

Session B3: Regional focus
Central, South, East Asia,
Australasia, Middle-East

Session chair: L. Stevenson

Rapporteurs: A. Kitch and R. Krishnan

Talk summary (1)

- **CORDEX South Asia (Krishnan)**

- showed skills of RCMs of Himalayan foothill rainfall during breaks in the Indian monsoon, linked with regional monsoon circulations

- **CORDEX East Asia (Byun)**

- talked CORDEX-EA activity with 5 RCMs (50km and 12km); also discussed resolution issue (need for sub-domain with high-resolution)

- **NARClIM (Evans)**

- presented selection process of 4 CMIP3 GCMs and 3 RCMs; showed DDS of the present climate for Australia (50km) and Southeast Australia (10km)

- **Regional OA coupled model (Zou)**

- regional air-sea coupling improves the interannual variability of rainfall over the WNP region; started future climate change downscaling using the regional OA coupled model

Talk summary (2)

- **RegCM4.3 for India (Dash)**

- Investigated changes in the Indian summer monsoon mean flow and extreme weather events and their future projections. Showed projections of extreme weather events using RegCM4.3 with Emanuel and Grell scheme. Results show decrease of monsoon circulation and rainfall over India during 1979-2004 in the RCM simulation which is consistent with observations. Future projections of monsoon rainfall changes show considerable spread among the RCM realizations.

- **Elevation dependency of climate warming signal (Revadekar)**

- investigated elevation dependency of temperature trend during 1951-2005 with 4 CORDEX RCMs and validated with insitu observations. The magnitudes of temperature trends from the RCM simulations are generally found to increase with elevations over the South Asian region, which is consistent with observations.

Talk summary (3)

- **Western Ghats (Mujumdar)**

- Compared monsoon rainfall simulations over Western Ghats from CMIP5 and CORDEX South Asia models with observations. Showed that resolving the Western Ghat orography leads to improved representation of orographic rainfall over the Western Ghats, but with considerable spread among models. The CMIP5 models generally underestimate the mean rainfall over the Western Ghats. A couple of CORDEX models show promise in understanding the observed monsoon precipitation decrease over the Western Ghats during the recent few decades.

- **CORDEX-Mena (Graham)**

- Focused on water resources over the Arab region with CORDEX-MENA (Arab Domain)

- RICCAR – important initiative to assess climate change impacts on water resources

- An ensemble of RCM simulations for CORDEX-MENA is being established (currently 13 regional projections are completed and 8 are underway)

- Six projections show decrease of winter (DJF) precipitation over the Atlas mountain during the 21st century

- The RCM projections of precipitation over Ethiopia and Tigris-Euphrates show significant variations among the RCMS

- Discussed application of CORDEX simulations for hydrological applications using bias corrections

- Hydrological modelling (eg. Hype model) – Runoff, Evapotranspiration

Discussion points

1. Resolution issue in RCMs
2. Multi-GCM, multi-RCM