Repository of palaeoclimatic records of Himalayan tectonics

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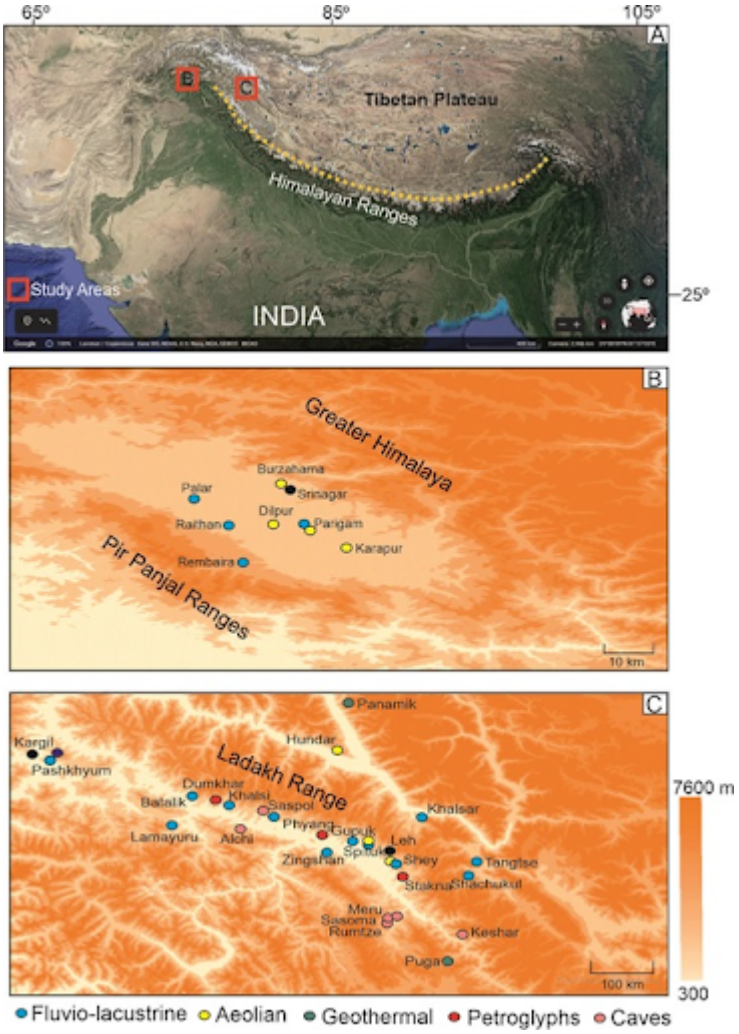
In news– Researchers investigating sedimentary landforms present in parts of the Kashmir Valley and Ladakh regions of the NW Trans-Himalaya have found them to be a repository of palaeoclimatic records of Himalayan tectonics and geomorphic evolution of the scenic landscape.

Key findings-

- **A research by Birbal Sahni Institute of Palaeosciences (BSIP), an autonomous institute of DST** that studied the **Quaternary (current and most recent of the three periods in the geologic time scale),** sediments of Karewa Basin in Kashmir valley and deposits relating to sedimentation partly in lake and partly in stream waters of Ladakh Trans-Himalaya) has highlighted the importance, possible threats and well as the need for conservation and promotion of the Geoheritage sites.
- **The panoramic Geotourism sites in the Himalayan range are an archive of palaeoclimatic records of Himalayan tectonics and geomorphic evolution** of this scenic landscape.
- Consisting of lake sediments, caves, petroglyphs/rock art, and hot springs sites, they are a **treasure trove of information on geomorphology, landscape evolution,** palaeoclimate, and palaeoecology.
- **The neo-tectonics of this recent period is helpful in the understanding of climate change,** hydroclimate, ecology, and mountain geomorphology.
- At the same time, the Ladakh sediment archive is along the Indus River in the form of fluvial terraces,

alluvial fans, lakes, and moraine and are exposed under a wide range of tectonics, seasonal climatic changes, mass wasting, erosion, and major development projects regimes.

- **The authors have underlined that changing climatic conditions, ongoing mountain building (tectonic/orogenic) processes, and anthropogenic activities are continuously destroying these Geosites**; hence, the associated geo-resources need to be harnessed sustainably.



- Geosites of Ladakh under threat-(A) Stone dumping at rock art site at Stakna; (B) Wall painting inside a cave in Saspol, many of these caves are collapsing; (C, E, G) Keshar, Sumdo caves used as storage; (D, I) Car wash and construction work on the Spituk palaeolake site; (H) Building on the fluvial section in Pashkyum; (J)

Shachukul section; (K) Roadside rock art destroyed by tar (L) Mining of sand for construction work in Spituk section; (M) Shey palaeolake section (N) Puga hot spring, the lingam is breaking as there is no protection of site; (O) Shachukul site.

What is Paleoclimatology?

It is the study of climates for which direct measurements were not taken. As instrumental records only span a tiny part of Earth’s history, the reconstruction of ancient climate is important to understand natural variation and the evolution of the current climate.