

MoES Webinar Series: Talk on Floods & Droughts by Dr. A. K. Sahai, IITM, Pune

New Delhi, July 31 (Vigyan Samachar): The Indian Institute of Tropical Meteorology (IITM), Ministry of Earth Sciences (MoES), is organizing an Earth Science Popular Lecture webinar series in coordination with other MoES institutes in the country.

Dr. A. K. Sahai, Scientist, IITM, Pune, in an engagingly delivered lecture spoke on the basics of science behind the monitoring and forecasting of floods and droughts emphasizing the need to address the hydro climatic extremes to minimize the socio-economic losses. Dr. Sahai spoke on the vision of MoES to increase water safety through advanced weather forecasting systems at block and district level with forecasting capability of 3-5 days and 2-3 weeks in advance respectively.

He said that MoES has a vision to provide sector-specific advice for resource management through an advanced regional climate service framework. In addition, MoES also plans to monitor 3-D variability in the regional hydrology cycle and assess its expected changes and impacts in the future, and to develop hydrology information systems and flood warning support for the country's major river basins.

IMD has started monitoring drought situations at district-level using Standardized Precipitation Index (SPI) since 2013 on a monthly basis as a part of climate monitoring and recorded that 8% of the country area, i.e. 74 districts has experienced extremely dry conditions while 16% area (122 districts) were recorded as under moderately dry condition during June 2019. Water demand for economic and social development is increasing in the country. It is estimated that by 2030, water demand in India would be around 1.5 trillion cubic meters which is far in excess than the current supply capability of around 740 billion cubic meters only. Clearly, it is not just enough to meet the water shortages, which would adversely affect production and consumption activities, resulting in economic, social, and environmental losses.

Dr. Sahai said that every year, India has been facing natural hazards/disasters caused by droughts and floods. While 68% of the country's area covering a total 116 districts has gone through drought related disasters, 40 Mega hectares of the country suffered from flooding. However there is a decline in the fatality due to timely disaster mitigation interventions. Dr. Sahai suggested that flood/drought challenges can be tackled

through combined use of historic observations, satellite and forecasting tools, and appropriate hydrologic models. Dr. Sahai is involved in the development and operationalization of a dynamical ensemble system for predicting heat and cold wave; onset and the active-break cycle of monsoon and cyclogenesis at the IITM, Ministry of Earth Sciences, Government of India with more than 24 years of research experience. He has received several awards including the 3rd IITM Golden Jubilee Biennial Award for outstanding research contributions.

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