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WCRP CORDEX News

Coordinated Regional Climate Downscaling Experiment

Open call for CORDEX Science Advisory Team (SAT) membership

Do you want to engage in and contribute to CORDEX development as a member of the CORDEX Science Advisory Team (SAT)?
The call for nominations is **open until 30 June 2024** and self-nominations are welcomed.

Information about the call and link to the nomination form can be found here.
You can also read more about the CORDEX SAT here.

Please circulate and distribute this call among your communities and networks!

The CORDEX experiment design and archiving specifications for statistical downscaling of CMIP6 open for comments!

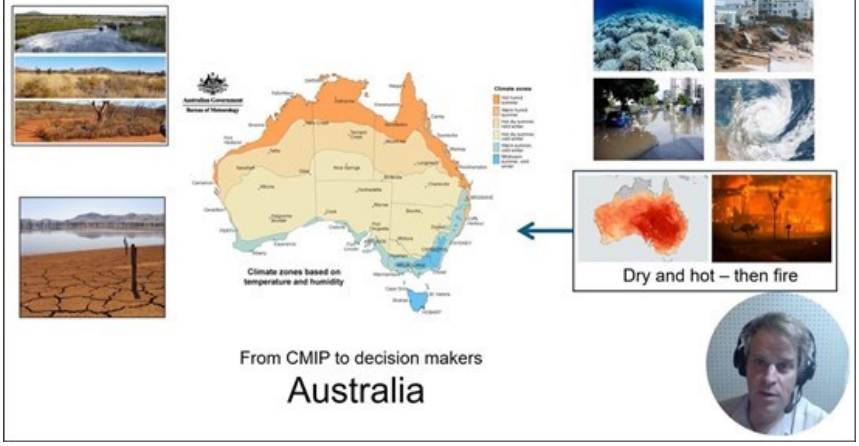
The CORDEX experiment design and archiving specifications for statistical downscaling of CMIP6 has been developed. The first version was reviewed by the CORDEX Science Advisory Team and the second version draft is now available for the CORDEX community to comment/give thoughts on!

Read more and comment here.
We would very much appreciate if you would like to take the time to give your comments.

Deadline for comments is **23 May 2024**.

CORDEX user cases

Listen to Michael Grose describing how climate information is used for decision making in Australia. Click the image below to see the video.



Africa and MENA domains

Africa was the region that was first prioritized within CORDEX. In a flyer from 2012 it is described why and what was initially done:

"The first priority region for CORDEX was Africa because:

- *It is highly vulnerable to climate change. Key sectors (such as agriculture, water management and health) have relatively low vulnerability thresholds to deal with climate variability and change;*
- *Climate change may have significant impacts on Africa, with the potential for interaction with other stressors such as desertification and rapid population growth;*
- *There is a dearth of high-resolution climate projections for the continent.*

Eight groups from the CORDEX community have completed climate projections for Africa with the results now being shared and discussed among international and regional communities. A first multi-authored peer-reviewed article has been published analysing the representation of today's climate.

Building new relationships for the future

Further, an analysis and training programme was established in early 2011 for an initial assessment of Africa relevant CORDEX model output. Teams were created according to geographical location and scientific expertise, with representation from both the physical sciences and vulnerability, impact and risk assessment communities. Such a multi-disciplinary approach facilitates the building of strong relationships between those producing climate projections and those utilising them for impact and adaptation planning providing maximum benefit."

Link to the flyer: https://cordex.org/wp-content/uploads/2018/03/cordex_flyer2012.pdf

Since then many more peer reviewed publications have been published. A selection of publications from 2012-2020 can be found here: https://www.csag.uct.ac.za/cordex-africa/cordex-africa-publications/

The programme mentioned above was part of the workshop series CORDEX Africa Analysis Phase 1 2011-2012 which resulted in 13 journal publications and build the foundations of the CORDEX-Africa community that includes climate, hydrology, agriculture and hydrology scientists. Phase 2 took place in 2015-2017 and both are very good examples of capacity building activities within the domain. A highlight of the effort was how CORDEX-Africa participants decided to produce a series of papers targeting the IPCC Special Report on 1.5 degrees (SR15) and this resulted in Box 3.1 in Chapter 3 of the report on the impact of 1.5 degrees of warming on Africa. Furthermore, in the 6th assessment cycle of the IPCC (AR6) CORDEX-Africa had 7 lead authors in various chapters of Working Groups 1 and 2, and the special reports

on 1.5 degrees and climate change and land. The full report from Phase 2 can be read here: https://www.csag.uct.ac.za/wp-content/uploads/2015/06/CORDEX-Africa_workshops_2nd_phase.pdf.

The work within the domain has continued and workshops have been held both online and in-person. More recently a workshop was held online in December 2021 that gathered thirty participants from thirteen countries. https://cordex.org/2022/03/28/cordex-workshop-for-thirteen-african-countries/ and was then followed up by a joint in-person workshop organized by CORDEX Africa and the CORDEX Flagship South-East Africa Pilot Study held in Johannesburg in April 2022 after being postponed due to Covid-19. The purpose of these workshops was extended collaboration and to discuss the most pressing issues and gaps in climate information in order to enable well informed decisions for Africa.

There are also currently two Flagship Pilot Studies focusing on Africa:

ELVIC – Climate Extremes in the Lake Viktoria Basin
https://cordex.org/experiment-guidelines/flagship-pilot-studies/endorsed-cordex-flagship-pilote-studies/africa-elvic-climate-extremes-in-the-lake-viktoria-basin/

Modelling the southeast African regional climate
https://cordex.org/experiment-guidelines/flagship-pilot-studies/endorsed-cordex-flagship-pilote-studies/africa-modelling-the-southeast-african-regional-climate/

The MENA (Middle East and North Africa) CORDEX domain was established in 2012, user-driven by a need of high-resolution regional climate information from the Regional Initiative for the Assessment of the Impact of Climate Change on Water Resources and Socio-Economic Vulnerability in the Arab Region (RICCAR, https://riccar.org/).

Since 2012 regional downscaling activities in the MENA region have been growing together with the number of participants involved. The first results from the MENA domain were presented at the International Conference on Regional Climate - CORDEX 2013 in Brussels where a scoping meeting for the MENA domain was held. An active working group of several regional climate modelling teams from the region and Europe was successfully launched in November 2014 at the CORDEX MENA meeting in Nicosia (Cyprus). The first MENA CORDEX simulations were made publicly available on the Earth System Grid Federation (ESGF) in 2013.

The first common publication effort from the MENA CORDEX:
Zittis G., Hadjinicolaou P., Almazroui M., Bucchignani E., Driouech F., El Rhaz K., Kurnaz L., Nikulin G., Ntoumos A., Ozturk T., Proestos Y., Zaaboul R., Lelieveld J. (2020) *Business-as-usual will lead to ultra-extreme heatwaves in the Middle East and North Africa*. npj Climate and Atmospheric Science https://www.nature.com/articles/s41612-021-00178-7

Although the number of active participants is rather small in the domain at the moment there are a few modelling groups that are considering in proceeding with CMIP6 downscaling and a few presentations were also made during a workshop in Saudi Arabia in 2023. Information about the workshop can be found in the domain report for 2023: https://cordex.org/domains/domain-activities-2/domain-activities-2023/

Since the CORDEX Africa and MENA CORDEX domain share the North African region collaboration is important and it will be developed further as the CORDEX Africa domain is about to form a North African team.

The current Points of Contact in these domains are:

Africa: Chris Lennard, Nana Ama Browne Klutse, Amira Nasser Mostafa and Rondrotiana Barimalala

MENA: Panos Hadjinicolaou, Fatima Driouech and Mansour Almazroui.

Africa domain

MENA domain

Group photo from one of the CORDEX Africa Workshops

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