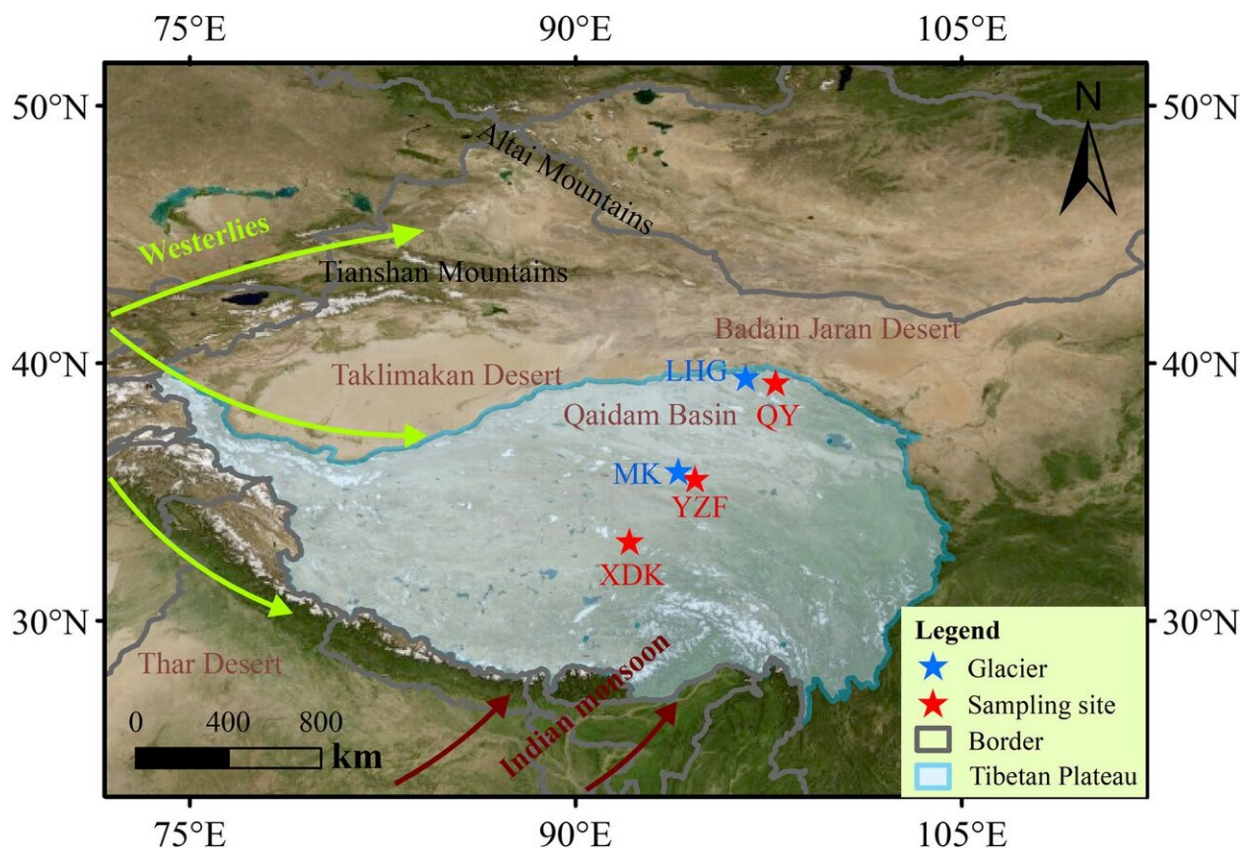


Researchers reveal dust source on Tibetan Plateau

October 9 2023, by Li Yuan



Location of the sampling site including the Qiyi (QY), Yuzhufeng (YZF), and Xiaodongkemadi (XDK) glaciers on the Tibetan Plateau. Credit: *Environmental Science and Pollution Research* (2023). DOI: 10.1007/s11356-023-30081-y

Dust deposited on a glacier's surface can reduce the albedo of the ice and

increase absorption efficiency of solar radiation, which has a significant impact on glacier melting and global climate change.

Accurately identifying the source of glacial dust on the Tibetan Plateau is critical for comprehending dynamics of glacial environment and reconstructing regional atmospheric environment.

Recently, a research team from the Northwest Institute of Eco-Environment and Resources of the Chinese Academy of Sciences determined dust sources for the three glaciers on the Tibetan Plateau and analyzed the transport mechanism of the primary dust sources.

This study was published in [*Environmental Science and Pollution Research*](#) on Sept. 30.

The researchers used two tracer methods to ascertain the origins of glacial dust on the Tibetan Plateau and deduced that the dust primarily originated from the Tibetan Plateau surface soils, Taklimakan Desert, Thar Desert and Qaidam Basin before the monsoon season. The Taklimakan Desert and Thar Desert were identified as the most prominent dust sources.

Central and southern glaciers on the Tibetan Plateau were greatly affected by dust from the Thar Desert and Taklimakan Desert due to the influence of terrain and [*westerly winds*](#). The Thar desert [*dust*](#), lifted by updrafts from northwest India, was subsequently transported by westerlies, exerting a significant influence on the southern glaciers of the Tibetan Plateau.

"Our study provides a valuable reference for future efforts to analyze glacier element characteristics and reconstruct climate," said Li Yuefang, corresponding author of this study.

More information: Youhao Zhou et al, Dust source tracing and their transport mechanisms before monsoon season from three glaciers at the Tibetan Plateau: revelations from REE analysis and an indirect tracing approach, *Environmental Science and Pollution Research* (2023). [DOI: 10.1007/s11356-023-30081-y](https://doi.org/10.1007/s11356-023-30081-y)

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