

## Tectonic events occurred in the Central Himalayas, around 1m.y. before

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Paleontological and sedimentological studies on the Kathmandu Basin sediments revealed that the frontal range of the Himalayas in Central Nepal initiated rapid uplifting at around 1 Ma. Abrupt appearance of 4m-thick sand bed with fossils teeth and otolith of fish and occurrence of *Pediastrum* of green algae on the sand bed suggest environmental changes of the lake.

Depositional system and provenance of the Lukundol Formation, showing the marginal facies of the lake, also record the change at around 1 Ma. Paleocurrent directions and gravel composition drastically changed at 1 Ma.

Paleontological and sedimentological studies on the Kathmandu Basin sediments revealed that the frontal range of the Himalayas in Central Nepal initiated rapid uplifting at around 1 Ma. Abrupt appearance of 4m-thick sand bed in organic muddy lacustrine sediments at -110m indicates that the lowering of water-level and shrinkage of the Paleo-Kathmandu Lake at about 1 Ma. Abundant occurrence of *Pediastrum* of green algae on the sand bed and fossils teeth and otolith of fish from the sand bed also support environmental changes of the lake.

Depositional system and provenance of the Lukundol Formation, showing the marginal facies of the lake, also record the change at around 1 Ma. Paleocurrent directions obtained from the imbricated gravels indicate their changes from N to S or NE to SW at around 1 Ma. At the same time, granite boulder from the north disappeared and detritus from metasediments of the Mahabharat range started to increase.

All lines of evidence suggest rapid uplifting of the Mahabharat range since 1 Ma.

Changes of climate pattern from warm and stationary one to strongly fluctuated one at 0.8-0.7 Ma reflects the global cyclic climate changes in the glacial-interglacial period.