

Cryosphere and Atmosphere

The impacts of global climate change on atmospheric processes and snow and ice, and their implications for water availability and quality of life in and beyond the Hindu Kush Himalayan region, are of increasing concern and are at the core of this programme.

Goal

To increase understanding of changes in the cryosphere and atmosphere in the Hindu Kush Himalayas

Intended Outcomes

- Enhanced regional capacity to monitor the cryosphere and the atmosphere
- Improved water resource and risk management
- Reductions in atmospheric black carbon



Cryosphere



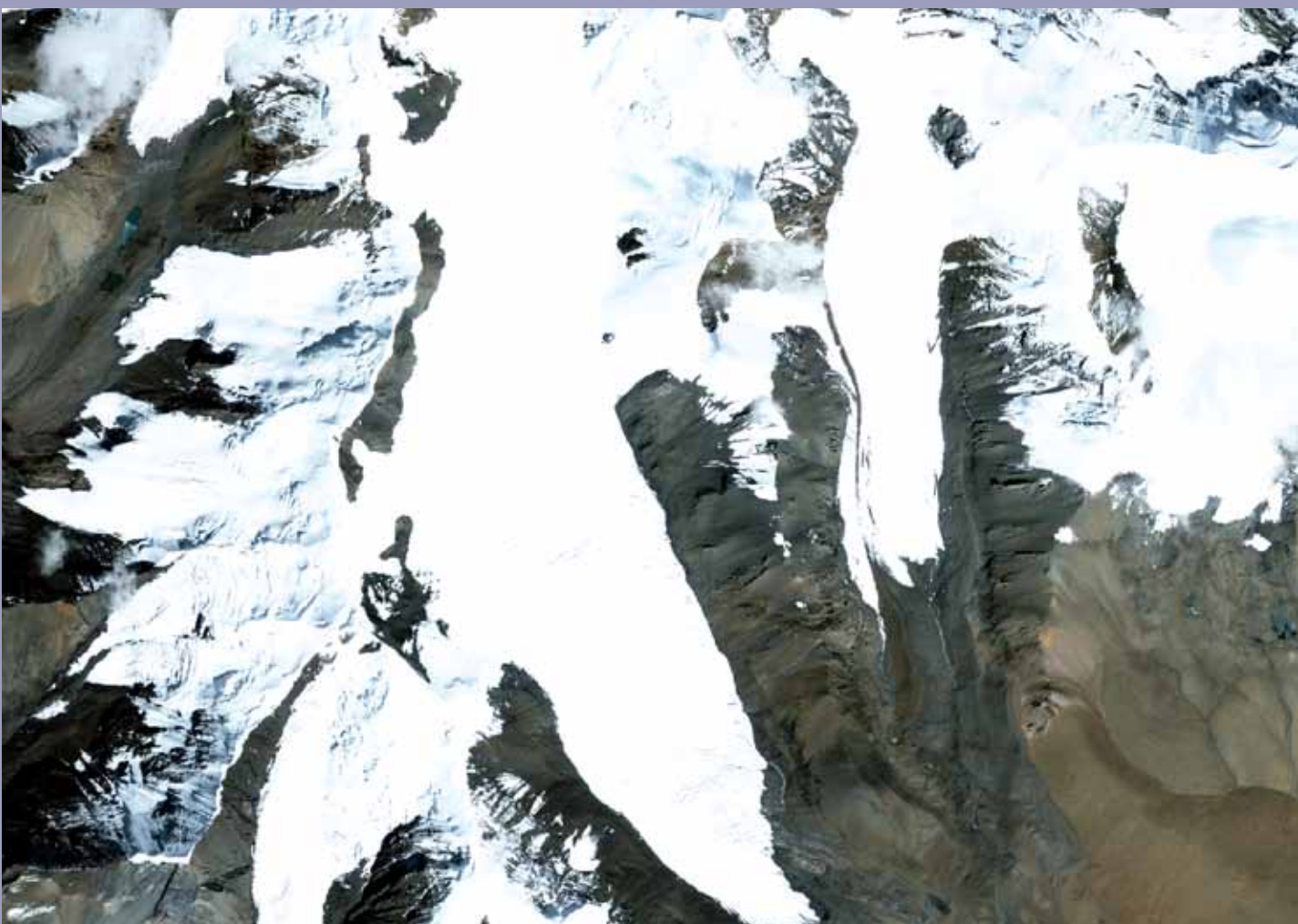
Field-based glacier monitoring



Glacio-hydrological modelling and analysis of water resource scenarios



Glacial lakes and GLOF risk assessment



Remote sensing-based snow and glaciers monitoring



Knowledge hub



Capacity building

Aims in the Next Five Years

- Increased data availability – new and updated data sets for the cryosphere
- Improved understanding of snow and ice and their influence on water availability in the Hindu Kush Himalayas
- Networking for regional assessment
- A cryosphere knowledge hub
- Enhanced capacity for cryosphere monitoring and assessment in the Hindu Kush Himalayan region

Atmosphere



Quantifying emission sources



Measuring aerosol optical depth



Capacity building



Information sharing through meetings and workshops



Analysing satellite data



Quantifying upslope flows of pollution

Aims in the Next Five Years

- Improved knowledge of atmospheric science in the Hindu Kush Himalayas through establishment of atmospheric observatories, field measurement campaigns, and atmospheric modelling
- Piloting of mitigation methods and dissemination of mitigation options
- Development of emission inventories
- An atmosphere knowledge hub