

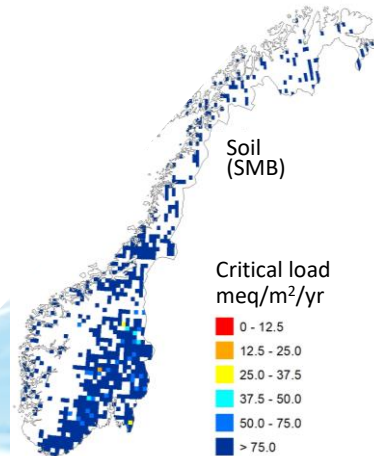
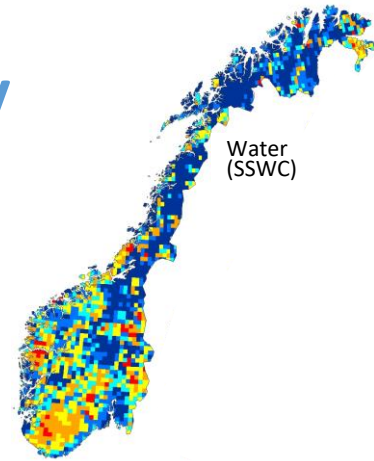
Status of steady-state CL in Norway

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TF ICP M&M online 21-23 April 2020

Steady-state CLs in Norway

- Main focus on CLs for acidification of surface waters
 - Most sensitive systems
 - SMB CLs calculated for forest soils (assuming all N is taken up) – always low exceedance and not exceeded since the 1990s
- CLs for water calculated for the entire area of Norway
 - The whole catchment affects lake/river acidification

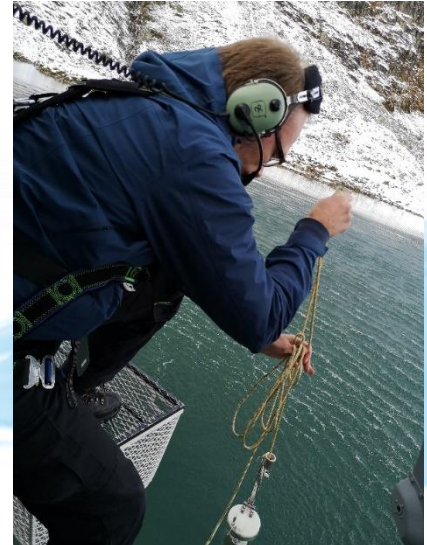
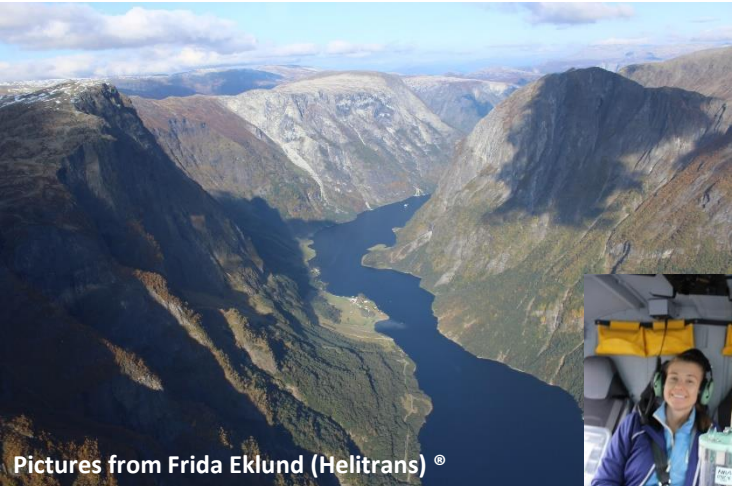


Critical loads for water

- Calculated with SSWC and FAB
 - Only FAB submitted to CCE (worst case)
 - Generally according to the mapping manual
 - Original base cation concentration (BC^*_0) calculated from a regression model of «present» BC^* and BC^*_0 for a set of acidified lakes modelled with MAGIC
- Calculated for grid cells, not individual water bodies
 - Each grid cell assigned a water chemistry from monitoring data

2019 national lake survey

- 1000 statistically selected lakes across the country
- Starting point for a potential revision of the critical loads



2020 project to evaluate the methodology

- Should we change to lake specific calculations?
 - Can estimate BC^*_0 for each lake by MAGIC
 - Requires an update of other input data required for FAB
- Evaluation of the current approach and consequences of changes
 - Effect of changing BC^*_0 approach using existing MAGIC calibration for the 1000 lakes (based on the 1995 survey)
 - Evaluation of the FAB constants (N immobilisation, denitrification, mass transfer coefficients): Sensitivity analysis, is there new information available, is it possible to assign different values to different lakes/regions?
 - Should we update the N uptake? Are better data available?
 - What would be the best approach to extrapolate CLs from the lakes to the entire country?
- Is an update worthwhile from a management/policy point of view
 - If the area exceeded for Norway changes by e.g. two percentage points, will it affect policies?