Solutions to secure clean water in the glacier-fed catchments of Central Asia – what happens after the ice?

Summary

Central Asia is a water-deficient region where glaciers deliver two important ecosystem services:

- Water provision to arid plains
- Dilution of water pollutants by high flow

Need to characterise water quality in Central Asia at present

How will decline in streamflow following glacier retreat affect water quality?

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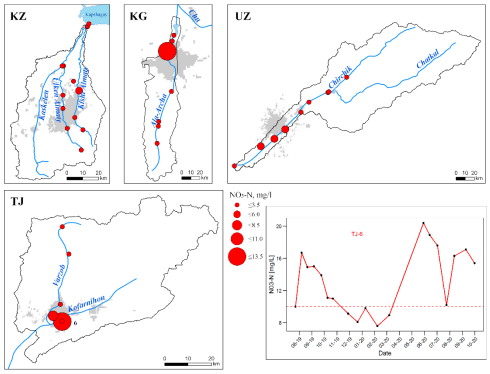
Key findings/learning/outcomes

- **Extensive water quality sampling programmes were established in four glacierized catchments extending onto the plains with local scientists.**
- **Surface water quality in rivers mostly complies with national and WHO standards as pollutants are flushed out by snow and glacier melt**
- Higher concentrations are observed in cold season during low flow
- There are catchment pollution hotspots associated with irrigation systems and urban areas
- Highest concentrations of pollutants are observed in ground water in urban areas
- Water availability in the future depends on relative contributions of sources to streamflow and surface water – groundwater mixing in lowlands: Analysis of stable isotopes is ongoing
- HYPE model is being set up to assess impacts of reduced glacier melt on water quality

Where? Central Asia: Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan



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