Geosciences Division
Physical Research Laboratory

Tuesday Seminar

Biochemical modeling of tree ring cellulose isotope data for Paleo-reconstructions

Abstract

One of the primary sources of climatic variability information in recent past are the tree ring cellulose isotope datasets due to their stable temporal resolution. However the reconstructions produced from such data have variable dependabilities due to their site and species specificness in terms of parameter reconstructed and the calibration correlation. Cellulose formation in all of the trees (including the ring bearing ones) is mostly the same basic physiochemical process as they all undergo C_3 metabolic process. This process and resultant isotopic fractionation have been modeled from experimental information on live trees. In presence of basic meteorological data i.e. temperature and humidity estimates, pCO_2 has been reconstructed from carbon isotope data from tree ring cellulose. The processes involving oxygen and hydrogen isotope fractionations provide information about humidity, temperature and source water isotopic compositions. Some of these process based reconstruction models will be discussed.

Speaker: Dr. Trina Bose
PDF, GSDN

Date	Time	Venue
31-March-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