Geosciences Division

Physical Research Laboratory

Tuesday Seminar (online)

Hydrometeorological processes and evaporation from falling rain in Indian sub-continent: Insights from stable isotopes and satellite data

Abstract

Rigorous analysis of measured isotopic composition ($\delta^{18}O$ and δD) of 556 daily rainwater samples collected at four Indian stations viz., Jammu, Jorhat, Hyderabad and Ahmedabad, is done in conjunction with satellite and model-derived meteorological and isotopic parameters to discern prominent hydrometeorological processes and factors in four different climatic zones in the Indian subcontinent. A new Indian Meteoric Water Line (IMWL), better representing the different climatic zones, including the semi-arid western India, has been defined: [$\delta D = (7.6\pm0.1)\ \delta^{18}O + (8\pm1)$; $R2 = 0.96$; $P < 0.05$; $N = 556$]. The lower slope of IMWL compared to the Global Meteoric Water Line signifies the role of evaporation from falling rain throughout the Indian subcontinent, though it is surrounded by large marine water body, and bordered by lofty Himalayan mountains in the north obstructing the monsoonal winds. We have tried to quantitatively estimate the evaporative loss from the falling raindrops. In this talk, I will be discussing some of the important results and inferences obtained from this study.

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

Date	Time	Platform
09-June-2020	16:00 hrs	Google Meet (web based portal)

All are invited to attend and participate in discussion

Dr. A. K. Sudheer, Geosciences Division