12SM

Climate Change Information for Regional Impact and for Risk Assessment

Supplementary Material

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Table of Contents

12.SM.1 Figures

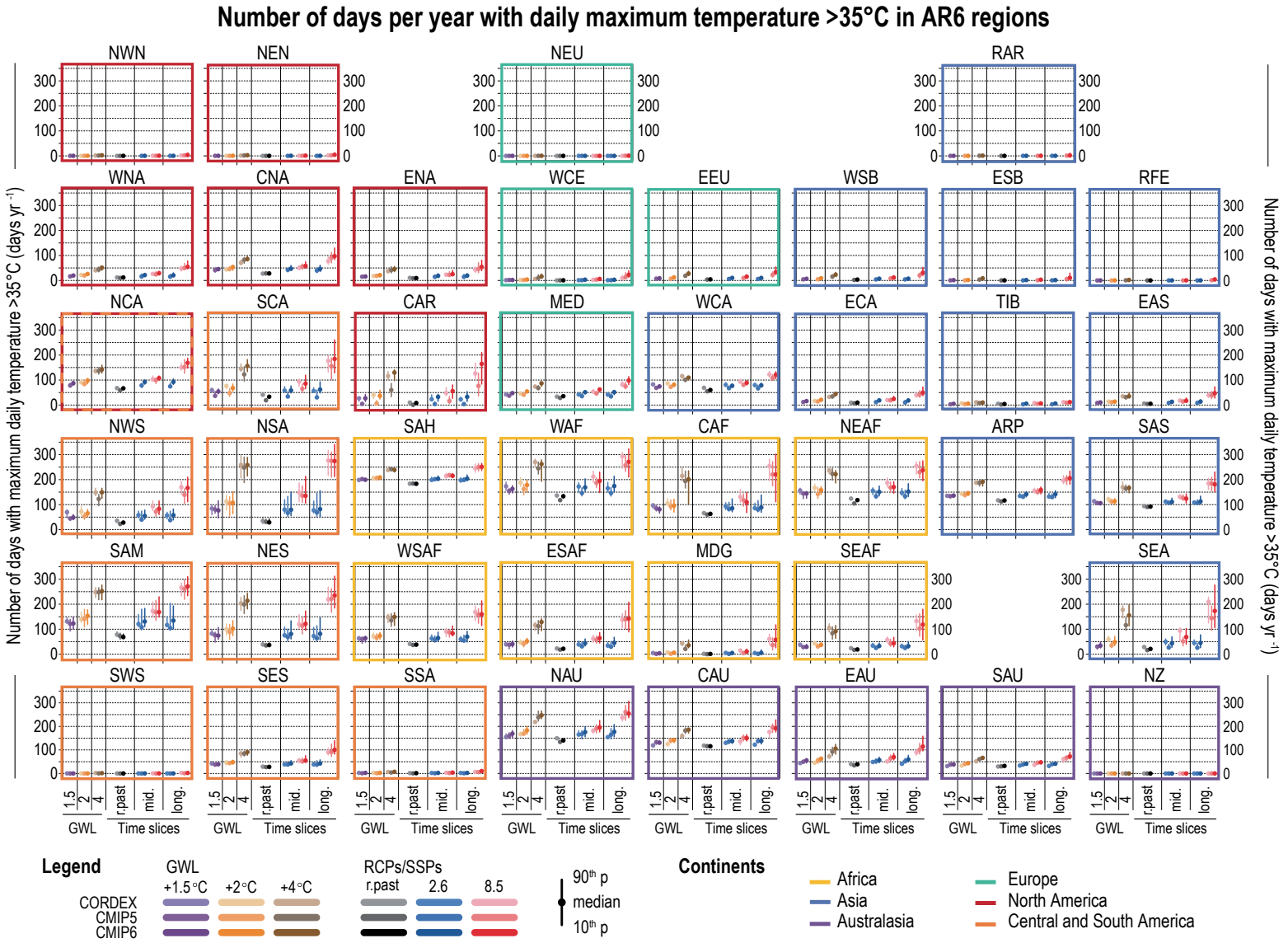

Figure 12.SM.1 | Regional projections for the number of days per year with maximum temperature exceeding 35°C for different scenarios, time horizons and global warming levels. The bar plots show projections from CMIP6 (darkest colours), CMIP5 (medium colours) and CORDEX (lightest colours) ensembles, for RCP8.5/SSP5-8.5 (red) and RCP2.6/SSP1-2.6 (blue), for the mid-term (2041–2060), long term (2081–2100) and the recent past (grey, 1995–2014). Results for global warming levels (defined relative to the pre-industrial period 1850–1900) are shown in purple for 1.5°C, yellow for 2°C and brown for 4°C. The median (dots) and the 10th–90th percentile range of model ensemble values across each model ensemble and each time period are shown for the regional mean over land areas for the AR6 WGI Reference Regions (defined in Chapter 1). Bias adjustment is applied (see Atlas.1.4.5). The CORDEX ensemble is missing in regions that are not fully covered by the CORDEX domain (EEU, ESB, RAR, RFE and WSB). See Technical Annex VI for details of indices. Further details on data sources and processing are available in the chapter data table (Table 12.SM.1).

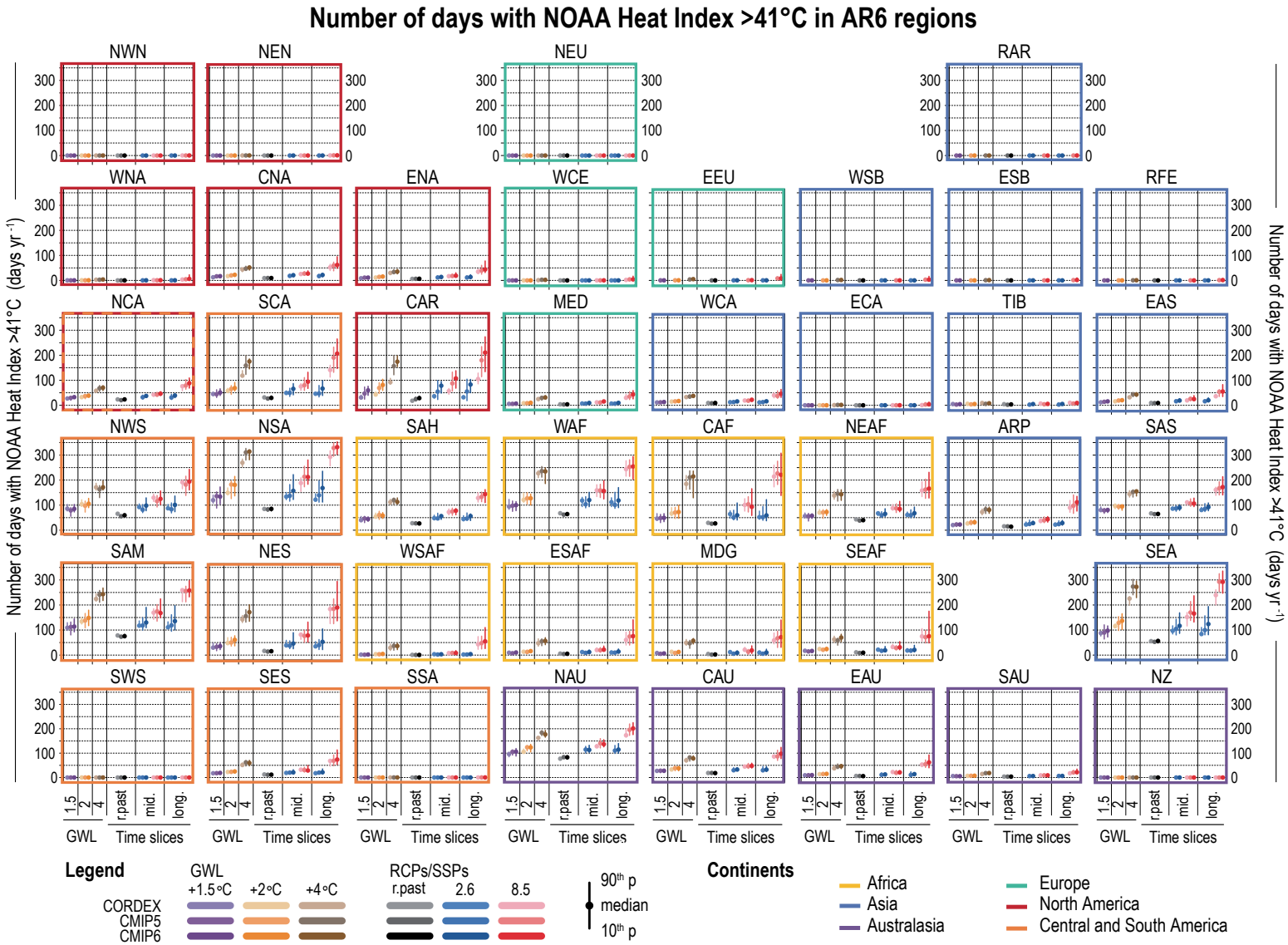

Figure 12.SM.2 | Regional projections for the number of days per year with the NOAA Heat Index exceeding 41°C for different scenarios, time horizons and global warming levels. 41°C corresponds to conditions that the US National Weather Service classifies into the category of 'Danger' (Blazejczyk et al., 2012). The bar plots show projections from CMIP6 (darkest colours), CMIP5 (medium colours) and CORDEX (lightest colours) ensembles, for RCP8.5/SSP5-8.5 (red) and RCP2.6/SSP1-2.6 (blue), for the mid-term (2041–2060), long term (2081–2100) and the recent past (grey, 1995–2014). Results for global warming levels (defined relative to the pre-industrial period 1850–1900) are shown in purple for 1.5°C, yellow for 2°C and brown for 4°C. The median (dots) and the 10th–90th percentile range of model ensemble values across each model ensemble and each time period are shown for the regional mean over land areas for the AR6 WGI Reference Regions (defined in Chapter 1). Bias adjustment is applied. The CORDEX ensemble is missing in regions that are not fully covered by the CORDEX domain (EEU, ESB, RAR, RFE and WSB). See Technical Annex VI for details of indices and bias adjustment. Further details on data sources and processing are available in the chapter data table (Table 12.SM.1).

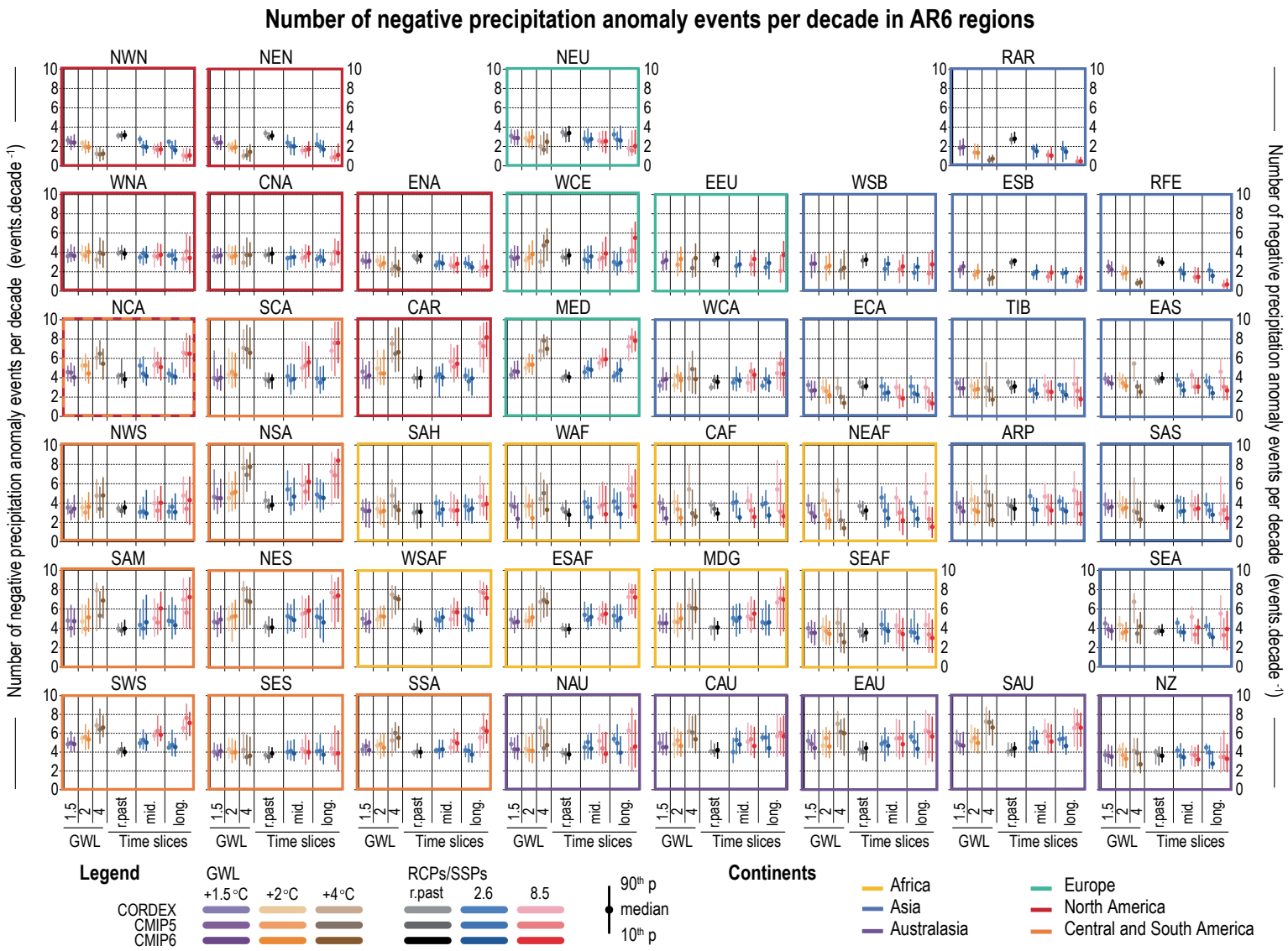

Figure 12.SM.3 | Regional projections for the number of negative precipitation anomaly events per decade using the six-month Standardized Precipitation Index for different scenarios, time horizons and global warming levels. The bar plots show projections from CMIP6 (darkest colours), CMIP5 (medium colours) and CORDEX (lightest colours) ensembles, for RCP8.5/SSP5-8.5 (red) and RCP2.6/SSP1-2.6 (blue), for the mid-term (2041–2060), long term (2081–2100) and the recent past (grey, 1995–2014). Results for global warming levels (defined relative to the pre-industrial period 1850–1900) are shown in purple for 1.5°C, yellow for 2°C and brown for 4°C. The median (dots) and the 10th–90th percentile range of model ensemble values across each model ensemble and each time period are shown for the regional mean over land areas for the AR6 WGI Reference Regions (defined in Chapter 1). Units are events per decade. The CORDEX ensemble is missing in regions that are not fully covered by the CORDEX domain (EEU, ESB, RAR, RFE and WSB). See Technical Annex VI for details of indices. Further details on data sources and processing are available in the chapter data table (Table 12.SM.1).

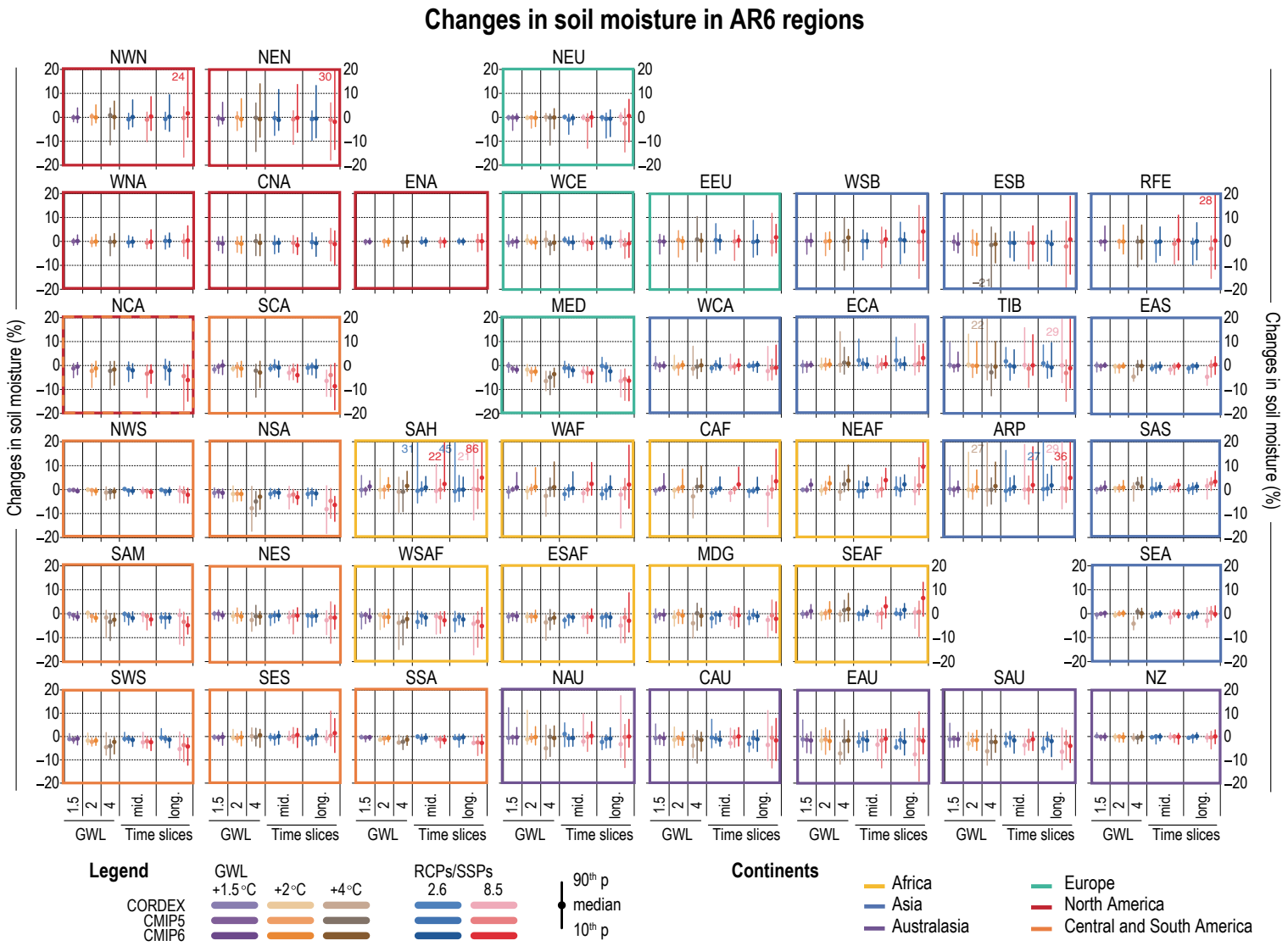

Figure 12.SM.4 | Regional projections for changes in soil moisture for different scenarios, time horizons and global warming levels. The bar plots show projections of soil moisture as percentage changes relative to the recent past (1994–2015) for the mid-term (2041–2060) and long term (2081–2100), and for three global warming levels (defined relative to the pre-industrial period 1850–1900): 1.5°C (purple), 2°C (yellow) and 4°C (brown), using CMIP6 (darkest colours), CMIP5 (medium colours) and CORDEX (lightest colours) ensembles. RCP8.5/SSP5-8.5 is shown in red and RCP2.6/SSP1-2.6 in blue. The median (dots) and the 10th–90th percentile range of model ensemble values across each model ensemble and each time period are shown for the regional mean over land areas for the AR6 WGI Reference Regions (defined in Chapter 1). The CORDEX ensemble is missing in regions that are not fully covered by the CORDEX domain (EEU, ESB, RAR, RFE and WSB) or because less than five simulations were available (NWN, NEN, WNA, CAN, ENA and NCA). See Technical Annex VI for details of indices. Further details on data sources and processing are available in the chapter data table (Table 12.SM.1).

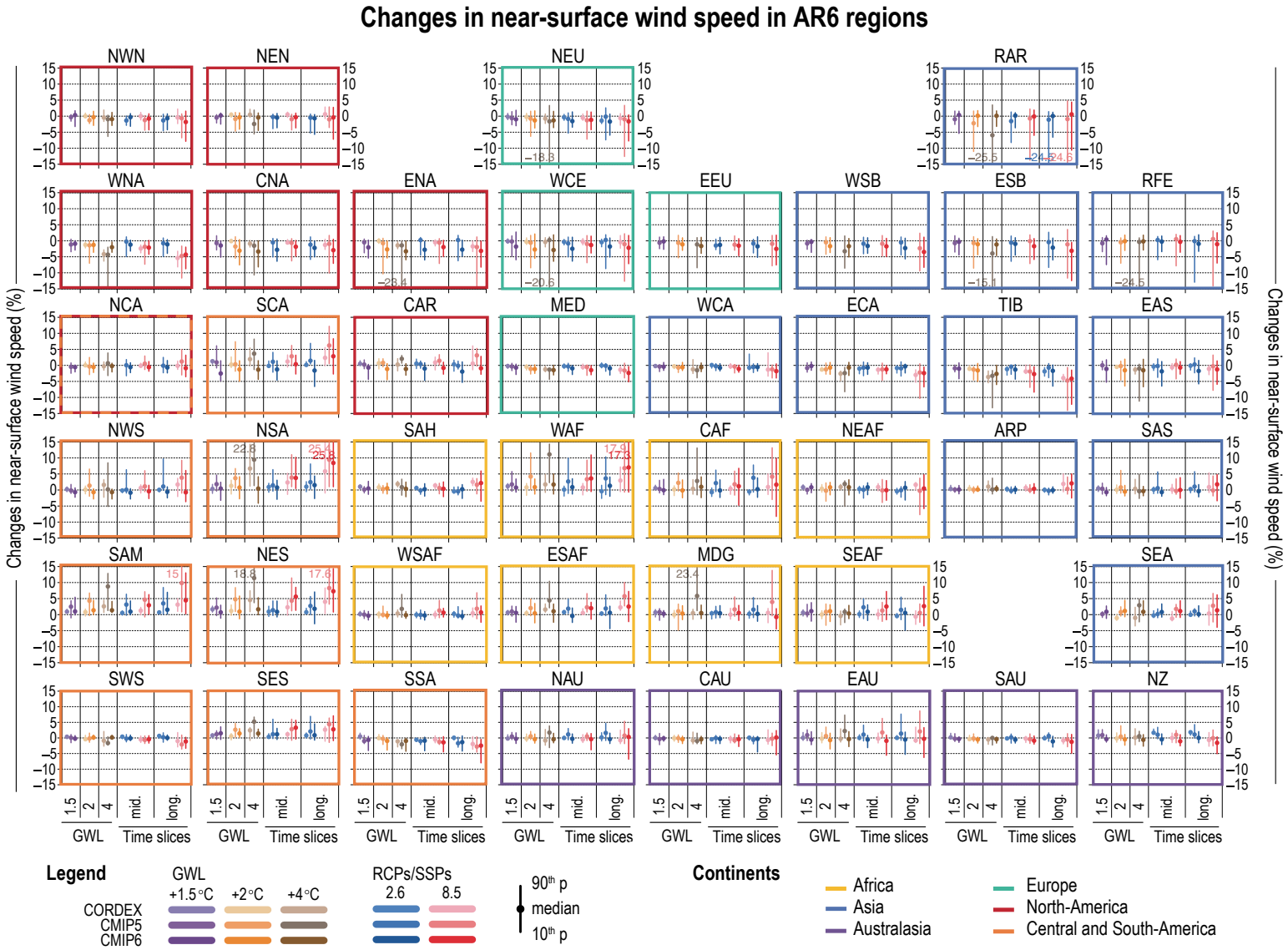

Figure 12.SM.5 | Regional projections for changes in mean wind speed for different scenarios, time horizons and global warming levels. The bar plots show projections of wind speed as percentage changes relative to the recent past (1994–2015) for the mid-term (2041–2060) and long term (2081–2100), and for three global warming levels (defined relative to the pre-industrial period 1850–1900): 1.5°C (purple), 2°C (yellow) and 4°C (brown), using CMIP6 (darkest colours), CMIP5 (medium colours) and CORDEX (lightest colours) ensembles. RCP8.5/SSP5-8.5 is shown in red and RCP2.6/SSP1-2.6 in blue. The median (dots) and the 10th–90th percentile range of model ensemble values across each model ensemble and each time period are shown for the regional mean over land areas for the AR6 WGI Reference Regions (defined in Chapter 1). The CORDEX ensemble is missing in regions that are not fully covered by the CORDEX domain (EEU, ESB, RAR, RFE and WSB). See Technical Annex VI for details of indices. Further details on data sources and processing are available in the chapter data table (Table 12.SM.1).

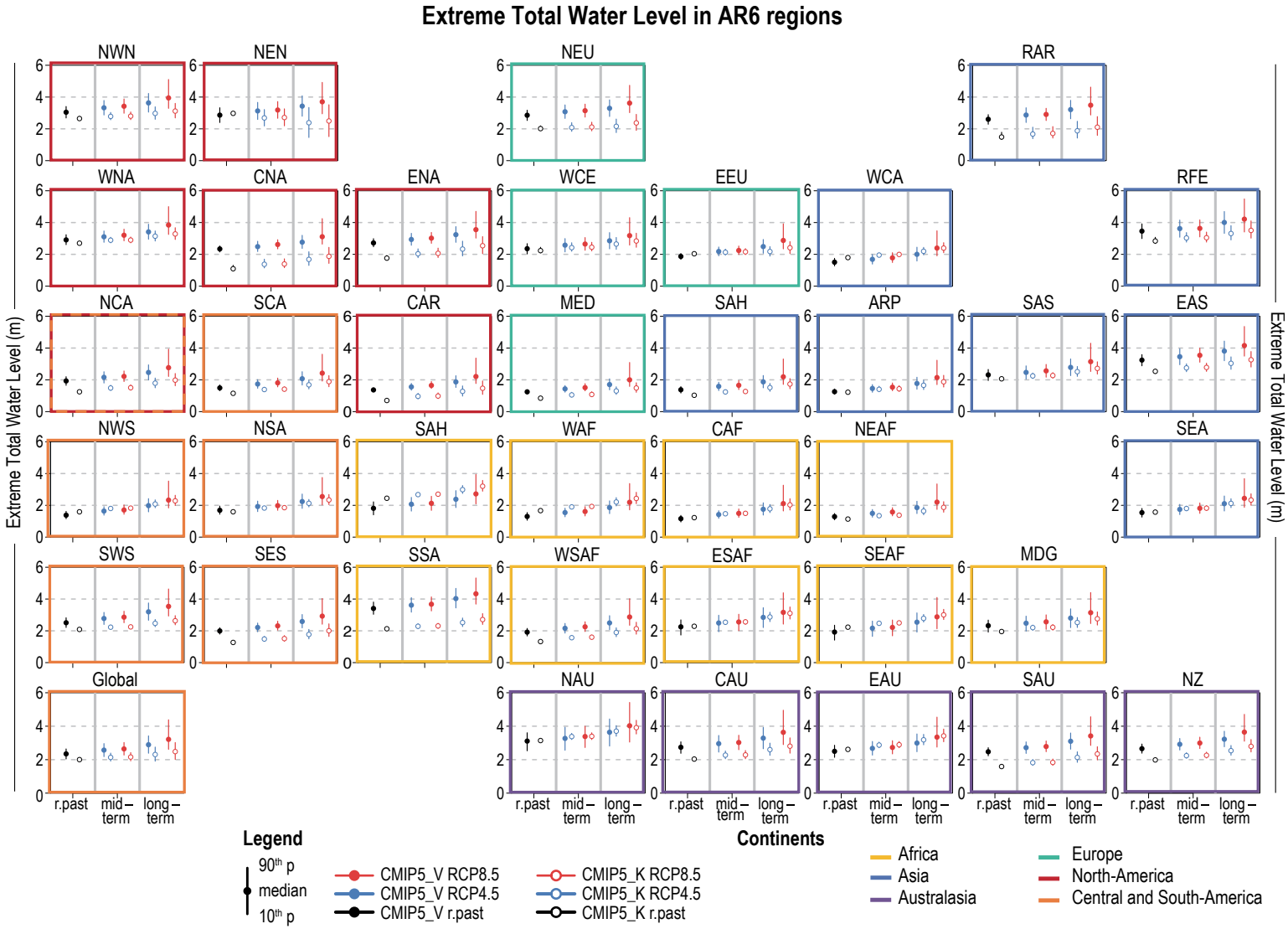

Figure 12.SM.6 | Regional projections of extreme sea level (1-in-100-year return period Extreme Total Water Level (ETWL). The bar plots show projections of regionally averaged ETWL from the CMIP5-based datasets presented in Vousdoukas et al. (2018b; filled circles, 'V' in legend), and Kirezci et al. (2020; open circles, 'K' in legend), for the AR6 WGI Reference Regions, for RCP8.5 (red) and RCP4.5 (blue). Dots represent the median estimate and bars the 5th–95th percentiles representing the uncertainty associated with the projections for the mid-term (2050), long term (2100) and the recent past (black, 1979/1980–2014). Units are metres. See Technical Annex VI for details about the index. Further details on data sources and processing are available in the chapter data table (Table 12.SM.1).

12.SM.2 Data Table

Table 12.SM.1 | Input data table. Input datasets and code used to create chapter figures.

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.4 a–c	Script to do the bias correction on tasmax (before extracting the number of days with tasmax >35°C).	Code	bias_correction_isimip3.R (data processing routine)			https://github.com/IPCC-WG1/Atlas/tree/main/datasets-interactive-atlas/bias-correction (accessed 7/2/2022)	R
	Computing averages + ensemble statistics + model agreement + plotting for panels a, b and c.	Code	Tx35_individual_figures.ipynb (plotting code)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/global_figure_12.4 (accessed 2/2/2022)	CliMAF, NCL, CDO, Xarray
Figure 12.4 d–f	Figure 12.4d–f processing code.	Code	EXE0_create_model_overview.ipynb (data processing routine) EXE1_calcHI_performBC_CMIP6.ipynb (data processing routine) EXE2_Prepare_data_for_IPCC.ipynb (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/HIcalculation (accessed 2/2/2022)	Schwingshackl et al. (2021)
	Computing averages + ensemble statistics + model agreement + plotting for panels d, e and f.	Code	HI_NOAA_individual_figures.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/global_figure_12.4 (accessed 2/2/2022)	CliMAF, CDO, Ncl, Xarray
Figure 12.4 g–i	Drought events calculation.	Code	calculate_SPELL_multy.sh, dspell_minter19.x (data processing routine)			https://github.com/fraffael/DFscripts/tree/main/CMIP6 (accessed 7/2/2022)	
	Drought frequency calculation for each time slice.	Code	far-mid-hist.sh (data processing routine)			https://github.com/fraffael/DFscripts/tree/main/CMIP6 (accessed 7/2/2022)	
	Script to compute ensemble statistics + model agreement + plotting for panels g, h and i.	Code	DF6_individual_figures.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/global_figure_12.4 (accessed 2/2/2022)	CliMAF, CDO, Ncl, Xarray
Figure 12.4j–l	Script to compute ensemble statistics + model agreement + plotting for panels j, k and l.	Code	SoilMoisture_individual_figures.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/global_figure_12.4 (accessed 2/2/2022)	CliMAF, CDO, NCL, Xarray
Figure 12.4 m–o	Script to compute ensemble statistics + model agreement + plotting for panels m, n and o.	Code	wind_perc-baseline_individual_figures.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/global_figure_12.4 (accessed 2/2/2022)	CliMAF, CDO, Ncl, Xarray
Figure 12.4 p–r	Global extreme sea level projections.	Input dataset	globalTWL_RCP45.nc globalTWL_RCP85.nc Both expressed as changes relative to globalTWL_baseline.nc	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	Vousdoukas et al. (2018a)	https://data.jrc.ec.europa.eu/dataset/jrc-liscoast-10012 (accessed 2/2/2022)	Vousdoukas et al. (2018b)
	Plotting for panels p, q and r.	Code	ETWL_individual_figures.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/global_figure_12.4 (accessed 2/2/2022)	pyNgl

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.5a	Plotting code to do the map.	Code	ch12_fig12.5_plotting_code_Q100_AFR.py (plotting routine)			https://github.com/fdisante/IPCC-ch12/tree/main/CORDEX/AFR (accessed 2/2/2022)	matplotlib
	CSV file creation for plotting.	Code	dranetwrite (plotting subroutine)			https://github.com/ictp-esp/ChyM/tree/master/utility/dranetwrite (accessed 2/2/2022)	
	Data-processing routine: forcing fields remapping to ChyM grid.	Code	create_input.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for ChyM.	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, ChyM.	Code	ChyM-roff (model)			https://github.com/fdisante/ChyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean mid-time slice calculation.	Code	calculate_ensMean_2041-2060.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
Figure 12.5b	Global shoreline change projections.	Input dataset	globalErosionProjections_Long_Term_Change_RCP85_2100.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	JRC (2019)	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e (accessed 2/2/2022)	Vousdoukas et al. (2020)
	Plotting script to do the map.	Code	CoastalRecession_map_AR6regions_AFRICA.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/AFRICA_regional_figure (accessed 7/2/2022)	pyNgl
Figure 12.5c	Data-processing routine: forcing fields remapping to ChyM grid.	Code	create_input.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for ChyM.	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, ChyM.	Code	ChyM-roff (model)			https://github.com/fdisante/ChyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean mid time-slice calculation.	Code	calculate_ensMean_2041-2060.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean long-term-slice calculation.	Code	calculate_ensMean_2080-2099.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.5c *(continued)*	Ensemble-mean warming levels RCP2.6 calculations for EUR (1850–1900).	Code	calculate_WarmingLevels_ensMean_EUR_ rcp26.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/CORDEX/EUR (accessed 2/2/2022)	
	Ensemble-mean warming levels RCP2.6 calculations for EUR (1861–1900).	Code	calculate_WarmingLevels_ensMean_EUR_ rcp26_1861.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/CORDEX/EUR (accessed 2/2/2022)	
	Ensemble-mean warming levels RCP8.5 calculations for EUR (1850–1900).	Code	calculate_WarmingLevels_ensMean_EUR_ rcp85.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/CORDEX/EUR (accessed 2/2/2022)	
	Ensemble-mean warming levels RCP8.5 calculations for EUR (1861–1900).	Code	calculate_WarmingLevels_ensMean_EUR_ rcp85_1861.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/CORDEX/EUR (accessed 2/2/2022)	
	Ensemble-mean warming levels calculations for all domains (EUR excluded; 1850–1900).	Code	calculate_WarmingLevels_ensMean.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean warming levels calculations for all domains (EUR excluded; 1861–1900).	Code	calculate_WarmingLevels_ ensMean_1861-1900.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Plotting script to do the Q100 bar plots.	Code	Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/AFRICA_regional_figure (accessed 7/2/2022)	R
Figure 12.5d	Script to compute the regional averages by AR6 region.	Code	Compute_averages_AR6_regions_Coastal_ recession.py (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/Coastal_recession_by_AR6_region (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Global shoreline change projections for experiments RCP4.5 and RCP8.5 (${scenario} = RCP4.5 or RCP8.5) and for future mid- and long-term periods (${horizon} in 2050 or 2100).	Input dataset	globalErosionProjections_Long_Term_ Change_${scenario}_${horizon}.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	JRC (2019)	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e (accessed 2/2/2022)	Vousdoukas et al. (2020)
	Plotting script to do the bar plots of shoreline position changes.	Code	Barplots_coastalrecession.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/AFRICA_regional_figure (accessed 7/2/2022)	R
Figure 12.6a	Plotting code to do the map.	Code	ch12_fig12.6_plotting_code_Q100_ ASIA.py (plotting routine)			https://github.com/fdisante/IPCC-ch12/tree/main/CORDEX/ASIA (accessed 2/2/2022)	matplotlib
	Csv file creation for plotting.	Code	dranetwrite (plotting subroutine)			https://github.com/ictp-esp/ChyM/tree/master/utility/dranetwrite (accessed 2/2/2022)	

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.6a *(continued)*	Data-processing routine: forcing fields remapping to ChyM grid.	Code	create_input.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for ChyM.	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, ChyM.	Code	ChyM-roff (model)			https://github.com/fdisante/ChyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean mid time-slice calculation.	Code	calculate_ensMean_2041-2060.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
Figure 12.6b	Global shoreline change projections.	Input dataset	globalErosionProjections_Long_Term_Change_RCP85_2100.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	JRC (2019)	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e (accessed 2/2/2022)	Vousdoukas et al. (2020)
	Plotting script to do the map.	Code	CoastalRecession_map_AR6regions_ASIA.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/ASIA_regional_figure/ (accessed 2/2/2022)	pyNgl
Figure 12.6c	Data-processing routine: forcing fields remapping to ChyM grid.	Code	create_input.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for ChyM.	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, ChyM.	Code	ChyM-roff (model)			https://github.com/fdisante/ChyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean mid time-slice calculation.	Code	calculate_ensMean_2041-2060.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean long-term-slice calculation.	Code	calculate_ensMean_2080-2099.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean warming levels calculations for all domains (EUR excluded; 1850–1900).	Code	calculate_WarmingLevels_ensMean.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean warming levels calculations for all domains (EUR excluded; 1861–1900).	Code	calculate_WarmingLevels_ensMean_1861-1900.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.6c *(continued)*	Plotting script to do the Q100 bar plots.	Code	Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/ASIA_regional_figure (accessed 7/2/2022)	R
	Script to compute the regional averages by AR6 region.	Code	Compute_averages_AR6_regions_Coastal_recession.py (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/Coastal_recession_by_AR6_region(accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Global shoreline change projections for experiments RCP4.5 and RCP8.5 (${scenario} = RCP4.5 or RCP8.5) and for future mid- and long-term periods (${horizon} in 2050 or 2100).	Input dataset	globalErosionProjections_Long_Term_Change_${scenario}_${horizon}.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	JRC (2019)	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e (accessed 2/2/2022)	Vousdoukas et al. (2020)
Figure 12.6d	Plotting script to do the bar plots of shoreline position changes.	Code	Barplots_coastalrecession.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/ASIA_regional_figure (accessed 7/2/2022)	R
Figure 12.7a	Plotting code to do the map	Code	ch12_fig12.7_plotting_code_Q100_AUS.py (plotting routine)			https://github.com/fdisante/IPCC-ch12/tree/main/CORDEX/ASIA (accessed 7/2/2022)	matplotlib
	Csv file creation for plotting.	Code	dranewrite	netwrite (plotting subroutine)			https://github.com/ictp-esp/ChyM/tree/master/utility/dranetwrite (accessed 2/2/2022)
	Data-processing routine: forcing fields remapping to ChyM grid.	Code	create_input.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for ChyM.	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, ChyM.	Code	ChyM-roff (model)			https://github.com/fdisante/ChyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean mid-term-slice calculation.	Code	calculate_ensMean_2041-2060.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
Figure 12.7b	Global shoreline change projections.	Input dataset	globalErosionProjections_Long_Term_Change_RCP85_2100.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	JRC (2019)	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e (accessed 2/2/2022)	Vousdoukas et al. (2020)
	Plotting script to do the map.	Code	CoastalRecession_map_AR6regions_Australasia.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/Australasia_regional_figure (accessed 7/2/2022)	pyNgl

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.7c	Data-processing routine: forcing fields remapping to ChyM grid.	Code	create_input.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for ChyM.	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, ChyM.	Code	ChyM-roff (model)			https://github.com/fdisante/ChyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean mid time-slice calculation.	Code	calculate_ensMean_2041-2060.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean long-term-slice calculation.	Code	calculate_ensMean_2080-2099.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean warming levels calculations for all domains (EUR excluded; (1850–1900).	Code	calculate_WarmingLevels_ensMean.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean warming levels calculations for all domains (EUR excluded; 1861–1900).	Code	calculate_WarmingLevels_ ensMean_1861-1900.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Plotting script to do the Q100 bar plots.	Code	Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/Australasia_regional_figure} (accessed 2/2/2022)	R
Figure 12.7d	Script to compute the regional averages by AR6 region.	Code	Compute_averages_AR6_regions_Coastal_recession.py (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/Coastal_recession_by_AR6_region (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Global shoreline change projections for experiments RCP4.5 and RCP8.5 (${scenario} = RCP4.5 or RCP8.5) and for future mid- and long-term periods (${horizon} in 2050 or 2100).	Input dataset	globalErosionProjections_Long_Term_Change_${scenario}_${horizon}.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	JRC (2019)	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e (accessed 2/2/2022)	Vousdoukas et al. (2020)
	Plotting script to do the bar plots of shoreline position changes.	Code	Barplots_coastalrecession.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/Australasia_regional_figure (accessed 7/2/2022)	pyNgl

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.8a	Plotting code to do the map.	Code	ch12_fig12.8_plotting_code_Q100_SAM.py (plotting routine)			https://github.com/fdisante/IPCC-ch12/tree/main/CORDEX/SAM (accessed 2/2/2022)	matplotlib
	Csv file creation for plotting.	Code	dranetwrite (plotting subroutine)			https://github.com/ictp-esp/ChyM/tree/master/utility/dranetwrite (accessed 2/2/2022)	
	Data-processing routine: forcing fields remapping to ChyM grid.	Code	create_input.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for ChyM.	Code	run_simulations.sh			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, ChyM.	Code	ChyM-roff (model)			https://github.com/fdisante/ChyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean mid-term-slice calculation.	Code	calculate_ensMean_2041-2060.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
Figure 12.8b	Global shoreline change projections.	Input dataset	globalErosionProjections_Long_Term_Change_RCP85_2100.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	JRC (2019)	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e (accessed 2/2/2022)	Vousdoukas et al. (2020)
	Plotting script to do the map.	Code	CoastalRecession_map_AR6regions_SOUTH-AMERICA.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/SOUTH-AMERICA_regional_figure (accessed 7/2/2022)	pyNgl
Figure 12.8c	Data-processing routine: forcing fields remapping to ChyM grid.	Code	create_input.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for ChyM.	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, ChyM.	Code	ChyM-roff (model)			https://github.com/fdisante/CHyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean mid time-slice calculation.	Code	calculate_ensMean_2041-2060.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean long-term-slice calculation.	Code	calculate_ensMean_2080-2099.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.8c *(continued)*	Ensemble-mean warming levels calculations for all domains (EUR excluded; 1850–1900).	Code	calculate_WarmingLevels_ensMean.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean warming levels calculations for all domains (EUR excluded; 1861–1900).	Code	calculate_WarmingLevels_ensMean_1861-1900.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Plotting script to do the Q100 bar plots.	Code	Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/SOUTH-AMERICA_regional_figure (accessed 7/2/2022)	R
Figure 12.8d	Script to compute the regional averages by AR6 region.	Code	Compute_averages_AR6_regions_Coastal_recession.py (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/Coastal_recession_by_AR6_region (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Global shoreline change projections for experiments RCP4.5 and RCP8.5 (${scenario} = RCP4.5 or RCP8.5) and for future mid- and long-term periods (${horizon} in 2050 or 2100).	Input dataset	globalErosionProjections_Long_Term_Change_${scenario}_${horizon}.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	JRC (2019)	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e (accessed 2/2/2022)	Vousdoukas et al. (2020)
	Plotting script to do the bar plots of shoreline position changes.	Code	Barplots_coastalrecession.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/SOUTH-AMERICA_regional_figure (accessed 7/2/2022)	R
Figure 12.9a	Plotting code to do the map.	Code	ch12_fig12.9_plotting_code_Q100_EUR.py (plotting routine)			https://github.com/fdisante/IPCC-ch12/tree/main/CORDEX/EUR (accessed 2/2/2022)	matplotlib
	Csv file creation for plotting.	Code	dranetwrite (plotting subroutine)			https://github.com/ictp-esp/CHyM/tree/master/utility/dranetwrite (accessed 2/2/2022)	
	Data-processing routine: forcing fields remapping to CHyM grid.	Code	create_input.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for CHyM.	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, CHyM.	Code	CHyM-roff (model)			https://github.com/fdisante/CHyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean mid-term-slice calculation.	Code	calculate_ensMean_2041-2060.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.9b	Computing ensemble median and model agreement.	Code	snow_map_Europe.ipynb (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/EUROPE_regional_figure (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) CDO, Xarray
	Plotting script for the SWE map.	Code	pyNGL_AR6regions_SWE_EUROPE.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/EUROPE_regional_figure (accessed 7/2/2022)	pyNgl
Figure 12.9c	Data-processing routine: forcing fields remapping to ChyM grid.	Code	create_input.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for ChyM.	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, ChyM.	Code	ChyM-roff (model)			https://github.com/fdisante/CHyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean xtime-slice calculation.	Code	calculate_ensMean_2041-2060.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean long-term-slice calculation.	Code	calculate_ensMean_2080-2099.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Plotting script to do the Q100 bar plots.	Code	Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/EUROPE_regional_figure (accessed 7/2/2022)	R
Figure 12.9d	CMIP6 snow datasets.	Metadata file	Fig12-9_md_cmip6_snow.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.9 (accessed 7/2/2022)	
	Computing SWE climatologies for future time periods and GWLs.	Code	snow_CMIP5.sh (data processing routine) snow_CMIP6.sh (data processing routine) Snow_CMIP5_GWLs.ipyn (data processing routine) Snow_CMIP6_GWLs.ipyn (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/snow (accessed 2/2/2022)	
	Computing regional averages for SWE + ensemble statistics, for CMIP6, CMIP5 and EURO-CORDEX.	Code	snw_Average_over_AR6_region_EUROPE.ipynb (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/EUROPE_regional_figure (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Plotting scripts for the SWE bar plots.	Code	SWE_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/EUROPE_regional_figure (accessed 7/2/2022)	R

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.10a	Plotting code to do the map.	Code	ch12_fig12.10_plotting_code_ Q100_NAM.py (plotting routine)			https://github.com/fdisante/IPCC-ch12/tree/main/CORDEX/NAM (accessed 2/2/2022)	matplotlib
	Csv file creation for plotting.	Code	dranetwrite (plotting subroutine)			https://github.com/ictp-esp/CHyM/tree/master/utility/dranetwrite (accessed 2/2/2022)	
	Data-processing routine: forcing fields remapping to CHyM grid.	Code	create_input.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for CHyM.	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, CHyM.	Code	CHyM-roff (model)			https://github.com/fdisante/CHyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean mid-term-slice calculation.	Code	calculate_ensMean_2041-2060.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
Figure 12.10b	Computing ensemble median and model agreement.	Code	NORTH-AMERICA_prepare_snw_ map.ipynb (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/NORTH-AMERICA_regional_figure (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) CDO
	Plotting script for the SWE map.	Code	pyNGL_AR6regions_SWE_NORTH-AMERICA.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/NORTH-AMERICA_regional_figure (accessed 7/2/2022)	pyNgl
Figure 12.10c	Data-processing routine: forcing fields remapping to ChyM grid.	Code	create_input.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Parallel MPI execution for ChyM.	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	River-routing model, ChyM.	Code	ChyM-roff (model)			https://github.com/fdisante/CHyM-roff (accessed 2/2/2022)	
	Q100 calculations.	Code	create_Qx_regcm.R (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean modern time-slice calculation.	Code	calculate_ensMean_1995-2014.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean mid-term-slice calculation.	Code	calculate_ensMean_2041-2060.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Ensemble-mean long-term-slice calculation.	Code	calculate_ensMean_2080-2099.sh (data-processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common (accessed 2/2/2022)	
	Plotting script to do the Q100 bar plots.	Code	Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/NORTH-AMERICA_regional_figure (accessed 7/2/2022)	R

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.10d	Computing SWE climatologies for future time periods and GWLs.	Code	snow_CMIP5.sh (data-processing routine) snow_CMIP6.sh (data-processing routine) Snow_CMIP5_GWLs.ipyn (data-processing routine) Snow_CMIP6_GWLs.ipyn (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/snow (accessed 2/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/), CDO, Xarray
	Computing regional averages for SWE + ensemble statistics, for CMIP6, CMIP5 and CORDEX.	Code	snw_Average_over_AR6_region_NORTH-AMERICA.ipynb (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/NORTH-AMERICA_regional_figure (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Plotting scripts for the SWE bar plots.	Code	SWE_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/NORTH-AMERICA_regional_figure (accessed 7/2/2022)	R
Figure 12.SM.1	Script to do the bias correction on tasmax (before extracting the number of days with tasmax >35°C).	Code	bias_correction_isimip3.R (data-processing routine)			https://github.com/IPCC-WG1/Atlas/tree/main/datasets-interactive-atlas/bias-correction (accessed 7/2/2022)	R
	Computation of the Tx35 index.						
	Computing the climatologies for CMIP5 over the periods and global warming levels + computing the regional averages + ensemble statistics.	Code	compute_regional_averages_CMIP5.py (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/tx35_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Computing the climatologies for CMIP6 over the periods and global warming levels + computing the regional averages + ensemble statistics.	Code	compute_regional_averages_CMIP6.py (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/tx35_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Computing the climatologies for CORDEX over the periods and global warming levels + computing the regional averages + ensemble statistics.	Code	compute_regional_averages_CORDEX.py (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/tx35_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Plotting script to do the bar plots for Tx35.	Code	Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/tx35_satellites (accessed 7/2/2022)	R

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.SM.2	Computing NOAA HI for Figure S12.2 for CMIP5, CMIP6 and each CORDEX domain (AFR, AUS, EUR, CAM, SAM, NAM, WAS, EAS, SEA).	Code	EXE0_create_model_overview.ipynb (data-processing routine) EXE1_calcHI_performBC_CMIP5.ipynb (data-processing routine) EXE1_calcHI_performBC_CMIP6.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_AFR-22.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_AFR-44.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_AUS-22.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_AUS-44.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_CAM-22.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_CAM-44.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_EAS-22.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_EAS-44.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_EUR-11.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_NAM-22.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_NAM-44.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_SAM-22.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_SAM-44.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_SEA-22.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_WAS-22.ipynb (data-processing routine) EXE1_calcHI_performBC_CORDEX_WAS-44.ipynb (data-processing routine) EXE2_Prepare_data_for_IPCC.ipynb (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/HIcalculation (accessed 7/2/2022)	Schwingshackl et al. (2021)

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.SM.2 *(continued)*	Computing the climatologies for CMIP5 over the periods and global warming levels + computing the regional averages + ensemble statistics.	Code	Average_over_AR6_region.ipynb (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/HI_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Computing the climatologies for CMIP6 over the periods and global warming levels + computing the regional averages + ensemble statistics.	Code	Average_over_AR6_region.ipynb (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/HI_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Computing the climatologies for CORDEX over the periods and global warming levels + computing the regional averages + ensemble statistics.	Code	Average_over_AR6_region.ipynb (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/HI_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Plotting script to do the bar plots for NOAA HI.	Code	Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/HI_satellites (accessed 7/2/2022)	R
Figure 12.SM.3	Drought events calculation (for CMIP6, CMIP5 and CORDEX).	Code	calculate_SPELL_multy.sh, dspell_minter19.x (data-processing routine)			https://github.com/fraffael/DFscripts/${ENS}, with ${ENS} in CMIP6, CMIP5 (accessed 7/2/2022) https://github.com/fraffael/DFscripts/${CORDEX_domain}, with ${CORDEX_domain} in AFR-22, AUS-22, CAM-22, EUR-11, NAM-22, SAM-22, WAS-22, EAS-22, SEA-22 (accessed 7/2/2022)	
	Drought frequency calculation for each time slice.	Code	far-mid-hist.sh (data processing routine)			https://github.com/fraffael/DFscripts/${ENS}, with ${ENS} in CMIP6, CMIP5 (accessed 7/2/2022) https://github.com/fraffael/DFscripts/${CORDEX_domain}, with ${CORDEX_domain} in AFR-22, AUS-22, CAM-22, EUR-11, NAM-22, SAM-22, WAS-22, EAS-22, SEA-22 (accessed 7/2/2022)	
	Global warming levels calculation for RCP2.6 for CMIP5 and CMIP6.	Code	lancio_warmlev.sh, warming-levels-match26-${ENS} (data-processing routine)			https://github.com/fraffael/DFscripts/${ENS}, with ${ENS} in CMIP6, CMIP5 (accessed 7/2/2022)	
	Global warming levels calculation for RCP8.5 for CMIP5 and CMIP6.	Code	lancio_warmlev.sh, warming-levels-match85-${ENS}, with ${ENS} in CMIP6, CMIP5			https://github.com/fraffael/DFscripts/${ENS}, with ${ENS} in CMIP6, CMIP5 (accessed 7/2/2022)	

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.SM.3 *(continued)*	Ensemble-mean calculation for long-term and mid-term slices, far-term and mid-term change and GWLs ensemble means for CMIP5, CMIP6 and CORDEX.	Code	ensembleDF.sh (data-processing routine)			https://github.com/fraffael/DFscripts/${ENS}, with ${ENS} in CMIP6, CMIP5 (accessed 2/2/2022) https://github.com/fraffael/DFscripts/${CORDEX_domain}, with ${CORDEX_domain} in AFR-22, AUS-22, CAM-22, EUR-11, NAM-22, SAM-22, WAS-22, EAS (accessed 7/2/2022)	
	Global warming levels calculation for RCP2.6 for CORDEX.	Code	lancio_warmlev.sh, warming-levels-match26-${CORDEX_domain}, with ${CORDEX_domain} in AFR22, AUS22, CAM22, EUR11, NAM22, SAM22, WAS22, EAS22, SEA22			https://github.com/fraffael/DFscripts/${CORDEX_domain}, with ${CORDEX_domain} in AFR-22, AUS-22, CAM-22, EUR-11, NAM-22, SAM-22, WAS-22, EAS-22, SEA-22 (accessed 7/2/2022)	
	Global warming levels calculation for RCP8.5 for CORDEX.	Code	lancio_warmlev.sh, warming-levels-match85-${ CORDEX_domain }, with ${CORDEX_domain} in AFR22, AUS22, CAM22, EUR11, NAM22, SAM22, WAS22, EAS22, SEA22			https://github.com/fraffael/DFscripts/${CORDEX_domain}, with ${CORDEX_domain} in AFR-22, AUS-22, CAM-22, EUR-11, NAM-22, SAM-22, WAS-22, EAS-22, SEA-22 (accessed 2/2/2022)	
	Drought frequency calculation for each time slice (for CMIP6, CMIP5 and CORDEX).	Code	far-mid-hist.sh (data-processing routine)			https://github.com/fraffael/DFscripts/${ENS}, with ${ENS} in CMIP6, CMIP5 (accessed 7/2/2022) https://github.com/fraffael/DFscripts/${CORDEX_domain}, with ${CORDEX_domain} in AFR-22, AUS-22, CAM-22, EUR-11, NAM-22, SAM-22, WAS-22, EAS (accessed 7/2/2022)	
	Computing regional averages	Code	Average_over_AR6_region.ipynb (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/DF6_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Plotting script for the satellite bar plots.	Code	Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/DF6_satellites (accessed 7/2/2022)	R
Figure 12.SM.4	Compute averages over time periods and GWLs for CMIP6 + ensemble statistics.	Code	Compute_CMIP6_time_averages_GWLs_on_regional_averages_MathiasHauser.ipynb (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/SM_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Compute averages and regional averages + ensemble statistics for CMIP5.	Code	Prepare_time_slices_GWLs_soilmoisture_CMIP5.ipynb (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/SM_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)

Figure Number	Dataset/Code Name	Type	File Name/Specificities	License Type	Dataset/Code Citation	Dataset/Code URL	Related Publications/ Software Used
Figure 12.SM.4 *(continued)*	Compute averages and regional averages + ensemble statistics for CORDEX.	Code	Prepare_time_slices_GWLs_soilmoisture_CORDEX.ipynb (data-processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/SM_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Plotting script for the satellite bar plots.	Code	Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/DF6_satellites(accessed 7/2/2022)	R
Figure 12.SM.5	Computing the regional averages for near-surface wind over AR6 regions + difference against baseline (in % of the baseline value) + ensemble statistics for CMIP5.	Code	compute_regional_averages_CMIP5.py (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/wind_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Computing the regional averages for near-surface wind over AR6 regions + difference against baseline (in % of the baseline value) + ensemble statistics for CMIP6.	Code	Prepare_time_slices_GWLs_wind_CMIP6.ipynb			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/wind_satellites (accessed 7/2/2022)	
	Computing the regional averages for near-surface wind over AR6 regions + difference against baseline (in % of the baseline value) + ensemble statistics for CORDEX.	Code	compute_regional_averages_CORDEX.py (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/wind_satellites (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Plotting script for the satellite bar plots.	Code	Quantile_plot_region_diff.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/DF6_satellites (accessed 2/2/2022)	R
Figure 12.SM.6	Global extreme sea level projections.	Input dataset	globalTWL_baseline.nc globalTWL_RCP45.nc globalTWL_RCP85.nc	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	Vousdoukas et al. (2018a)	https://data.jrc.ec.europa.eu/dataset/jrc-liscoast-10012 (accessed 2/2/2022)	Vousdoukas et al. (2018b)
	Extreme sea level projections.	Input dataset	41598_2020_67736_MOESM2_ESM			https://www.nature.com/articles/s41598-020-67736-6#Sec23 (supplementary data file 2) (accessed 2/2/2022)	Kirezci et al. (2020)
	Computing regional averages of AR6 regions on the Kirezci et al. (2020) dataset.	Code	IPCC_ESLs_AR6_Regions_Kirezci.m (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/ETWL_satellites/Kirezci_IPCC_AR6_MatlabCodes (accessed 7/2/2022)	matlab
	Computing regional averages over AR6 regions on the Vousdoukas et al. (2018a) dataset.	Code	Compute_averages_AR6_regions_ETWL.ipynb (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/blob/main/Figures/scripts/ETWL_satellites/Kirezci_IPCC_AR6_MatlabCodes/ (accessed 7/2/2022)	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Plotting script for the Extreme Total Water Level satellite bar plots.	Code	Barplots_ETWL.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/blob/main/Figures/scripts/ETWL_satellites/ (accessed 7/2/2022)	

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