

Monsoon pattern changing?

Indo-UK Study To Find If Climate Change Affecting Seasonal Rains

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New Delhi: How will climate change affect the Indian monsoon in the coming years and decades? Given the crucial importance of the annual rains for the country's food and water needs, scientists from 10 institutions in India and the UK have mounted the most comprehensive research exercise yet to answer that question.

The Rs 10-crore project — called South Asian Precipitation: A Seamless Assessment (SAPRISE) — is bringing together around 35 scientists who would scrutinize all factors that impact rainfall in the region.

"The project will look at how climate change is likely to affect each of these drivers. It's a three-year programme and at the end of it, we hope to have a significantly better understanding of the monsoon and Indian rainfall in general," said Krishna AchutaRao of IIT Delhi, who is the project's lead principal investigator on the Indian side.

The mega programme, part of a larger study of the Indian water cycle, is being jointly funded with the ministry of earth sciences (MoES) putting in Rs 3.5 crore and the UK government 1 million pounds. Last week, participating scientists from India and Britain met for the first time.

"Although work began a few months ago, we all met to discuss what exactly each team would be doing so that everybody is on the same page," said AchutaRao, an associate professor at IIT's Centre for Atmospheric Sciences. Other SAPRISE experts have been drawn from Kanpur and Kharagpur IITs, the India Meteorological Department, the Indian Institute of Tropical Meteorology, the National Centre for Medium Range Weather Forecasting and the Indian Centre for Climate and Societal Impacts Research. From Britain, the UK Met Office and universities of Reading and Exeter are part of the project.

SAPRISE is different from another big MoES project, the Monsoon Mission, launched to evolve better models to predict the monsoon. AchutaRao said researchers would look at the affect of climate change on El Nino-La Nina patterns, differences in sea temperatures in Indian Ocean (called Indian Ocean dipole) and in the Bay of Bengal. "For instance, there's debate among scientists on whether climate change is causing a shift from the traditional form of El Nino to one known as El Nino Modoki," he said.

Also under scrutiny will be the role played by sunlight-absorbing aerosols in enhancing or depressing rainfall, which has been another subject of debate. "We hope to use the latest seamless modelling techniques to see how these various factors interact with each other and together impact rainfall in the medium and long terms," said AchutaRao. The study is expected to provide policymakers crucial information on what strategies to adopt to mitigate the effects of climate change on rainfall.



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