



आईसीआरसी - कोर्डेक्स 2023
क्षेत्रीय जलवायु पर अंतरराष्ट्रीय सम्मेलन
ICRC - CORDEX 2023
International Conference on Regional Climate



आईआईटीएम केंद्र, आईसीआरसी - कोर्डेक्स 2023, 25-29 सितंबर 2023, पुणे, भारत
IITM Hub of ICRC - CORDEX 2023, 25-29 SEPTEMBER 2023, PUNE, INDIA



Session report B2

Theme: Integration of available climate information in support of decision making

Day and time: 28-09-2023, 09.00-10.15 IST

Chair: Mandira Shrestha (ICIMOD, Kathmandu)

Rapporteurs: Aashna Verma (BHU, Varanasi), Madhusudan Ingale (IITM, Pune)

Session recording on webpage: <https://icrc-cordex2023.tropmet.res.in/session-b2-b3.php>

Summary: Need a multidisciplinary approach for utilizing the available climate information for climate services

Points of merit from Panel discussion led by Panellists:

Prof. Vimal Mishra (IIT, Gandhinagar), Dr. Mandira Shrestha (ICIMOD, Kathmandu), and Dr. Milind Mujumdar (IITM, Pune)

- **Integrated climate data and information platform:** A crucial challenge we face is the availability and utilization of data. Often the data and climate information are scattered with persistent questions of "Where to find the data?" and "How to utilize it, effectively?". This underlines the need for structured data repositories and data banks. It would be imperative to establish robust databases and information systems and ensure their accessibility to all relevant users along with ease of quantitative estimates.
- **Expanding insitu-networks and optimizing the useful information:** To bolster our climate efforts, we must prioritize the acquisition of high-quality data for both observation and network development. Currently, a lack of information from the impact side and sectoral levels impedes our ability to implement preventive measures for various climate extremes. The information needs to be available to stakeholders, policy makers and scientists as well.
- **Disseminating the information:** pressing need to disseminate the existing climate information at the local scale, ensuring the information reaches to local level stakeholders including women farmers and the broader community (this requires e.g., tailoring the information, coordination between different agencies, etc.)
- **Capacity Building:** Training and capacity building programs on the access and use of climate data along with looking into all the stakeholders and integrating their needs may improve the efforts
- **Science Perspective:** Need for a transdisciplinary approach and expand the range of climate services.

Top Highlights

1. The bias corrected downscaled climate projections available from CORDEX South Asia are found useful for preparing an atlas containing climate change details and maps to support the Local Self Governments (LSGs) in the Kerala State of India. This climate change atlas is used to prepare the local action plan on climate change in native regional language, and contains information on impact of climate change on local: environment, livelihoods, biodiversity, disasters, and intervention possibilities in the LSG. This climate change information is used to prepare the risk informed master plan in order to integrate the climate risk information into the disaster risk management plans of the LSGs. However, the coarse resolution of the data limits the ability to pinpoint the specific hotspots within each LSGs, which may hinder targeted interventions. *(Dr. Shinu Sheela Wilson, Kerala State Disaster Management Authority, Thiruvananthapuram, India).*
2. The observed spatial heterogeneity across the summer monsoon and winter seasons in the climatological mean precipitation over parts of Hindu-Kush Himalayan (HKH) mountains are well represented by CMIP5 and CMIP6 global climate models. However, the monthly precipitation climate over the homogeneous sub-regions within HKH are overestimated in these model simulations, particularly during the summer monsoon months. Statistical performance of daily scale extreme precipitation climate indices over HKH region for annual and seasonal means are found to be relatively better for CMIP6 than CMIP5 models. The climate projections using a subset of best CMIP models indicate an increase in amount, frequency and duration of extreme precipitation events over the homogeneous sub-regions within HKH for the far future period. *(Prof. Raju Attada, Indian Institute of Science Education and Research, Mohali, India).*
3. Hot spots of soil moisture-temperature coupling are identified across north-central India in the MRI-AGCM historical simulations and future projections. The frequency of extreme temperature events is projected to increase over India in this model simulation under the 4K warming scenario. The drier soil moisture conditions are found to significantly enhance the extreme temperature characteristics over India for the sensitivity experiments with this climate model. A 20% decrease in soil moisture tends to increase the frequency and duration of extreme temperature events over north-central India by 60-100% and 15-40% respectively. The sensitivity to soil moisture changes to these extreme temperature characteristics becomes less prominent with intensification of global warming. *(Dr. Naresh Ganeshi, Visiting Scientist, Meteorological Research Institute, Japan).*
