CGD SEMINAR

DATE: Tuesday, 28 November 2017

TIME: 11 a.m.

LOCATION: NCAR, 1850 Table Mesa Drive
Mesa Lab, Main Seminar Room

TITLE: Interpreting precession driven delta-O-18 variability in the South Asian monsoon region

SPEAKER: Clay Tabor, NCAR

ABSTRACT:

Speleothem records suggest that there has been significant long-term climate variability in the South Asian Summer Monsoon (SASM) region related to precession in Earth's orbit. These records are difficult to interpret because their oxygen isotopic signals can represent several different climate responses. Here, we use CESM with water isotope tracers to directly simulate the isotopic data captured in the speleothems. From these model simulations, we show that a large portion of the orbital signal found in the speleothem records is due to changes in the amount of water vapor coming from different sources. When India receives relatively less insolation in the summer months, most of the local precipitation sources from the nearby ocean. Conversely, when India receives relatively more insolation in the summer months, a greater portion of the local precipitation sources from farther away. Changes in the amount of local evaporation compared to precipitation also have an important effect on the isotopic signals found in the SASM speleothem records.

Live webcast: http://www.fin.ucar.edu/it/mms/ml-live.htm

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