Physical Research Laboratory

Tuesday Seminar

Long-term isotope record of daily precipitation at Ahmedabad in semi-arid western India: insights into regional hydrometeorological processes

Abstract

There are numerous published studies, which confirm that the weather systems across the globe are undergoing changes, as manifested in trends in temperature, rainfall, heat waves, cyclones, floods and droughts on decadal or sub-decadal scales. In spite of the recognition of various broad patterns in weather indices, there is lack of clarity about the changes in the subtle hydro-meteorological processes in different climatic regions. Many of the meteorological phenomena are so localised that concept of a few homogenous meteorological regions across the India is no more convincing. It this scenario, it is important to understand the contemporary hydro-meteorological processes from several locations, which determine the spatio-temporal distribution of water in atmosphere, surface and sub-surface domains. It is the only option, until major climate change is recognized after a few decades of systematic changes in weather and its severe consequences on socio-economy.

From this perspective, Ahmedabad city (23.03°N; 72.55°E) in the hot semi-arid western India is an important geographic location to investigate the hydrometer logical processes because it has been experiencing erratic weather extremes such as heat waves, cloud bursts, floods and droughts, superposed on the climate normal.

Stable isotopes of oxygen and hydrogen in precipitation can provide information about the source of vapour, rainout history, vapour recycling, post-precipitation modifications, cloud micro-physical processes etc. Considering this, stable isotopes of oxygen and hydrogen have been monitored in daily precipitation at Ahmedabad since last 12 years (2005-2016). A rigorous analyses of this important isotope dataset in conjunction with other ground based and remotely sensed meteorological parameters will be presented in this seminar.

Speaker: **Mr. Harsh Oza**
JRF, GSDN

Date	Time	Venue
11-July-2017	16:00 hrs	Ground Floor Lecture Hall

All are invited to attend and participate in discussion

Tea at 15:30 hrs

A .K. Sudheer, Geosciences Division