Geosciences Division
Physical Research Laboratory

Tuesday Seminar

Spatial variation of amount effect over peninsular India and Sri Lanka: role of seasonality

Abstract

The negative relationship between rain amount and its $\delta^{18}O$ (amount effect) helps to reconstruct past rainfall variability from proxies (e.g., tree-rings and speleothems). Analysis of new (and published) data of the $\delta^{18}O$ of monsoon rains and vapor at 9 stations shows that in regions of distinct seasonality in precipitation (e.g., peninsular India), the noise in such reconstructions can be minimized by a careful selection of sites. Peninsular India receives rain from both the Indian summer monsoon (ISM) and the north-east monsoon (NEM). Significant amount effect is observed only where the NEM rainfall is larger than or comparable to ISM rainfall. This is due to the higher quantity of NEM rain with more depleted ^{18}O relative to ISM rain. NEM rain is more depleted in ^{18}O because of cyclonic activity over Bay of Bengal, and the ^{18}O depletion of Bay of Bengal surface waters due to post-ISM river runoff.

Speaker: Ms. Lekshmy P. R.
PDF, GSDN

Date	Time	Venue
01-September-2015	16:00 hrs	Ground Floor Lecture Hall

All are invited to attend and participate in discussion

Tea at 15:30 hrs

Neeraj Rastogi, Seminar Secretary, Geosciences Division