Towards integrated glacier-glacier lake inventory for the Himalayas using ALOS data

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One of the important questions surrounding cryosphere and climate change is if and in what way mountain glaciers have changed. This question is not only important in its own right but also highly relevant to energy and water management and disaster prevention implied in a potential link to glacial lake outburst flood (GLOF).

A significant amount of efforts have already been put on archiving glaciers and constructing their inventory world-wide. In spite of the efforts the spatial and temporal coverage of the present glacier inventory is not yet satisfactory. The questions regarding the accuracy and resolution have been addressed. In general the coverage is lagging for the Himalayas. There is also an urgent question of how we plan for future observations matching with rapidly improving remote sensing technology and with a new set of sensors and satellites.

In addressing the above questions work is under way in developing glacier inventory for the Himalayas with a higher spatial resolution using PRISM and AVNIR-2 data from ALOS. In parallel development we recently initiated a project whose purpose is to assess GLOFs’ risk in the region. In this talk we will provide a summary on those projects and a preliminary outlook on integrated glacier-glacier lake inventory from our work in progress.