

Climate scenario data for NAPs

Example sources, analysis and best practices

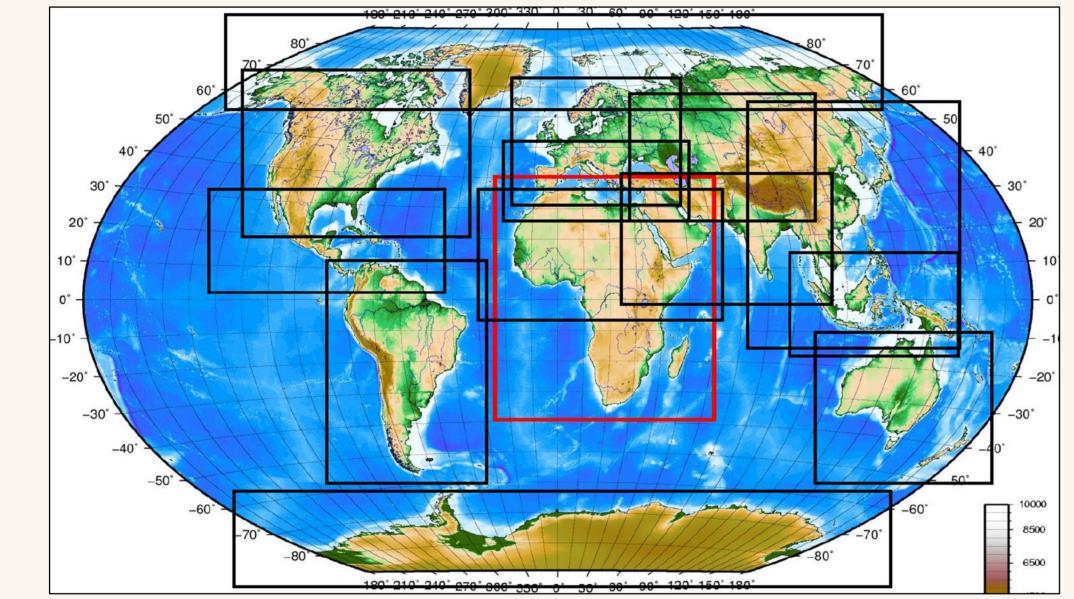
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Global and regional climate projection data Projected future global climate data is produced in the WCRP CMIP5 effort in a

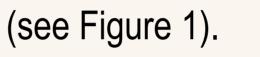


coordinated well defined way (https://www.wcrp-climate.org/index.php/wgcmcmip/wgcm-cmip5). It is a set of simulations based on the Representative Concentration Pathways (RCPs) and serve as a basis for the IPCC Assessment Report 5. With the presently ongoing **CMIP6** effort, a new generation of projected global climate model data is being created (https://www.wcrp-climate.org/wgcmcmip/wgcm-cmip6).





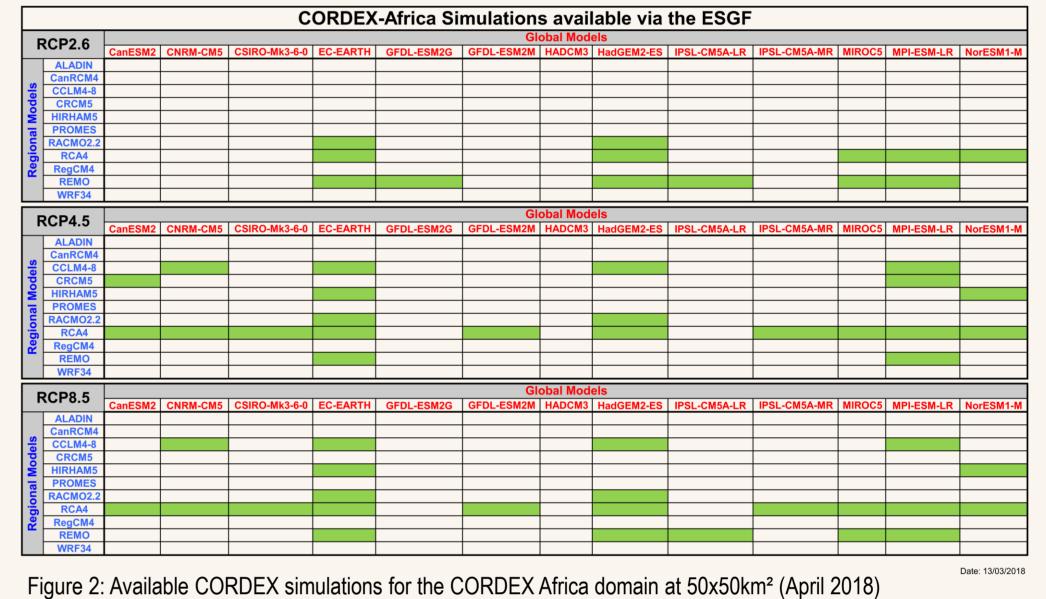
At the regional scale, at higher spatial resolution, the WCRP Coordinated Regional Downscaling Experiment (**CORDEX**, www.cordex.org, Giorgi et al., 2006) provides an internationally coordinated framework to improve regional climate scenarios. It harmonizes model evaluation activities and the generation of multi-model ensembles of regional climate projections for the land-regions worldwide



Available data is shown for the CORDEX-Africa domain

in Figure 2 as an example.

Figure 1: CORDEX model domains. Domains from top-left to bottom right: Arctic, North America, Central America, South America, Antarctica, EURO-CORDEX, Mediterranean, Middle East North Africa, Africa, Central Asia, South Asia, East Asia (an updated version of the domain is smaller and at 0.22° x 0.22° resolution), South-East Asia, Australasia. Together there are 14 domains with a resolution of 0.44° x 0.44° (approx. 50 x 50km²) and a high resolution simulations with 0.11° x 0.11° (approx. 12 x 12km²) for Europe (see www.cordex.org/domains). Figure adapted from F. Giorgi



Example guidance, visualization and data sources	Assessment of available climate information			
Accessing observation data	Literature review	Publicly accessible databases	Regional and local modelling and observation communities	Quick visualization of simulation data

Accessing upservation data

- www.ncdc.noaa.gov
- https://www.esrl.noaa.gov/psd/data/gridded/data.gpcp.html

Accessing reanalysis data

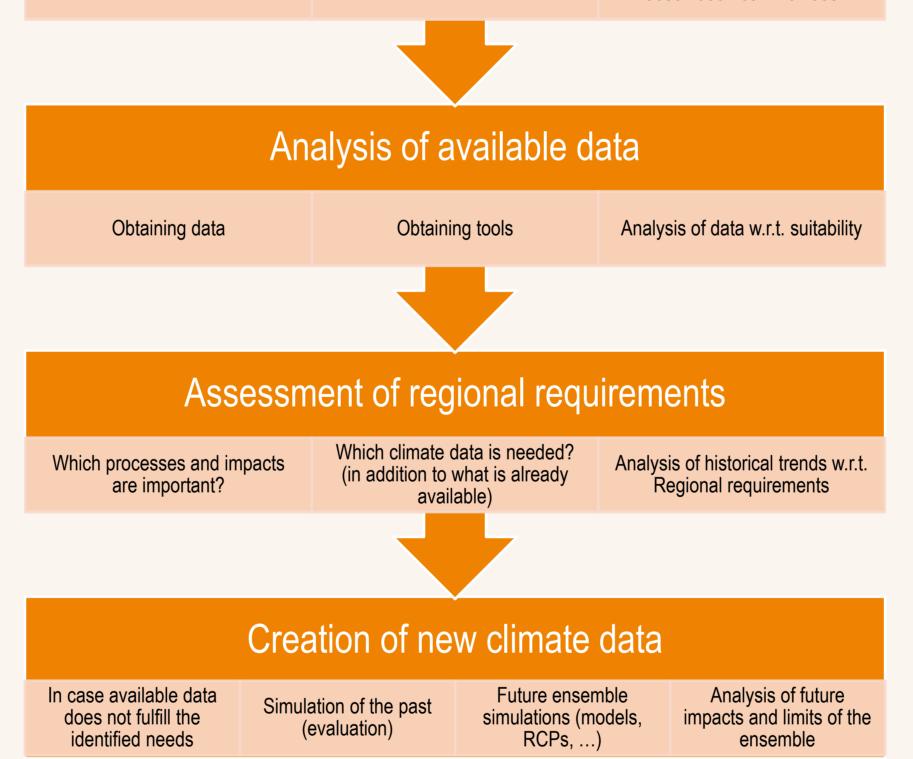
https://www.ecmwf.int/en/forecasts/datasets/browsereanalysis-datasets

Accessing simulation data

- https://esgf-data.dkrz.de/projects/esgf-dkrz
- https://climate4impact.eu/impactportal/general/index.jsp

Guidelines

- Guidance for EURO-CORDEX climate projections data use (mostly applicable also to other regions)
 - http://guidelines.euro-cordex.net



KNMI Climate Explorer

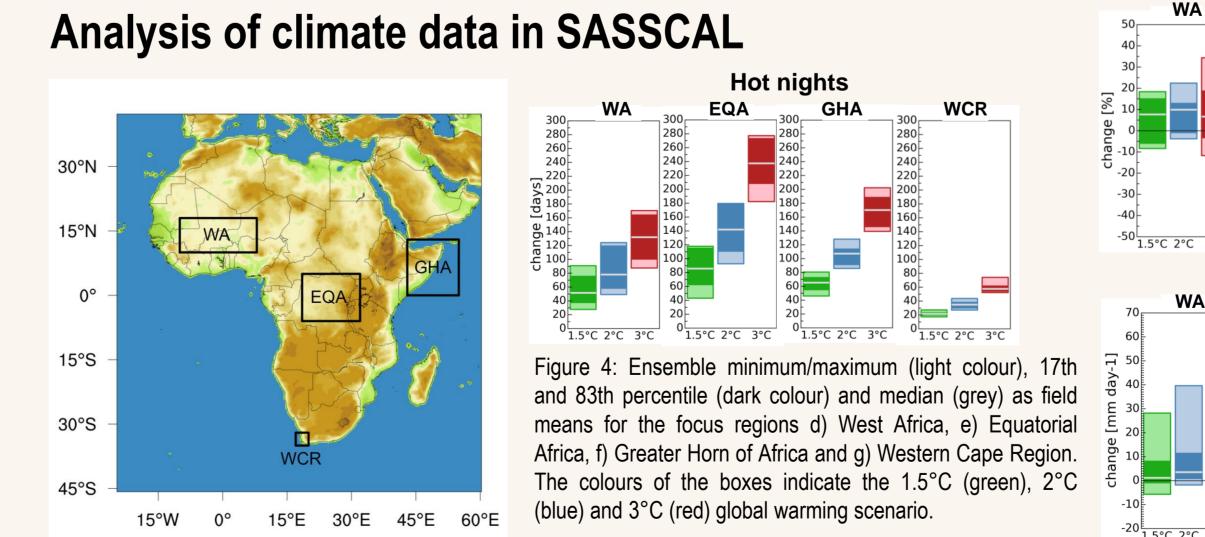
- http://climexp.knmi.nl/plot_atlas_form.py
- Regional climate change in a 1.5 degrees warmer world
 - https://www.smhi.se/en/climate/global-warminglevels#sc=15C
- **Climate Scenarios**
 - https://www.smhi.se/en/climate/climate-scenarios

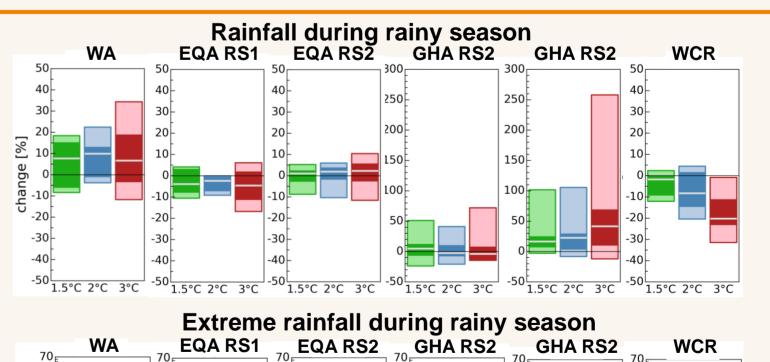
Accessing climate change information

- Climate Change Knowledge Portal of the World Bank
 - http://sdwebx.worldbank.org/climateportal
- UNDP Climate Change Country Profiles
 - http://www.geog.ox.ac.uk/research/climate/projects/undp-cp
- Copernicus Climate Change Services (focus on Europe)
 - https://climate.copernicus.eu

Use of climate data in SASSCAL

Key element of the GERICS activity in SASSCAL is building. Three building capacity capacity workshops were developed and conducted in cooperation with SASSCAL partners in Lusaka,



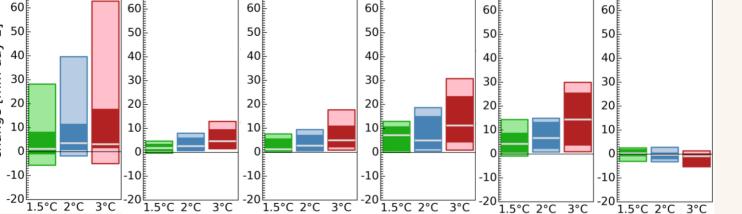


Zambia, 2016, Stellenbosch, South Africa, 2017

and Windhoek, Namibia, 2017 (Fig. 3).



Figure 3: Capacity building workshop in Lusaka, Zambia, 2016.



The analysis revealed substantial differences between 1.5°C/2°C and 3°C global warming scenarios and the resulting indices of climate change which are related in this study to the sectors health, agriculture and infrastructure for the pan African and Sub-Saharan African continent. In particular, the regions between 15°S and 15°N, have to expect an increase in hot nights and longer and more frequent heat waves even if the global temperature will be kept below 2°C. Furthermore, the daily rainfall intensity is expected to increase towards higher global warming scenarios and will affect especially the African Sub-Saharan coastal regions. (Weber et al., 2018, https://doi.org/10.1002/2017EF000714)

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