)	https://doi.org/10.1073/pnas.1222463110
Maize					No		
Maize		EA	-2	1.5	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117
Maize		SA	3	1.5	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117
Maize		WA	-9	1.5	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117
Maize		EA	-2	1.5	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117
Maize		SA	4	1.5	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117
Maize		WA	-10	1.5	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117
Maize		EA	-4	2	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117
Maize		SA	2	2	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117
Maize		WA	-12	2	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117
Maize		EA	-6	4	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117
Maize		SA	1	4	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117
Maize		WA	-16	4	No	(Jägermeyr et al., 2020)	https://doi.org/10.1073/pnas.1919049117

Maize		WA	-6	1.5	No	(Faye et al., 2018)	https://doi.org/10.1088/1748-9326/aaab40
Maize		WA	-7	2	No	(Faye et al., 2018)	https://doi.org/10.1088/1748-9326/aaab40
Maize		WA	-7	1.5	No	(Faye et al., 2018)	https://doi.org/10.1088/1748-9326/aaab40
Maize		WA	-8.5	2	No	(Faye et al., 2018)	https://doi.org/10.1088/1748-9326/aaab40
Maize		WA	-51	2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA	-57	2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA			No	(Ugbaje et al., 2019)	https://doi.org/10.1016/j.compag.2019.01.011
Maize		WA			No	(Ugbaje et al., 2019)	https://doi.org/10.1016/j.compag.2019.01.011
Maize		WA			No	(Ugbaje et al., 2019)	https://doi.org/10.1016/j.compag.2019.01.011
Maize		WA			No	(Ugbaje et al., 2019)	https://doi.org/10.1016/j.compag.2019.01.011
Maize		WA			No	(Ugbaje et al., 2019)	https://doi.org/10.1016/j.compag.2019.01.011
Maize		WA			No	(Ugbaje et al., 2019)	https://doi.org/10.1016/j.compag.2019.01.011
Maize		WA			No	(Ugbaje et al., 2019)	https://doi.org/10.1016/j.compag.2019.01.011
Maize		WA			No	(Ugbaje et al., 2019)	https://doi.org/10.1016/j.compag.2019.01.011
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA		2	No	(Traore et al., 2017)	https://doi.org/10.1016/j.fcr.2016.11.002
Maize		WA	-3	1.5	No	(Parkes et al., 2018)	https://doi.org/10.5194/esd-9-119-2018
Maize		WA	-2	1.5	No	(Parkes et al., 2018)	https://doi.org/10.5194/esd-9-119-2018
Maize		WA	2	1.5	No	(Parkes et al., 2018)	https://doi.org/10.5194/esd-9-119-2018
Maize		WA	1	1.5	No	(Parkes et al., 2018)	https://doi.org/10.5194/esd-9-119-2018
Maize		WA	-2	1.5	No	(Parkes et al., 2018)	https://doi.org/10.5194/esd-9-119-2018
Maize		WA	0	1.5	No	(Parkes et al., 2018)	https://doi.org/10.5194/esd-9-119-2018

Maize		WA	0	1.5	No	(Parkes et al., 2018)	https://doi.org/10.5194/esd-9-119-2018
Maize		WA	-7	1.5	No	(Parkes et al., 2018)	https://doi.org/10.5194/esd-9-119-2018
Maize		WA	0	1.5	No	(Parkes et al., 2018)	https://doi.org/10.5194/esd-9-119-2018
Maize		SA	-13	1.5	No	(Rurinda et al., 2015)	https://doi.org/10.1111/gcb.13061
Maize		SA	-13	2	No	(Rurinda et al., 2015)	https://doi.org/10.1111/gcb.13061
Maize		SA	-18	2	No	(Rurinda et al., 2015)	https://doi.org/10.1111/gcb.13061
Maize		SA	-13	1.5	No	(Rurinda et al., 2015)	https://doi.org/10.1111/gcb.13061
Maize		SA	-18	2	No	(Rurinda et al., 2015)	https://doi.org/10.1111/gcb.13061
Maize		SA	-32	4	No	(Rurinda et al., 2015)	https://doi.org/10.1111/gcb.13061
Maize		SA	-11	1.5	No	(Mangani et al., 2019)	https://doi.org/10.1007/s10113-019-01486-8
Maize		SA	-11	2	No	(Mangani et al., 2019)	https://doi.org/10.1007/s10113-019-01486-8
Maize		SA	-20.5	1.5	No	(Mangani et al., 2019)	https://doi.org/10.1007/s10113-019-01486-8
Maize		SA	23.5	3	No	(Mangani et al., 2019)	https://doi.org/10.1007/s10113-019-01486-8
Maize		SA	-64	1.5	No	(Alemaw and Simalenga, 2015)	10.4236/ajcc.2015.44025
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002

Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SA		1.5	No	(Zinyengere et al., 2014)	https://doi.org/10.1016/j.agee.2014.07.002
Maize		SSA		1.5	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		1.5	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		1.5	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		1.5	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		1.5	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		1.5	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		2	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		2	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		2	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		2	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		2	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		2	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		3	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		3	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		3	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA		3	No	(Blanc, 2013)	https://doi.org/10.5897/JDAE12.145
Maize		SSA	-22	2	No	(Schlenker and Lobell, 2010)	https://doi.org/10.1088/1748-9326/5/1/014010
Maize		Sahel	30	2	No	(Waha et al., 2013)	https://doi.org/10.1016/j.gloplacha.2013.02.009
Maize		SA	-30	2	No	(Waha et al., 2013)	https://doi.org/10.1016/j.gloplacha.2013.02.009
Maize		CA, EA, WA	0	2	No	(Waha et al., 2013)	https://doi.org/10.1016/j.gloplacha.2013.02.009
Maize		Sahel	-30	2	No	(Waha et al., 2013)	https://doi.org/10.1016/j.gloplacha.2013.02.009
Maize		SA	-30	2	No	(Waha et al., 2013)	https://doi.org/10.1016/j.gloplacha.2013.02.009
Maize		CA, EA, WA	0	2	No	(Waha et al., 2013)	https://doi.org/10.1016/j.gloplacha.2013.02.009
Wheat					No		
Wheat			-24.5	2	No	(Bouregaa, 2019)	https://doi.org/10.1108/MEQ-06-2018-0110
Wheat			-24.5	1.5	No	(Bouregaa, 2019)	https://doi.org/10.1108/MEQ-06-2018-0110

Wheat			28.8	2	No	(Bouregaa, 2019)	https://doi.org/10.1108/MEQ-06-2018-0110
Wheat			decrease	1.5	No	(Bouregaa, 2019)	https://doi.org/10.1108/MEQ-06-2018-0110
Wheat		EA	-15	3	No	(Tatsumi et al., 2011)	https://doi.org/10.1002/hyp.8012
Wheat			-22		No	(Chourghal et al., 2016)	https://doi.org/10.1007/s10113-015-0889-8
Wheat			-36		No	(Chourghal et al., 2016)	https://doi.org/10.1007/s10113-015-0889-8
Wheat			-19		No	(Brouziyne et al., 2018)	https://doi.org/10.1016/j.agsy.2018.01.024
Wheat			-22		No	(Brouziyne et al., 2018)	https://doi.org/10.1016/j.agsy.2018.01.024
Wheat			-6	1.5	No	Mansour et al. 2019	
Wheat			-9	1.5	No	Mansour et al. 2019	
Wheat			-14	2	No	Mansour et al. 2019	
Wheat			-5	1.5	No	(Kheir et al., 2019)	https://doi.org/10.1016/j.scitotenv.2018.10.209
Wheat			-9	2	No	(Kheir et al., 2019)	https://doi.org/10.1016/j.scitotenv.2018.10.209
Wheat			-13	3	No	(Kheir et al., 2019)	https://doi.org/10.1016/j.scitotenv.2018.10.209
Wheat			-18	4	No	(Kheir et al., 2019)	https://doi.org/10.1016/j.scitotenv.2018.10.209
Wheat			5	1.5	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542
Wheat			-15	1.5	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542
Wheat			-15	1.5	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542
Wheat			-15	1.5	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542
Wheat		EA	5	1.5	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542
Wheat		SA	-15	1.5	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542
Wheat			5	2	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542
Wheat			-10	2	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542
Wheat			-10	2	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542
Wheat			-10	2	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542
Wheat		EA	5	2	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542
Wheat		SA	-10	2	No	(Liu et al., 2019)	https://doi.org/10.1111/gcb.14542

Table SM9.6a: Africa Supplemental to Figure 9.23 cash and food crops

	Level of risk	Region	Country	% Change in Climate suitability (area)	Change in suitable areas (change in altitude)	% Yield change (biomass, sucrose)	% Change in current real GDP (due cost of inaction on adaptation)	Other effect of CC (% irrigation requirement, WUE)	Potential effectiveness of adaptation	Other information	Climate scenario	Baseline time period	corrected baseline time period	Projected time period	Global warming level (1,2,3,4)	Local / global WL	Reference
	4	Very positive (VP)		>40%		>40%	>4%		High (>75% of baseline damage level)						>4		
	3	Highly positive (HP)		>20%		>20%	>2%		Medium (25-75% of a baseline damage level)						>3		
	2	Moderately positive (MP)		>10%		>10%	>1%		Low (<25% of a baseline damage level)						>2		
	1	Low positive (LP)		>5%		>5%	>0.5%								>1.5		
	0	Negligible															
	-1	Low negative (LN)		>5%		>5%	>0.5%										
	-2	Moderately negative (MN)		>10%		>10%	>1%										
	-3	Highly negative (HN)		>20%		>20%	>2%										
	-4	Very negative (VN)		>40%		>40%	>4										
Cassava																	
	3.5	SA	Multiple	+20% to +60%							A1B	1950-2000		2020-2049 (2030)	1.6	Global	1
	1	Sahel	Multiple	+1% to +10%							A1B	1950-2000		2020-2049 (2030)	1.6	Global	1
	-1.5	WA	Multiple	-20% to -1%							A1B	1950-2000		2020-2049 (2030)	1.6	Global	1
	-1.5	Central A	Multiple	-20% to -1%							A1B	1950-2000		2020-2049 (2030)	1.6	Global	1
	-3.5	EA	Multiple	-20% to -60%							A1B	1950-2000		2020-2049 (2030)	1.6	Global	1
	3	SSA	Multiple	+26% in crop area						For less favorable agricultural conditions (LFAC)	B1	1970-1999		2040-2059	1.4	Global	2
	3	SSA	Multiple	+27% in crop area						For less favorable agricultural conditions (LFAC)	B2	1970-1999		2040-2059	1.6	Global	2
	-1	SSA	Multiple	-6%% in crop area						For more favorable agricultural conditions (MFAC)	B1	1970-1999		2040-2059	1.4	Global	2
	-1	SSA	Multiple	-7%% in crop area						For more favorable agricultural conditions (MFAC)	B2	1970-1999		2040-2059	1.6	Global	2
	-2	SSA	Multiple	-10% in crop area						For more favorable agricultural	B1	1970-1999		2070-2099	1.9	Global	2

										conditions (MFAC)							
	3	SSA	Multiple	+34% in crop area						For less favorable agricultural conditions (LFAC)	B2	1970-1999		2070-2099	1.9	Global	2
	-1	SSA	Multiple			-8% yield					A1B	1961-2000		2046-2065 (2050)	2.2	Global	3
	3	SSA	Multiple	+22% in crop area						For less favorable agricultural conditions (LFAC)	A1F1	1970-1999		2040-2059	2	Global	2
	3	SSA	Multiple	+25% in crop area						For less favorable agricultural conditions (LFAC)	A2	1970-1999		2040-2059	2	Global	2
	3	SSA	Multiple	+35% in crop area						For less favorable agricultural conditions (LFAC)	B2	1970-1999		2070-2099	2.3	Global	2
	-2	SSA	Multiple	-10% in crop area						For more favorable agricultural conditions (MFAC)	A1F1	1970-1999		2040-2059	2	Global	2
	-1	SSA	Multiple	-8%% in crop area						For more favorable agricultural conditions (MFAC)	A2	1970-1999		2040-2059	2	Global	2
	-2	SSA	Multiple	-11% in crop area						For more favorable agricultural conditions (MFAC)	B2	1970-1999		2070-2099	2.3	Global	2
	2	EA	Multiple			+10% yield					A1B	1961-1990		2090-2099 (1990-2090)	3.4	Global	4
	-2	WA	Multiple			-11% yield					A1B	1961-1990		2090-2099 (1990-2090)	3.4	Global	4
	0	NA	Multiple			-4% yield					A1B	1961-1990		2090-2099 (1990-2090)	3.4	Global	4
	0	CA	Multiple			+2,2 yield					A1B	1961-1990		2090-2099 (1990-2090)	3.4	Global	4
	4	SSA	Multiple	+46% in crop area						For less favorable	A1F1	1970-1999		2070-2099	3.4	Global	2

										agricultural conditions (LFAC)							
	3	SSA	Multiple	+38% in crop area						For less favorable agricultural conditions (LFAC)	A2	1970-1999		2070-2099	3	Global	2
	-2	SSA	Multiple	-15% in crop area						For more favorable agricultural conditions (MFAC)	A1F1	1970-1999		2070-2099	3.4	Global	2
	-2	SSA	Multiple	-13% in crop area						For more favorable agricultural conditions (MFAC)	A2	1970-1999		2070-2099	3	Global	2
	-1	WA	Benin			-12 to 0% mostly negative					A1B	1995-2009		2020-2050	1.56	Global	8
	-2	WA	Benin			-5 to -29%					A1B-LCC	1995-2009		2020-2050	1.56	Global	8
	1	WA	Benin			-5 to 22% (mostly positive)					B1+LCC	1995-2009		2020-2050	1.36	Global	8
Sugarcane																	
	2	SA	South Africa (La Mercy:rainfed)			11% cane yield					A1B	1980-2010		2070-2100	3.4	Global	9
	2	SA	South Africa (La Mercy:irrigation)			12% cane yield					A1B	1980-2010		2070-2100	3.4	Global	9
	2	SA	South Africa (Pongola:irrigated)			14% cane yield					A1B	1980-2010		2070-2100	3.4	Global	9
	2	SA	South Africa (Malelane:irrigated)			15% cane yield					A1B	1980-2010		2070-2100	3.4	Global	9
	-2	SA	South Africa (La Mercy:rainfed)			-15% sucrose yield					A1B	1980-2010		2070-2100	3.4	Global	9
	-1	SA	South Africa (La Mercy:irrigation)			-9% sucrose yield					A1B	1980-2010		2070-2100	3.4	Global	9
	0	SA	South Africa (Pongola:irrigated)			-2% sucrose yield					A1B	1980-2010		2070-2100	3.4	Global	9
	-1	SA	South Africa (Malelane:irrigated)			+8% cane yield					A1B	1980-2010		2070-2100	3.4	Global	9
		SA	South Africa (La					+10% Irrigation requirement			A1B	1980-2010		2070-2100	3.4	Global	9

			Mercy:irrigation)														
		SA	South Africa (Pongola:irrigated)					+11% Irrigation requirement			A1B	1980-2010		2070-2100	3.4	Global	9
		SA	South Africa (Malelane:irrigated)					+11% Irrigation requirement			A1B	1980-2010		2070-2100	3.4	Global	9
		SA	South Africa (La Mercy:rainfed)					+0.5% water use efficiency			A1B	1980-2010		2070-2100	3.4	Global	9
		SA	South Africa (La Mercy:irrigation)					+2% water use efficiency			A1B	1980-2010		2070-2100	3.4	Global	9
		SA	South Africa (Pongola:irrigated)					+3% water use efficiency			A1B	1980-2010		2070-2100	3.4	Global	9
		SA	South Africa (Malelane:irrigated)					+5% water use efficiency			A1B	1980-2010		2070-2100	3.4	Global	9
	0	SA	Swaziland			3% sucrose yield					A2	1969-1996		2020-2080	2	Global	11
	2	SA	Swaziland			15% sucrose yield					A2+CO2 fertlizer	1969-1996		2020-2080	2	Global	11
	0	SA	Swaziland			2% sucrose yield					B2	1969-1996		2020-2080	2	Global	11
	1	SA	Swaziland			5% biomass yield					A2	1969-1996		2020-2080	2	Global	11
	2	SA	Swaziland			15% biomass yield					A2+CO2 fertlizer	1969-1996		2020-2080	2	Global	11
	0	SA	Swaziland			4% biomass yield					B2	1969-1996		2020-2080	2	Global	11
		SA	Swaziland					-10% water use efficiency			A2	1969-1996		2020-2080	2	Global	11
		SA	Swaziland					+5% water use efficiency			A2+CO2 fertlizer	1969-1996		2020-2080	2	Global	11
		SA	Swaziland					-10% water use efficiency			B2	1969-1996		2020-2080	2	Global	11
		SA	Swaziland					+21% irrigation requirement			A2	1969-1996		2020-2080	2	Global	11
		SA	Swaziland					+21% irrigation requirement			A2+CO2 fertlizer	1969-1996		2020-2080	2	Global	11
		SA	South Africa					+19% irrigation			B2	1969-1996		2020-2080	2	Global	11

								requirements									
	3	SA	South Africa			+20% cane yield					A2	1980-2010		2070-2100	3.7	Global	12
	2	SA	South Africa			+17% sucrose yield					A2	1980-2010		2070-2100	3.7	Global	12
		SA	South Africa					+1% to 8% crop water use			A2	1980-2010		2070-2100	3.7	Global	12
Cotton																	
	0	WA	Cameroon							+1.3 kg/ha/year seed yield	A1B	1979-2004		2005-2050	1.3	Global	14
	4	WA	Cameroon							+30 kg/ha/year seed yield	A1B+CO2 fertilization	1979-2004		2005-2050	1.3	Global	14
		WA	Cameroon							0.05 °C year−1 increase in temperature will shorten crop cycles by 0.1 day year−1 with no negative effect on yields	A1B	1979-2004		2005-2050	1.3	Global	14
	-1	WA	Multiple			-9% Biomass					RCP2.6	1986-2015	1986-2005	2080-2099	1.8	Global	15
	-1	WA	Multiple			-7% seed-cotton yields					RCP2.6	1986-2015	1986-2005	2080-2099	1.8	Global	15
		WA	Multiple					+20% WUE for un-amended soil			RCP2.6	1986-2015	1986-2005	2080-2099	1.8	Global	15
		WA	Multiple							-4% WUE for integrated soil-crop management option	RCP2.6	1986-2015	1986-2005	2080-2099	1.8	Global	15
		WA	Multiple							+2% WUE for high use of mineral fertilizer	RCP2.6	1986-2015	1986-2005	2080-2099	1.8	Global	15
		WA	Multiple							+7% Nitrogen partial factor productivity (N-PFP) for integrated soil-crop management option	RCP2.6	1986-2015	1986-2005	2080-2099	1.8	Global	15
		WA	Multiple							+14% Nitrogen partial factor productivity (N-PFP) for high use of mineral fertilizer	RCP2.6	1986-2015	1986-2005	2080-2099	1.8	Global	15
		WA	Multiple							-1% Nitrogen-internal use	RCP2.6	1986-2015	1986-2005	2080-2099	1.8	Global	15

										efficiency (N-IE) for un-amended soil							
		WA	Multiple							+2% Nitrogen-internal use efficiency (N-IE) for integrated soil-crop management option	RCP2.6	1986-2015	1986-2005	2080-2099	1.8	Global	15
		WA	Multiple							+8% nitrogen-internal use efficiency (N-IE) for high use of mineral fertilizer	RCP2.6	1986-2015	1986-2005	2080-2099	1.8	Global	15
		WA	Multiple							-7% Changes in seasonal N uptake for un-amended soil	RCP4.5	1986-2015	1986-2005	2080-2099	1.8	Global	15
		WA	Multiple							+6% Changes in seasonal N uptake) for integrated soil-crop management option	RCP4.5	1986-2015	1986-2005	2080-2099	1.8	Global	15
		WA	Multiple							+6% Changes in seasonal N uptake for high use of mineral fertilizer	RCP4.5	1986-2015	1986-2005	2080-2099	1.8	Global	15
	2	WA	Multiple			+14% Biomass					RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
	2	WA	Multiple			+15% seed-cotton yields					RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
		WA	Multiple					-1% WUE for un-amended soil		-1% WUE for un-amended soil	RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
		WA	Multiple							+9% WUE for integrated soil-crop management option	RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
		WA	Multiple							+17% WUE for high use of mineral fertilizer	RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
		WA	Multiple							+22% Nitrogen partial factor productivity (N-PFP) for integrated soil-crop	RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15

										management option							
		WA	Multiple							+30% Nitrogen partial factor productivity (N-PFP) for high use of mineral fertilizer	RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
		WA	Multiple							+0.2% nitrogen-internal use efficiency (N-IE) for un-amended soil	RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
		WA	Multiple							+5% nitrogen-internal use efficiency (N-IE) for integrated soil-crop management option	RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
		WA	Multiple							+11% nitrogen-internal use efficiency (N-IE) for high use of mineral fertilizer	RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
		WA	Multiple							+14% Changes in seasonal N uptake for un-amended soil	RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
		WA	Multiple							+17% Changes in seasonal N uptake) for integrated soil-crop management option	RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
		WA	Multiple							+17% Changes in seasonal N uptake for high use of mineral fertilizer	RCP4.5	1986-2015	1986-2005	2080-2099	2.6	Global	15
	4	WA	Multiple			+44% Biomass					RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
	4	WA	Multiple			+41% seed-cotton yields					RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
		WA	Multiple					+15% WUE for un-amended soil			RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
		WA	Multiple							+7% WUE for integrated soil-crop management option	RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15

		WA	Multiple							+13% WUE for high use of mineral fertilizer	RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
		WA	Multiple							+31% Nitrogen partial factor productivity (N-PFP) for high use of mineral fertilizer	RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
		WA	Multiple							+24% Nitrogen partial factor productivity (N-PFP) for integrated soil-crop management option	RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
		WA	Multiple							-4% nitrogen-internal use efficiency (N-IE) for un-amended soil	RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
		WA	Multiple							-7% nitrogen-internal use efficiency (N-IE) for integrated soil-crop management option	RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
		WA	Multiple							-2% nitrogen-internal use efficiency (N-IE) for high use of mineral fertilizer	RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
		WA	Multiple							+46% Changes in seasonal N uptake for un-amended soil	RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
		WA	Multiple							+33% Changes in seasonal N uptake) for integrated soil-crop management option	RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
		WA	Multiple							+33% Changes in seasonal N uptake for high use of mineral fertilizer	RCP8.5	1986-2015	1986-2005	2080-2099	4.9	Global	15
	0	WA	Burkina Faso			+3% yield					+1°C increase in temperature					Local	16
	2	WA	Burkina Faso			-13.4% yield					+4°C increase in temperature					Local	16

		NA	Sudan					-34.7% in water productivity			RCP8.5	1979-2005		2040-2070	2.9	Global	17
	-3	NA	Sudan			-29.1 % in yield					RCP8.5	1979-2005		2040-2070	2.9	Global	17
	-1	EA	Ethiopia-Amibara			-9.4% yield				Normal planting	RCP4.5	1980-2010		2010-2039 (2010-2099)	1.4	Global	18
	-2	EA	Ethiopia-Amibara			-10.2% yield				Normal planting	RCP4.5	1980-2010		2040-2069 (2010-2099)	2	Global	18
	-2	EA	Ethiopia-Amibara			-10.1% yield				Normal planting	RCP4.5	1980-2010		2070-2099 (2010-2099)	2.5	Global	18
	-2	EA	Ethiopia-Amibara			-10.7% yield				Normal planting	RCP8.5	1980-2010		2010-2039 (2010-2099)	1.5	Global	18
	-2	EA	Ethiopia-Amibara			-14.3% yield				Normal planting	RCP8.5	1980-2010		2040-2069 (2010-2099)	2.7	Global	18
	-2	EA	Ethiopia-Amibara			-16.1% yield				Normal planting	RCP8.5	1980-2010		2070-2099 (2010-2099)	4.1	Global	18
		EA	Ethiopia-Amibara						Low (-16.51% yield)	Early planting	RCP4.5	1980-2010		2010-2039 (2010-2099)	1.4	Global	18
		EA	Ethiopia-Amibara						Low (-19.97% yield)	Early planting	RCP4.5	1980-2010		2040-2069 (2010-2099)	2	Global	18
		EA	Ethiopia-Amibara						Low (-8.61% yield)	Early planting	RCP4.5	1980-2010		2070-2099 (2010-2099)	2.5	Global	18
		EA	Ethiopia-Amibara						low (-18.06% yield)	Early planting	RCP8.5	1980-2010		2010-2039 (2010-2099)	1.5	Global	18
		EA	Ethiopia-Amibara						Low (-19.53% yield)	Early planting	RCP8.5	1980-2010		2040-2069 (2010-2099)	2.7	Global	18
		EA	Ethiopia-Amibara						Low (-20.23% yield)	Early planting	RCP8.5	1980-2010		2070-2099 (2010-2099)	4.1	Global	18
		EA	Ethiopia-Amibara						High (+1.71% yield)	Late planting	RCP4.5	1980-2010		2010-2039 (2010-2099)	1.4	Global	18

		EA	Ethiopia-Amibara						High (+1.2% yield)	Late planting	RCP4.5	1980-2010		2040-2069 (2010-2099)	2	Global	18
		EA	Ethiopia-Amibara						High (+0.53% yield)	Late planting	RCP4.5	1980-2010		2070-2099 (2010-2099)	2.5	Global	18
		EA	Ethiopia-Amibara						High (+0.44% yield)	Late planting	RCP8.5	1980-2010		2010-2039 (2010-2099)	1.5	Global	18
		EA	Ethiopia-Amibara						High (+0.22% yield)	Late planting	RCP8.5	1980-2010		2040-2069 (2010-2099)	2.7	Global	18
		EA	Ethiopia-Amibara						High (-2.2% yield)	Late planting	RCP8.5	1980-2010		2070-2099 (2010-2099)	4.1	Global	18
	0	EA	Ethiopia-Dansha			-0.08% yield				Normal planting	RCP4.5	1980-2010		2010-2039 (2010-2099)	1.4	Global	18
	-3	EA	Ethiopia-Dansha			-21.1% yield				Normal planting	RCP4.5	1980-2010		2040-2069 (2010-2099)	2	Global	18
	-2	EA	Ethiopia-Dansha			-18.7% yield				Normal planting	RCP4.5	1980-2010		2070-2099 (2010-2099)	2.5	Global	18
	0	EA	Ethiopia-Dansha			+1.09% yield				Normal planting	RCP8.5	1980-2010		2010-2039 (2010-2099)	1.5	Global	18
	-3	EA	Ethiopia-Dansha			-21.1% yield				Normal planting	RCP8.5	1980-2010		2040-2069 (2010-2099)	2.7	Global	18
	-2	EA	Ethiopia-Dansha			-19.09% yield				Normal planting	RCP8.5	1980-2010		2070-2099 (2010-2099)	4.1	Global	18
		EA	Ethiopia-Dansha						Low (-0.4% yield)	Early planting	RCP4.5	1980-2010		2010-2039 (2010-2099)	1.4	Global	18
		EA	Ethiopia-Dansha						Low(-3.9% yield)	Early planting	RCP4.5	1980-2010		2040-2069 (2010-2099)	2	Global	18
		EA	Ethiopia-Dansha						Low(-20% yield)	Early planting	RCP4.5	1980-2010		2070-2099 (2010-2099)	2.5	Global	18
		EA	Ethiopia-Dansha						Low (0 yield)	Early planting	RCP8.5	1980-2010		2010-2039	1.5	Global	18

														(2010-2099)			
		EA	Ethiopia-Dansha						Low (-18.8% yield)	Early planting	RCP8.5	1980-2010		2040-2069 (2010-2099)	2.7	Global	18
		EA	Ethiopia-Dansha						Low (-22.7% yield)	Early planting	RCP8.5	1980-2010		2070-2099 (2010-2099)	4.1	Global	18
		EA	Ethiopia-Dansha						High (+0.72% yield)	Late planting	RCP4.5	1980-2010		2010-2039 (2010-2099)	1.4	Global	18
		EA	Ethiopia-Dansha						High (+0.86% yield)	Late planting	RCP4.5	1980-2010		2040-2069 (2010-2099)	2	Global	18
		EA	Ethiopia-Dansha						Low (-0.06% yield)	Late planting	RCP4.5	1980-2010		2070-2099 (2010-2099)	2.5	Global	18
		EA	Ethiopia-Dansha						High (+1.25% yield)	Late planting	RCP8.5	1980-2010		2010-2039 (2010-2099)	1.5	Global	18
		EA	Ethiopia-Dansha						High (+0.52% yield)	Late planting	RCP8.5	1980-2010		2040-2069 (2010-2099)	2.7	Global	18
		EA	Ethiopia-Dansha							Late planting	RCP8.5	1980-2010		2070-2099 (2010-2099)	4.1	Global	18
	1	EA	Ethiopia-Kebabo			+7.5% yield				Normal planting	RCP4.5	1980-2010		2010-2039 (2010-2099)	1.4	Global	18
	3	EA	Ethiopia-Kebabo			+26.6 yield				Normal planting	RCP4.5	1980-2010		2040-2069 (2010-2099)	2	Global	18
	4	EA	Ethiopia-Kebabo			+41.9% yield				Normal planting	RCP4.5	1980-2010		2070-2099 (2010-2099)	2.5	Global	18
	1	EA	Ethiopia-Kebabo			+8.8% yield				Normal planting	RCP8.5	1980-2010		2010-2039 (2010-2099)	1.5	Global	18
	3	EA	Ethiopia-Kebabo			+36.2% yield				Normal planting	RCP8.5	1980-2010		2040-2069 (2010-2099)	2.7	Global	18
	4	EA	Ethiopia-Kebabo			+42.8% yield				Normal planting	RCP8.5	1980-2010		2070-2099 (2010-2099)	4.1	Global	18

		EA	Ethiopia-Kebabo						High (+6.5% yield)	Early planting	RCP4.5	1980-2010		2010-2039 (2010-2099)	1.4	Global	18
		EA	Ethiopia-Kebabo						High (+29.8% yield)	Early planting	RCP4.5	1980-2010		2040-2069 (2010-2099)	2	Global	18
		EA	Ethiopia-Kebabo						High (+40.8% yield)	Early planting	RCP4.5	1980-2010		2070-2099 (2010-2099)	2.5	Global	18
		EA	Ethiopia-Kebabo						High (+9.5% yield)	Early planting	RCP8.5	1980-2010		2010-2039 (2010-2099)	1.5	Global	18
		EA	Ethiopia-Kebabo						High (+36% yield)	Early planting	RCP8.5	1980-2010		2040-2069 (2010-2099)	2.7	Global	18
		EA	Ethiopia-Kebabo						High ((+42% yield)	Early planting	RCP8.5	1980-2010		2070-2099 (2010-2099)	4.1	Global	18
		EA	Ethiopia-Kebabo						Low (-3.4% yield)	Late planting	RCP4.5	1980-2010		2010-2039 (2010-2099)	1.4	Global	18
		EA	Ethiopia-Kebabo						High (+16.9% yield)	Late planting	RCP4.5	1980-2010		2040-2069 (2010-2099)	2	Global	18
		EA	Ethiopia-Kebabo						High (+31.9% yield)	Late planting	RCP4.5	1980-2010		2070-2099 (2010-2099)	2.5	Global	18
		EA	Ethiopia-Kebabo						High (+1.6% yield)	Late planting	RCP8.5	1980-2010		2010-2039 (2010-2099)	1.5	Global	18
		EA	Ethiopia-Kebabo						High (+27.3% yield)	Late planting	RCP8.5	1980-2010		2040-2069 (2010-2099)	2.7	Global	18
		EA	Ethiopia-Kebabo						High (+35.8% yield)	Late planting	RCP8.5	1980-2010		2070-2099 (2010-2099)	4.1	Global	18
	1	WA	Benin			-6 to +25% mostly positive					A1B	1995-2009		2020-2050	1.56	Global	8
	1	WA	Benin			-10 to +24% mostly positive					A1B-LCC	1995-2009		2020-2050	1.56	Global	8
	1	WA	Benin			-5 to +20%					B1+LCC	1995-2009		2020-2050	1.36	Global	8

						(mostly positive)											
	1	SSA	Multiple			2.7% to 6.9%					A1B	1979-2004		2005-2050	1.33	Global	19
Oil Palm																	
	0	WA	Nigerian Niger Delta			+3% yield					RCP4.5	1980-2004		2016-2040	1.6	Global	20
	2	WA	Nigerian Niger Delta			+15% yield					RCP4.5	1980-2004		2041-2065	2.1	Global	20
	3	WA	Nigerian Niger Delta			+25% yield					RCP4.5	1980-2004		2066-2090	2.5	Global	20
	0	WA	Nigerian Niger Delta			+1% yield					RCP8.5	1980-2004		2016-2040	1.7	Global	20
	3	WA	Nigerian Niger Delta			+32% yield					RCP8.5	1980-2004		2041-2065	2.7	Global	20
	4	WA	Nigerian Niger Delta			+43% yield					RCP8.5	1980-2004		2066-2090	4	Global	20
	-4	WA	Nigeria							A decrease in suitability from 69 km2 to 1 km2)	A2	1950-2000		2100	3.3	Global	21
Tobacco																	
	0	SA	Zimbabwe	-2.6% Suitable							A2	1970-2000		2070-2090	3.3	Global	22
	1	SA	Zimbabwe	+7.1% Marginal							A2	1970-2000		2070-2090	3.3	Global	22
Cocoa																	
		WA	Ghana, Côte d'Ivoire							Some of the current cocoa-producing areas will start becoming unsuitable by 2030 as average temperature increase by 1oC	A2	1970-2000		2030-2050	1.6	Global	23
		WA	Ghana, Côte d'Ivoire							Areas with marginal climatic condition for cocoa production will increase in the southern part of the Western Region in Ghana	A2	1970-2000		2030-2050	1.6	Global	23
		WA	Ghana, Côte d'Ivoire		Suitable areas will change from 100–250 masl to 400–450 masl (change						A2	1970-2000		2030-2050	1.6	Global	23

					of 250 masl)												
	4	WA	Multiple	+283% for very low climatic suitability (< 20%)							RCP6.0	1950-2000		2040-2069	1.9	Global	24
	4	WA	Multiple	+175% for areas with intermediate climatic suitability (20–50%)							RCP6.0	1950-2000		2040-2069	1.9	Global	24
	-4	WA	Multiple	-51% for areas with high climatic suitability (> 50%)							RCP6.0	1950-2000		2040-2069	1.9	Global	24
	-2	WA	Ghana				-1% of currenr real GDP			270m to 660m USD (410m on average) per year cost of inaction on adaptation	RCP6.0	1950-2000		2040-2069	1.9	Global	25
		WA	Ghana							470,000 tons per year of the current production is located in zones with high future climate risk for cocoa that would require systemic adaptation.	RCP6.0	1950-2000		2040-2069	1.9	Global	25
	-3	WA	Côte d'Ivoire				-3.9% of current real GDP			0.8bn-1.5bn USD (1.1bn) per year cost of inaction on adaptation	RCP6.0	1950-2000		2040-2069	1.9	Global	25
		WA	Côte d'Ivoire							390,000 tons of the current production is located in areas that are projected to be unsuitable by the 2050s	RCP6.0	1950-2000		2040-2069	1.9	Global	25
	-2,5	WA				-10 to -20% losses in current cocoa productio n					RCP6.0	1950-2000		2040-2069	1.9	Global	25
	Mixed	WA	Multiple	-20 to 20							RCP6.0	1950–2000		2020-2049	1.5	Global	26

	Mixed	WA	Multiple	-20 to 20							RCP6.0	1950–2000		2040-2069	1.9	Global	26
Coffee																	
		EA	Multiple		A shift from 400–2000 masl to 800–2500 masl (change of 450 masl to high altitude)						A2	1970-2000		2040-2060	2	Global	27
		SA	Multiple		A shift from 500–1700 masl to 700–2000 masl (change of 250 masl to high altitude)						A2	1970-2000		2040-2060	2	Global	27
	0	EA	Burundi	-0.09%							A2	1970-2000		2040-2060	2	Global	27
	0	EA	Ethiopia	-0.11%							A2	1970-2000		2040-2060	2	Global	27
	0	EA	Kenya	-0.12%							A2	1970-2000		2040-2060	2	Global	27
	0	EA	Rwanda	-0.09%							A2	1970-2000		2040-2060	2	Global	27
	0	EA	Uganda	-0.25%							A2	1970-2000		2040-2060	2	Global	27
	0	EA	Tanzania	-0.22%							A2	1970-2000		2040-2060	2	Global	27
	0	EA	Zambia	-0.09%							A2	1970-2000		2040-2060	2	Global	27
	-3	EA	Ethiopia	-25						no migration scenario	A1B	1960-1990		2010–2039	1.1	Global	28
	-3	EA	Ethiopia	-33						no migration scenario	A1B	1960-1990		2040–2069	1.9	Global	28
	-4	EA	Ethiopia	-41						no migration scenario	A1B	1960-1990		2070–2099	2.7	Global	28
	-3	EA	Ethiopia	-26						no migration scenario	A2	1960-1990		2010–2039	1.1	Global	28
	-3	EA	Ethiopia	-32						no migration scenario	A2	1960-1990		2040–2069	1.9	Global	28
	-4	EA	Ethiopia	-48						no migration scenario	A2	1960-1990		2070–2099	3.1	Global	28
	-2	SA	Zimbabwe	-13.1							RCP4.5			2050			31
	-1	SA	Zimbabwe	-7.3							RCP4.5			2050			31

	-2	EA	Multiple	-10%							RCP2.6	1950–2000		2040–2069	1.7	Global	33
	-3	EA	Multiple	-22%							RCP6.0	1950–2000		2040–2069	1.6	Global	33
	-3	EA	Multiple	-30%							RCP8.5	1950–2000		2040–2069	1.9	Global	33
		EA	Multiple							The number of coffee berry borer generation will increase to 5-10 (from 1-4.5) in high (1,400–1,800 m.a.s.l.) coffee production regions	A2	1950-2000		2010-2050	1.4		35
		EA	Multiple							The number of coffee berry borer generation will increase to 5-10 (from 1-4.5) in high (1,400–1,800 m.a.s.l.) coffee production regions	B2	1950-2000		2010-2050	1.5		35
		EA	Multiple							The number of coffee berry borer generation will increase to 11-16 (from 1-4.5) in high (1,400–1,800 m.a.s.l.) coffee production regions	A2	1950-2000		2010-2050	1.4		35
		EA	Multiple							The number of coffee berry borer generation will increase to 11-16 (from 1-4.5) in high (1,400–1,800 m.a.s.l.) coffee production regions	B2	1950-2000		2010-2050	1.5		35
Tea																	
	-3	EA	Kenya	-30% (decrease in suitability from 60–80% to 35–55%)							A2	1950-2000		2040-2069	1.4	Global	36
		EA	Kenya		A shift from 1500-2100 masl to						A2	1950-2000		2040-2069	1.4	Global	36

					2000-2300 masl (change of 350 masl to high altitude)												
	-4	EA	Uganda	-40% (decrease in suitability from 60–80% to 20-40%)							A2	1950-2000		2040-2069	3.7	Global	37
		EA	Uganda		A shift from 1450-1650 masl to 1550-1650 masl (change of 50 masl to high altitude)						A2	1950-2000		2040-2069	3.7	Global	37
		EA	Kenya							11% increase in Rainfall will reduce the tea revenue by 2.5%	not specified	1980-2010		2020	1	Local	38
		EA	Kenya							26% increase in Rainfall will reduce the tea revenue by 5.5%	not specified	1980-2010		2030	2	Local	38
		EA	Kenya							30% increase in Rainfall will reduce the tea revenue by 2.5%	not specified	1980-2010		2040	2.5	Local	38
		EA	Kenya							1% increase in temperature will increase the tea revenue by 2.3%	not specified	1980-2010		2020	1	Local	38
		EA	Kenya							2% increase in temperature will increase the tea revenue by 2.4%	not specified	1980-2010		2030	2	Local	38
		EA	Kenya							2.5% increase in temperature will increase the tea revenue by 2.5%	not specified	1980-2010		2040	2.5	Local	38
	-2	EA	Kenya	-27							RCP2.6	1950-2000		2041-2060	1.9	Global	39
	-2	EA	Kenya	-25							RCP2.6	1950-2000		2061-2080	1.9	Global	39
	-2	EA	Kenya	-26							RCP8.5	1950-2000		2041-2060	2	Global	39

	-2	EA	Kenya	-26							RCP8.5	1950-2000		2061-2080	3.8	Global	39
	-2	EA	Kenya			-10					RCP2.6	1971-2000		2069-2099	1.9	Global	40
	-1	EA	Kenya			-4.5					RCP4.5	1971-2000		2069-2099	2.6	Global	40
	-1	EA	Kenya			-3					RCP8.5	1971-2000		2069-2099	3.9	Global	40
	-1	EA	Kenya			-5					RCP8.5	1990-2020		2040-2070	2.5	Global	41
Groundnut																	
		SA	Malawi							-35.4% with Early Planting with common Fertilizer	B1	1961-2000		2046–2065	1.8	Global	42
		SA	Malawi							-42.3% with Early Planting with common Fertilizer	A2	1961-2000		2046–2065	1.8	Global	42
		SA	Malawi							-25.6% with Late Planting with common Fertilizer	B1	1961-2000		2046–2065	1.8	Global	42
		SA	Malawi							-28.8% with Late Planting with common Fertilizer	A2	1961-2000		2046–2065	1.8	Global	42
	-1	WA	Benin			-2 to -12,5%					A1B	1995-2009		2020-2050	1.56	Global	8
	-1	WA	Benin			-2 to -15%					A1B-LCC	1995-2009		2020-2050	1.56	Global	8
	-1	WA	Benin			-1 to -10%					B1+LCC	1995-2009		2020-2050	1.36	Global	8
	-2	SSA	Multiple			-18%					A1B	1961-2000		2046-2065 (2050)	2.2	Global	3
		NA	Sudan					-24.6% in water productivity			RCP8.5	1979-2005		2040-2070	2.9	Global	17
	-1	NA	Sudan			-7.6% in yield					RCP8.5	1979-2005		2040-2070	2.9	Global	17
Bambara nut																	
	4	SA	South Africa			61-122%					RCP8.5	1980–2009		2040-2069	2.8	Global	43
	4	SA	Botwana			30% to 55%					RCP8.5	1980–2009		2040-2069	2.8	Global	43
	2	SA	Namibia			17% to 30%					RCP8.5	1980–2009		2040-2069	2.8	Global	43
Chickpea																	
		EA	Ethiopia			significantly increase				Quantified data was for the best crop management practices (irrigation, sowing date, cultivars)	RCP2.6	1961-1990		2020-2049	1.54	Global	44

		EA	Ethiopia			significantly increase					RCP2.6	1961-1990		2040-2069	1.69	Global	44
		EA	Ethiopia			significantly increase					RCP4.5	1961-1990		2020-2049	1.64	Global	44
		EA	Ethiopia			significantly increase					RCP4.5	1961-1990		2040-2069	2.08	Global	44
		EA	Ethiopia			significantly increase					RCP6	1961-1990		2020-2049	1.5	Global	44
		EA	Ethiopia			significantly increase					RCP6	1961-1990		2040-2069	1.94	Global	44
		EA	Ethiopia			significantly increase					RCP8.5	1961-1990		2020-2049	1.82	Global	44
		EA	Ethiopia			significantly increase					RCP8.5	1961-1990		2040-2069	2.65	Global	44
Cowpea	-2	WA	Benin			-5 to -27%					A1B	1995-2009		2020-2050	1.56	Global	8
	-2.5	WA	Benin			-11 to -33%					A1B-LCC	1995-2009		2020-2050	1.56	Global	8
	-2.5	WA	Benin			-10 to -33%					B1+LCC	1995-2009		2020-2050	1.36	Global	8
Olive																	
	-3	NA	Algeria			-10 to -56					A2	1980-1999		2025	1.2	Global	45
	-3	NA	Algeria			-10.5 to -60					A2	1980-1999		2050	1.6	Global	45
	-3	NA	Algeria			-15 to -61					A2	1980-1999		2075	2.3	Global	45
	-3	NA	Algeria			-11 to -59					B2	1980-1999		2025	1.2	Global	45
	-4	NA	Algeria			-63.6					B2	1980-1999		2050	1.6	Global	45
	-2	NA	Algeria			-10.5					B2	1980-1999		2075	2	Global	45
Millet																	
	0	WA	southern Mali			0%				current farmer practice of fertilization	RCP 4.5	1980–2009		2040–2069	2.05	Global	46
	0	WA	southern Mali			0%				current farmer practice of fertilization	RCP 8.5	1980–2009		2040–2069	2.76	Global	46
	2	WA	southern Mali							22% yield under recommended fertilizer application	RCP 4.5	1980–2009		2040–2069	2.05	Global	46
	2	WA	southern Mali			20% yield under recommended fertilizer application					RCP 8.5	1980–2009		2040–2069	2.76	Global	46
		WA	southern Mali						0% Long duration variety, at early		RCP 4.5	1980–2009		2040–2069	2.1	Global	46

									planting with current fertilizer prcatices								
		WA	southern Mali						-4% Long duration variety, at early planting with current fertilizer prcatices		RCP 8.5	1980–2009		2040–2069	2.8	Global	46
		WA	southern Mali						0% Short duration variety, at early planting with current fertilizer prcatices		RCP 4.5	1980–2009		2040–2069	2.1	Global	46
		WA	southern Mali						-8% Short duration variety, at early planting with current fertilizer prcatices		RCP 8.5	1980–2009		2040–2069	2.8	Global	46
		WA	southern Mali						-8% yield loss: early planting		RCP 4.5	1980–2009		2040–2069	2.1	Global	46
		WA	southern Mali						-8% yield loss: early planting		RCP 8.5	1980–2009		2040–2069	2.8	Global	46
		WA	southern Mali						-15% yield loss: medium planting		RCP 4.5	1980–2009		2040–2069	2.1	Global	46
		WA	southern Mali						-15% yield loss: medium planting		RCP 8.5	1980–2009		2040–2069	2.8	Global	46
		WA	southern Mali						More yield loss: late planting		RCP 4.5	1980–2009		2040–2069	2.1	Global	46
		WA	southern Mali						More yield loss: late planting		RCP 8.5	1980–2009		2040–2069	2.8	Global	46
		WA	southern Mali						-10% Long duration variety, at early planting with Rec fertilizer prcatices		RCP 4.5	1980–2009		2040–2069	2.1	Global	46
		WA	southern Mali						-11% Long duration variety, at		RCP 8.5	1980–2009		2040–2069	2.8	Global	46

									early planting with Rec fertilizer prcatices								
		WA	southern Mali						-14% Short duration variety, at early planting with Rec fertilizer prcatices		RCP 4.5	1980–2009		2040–2069	2.1	Global	46
		WA	southern Mali						-17% Short duration variety, at early planting with Rec fertilizer prcatices		RCP 8.5	1980–2009		2040–2069	2.8	Global	46
	-1	WA	Burkina Faso			-7.25%					RCP8.5	1986–2005		future time slice of 30-year period of 1.5C warming specific to each GCM	1.5	Global	47
	0	WA	Chad			2.14%					RCP8.5	1986–2005		future time slice of 30-year period of 1.5C warming specific to each GCM	1.5	Global	47
	0	WA	Cote d'Ívoire			0.66%					RCP8.5	1986–2005		future time slice of 30-year period of 1.5C warming specific to each GCM	1.5	Global	47
	0	WA	Ghana			0.86%					RCP8.5	1986–2005		future time slice of 30-year period of 1.5C warming specific to each GCM	1.5	Global	47

	-1	WA	Mali			-8.66%					RCP8.5	1986–2005		future time slice of 30-year period of 1.5C warming specific to each GCM	1.5	Global	47
	0	WA	Niger			4.19%					RCP8.5	1986–2005		future time slice of 30-year period of 1.5C warming specific to each GCM	1.5	Global	47
	0	WA	Nigeria			4.39%					RCP8.5	1986–2005		future time slice of 30-year period of 1.5C warming specific to each GCM	1.5	Global	47
	0	WA	Senegal			-4.80%					RCP8.5	1986–2005		future time slice of 30-year period of 1.5C warming specific to each GCM	1.5	Global	47
	0	WA	multiple			-3% to 2%				current fertilizer		2006-2015			1.5	Global	48
	0	WA	multiple			-4% to 3%				current fertilizer		2006-2015			2	Global	48
	0	WA	multiple			-7% to 2.5%				Fully fertilized		2006-2015			1.5	Global	48
	-1	WA	multiple			-10% to 5%				Fully fertilized		2006-2015			2	Global	48
	2	SSA	Multiple	18%						For less favorable agricultural conditions (LFAC)	B1	1970-1999	2040-2059		1.4	Global	2
	3	SSA	Multiple	20%						For less favorable agricultural conditions (LFAC)	B2	1970-1999	2040-2059		1.6	Global	2

	3	SSA	Multiple	20%						For more favorable agricultural conditions (MFAC)	B1	1970-1999		2040-2059	1.4	Global	2
	3	SSA	Multiple							For more favorable agricultural conditions (MFAC)	B2	1970-1999		2040-2059	1.6	Global	2
	3	SSA	Multiple	30%						For more favorable agricultural conditions (MFAC)	B1	1970-1999		2070-2099	1.9	Global	2
	3	SSA	Multiple	25%						For less favorable agricultural conditions (LFAC)	B2	1970-1999		2070-2099	1.9	Global	2
	3	SSA	Multiple	39%						For less favorable agricultural conditions (LFAC)	A1F1	1970-1999		2040-2059	2	Global	2
	3	SSA	Multiple	26%						For less favorable agricultural conditions (LFAC)	A2	1970-1999		2040-2059	2	Global	2
	3	SSA	Multiple	28%						For less favorable agricultural conditions (LFAC)	B1	1970-1999		2070-2099	2.3	Global	2
	4	SSA	Multiple	40%						For more favorable agricultural conditions (MFAC)	A1F1	1970-1999		2040-2059	2	Global	2
	3	SSA	Multiple	25%						For more favorable agricultural conditions (MFAC)	A2	1970-1999		2040-2059	2	Global	2
	3	SSA	Multiple	38%						For more favorable agricultural conditions (MFAC)	B2	1970-1999		2070-2099	2.3	Global	2
	4	SSA	Multiple	88%						For less favorable agricultural conditions (LFAC)	A1F1	1970-1999		2070-2099	3.4	Global	2
	4	SSA	Multiple	60%						For less favorable agricultural	A2	1970-1999		2070-2099	3	Global	2

										conditions (LFAC)							
	-2	SSA	Multiple	100%						For more favorable agricultural conditions (MFAC)	A1F1	1970-1999		2070-2099	3.4	Global	2
	-2	SSA	Multiple	70%						For more favorable agricultural conditions (MFAC)	A2	1970-1999		2070-2099	3	Global	2
	-2	SSA	Multiple			-17% yield					A1B	1961-2000		2046-2065 (2050)	2.2	Global	3
Sorghum																	
	-2	WA	multiple (13 stations)			-13 % overall loss			-10 to -10.8 with 10kg/ha fertilization rate -17.8 with 50kg/ha fertilization rate	20% relative yield variablity	RCP8.5	1961-1990		2031-2060	2.3	Global	52
	-2	WA	Western Sahel			-14 to -29			-16.5 to -19.6 with 10kg/ha fertilization rate -24.5 with 50kg/ha fertilization rate	relative variability is projected to increase from 53 to 85%	RCP8.5	1961-1990		2031-2060	2.3	Global	52
	-1	WA	Central Sahel			-13% to +7			-4.5 to -5 with 10kg/ha fertilization rate -13.5 with 50kg/ha fertilization rate		RCP8.5	1961-1990		2031-2060	2.3	Global	52
	-1	WA	Benin			-7.74%					RCP8.5	1986–2005		future time slice was taken as the 30-year period	1.5	Global	47
	-2	WA	Burkina Faso			-11.09%					RCP8.5	1986–2005		future time slice was taken as the 30-year period	1.5	Global	47
	-1	WA	Cameroon			-6.92%					RCP8.5	1986–2005		future time slice was taken	1.5	Global	47

														as the 30-year period			
	-1	WA	Chad			-7.09%					RCP8.5	1986–2005		future time slice was taken as the 30-year period	1.5	Global	47
	0	WA	Ghana			-4.28%					RCP8.5	1986–2005		future time slice was taken as the 30-year period	1.5	Global	47
	-2	WA	Mali			-10.36%					RCP8.5	1986–2005		future time slice was taken as the 30-year period	1.5	Global	47
	-1	WA	Mauritania			-6.81%					RCP8.5	1986–2005		future time slice was taken as the 30-year period	1.5	Global	47
	1	WA	Niger			8.84%					RCP8.5	1986–2005		future time slice was taken as the 30-year period	1.5	Global	47
	0	WA	Nigeria			-2.09%					RCP8.5	1986–2005		future time slice was taken as the 30-year period	1.5	Global	47
	-2	WA	Senegal			-11.53%					RCP8.5	1986–2005		future time slice was taken as the 30-year period	1.5	Global	47
	0	WA	Togo			-2.73%					RCP8.5	1986–2005		future time slice was taken as the 30-year period	1.5	Global	47
	-4	SA	Botswana			-49%					A1B-A1M	1971-2000		2050	1.8	Global	53
		EA	Ethiopia							Yields in years with poor June rains (<78mm as in the 2015 ENSO event) are 40% less	RCP4.5	1981-2010		2011-2100	1.9	Global	54

										than years without a dry June for the baseline case.							
		EA	Ethiopia							Yields in years with poor June rains (<78mm as in the 2015 ENSO event) are 40% less than years without a dry June for the baseline case.	RCP8.5	1981-2010		2011-2100	2.7	Global	54
	0	WA	multiple			-3% to 1%				current fertilizer		2006-2015			1.5	Global	48
	0	WA	multiple			-10% to 0.5%				current fertilizer		2006-2015			2	Global	48
	-1	WA	multiple			-7% to -0.5%				Fully fertilized		2006-2015			1.5	Global	48
	-1	WA	multiple			-11% to -2%				Fully fertilized		2006-2015			2	Global	48
	-4	SA	Botswana			-46% to -51%					A1B-A1M	1971-2000		2001-2050	1.5	Global	53
		SA	Swaziland							-18% with Early Planting with Recommended Fertilizer	B1	1961-2000		2046–2065	1.8	Global	42
		SA	Swaziland							-14.6% with Early Planting with Recommended Fertilizer	A2	1961-2000		2046–2065	1.8	Global	42
		SA	Swaziland							-21% with Late Planting with Recommended Fertilizer	B1	1961-2000		2046–2065	1.8	Global	42
		SA	Swaziland							-19.7% with Late Planting with Recommended Fertilizer	A2	1961-2000		2046–2065	1.8	Global	42
		SA	Swaziland							-14.1% with Early Planting with common Fertilizer	B1	1961-2000		2046–2065	1.8	Global	42
		SA	Swaziland							-21.56% with Early Planting with common Fertilizer	A2	1961-2000		2046–2065	1.8	Global	42
		SA	Swaziland							-2.82% with Late Planting with common Fertilizer	B1	1961-2000		2046–2065	1.8	Global	42
		SA	Swaziland							-0.11% with Late Planting with common Fertilizer	A2	1961-2000		2046–2065	1.8	Global	42

		SA	Lesotho							39.63% with Early Planting with Recommended Fertilizer	B1	1961-2000		2046–2065	1.8	Global	42
		SA	Lesotho							44.04% with Early Planting with Recommended Fertilizer	A2	1961-2000		2046–2065	1.8	Global	42
		SA	Lesotho							26.92% with Late Planting with Recommended Fertilizer	B1	1961-2000		2046–2065	1.8	Global	42
		SA	Lesotho							30.59% with Late Planting with Recommended Fertilizer	A2	1961-2000		2046–2065	1.8	Global	42
		SA	Lesotho							65% with Early Planting with common Fertilizer	B1	1961-2000		2046–2065	1.8	Global	42
		SA	Lesotho							59.96% with Early Planting with common Fertilizer	A2	1961-2000		2046–2065	1.8	Global	42
		SA	Lesotho							75.06% with Late Planting with common Fertilizer	B1	1961-2000		2046–2065	1.8	Global	42
		SA	Lesotho							66.44% with Late Planting with common Fertilizer	A2	1961-2000		2046–2065	1.8	Global	42
	1	SSA	Multiple	8%						For less favorable agricultural conditions (LFAC)	B1	1970-1999		2040-2059	1.4	Global	2
	2	SSA	Multiple	10%						For less favorable agricultural conditions (LFAC)	B2	1970-1999		2040-2059	1.6	Global	2
	1	SSA	Multiple	5%						For more favorable agricultural conditions (MFAC)	B1	1970-1999		2040-2059	1.4	Global	2
	1	SSA	Multiple	5%						For more favorable agricultural conditions (MFAC)	B2	1970-1999		2040-2059	1.6	Global	2
	2	SSA	Multiple	10%						For more favorable	B1	1970-1999		2070-2099	1.9	Global	2

										agricultural conditions (MFAC)							
	2	SSA	Multiple	18%						For less favorable agricultural conditions (LFAC)	B2	1970-1999		2070-2099	1.9	Global	2
	3	SSA	Multiple	20%						For less favorable agricultural conditions (LFAC)	A1F1	1970-1999		2040-2059	2	Global	2
	2	SSA	Multiple	17%						For less favorable agricultural conditions (LFAC)	A2	1970-1999		2040-2059	2	Global	2
	2	SSA	Multiple	17%						For less favorable agricultural conditions (LFAC)	B1	1970-1999		2070-2099	2.3	Global	2
	3	SSA	Multiple	22%						For more favorable agricultural conditions (MFAC)	A1F1	1970-1999		2040-2059	2	Global	2
	3	SSA	Multiple	22%						For more favorable agricultural conditions (MFAC)	A2	1970-1999		2040-2059	2	Global	2
	2	SSA	Multiple	12%						For more favorable agricultural conditions (MFAC)	B2	1970-1999		2070-2099	2.3	Global	2
	3	SSA	Multiple	44%						For less favorable agricultural conditions (LFAC)	A1F1	1970-1999		2070-2099	3.4	Global	2
	3	SSA	Multiple	30%						For less favorable agricultural conditions (LFAC)	A2	1970-1999		2070-2099	3	Global	2
	2	SSA	Multiple	10%						For more favorable agricultural conditions (MFAC)	A1F1	1970-1999		2070-2099	3.4	Global	2
	4	SSA	Multiple	70%						For more favorable agricultural conditions (MFAC)	A2	1970-1999		2070-2099	3	Global	2

	-2	SSA	Multiple			-17% yield					A1B	1961-2000		2046-2065 (2050)	2.2	Global	3
		NA	Sudan					-49.2% in water productivity			RCP8.5	1979-2005		2040-2070	2.9	Global	17
	-4	NA	Sudan			-40% in yield					RCP8.5	1979-2005		2040-2070	2.9	Global	17
Potato																	
	-2	EA	multiple			-11%									>3	Local	55
	-3	EA	multiple			-32%									>6	Local	55
	Mixed	Africa	multiple			>+25 & -100 to -50				Negative in the lowlands of SSA ad posiive in the highlands of Africa	RCP8.5	1979-2009		2040-2070	2.77	Global	56
	Mixed	Africa	multiple			>+25 & -100 to -50				Negative in the lowlands of SSA ad posiive in the highlands of Africa	RCP8.5	1979-2009		2071-2085	3.94	Global	56
	Mixed	Africa	multiple			>+25 & -100 to -50				Negative in the lowlands of SSA ad posiive in the highlands of Africa	RCP4.5	1979-2009		2040-2070	2.15	Global	56
	Mixed	Africa	multiple			>+25 & -100 to -50				Negative in the lowlands of SSA ad posiive in the highlands of Africa	RCP4.5	1979-2009		2071-2085	2.57	Global	56
	2.5	SA	South Africa			12% to 37.1%					A2	1961–2009		2010-2050			57
	-3	SA	Multiple	-50 to 15							A1B	1950-2000		2020-2049 (2030)	1.6	Global	1
	-1	Sahel	Multiple	-24 to 3							A1B	1950-2000		2020-2049 (2030)	1.6	Global	1
	-1	WA	Multiple	-16 to 0							A1B	1950-2000		2020-2049 (2030)	1.6	Global	1
	-1.5	Central A	Multiple	-15 to -1%							A1B	1950-2000		2020-2049 (2030)	1.6	Global	1
	-1.5	EA	Multiple	-27 to -1							A1B	1950-2000		2020-2049 (2030)	1.6	Global	1
	-2	EA	Multiple			-17,05%					A1B	1961-1990		2090-2099 (1990-2090)	3.4	Global	4
	1	WA	Multiple			6,04%					A1B	1961-1990		2090-2099 (1990-2090)	3.4	Global	4

	0	NA	Multiple			-3.20%					A1B	1961-1990		2090-2099 (1990-2090)	3.4	Global	4
	-2	CA	Multiple			-14,96					A1B	1961-1990		2090-2099 (1990-2090)	3.4	Global	4
	-4	SA	Multiple			-42,5%					A1B	1961-1990		2090-2099 (1990-2090)	3.4	Global	4
		Africa	Multiple	Decrease							RCP4.5	1970-2000		2050	1.8	Global	59
Sunflower																	
	-2	NA	Morroco			-15.70%					RCP4.5			2031-2050			60
	-4	NA	Morroco			-44.70%					RCP8.5			2031-2050			60
	-4	SA	Botswana			-52% to -54%					A1B-A1M	1971-2000		2001-2050	1.5	Global	53

Table SM9.b: Models used and citations by Reference number

Reference	Citation	DOI	Models used
1	(Jarvis et al., 2012)	10.1007/s12042-012-9096-7	BCCR-BCM2.0, CCCMA-CGCM3.1 (T47), CCCMA-CGCM3.1 (T63), CNRM-CM3, CSIRO-Mk3.0, 2.0, CCCMA-CGCM3.1 (T47), CCCMA-CGCM3.1 (T63), CNRM-CM3, CSIRO-Mk3.0, CSIRO-Mk3.5, GFDL-CM2.0, GFDL-CM2.1,GISS-AOM, GISS-MODEL-EH, GISS-MODEL-ER, IAP-FGOALS1.0-G, INGV-ECHAM4, INM-CM3.0, IPSL-CM4, MIROC3.2-HIRES, MIROC3.2-MEDRES, MIUB-ECHO-G, MPI-ECHAM5, MRI-CGCM2.3.2A, NCAR-CCSM3.0, NCAR-PCM1, UKMO-HADCM3, UKMO-HADGEM1
2	(Blanc, 2013)	10.5897/jdae12.145	CSIRO2, HadCM3, CGCM2, PCM
3	(Schlenker and Lobell, 2010)	10.1088/1748-9326/5/1/014010	16 CM (not specified)
4	(Tatsumi et al., 2011)	10.1002/hyp.8012	CM2-1, MIROC3·2 medres, HadGEM1, CGCM2·3·2, CCSM3
5	(Tatsumi et al., 2011)	10.1002/hyp.8012	CM2-1, MIROC3·2 medres, HadGEM1, CGCM2·3·2, CCSM4
6	(Tatsumi et al., 2011)	10.1002/hyp.8012	CM2-1, MIROC3·2 medres, HadGEM1, CGCM2·3·2, CCSM6
7	(Tatsumi et al., 2011)	10.1002/hyp.8012	CM2-1, MIROC3·2 medres, HadGEM1, CGCM2·3·2, CCSM7
8	(Awoye et al., 2017)	10.1016/j.agrformet.2016.12.010	Not stated
9	(Jones et al., 2015)	10.1016/j.agsy.2015.07.007	MIROC3 2 MEDRES, MPI ECHAM5, UKMO HADCM3
10	(Jones et al., 2015)	10.1016/j.agsy.2015.07.007	MIROC3 2 MEDRES, MPI ECHAM5, UKMO HADCM4
11	(Knox et al., 2010)	10.1016/j.agsy.2009.09.002	HadCM3
12	(Singels et al., 2014)	10.1007/s12355-013-0274-1	MIROC3 2 MEDRES, MPI ECHAM5, UKMO HADCM3
13	(Singels et al., 2014)	10.1007/s12355-013-0274-1	MIROC3 2 MEDRES, MPI ECHAM5, UKMO HADCM4
14	(Gérardeaux et al., 2012)	10.1007/s13593-012-0119-4	ECHAM5, HadCM3
15	(Amouzou et al., 2018)	10.1016/j.agsy.2018.06.005	BNU-ESM, CanESM2, and MPI-ESM-MR

16	(Diarra et al., 2017)	10.5897/ajar2015.10763	Stastical model
17	(Ahmed, 2020)	10.1016/j.agwat.2020.106064	CCCma-CanESM2, CSIRO-Mk3, and ACCESS-1
18	(Asaminew et al., 2017)	10.4172/2157-7617.1000390	CCSM4, GFDL-ESM2M, HadGEM2-ES, MIROC5, MPI-ESM-MR
19	(Gérardeaux et al., 2018)	10.1016/j.fcr.2018.07.007	ECHAM5, HadCM3
20	(Okoro et al., 2017)	10.1016/j.eja.2017.02.002	MPI-ESM-LR, CanESM3
21	(Paterson et al., 2017)	10.1017/S0021859616000605	CSIRO-Mk3·0, MIROC-H
22	(Chemura et al., 2013)	https://www.researchgate.net/publication/241048621	HadCM3
23	(Läderach et al., 2013)	10.1007/s10584-013-0774-8	19 GCMs not specified
24	(Schroth et al., 2016)	10.1016/j.scitotenv.2016.03.024	bcc_csm1_1, bcc_csm1_1_m, ccsm4, cesm1_cam5, csiro_mk3_6_0, fio_esm, gfdl_cm3, gfdl_esm2g, gfdl_esm2m, giss_e2_h, giss_e2_r, hadgem2_ao, hadgem2_es, ipsl_cm5a_lr, miroc5, miroc_esm, miroc_esm_chem, mri_cgcm3, noresm1_m
25	(Bunn C et al., 2018)	https://cgspace.cgiar.org/bitstream/handle/10568/97166/The%20economic%20case%20for%20climate%20action%20in%20WestAfrican%20cocoa%20report.pdf	bcc_csm1_1, bcc_csm1_1_m, ccsm4, cesm1_cam5, csiro_mk3_6_0, fio_esm, gfdl_cm3, gfdl_esm2g, gfdl_esm2m, giss_e2_h, giss_e2_r, hadgem2_ao, hadgem2_es, ipsl_cm5a_lr, miroc5, miroc_esm, miroc_esm_chem, mri_cgcm3, noresm1_m
26	(Schroth et al., 2017)	10.1007/s11027-016-9707-y	bcc_csm1_1, bcc_csm1_1_m, ccsm4, cesm1_cam5, csiro_mk3_6_0, fio_esm, gfdl_cm3, gfdl_esm2g, gfdl_esm2m, giss_e2_h, giss_e2_r, hadgem2_ao, hadgem2_es, ipsl_cm5a_lr, miroc5, miroc_esm, miroc_esm_chem, mri_cgcm3, noresm1_m
27	Ovalle-Rivera 2015	http://csa2015.cirad.fr/var/csa2015/storage/fckeditor/file/L1%20Regional%20Dimensions(1).pdf	21 GCMs on IPCC AR4
28	(Moat et al., 2017)	10.1038/nplants.2017.81	BCCR-BCM2.0, CSIRO-MK3.5, GFDL- CM2.1
29	(Moat et al., 2017)	10.1038/nplants.2017.81	BCCR-BCM2.0, CSIRO-MK3.5, GFDL- CM2.2
30	(Moat et al., 2017)	10.1038/nplants.2017.81	BCCR-BCM2.0, CSIRO-MK3.5, GFDL- CM2.3
31	(Chemura et al., 2015)	10.1007/s10113-015-0762-9	CCSM4
32	(Chemura et al., 2015)	10.1007/s10113-015-0762-9	HadGEM2
33	(Bunn et al., 2015)	10.1007/s10584-014-1306-x	GFDL-ESM2M, HadGEM2-ES, IPSL-CM5A-LR, MIROCESM-CHEM, and NorESM1-M
34	(Bunn et al., 2015)	10.1007/s10584-014-1306-x	GFDL-ESM2M, HadGEM2-ES, IPSL-CM5A-LR, MIROCESM-CHEM, and NorESM1-M)
35	(Jaramillo et al., 2011)	10.1371/journal.pone.0024528	HadCM3
36	(Centro Internacional de Agricultura Tropical (CIAT), 2011)	https://hdl.handle.net/10568/72340	21 GCMs on IPCC AR4
37	(Eitzinger et al., 2011)	https://www.cabdirect.org/cabdirect/abstract/20113356941	21 GCMs on IPCC AR4
38	(Ochieng et al., 2016)	10.1016/j.njas.2016.03.005	not specified
39	(Jayasinghe and Kumar, 2020)	10.3390/agronomy10101536	CCSM4, HadGEM2-ES, MIROCH-H

40	(Beringer et al., 2020)	10.1088/1748-9326/ab649b	HadGEM2-ES, IPSL- CM5A-LR, MIROC-ESM-CHEM, GFDL-ESM2M, and NorESM1-M
41	(Rigden et al., 2020)	10.1088/1748-9326/ab70be	23 GCMs CMIP5
42	(Zinyengere et al., 2014)	10.1016/j.agee.2014.07.002	CCMA, CNRM, CSIRO, GFDL, GISS, IPSL, MIUB, MPI, MRI
43	(Karunaratne et al., 2015)	10.3354/cr01300	ACCESS1-0, BCC-CSM1-1, BNU-ESM, CanESM2, CCSM4, CESM1-BGC, CSIRO-Mk3-6-0, GFDL-ESM2G , GFDL-ESM2M, HadGEM2-CC, HadGEM2-ES, INMCM4.0, IPSL-CM5A-LR, IPSL-CM5A-MR, MIROC5, MIROC-ESM, MPI-ESM-LR, MPI-ESM-MR, MRI-CGCM3, NorESM1-M
44	(Mohammed et al., 2017)	10.1016/j.crm.2016.12.003	BCC-CSM 1.1 , BCC-CSM 1.1, CSIRO-Mk3.6.0, FIO-ESM, GFDL-CM3, GFDL-ESM2G, GFDL-ESM2 M, GISS-E2-H, GISS-E2-R, HadGEM2-ES, IPSL-CM5A-LR, IPSL-CM5A-MR, MIROC-ESM, MIROC-ESM-CHEM, MIROC5, MRI-CGCM3, NorESM1-M
45	(Bouregaa, 2019)	10.1108/meq-06-2018-0110	GFDLCM21, GFDLCM20, BCCRBCM2 and MIROCMED
46	(Traore et al., 2017)	10.1016/j.fcr.2016.11.002	cnrm-cm5, ecearth, hadgem2-es, ipsl-cm5a-lr, mpi-esm-lr
47	(Parkes et al., 2018)	10.5194/esd-9-119-2018	CanESM2, CNRM-CM5A, CM5A-MR, CSIRO-Mk3.6.0, NOAA-GFDL-CM3, MOHC-HadGEM2-ES, ICHEC-EC-EARTH, MIROC5, MPI-ESM-LR, NorESM
48	(Faye et al., 2018)	10.1088/1748-9326/aaab40	ECHAM6, MIROC5, NorESM1
49	(Faye et al., 2018)	10.1088/1748-9326/aaab40	ECHAM6, MIROC5, NorESM2
50	(Faye et al., 2018)	10.1088/1748-9326/aaab40	ECHAM6, MIROC5, NorESM3
51	(Faye et al., 2018)	10.1088/1748-9326/aaab40	ECHAM6, MIROC5, NorESM4
52	(Sultan et al., 2014)	10.1088/1748-9326/9/10/104006	CCSM4, CMCC-CM, CMCC-CMS, CSIRO-Mk3-6-0, GFDL-ESM2G, HadGEM2-ES, IPSL-CM5A-LR, MIROC5, MPI-ESM-Mr
53	(Alemaw and Simalenga, 2015)	10.4236/ajcc.2015.44025	CCCMA-31, GFDLCM21, UKHADCM3, (MAGICC/SCENGEN)
54	(Eggen et al., 2019)	10.1088/1748-9326/aafe19	CanESM2, CESM1-BGC, CNRM-CM5, CSIRO-Mk3-6-0, GFDL-CM3 NOAA , GFDLESM2G, GFDLESM2M, IPSLCM5A-LR, IPSLCM5A-MR, MIROC5, MPI-ESM-LR, MPIESM-MR, MRI-CGCM3, NorESM1-M
55	(Fleisher et al., 2016)	10.2134/advagricsystmodel7.2014.0018.5	
56	(Raymundo et al., 2018)	10.1016/j.eja.2017.11.008	HadGEM2-ES, IPSL-CM5A-LR, GFDL-ESM2M, MIROC-ESM-CHEM and NorESM1-M
57	(Haverkort et al., 2013)	10.1007/s11540-013-9230-4	6 coupled GCMs
58	(Tatsumi et al., 2011)	10.1002/hyp.8012	CM2-1, MIROC3·2 medres, HadGEM1, CGCM2·3·2, CCSM8
59	(Manners and van Etten, 2018)	10.1016/j.gloenvcha.2018.09.010	All 30 GCMs
60	(Brouziyne et al., 2018)	10.1016/j.agsy.2018.01.024	CLMcom-CCLM4–8-17

Table SM9.7: Africa Supplemental to Figure 9.32 Health Synthesis

Table SM9.7a: Observed

Level of risk	Region	# exposed (lengths of hazard and number of things in hazard area) (exposure/hazard)	# cases (risk)	# deaths (risk)	% increases (% increase on previous incidence (cases / deaths)) (risk)	%Population At Risk (% increase of population at risk & vector distribution) (exposure/hazard)	cost USD$ (or % hours lost; 5% increments)	Other information	Year	GWL	Citation	DOI
4	very high	>10s mill	>100,000s	>3,000	>10%	31-50%	>100s millions					
3	high	>1s mill	>10,000s	>1,000	>7%	21-30%	>50 mill					
2	moderate	>100,000s	>1,000s	>500	>5%	11-20%	>10s mills					
1	low	>1,000s	>100s	>100	>2%	5-10%	> 1 mill					
0	negligible											
-1	reduced risk	>1,000s	>100s	>100	>2%	5-10%	> 1 mill					
-2		>100,000s	>1,000s	>500	>5%	11-20%	>10s mills					
-3		>1s mill	>10,000s	>1,000	>7%	21-30%	>50 mill					
-4		>10s mill	>100,000s	>3,000	>10%	31-50%	>100s millions					
Malaria												
4	E Africa				30%			increase in incidence	2013	1.1	(Boyce et al., 2016)	10.1093/infdis/jiw363
4	S Africa					70%		density increase; Mean daily temperatures increase An. gambiae s.l	2013	1.1	(Charlwood, 2017)	10.7717/peerj.3099
3	S Africa					35%		density increase; Mean daily temperatures increase An. funestus		-	(Charlwood, 2017)	10.7717/peerj.3099
2	S Africa		Temperature and rainfall influence seasonal variations in malaria transmission; Rainfall as major driver of malaria transmission						1970 - 2005	NA	(Abiodun et al., 2018)	10.1155/2018/3143950
2	S Africa		Positive correlation between monthly malaria cases and climate variables						1998 - 2017	NA	(Adeola et al., 2019)	10.4081/gh.2019.676
2	S Africa		Relationship between malaria						1998 - 2017	NA	(Adeola et al., 2019)	10.4081/gh.2019.676

			and La Nina events									
2	W Africa		Combined contributions of environmental variables favour higher distribution of An. gambiae s.s. in wet season than An. arabiensis, while precipitation during dry and warm months (high humidity in dry season) favour higher distribution of An. arabiensis than An. gambiae s.s. in dry season						1900 - 2010	N A	(Akpan et al., 2018)	10.1371/journal.pone.0204233
2	E Africa	Increased monthly minimum temperature associated with increased malaria cases							2000 - 2009	0.8	(Alemu et al., 2011)	10.1186/1756-3305-4-30
2	E Africa	Monthly minimum and maximum temperatures at one month lagged associated with increased malaria cases							2000 - 2009	0.8	(Alemu et al., 2011)	10.1186/1756-3305-4-30
2	E Africa	total rainfall associated with malaria risk							2000 - 2009	0.8	(Alemu et al., 2011)	10.1186/1756-3305-4-30
2	E Africa	total rainfall at one month lagged = increased malaria cases							2000 - 2009	0.8	(Alemu et al., 2011)	10.1186/1756-3305-4-30
2	E Africa	High suitability of Lagos state for the malaria vector species due to high temperature and precipitation in that area of the Humid forest. This is also							2000 - 2009	0.8	(Alemu et al., 2011)	10.1186/1756-3305-4-30

		influenced by the complex nature of the society, poor planning and lack of infrastructure in expanding slum areas, rapid population expansion and industrial activities make the climate warmer and create conditions highly suitable for malaria vector reproduction, survival and increased biting rates										
2	E Africa	exacerbation of malaria in East African highland, while also allowing for a role of other factors							1970 - 2003	N A	(Alonso et al., 2011)	10.1098/rspb.2010.2020
1	W Africa				2.58%			variability in the trend of malaria is explained by past innovations in relative humidity	2010 - 2015	1.1	(Ankamah et al., 2018)	10.1155/2018/6124321
4	W Africa				significant proportion (about 12.65%) of the variability in the trend of malaria is explained by past innovations in maximum temperature				2010 - 2015	1.1	(Ankamah et al., 2018)	10.1155/2018/6124321
4	W Africa				11.10%			variability in the trend of malaria is explained by past innovations in rainfall	2010 - 2015	1.1	(Ankamah et al., 2018)	10.1155/2018/6124321
2	S Africa		Positive correlations between malaria						June 2005 -	0.8	(Chirebvu et al., 2016)	10.1371/journal.

			cases and minimum and average temperatures at 1-month lag periods						June 2010			pone.013984 3
2	S Africa		1-month lag period on the association between the incidence of malaria cases and rainfall						June 2005 - June 2010	0.8	(Chirebvu et al., 2016)	10.1371/journ al. pone.013984 3
2	S Africa		maximum temperature was above 30°C; minimum temperature remaining above 15°C						2001 - 2015	0.8	(Chuang et al., 2017)	10.1186/s129 36-017-1874- 0
2	S Africa		monthly precipitation was above 5 in or preciptation greater than 10 in associated with increased malaria cases						2001 - 2015	0.8	(Chuang et al., 2017)	10.1186/s129 36-017-1874- 0
2	E Africa		almost linear positive relationship between malaria incidence and temp with a peak in transmission at about 25-30°C						Jan 2001 - Dec 2011	0.8	(Colón-González et al., 2016)	10.4081/gh.2 016.379
2	E Africa		minimum temperatures (6.5 to 22.C) with malaria incidence at 1 and 2 month lags						2005-2015	1.1	(Gunda et al., 2017)	10.1186/s129 36-017-2036- 0
2	E Africa		precipitation at 1 month lag associated with increased malaria cases						2005-2015	1.1	(Gunda et al., 2017)	10.1186/s129 36-017-2036- 0
2	W Africa		Rainfall and NDVI are important drivers of malaria risk						10/2009 - 10/2020	1.1	(Adigun et al., 2015)	10.1186/s129 36-015-0683- 6

4	Africa	Anopheles mosquito range shifts							1898-2016	NA	(Carlson et al., 2019)	10.1101/673913
2	E Africa		positively associated with seasonal rainfall, which decreases with altitude						1984 - 1999	NA	(Chaves et al., 2012)	10.1093/infdis/jis289
2	W Africa		1 - 2 month lag (rainfall) associated with increased malaria cases						2008 - 2016	1.1	(Awine et al., 2018)	10.1371/journal.pone.0191707
2	S Africa	Increase in parasite prevalence observed in several provinces between 2008 and 2010 corresponded both with decreases in household ITN coverage and with warmer and wetter conditions influencing the potential for underlying malaria transmission intensity, with a greater contribution due to climate variability							2006 - 2012	1.1	(Bennett et al., 2016)	10.1186/s13071-016-1693-0
2	W Africa		Years with peak malaria morbidities (2006, 2011 and 2014) had lowest annual rainfalls. Monthly, malaria morbidity had a significantly negative linear relationship with rainfall and relative humidity, and a significantly positive linear relationship with temperature.						2005-2014	0.8	(Jonathan et al., 2018)	10.1080/15627020.2018.1520146
2	W Africa		Significant associations between high						1995-2006	0.8	(Adu-Prah and Kofi	10.1016/J.APGEOG.2014.10.010

			temperature and malaria prevalence								Tetteh, 2015)	
2	W Africa		Significant associations between mean relative humidity and malaria prevalence						1995-2006	0.8	(Adu-Prah and Kofi Tetteh, 2015)	10.1016/J.APGEOG.2014.10.010
2	E Africa		Positive association between moderate to high mean monthly temperature and malaria risk						2004-2015	0.8	(Amadi et al., 2018)	10.1371/journal.pone.0199357
2	E Africa		Positive association between moderate total monthly rainfall and malaria risk						2004-2015	0.8	(Amadi et al., 2018)	10.1371/journal.pone.0199357
2	W Africa		Positive association between mean monthly maximum temperature and malaria incidence						2002-2015	0.8	(Darkoh et al., 2017)	10.1155/2017/7820454
2	W Africa		Positive association between monthly rainfall and peak malaria incidence						2001-2010	0.8	(Diouf et al., 2017)	10.3390/ijerph14101119
2	S Africa		Mean weekly temperature is a predictor for malaria occurrence						2006-2014	1.1	(Ferrão et al., 2017)	10.1186/s12936-017-1866-0
2	S Africa		Association between rainfall and malaria peak						2006-2014	1.1	(Ferrão et al., 2017)	10.1186/s12936-017-1866-0
2	E Africa		Malaria burden is linked to seasonal variations in rainfall with a two-month lag time						1990-2011	NA	(Karuri and Snow, 2016)	10.3402/gha.v9.29876

2	S Africa		Significant correlation between precipitation and malaria incidence						2009-2012	1.1	(Shimapon da-Mataa et al., 2017)	10.1016/j.act atropica.2016 .11.007
2	W Africa		Malaria incidence linked to increase in rainfall						2004-2013	0.8	(M'Bra et al., 2018)	10.1371/journ al.pone.0182 304
2	W Africa		Malaria incidence linked to increase in rainfall						2004-2013	0.8	(M'Bra et al., 2018)	10.1371/journ al.pone.0182 304
2	W Africa		Malaria incidence linked to increase in temperature						2004-2013	0.8	(M'Bra et al., 2018)	10.1371/journ al.pone.0182 304
2	W Africa		Malaria incidence linked to increase in temperature						2004-2013	0.8	(M'Bra et al., 2018)	10.1371/journ al.pone.0182 304
2	W Africa		Malaria risk linked to monthly total rainfall						1983-2011	N A	(Tourre et al., 2019)	10.1007/s106 61-019-7410-7
Choler a												
0	S Africa			45				Excess deaths	25 Apr - 28 May 2019	1.1	(Cambaza et al., 2019)	10.3390/ijerp h16162925
2	S Africa	374 000						people displaced/expo sed	25 Apr - 28 May 2019	1.1	(Cambaza et al., 2019)	10.3390/ijerp h16162925
1	S Africa		149					Increase in cases	25 Apr - 28 May 2019	1.1	(Cambaza et al., 2019)	10.3390/ijerp h16162925
4	E Africa				100 (2-fold)			increase in cases at 1°C temp increase; 4 month lag	2002-2008	0.8	(Reyburn et al., 2011)	10.4269/ajtm h.2011.10-0277
4	E Africa				60% (1.6 fold)			increase in cases at 200 mm rain increase; 2 month lag	2002-2008	0.8	(Reyburn et al., 2011)	10.4269/ajtm h.2011.10-0277
0	C Africa						50 - 250 USD per capita	every change in the rainfall variability by 10–19%; 4 to 8% of the per	Bukavu town: 1992 - 2011; Katana	0.8	(Munyuli et al., 2013)	PMID: 24427 750

								capita in annual income in Bukavu town	rural health zone: 1992 - 2011			
1	C Africa		5 - 450					every change in the rainfall variability by 10–19%; 4 to 8% of the per capita in annual income in Bukavu town	Bukavu town: 1992 - 2011; Katana rural health zone: 1992 - 2011	0.8	(Munyuli et al., 2013)	PMID: 24427750
4	S Africa				1.87 - 2.78 (87% - 178%)			times increase in cases, with annual mean air temperature increases by 0.1°C	1971-2006	NA	(Paz, 2009)	10.1007/s10393-009-0264-7
3	E Africa		50 000					Additional cases	2000-2014	0.8	(Moore et al., 2017)	10.1073/pnas.1617218114
2	S Africa				5.2%			Additional cases; 1°C rise in temperature 6 weeks before the onset of the outbreak	2003-2006	0.8	(Luque Fernández et al., 2009)	10.1016/j.trstmh.2008.07.017
1	S Africa				2.5%			Additional cases; 50 mm increase in rainfall 3 weeks before	2003-2006	0.8	(Luque Fernández et al., 2009)	10.1016/j.trstmh.2008.07.017
4	Africa		1,74 million					60% of the total 2.9 million (1.3 to 1.4 m) global cholera cases	2008 to 2012	1.1	(Ali et al., 2015)	10.1371/journal.pntd.0003832
2	E Africa	Temperature ranges from 22∘C to 32∘C, favor the occurrence of cholera incidences.							Jan2015 - Dec2017	1.1	(Leo et al., 2019)	10.1155/2019/9397578
2	E Africa	Rainfall level greater than 50 mm, favor the occurrence of cholera epidemics							Jan2015 - Dec2017	1.1	(Leo et al., 2019)	10.1155/2019/9397578
2	E Africa	Humidity level is greater than 75% favor the occurence of cholera epidemics							Jan2015 - Dec2017	1.1	(Leo et al., 2019)	10.1155/2019/9397578

Diarrhoeal Disease												
4	S Africa				40%			increase in cases; 5°C increase minimum temperature	Nov 2012 - May 2013; Nov 2013 - May 2014	1.1	(Musengimana et al., 2016)	10.3390/ijerph13090859
4	S Africa				32%			increase in cases; 5°C increase maximum temperature	Nov 2012 - May 2013; Nov 2013 - May 2014	1.1	(Musengimana et al., 2016)	10.3390/ijerph13090859
4	S Africa				15%			increase in cases; one-week lag (Autocorrelation AC 1) indicated that a 5°C increase in minimum temperature	Nov 2012 - May 2013; Nov 2013 - May 2014	1.1	(Musengimana et al., 2016)	10.3390/ijerph13090859
2	S Africa				6%			Increase in cases; one-week lag (Autocorrelation AC 1) indicated that a 5°C increase in maximum temperature	Nov 2012 - May 2013; Nov 2013 - May 2014	1.1	(Musengimana et al., 2016)	10.3390/ijerph13090859
0	S Africa				1.04%			one additional wet day per week was associated with a 1.04% (0.04-1.66) increase in diarrheal disease	1997-2014	NA	(Horn et al., 2018)	10.3390/ijerph15040709
2	S Africa	Hot, dry season starting earlier and lasting longer							1974 - 2003	NA	(Alexander et al., 2013)	10.3390/ijerph10041202
2	S Africa	Decreased rainfall = longer dry season							1974 - 2003	NA	(Alexander et al., 2013)	10.3390/ijerph10041202

2	S Africa	Wet season: 8 week lag = influence on under 5 diarrhoea							January 2007 - June 2017	1.1	(Alexander et al., 2013)	10.1371/journal.pmed.1002688
2	S Africa	Dry season: river height (1 week lag) and max temp (1- and 4- week lag)							January 2007 - June 2017	1.1	(Alexander et al., 2013)	10.1371/journal.pmed.1002688
2	W Africa	High rainfall resulted to increased diarrheal incidence							2011-2015	1.1	(Thiam et al., 2017)	10.3390/ijerph14091049
2	W Africa	High land surface tem variability resulted to increased diarrheal incidence							2011-2015	1.1	(Thiam et al., 2017)	10.3390/ijerph14091049
HIV												
4	S Africa				2.77 fold (177%)			prevalence of HIV in drought vs non drought areas	2016-2019	1.1	(Low et al., 2019)	10.1371/journal.pmed.1002727
4	SS Africa				11%			increase in HIV prevalence in rural areas with each drought	2003-2009	0.8	(Burke et al., 2015)	10.1111/ecoj.12149
Heat-related illnesses												
0	S Africa				0.9%			increased mortality per 1°C increase in Tapp (lag0–1)	2006-2010	0.8	(Wichmann, 2017)	10.1016/j.scitotenv.2017.02.135
1	S Africa				2.1%			increase in mortality; ≥ 65 year group	2006-2010	0.8	(Wichmann, 2017)	10.1016/j.scitotenv.2017.02.135
4	S Africa			3.4% of deaths (~ 290,000)				attributable to nonoptimum temperatures over the study period	1997 - 2013	NA	(Scovronick et al., 2018)	10.1016/j.envres.2017.11.001
2	S Africa		Heat effects occurred immediately after exposure but diminished quickly whereas cold effects were delayed but persistent.					strongest associations were in the youngest (< 5) and oldest (> 64) age groups and for cardiorespiratory causes	1997 - 2013	NA	(Scovronick et al., 2018)	10.1016/j.envres.2017.11.001

2	W Africa					The short-term direct heat effect was particularly strong on the under-five child mortality rate			1999 - 2009	0.8	(Diboulo et al., 2012)	10.3402/gha.v5i0.19078
2	E Africa			Low temperatures were associated with deaths due to acute infections					2003 - 2008	0.8	(Egondi et al., 2012)	10.3402/gha.v5i0.19065
2	E Africa			Increasing temperatures were significantly associated with mortality in children and non-communicable disease (NCD) deaths.					2003 - 2008	0.8	(Egondi et al., 2012)	10.3402/gha.v5i0.19065
2	N Africa		Sweating (100.0%), dizziness (98.0%), muscle pain (82.0%), and minimal dehydration (78.7%) reported by construction workers						June - August (summer) 2016 between 9 AM and 6 PM	1.1	(El-Shafei et al., 2018)	10.1007/s11356-018-3211-8
2	C Africa		Up to 4% of work hours are currently lost due to heat, for workers in moderate intensity jobs						1981-2010	NA	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0
2	E Africa		On the Red Sea coast, up to 12% of work hours are currently lost due to heat, for workers in moderate intensity jobs						1981-2010	NA	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0

2	N Africa		already showing WBGTmax levels of over 30°C during the hottest days (concerning for people doing moderate physical work)						1981-2010	N A	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0
2	N Africa		Up to 4% of work hours are currently lost due to heat, for workers in moderate intensity jobs						1981-2010	N A	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0
2	W Africa		Up to 6% of work hours are currently lost due to heat, for workers in moderate intensity jobs						1981-2010	N A	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0
2	W Africa		Occupational heat stress among miners: excessive sweating (25.5%), headaches (17.6%), heat rash (15.7%), fainting (13.7%), and heat exhaustion or tiredness (5.9%)						No timeline	-	(Nunfam et al., 2019)	10.1016/j.envres.2018.11.004
2	S Africa	indoor temperatures ≥32°C and students who felt tired and found it hard to breathe							5 days; Monday to Friday, summer/early autumn	-	(Bidassey-Manilal et al., 2016)	10.3390/ijerph13060566
2	E Africa		Number of hospital admissions increased						2011 to 2014	1.1	(Bishop-Williams et al., 2018)	10.3390/ijerph15112402
2	W Africa			All-cause mortality: statistically significant association of					1995-2010	0.8	(Azongo et al., 2012)	10.3402/gha.v5i0.19073

				mean daily temperature with mortality at lag days 0-1 was observed below 27.48°C and above 30.68°C								
2	S Africa			In southern Africa, climate change related temperature effects on mortality are already being detected .					Review: no timeline specified	-	(Chersich et al., 2018)	10.3390/ijerph15091884
All-cause mortality attributed to non-optimal temperatures												
2	W Africa			rainfall events and daily mortality				Elderly and young children	1999 - 2009	0.8	(Diboulo et al., 2012)	10.3402/gha.v5i0.19078
2	E Africa	rainfall: lag period of 0-29 days, increased all-cause mortality in general, but was found strongest related to mortality among females							2003 - 2008	0.8	(Egondi et al., 2012)	10.3402/gha.v5i0.19065
2	E Africa	rainfall associated with all-cause pneumonia and NCD deaths							2003 - 2008	0.8	(Egondi et al., 2012)	10.3402/gha.v5i0.19065
2	E Africa			Mortality among people aged 50+ and children aged below 5 years appeared most susceptible to cold compared to other age groups.					2003 - 2008	0.8	(Egondi et al., 2012)	10.3402/gha.v5i0.19065
2	S Africa		The relative risk for all-age all-cause mortality on very cold and hot days (1st and						1997 - 2013	N/A	(Scovronick et al., 2018)	10.1016/j.envres.2017.11.001

			99th percentile of the temperature distribution) was 1.14 (1.10,1.17) and 1.06 (1.03,1.09), respectively, when compared to the minimum mortality temperature.									
3	SSA			1,269/100,000				people aged 40 - 64; Cardiovascular mortality varies by season, with higher mortality rates in the hot dry season	1999 - 2003	N/A	(Kynast-Wolf et al., 2010)	10.1111/j.1365-3156.2010.02586.x
4	SSA			7,074/100,000				People aged >65	1999 - 2003	N/A	(Kynast-Wolf et al., 2010)	10.1111/j.1365-3156.2010.02586.x
3	N Africa				9.73%			excess death ratio (ratio between annual excess deaths and all deaths in a year)	2000-2019	1.1	(Zhao et al., 2021)	10.1016/S2542-5196(21)00081-4
4	SSA				12.06%			excess death ratio (ratio between annual excess deaths and all deaths in a year)	2000-2019	1.1	(Zhao et al., 2021)	10.1016/S2542-5196(21)00081-4
1	N Africa				2.47%			annual average excess deaths	2000-2019	1.1	(Zhao et al., 2021)	10.1016/S2542-5196(21)00081-4
4	SSA				21.42%			annual average excess deaths	2000-2019	1.1	(Zhao et al., 2021)	10.1016/S2542-5196(21)00081-4
3	S Africa				9%			increase in mortality risk from all causes,	1991-2018	N/A	Vicedo-Cabrera et al., 2021	10.1038/s41558-021-01058-x

Table SM9.7b: Projected

Level of risk	Region	# exposed (lengths of hazard and number of things in hazard area) (exposure/hazard)	# cases (risk)	# deaths (risk)	% increases (% increase on previous incidence (cases / deaths)) (risk)	%Population At Risk (% increase of population at risk & vector distribution) (exposure/hazard)	cost USD$ (or % hours lost; 5% increments)	Other information	Climate Model	GWL	GWL + 0.1°C	Year	Baseline year/ base period	Citation	DOI	Figures based on constant population or predicted increase in population (eg SSP3, 2015 population etc)
4	very high	>10s mill	>100,000s	>3,000	>10%	31-50%	>100s millions			>1°C (0.9 - 1.4)	>1°C (0.9 - 1.4)					
3	high	>1s mill	>10,000s	>1,000	>7%	21-30%	>50 mill			>1,5°C (1.5 - 1.9)	>1,5°C (1.5 - 1.9)					
2	moderate	>100,000s	>1,000s	>500	>5%	11-20%	>10s mills			>2°C (2.0 - 2.9)	>2°C (2.0 - 2.9)					
1	low	>1,000s	>100s	>100	>2%	5-10%	> 1 mill			>3°C (3.0 - 3.9)	>3°C (3.0 - 3.9)					
0	negligible									>4°C (4.0 - 4.9)	>4°C (4.0 - 4.9)					
-1	reduced risk	>1,000s	>100s	>100	>2%	5-10%	> 1 mill									
-2		>100,000s	>1,000s	>500	>5%	11-20%	>10s mills									
-3		>1s mill	>10,000s	>1,000	>7%	21-30%	>50 mill									
-4		>10s mill	>100,000s	>3,000	>10%	31-50%	>100s millions									
Dengue, Chikungunya, Zika																

4	N Africa And Middle East	19.7 million						Additional exposure to potential Aedes aegypti transmission	RCP 2.6	1.4	1.5	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	N Africa And Middle East	24.1 million						Additional exposure to potential Aedes aegypti transmission	RCP 4.5	1.7	1.8	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	N Africa And Middle East	23.8 million						Additional exposure to potential Aedes aegypti transmission	RCP 6.0	1.6	1.7	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	N Africa And Middle East	27.2 million						Additional exposure to potential Aedes aegypti transmission	RCP 8.5	2.2	2.3	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	N Africa And Middle East	19.3 million						Additional exposure to potential Aedes aegypti transmission	RCP 2.6	1.4	1.5	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	N Africa And Middle East	25.9 million						Additional exposure to potential Aedes aegypti transmission	RCP 4.5	2.2	2.3	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	N Africa And Middle East	27.3 million						Additional exposure to potential Aedes aegypti transmission	RCP 6.0	2.4	2.5	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	N Africa And Middle East	30.3 million						Additional exposure to potential Aedes aegypti transmission	RCP 8.5	3.6	3.7	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
-2	W Africa	-0.9 million						Additional exposure to potential Aedes aegypti transmission	RCP 2.6	1.4	1.5	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
-2	W Africa	-0.7 million						Additional exposure to potential Aedes	RCP 4.5	1.7	1.8	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015

								aegypti transmission								
-2	W Africa	-0.8 million						Additional exposure to potential Aedes aegypti transmission	RCP 6.0	1.6	1.7	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
-2	W Africa	-0.7 million						Additional exposure to potential Aedes aegypti transmission	RCP 8.5	2.2	2.3	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
-2	W Africa	-0.9 million						Additional exposure to potential Aedes aegypti transmission	RCP 2.6	1.4	1.5	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
-2	W Africa	-0.6 million						Additional exposure to potential Aedes aegypti transmission	RCP 4.5	2.2	2.3	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
-2	W Africa	-0.6 million						Additional exposure to potential Aedes aegypti transmission	RCP 6.0	2.4	2.5	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
-2	W Africa	-0.4 million						Additional exposure to potential Aedes aegypti transmission	RCP 8.5	3.6	3.7	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
3	C Africa	5.7 million						Additional exposure to potential Aedes aegypti transmission	RCP 2.6	1.4	1.5	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
3	C Africa	6.8 million						Additional exposure to potential Aedes aegypti transmission	RCP 4.5	1.7	1.8	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
3	C Africa	6.5 million						Additional exposure to potential Aedes aegypti transmission	RCP 6.0	1.6	1.7	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
3	C Africa	7.8 million						Additional exposure to potential	RCP 8.5	2.2	2.3	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015

								Aedes aegypti transmission								
3	C Africa	5.3 million						Additional exposure to potential Aedes aegypti transmission	RCP 2.6	1.4	1.5	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
3	C Africa	7.7 million						Additional exposure to potential Aedes aegypti transmission	RCP 4.5	2.2	2.3	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
3	C Africa	8.3 million						Additional exposure to potential Aedes aegypti transmission	RCP 6.0	2.4	2.5	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
3	C Africa	9.5 million						Additional exposure to potential Aedes aegypti transmission	RCP 8.5	3.6	3.7	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	E Africa	48.8 million						Additional exposure to potential Aedes aegypti transmission	RCP 2.6	1.4	1.5	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	E Africa	63.7 million						Additional exposure to potential Aedes aegypti transmission	RCP 4.5	1.7	1.8	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	E Africa	59.1 million						Additional exposure to potential Aedes aegypti transmission	RCP 6.0	1.6	1.7	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	E Africa	72.2 million						Additional exposure to potential Aedes aegypti transmission	RCP 8.5	2.2	2.3	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	E Africa	44.7 million						Additional exposure to potential Aedes aegypti transmission	RCP 2.6	1.4	1.5	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015

4	E Africa	70.8 million						Additional exposure to potential Aedes aegypti transmission	RCP 4.5	2.2	2.3	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	E Africa	76.6 million						Additional exposure to potential Aedes aegypti transmission	RCP 6.0	2.4	2.5	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	E Africa	90.9 million						Additional exposure to potential Aedes aegypti transmission	RCP 8.5	3.6	3.7	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	S Africa	23.6 million						Additional exposure to potential Aedes aegypti transmission	RCP 2.6	1.4	1.5	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	S Africa	25.8 million						Additional exposure to potential Aedes aegypti transmission	RCP 4.5	1.7	1.8	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	S Africa	25.6 million						Additional exposure to potential Aedes aegypti transmission	RCP 6.0	1.6	1.7	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	S Africa	26.7 million						Additional exposure to potential Aedes aegypti transmission	RCP 8.5	2.2	2.3	2050	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	S Africa	23.4 million						Additional exposure to potential Aedes aegypti transmission	RCP 2.6	1.4	1.5	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	S Africa	26.7 million						Additional exposure to potential Aedes aegypti transmission	RCP 4.5	2.2	2.3	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
4	S Africa	27.1 million						Additional exposure to potential Aedes	RCP 6.0	2.4	2.5	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015

								aegypti transmission								
4	S Africa	28.0 million						Additional exposure to potential Aedes aegypti transmission	RCP 8.5	3.6	3.7	2080	2000-2020	(Ryan et al., 2019)	10.1371/journal.pntd.0007213	Population count data predicted for 2015
2	Africa					12.5%		Increase in population at risk	RCP 6.0	1.1	1.1	2020	1960 - 2015	(Messina et al., 2019)	10.1038/s41564-019-0476-8	SSP2
4	Africa					98.9%		Increase in population at risk	RCP 6.0	1.8	1.8	2050	1960 - 2015	(Messina et al., 2019)	10.1038/s41564-019-0476-8	SSP2
4	Africa					168.2%		Increase in population at risk	RCP 6.0	2.6	2.6	2080	1960 - 2015	(Messina et al., 2019)	10.1038/s41564-019-0476-8	SSP2
4	Africa					44.7%		% land area suitable for dengue	RCP 6.0	1.1	1.1	2020	1960 - 2015	(Messina et al., 2019)	10.1038/s41564-019-0476-8	SSP2
4	Africa					50.5%		% land area suitable for dengue	RCP 6.0	1.8	1.8	2050	1960 - 2015	(Messina et al., 2019)	10.1038/s41564-019-0476-8	SSP2
4	Africa					54.1%		% land area suitable for dengue	RCP 6.0	2.6	2.6	2080	1960 - 2015	(Messina et al., 2019)	10.1038/s41564-019-0476-8	SSP2
0	C Africa			0				Additional deaths attributable to climate change	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	C Africa			1 (1 to 1)				Additional deaths attributable to climate change	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	E Africa			6 (5 to 7)				Additional deaths attributable to climate change	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	E Africa			5 (4 to 5)				Additional deaths attributable to climate change	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	N Africa & Middle East			0				Additional deaths attributable to climate change	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	N Africa & Middle East			0				Additional deaths attributable to climate change	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	S Africa			0				Additional deaths	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b

								attributable to climate change								
0	S Africa			0				Additional deaths attributable to climate change	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	W Africa			1 (1 to 1)				Additional deaths attributable to climate change	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	W Africa			1 (1 to 1)				Additional deaths attributable to climate change	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
4	E Africa	19.1 million						region experiencing the largest increase in first exposures to any (one or more months) transmission suitability	RCP 8.5	2.2	2.3	2050	2000-2020	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	N Africa & Middle East		262.9 million					Population at risk (PAR) for exposure to endemic malaria transmission	RCP 4.5	1.7	1.8	2050	2000-2020	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	C Africa		100.2 million					Population at risk (PAR) for exposure to endemic malaria transmission	RCP 4.5	1.7	1.8	2050	2000-2020	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	E Africa		315.3 million					Population at risk (PAR) for exposure to endemic malaria transmission	RCP 4.5	1.7	1.8	2050	2000-2020	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future

																populations were extracted from the 2020 layers.
4	S Africa		29.4. million					Population at risk (PAR) for exposure to endemic malaria transmission	RCP 4.5	1.7	1.8	2050	2000-2020	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	W Africa		340.4 million					Population at risk (PAR) for exposure to endemic malaria transmission	RCP 4.5	1.7	1.8	2050	2000-2020	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	N Africa & Middle East		275.3 million					Population at risk (PAR) for exposure to endemic malaria transmission	RCP 8.5	2.2	2.3	2050	2000-2020	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	C Africa		106.3 million					Population at risk (PAR) for exposure to endemic malaria transmission	RCP 8.5	2.2	2.3	2050	2000-2020	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	E Africa		344.9 million					Population at risk (PAR) for exposure to endemic malaria transmission	RCP 8.5	2.2	2.3	2050	2000-2020	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.

4	S Africa		37.3 million					Population at risk (PAR) for exposure to endemic malaria transmission	RCP 8.5	2.2	2.3	2050	2000-2020	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	W Africa		341.0 million					Population at risk (PAR) for exposure to endemic malaria transmission	RCP 8.5	2.2	2.3	2050	2000-2020	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	C Africa	Aedes albopictus expands into Chad							RCP 6.0	1.8	1.8	2050	1960-2015	(Kraemer et al., 2019)	10.1038/s41564-019-0376-y	—
4	W Africa	Aedes albopictus expands into Mali and Burkina Faso							RCP 4.5	1.9	1.9	2050	1960-2015	(Kraemer et al., 2019)	10.1038/s41564-019-0376-y	—
Cholera																
4	E Africa				Relative risk of cholera increases 15-29% for every 1 degree C increase			Additional cases	Upper boundary scenario, given a 2 degree Celsius temperature increase by year 2030	2.0	2.1	2 030	1977 - 2004; 1998 - 2004	(Trærup et al., 2011)	10.3390/ijerph8124386	Population projections for 2030 are included based on UN-projected population figures
4	E Africa		369,783 - 615,356 (245,573 increase) (66% - 133%)					Additional cases	Upper boundary scenario, given a 2 degree Celsius temperature increase by year 2030	2.0	2.1	2 030	1977 - 2004; 1998 - 2004	(Trærup et al., 2011)	10.3390/ijerph8124386	Population projections for 2030 are included based on UN-projected population figures
3	E Africa		55,467 - 107,237					Additional cases	1°C increase (local T)	1.0	1.1	2 030	1977 - 2004; 1998 - 2004	(Trærup et al., 2011)	10.3390/ijerph8124386	Population projections for 2030 are included based on UN-projected population figures
4	E Africa		119,255 - 245,573					Additional cases	2°C increase (local T)	2.0	2.1	2 030	1977 - 2004;	(Trærup et al., 2011)	10.3390/ijerph8124386	Population projections for 2030 are included

													1998 - 2004			based on UN-projected population figures
3	E Africa						64 million to 124 million	Additional costs	1°C increase (local T)	1.0	1.1	2 030	1977 - 2004; 1998 - 2004	(Trærup et al., 2011)	10.3390/ijerph8124386	Population projections for 2030 are included based on UN-projected population figures
4	E Africa						138 million to 284 million	Additional costs	2°C increase (local T)	2.0	2.1	2 030	1977 - 2004; 1998 - 2004	(Trærup et al., 2011)	10.3390/ijerph8124386	Population projections for 2030 are included based on UN-projected population figures
3	E Africa			1,764 - 3,410				Additional deaths	1°C increase (local T)	1.0	1.1	2 030	1977 - 2004; 1998 - 2004	(Trærup et al., 2011)	10.3390/ijerph8124386	Population projections for 2030 are included based on UN-projected population figures
4	E Africa			3,792 - 7,809				Additional deaths	2°C increase (local T)	2.0	2.1	2 030	1977 - 2004; 1998 - 2004	(Trærup et al., 2011)	10.3390/ijerph8124386	Population projections for 2030 are included based on UN-projected population figures
4	W Africa				20%			Increase in cholera cases compared to current	RCP 2.0	1.7	1.8	2060 - 2075	1990-2005	(Abdussalam, 2017)	10.4314/afrev.v11i1.15	This study uses three scenarios namely; RCP2.6, RCP6.0 and RCP8.5 scenarios for 2006-2100
4	W Africa				27%			Increase in cholera cases compared to current	RCP 6.0	2.3	2.4	2060 - 2075	1990-2005	(Abdussalam, 2017)	10.4314/afrev.v11i1.15	This study uses three scenarios namely; RCP2.6, RCP6.0 and RCP8.5 scenarios for 2006-2100
4	W Africa				40%			Increase in cholera cases compared to current	RCP 8.5	3.3	3.4	2060 - 2075	1990-2005	(Abdussalam, 2017)	10.4314/afrev.v11i1.15	This study uses three scenarios namely; RCP2.6, RCP6.0 and RCP8.5 scenarios for 2006-2100
-2	W Africa	Reduced environmental suitability for Vibrio cholera							B1	2.3	2.4	2100	2005 - 2010	(Escobar et al., 2015)	10.1016/j.actatropica.2015.05.028	—
-2	S Africa	Reduced environmental suitability for Vibrio cholera							B1	2.3	2.4	2100	2005 - 2010	(Escobar et al., 2015)	10.1016/j.actatropica.2015.05.028	—
-2	E Africa	Reduced environmental suitability for Vibrio cholera							B1	2.3	2.4	2100	2005 - 2010	(Escobar et al., 2015)	10.1016/j.actatropica.2015.05.028	—

3	S Africa	High environmental suitability for Vibrio cholera							B1	2.3	2.4	2100	2005 - 2010	(Escobar et al., 2015)	10.1016/j.actatropica.2015.05.028	—
Heat-related illnesses																
4	N Africa & Middle East				2 - 3 X			Greater rmortality risk	RCP 4.5	2.1	2.1	2040 - 2069	1951-2005	(Ahmadalipour and Moradkhani, 2018)	10.1016/j.envint.2018.05.014	—
4	N Africa & Middle East				3 - 7 X			Greater rmortality risk	RCP 8.5	2.7	2.7	2040 - 2069	1951-2005	(Ahmadalipour and Moradkhani, 2018)	10.1016/j.envint.2018.05.014	—
4	N Africa & Middle East				8 - 20 X			Greater rmortality risk	RCP 4.5	2.4	2.4	2070 - 2099	1951-2005	(Ahmadalipour and Moradkhani, 2018)	10.1016/j.envint.2018.05.014	—
4	N Africa & Middle East				40 X			Greater rmortality risk	RCP 8.5	3.9	3.9	2070 - 2099	1951-2005	(Ahmadalipour and Moradkhani, 2018)	10.1016/j.envint.2018.05.014	—
4	W Africa	50-150 days per year above deadly threshold (13%-27%)							RCP2.6	1.6	1.7	2090 - 2100	1995-2005	(Mora et al., 2017)	10.1038/nclimate3322	—
4	W Africa	100-250 days per year above deadly threshold (27%-68%)							RCP4.5	2.4	2.5	2090 - 2100	1995-2005	(Mora et al., 2017)	10.1038/nclimate3322	—
4	C Africa	100-200 days per year above deadly threshold (27%-55%)						in parts of central Africa	RCP 4.5	2.4	2.5	2090 - 2100	1995-2005	(Mora et al., 2017)	10.1038/nclimate3322	—
4	E Africa	Up to 100 days per year above deadly threshold (up to 27%)						along coastal belt	RCP 4.5	2.4	2.5	2090 - 2100	1995-2005	(Mora et al., 2017)	10.1038/nclimate3322	—
4	S Africa	Up to 100 days per year above deadly threshold (up to 27%)						along eastern coastal belt	RCP 4.5	2.4	2.5	2090 - 2100	1995-2005	(Mora et al., 2017)	10.1038/nclimate3322	—
4	N Africa	50-100 days per year above deadly threshold (13%-27%)						along Mediterranean coastal belt and Sahel region	RCP 8.5	4.6	4.7	2090 - 2100	1995-2005	(Mora et al., 2017)	10.1038/nclimate3322	—
4	W Africa	100-350 days per year above deadly threshold (27%-96%)						throughout most of W Africa	RCP 8.5	4.6	4.7	2090 - 2100	1995-2005	(Mora et al., 2017)	10.1038/nclimate3322	—
4	C Africa	100-350 days per year above deadly threshold (27%-96%)							RCP 8.5	4.6	4.7	2090 - 2100	1995-2005	(Mora et al., 2017)	10.1038/nclimate3322	—

4	E Africa	100-350 days per year above deadly threshold (27%-96%)						along coastal belt	RCP 8.5	4.6	4.7	2090-2100	1995-2005	(Mora et al., 2017)	10.1038/nclimate3322	—
4	S Africa	50-100 days per year above deadly threshold (13%-27%)						in central S Africa with largest number of hot days along eastern coastal belt	RCP 8.5	4.6	4.7	2090-2100	1995-2005	(Mora et al., 2017)	10.1038/nclimate3322	—
1	C Africa			344 (281 to 389)				additional deaths for people aged over 65 years	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
3	C Africa			1 363 (1 139 to 1 598)				additional deaths for people aged over 65 years	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
3	E Africa			1 212 (1 064 to 1 552)				additional deaths for people aged over 65 years	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
4	E Africa			4 543 (3 497 to 5 957)				additional deaths for people aged over 65 years	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
2	N Africa & Middle East			2 058 (1 381 to 2 342)				additional deaths for people aged over 65 years	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
4	N Africa & Middle East			6 669 (4 731 to 8 537)				additional deaths for people aged over 65 years	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
1	S Africa			254 (163 to 313)				additional deaths for people aged over 65 years	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
2	S Africa			706 (553 to 857)				additional deaths for people aged over 65 years	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
2	W Africa			987 (712 to 1214)				additional deaths for people aged over 65 years	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b

4	W Africa			3 469 (2 887 to 4 261)				additional deaths for people aged over 65 years	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
2.5	C Africa	moderate to strong heat stress (26-38°C monthly average for the hottest month)							RCP8.5	1.5	1.6	2011 - 2040	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
2.5	C Africa	moderate to strong heat stress (26-38°C monthly average for the hottest month)							RCP8.5	2.7	2.8	2041 - 2070	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3	C Africa	moderate to very strong heat stress (26-46°C monthly average for the hottest month)							RCP8.5	4.1	4.2	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3	E Africa	moderate to very strong heat stress (26-46°C monthly average for the hottest month)							RCP8.5	1.5	1.6	2011 - 2040	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3	E Africa	moderate to very strong heat stress (26-46°C monthly average for the hottest month)							RCP8.5	2.7	2.8	2041 - 2070	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3	E Africa	moderate to very strong heat stress (26-46°C monthly average for the hottest month)							RCP8.5	4.1	4.2	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3	N Africa	strong to very strong heat stress (32-46°C monthly average for the hottest month)							RCP8.5	1.5	1.6	2011 - 2040	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
4	N Africa	very strong heat stress (38-46°C monthly average for the hottest month)							RCP8.5	2.7	2.8	2041 - 2070	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
4	N Africa	very strong heat stress (38-46°C monthly average for the hottest month)							RCP8.5	4.1	4.2	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
2.5	S Africa	moderate to strong heat stress (26-38°C monthly average for the hottest month)							RCP8.5	1.5	1.6	2011 - 2040	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3	S Africa	moderate to very strong heat stress (26-46°C monthly							RCP8.5	2.7	2.8	2041 - 2070	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—

		average for the hottest month)														
3	S Africa	moderate to very strong heat stress (26-46°C monthly average for the hottest month)							RCP8.5	4.1	4.2	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3.5	W Africa	strong to very strong heat stress (32-46°C monthly average for the hottest month)							RCP8.5	1.5	1.6	2011 - 2040	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3.5	W Africa	strong to very strong heat stress (32-46°C monthly average for the hottest month)							RCP8.5	2.7	2.8	2041 - 2070	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3.5	W Africa	strong to very strong heat stress (32-46°C monthly average for the hottest month)							RCP8.5	4.1	4.2	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
0	C Africa						Up to 8% of work hours lost due to heat, for workers in moderate intensity jobs		RCP2.6	1.6	1.7	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3	C Africa						Up to 16% of work hours lost due to heat, for workers in moderate intensity jobs		RCP6.0	2.7	2.8	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
2	E Africa						Up to 12% of work hours lost due to heat, for workers in moderate intensity jobs, in localized areas		RCP2.6	1.6	1.7	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3	E Africa						More than 16% of work hours lost due to heat,		RCP6.0	2.7	2.8	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—

							particularly along the Red Sea coast, for workers in moderate intensity jobs										
1	N Africa						Up to 6% of work hours lost due to heat, for workers in moderate intensity jobs		RCP2.6	1.6	1.7	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
2	N Africa						Up to 12% of work hours lost due to heat, for workers in moderate intensity jobs		RCP6.0	2.7	2.8	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
0	S Africa						Up to 2% of work hours lost due to heat, for workers in moderate intensity jobs		RCP2.6	1.6	1.7	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
1	S Africa						Up to 6% of work hours lost due to heat, for workers in moderate intensity jobs		RCP6.0	2.7	2.8	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
2	W Africa						Up to 12% of work hours lost due to heat, for workers in moderate intensity jobs		RCP2.6	1.6	1.7	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—
3	W Africa						Up to 16% of work		RCP6.0	2.7	2.8	2071 - 2099	1981 - 2010	(Kjellstrom et al., 2018)	10.1007/s00484-017-1407-0	—

							hours lost due to heat, for workers in moderate intensity jobs									
2	S Africa	37%						increase in the number of 'caution' days per year where fatigue, and discomfort are possible (from 78 to 107 days)	RCP8.5	3.4	3.5	2088 - 2099	September 2016 - September 2017	(Kapwata et al., 2018)	10.3390/ijerph15050952	Sample based on study participants between September 2016 to September 2017
3	S Africa	74%						increase in the number of 'extreme caution' days per year, where sunstroke, heat cramps, and heat exahustion are possible (from 61 to 106 days)	RCP8.5	3.4	3.5	2088 - 2099	September 2016 - September 2017	(Kapwata et al., 2018)	10.3390/ijerph15050952	Sample based on study participants between September 2016 to September 2017
4	S Africa	Ambient temperatures are predicted to increase by approximately 4.6°C during 2088-2099, with winter warming more than during summer or spring							RCP8.5	3.4	3.5	2088 - 2099	September 2016 - September 2017	(Kapwata et al., 2018)	10.3390/ijerph15050952	Sample based on study participants between September 2016 to September 2017
4	W Africa		50-100%					population in Sahel countries of W Africa at risk of possible heat cramp, heat exhaustion, and heat stroke; 10% increase in spatial extent and severity under 2 degrees compared with 1.5	2°C	2.0	2.0		1979 - 2005	(Sylla et al., 2018)	10.1029/2018EF000873	—

Pollution-related illnesses																
-1	N Africa & Mid E			-130				ozone-related (avoided) deaths	RCP 8.5	1.7	1.8	2030	2000	(Silva et al., 2017)	10.1038/nclimate3354	projections of population and baseline mortality rates from the International Futures (IFs) integrated modeling system
-4	N Africa & Mid E			-3970				ozone-related (avoided) deaths	RCP 8.5	4.4	4.5	2100	2000	(Silva et al., 2017)	10.1038/nclimate3354	projections of population and baseline mortality rates from the International Futures (IFs) integrated modeling system
-2	SSA			-230				ozone-related (avoided) deaths	RCP 8.5	1.7	1.8	2030	2000	(Silva et al., 2017)	10.1038/nclimate3354	projections of population and baseline mortality rates from the International Futures (IFs) integrated modeling system
-4	SSA			-18400				ozone-related (avoided) deaths	RCP 8.5	4.4	4.5	2100	2000	(Silva et al., 2017)	10.1038/nclimate3354	projections of population and baseline mortality rates from the International Futures (IFs) integrated modeling system
4	N Africa & Mid E			5800				particulate matter (PM2.5)-related IHD + STROKE +COPD+ LC deaths per year	RCP 8.5	1.7	1.8	2030	2000	(Silva et al., 2017)	10.1038/nclimate3354	projections of population and baseline mortality rates from the International Futures (IFs) integrated modeling system
4	N Africa & Mid E			50400				particulate matter (PM2.5)-related IHD + STROKE +COPD+ LC deaths per year	RCP 8.5	4.4	4.5	2100	2000	(Silva et al., 2017)	10.1038/nclimate3354	projections of population and baseline mortality rates from the International Futures (IFs) integrated modeling system
-3	SSA			-2400				particulate matter (PM2.5)-related IHD + STROKE +COPD+ LC deaths per year	RCP 8.5	1.7	1.8	2030	2000	(Silva et al., 2017)	10.1038/nclimate3354	projections of population and baseline mortality rates from the International Futures (IFs) integrated modeling system

-4	SSA			-22500				particulate matter (PM2.5)-related IHD + STROKE +COPD+ LC deaths per year	RCP 8.5	4.4	4.5	2100	2000	(Silva et al., 2017)	10.1038/nclimate3354	projections of population and baseline mortality rates from the International Futures (IFs) integrated modeling system
4	N Africa			10 deaths per year per 1000 km2 (±40 000)				along the northernmost coastline as a result of PM2.5	RCP 8.5	4.4	4.5	2100	2000	(Silva et al., 2017)	10.1038/nclimate3354	projections of population and baseline mortality rates from the International Futures (IFs) integrated modeling system
0	N Africa			Ambient ozone and particulate matter (PM2.5) concentrations and associated mortalities are predicted to remain almost constant in northern Africa					RCP 8.5	1.7	1.8	2030	2000	(Silva et al., 2017)	10.1038/nclimate3354	projections of population and baseline mortality rates from the International Futures (IFs) integrated modeling system
?	C Africa			mortalities attributable to ambient ozone and particulate matter (PM2.5) are forecast to vary widely in both sign and magnitude					RCP 8.5	4.4	4.5	2100	2000	(Silva et al., 2017)	10.1038/nclimate3354	projections of population and baseline mortality rates from the International Futures (IFs) integrated modeling system
?	N Africa	mostly no change, localized drecrease in Tunisia and 0.8 ug/m^3 increases over Egypt/Sudan/Chad						Change in total annual average PM2.5 concentrations	RCP 8.5	4.4	4.5	2091 - 2100	2006 - 2015	(Westervelt et al., 2016)	10.1016/j.atmosenv.2016.07.040	—
4	W Africa	up to 1.6 ug/m^3 increase						Change in total annual average PM2.5 concentrations	RCP 8.5	4.4	4.5	2091 - 2100	2006 - 2015	(Westervelt et al., 2016)	10.1016/j.atmosenv.2016.07.040	—
4	C Africa	1.2 ug/m^3 decrease to 0.8 ug/m^3 increase						Change in total annual average	RCP 8.5	4.4	4.5	2091 - 2100	2006 - 2015	(Westervelt et al., 2016)	10.1016/j.atmosenv.2016.07.040	—

								PM2.5 concentratio ns								
2	E Africa	no change to 1.6 ug/m^3 decrease						Change in total annual average PM2.5 concentratio ns	RCP 8.5	4. 4	4. 5	2091 - 2100	2006 - 2015	(Westervelt et al., 2016)	10.1016/j.at mosenv.2016 .07.040	—
1	S Africa	no change to 1.6 ug/m^3 decrease						Change in total annual average PM2.5 concentratio ns	RCP 8.5	4. 4	4. 5	2091 - 2100	2006 - 2015	(Westervelt et al., 2016)	10.1016/j.at mosenv.2016 .07.040	—
0	N Africa	mostly no change, localized drecrease in Tunisia and 0.8 ug/m^3 increases over Egypt/Sudan/Chad						Change in total annual average PM2.5 concentratio ns	RCP 2.6	1. 4	1. 5	2091 - 2100	2006 - 2015	(Westervelt et al., 2016)	10.1016/j.at mosenv.2016 .07.040	—
3	W Africa	up to 1.6 ug/m^3 increase						Change in total annual average PM2.5 concentratio ns	RCP 2.6	1. 4	1. 5	2091 - 2100	2006 - 2015	(Westervelt et al., 2016)	10.1016/j.at mosenv.2016 .07.040	—
?	C Africa	1.2 ug/m^3 decrease to 0.8 ug/m^3 increase						Change in total annual average PM2.5 concentratio ns	RCP 2.6	1. 4	1. 5	2091 - 2100	2006 - 2015	(Westervelt et al., 2016)	10.1016/j.at mosenv.2016 .07.040	—
-3	E Africa	no change to 1.6 ug/m^3 decrease						Change in total annual average PM2.5 concentratio ns	RCP 2.6	1. 4	1. 5	2091 - 2100	2006 - 2015	(Westervelt et al., 2016)	10.1016/j.at mosenv.2016 .07.040	—
-3	S Africa	no change to 1.6 ug/m^3 decrease						Change in total annual average PM2.5 concentratio ns	RCP 2.6	1. 4	1. 5	2091 - 2100	2006 - 2015	(Westervelt et al., 2016)	10.1016/j.at mosenv.2016 .07.040	—
Malaria																
-4	C Africa		-47.88					cases per 1000 people	A1b	3. 2	3. 3	2100	1990 - 2000	(Egbendew e- Mondzozo et al., 2011)	10.3390/ijerp h8030913	Population and GDP data were drawn from the World Development Indicators and CIA World Factbook
4	N Africa		129.26					cases per 1000 people	A1b	3. 2	3. 3	2100	1990 - 2000	(Egbendew e-	10.3390/ijerp h8030913	Population and GDP data were drawn from the

														Mondzozo et al., 2011)		World Development Indicators and CIA World Factbook
-4	C Africa						-USD 3307.84	xost per 1000 people	A1b	3.2	3.3	2100	1990 - 2000	(Egbendewe-Mondzozo et al., 2011)	10.3390/ijerph8030913	Population and GDP data were drawn from the World Development Indicators and CIA World Factbook
4	N Africa						+USD 8929	xost per 1000 people	A1b	3.2	3.3	2100	1990 - 2000	(Egbendewe-Mondzozo et al., 2011)	10.3390/ijerph8030913	Population and GDP data were drawn from the World Development Indicators and CIA World Factbook
3	W Africa					+26.53%		increase in geographic range, distribution density and prevalence of An. gambiae s.l. complex	RCP 8.5	2.5	2.5	2041 - 2060	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)
3	W Africa					+32.20%		increase in geographic range, distribution density and prevalence of An. gambiae s.l. complex	RCP 8.5	3.5	3.5	2061 - 2080	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)
2	W Africa					+15.20%		increase in geographic range, distribution density and prevalence of An. gambiae s.l. complex	RCP 2.6	1.7	1.7	2041 - 2060	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)
2	W Africa					+14.89%		increase in geographic range, distribution density and prevalence of An. gambiae s.l. complex	RCP 2.6	1.7	1.7	2061 - 2080	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)

2	W Africa					+10.48%		increase in geographic range, distribution density and prevalence of An. gambiae s.s. complex	RCP 8.5	2.5	2.5	2041 - 2060	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)
2	W Africa					+14.49%		increase in geographic range, distribution density and prevalence of An. gambiae s.s. complex	RCP 8.5	3.5	3.5	2061 - 2080	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)
1	W Africa					+5.03%		increase in geographic range, distribution density and prevalence of An. gambiae s.s. complex	RCP 2.6	1.7	1.7	2041 - 2060	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)
1	W Africa					+5.95%		increase in geographic range, distribution density and prevalence of An. gambiae s.s. complex	RCP 2.6	1.7	1.7	2061 - 2080	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)
0	W Africa					+4.43%		increase in geographic range, distribution density and prevalence of An. Arabiensis	RCP 8.5	2.5	2.5	2041 - 2060	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)
1	W Africa					+8.16%		increase in geographic range, distribution density and prevalence of An. Arabiensis	RCP 8.5	3.5	3.5	2061 - 2080	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)
0	W Africa					+2.03%		increase in geographic range, distribution density and prevalence	RCP 2.6	1.7	1.7	2041 - 2060	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)

								of An. Arabiensis								
0	W Africa					+2.72%		increase in geographic range, distribution density and prevalence of An. Arabiensis	RCP 2.6	1.7	1.7	2061 - 2080	1960 - 1990	(Akpan et al., 2019)	10.1371/journal.pone.0218523	Figures based on projected population of Nigeria for 2050 and 2100 (UN estimates)
1	C Africa				3%			All-age mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.003	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)
4	C Africa				13%			Child mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.004	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)
1	E Africa				4.5%			All-age mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.005	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)
4	E Africa				17%			Child mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.006	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)
1	Global				2.6%			All-age mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.007	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)
4	Global				11.6%			Child mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.008	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)
1	N Africa				3%			All-age mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.009	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)

4	N Africa				13%			Child mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.010	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)
1	S Africa				3%			All-age mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.011	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)
4	S Africa				13%			Child mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.012	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)
1	W Africa				4.5%			All-age mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.013	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)
4	W Africa				17%			Child mortality from malaria	RCP 8.5	4.6	4.7	2100	1980 - 2010	(Dasgupta, 2018)	10.1016/j.ijheh.2018.04.003	Gridded population weights for the year 2000 from the Gridded Population of the World (GPW v3)
4	SSA	16 million						Additional people at risk	RCP4.5	1.5	1.5	2030	1960 - 1990	(Zermoglio et al., 2019)	USAID Technical Report - Shifting Burdens: Malaria in a Hotter Africa	Baseline calculations use 2015 data, while projected populations are extracted from the 2020 layers described in report
4	SSA	18 million						Additional people at risk	RCP8.5	1.7	1.7	2030	1960 - 1990	(Zermoglio et al., 2019)	USAID Technical Report - Shifting Burdens: Malaria in a Hotter Africa	Baseline calculations use 2015 data, while projected populations are extracted from the 2020 layers described in report
4	C Africa			56 705 (34 908 to 112 719)				Additional deaths attributable to climate change	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	C Africa			0				Additional deaths attributable	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b

								to climate change								
1	E Africa			143 (142 to 143)				Additional deaths attributable to climate change	A1b	1. 5	1. 5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
4	E Africa			22 194 (18 747 to 26 002)				Additional deaths attributable to climate change	A1b	2. 1	2. 1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	N Africa & Middle East			14 (14 to 14)				Additional deaths attributable to climate change	A1b	1. 5	1. 5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
1	N Africa & Middle East			209 (157 to 316)				Additional deaths attributable to climate change	A1b	2. 1	2. 1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	S Africa			0 (0 to 1)				Additional deaths attributable to climate change	A1b	1. 5	1. 5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
0	S Africa			0				Additional deaths attributable to climate change	A1b	2. 1	2. 1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
2	W Africa			597 (597 to 597)				Additional deaths attributable to climate change	A1b	1. 5	1. 5	2030	1961–1990	WHO 2014	ISBN 978 92 4 150769 1	A1b
2	W Africa			524 (524 to 524)				Additional deaths attributable to climate change	A1b	2. 1	2. 1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
4	E Africa	29 - 30 million						Additional people at risk	RCP 4.5	1. 5	1. 5	2030	1960 - 1990	(Zermoglio et al., 2019)	USAID Technical Report - Shifting Burdens: Malaria in a Hotter Africa	Baseline calculations use 2015 data, while projected populati ons are extracted from the 2020 layers described in report
4	S Africa	17 - 21 million				including 9 to 12 million exposed for the first time		Additional people at risk	RCP 4.5	1. 5	1. 5	2030	1960 - 1990	(Zermoglio et al., 2019)	USAID Technical Report - Shifting Burdens: Malaria in a Hotter Africa	Baseline calculations use 2015 data, while projected populati ons are extracted from the 2020 layers described in report

4	W Africa	65 million				despite a 47 to 58 million fewer experiencing reduced risk in endemic (10-12 months of transmission) areas		Additional people at risk	RCP 4.5	1.5	1.5	2030	1960 - 1990	(Zermoglio et al., 2019)	USAID Technical Report - Shifting Burdens: Malaria in a Hotter Africa	Baseline calculations use 2015 data, while projected populations are extracted from the 2020 layers described in report
4	SSA	16 - 18 million people current outside areas of any malaria risk will enter areas of endemic (10-12 months) risk						Additional people at risk	RCP 4.5	1.5	1.5	2030	1960 - 1990	(Zermoglio et al., 2019)	USAID Technical Report - Shifting Burdens: Malaria in a Hotter Africa	Baseline calculations use 2015 data, while projected populations are extracted from the 2020 layers described in report
3	E Africa	3 - 12 months						Increasing malaria season length in east African highlands	RCP 4.5	2.0	2.1	2046 - 2055	1980-2005	(Leedale et al., 2016)	10.4081/gh.2016.393	—
3	E Africa	3 - 12 months						Increasing malaria season length in east African highlands	RCP 4.5	2.4	2.5	2076 - 2085	1980-2005	(Leedale et al., 2016)	10.4081/gh.2016.393	—
3	E Africa	3 - 12 months						Increasing malaria season length in east African highlands	RCP 8.5	2.4	2.5	2046 - 2055	1980-2005	(Leedale et al., 2016)	10.4081/gh.2016.393	—
3	E Africa	3 - 12 months						Increasing malaria season length in east African highlands	RCP 8.5	3.9	4.0	2076 - 2085	1980-2005	(Leedale et al., 2016)	10.4081/gh.2016.393	—
3	SSA	Malaria risk shifting southward and northward, but less pronouncedly with interventions							A1b	2.1	2.1	2050	1970-2000	(Moukam Kakmeni et al., 2018)	10.1186/s12942-018-0122-3	A1b
3	E Africa	Increasing malaria endemicity in east African highlands, and potential decreases at the southern range limits							A2a	1.2	1.2	2020 – 2039 (2040)	1950 - 2000	(Ngarakana-Gwasira et al., 2016)	10.1155/2016/7104291	A2a
3	SSA	Shift of malaria hotspots from West Africa to the East and Southern parts of Africa							RCP 4.5	1.3	1.4	2030	2006–2014	(Semakula et al., 2017)	10.1007/s10584-017-1996-y	—

4	SSA	Shift of malaria hotspots from West Africa to the East and Southern parts of Africa							RCP 8.5	2.2	2.3	2050	2006–2014	(Semakula et al., 2017)	10.1007/s10584-017-1996-y	—
3	SSA	Shift of malaria hotspots from West Africa to the East and Southern parts of Africa							RCP 4.5	1.3	1.4	2030	2006–2014	(Semakula et al., 2017)	10.1007/s10584-017-1996-y	—
4	SSA	Shift of malaria hotspots from West Africa to the East and Southern parts of Africa							RCP 8.5	2.2	2.3	2050	2006–2014	(Semakula et al., 2017)	10.1007/s10584-017-1996-y	—
3	C Africa	1 million						Additional population at risk for malaria	RCP 2.6	1.3	1.3	2005–2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
3	C Africa	1 million						Additional population at risk for malaria	RCP 4.5	1.3	1.3	2005–2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
3	C Africa	1 million						Additional population at risk for malaria	RCP 6.0	1.2	1.2	2005–2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
3	C Africa	1,5. million						Additional population at risk for malaria	RCP 8.5	1.4	1.4	2005–2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
3	C Africa	2,5 million						Additional population at risk for malaria	RCP 2.6	1.7	1.7	2035–2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
3	C Africa	3 million						Additional population at risk for malaria	RCP 4.5	2.0	2.0	2035–2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
3	C Africa	2,5 million						Additional population at risk for malaria	RCP 6.0	1.9	1.9	2035–2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
3	C Africa	4 million						Additional population at risk for malaria	RCP 8.5	2.5	2.5	2035–2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
3	C Africa	3 million						Additional population at risk for malaria	RCP 2.6	1.7	1.7	2069–2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
3	C Africa	4,5 million						Additional population at risk for malaria	RCP 4.5	2.5	2.5	2069–2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
3	C Africa	4 million						Additional population at	RCP 6.0	2.8	2.8	2069–2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2

								risk for malaria								
3	C Africa	4 million						Additional population at risk for malaria	RCP 8.5	4. 1	4. 1	2069 – 2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	10 million						Additional population at risk for malaria	RCP 2.6	1. 3	1. 3	2005 – 2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	10 million						Additional population at risk for malaria	RCP 4.5	1. 3	1. 3	2005 – 2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	12,5 million						Additional population at risk for malaria	RCP 6.0	1. 2	1. 2	2005 – 2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	15 million						Additional population at risk for malaria	RCP 8.5	1. 4	1. 4	2005 – 2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	35 million						Additional population at risk for malaria	RCP 2.6	1. 7	1. 7	2035 – 2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	37,5 million						Additional population at risk for malaria	RCP 4.5	2. 0	2. 0	2035 – 2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	35 million						Additional population at risk for malaria	RCP 6.0	1. 9	1. 9	2035 – 2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	37,5 million						Additional population at risk for malaria	RCP 8.5	2. 5	2. 5	2035 – 2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	45 million						Additional population at risk for malaria	RCP 2.6	1. 7	1. 7	2069 – 2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	52,5 million						Additional population at risk for malaria	RCP 4.5	2. 5	2. 5	2069 – 2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	57,5 million						Additional population at risk for malaria	RCP 6.0	2. 8	2. 8	2069 – 2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	S Africa	37,5 millon						Additional population at risk for malaria	RCP 8.5	4. 1	4. 1	2069 – 2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
0	W Africa	0.000						Additional population at risk for malaria	RCP 2.6	1. 3	1. 3	2005 – 2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2

0	W Africa	0.000						Additional population at risk for malaria	RCP 4.5	1.3	1.3	2005–2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
0	W Africa	0.000						Additional population at risk for malaria	RCP 6.0	1.2	1.2	2005–2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
0	W Africa	0.000						Additional population at risk for malaria	RCP 8.5	1.4	1.4	2005–2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
-3	W Africa	-8 million						Additional population at risk for malaria	RCP 2.6	1.7	1.7	2035–2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
-3	W Africa	-8 million						Additional population at risk for malaria	RCP 4.5	2.0	2.0	2035–2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
-4	W Africa	-8 million						Additional population at risk for malaria	RCP 6.0	1.9	1.9	2035–2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
-4	W Africa	-8 million						Additional population at risk for malaria	RCP 8.5	2.5	2.5	2035–2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
-4	W Africa	-8 million						Additional population at risk for malaria	RCP 2.6	1.7	1.7	2069–2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
-4	W Africa	-8 million						Additional population at risk for malaria	RCP 4.5	2.5	2.5	2069–2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
-4	W Africa	-16 million						Additional population at risk for malaria	RCP 6.0	2.8	2.8	2069–2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
-4	W Africa	-16 million						Additional population at risk for malaria	RCP 8.5	4.1	4.1	2069–2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	E Africa	19 million						Additional population at risk for malaria	RCP 2.6	1.3	1.3	2005–2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	E Africa	17 million						Additional population at risk for malaria	RCP 4.5	1.3	1.3	2005–2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	E Africa	19 million						Additional population at risk for malaria	RCP 6.0	1.2	1.2	2005–2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2

4	E Africa	17 million						Additional population at risk for malaria	RCP 8.5	1.4	1.4	2005 – 2035	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	E Africa	44 million						Additional population at risk for malaria	RCP 2.6	1.7	1.7	2035 – 2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	E Africa	50 million						Additional population at risk for malaria	RCP 4.5	2.0	2.0	2035 – 2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	E Africa	50 million						Additional population at risk for malaria	RCP 6.0	1.9	1.9	2035 – 2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	E Africa	65 million						Additional population at risk for malaria	RCP 8.5	2.5	2.5	2035 – 2065	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	E Africa	60 million						Additional population at risk for malaria	RCP 2.6	1.7	1.7	2069 – 2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	E Africa	85 million						Additional population at risk for malaria	RCP 4.5	2.5	2.5	2069 – 2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	E Africa	94 million						Additional population at risk for malaria	RCP 6.0	2.8	2.8	2069 – 2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
4	E Africa	98 million						Additional population at risk for malaria	RCP 8.5	4.1	4.1	2069 – 2099	1960–1999	(Caminade et al., 2014)	10.1073/pnas.1302089111	SSP2
3	SSA		22,2177419354838 per 1000					Increase in malaria cases	RCP 2.6	1.5	1.6	2050 - 2059	2000–2010	(Kibret et al., 2015)	10.1186/s12936-015-0873-2	1 June 2010 data from the Malaria Atlas Project (MAP) database
3	SSA		28,3467741935483 per 1000					Increase in malaria cases	RCP 8.5	2.5	2.6	2050 - 2059	2000–2010	(Kibret et al., 2015)	10.1186/s12936-015-0873-2	1 June 2010 data from the Malaria Atlas Project (MAP) database
3	SSA		27,2177419354838 per 1000					Increase in malaria cases	RCP 2.6	1.5	1.6	2080 - 2089	2000–2010	Kibret et al., 2016	10.1186/s12936-015-0873-2	1 June 2010 data from the Malaria Atlas Project (MAP) database
3	SSA		33,1854838709677 per 1000					Increase in malaria cases	RCP 8.5	4.0	4.1	2080 - 2089	2000–2010	(Kibret et al., 2015)	10.1186/s12936-015-0873-2	1 June 2010 data from the Malaria Atlas Project (MAP) database
4	E Africa	12,9 million						additional number of people in newly seasonal (7–9 month)	RCP 4.5	1.5	1.5	2020 - 2039	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015

								suitable areas								GPW data, while projected future populations were extracted from the 2020 layers.
3	E Africa	8,9 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 4.5	2.0	2.0	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	E Africa	22,5 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 4.5	2.4	2.4	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	2 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 4.5	1.5	1.5	2020 - 2039	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	1,8 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 4.5	2.0	2.0	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	4,5 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 4.5	2.4	2.4	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were

																extracted from the 2020 layers.
1	W Africa	0,09 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 4.5	2.4	2.4	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	S Africa	3,3 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 4.5	1.5	1.5	2020 - 2039	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	S Africa	3,3 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 4.5	2.0	2.0	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	S Africa	10,4 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 4.5	2.4	2.4	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	E Africa	9,5 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 8.5	1.7	1.7	2020 - 2039	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.

4	E Africa	18 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 8.5	2.5	2.5	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	E Africa	22,3 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 8.5	3.9	3.9	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	1 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 8.5	1.7	1.7	2020 - 2039	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	4,5 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 8.5	2.5	2.5	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	4 million						additional number of people in newly seasonal (7–9 month) suitable areas	RCP 8.5	3.9	3.9	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
1	W Africa	0,09 million						additional number of people in newly	RCP 8.5	2.5	2.5	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with

							seasonal (7–9 month) suitable areas								baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	S Africa	1,8 million					additional number of people in newly seasonal (7–9 month) suitable areas	RCP 8.5	1.7	1.7	2020 - 2039	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	S Africa	11,6 million					additional number of people in newly seasonal (7–9 month) suitable areas	RCP 8.5	2.5	2.5	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	S Africa	27,9 million					additional number of people in newly seasonal (7–9 month) suitable areas	RCP 8.5	3.9	3.9	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	E Africa	13,9 million					additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 4.5	1.5	1.5	2020 - 2039	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	E Africa	16,5 million					additional number of people at risk (PAR) in a newly endemic (10–12 month)	RCP 4.5	2.0	2.0	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future

								suitable areas								populations were extracted from the 2020 layers.
4	E Africa	44,3 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 4.5	2.4	2.4	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	2,9 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 4.5	1.5	1.5	2020 - 2039	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	2,9 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 4.5	2.0	2.0	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	6,4 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 4.5	2.4	2.4	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
2	S Africa	0,3 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 4.5	1.5	1.5	2020 - 2039	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.

2	S Africa	0,5 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 4.5	2.0	2.0	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	S Africa	2,4 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 4.5	2.4	2.4	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	E Africa	7,2 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 8.5	1.7	1.7	2020 - 2039	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	E Africa	34,1 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 8.5	2.5	2.5	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
4	E Africa	87,2 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 8.5	3.9	3.9	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	2,1 million						additional number of people at risk (PAR)	RCP 8.5	1.7	1.7	2020 - 2039	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with

								in a newly endemic (10–12 month) suitable areas								baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	5,1 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 8.5	2.5	2.5	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	C Africa	11,5 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 8.5	3.9	3.9	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	S Africa	1,9 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 8.5	2.5	2.5	2040 - 2059	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
3	S Africa	6,7 million						additional number of people at risk (PAR) in a newly endemic (10–12 month) suitable areas	RCP 8.5	3.9	3.9	2070 - 2089	1960 - 1990	(Ryan et al., 2020)	10.1186/s12936-020-03224-6	Gridded Population of the World, Version 4 (GPWv4), with baseline estimates derived from 2015 GPW data, while projected future populations were extracted from the 2020 layers.
2	E Africa	Malaria hotspots shift to East Africa (high environmental suitability and population density), some parts of East							RCP 8.5	2.4	2.4	2040 - 2059	1970-2000	(Mordecai et al., 2020)	10.1016/S2542-5196(20)30178-9	—

		Africa (Sudan, Somalia) show reduced suitability														
2	C Africa	Central Africa at high suitability for malaria							RCP 8.5	2.4	2.4	2040 - 2059	1970-2000	(Mordecai et al., 2020)	10.1016/S2542-5196(20)30178-9	—
2	E Africa	Malaria hotspots still focussed over East Africa (high environmental suitability and population density)							RCP 8.5	3.9	3.9	2070 - 2089	1970-2000	(Mordecai et al., 2020)	10.1016/S2542-5196(20)30178-9	—
-2	W Africa	Low suitability for malaria							RCP 8.5	3.9	3.9	2070 - 2089	1970-2000	(Mordecai et al., 2020)	10.1016/S2542-5196(20)30178-9	—
-2	C Africa	Low suitability for malaria							RCP 8.5	3.9	3.9	2070 - 2089	1970-2000	(Mordecai et al., 2020)	10.1016/S2542-5196(20)30178-9	—
Diarrhoeal disease																
4	N Africa				19%			Increase in diarrhoeal disease	4°C	4.0	4.0	2040 - 2069	1961–1990	(Kolstad Erik and Johansson Kjell, 2011)	10.1289/ehp.1002060	A1b
4	N Africa				27%			Increase in diarrhoeal disease	4°C	4.0	4.0	2070 - 2099	1961–1990	(Kolstad Erik and Johansson Kjell, 2011)	10.1289/ehp.1002060	A1b
4	S Africa				18%			Increase in diarrhoeal disease risk	4°C	4.0	4.0	2040 – 2069	1961–1990	(Kolstad Erik and Johansson Kjell, 2011)	10.1289/ehp.1002060	A1b
4	S Africa				26%			Increase in diarrhoeal disease risk	4°C	4.0	4.0	2070 - 2099	1961–1990	(Kolstad Erik and Johansson Kjell, 2011)	10.1289/ehp.1002060	A1b
4	C Africa				23%			Increase in diarrhoeal disease risk	4°C	4.0	4.0	2070 - 2099	1961–1990	(Kolstad Erik and Johansson Kjell, 2011)	10.1289/ehp.1002060	A1b
4	E Africa				23%			Increase in diarrhoeal disease risk	4°C	4.0	4.0	2070 - 2099	1961–1990	(Kolstad Erik and Johansson Kjell, 2011)	10.1289/ehp.1002060	A1b
4	C Africa			6 326 (2 774 to 8 946)				additional deaths in children aged under 15 years	A1b	1.5	1.5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
4	C Africa			5 473 (2 473 to 8 174)				additional deaths in children aged under 15 years	A1b	2.1	2.1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b

4	E Africa			10 997 (4 811 to 15 585)				additional deaths in children aged under 15 years	A1b	1. 5	1. 5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
4	E Africa			6 951 (3 138 to 10 392)				additional deaths in children aged under 15 years	A1b	2. 1	2. 1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
3	N Africa & Middle East			1 323 (582 to 1 850)				additional deaths in children aged under 15 years	A1b	1. 5	1. 5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
2	N Africa & Middle East			812 (369 to 1 206)				additional deaths in children aged under 15 years	A1b	2. 1	2. 1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
1	S Africa			489 (215 to 685)				additional deaths in children aged under 15 years	A1b	1. 5	1. 5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
1	S Africa			267 (121 to 396)				additional deaths in children aged under 15 years	A1b	2. 1	2. 1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
4	W Africa			12 737 (5581 to 18 110)				additional deaths in children aged under 15 years	A1b	1. 5	1. 5	2030	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
4	W Africa			11 174 (5039 to 16 723)				additional deaths in children aged under 15 years	A1b	2. 1	2. 1	2050	1961–1990	(WHO, 2014)	ISBN 978 92 4 150769 1	A1b
All-cause mortality attributed to non-optimal temperature s																
4	N Africa			36615.9982 9				Additional deaths	RCP 4.5	1. 5	1. 6	2020 - 2039	1986 - 2005	(Carleton et al., 2020)		SSP3
4	C Africa			44265.0165 6				Additional deaths	RCP 4.5	1. 5	1. 6	2020 - 2039	1986 - 2005	(Carleton et al., 2020)		SSP3
4	W Africa			35886.7990 5				Additional deaths	RCP 4.5	1. 5	1. 6	2020 - 2039	1986 - 2005	(Carleton et al., 2020)		SSP3

-4	E Africa			-382973.0968				Additional deaths	RCP 4.5	1.5	1.6	2020-2039	1986 - 2005	(Carleton et al., 2020)		SSP3
-4	S Africa			-17572.96445				Additional deaths	RCP 4.5	1.5	1.6	2020-2039	1986 - 2005	(Carleton et al., 2020)		SSP3
4	N Africa			31444.58264				Additional deaths	RCP 8.5	1.6	1.7	2020-2039	1986 - 2005	(Carleton et al., 2020)		SSP3
4	C Africa			40073.04389				Additional deaths	RCP 8.5	1.6	1.7	2020-2039	1986 - 2005	(Carleton et al., 2020)		SSP3
4	W Africa			29273.49282				Additional deaths	RCP 8.5	1.6	1.7	2020-2039	1986 - 2005	(Carleton et al., 2020)		SSP3
-4	E Africa			-223384.6264				Additional deaths	RCP 8.5	1.6	1.7	2020-2039	1986 - 2005	(Carleton et al., 2020)		SSP3
-4	S Africa			-12916.33119				Additional deaths	RCP 8.5	1.6	1.7	2020-2039	1986 - 2005	(Carleton et al., 2020)		SSP3
4	N Africa			24289.86376				Additional deaths	RCP 4.5	1.9	2.0	2040-2059	1986 - 2005	(Carleton et al., 2020)		SSP3
4	C Africa			42313.07228				Additional deaths	RCP 4.5	1.9	2.0	2040-2059	1986 - 2005	(Carleton et al., 2020)		SSP3
4	W Africa			38688.33286				Additional deaths	RCP 4.5	1.9	2.0	2040-2059	1986 - 2005	(Carleton et al., 2020)		SSP3
-4	E Africa			-1064996.481				Additional deaths	RCP 4.5	1.9	2.0	2040-2059	1986 - 2005	(Carleton et al., 2020)		SSP3
-4	S Africa			-17686.19068				Additional deaths	RCP 4.5	1.9	2.0	2040-2059	1986 - 2005	(Carleton et al., 2020)		SSP3
4	N Africa			14368.60349				Additional deaths	RCP 8.5	2.4	2.5	2040-2059	1986 - 2005	(Carleton et al., 2020)		SSP3
4	C Africa			24714.53914				Additional deaths	RCP 8.5	2.4	2.5	2040-2059	1986 - 2005	(Carleton et al., 2020)		SSP3
4	W Africa			22437.92634				Additional deaths	RCP 8.5	2.4	2.5	2040-2059	1986 - 2005	(Carleton et al., 2020)		SSP3
-4	E Africa			-1379320.988				Additional deaths	RCP 8.5	2.4	2.5	2040-2059	1986 - 2005	(Carleton et al., 2020)		SSP3
-4	S Africa			-14106.64938				Additional deaths	RCP 8.5	2.4	2.5	2040-2059	1986 - 2005	(Carleton et al., 2020)		SSP3
4	N Africa			15525.5136				Additional deaths	RCP 4.5	2.4	2.5	2080-2099	1986 - 2005	(Carleton et al., 2020)		SSP3
4	C Africa			35581.64717				Additional deaths	RCP 4.5	2.4	2.5	2080-2099	1986 - 2005	(Carleton et al., 2020)		SSP3

4	W Africa			35697.08976				Additional deaths	RCP 4.5	2.4	2.5	2080 - 2099	1986 - 2005	(Carleton et al., 2020)		SSP3
-4	E Africa			-297822.1455				Additional deaths	RCP 4.5	2.4	2.5	2080 - 2099	1986 - 2005	(Carleton et al., 2020)		SSP3
-4	S Africa			-18537.68399				Additional deaths	RCP 4.5	2.4	2.5	2080 - 2099	1986 - 2005	(Carleton et al., 2020)		SSP3
4	N Africa			4362.589631				Additional deaths	RCP 8.5	4.3	4.4	2080 - 2099	1986 - 2005	(Carleton et al., 2020)		SSP3
4	C Africa			7803.037301				Additional deaths	RCP 8.5	4.3	4.4	2080 - 2099	1986 - 2005	(Carleton et al., 2020)		SSP3
4	W Africa			9671.402626				Additional deaths	RCP 8.5	4.3	4.4	2080 - 2099	1986 - 2005	(Carleton et al., 2020)		SSP3
4	E Africa			64405.67161				Additional deaths	RCP 8.5	4.3	4.4	2080 - 2099	1986 - 2005	(Carleton et al., 2020)		SSP3
4	S Africa			8049.75326				Additional deaths	RCP 8.5	4.3	4.4	2080 - 2099	1986 - 2005	(Carleton et al., 2020)		SSP3

Table SM9.7c: Scores with GWL

	Score	Confidence	Score	Confidence	Score	Confidence	Score	Confidence	Score	Confidence	Score	Confidence
Malaria												
N Africa	4	1		-	0	1	1	1	4	1	3	3
C Africa	4	1	3	2	3	3	3	4	-1	3	3	4
E Africa	2	4	4	3	4	4	4	4	3	1	3	4
W Africa	2	4	1	3	1	4	0	4	1	2	2	4
S Africa	2	4	4	2	4	4	3	4	4	1	3	4
Cholera												
N Africa	4	1		-		-		-		-		-
C Africa	3	1		-		-		-		-		-
E Africa	3	2	3	1		-	3	1		-		-
W Africa	4	1		-	4	1	1	1		-		-
S Africa	2	2		-		-		-		-		-
Diarrhoeal Disease												
N Africa		-		-	3	1	2	1		-	4	1
C Africa		-		-	4	1	4	1		-	4	1
E Africa		-		-	4	1	4	1		-	4	1
W Africa	2	1		-	4	1	4	1		-		-
S Africa	2	2		-	1	1	1	1		-	4	1
HIV												
N Africa	?	-		-		-		-		-		-
C Africa	4	1		-		-		-		-		-

E Africa	4	1		-		-		-		-		-
W Africa	4	1		-		-		-		-		-
S Africa	4	1		-		-		-		-		-
Heat-related illness												
N Africa	2	1		-	2	1	4	4	4	1	4	1
C Africa	2	1		-	1	1	3	2		-	4	1
E Africa	2	2		-	3	1	4	2		-	4	1
W Africa	2	2		-	3	2	4	3		-	4	1
S Africa	2	2		-	1	1	3	2		-	4	1
Dengue & Zika												
N Africa		-	3	1	4	4	3	4	4	1		-
C Africa		-	3	1	3	4	3	4	3	1		-
E Africa		-	3	1	4	4	4	4	4	1		-
W Africa		-	3	1	1	4	1	4	-2	1		-
S Africa		-	3	1	4	4	3	4	4	1		-
Pollution-related outcomes												
N Africa		-		-	1	2		-		-	?	1
C Africa		-		-	-3	1		-		-	?	1
E Africa		-		-	-3	1		-		-	-2	1
W Africa		-		-	-1	1		-		-	-1	1
S Africa		-		-	-3	1		-		-	-2	1
All-cause mortality attributed to non-optimal temperatures												
N Africa	2	1		-	4	2	4	3		-	4	2
C Africa	4	1		-	4	2	4	3		-	4	2
E Africa	3	3		-	-4	2	-4	3		-	4	2
W Africa	3	2		-	4	2	4	3		-	4	2
S Africa	3	2		-	-4	2	-4	3		-	4	2

Table SM9.8: Africa Supplemental to Figure 9.36 Options for improving the main health impacts of climate change

Response category	Citations
Policy development	(Spector and Sheffield, 2014; Schulte et al., 2016; El-Shafei et al., 2018; Day et al., 2019; Godsmark et al., 2019; Moda et al., 2019)
Education & awareness	(Abaya S et al., 2011; Anderson, 2012; Wamsler et al., 2012; Codjoe and Nabie, 2014; El Zoghbi and El Ansari, 2014; Nigatu et al., 2014; Nwankwoala, 2015; Barteit et al., 2018; Cruz et al., 2018; Felicilda-Reynaldo et al., 2018; Jones, 2019; Nhamo and Muchuru, 2019; Feinstein and Mach, 2020)
Health systems & primary healthcare services	(Thompson, 2017; Abubakar and Zumla, 2018; Erondu et al., 2018; Ota et al., 2018; Fall et al., 2019; Hulland et al., 2019; Masiira et al., 2019; Nhamo and Muchuru, 2019; Rusakaniko et al., 2019; Salas and Jha, 2019; SARVA, 2019)
Surveillance, risk assessments, monitoring, & research	(African Development Bank, 2012; Funk et al., 2017; Okpara et al., 2017; England et al., 2018; Filho et al., 2018; Kalantari et al., 2018; Lumbroso, 2018; Hulland et al., 2019; Nana et al., 2019; Nhamo and Muchuru, 2019; SARVA, 2019)

Resource management	(Finley and Schuchard; Mortimore, 2010; van Noordwijk et al., 2011; African Development Bank, 2012; Bayntun et al., 2012; Pramova et al., 2012; Ebi and Bowen, 2016; Picketts et al., 2016; Rietveld et al., 2016; UNDP, 2016; de Bruijn et al., 2017; Hof et al., 2017; Ley, 2017; Uzodinma, 2018; Boelee et al., 2019; Jandl et al., 2019; Peters et al., 2019; Solaun and Cerdá, 2019; Ulrichs et al., 2019; UNCTAD, 2020)
Vector control & disease prevention	(Blanford et al., 2013; Hlongwana et al., 2013; Codjoe and Nabie, 2014; Murdock et al., 2016; Mokomane et al., 2018; Caminade et al., 2019; Nhamo and Muchuru, 2019; WHO, 2019)

Table SM9.9: Africa Supplemental to Table 9.11

Response category	Citations
Policy development	(Nilsson and Kjellstrom, 2010; Kjellstrom et al., 2014; Patz et al., 2014; Watts et al., 2015; Alhassan and Hadwen, 2017; Ciesielski, 2017; Benatar et al., 2018; Hayes and Poland, 2018; Vincent and Colenbrander, 2018)
Education & awareness	(Watts et al., 2015; Desmond and Asamba, 2019; Jones, 2019; Wright et al., 2019; Boon and Anuga, 2020; Rosenberg, 2020)
Health systems & primary healthcare services	(Gulliford et al., 2002; Balaras et al., 2007; Haines et al., 2007; Fonkwo, 2008; World Health Organization, 2008; Pillay et al., 2011; Watts et al., 2015; Xie and Or, 2017; Agarwal and Brydges, 2018; Benatar et al., 2018; Bhatt and Bathija, 2018; Ji and Qu, 2019; Martinez et al., 2019; Smith et al., 2019; Altema et al., 2020)
Surveillance, risk assessments, monitoring, & research	(Thacker et al., 1996; Haines et al., 2007; Sanderson et al., 2017; Hayes and Poland, 2018; Bang et al., 2019; Fakhruddin and Schick, 2019)
Resource management	(Liao et al., 2002; Agbogidi et al., 2005; Balaras et al., 2007; Haines et al., 2007; Cuéllar and Webber, 2008; Budzianowski, 2011; Bayntun et al., 2012; Grebner et al., 2013; Motavalli et al., 2013; Armstrong et al., 2014; Hernandez et al., 2015; Institute of Medicine, 2015; Watts et al., 2015; Batarce et al., 2016; Torrijos, 2016; Uusitalo et al., 2016; Smith et al., 2017; Arora, 2018; Avila-Palencia et al., 2018; Umesha et al., 2018; Zhang et al., 2018; Dyr et al., 2019; Ji and Qu, 2019; Bedoić et al., 2020)
Vector control & disease prevention	(Ediau et al., 2013; USAID, 2014; Benelli, 2015; Osunkentan and Evans, 2015; Baker et al., 2016; Brown et al., 2016; Fenelon et al., 2017; Aberese-Ako et al., 2019; Feachem et al., 2019; Wang et al., 2019; Cirera et al., 2020; Cupul-Uicab et al., 2020; Okumu, 2020; Tusting et al., 2020)

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