

Regional climate downscaling for risk information

-Establishment of CORDEX Asia Empirical-Statistical Downscaling (ESD) Group-

Climate information and services for Impacts, Adaptation and Vulnerability (IAV) Assessments are of great concern. To meet with the needs of stakeholders such as local governments in Asia, the CORDEX Asia Empirical-Statistical Downscaling (ESD) Group was established in November 2016.

Scientific vision of the WCRP CORDEX is to advance and coordinate the science and application of regional climate downscaling through global partnerships. In Asia, several CORDEX activities for Dynamical Downscaling (DDS) such as CORDEX-East Asia, Southeast Asia, South Asia, and Central Asia are on-going.

The DDS needs relatively large computer resources to resolve small scale phenomena. On the other hand, the ESD does not need much computer resources and not necessarily well represent locally forced nonlinear phenomena, extreme events such as heavy rain, heavy snow, etc. The DDS and ESD can complement each other.

The CORDEX Asia ESD group is mainly for enhancing and integrating the science and application of downscaling activities in Asia. Our ESD outputs based on a standard experimental set-up and a common framework will provide a benchmark for Dynamical Downscaling and also make it possible to further integrated analyses of the added values of statistical/dynamical downscaling methods.

The main activities and goals of the CORDEX Asia ESD group are;

1. to produce regional climate statistical downscaling information based on common protocols for a common benchmark for investigating uncertainty of regional climate scenarios.
2. case studies in small domain for developing and improving the methods where sufficient observation is available (e.g., city, coastal areas, agricultural lands, etc.) and for obtaining best/good practices of co-production /coordination with IAV community.
3. to improve reference data for improving ESD and DDS skills by collecting better observational data and its update.
4. training workshops to share and exchange knowledge and techniques.

We would like to enhance well-coordinated downscaling activities in Asia to provide regional climate information and service which is required for risk assessment on sub-national scale for climate change adaptation and IPCC AR6.