

PLENARY SESSION 1: CORDEX IN ACTION: ACHIEVEMENTS & LESSONS LEARNED

Assessment of the performance of CORDEX-South Asia experiments for monsoonal precipitation over the Himalayan region during present climate: part I

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The suite of 11 combinations from 6 Regional Climate Models (RCMs) with 10 initial and boundary conditions from different Global Climate Models (GCMs) collectively referred here as 11 COordinated Regional Climate Downscaling Experiment in South Asia (CORDEX-South Asia) are considered to study precipitation sensitivity associated with the Indian Summer Monsoon (ISM) over the Himalayan region for the present climate (1970-2005). The summer monsoon precipitation climatology over the study area has not been studied with the help of CORDEX data. An approach has also been made to study the degree of agreement among individual experiments compared with the gridded observational dataset to quantify uncertainty among them. The experiments though show a wide variation among themselves with time and space in simulating precipitation distribution, but noticeably show dry precipitation along the foothills of the Himalayas against the corresponding observation. The experiment driven by Irish Center for High-End Computing (ICHEC) and downscaled using Rossby Center regional Atmospheric model version 4 developed by Swedish Meteorological and Hydrological Institute (SMHI) simulate precipitation closely in correspondence with the observation. Overview of the study suggests that these experiments facilitate precipitation evolution and structure over the Himalayan region with certain degree of uncertainty.

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