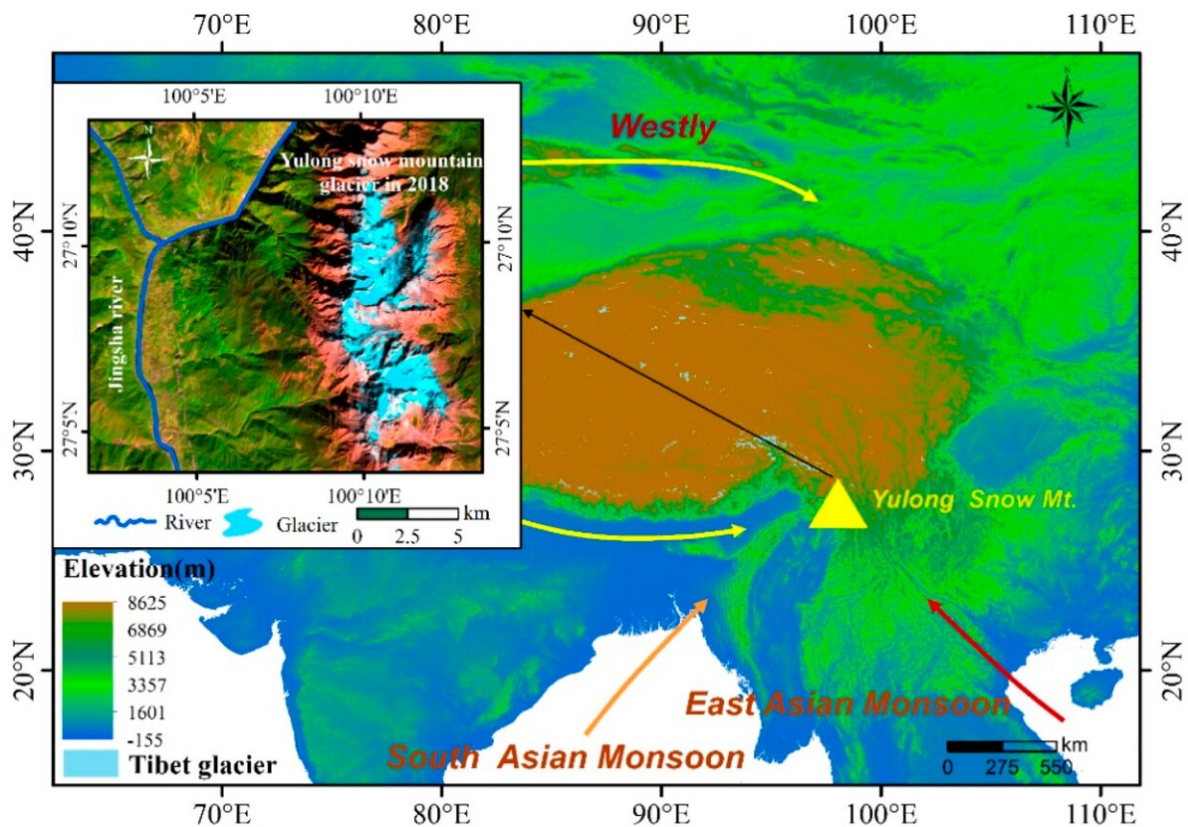


Scientists estimate ice thickness and subglacial terrains in Yulong snow mountain

February 8 2021, by Zhang Nannan



The geographical location and glacier distribution of Mt. Yulong. Credit: WANG Shijin

Under the influence of climate warming, a typical monsoon temperate

glacier in Yulong Snow Mountain (Mt. Yulong) located in the southernmost part of China, has been continuously shrinking at a faster rate, and this has resulted in a dense distribution of crevasses on its surface. These drastic changes of glaciers have exerted a great impact on the local social economy, especially on the tourism industry and the living conditions of the local residents in Lijiang. Therefore, it is necessary to estimate the ice thickness and subglacial terrains in Mt. Yulong.

In recent years, ice thickness data has been obtained from polar [glaciers](#) in western China and has played an important role in the research of global changes. However, at present, there are few measurements and ice thickness studies for temperate glaciers in China.

Recently, scientists from the Northwest Institute of Eco-Environment and Resources (NIEER) of the Chinese Academy of Sciences (CAS), together with their colleagues from the Yichun University, measured and estimated the ice thickness of the Baishui River Glacier No. 1 of Yulong Snow Mountain by using ground-penetrating radar (GPR).

According to the position of the reflected media from the GPR image and radar waveform amplitude as well as polarity change information, they identified the ice thickness and the changing medium position at the bottom of this temperate glacier.

Nevertheless, due to the higher ice temperature and [water content](#) as well as the high attenuation rate of the GPR electromagnetic signal in temperate glaciers, the penetrability in temperate ice can rapidly decrease. These problems increase the difficulty of GPR employed in temperate glaciers.

At the present time, certain difficulties regarding the [ice thickness](#) measurements of the temperate glacier through GPR must be faced, and

accurate results cannot be obtained. Therefore, it is necessary to adopt new technologies for solving these problems in the future.

This study has been published in *Remote Sensing* recently titled "Estimation of Ice Thickness and the Features of Subglacial Media Detected by Ground Penetrating Radar at the Baishui River Glacier No. 1 in Mt. Yulong, China".

More information: Jing Liu et al. Estimation of Ice Thickness and the Features of Subglacial Media Detected by Ground Penetrating Radar at the Baishui River Glacier No. 1 in Mt. Yulong, China, *Remote Sensing* (2020). [DOI: 10.3390/rs12244105](https://doi.org/10.3390/rs12244105)

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