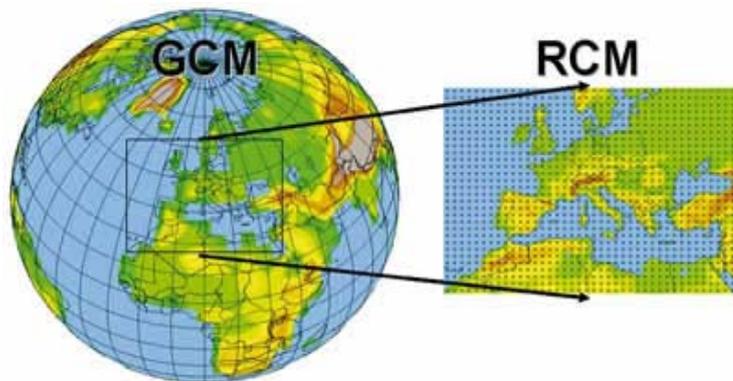


What is Regional Climate Downscaling?

A Global Climate Model (GCM) can provide reliable prediction information on scales of around 1000km by 1000km, covering what could be a vastly differing landscape (from very mountainous to flat coastal plains for example) with varying potential for floods, droughts or other extreme climate events. Regional Climate Models (RCM), applied over a limited area and driven at their boundaries by GCMs can provide information on much smaller scales supporting more detailed impact and adaptation assessment and planning, which is vital in many vulnerable regions of the world.

From the picture on the right you can see how although the GCM covers the whole globe the level of detail is relatively low whereas a RCM can provide much higher level of detail (or resolution) over a smaller region such as Europe or Africa.



Why do we need Regional Climate Downscaling?

Global Climate Models (GCM) provide us with projections of how the climate of the earth may change in the future. These results are the main motivation for international climate change mitigation efforts. However, the impacts of a changing climate, and the adaptation strategies required to deal with them, will occur on more regional and national scales. This is where Regional Climate Downscaling (RCD) has an important role to play by providing projections with much greater detail and more accurate representation of localised extreme events.

What is CORDEX?

The range of RCD techniques available, their mode of application, and the community using them are broad, varied, and rapidly growing. The World Climate Research Programme (WCRP) sponsored **Coordinated Regional Climate Downscaling Experiment (CORDEX)** aims to create a framework for evaluating and comparing the range of dynamical and statistical RCD techniques in use around the world, recommending best practices whenever possible. It is further envisaged that CORDEX will contribute significantly to the WMO Global Framework for Climate Services, by providing climate predictions at the regional scale and through increasing science capacity in developing nations. The CORDEX community presently supports research activities in a number of developing nations and provides opportunities for young scientists to further their experience and knowledge base.

For more information go to <http://wcrp-cordex.ipsl.jussieu.fr/>

CORDEX communities across the globe



- Arctic CORDEX
- North America CORDEX
- Central America CORDEX
- EURO-CORDEX
- MED-CORDEX
- CORDEX Africa
- MENA-CORDEX
- Central Asia CORDEX
- South Asia CORDEX
- East Asia CORDEX
- Australasia CORDEX
- South America CORDEX
- CORDEX Antarctica

There are currently 13 CORDEX 'domains'; a 'domain' is a region for which the regional downscaling takes place, for example the African 'domain' covers the whole of the African continent.

CORDEX in action!

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. To date the Africa group has submitted four peer reviewed articles based on CORDEX data.

The approach developed for Africa will now be implemented in other CORDEX regions such as South America and South Asia.



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