

Scientist Profile



Dr. Koji FUJITA, Associate Professor of the Graduate School of Environmental Studies at Nagoya University, Japan.

Dr. Fujita started his "high-elevation career" as a mountain climber. He has summited Mt. Muztagh Ata (7546 m a.s.l.) in 1989 and Mt. Shishapangma (8027 m a.s.l.) in 1990 as a member of Academic Alpine Club of Kyoto (AACK). Inspired by dynamic scenery of the glaciers, he decided to spend his life investigating glaciers. As a graduate student in Nagoya University, Dr. Fujita has spent long time on Xiao Dongkemadi Glacier in the central Tibet with Chinese scientists including Prof. Tandong YAO, who is leading the Third Pole science nowadays. Moving his targets to south, Dr. Fujita and his colleagues have been measuring glacier mass balance in the Nepal and Bhutan Himalayas since the mid-1990s. Besides the field observations, he has also developed energy mass balance model and elucidated that glaciers affected by the Indian summer monsoon are more sensitive than the Euro-American glaciers (Fujita and Ageta, 2000).

By integrating long-term observational geodetic mass balance of Himalayan glaciers and simulated trends of

equilibrium line altitude, he first revealed heterogeneity of glacier fluctuation over the Third Pole region. This study, published in PNAS, was the first evidence-based answer to misinformation about Himalayan glaciers described in the IPCC AR5.

His concern also goes to glacial lake outburst floods (GLOFs), which is a serious environmental disaster in the Himalayan countries. He has developed a novel method to quantify potential flood volume of glacial lakes from remotely sensed data and evaluated about 2300 Himalayan glacial lakes (Fujita et al., 2013). This study, which was published in NHSS, is important for prioritizing the numerous glacial lakes, otherwise it is impractical to investigate all of them from the ground.



Besides his main research interest for Asian glaciers, as a member of Japanese Antarctic Research Expedition, Dr. Fujita has experienced overwintering at Dome Fuji Station, one of the most isolated stations in inland East Antarctica. By correcting daily precipitation samples and measuring water stable isotopes, he has revealed how the water stable isotopes strongly correlate with air temperature (Fujita and Abe, 2006), and how this temperature signal is modified in the surface snow layer.



Dr. Fujita and his team have produced over 120 publications in international journals, including Science, PNAS, and GRL. These studies provide an important basis for the interpretation of deep ice cores drilled on the ice-sheet. His concern again returns to the Himalayan glaciers. Dr. Fujita and his colleagues have recently established observational network for a debris-covered glacier in the Nepal Himalayas. He is going to keep visiting high elevation field, and to elucidate changes in Himalayan glaciers.

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- Fujita K, et al.(2013) Potential flood volume of Himalayan glacial lakes. *Natural Hazards and Earth System Sciences*, 13(7), 1827-1839, doi:10.5194/nhess-13-1827-2013.
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