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The quality of global models on climate change depends on regional data input. In order to improve the knowledge on climate change impacts in high mountain regions at continental scale, we first apply state of the art – and newly developed – methods to assess climate change in Europe, and second, we will apply our methods to Central Asia, where data on environmental change, and in particular on glacier hazards are hardly available.

The **EURAS-CLIMPACT** initiative **focuses on meteorological and climatologic aspects of glaciers and permafrost during the last fifty years**. Therefore the change of **four glaciers in Europe will be studied**, namely the **Pasterze- and Sonnblick Glacier** in Austria, and the **Storglaciären and Kårsa Glacier** in Sweden, by reanalysing and downscaling global climate models of these regions. **Based on these experiences, the impact of climate change on two glaciers in Central Asia will be quantified**, namely on the **Inylchek- and Karabatkak Glacier in the central Tien Shan**, where the Global Change Observatory "Gottfried Merzbacher" serves as a platform for international studies. The evaluation of reanalysing and downscaling global models in Central Asia will contribute to a

better understanding of future IPCC- A1, -A1B and -B2 scenarios.

**Modelling the mass balance** of the above described six glaciers compared to time series analyses of high resolution airborne and spaceborne remote sensing data such as CORONA, HEXAGON, LANDSAT-EM, ASTER, RAPID EYE, ALOS, TERRA SAR-X, digital camera- and thermal camera images **will allow for assessing the change of these glaciers, and the increase of geo-hazards depending on climate change**. As the European glaciers have been monitored since decades, an additional ground check of remote sensing data is mainly planned for the retreating but also advancing glaciers of the central Tien Shan.

The probably most important outcome of the EURAS-CLIMPACT project will be the **proper dissemination of results to stakeholders, and capacity building at national and regional level**. This is of particular interest for e.g. mountain risk engineering, and for tourist offices in Austria, for the authority of Land Survey and environmental research organisations in Sweden, and for regional and local mitigation measures to be undertaken by the Ministry of Emergency Situations in Kyrgyzstan.

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