



Physical Research Laboratory, Ahmedabad

COLLOQUIUM - 14 - 17

- Speaker:** Prof. Sushil K. Dash
Emeritus Professor, Centre for Atmospheric Sciences, Indian Institute of Technology, Delhi.
- Title:** "Indian summer monsoon and associated extreme events based on RegCM projections under CORDEX programme"
- Time:** Wednesday, 26 November, 2014, 16.00 hrs.
- Venue:** Seminar Hall, Above NANOSIMS Laboratory, PRL.

Abstract

In this study, the seasonal mean summer monsoon over India is projected for the 21st century under the RCP4.5 and RCP 8.5 scenarios using the regional model RegCM CORDEX simulations over the South Asia domain. Here, the state-of-the-art version 4 of RegCM has been integrated from 1970 to 2099 at 50 km horizontal resolution driven by the global model GFDL-ESM2M. The simulated mean summer monsoon circulation and associated rainfall by RegCM4 are validated against the observed values in the reference period 1975 to 2004 based on GPCP and IMD data sets. Future projections are categorized as near-future (2010-2039), mid-future (2040-2069) and far-future (2070-2099). Results show that the monsoon circulation may become weaker in the future, associated with decrease in rainfall over Indian land points. The RegCM4 projected decrease in JJAS rainfall under RCP8.5 scenario over the central, eastern and peninsular India by the end of the century is in the range of 25-40% of their mean reference period values significant at 5% level. This talk will also project the changes in temperature and rainfall extremes at some selected locations in the country based RegCM CORDEX simulation. Results indicate significant increase in the maximum and minimum temperatures and also decrease in the occurrence of cold nights even at the regional level.

The Speaker

Prof. Sushil K. Dash did his doctoral studies in Physics at PRL and obtained Ph.D. degree from the Gujarat University, Ahmedabad. Presently he is Emeritus Professor at IIT, Delhi. His areas of research interest are Monsoon Studies, Climate Modelling and High Performance Computing. Prof. Dash handled more than 33 sponsored scientific projects as Principal Investigators. He has written popular science articles mostly in native Oriya language and been involved with a programme named "PROBE" initiated and funded by the Department of Science and Technology, Government of India. Prof. Dash has published more than 105 papers in peer reviewed journals and authored a book titled "Climate Change: An Indian Perspective", published by Cambridge University Press India Pvt. Ltd. & Centre for Environment Education. He has also edited three books on the subject of climate change. Prof. Dash is a fellow of the Indian Meteorological Society and Royal Meteorological Society, UK.

Tea at 15:30 hrs.
ALL ARE WELCOME

