

1 **Chapter 12: Weather and climate extreme events**
2 **in a changing climate - Supplementary Material**
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52 **Note:**

53 TSU compiled version
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1 **Table of Contents**

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3 **12.SM.1 Figures 3**

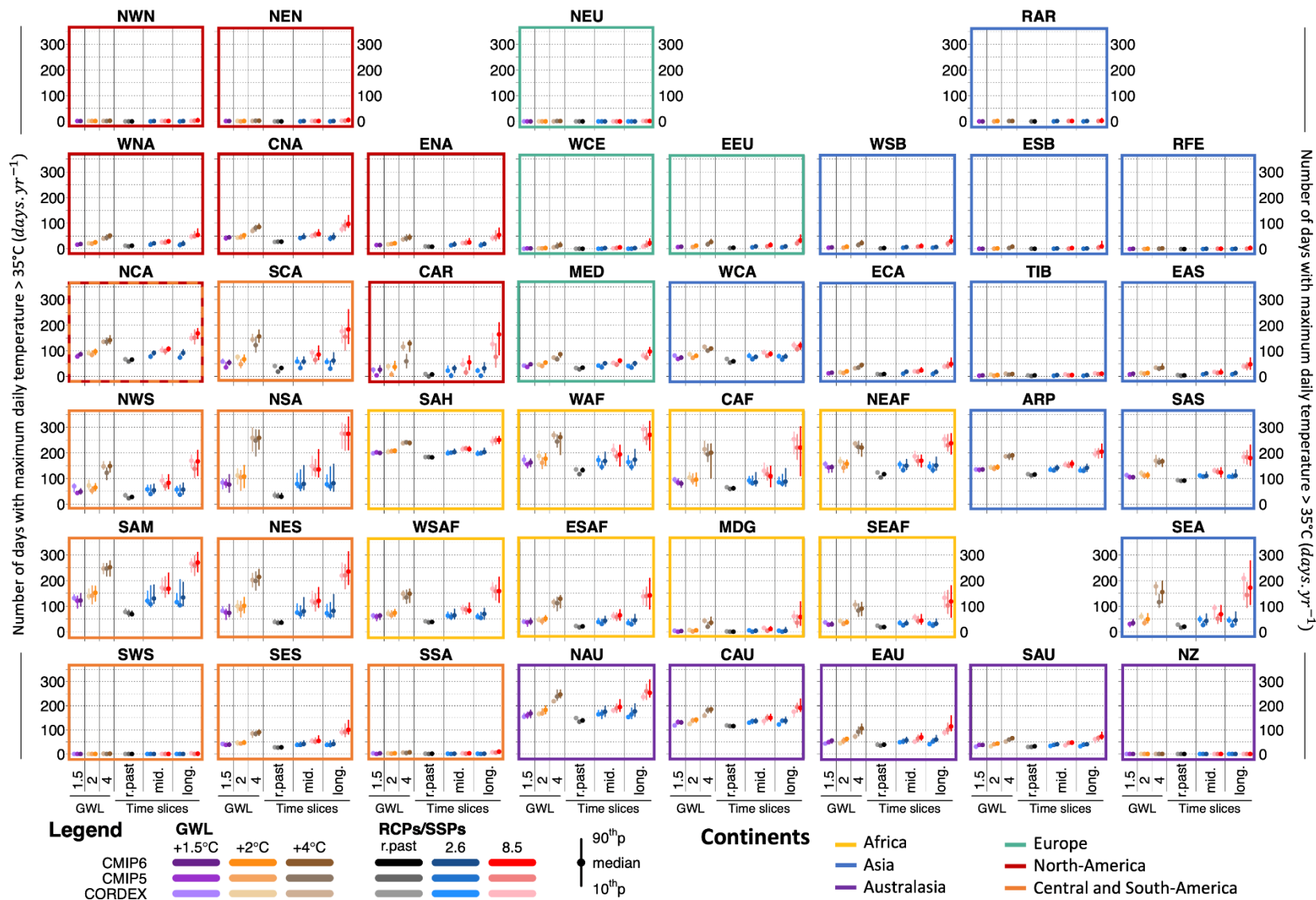
4 **12.SM.2 Data Table 16**

5 **References 80**

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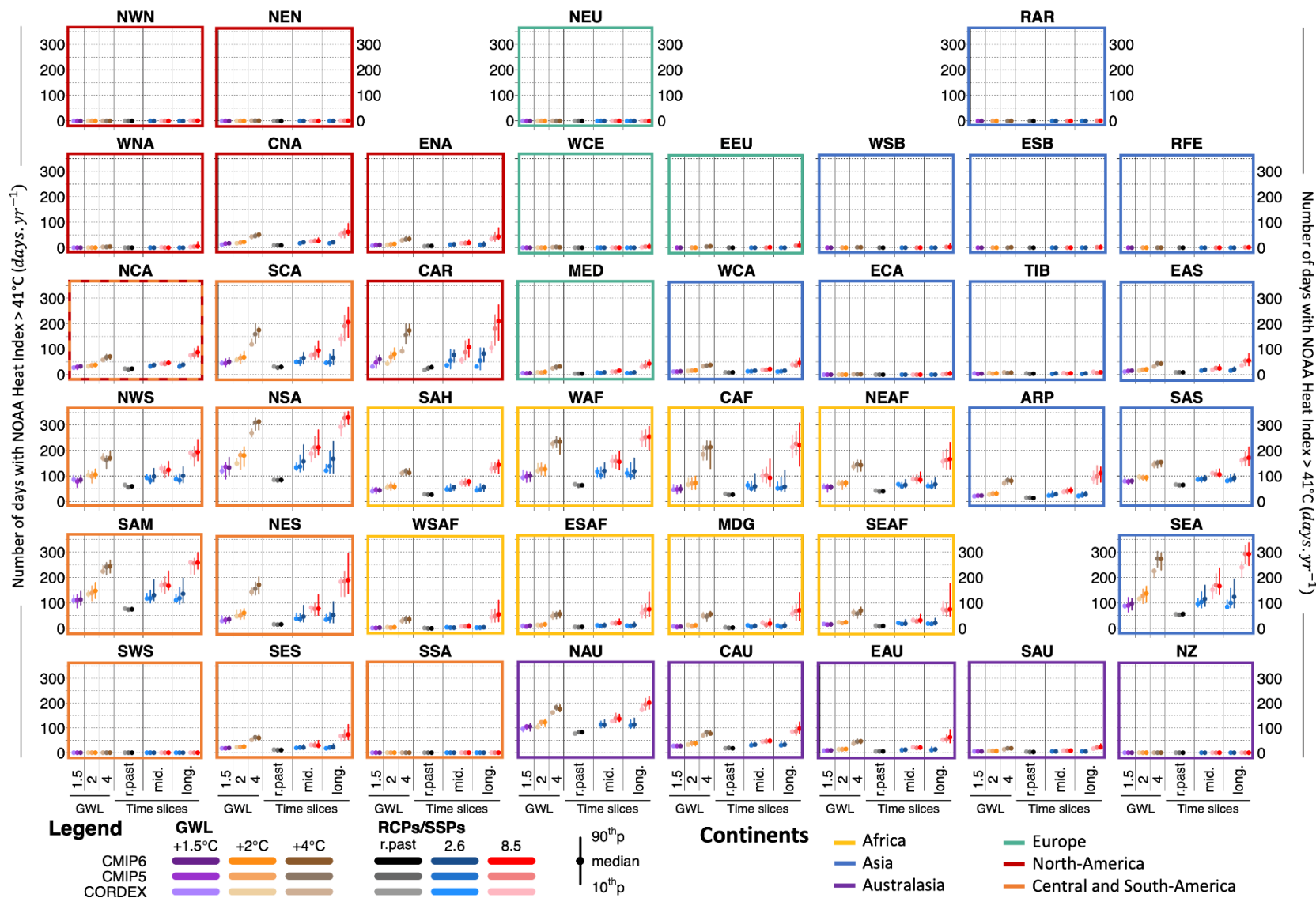
1 **12.SM.1** **Figures**

Number of days per year with daily maximum temperature > 35°C in AR6 regions



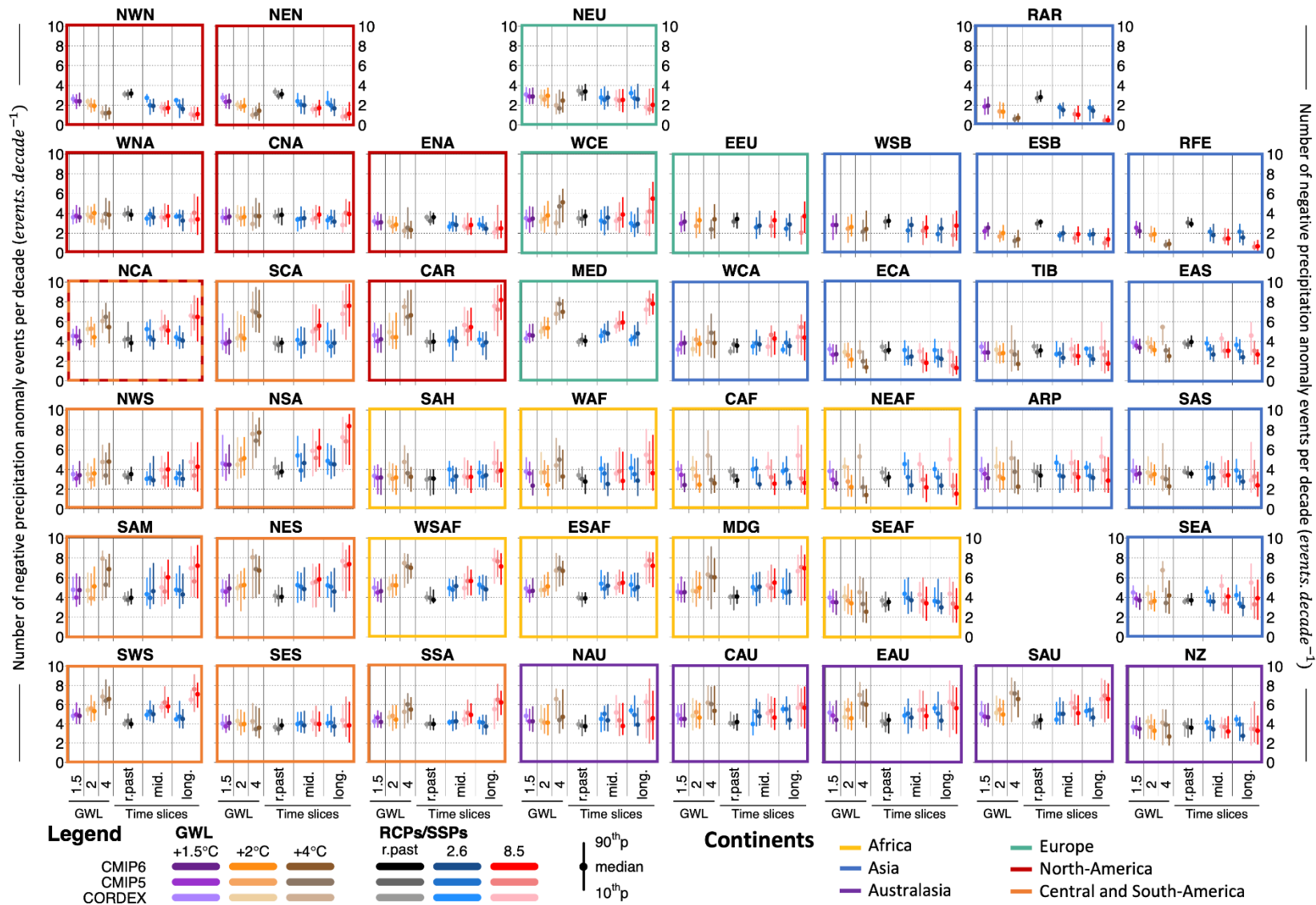
1 **Figure 12.SM.1: Regional projections for the number of days per year with maximum temperature exceeding 35°C for different scenarios, time horizons and global**
2 **warming levels.** The bar plots show projections from CMIP6 (darkest colours), CMIP5 (medium colours) and CORDEX (lightest colours) ensembles, for
3 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
4 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
5 (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
6 areas for the WGI reference AR6 regions (defined in Chapter 1). Bias adjustment is applied (see Atlas.1.4.5). The CORDEX ensemble is missing in regions that
7 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
8 and processing are available in the chapter data table (Table 12.SM.1).

Number of days with NOAA Heat Index > 41°C in AR6 regions



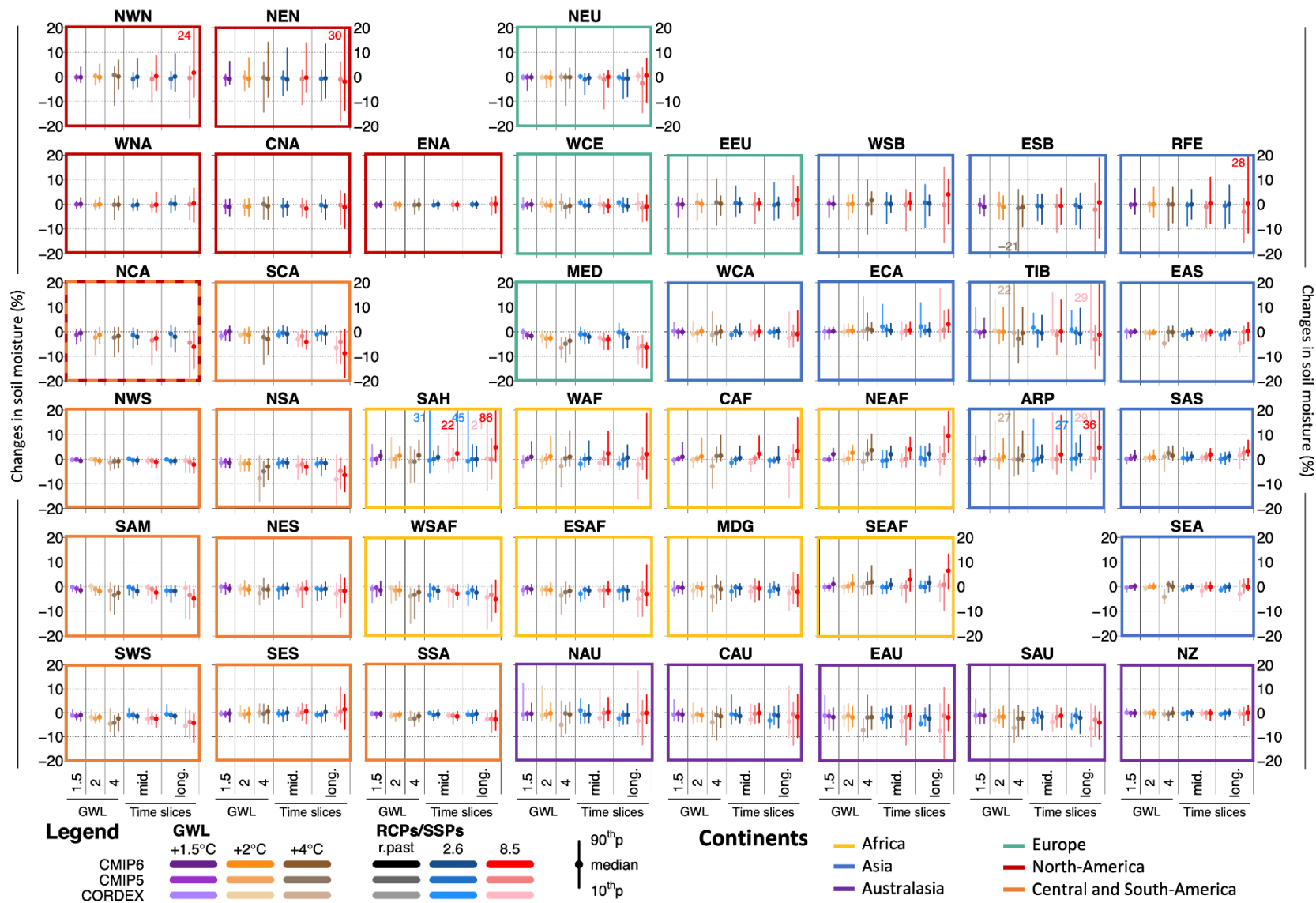
1 **Figure 12.SM.2: Regional projections for the number of days per year with the NOAA Heat Index exceeding 41°C for different scenarios, time horizons and global**
2 **warming levels.** 41°C corresponds to conditions that the US National Weather Service classifies into the category of “Danger” (Blazejczyk et al., 2012). The
3 bar plots show projections from CMIP6 (darkest colours), CMIP5 (medium colours) and CORDEX (lightest colours) ensembles, for RCP8.5/SSP5-8.5 (red) and
4 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
5 (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
6 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 WGI
7 reference AR6 regions (defined in Chapter 1). Bias adjustment is applied. The CORDEX ensemble is missing in regions that are not fully covered by the
8 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
9 processing are available in the chapter data table (Table 12.SM.1).
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Number of negative precipitation anomaly events per decade in AR6 regions



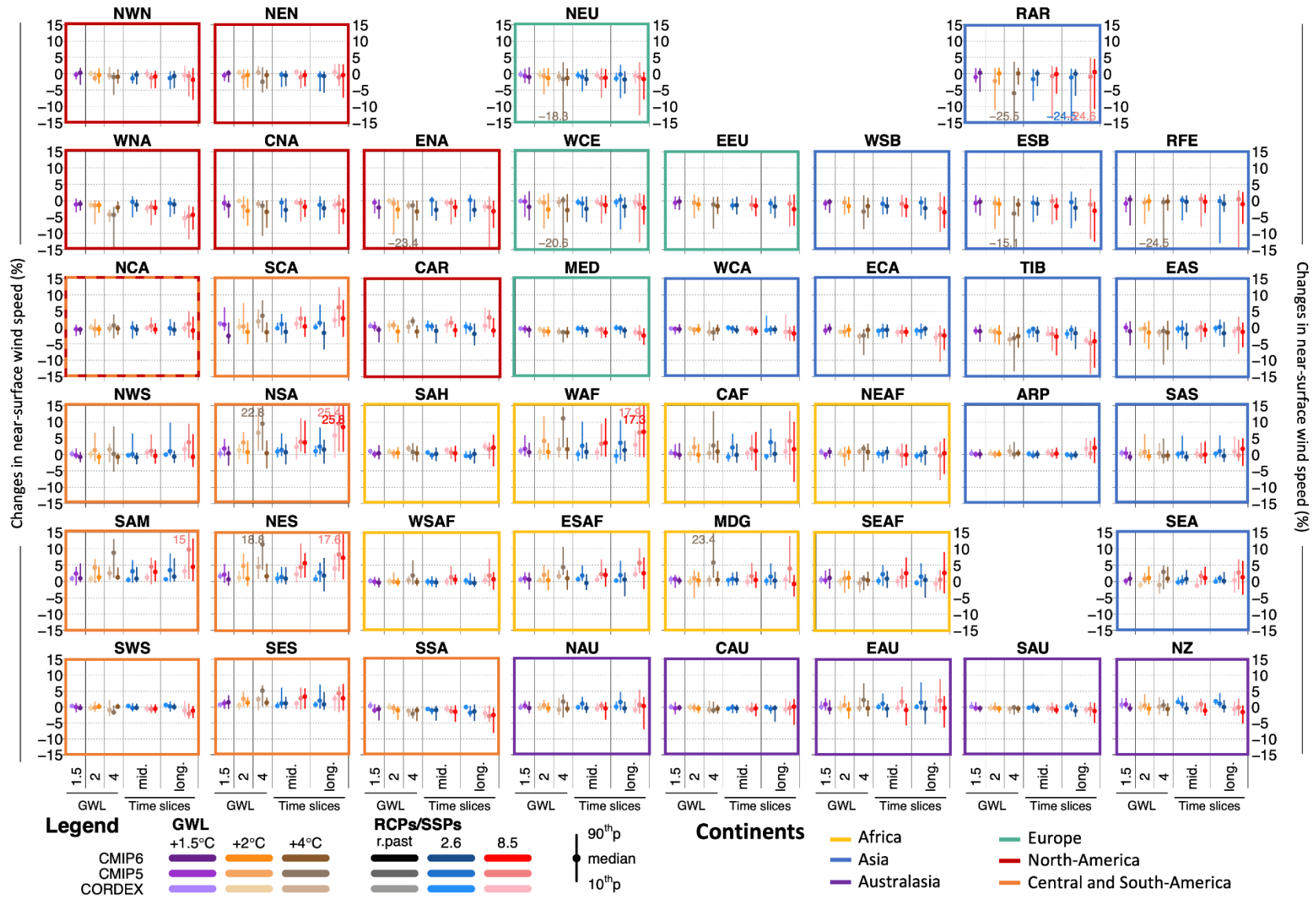
1 **Figure 12.SM.3: Regional projections for the number of negative precipitation anomaly events per decade using the 6-month Standardised Precipitation Index for**
2 **different scenarios, time horizons and global warming levels.** The bar plots show projections from CMIP6 (darkest colours), CMIP5 (medium colours) and
3 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
4 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
5 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
6 shown for the regional mean over land areas for the WGI reference AR6 regions (defined in Chapter 1). Units are events per decade. The CORDEX ensemble is
7 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
8 details on data sources and processing are available in the chapter data table (Table 12.SM.1).
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Changes in soil moisture in AR6 regions



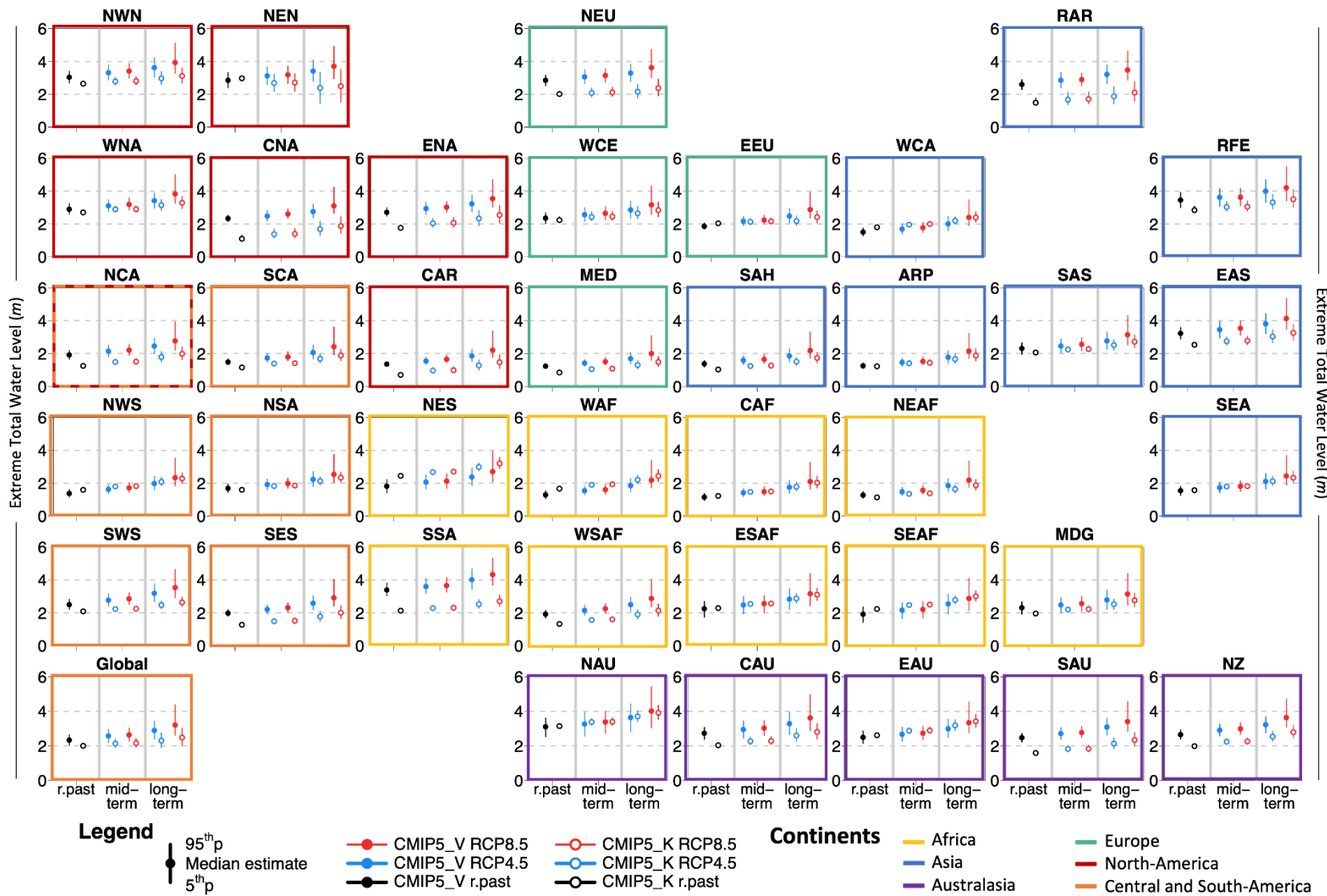
1 **Figure 12.SM.4: Regional projections for changes in soil moisture for different scenarios, time horizons and global warming levels.** The bar plots show projections of soil
2 moisture as percentage changes relative to the recent-past (1994-2015) for the mid-term (2041-2060) and long-term (2081-2100) and for three global warming
3 levels (defined relative to the preindustrial period 1850-1900): 1.5°C (purple), 2°C (yellow) and 4°C (brown), using CMIP6 (darkest colours), CMIP5 (medium
4 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
5 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 WGI
6 reference AR6 regions (defined in Chapter 1). The CORDEX ensemble is missing in regions that are not fully covered by the CORDEX domain (EEU, ESB, RAR,
7 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.
8 Further details on data sources and processing are available in the chapter data table (Table 12.SM.1).
9

Changes in near-surface wind speed in AR6 regions



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
2 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
3 levels (defined relative to the preindustrial period 1850-1900): 1.5°C (purple), 2°C (yellow) and 4°C (brown), using CMIP6 (darkest colours), CMIP5 (medium
4 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
5 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 WGI
6 reference AR6 regions (defined in Chapter 1). The CORDEX ensemble is missing in regions that are not fully covered by the CORDEX domain (EEU, ESB, RAR,
7 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
8 12.SM.1).
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Extreme Total Water Level in AR6 regions



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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. (2018) (filled circles, ‘V’ in legend), and the Kirezci et al., (2020) (open circles, ‘K’ in legend), for the WGI reference AR6 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 meters. 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

[START TABLE 12.SM.1 HERE]

Table 12.SM.1: Input Data Table. Input datasets and code used to create chapter figures.

Figure number	Dataset / Code name	Type	Filename / Specificities	License type	Dataset / Code citation	Dataset / Code URL	Related publications / Software used	Notes
Figure 12.4, a, b, c	CMIP6 multi-model ensemble mean of tx35 – ssp126 long term minus recent past – panel a	Final plotted data	tx35_panel_a_ssp126_2081-2100_minus_base_line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/tx35/	CliMAF, CDO, Xarray	
	Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel a	Final plotted data	mask_80perc-agreement_tx35_panel_a_ssp126_2081-2100_minus_base_line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/tx35/	CliMAF, CDO, Xarray	
	CMIP6 multi-model ensemble mean of tx35 – ssp585 mid term minus recent past – panel b	Final plotted data	tx35_panel_b_ssp585_2041-2060_minus_base_line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/tx35/	CliMAF, CDO, Xarray	
	Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel b	Final plotted data	mask_80perc-agreement_tx35_panel_b_ssp585_2041-2060_minus_base_line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/tx35/	CliMAF, CDO, Xarray	
	CMIP6 multi-model ensemble mean of tx35 – ssp585 long term minus	Final plotted data	tx35_panel_c_ssp585_2081-2100_minus_base			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/tx35/	CliMAF, CDO, Xarray	

	recent past – panel b		line.nc			12/tree/main/Figures/data/Figure_12.4/tx35/		
	Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel c	Final plotted data	mask_80perc-agreement_tx35_panel_c_ssp585_2081-2100_minus_base_line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/tx35/	CliMAF, CDO, Xarray	
	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/master/scripts/ATLAS-data/bias-correction/	R	
	Computing averages + ensemble statistics + model agreement + plotting for panel 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	CliMAF, ncl, CDO, Xarray	
	Datasets used for panels a, b and c, with the list of the panels at the end of each line	Metadata file	CMIP6_day_tx35i_simip_withpanels.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/tx35/		
Figure 12.4, d, e, f	Datasets used for panels d, e and f, with the list of the panels at the end of each line	Metadata file	Fig12-4_md_cmip6.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.4/DF6		
	Figure 12.4d-f processing code	Code	EXE0_create_model_overview.ipynb (data			https://github.com/IPCC-WG1/Chapter-	(Schwingshackl et al., 2021)	

			processing routine) EXE1_calcHI_performBC_CMIP6.ipynb (data processing routine) EXE2_Prepare_data_for_IPCC.ipynb (data processing routine)			12/tree/main/HIcalculation		
CMIP6 multi-model ensemble mean of NOAA Heat Index > 41°C – ssp126 long term minus recent past – panel d	Final plotted data	HI41_panel_d_ssp126_2081-2100_minus_baseline.nc				https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/HI41/	CliMAF, CDO, Xarray	
Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel d	Final plotted data	mask_80perc-agreement_HI41_panel_d_ssp126_2081-2100_minus_baseline.nc				https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/HI41/	CliMAF, CDO, Xarray	
CMIP6 multi-model ensemble mean of NOAA Heat Index > 41°C – ssp585 mid term minus recent past – panel e	Final plotted data	HI41_panel_e_ssp585_2041-2060_minus_baseline.nc				https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/HI41/	CliMAF, CDO, Xarray	
Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel e	Final plotted data	mask_80perc-agreement_HI41_panel_e_ssp585_2041-2060_minus_baseline.nc				https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/HI41/	CliMAF, CDO, Xarray	

	CMIP6 multi-model ensemble mean of NOAA Heat Index > 41°C – ssp585 long term minus recent past – panel f	Final plotted data	HI41_panel_f_ssp585_2081-2100_minus_base_line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/HI41/	CliMAF, CDO, Xarray	
	Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel f	Final plotted data	mask_80perc-agreement_HI41_panel_f_ssp585_2081-2100_minus_base_line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/HI41/	CliMAF, CDO, Xarray	
	Computing averages + ensemble statistics + model agreement + plotting for panel 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	CliMAF, CDO, Ncl, Xarray	
Figure 12.4, g, h, i	Datasets used for panels g, h and i, with the list of the panels at the end of each line	Metadata file	CMIP6_day_spi6_withpanels.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.4/DF6		
	Drought events calculation	Code	calculate_SPELL_multy.sh, dspell_minter19.x (data processing routine)			https://github.com/fraffael/DFscripts/tree/main/CMIP6		
	Drought Frequency calculation for each timeslice	Code	far-mid-hist.sh (data processing routine)			https://github.com/fraffael/DFscripts/tree/main/CMIP6		
	CMIP6 multi-model ensemble mean of DF6	Final plotted data	DF6_panel_g_ssp126_farch_minus			https://github.com/IPCC-	CliMAF, CDO, Xarray	

Index – ssp126 log term minus recent past – panel g		_baseline.nc			WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/DF6		
Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel g	Final plotted data	mask_80perc-agreement_DF6_panel_g_ssp126_farch_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/DF6	CliMAF, CDO, Xarray	
CMIP6 multi-model ensemble mean of DF6 Index – ssp585 mid term minus recent past – panel h	Final plotted data	DF6_panel_h_ssp585_midch_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/DF6	CliMAF, CDO, Xarray	
Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel h	Final plotted data	mask_80perc-agreement_DF6_panel_h_ssp585_midch_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/DF6	CliMAF, CDO, Xarray	
CMIP6 multi-model ensemble mean of DF6 Index - ssp585 long term minus recent past – panel i	Final plotted data	DF6_panel_i_ssp585_farch_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/DF6	CliMAF, CDO, Xarray	
Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel i	Final plotted data	mask_80perc-agreement_DF6_panel_i_ssp585_farch_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/DF6	CliMAF, CDO, Xarray	

	Script to compute ensemble statistics + model agreement + plotting for panel g, h and i	Code	DF6_individual_figures.ipynb (plotting routine)			2.4/DF6 https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/scripts/global_figure_12.4	CliMAF, CDO, Ncl, Xarray	
Figure 12.4, j, k, l	Datasets used for panels j, k and l, with the list of the panels at the end of each line	Metadata file	cmip6_SM_tot_at_w_md cmip6_SM_tot_time_ave_md			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.4/SM		
	CMIP6 multi-model ensemble mean of soil moisture – ssp126 long term minus recent past - % of recent past climatology – panel j	Final plotted data	SM_panel_j_ssp126_2081-2100_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/SM	CliMAF, CDO, Xarray	
	Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel j	Final plotted data	mask_80perc-agreement_SM_panel_j_ssp126_2081-2100_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/SM/	CliMAF, CDO, Xarray	
	CMIP6 multi-model ensemble mean of soil moisture – ssp585 mid term minus recent past - % of recent past climatology – panel k	Final plotted data	SM_panel_k_ssp585_2041-2060_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/SM	CliMAF, CDO, Xarray	
	Mask for hatching – showing more than 80% agreement in sign of change (or no change) –	Final plotted data	mask_80perc-agreement_SM_panel_j_ssp585_2041-			https://github.com/IPCC-WG1/Chapter-12/tree/main/F	CliMAF, CDO, Xarray	

	panel k		2060_minus_base line.nc			figures/ data/Figure_1 2.4/SM/		
	CMIP6 multi-model ensemble mean of soil moisture – ssp585 long term minus recent past - % of recent past climatology – panel k	Final plotted data	SM_panel_k_ssp585_2081-2100_minus_base line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/SM	CliMAF, CDO, Xarray	
	Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel l	Final plotted data	mask_80perc-agreement_SM_panel_l_ssp585_2081-2100_minus_base line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/SM/	CliMAF, CDO, Xarray	
	Script to compute ensemble statistics + model agreement + plotting for panel 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	CliMAF, CDO, Ncl, Xarray	
Figure 12.4, m, n, o	Datasets used for panels m, n and o, with the list of the panels at the end of each line	Metadata file	CMIP6_Amon_sfcWind_withpanels.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.4/sfcWind		
	CMIP6 multi-model ensemble mean of near surface wind – ssp126 long term minus recent past - % of recent past climatology – panel m	Final plotted data	sfcWind_panel_m_ssp126_2081-2100_minus_base line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/sfcWind	CliMAF, CDO, Xarray	
	Mask for hatching – showing more than 80%	Final plotted data	mask_80perc-agreement_sfcWi			https://github.com/IPCC-	CliMAF, CDO, Xarray	

agreement in sign of change (or no change) – panel m		nd_panel_m_ssp1_26_2081-2100_minus_base_line.nc			WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/sfcWind/		
CMIP6 multi-model ensemble mean of near surface wind – ssp585 mid term minus recent past - % of recent past climatology – panel n	Final plotted data	sfcWind_panel_n_ssp585_2041-2060_minus_base_line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/sfcWind/	CliMAF, CDO, Xarray	
Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel n	Final plotted data	mask_80perc-agreement_sfcWind_panel_n_ssp585_2041-2060_minus_base_line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/sfcWind/	CliMAF, CDO, Xarray	
CMIP6 multi-model ensemble mean of near surface wind – ssp585 long term minus recent past - % of recent past climatology – panel o	Final plotted data	sfcWind_panel_o_ssp585_2081-2100_minus_base_line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/sfcWind/	CliMAF, CDO, Xarray	
Mask for hatching – showing more than 80% agreement in sign of change (or no change) – panel o	Final plotted data	mask_80perc-agreement_sfcWind_panel_o_ssp585_2081-2100_minus_base_line.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/Figures/data/Figure_12.4/sfcWind/	CliMAF, CDO, Xarray	
Script to compute ensemble statistics + model agreement + plotting for panel 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_	CliMAF, CDO, Ncl, Xarray	

Figure 12.4, p, q, 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, Michail; Mentaschi, Lorenzo; Voukouvalas, Evangelos; Verlaan, Martin; Jevrejeva, Svetlana; Jackson, Luke; Feyen, Luc (2018): Global Extreme Sea Level projections. European Commission, Joint Research Centre (JRC) [Dataset] doi:10.2905/jrc-liscoast-10012 PID: http://data.europa.eu/89h/jrc-liscoast-10012	12.4 https://data.jrc.ec.europa.eu/dataset/jrc-liscoast-10012	(Vousdoukas et al., 2018)	
	Plotting for panel 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	pyNgl	

Figure 12.5, a	List of CORDEX datasets used as boundary conditions for the hydro model	Metadata file	Fig12-5_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.5/		
	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	matplotlib	
	Csv file creation for plotting	Code	dranetwrite (plotting subroutine)			https://github.com/ictp-esp/CHyM/tree/master/utility/dranetwrite		
	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		
	parallel MPI execution for CHyM	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	River routing model CHyM	Code	CHyM-roff (model)			https://github.com/fdisante/CHyM-roff		
	Q100 calculations	Code	create_Qx_regcm.R (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Ensemble mean modern time slice calculation	Code	calculate_ensMean_1995-2014.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main		

	Ensemble mean mid time slice calculation	Code	calculate_ensMean_2041-2060.sh (data processing routine)			/common https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Q100 changes for CORDEX domains AFR and EUR, RCP8.5, mid term	Final plotted data	Q100_map_panel_a_AFR_less_MED_divdra.nc and Q100_map_panel_a_MED_for_AFR_from_EUR_divdra.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.5		
Figure 12.5, b	Global shoreline change projections	Input dataset	globalErosionProjections_Long_Term_Change_RCP85_2100.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	European Commission , Joint Research Centre (2019): Global shoreline change projections. European Commission , Joint Research Centre (JRC) [Dataset] doi:10.2905/18EB5F19-B916-454F-B2F5-88881931587E PID: http://data.europa.eu/89h/	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e	(Vousdoukas et al., 2020)	

					18eb5f19-b916-454f-b2f5-88881931587e		
	Plotting script to do the map	Code	CoastalRecession_map_AR6regions_AFRICA.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/AFRICA_regional_figure/	pyNgl
Figure 12.5, c	List of CORDEX datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.5/	
	List of CMIP5 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip5.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.5/	
	List of CMIP6 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip6.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.5/	
	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	
	parallel MPI execution for ChyM	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main	

						/common		
River routing model ChyM	Code	ChyM-roff (model)				https://github.com/fdisante/CHyM-roff		
Q100 calculations	Code	create_Qx_regcm. R (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean modern time slice calculation	Code	calculate_ensMean_1995-2014.sh (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean mid time slice calculation	Code	calculate_ensMean_2041-2060.sh (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean far time slice calculation	Code	calculate_ensMean_2080-2099.sh (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean warming levels rcp26 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		
Ensemble mean warming levels rcp26 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		
Ensemble mean warming levels rcp85 calculations for EUR (1850-1900)	Code	calculate_WarmingLevels_ensMean_EUR_rcp85.sh				https://github.com/fdisante/IPCC-		

		(data processing routine)			ch12/tree/main/CORDEX/EUR		
Ensemble mean warming levels rcp85 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		
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		
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		
Regional averages per CORDEX domain, per scenario and per period; $\{\text{CORDEX_domain}\} = \text{AFR or EUR}$ $\{\text{scenario}\} = \text{rcp26 or rcp85}$ $\{\text{period}\} = 1995-2014$ (baseline), 2041-2060 (mid-term), or 2080-2099 (long-term)	Final plotted data	Q100_ $\{\text{scenario}\}$ _ $\{\text{period}\}$.nc_ $\{\text{CORDEX_domain}\}$.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.5/Q100_{ensemble} , with $\{\text{ensemble}\} = \text{CMIP5, CMIP6 or CORDEX-core}$		
Regional averages per CORDEX domain per global warming level, with: $\{\text{CORDEX_domain}\} = \text{AFR or EUR}$ $\{\text{GWL}\} = 1.5, 2 \text{ or } 4$	Final plotted data	$\{\text{GWL}\}$ _ $\{\text{CORDEX_domain}\}$.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.5/Q100_{ensemble} , with $\{\text{ensemble}\}$		

						= CMIP5, CMIP6 or CORDEX- core		
	Plotting script to do the Q100 barplots	Code	Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/AFRICA_regional_figure	R	
Figure 12.5, d	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/scripts/Coastal_recession_by_AR6_region	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)	
	Global shoreline change projections for experiments RCP4.5 and RCP8.5 ($\{\text{scenario}\} = \text{RCP45}$ or RCP85) and for future mid and long term periods ($\{\text{horizon}\}$ in 2050 or 2100)	Input dataset	globalErosionProjections_Long_Term_Change_ $\{\text{scenario}\}$ _ $\{\text{horizon}\}$.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	European Commission , Joint Research Centre (2019): Global shoreline change projections. European Commission , Joint Research Centre (JRC) [Dataset] doi:10.2905/18EB5F19-B916-454F-B2F5-	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e	(Vousdoukas et al., 2020)	

					8888193158 7E PID: http://data.europa.eu/89h/18eb5f19-b916-454f-b2f5-88881931587e		
	Regional averages of shoreline position change for RCP8.5, long term	Final plotted data	CoastalRecession_AFRICA_RCP85_2100.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.5	
	Plotting script to do the barplots of shoreline position changes	Code	Barplots_coastalrecession.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/AFRICA_regional_figure	R
Figure 12.6 Panel, a	List of CORDEX datasets used as boundary conditions for the hydro model	Metadata file	Fig12-5_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.6/	
	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	matplotlib
	Csv file creation for plotting	Code	dranetwrite (plotting subroutine)			https://github.com/ict-esp/CHyM/tree/master/utility/dranetwrite	

	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		
	parallel MPI execution for CHyM	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	River routing model CHyM	Code	CHyM-roff (model)			https://github.com/fdisante/CHyM-roff		
	Q100 calculations	Code	create_Qx_regcm.R (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Ensemble mean modern time slice calculation	Code	calculate_ensembleMean_1995-2014.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Ensemble mean mid time slice calculation	Code	calculate_ensembleMean_2041-2060.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Q100 changes for CORDEX domains EAS, WAS and SEA, RCP8.5, mid term	Final plotted data	Q100_map_panel_a_\${CORDEX_domain}_for_ASIA_divdra.nc With \${CORDEX_domain} in EAS, WAS, SEA			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.6		
Figure 12.6, b	Global shoreline change projections	Input dataset	globalErosionProjections_Long_Term_Change_RCP8	Creative Commons Attribution	European Commission, Joint	https://data.jrc.ec.europa.eu/dataset/18eb5f1	(Vousdoukas et al., 2020)	

			5_2100.csv	4.0 International (CC BY 4.0) licence	Research Centre (2019): Global shoreline change projections. European Commission , Joint Research Centre (JRC) [Dataset] doi:10.2905/18EB5F19-B916-454F-B2F5-88881931587E PID: http://data.europa.eu/89h/18eb5f19-b916-454f-b2f5-88881931587e	9-b916-454f-b2f5-88881931587e		
	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/	pyNgl	
Figure 12.6, c	List of CORDEX datasets used as boundary conditions for ChyM	Metadata file	Fig12-6_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.		

						6/ https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.6/		
List of CMIP5 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip5.csv				https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.6/		
List of CMIP6 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip6.csv				https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.6/		
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		
parallel MPI execution for ChyM	Code	run_simulations.sh (script to run the simulations)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
River routing model ChyM	Code	ChyM-roff (model)				https://github.com/fdisante/CHyM-roff		
Q100 calculations	Code	create_Qx_regcm.R (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean modern time slice calculation	Code	calculate_ensemble_mean_1995-2014.sh (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean mid time slice calculation	Code	calculate_ensemble_mean_2041-2060.sh (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		

			routine)			ch12/tree/main /common		
Ensemble mean far time slice calculation	Code		calculate_ensMean_2080-2099.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
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		
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		
Regional averages per CORDEX domain, per scenario and per period; \${CORDEX_domain} = EAS, WAS, SEA \${scenario} = rcp26 or rcp85 \${period} = 1995-2014 (baseline), 2041-2060 (mid-term), or 2080-2099 (long-term)	Final plotted data		Q100_\${scenario}_\${period}.nc_\${CORDEX_domain}.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.6/Q100_\${ensemble} , with \${ensemble} = CMIP5, CMIP6 or CORDEX-core		
Regional averages per CORDEX domain per global warming level, with: \${CORDEX_domain} = EAS, WAS, SEA \${GWL} = 1.5, 2 or 4	Final plotted data		\${GWL}_\${CORDEX_domain}.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.6/Q100_\${ensemble} , with \${ensemble} = CMIP5, CMIP6 or		

						CORDEX-core		
	Plotting script to do the Q100 barplots	Code	Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/ASIA_regional_figure	R	
Figure 12.6, d	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/scripts/Coastal_recession_by_AR6_region	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)	
	Global shoreline change projections for experiments RCP4.5 and RCP8.5 ($\{\text{scenario}\} = \text{RCP45}$ or RCP85) and for future mid and long term periods ($\{\text{horizon}\}$ in 2050 or 2100)	Input dataset	globalErosionProjections_Long_Term_Change_ $\{\text{scenario}\}$ _ $\{\text{horizon}\}$.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	European Commission , Joint Research Centre (2019): Global shoreline change projections. European Commission , Joint Research Centre (JRC) [Dataset] doi:10.2905/18EB5F19-B916-454F-B2F5-88881931587E PID:	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e	(Vousdoukas et al., 2020)	

					http://data.europa.eu/89h/18eb5f19-b916-454f-b2f5-88881931587e		
	Regional averages of shoreline position change for RCP8.5, long term	Final plotted data	CoastalRecession_ASIA_RCP85_2100.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.7	
	Plotting script to do the barplots of shoreline position changes	Code	Barplots_coastalrecession.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/ASIA_regional_figure	R
Figure 12.7, a	List of CORDEX datasets used as boundary conditions for the hydro model	Metadata file	Fig12-7_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.7/	
	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	matplotlib
	Csv file creation for plotting	Code	dranetwrite (plotting subroutine)			https://github.com/ictp-esp/CHyM/tree/master/utility/dranetwrite	
	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		
	parallel MPI execution for CHyM	Code	run_simulations.s h (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	River routing model CHyM	Code	CHyM-roff (model)			https://github.com/fdisante/CHyM-roff		
	Q100 calculations	Code	create_Qx_regcm. R			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Ensemble mean modern time slice calculation	Code	calculate_ensMea n_1995-2014.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Ensemble mean mid time slice calculation	Code	calculate_ensMea n_2041-2060.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Q100 changes for CORDEX domains AUS, RCP8.5, mid term	Final plotted data	Q100_map_panel _a_AUS_divdra.n c			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.7		
Figure 12.7, b	Global shoreline change projections	Input dataset	globalErosionProj ections_Long_Ter m_Change_RCP8 5_2100.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	European Commission , Joint Research Centre (2019): Global shoreline	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e	(Vousdoukas et al., 2020)	

					change projections. European Commission , Joint Research Centre (JRC) [Dataset] doi:10.2905/18EB5F19-B916-454F-B2F5-88881931587E PID: http://data.europa.eu/89h/18eb5f19-b916-454f-b2f5-88881931587e			
	Plotting script to do the map	Code	CoastalRecession_map_AR6regions_Australasia.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/Australasia_regional_figure/	pyNgl	
Figure 12.7, c	List of CORDEX datasets used as boundary conditions for ChyM	Metadata file	Fig12-7_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.7/		
	List of CMIP5 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip5.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/d		

						ata/Figure_12.7/		
List of CMIP6 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip6.csv				https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.7		
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		
parallel MPI execution for ChyM	Code	run_simulations.sh (script to run the simulations)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
River routing model ChyM	Code	ChyM-roff (model)				https://github.com/fdisante/CHyM-roff		
Q100 calculations	Code	create_Qx_regcm.R (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean modern time slice calculation	Code	calculate_ensemble_mean_1995-2014.sh (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean mid time slice calculation	Code	calculate_ensemble_mean_2041-2060.sh (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean far time slice calculation	Code	calculate_ensemble_mean_2080-2099.sh (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		

			routine)			ch12/tree/main /common		
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		
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		
Regional averages per CORDEX domain, per scenario and per period; $\{\text{CORDEX_domain}\} = \text{AUS}$ $\{\text{scenario}\} = \text{rcp26}$ or rcp85 $\{\text{period}\} = 1995-2014$ (baseline), $2041-2060$ (mid-term), or $2080-2099$ (long-term)	Final plotted data		Q100_ $\{\text{scenario}\}$ _ $\{\text{period}\}$.nc_ $\{\text{CORDEX_domain}\}$.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.7/Q100_ensemble , with $\{\text{ensemble}\} = \text{CMIP5}$, CMIP6 or CORDEX-core		
Regional averages per CORDEX domain per global warming level, with: $\{\text{CORDEX_domain}\} = \text{AUS}$ $\{\text{GWL}\} = 1.5, 2$ or 4	Final plotted data		$\{\text{GWL}\}$ _ $\{\text{CORDEX_domain}\}$.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.7/Q100_ensemble , with $\{\text{ensemble}\} = \text{CMIP5}$, CMIP6 or CORDEX-core		
Plotting script to do the Q100 barplots	Code		Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-	R	

						12/tree/main/scripts/Australia_regional_figure }		
Figure 12.7, d	Script to compute the regional averages by AR6 region	Code	Compute_average_s_AR6_regions_Coastal_recession.py (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/Coastal_recession_by_AR6_region	CliMAF (https://climaf.readthedocs.io/en/master/)	
	Global shoreline change projections for experiments RCP4.5 and RCP8.5 ($\{\text{scenario}\} = \text{RCP45}$ or RCP85) and for future mid and long term periods ($\{\text{horizon}\}$ in 2050 or 2100)	Input dataset	globalErosionProjections_Long_Term_Change_ $\{\text{scenario}\}$ _ $\{\text{horizon}\}$.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	European Commission, Joint Research Centre (2019): Global shoreline change projections. European Commission, Joint Research Centre (JRC) [Dataset] doi:10.2905/18EB5F19-B916-454F-B2F5-88881931587E PID: http://data.europa.eu/89h/18eb5f19-b916-454f-b2f5-88881931587e	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e	(Vousdoukas et al., 2020)	

					88881931587e		
	Regional averages of shoreline position change for RCP8.5, long term	Final plotted data	CoastalRecession_Australasia_RCP85_2100.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.7	
	Plotting script to do the barplots of shoreline position changes	Code	Barplots_coastalrecession.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/Australasia_regional_figure	pyNgl
Figure 12.8, a	List of CORDEX datasets used as boundary conditions for the hydro model	Metadata file	Fig12-8_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.8/	
	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	matplotlib
	Csv file creation for plotting	Code	dranetwrite (plotting subroutine)			https://github.com/ictp-esp/CHyM/tree/master/utility/dranetwrite	
	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	
	parallel MPI execution for CHyM	Code	run_simulations.sh			https://github.com/fdisante/I	

						PCC- ch12/tree/main /common		
	River routing model CHyM	Code	CHyM-roff (model)			https://github.com/fdisante/CHyM-roff		
	Q100 calculations	Code	create_Qx_regcm. R (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Ensemble mean modern time slice calculation	Code	calculate_ensMea n_1995-2014.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Ensemble mean mid time slice calculation	Code	calculate_ensMea n_2041-2060.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Q100 changes for CORDEX domains SAM and CAM, RCP8.5, mid term	Final plotted data	Q100_map_panel _a_SAM_divdra.n c And Q100_map_panel _a_CAM_for_SA M_divdra.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.8		
Figure 12.8, b	Global shoreline change projections	Input dataset	globalErosionProj ections_Long_Ter m_Change_RCP8 5_2100.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	European Commission , Joint Research Centre (2019): Global shoreline change projections. European	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e	(Vousdoukas et al., 2020)	

					Commission , Joint Research Centre (JRC) [Dataset] doi:10.2905/18EB5F19-B916-454F-B2F5-88881931587E PID: http://data.europa.eu/89h/18eb5f19-b916-454f-b2f5-88881931587e			
	Plotting script to do the map	Code	CoastalRecession_map_AR6regions_SOUTH-AMERICA.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/SOUTH-AMERICA_regional_figure/	pyNgl	
Figure 12.8, c	List of CORDEX datasets used as boundary conditions for ChyM	Metadata file	Fig12-8_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.8/		
	List of CMIP5 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip5.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.8/		

List of CMIP6 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip6.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/figure_12.8		
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		
parallel MPI execution for ChyM	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
River routing model ChyM	Code	ChyM-roff (model)			https://github.com/fdisante/CHyM-roff		
Q100 calculations	Code	create_Qx_regcm.R (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean modern time slice calculation	Code	calculate_ensemble_1995-2014.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean mid time slice calculation	Code	calculate_ensemble_2041-2060.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean far time slice calculation	Code	calculate_ensemble_2080-2099.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		

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		
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		
Regional averages per CORDEX domain, per scenario and per period; $\{\text{CORDEX_domain}\} = \text{SAM, CAM}$ $\{\text{scenario}\} = \text{rcp26 or rcp85}$ $\{\text{period}\} = 1995-2014$ (baseline), 2041-2060 (mid-term), or 2080-2099 (long-term)	Final plotted data	Q100_ $\{\text{scenario}\}$ _ $\{\text{period}\}$.nc_ $\{\text{CORDEX_domain}\}$.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.8/Q100_ensemble , with $\{\text{ensemble}\} = \text{CMIP5, CMIP6 or CORDEX-core}$		
Regional averages per CORDEX domain per global warming level, with: $\{\text{CORDEX_domain}\} = \text{SAM, CAM}$ $\{\text{GWL}\} = 1.5, 2 \text{ or } 4$	Final plotted data	$\{\text{GWL}\}$ _ $\{\text{CORDEX_domain}\}$.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.8/Q100_ensemble , with $\{\text{ensemble}\} = \text{CMIP5, CMIP6 or CORDEX-core}$		
Plotting script to do the Q100 barplots	Code	Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/SOUTH	R	

						= AMERICA regional figure 1		
Figure 12.8, d	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/scripts/Coastal_recession_by_AR6_region	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)	
	Global shoreline change projections for experiments RCP4.5 and RCP8.5 ($\{\text{scenario}\} = \text{RCP45}$ or RCP85) and for future mid and long term periods ($\{\text{horizon}\}$ in 2050 or 2100)	Input dataset	globalErosionProjections_Long_Term_Change_ $\{\text{scenario}\}$ _ $\{\text{horizon}\}$.csv	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	European Commission, Joint Research Centre (2019): Global shoreline change projections. European Commission, Joint Research Centre (JRC) [Dataset] doi:10.2905/18EB5F19-B916-454F-B2F5-88881931587E PID: http://data.europa.eu/89h/18eb5f19-b916-454f-b2f5-88881931587e	https://data.jrc.ec.europa.eu/dataset/18eb5f19-b916-454f-b2f5-88881931587e	(Vousdoukas et al., 2020)	

					88881931587e		
	Regional averages of shoreline position change for RCP8.5, long term	Final plotted data	CoastalRecession_SOUTH-AMERICA_RCP85_2100.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.8	
	Plotting script to do the barplots of shoreline position changes	Code	Barplots_coastalrecession.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/SOUTH-AMERICA_regional_figure	R
Figure 12.9, a	List of CORDEX datasets used as boundary conditions for the hydro model	Metadata file	Fig12-9_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9/	
	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	matplotlib
	Csv file creation for plotting	Code	dranetwrite (plotting subroutine)			https://github.com/ictp-esp/CHyM/tree/master/utility/dranetwrite	
	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	
	parallel MPI execution	Code	run_simulations.s			https://github.com	

	for CHyM		h (script to run the simulations)			com/fdisante/IPCC-ch12/tree/main/common		
	River routing model CHyM	Code	CHyM-roff (model)			https://github.com/fdisante/CHyM-roff		
	Q100 calculations	Code	create_Qx_regcm.R (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Ensemble mean modern time slice calculation	Code	calculate_ensemble_mean_1995-2014.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Ensemble mean mid time slice calculation	Code	calculate_ensemble_mean_2041-2060.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Q100 changes for CORDEX domains EUR, RCP8.5, mid term	Final plotted data	Q100_map_panel_a_EUR_divdra.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9		
Figure 12.9 b	CORDEX datasets for SWE index, RCP8.5 mid-term	Metadata file	EURO_CORDEX_snow_time_periods.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9		
	Computing ensemble median and model agreement	Code	snow_map_Europe.ipynb (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/EUROPE	CliMAF (https://climaf.readthedocs.io/en/master/) CDO, Xarray	

						E_regional_figure		
	CORDEX multi-model ensemble mean of number of days with SWE > 100mm – rcp85 mid term minus recent past	Final plotted data	SWE_panel_b_RCP85_mce_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9		
	Mask for hatching – showing more than 80% agreement in sign of change (or no change)	Final plotted data	mask_80perc-agreement_SWE_panel_b_RCP85_mce_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9		
	Plotting script for the SWE map	Code	pyNGL_AR6regions_SWE_EUROPE.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/EUROPE_regional_figure	pyNgl	
Figure 12.9, c	List of CORDEX datasets used as boundary conditions for ChyM	Metadata file	Fig12-9_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9/		
	List of CMIP5 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip5.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9/		
	List of CMIP6 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip6.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9		

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		
parallel MPI execution for ChyM	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
River routing model ChyM	Code	ChyM-roff (model)			https://github.com/fdisante/CHyM-roff		
Q100 calculations	Code	create_Qx_regcm.R (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean modern time slice calculation	Code	calculate_ensemble_mean_1995-2014.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean mid time slice calculation	Code	calculate_ensemble_mean_2041-2060.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean far time slice calculation	Code	calculate_ensemble_mean_2080-2099.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
Regional averages per CORDEX domain, per scenario and per period; \${CORDEX_domain} = EUR \${scenario} = rcp26 or	Final plotted data	Q100_\${scenario}_\${period}.nc_\${CORDEX_domain}.txt			https://github.com/IPCC-WGI/Chapter-12/tree/main/data/Figure_12.9/Q100_ensemble		

	rcp85 \${period} = 1995-2014 (baseline), 2041-2060 (mid-term), or 2080- 2099 (long-term)					emble }, with \${ensemble} = CMIP5, CMIP6 or CORDEX- core		
	Regional averages per CORDEX domain per global warming level, with: \${CORDEX_domain} = EUR \${GWL} = 1.5, 2 or 4	Final plotted data	\${GWL}_\${COR DEX_domain}.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9/Q100_\${ensemble} }, with \${ensemble} = CMIP5, CMIP6 or CORDEX- core		
	Plotting script to do the Q100 barplots	Code	Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/EUROPE_regional_figure	R	
Figure 12.9 d	CMIP6 snow datasets	Metadata file	Fig12-9_md_cmip6_snow.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9		
	CMIP5 snow datasets	Metadata file	Fig12-9_md_cmip5_snow.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9		
	EURO CORDEX snow datasets	Metadata file	EURO_CORDEX_snow_time_period			https://github.com/IPCC-		

			s.csv and EURO_CORDEX _snw_gwls.csv			WG1/Chapter-12/tree/main/data/Figure_12.9		
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		
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/scripts/EUROPE_regional_figure	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)	
Ensemble statistics of SWE regional averages over AR6 regions for CMIP6	Final plotted data		CMIP6_EUR-11_snw_mask14_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9		
Ensemble statistics of SWE regional averages over AR6 regions for CMIP5	Final plotted data		CMIP5_EUR-11_snw_mask14_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.9		
Ensemble statistics of	Final plotted		EURO-			https://github.com		

	SWE regional averages over AR6 regions for CORDEX	data	CORDEX_snw_mask14_AR6_regional_averages.json			com/IPCC-WG1/Chapter-12/tree/main/data/figure_12_9		
	Plotting scripts for the SWE barplots	Code	SWE_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/EUROPE_regional_figure	R	
Figure 12.10, a	List of CORDEX datasets used as boundary conditions for the hydro model	Metadata file	Fig12-10_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/figure_12_10/		
	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	pyNgl	
	Csv file creation for plotting	Code	dranetwrite (plotting subroutine)			https://github.com/ictp-esp/CHyM/tree/master/utility/dranetwrite		
	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		
	parallel MPI execution for CHyM	Code	run_simulations.sh (script to run the simulations)			https://github.com/fdisante/IPCC-ch12/tree/main/common		

	River routing model CHyM	Code	CHyM-roff (model)			https://github.com/fdisante/CHyM-roff		
	Q100 calculations	Code	create_Qx_regcm.R (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Ensemble mean modern time slice calculation	Code	calculate_ensMean_1995-2014.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Ensemble mean mid time slice calculation	Code	calculate_ensMean_2041-2060.sh (data processing routine)			https://github.com/fdisante/IPCC-ch12/tree/main/common		
	Q100 changes for CORDEX domains NAM and CAM, RCP8.5, mid term	Final plotted data	Q100_map_panel_a_NAM_divdra.nc And Q100_map_panel_a_CAM_for_NAM_divdra.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.10		
Figure 12.10, b	CORDEX datasets for SWE index, RCP8.5 mid-term	Metadata file	Fig12-10_md_CORDEX_snow.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.10		
	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/scripts/NORTH-	CliMAF (https://climaf.readthedocs.io/en/master/) CDO	

						AMERICA_re gional_figure		
	CORDEX multi-model ensemble mean of number of days with SWE > 100mm – rcp85 mid term minus recent past	Final plotted data	SWE_panel_b_RCP85_mce_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.10		
	Mask for hatching – showing more than 80% agreement in sign of change (or no change)	Final plotted data	mask_80perc-agreement_SWE_panel_b_RCP85_mce_minus_baseline.nc			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.10		
	Plotting script for the SWE map	Code	pyNGL_AR6regions_SWE_NORTH-AMERICA.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/NORTH-AMERICA_regional_figure	pyNgl	
Figure 12.10, c	List of CORDEX datasets used as boundary conditions for ChyM	Metadata file	Fig12-10_md_cordex.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.10/		
	List of CMIP5 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip5.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.10/		
	List of CMIP6 datasets used as boundary conditions for ChyM	Metadata file	Fig12-5_10_md_cmip6.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.10/		

						10		
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		
parallel MPI execution for ChyM	Code	run_simulations.sh (script to run the simulations)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
River routing model ChyM	Code	ChyM-roff (model)				https://github.com/fdisante/CHyM-roff		
Q100 calculations	Code	create_Qx_regcm.R (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean modern time slice calculation	Code	calculate_ensMean_1995-2014.sh (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean mid time slice calculation	Code	calculate_ensMean_2041-2060.sh (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Ensemble mean far time slice calculation	Code	calculate_ensMean_2080-2099.sh (data processing routine)				https://github.com/fdisante/IPCC-ch12/tree/main/common		
Regional averages per CORDEX domain, per scenario and per period; \${CORDEX_domain} = NAM, CAM	Final plotted data	Q100_\${scenario}_\${period}.nc_\${CORDEX_domain}.txt				https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12		

	<p>$\{\text{scenario}\} = \text{rcp26}$ or rcp85 $\{\text{period}\} = 1995\text{-}2014$ (baseline), 2041-2060 (mid-term), or 2080-2099 (long-term)</p>					10/Q100_{ensemble} , with $\{\text{ensemble}\} = \text{CMIP5}$, CMIP6 or CORDEX-core		
	<p>Regional averages per CORDEX domain per global warming level, with: $\{\text{CORDEX_domain}\} = \text{NAM}$, CAM $\{\text{GWL}\} = 1.5, 2$ or 4</p>	Final plotted data	$\{\text{GWL}\}_{\{\text{CORDEX_domain}\}}. \text{txt}$			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.10/Q100_{ensemble} , with $\{\text{ensemble}\} = \text{CMIP5}$, CMIP6 or CORDEX-core		
	Plotting script to do the Q100 barplots	Code	Q100_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/NORTH-AMERICA_regional_figure	R	
Figure 12.10, d	CMIP6 snow datasets	Metadata file	Fig12-10_md_cmip6_snow.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.10		
	CMIP5 snow datasets	Metadata file	Fig12-10_md_cmip5_snow.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.10		

	CORDEX snow datasets	Metadata file	Fig12-10_md_cordex_snow.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/figure_12.10		
	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	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/scripts/NORTH-AMERICA_regional_figure	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)	
	Ensemble statistics of SWE regional averages over AR6 regions for CMIP6	Final plotted data	CMIP6_NORTH-AMERICA_snow_mask14_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/figure_12.10		
	Ensemble statistics of SWE regional averages over AR6 regions for CMIP5	Final plotted data	CMIP5_NORTH-AMERICA_snow_mask14_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/d		

			n			ata/Figure_12.10		
	Ensemble statistics of SWE regional averages over AR6 regions for CORDEX	Final plotted data	NAM-22-CORDEX_snw_mask14_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_12.10		
	Plotting scripts for the SWE barplots	Code	SWE_Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/NORTH-AMERICA_regional_figure	R	
Figure 12.SM.1	CMIP6 input datasets for tx35isimip	Metadata file	CMIP6_day_tx35isimip_md.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.1		
	CMIP5 input datasets for tx35isimip	Metadata file	CMIP5_day_tx35isimip_md.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.1		
	CORDEX input datasets for tx35isimip for \${CORDEX_domain} in AFR, AUS, CAM, SAM, NAM, EUR, EAS, WAS, SEA	Metadata file	CORDEX-\${CORDEX_domain}_day_tx35isimip_md.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.1		
	Script to do the bias correction on tasmax (before extracting the number of days with	Code	bias_correction_isimip3.R (data processing routine)			https://github.com/IPCC-WG1/Atlas/tree/master/script	R	

	tasmax > 35°C)					s/ATLAS-data/bias-correction/		
	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/scripts/tx35_satellites	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/scripts/tx35_satellites	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/scripts/tx35_satellites	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)	
	CMIP6 regional averages over the AR6 regions for the periods (baseline, mid-term and long-term) and the global warming levels (1.5, 2 and 4)	Final plotted data	CMIP6_tx35isimip_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.1		
	CMIP5 regional averages over the AR6 regions for the periods (baseline, mid-term and long-term) and the global warming	Final plotted data	CMIP5_tx35isimip_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.1		

	levels (1.5, 2 and 4)					2.1		
	CORDEX regional averages over the AR6 regions for the periods (baseline, mid-term and long-term) and the global warming levels (1.5, 2 and 4)	Final plotted data	CORDEX_tx35isimip_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.1		
	Plotting script to do the barplots for tx35	Code	Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/tx35_satellites	R	
Figure 12.SM.2	CMIP6 input datasets for NOAA Heat Index (HI)	Metadata file	FigSM12-2_cmip6.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.2		
	CMIP5 input datasets for NOAA Heat Index (HI)	Metadata file	FigSM12-2_cmip5.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.2		
	CORDEX input datasets for NOAA Heat Index (HI) for $\{\text{CORDEX_domain}\}$ in AFR, AUS, CAM, SAM, NAM, EUR, EAS, WAS, SEA	Metadata file	FigSM12-2_cordex.txt			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.2		
	Computing NOAA HI for figure S12.2 for CMIP5, CMIP6 and each CORDEX domain (AFR,	code	EXE0_create_model_overview.ipynb (data processing			https://github.com/IPCC-WG1/Chapter-12/tree/main/	(Schwingshackl et al., 2021)	

	<p>AUS, EUR, CAM, SAM, NAM, WAS, EAS, SEA)</p>		<p>routine) EXE1_calcHI_per formBC_CMIP5.i pynb (data processing routine) EXE1_calcHI_per formBC_CMIP6.i pynb (data processing routine) EXE1_calcHI_per formBC_CORDE X_AFR-22.ipynb (data processing routine) EXE1_calcHI_per formBC_CORDE X_AFR-44.ipynb (data processing routine) EXE1_calcHI_per formBC_CORDE X_AUS-22.ipynb (data processing routine) EXE1_calcHI_per formBC_CORDE X_AUS-44.ipynb (data processing routine) EXE1_calcHI_per formBC_CORDE X_CAM-22.ipynb (data processing routine) EXE1_calcHI_per formBC_CORDE X_CAM-44.ipynb</p>			<p>Hicalculation</p>		
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			(data processing routine) EXE1_calcHI_performBC_CORDE X_EAS-22.ipynb (data processing routine) EXE1_calcHI_performBC_CORDE X_EAS-44.ipynb (data processing routine) EXE1_calcHI_performBC_CORDE X_EUR-11.ipynb (data processing routine) EXE1_calcHI_performBC_CORDE X_NAM-22.ipynb (data processing routine) EXE1_calcHI_performBC_CORDE X_NAM-44.ipynb (data processing routine) EXE1_calcHI_performBC_CORDE X_SAM-22.ipynb (data processing routine) EXE1_calcHI_performBC_CORDE X_SAM-44.ipynb (data processing routine) EXE1_calcHI_performBC_CORDE				
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			X_SEA-22.ipynb (data processing routine) EXE1_calcHI_performBC_CORDE X_WAS-22.ipynb (data processing routine) EXE1_calcHI_performBC_CORDE X_WAS-44.ipynb (data processing routine) EXE2_Prepare_data_for_IPCC.ipynb (data processing routine)				
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/scripts/Hi_satelites	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathauser/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/scripts/Hi_satelites	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathauser/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/scripts/Hi_satelites	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathauser/regionmask)	

	CMIP6 regional averages over the AR6 regions for the periods (baseline, mid-term and long-term) and the global warming levels (1.5, 2 and 4)	Final plotted data	CMIP6_HI41_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.2		
	CMIP5 regional averages over the AR6 regions for the periods (baseline, mid-term and long-term) and the global warming levels (1.5, 2 and 4)	Final plotted data	CMIP5_HI41_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.2		
	CORDEX regional averages over the AR6 regions for the periods (baseline, mid-term and long-term) and the global warming levels (1.5, 2 and 4)	Final plotted data	CORDEX_HI41_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.2		
	Plotting script to do the barplots for NOAA HI	Code	Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/HI_satellites	R	
Figure 12.SM.3	CMIP6 precipitation datasets used to compute the drought frequency index DF6	Metadata file	CMIP6_day_pr_md.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.3		
	CMIP5 precipitation datasets used to compute the drought frequency index DF6	Metadata file	CMIP5_day_pr_md.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.3		
	CORDEX precipitation datasets used to compute	Metadata file	CORDEX- \${CORDEX_dom			https://github.com/IPCC-		

the drought frequency index DF6		ain}_day_pr_md.csv \${CORDEX_domain}: AUS, AFR, CAM, SAM, NAM, WAS, EAS, SEA, EUR			WG1/Chapter-12/tree/main/data/Figure_S12.3		
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 and 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		
Drought Frequency calculation for each timeslice	Code	far-mid-hist.sh (data processing routine)			https://github.com/fraffael/DFscripts/\${ENS} , with \${ENS} in CMIP6,		

						CMIP5 and 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		
Global Warming Levels calculation for rcp26 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		
Global Warming Levels calculation for rcp85 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		
Ensemble mean calculation for far and mid timeslices, far and	Code	ensembleDF.sh (processing routine)				https://github.com/fraffael/DFscripts/\${ENS}		

	mid change and GWLs ensemble means for CMIP5, CMIP6 and CORDEX				S}, with \${ENS} in CMIP6, CMIP5 and 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		
	Global Warming Levels calculation for rcp26 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		
	Global Warming Levels calculation for rcp85 for	Code	lancio_warmlev.sh, warming-		https://github.com/fraffael/DFscripts/\${CORDEX_domain}		

	CORDEX		levels-match85- <code>{CORDEX_domain}</code> , with <code>{CORDEX_domain}</code> in AFR22, AUS22, CAM22, EUR11, NAM22, SAM22, WAS22, EAS22, SEA22			Fscripts/ <code>{CORDEX_domain}</code> , with <code>{CORDEX_domain}</code> in AFR-22, AUS-22, CAM-22, EUR-11, NAM-22, SAM-22, WAS-22, EAS-22, SEA-22		
	Drought Frequency calculation for each timeslice (for CMIP6, CMIP5 and CORDEX)	Code	far-mid-hist.sh (data processing routine)			https://github.com/fraffael/Dfscripts/{ENS} , with <code>{ENS}</code> in CMIP6, CMIP5 and https://github.com/fraffael/Dfscripts/{CORDEX_domain} in AFR-22, AUS-22, CAM-22, EUR-11, NAM-22, SAM-22, WAS-22, EAS		
	Computing regional	Code	Average_over_A			https://github.com/fraffael/Dfscripts/{CORDEX_domain}	CliMAF	

	averages		R6_region.ipynb (data processing routine)			com/IPCC-WG1/Chapter-12/tree/main/scripts/DF6_satellites	(https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)	
	DF6 regional averages over AR6 regions from CORDEX	Final plotted data	CORDEX_DF6_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.3		
	DF6 regional averages over AR6 regions from CORDEX	Final plotted data	CORDEX_DF6_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.3		
	DF6 regional averages over AR6 regions from CORDEX	Final plotted data	CORDEX_DF6_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.3		
	Plotting script for the satellite barplots	Code	Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/DF6_satellites	R	
Figure 12.SM.4	CMIP6 soil moisture datasets used to compute the climatologies over the time periods	Metadata file	cmip6_SM_tot_time_ave_md			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.4		
	CMIP6 soil moisture datasets used to compute the climatologies over	Metadata file	cmip6_SM_tot_at_w_md			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.4		

the global warming levels						12/tree/main/data/Figure_S12.4		
CMIP5 soil moisture datasets used to compute the climatologies over the time periods	Metadata file	CMIP5_mrso_time_periods.csv				https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.4		
CMIP5 soil moisture datasets used to compute the climatologies over the global warming levels	Metadata file	CMIP5_mrso_gwl.csv				https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.4		
CORDEX soil moisture datasets used to compute the climatologies over the time periods	Metadata file	CORDEX_mrso_time_periods.csv				https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.4		
CORDEX soil moisture datasets used to compute the climatologies over the global warming levels	Metadata file	CORDEX_mrso_GWL.csv				https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.4		
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/scripts/SM_satellites	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				https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/SM_satellites	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask	

			routine)			llites	(https://github.com/mathause/regionmask)	
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/scripts/SM_satellites	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)	
Differences between the regional averages over the AR6 regions between the future periods and GWLs and the baseline, expressed as % of the baseline value for CMIP6	Final plotted data		CMIP6_SM_diff_perc2020_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.4		
Differences between the regional averages over the AR6 regions between the future periods and GWLs and the baseline, expressed as % of the baseline value for CMIP5	Final plotted data		CMIP5_SM_diff_perc2020_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.4		
Differences between the regional averages over the AR6 regions between the future periods and GWLs and the baseline, expressed as % of the baseline value for CORDEX	Final plotted data		CORDEX_SM_diff_perc2020_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.4		
Plotting script for the satellite barplots	Code		Quantile_plot_region.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/DF6_satellites	R	

Figure 12.SM.5	CMIP6 sfcWind datasets	Metadata file	CMIP6_Amon_sfcWind_withpanels.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/figure_S12.5		
	CMIP5 sfcWind datasets	Metadata file	CMIP5_sfcWind_time_periods.csv And CMIP5_sfcWind_gwl.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/figure_S12.5		
	CORDEX sfcWind datasets (for \${CORDEX_domain} in AUS, AFR, NAM, SAM, CAM, EAS, WAS, SEA)	Metadata file	CORDEX-\${CORDEX_domain}_day_sfcWind_md.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/figure_S12.5		
	EURO CORDEX sfcWind datasets	Metadata file	EURO_CORDEX_sfcWind_gwls.csv And EURO_CORDEX_sfcWind_time_periods.csv			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/figure_S12.5		
	Computing the regional averages for near-surface wind over the 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/scripts/wind_satellites	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)	
	Computing the regional averages for near-surface wind over the AR6 regions + difference against baseline (in % of the	Code	Prepare_time_slices_GWLs_wind_CMIP6.ipynb			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/wind_satellites		

	baseline value) + ensemble statistics for CMIP6						
	Computing the regional averages for near-surface wind over the 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/scripts/wind_satellites	ClifMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)
	Differences between the regional averages over the AR6 regions between the future periods and GWLs and the baseline, expressed as % of the baseline value for CMIP6	Final plotted data	CMIP6_sfcWind_diff-perc-baseline_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.5	
	Differences between the regional averages over the AR6 regions between the future periods and GWLs and the baseline, expressed as % of the baseline value for CMIP5	Final plotted data	CMIP5_sfcWind_diff-perc-baseline_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.5	
	Differences between the regional averages over the AR6 regions between the future periods and GWLs and the baseline, expressed as % of the baseline value for CORDEX	Final plotted data	CORDEX_sfcWind_diff-perc-baseline_AR6_regional_averages.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.5	
	Plotting script for the satellite barplots	Code	Quantile_plot_region_diff.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/s	R

						cripts/DF6_sat ellites		
Figure 12.SM.6	Global Extreme Sea Level projections	Input dataset	globalTWL_basel ine.nc globalTWL_RCP 45.nc globalTWL_RCP 85.nc	Creative Commons Attribution 4.0 International (CC BY 4.0) licence	Vousdoukas, Michail; Mentaschi, Lorenzo; Voukouvalas , Evangelos; Verlaan, Martin; Jevrejeva, Svetlana; Jackson, Luke; Feyen, Luc (2018): Global Extreme Sea Level projections. European Commission , Joint Research Centre (JRC) [Dataset] doi:10.2905/ jrc-liscoast- 10012 PID: http://data.eu ropa.eu/89h/ jrc-liscoast- 10012	https://data.jrc. ec.europa.eu/d ataset/jrc- liscoast-10012	(Vousdoukas et al., 2018)	
	Extreme sea level projections	Input dataset	41598_2020_677 36_MOESM2_ES M			https://www.n ature.com/arti cles/s41598- 020-67736- 6#Sec23 (Supplementar	(Kirezci et al., 2020)	

						y data file 2) https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/ETWL_satellites/Kirezci_IPCC_AR6_Matlab_Codes/		
	Computing regional averages of AR6 regions on the Kirezci et al (2020) dataset	Code	IPCC_ESLs_AR6_Regions_Kirezci.m (data processing routine)				matlab	
	Computing regional averages over 1R6 regions on the Vousdoukas et al (2018) dataset	Code	Compute_averages_AR6_regions_ETWL.ipynb (data processing routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/ETWL_satellites	CliMAF (https://climaf.readthedocs.io/en/master/) regionmask (https://github.com/mathause/regionmask)	
	Regional averages of Extreme Total Water Level estimates from Vousdoukas et al 2018	Final plotted data	Vousdoukas_ETWL_by_AR6_region_modern.json Vousdoukas_ETWL_by_AR6_region_RCP45_2050.json Vousdoukas_ETWL_by_AR6_region_RCP45_2100.json Vousdoukas_ETWL_by_AR6_region_RCP85_2050.json Vousdoukas_ETWL_by_AR6_region_RCP85_2100.json			https://github.com/IPCC-WG1/Chapter-12/tree/main/data/Figure_S12.6		
	Regional averages of Extreme Total Water Level estimates from	Final plotted data	Kirezci_ESL.csv			https://github.com/IPCC-WG1/Chapter-		

	Kirezci et al., 2020					12/tree/main/data/Figure_S12.6		
	Plotting script for the ETWL satellite barplots	Code	Barplots_ETWL.ipynb (plotting routine)			https://github.com/IPCC-WG1/Chapter-12/tree/main/scripts/ETWL_satellites		

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[END TABLE 12.SM.1 HERE]

References

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