



**Project acronym:** LEGACY

**Project title:** Glacial impacts on lacustrine ecology, geophysical systems and pollutant chemistry in the high Arctic

**Project leader:** David Ryves, Loughborough University, UK

**Discipline:** Earth Sciences & Environment: Water sciences/Hydrology

**Station(s):** Ny-Ålesund Research Station - Sverdrup (Svalbard/Norway)

LEGACY will utilise a multi-proxy approach to analyse high resolution lake core sediments and reconstruct a historical record of the changing sedimentological processes affecting the study sites, sediment chemistry profiles (including the presence of a selection of POPs, mercury and lead) and shifts in diatom assemblages. Comparison will be made between the Atlantic influence in Svalbard and the Arctic influence in north-eastern Greenland. In so doing, LEGACY will provide a diverse historical overview of Arctic lake variability, putting the present processes into climatic context, and enabling the extrapolation of the data to develop models on the impacts of future climate change on these fragile freshwater ecosystems.