

This thesis is based on research in two lakes in northernmost Sweden. The aim is to bring further knowledge about in-lake CO<sub>2</sub> production, the variation of CO<sub>2</sub> in the surface water and the CO<sub>2</sub> gas transfer rates between water and air.



*The two study sites (above left), plus two important contributors to this thesis: (1) the assistant supervisor and co-author Anders Jonsson, solving logger problems (left), and (2) the co-author Klockar Jenny Nääs, sampling sediment (above). Both images were taken during field work in Lake Diktar-Erik.*

The general net release of CO<sub>2</sub> from inland waters contrasts the general net CO<sub>2</sub> uptake by the terrestrial biosphere. High latitudes, with a large number of lakes, are predicted to be particularly affected by global climate change. The carbon cycling in northern lakes and their role in the landscape are therefore important to study.

