

CORDEX Data for SimCLIM Packages

The COordinated Regional climate Downscaling Experiment (**CORDEX**) is a World Climate Research Program (WCRP) backed framework to produce ensembles of regional climate projections for all continents globally (Giorgi et al., 2009; http://wcrp.ipsl.jussieu.fr/SF_RCD_CORDEX.html). CORDEX will bring together regional scale climate projections produced using both statistical and dynamical techniques. It aims to provide a framework to evaluate and benchmark model performance as well as producing projections for use in impact and adaptation studies.

The climate projection framework within CORDEX is based on the set of GCM simulations currently underway in support of the IPCC fifth Assessment Data, referred to as CMIP5. CORDEX focused on the GCM experiments using emission scenarios known as RCP4.5 and RCP8.5 which represent a mid and a high-level emission scenario. Ideally CORDEX simulations will span 1951 to 2100 though given the computational demand of such long transient runs a series of 30 year time slices is also possible. Each RCM should perform these simulations for multiple GCMs.

The data availability please refers to tables which list details. For the domains which are not listed in the tables, there are raw RCM data available, but only one or two RCM simulations, or incomplete scenarios, also could be processed into SimCLIM, if the data is needed.

Beside SimCLIM CORDEX monthly data packages, CLIMsystems also applies CORDEX data for daily and subdaily precipitation analysis, which can be supplied as a data service along with SimCLIM software. Note: CLIMsystems post processes CORDEX RCM data i.e. raw RCM data is not supplied for SimCLIM or SimCLIM for ArcGIS application.¹

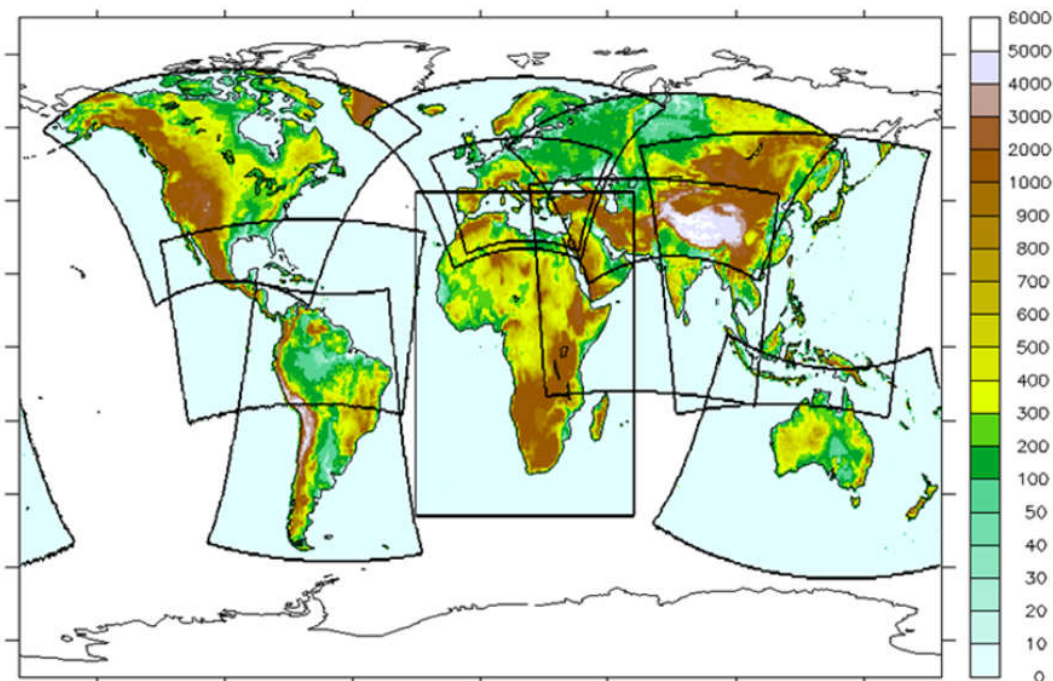


Figure 1: CORDEX domains and topography.

¹ See the Disclaimer – Limitations on this data at the end of this document.

Table 1: CORDEX data availability for Africa (AFR) domain (Resolution 0.05 degree)

(Number of variables: **4** variables include: precipitation, mean temperature, maximum temperature, and minimum temperature; **6** variables include: precipitation, mean temperature, maximum temperature, minimum temperature, solar radiation, and wind speed; **7** variables: indicates 6 variables plus relative humidity.)

ID	GCM RCM combination	No. of variables
1	AFR-CanESM2-CRCM5	6
2	AFR-CanESM2-RCA4	7
3	AFR-CNRM-CM5-CCLM4-8-17	6
4	AFR-CNRM-CM5-RCA4	7
5	AFR-CSIRO-Mk3-6-0-RCA4	7
6	AFR-EC-EARTH-CCLM4-8-17	6
7	AFR-EC-EARTH-HIRHAM5	7
8	AFR-EC-EARTH-RACMO22T	7
9	AFR-EC-EARTH-RCA4	7
10	AFR-EC-EARTH-REMO2009	6
11	AFR-GFDL-ESM2M-RCA4	7
12	AFR-HADGEM2-ES-CCLM4-8-17	6
13	AFR-HADGEM2-ES-RCA4	7
14	AFR-IPSL-CM5A-LR-REMO2009	6
15	AFR-IPSL-CM5A-MR-RCA4	7
16	AFR-MIROC5-RCA4	7
17	AFR-MPI_ESM-LR-CRCM5	6
18	AFR-MPI-ESM-LR-CCLM4-8-17	6
19	AFR-MPI-ESM-LR-RCA4	7
20	AFR-MPI-ESM-LR-REMO2009	6
21	AFR-NorESM1-M-HIRHAM5	7
22	AFR-NORESM1-M-RCA4	7

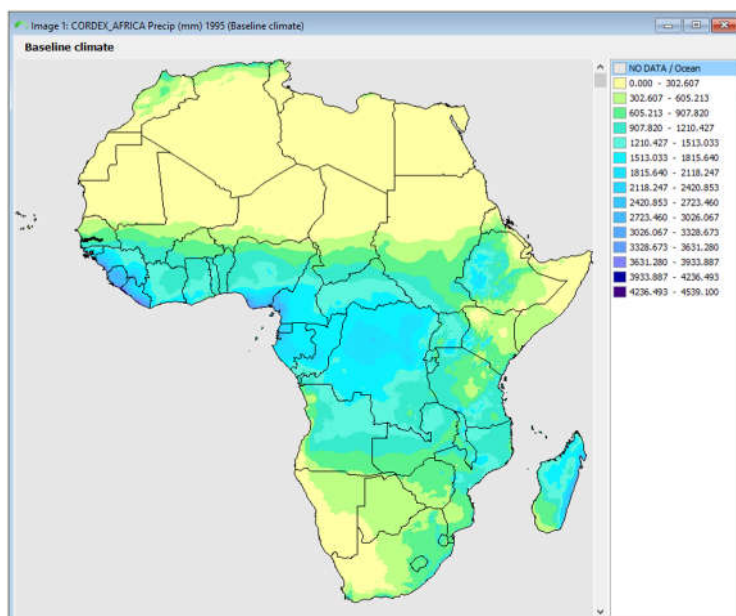


Figure 2: CORDEX Africa Domain (AFR)

Table 2: CORDEX data availability for Middle East and North Africa (MNA) domain (Resolution: 0.1 degree)

ID	GCM RCM combination	No. of variables
1	MNA-22-EC-EARTH-RCA4	7
2	MNA-22-GFDL-ESM2M-RCA4	7
3	MNA-44-CNRM-CM5-RCA4	7
4	MNA-44-EC-EARTH-RCA4	7
5	MNA-44-GFDL-ESM2M-RCA4	7

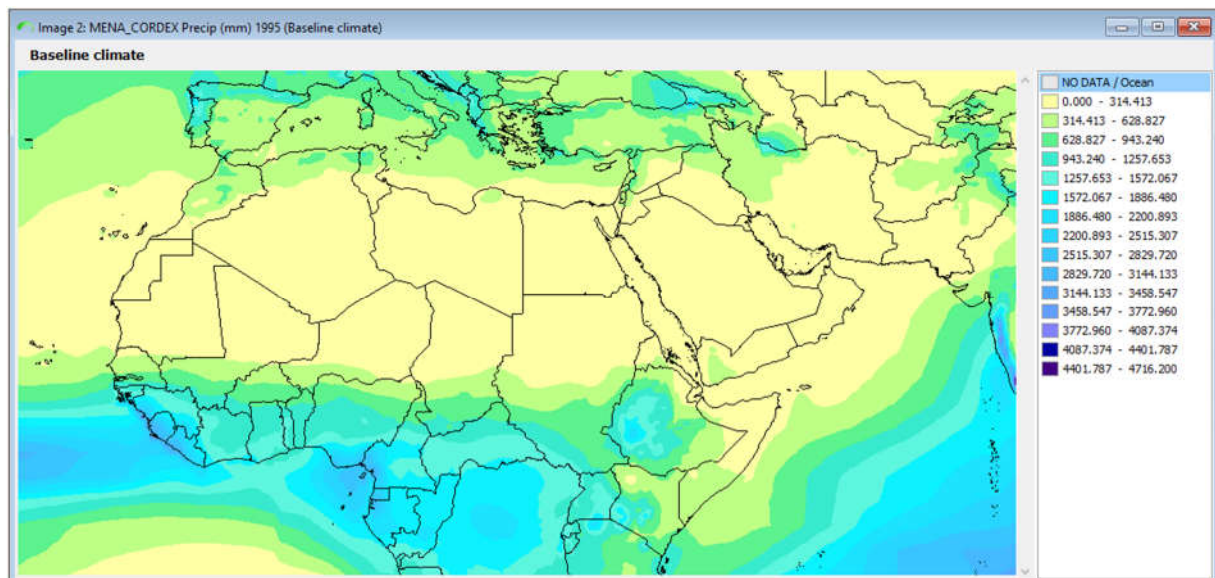


Figure 3: CORDEX domain Middle East and North Africa (MNA)

Table 3: CORDEX data availability for Central America (CAM) domain (Resolution: 0.5 degree)

ID	GCM RCM combination	No. of variables
1	CAM-44i-CanESM2-RCA4	7
2	CAM-44i-CNRM-CM5-RCA4	7
3	CAM-44i-CSIRO-MK3-6-0-RCA4	7
4	CAM-44i-EC-EARTH-RCA4	7
5	CAM-44i-GFDL-ESM2M-RCA4	7
6	CAM-44i-HADGEM2-ES-RCA4	7
7	CAM-44i-IPSL-CM5A-MR-RCA4	7
8	CAM-44i-MIROC5-RCA4	7
9	CAM-44i_MPI-ESM-LR-RCA4	7
10	CAM-44i-NorESM1-M-RCA4	7

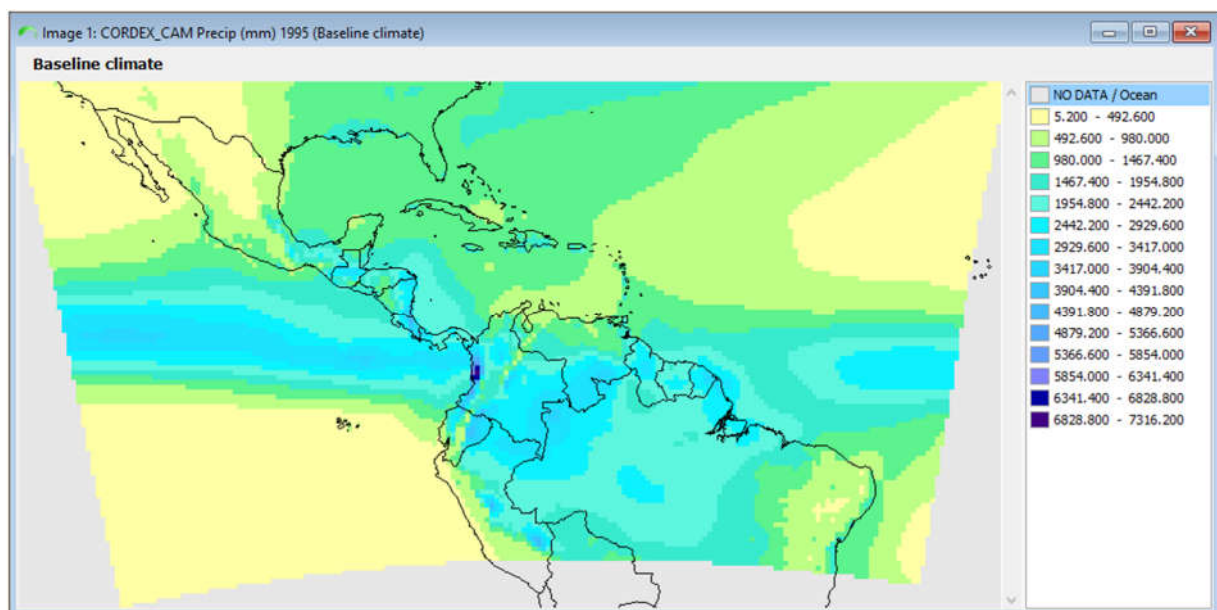


Figure 4: CORDEX domain for Central America (CAM)

Table 4: CORDEX data availability for South Asia (WAS) domain (Resolution: 0.5 degree)

ID	GCM RCM combination	No. of variables
1	WAS-44-CNRM-CM5-RCA4	7
2	WAS-44-EC-EARTH-RCA4	7
3	WAS-44-GFDL-ESM2M-RCA4	7
4	WAS-44-IPSL-CM5A-MR-RCA4	7
5	WAS-44-MIROC5-RCA4	7
6	WAS-44i-MPI-ESM-LR-RCA4	7
7	WAS-44i-MPI-ESM-LR-REMO2009	6

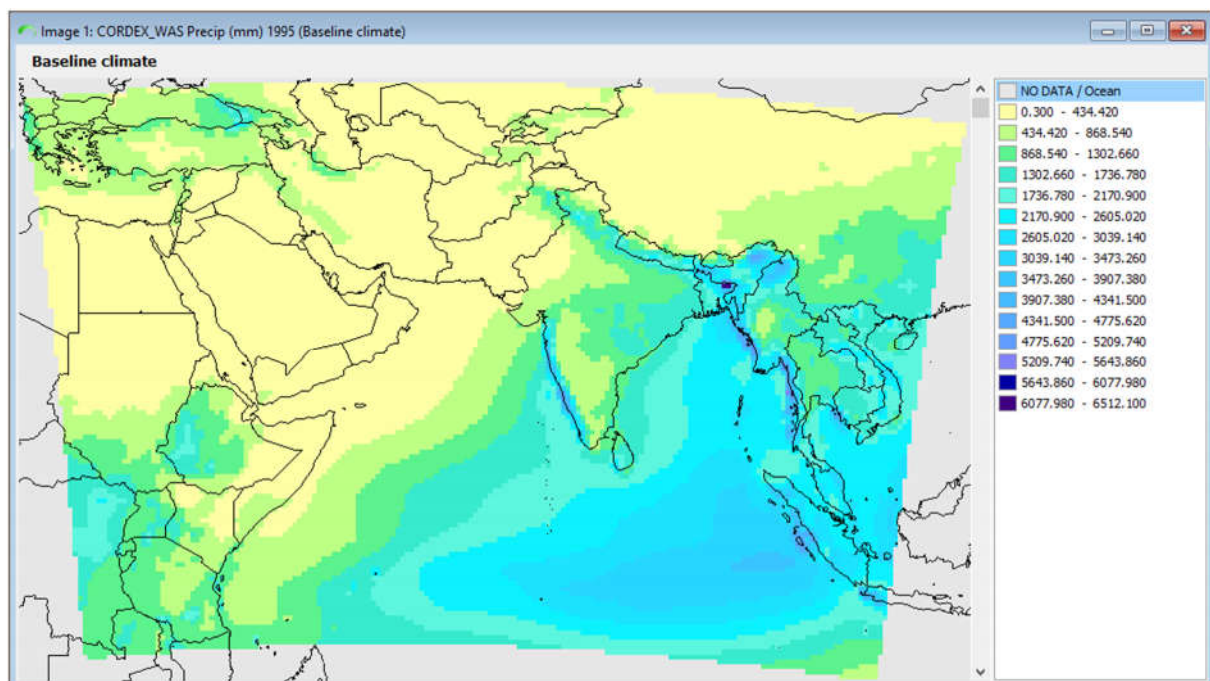


Figure 5: CORDEX domain for South Asia (WAS)

Table 5: CORDEX data availability for South America (SAM) domain (Resolution: 0.5 degree)

ID	GCM RCM combination	No. of variables
1	SAM-44i-EC-EARTH-RCA4	7
2	SAM-44i-MPI-ESM-LR-RCA4	7

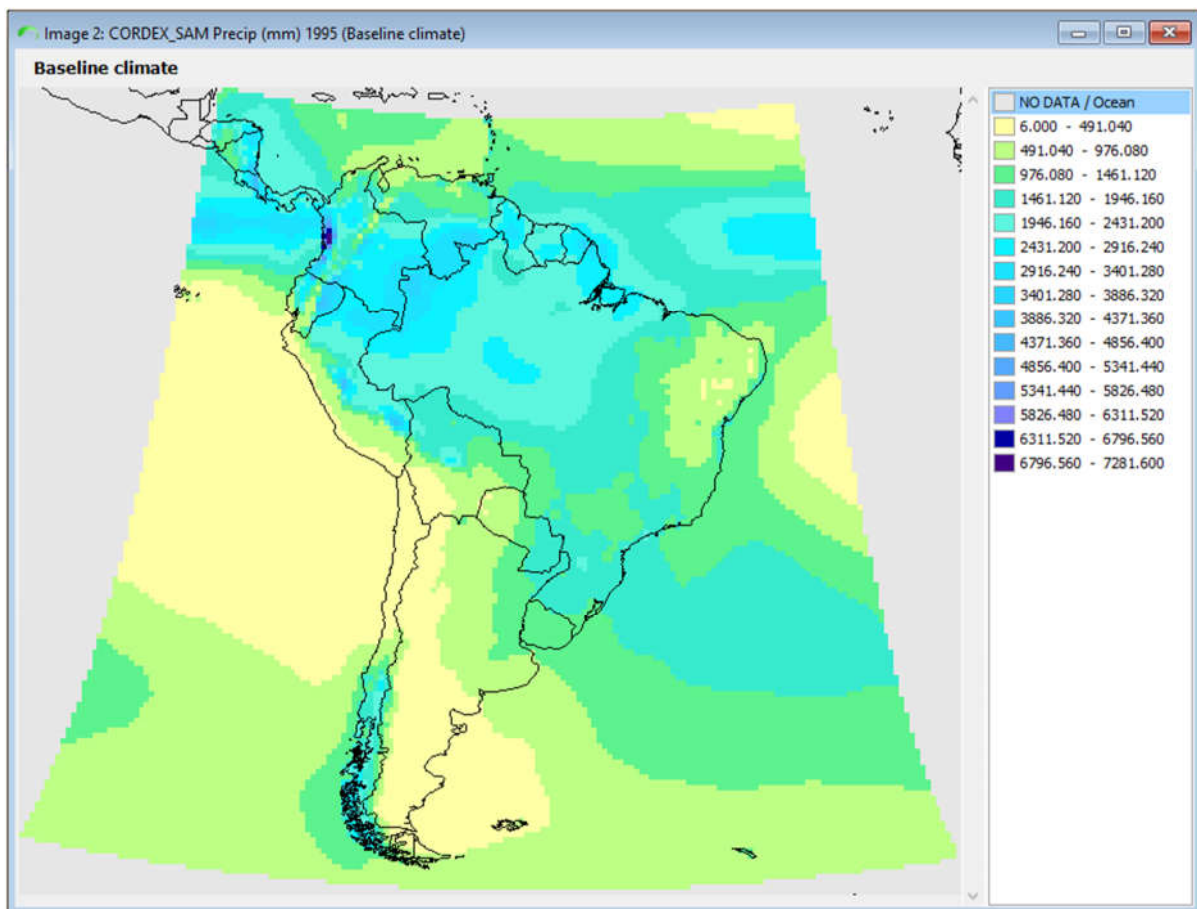


Figure 6: CORDEX domain for South America (SAM)

Table 6: CORDEX data availability for Arctic (ARC) domain (Resolution: 0.5 degree)

ID	GCM RCM combination	No. of variables
1	ARC-44-CanESM2-RCA4	7
2	ARC-44-EC-EARTH-HIRHAM5	7
3	ARC-44-EC-EARTH-RCA4	7
4	ARC-44-EC-EARTH-RCA4-SN	7
5	ARC-44-MPI-ESM-LR-RCA4	7
6	ARC-44-MPI-ESM-LR-RCA4-SN	7
7	ARC-44-NorESM1-M-RCA4	7

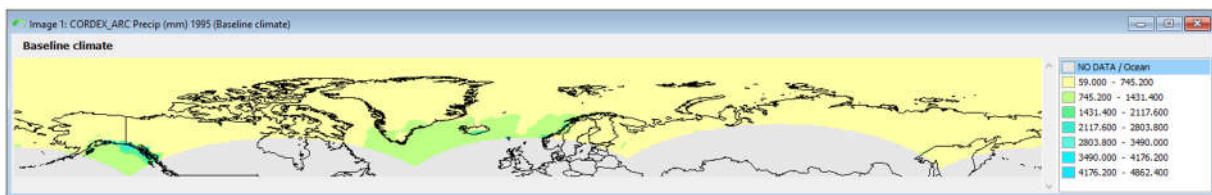


Figure 7: CORDEX data availability for Arctic (ARC)

Table 7: CORDEX data availability for East Asia (EAS) domain (Resolution: 0.5 degree)

ID	GCM RCM combination	No. of variables
1	EAS-44-EC-EARTH-HIRRAM5	7
2	EAS-44-HADGEM2-AO-HADGEM3-RA	6
3	EAS-44-HADGEM2-AO-RegCM_v4	6
4	EAS-44-HADGEM2-AO-SNU-MM5_v3	6
5	EAS-44-HADGEM2-AO-SNU-WRF_v3	6
6	EAS-44-HADGEM2-AO-YSU-RSM_v3	6

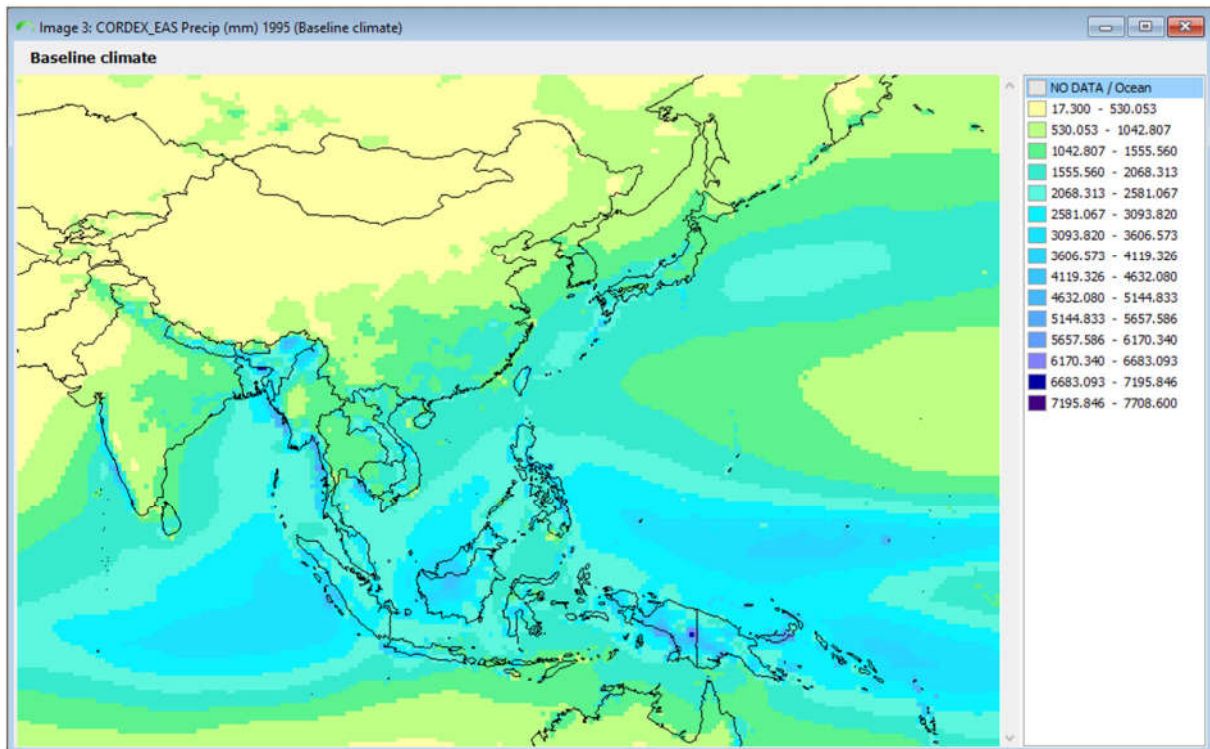


Figure 8: CORDEX domain for East Asia (EAS)

Table 8: CORDEX data availability for North America (NAM) domain (Resolution: 0.25 degree)

ID	GCM RCM combination	No. of variables
1	NAM-22-CanESM2-CanRCM4	4
2	NAM-22-GFDL-ESM2M-RegCM4	4
3	NAM-22-GFDL-ESM2M-WRF	4
4	NAM-22-HadGEM2-ES-RegCM4	4
5	NAM-22-MPI-ESM-LR-RegCM4	4
6	NAM-22-MPI-ESM-LR-WRF	4
7	NAM-44-CanESM2-CanRCM4	4
8	NAM-44-CanESM2-CRCM5	4
9	NAM-44-CanESM2-RCA4	4
10	NAM-44-EC-EARTH-HIRAM5	4
11	NAM-44-EC-EARTH-RCA4	4
12	NAM-44-GFDL-ESM2M-RegCM4	4
13	NAM-44-HadGEM2-ES-RegCM4	4
14	NAM-44-MPI-ESM-LR-CRCM5	4
15	NAM-44-MPI-ESM-LR-RegCM4	4
16	NAM-44-MPI-ESM-MR-CRCM5	4

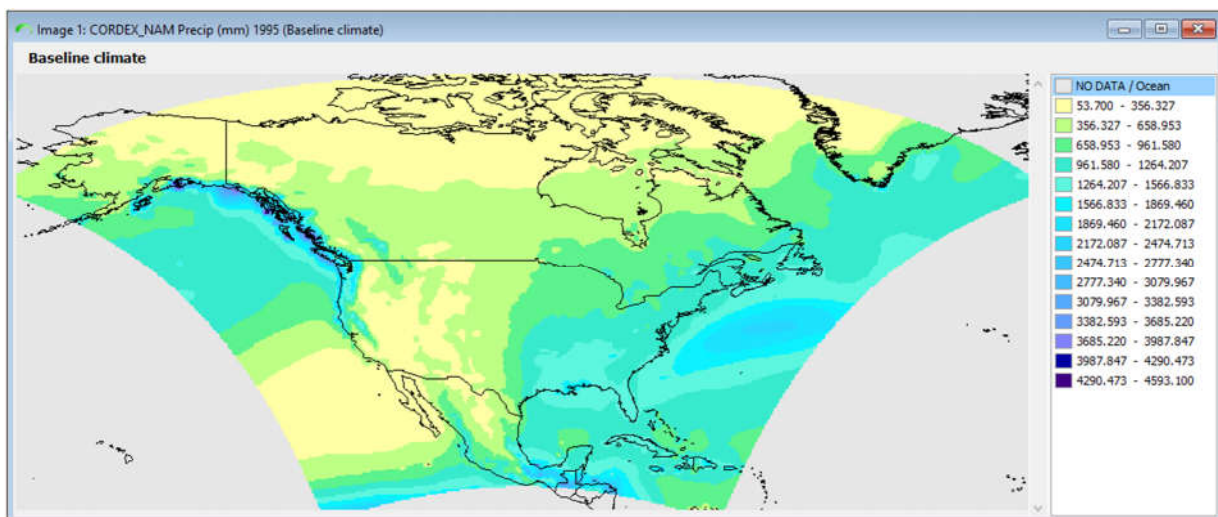


Figure 9: CORDEX domain for North America (NAM)

Table 9: CORDEX data availability for Australia (AUS) domain (Resolution: 0.5 degree)

ID	GCM RCM combination	No. of variables
1	AUS-44i-ACCESS1-0-CCAM	6
2	AUS-44i-CCSM4-CCAM	6
3	AUS-44i-CNRM-CM5-CCAM	6
4	AUS-44i-GFDL-CM3-CCAM	6
5	AUS-44i-MPI-ESM-LR-CCAM	6
6	AUS-44i-NORESM1-M-CCAM	6

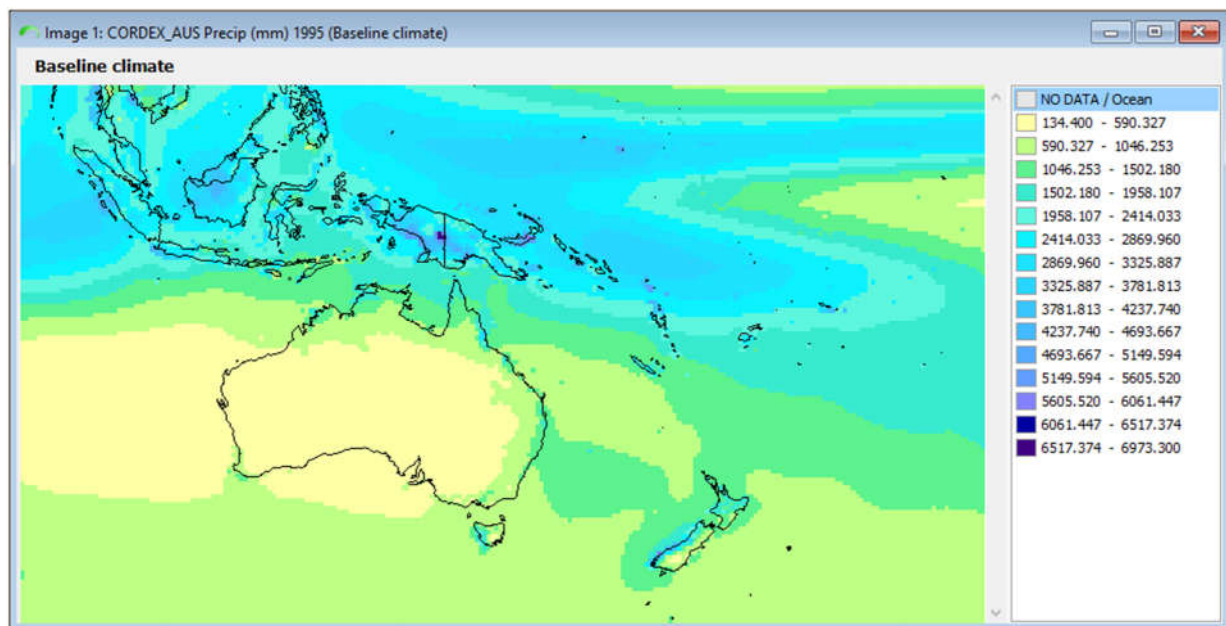


Figure 10: CORDEX data availability for Australia (AUS)

Table 10: CORDEX data availability for Europe (EUR) domain (Resolution: 0.125 degree)

ID	GCM RCM combination	No. of variables
1	EUR-11i-CNRM-CM5-RCA4	7
2	EUR-11i-EC-EARTH-RCA4	7
3	EUR-11i-HadGEM2-ES-RCA4	7
4	EUR-11i-IPSL-CM5A-MR-RCA4	7
5	EUR-11i-MPI-ESM-LR-RCA4	7
6	EUR-44i-CanESM2-RCA4	4
7	EUR-44i-CNRM-CM5-ALADIN52	7
8	EUR-44i-CNRM-CM5-RCA4	7
9	EUR-44i-CSIRO-MK3-6-0-RCA4	7
10	EUR-44i-EC-EARTH-HIRHAM5	7
11	EUR-44i-EC-EARTH-RACMO22E	7
12	EUR-44i-EC-EARTH-RCA4	7
13	EUR-44i-GFDL-ESM2M-RCA4	7
14	EUR-44i-HadGEM2-ES-RCA4	7
15	EUR-44i-IPSL-CM5A-MR-RCA4	7
16	EUR-44i-MIROC5-RCA4	7
17	EUR-44i-MPI-ESM-LR-RCA4	7
18	EUR-44i-NOESM1-M-RCA4	7

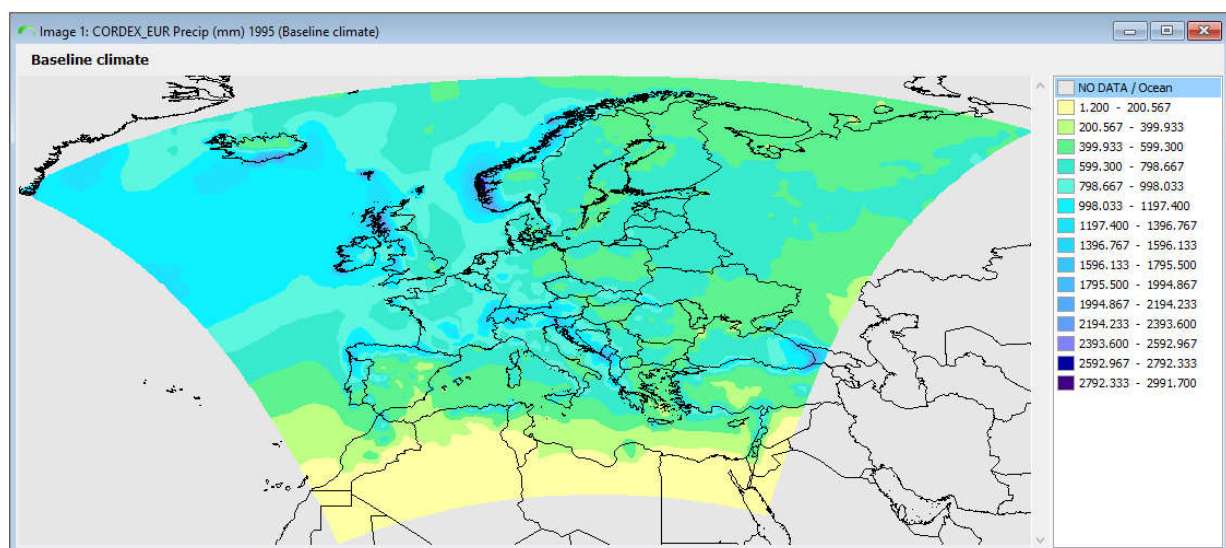


Figure 11: CORDEX domain for Europe (EUR)

Disclaimer - Limitations

This data was prepared by CLIMsystems ('the CLIMsystems') in accordance with the scope of work as outlined by the ('the Recipient') and subsequent communications. The conclusions presented in this data represent the CLIMsystems' professional judgment based on information made available during the course of this assignment and are true and correct to the best of the CLIMsystems' knowledge as at the date of the data processing.

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The CLIMsystems did not independently verify all of the either written or oral information provided during the course of this investigation. While the CLIMsystems have no reason to doubt the accuracy of the information provided, the data is complete and accurate only to the extent that the information provided was itself complete and accurate.

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As the climate change projections used are approximate by nature, it is possible that the climate change and ensuing consequences that actually occur may not be an exact fit to those assumed in this exercise. Climate change assessment by its nature is a dynamic and ongoing process. Therefore, it is recommended that the Recipient routinely incorporate the latest climate change impact knowledge into all future planning.

It is recognised that there may be other impacts from climate change that could not be fully assessed in this process due to the limitations of the exercise.

The CLIMsystems recommend that the Recipient uses its own skill and care with respect to their use of the climate change information and those users carefully evaluate the accuracy, currency, completeness and relevance of the material for their purposes. Any use of the data is solely at the Recipient's own risk. We understand that no party can rely upon the results of the assessments and plans.

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