

Reconstructing paleoglaciations on the Tibetan Plateau by Surface Exposure Dating

Field trip to Central and Western Tibet

*PI: Joerg M. Schaefer; Lamont-Doherty Earth Observatory, Route 9 W, Palisades NY-10964;
email: schaefer@ldeo.columbia.edu*

Abstract

The climatic interconnection between the Tibetan Plateau and the rest of the globe is still poorly understood. Recently, Surface Exposure Dating (SED) has been introduced as new and powerful tool to study the timing and amplitude of glacial cycles. This method uses the production of cosmogenically produced nuclides in near-surface rocks (e.g. glacial erratics) to determine their time of exposure to cosmic rays (i.e. to the atmosphere). We intend to apply SED to date glacial advances on the Tibetan Plateau on the time scale of $\approx 10^3$ yrs. up to at least $\approx 10^5$ yrs. This information can be compared to climate changes over the North Atlantic region during cool periods, as well as to excursions of the Monsoon system. This proposal requests support for the start up of such a SED dating project at the Lamont-Doherty Earth Observatory.