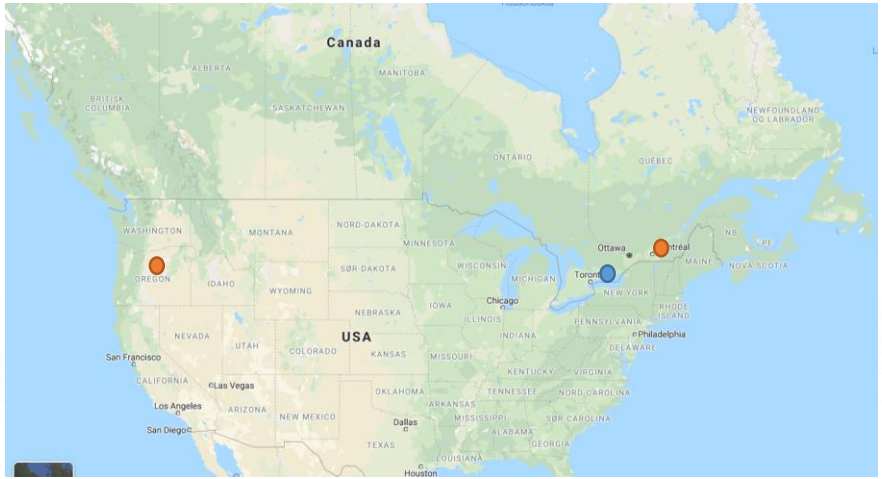
Report from ICP Waters

Remote Task Force meeting May 11 and 12

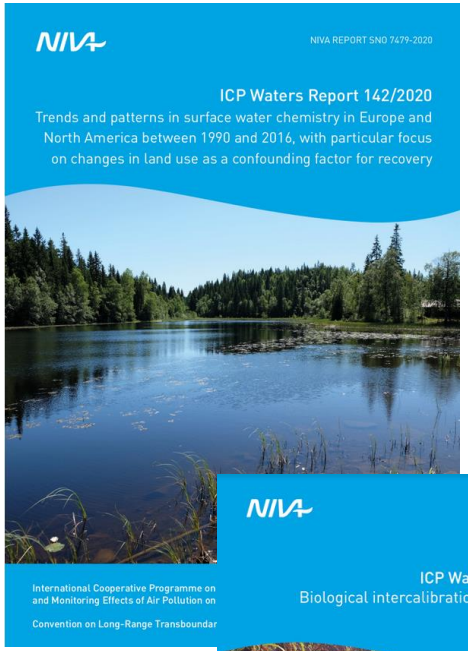
- Recent publications
- Recent results (particularly nitrogen)
- Plans for the future

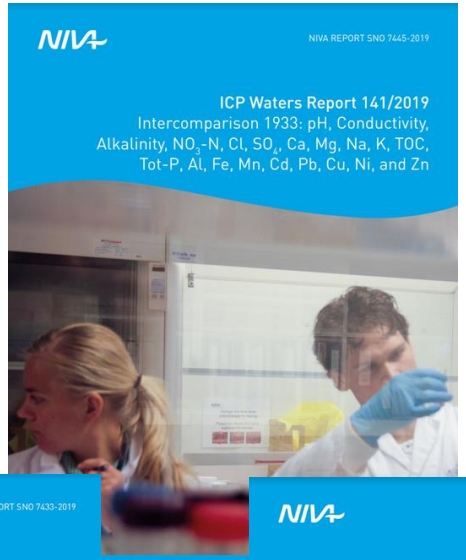
First virtual meeting

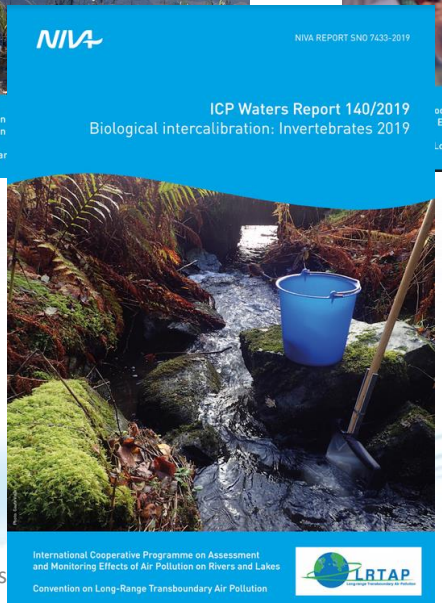


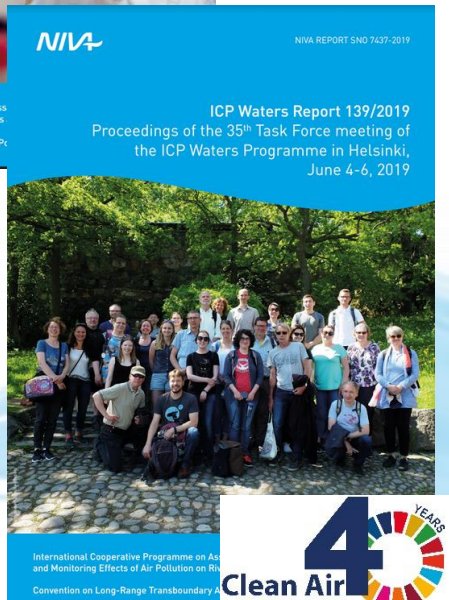
- National Focal Centres
- Representation of other bodies under LRTAP

New reports

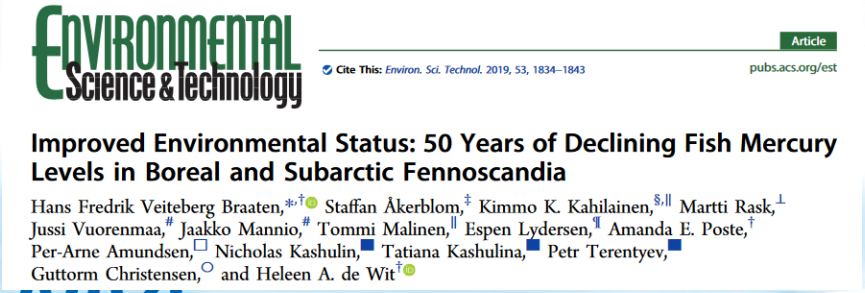




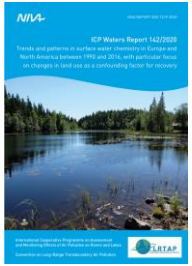




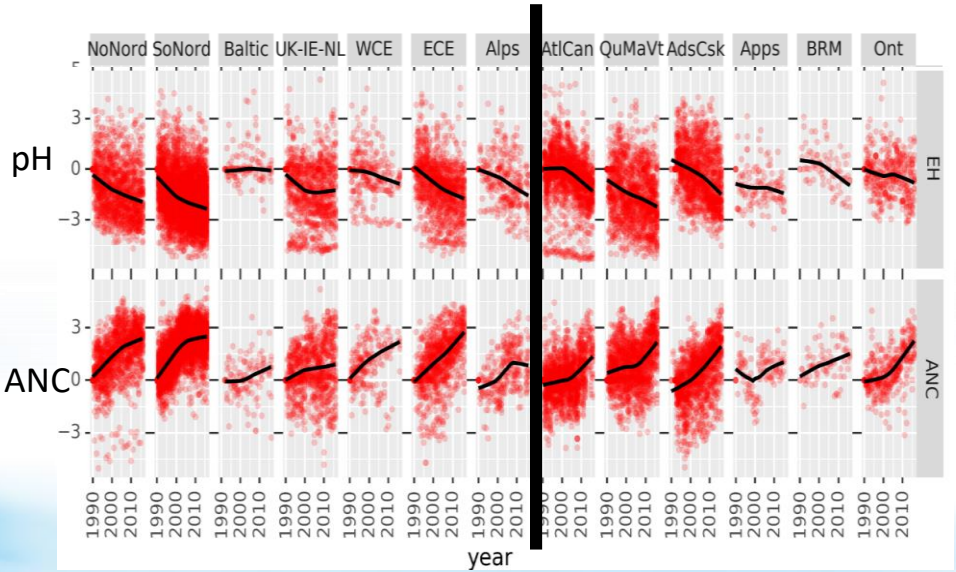
Paper



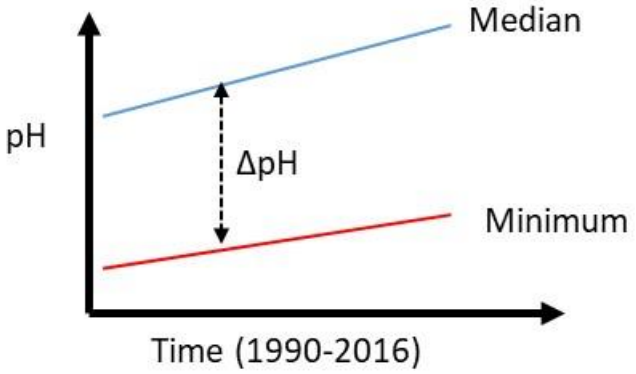
Trends for 1990-2016 (Garmo et al 2020)



Surface waters show recovery

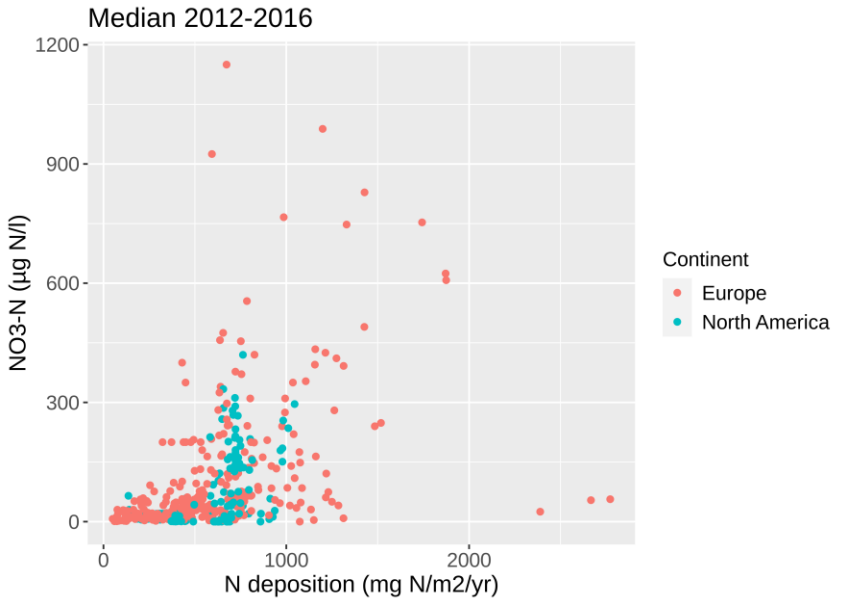


Acidic episodes have become less severe



Ackn. Øyvind Garmo

Trend in nitrogen – ongoing analysis



500 sites with long-term records (1990-2016) in Europe and North Amercia

- Deposition:

<1 to >15 kg N/ha/yr

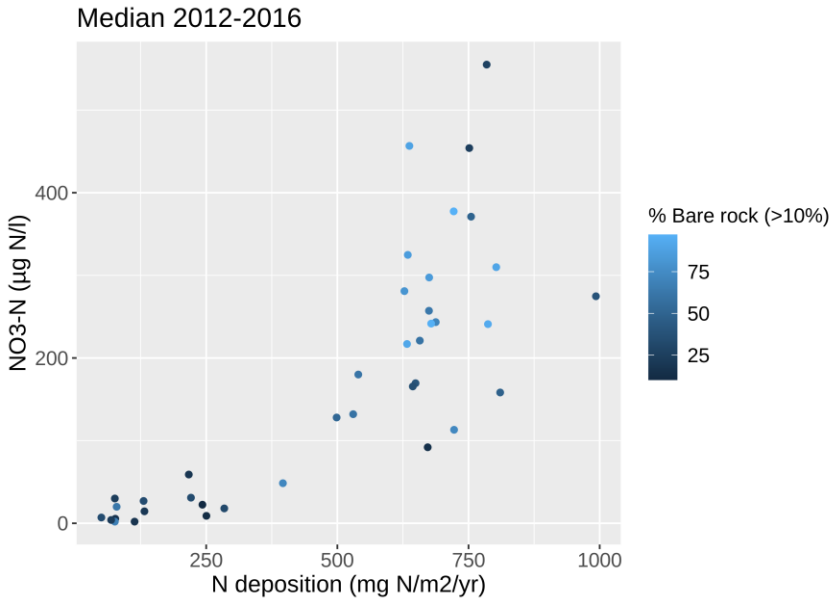
Concentration:

- <20 to >300 µg/L NO_3-N

- Mainly natural land cover: forest, wetlands, mountains (bare rock)

Ackn. Kari Austnes

Spatial analysis

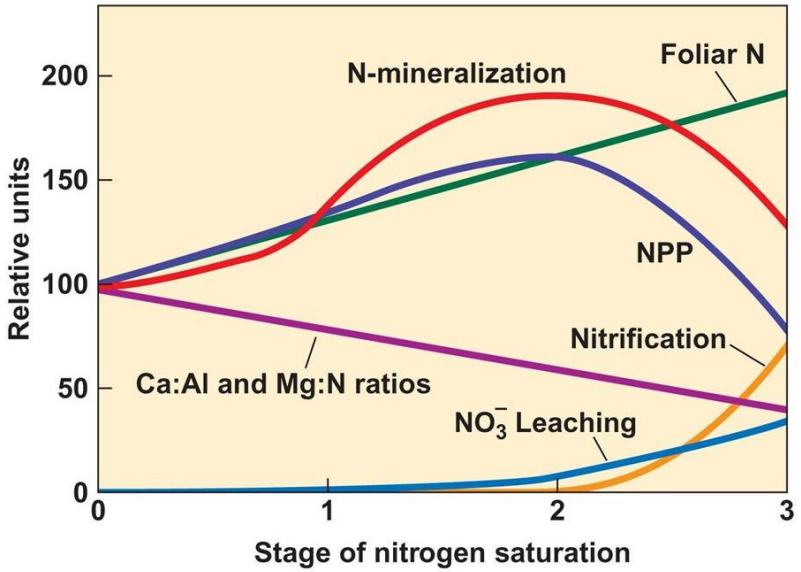


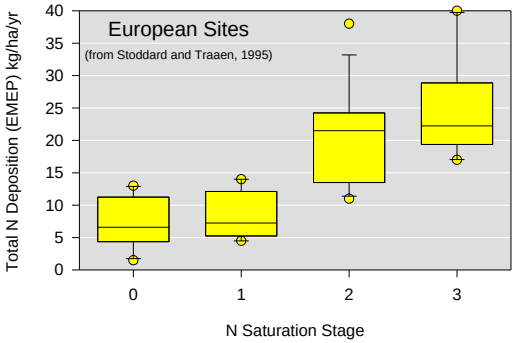
Highest NO3 concentrations in lakes and rivers where

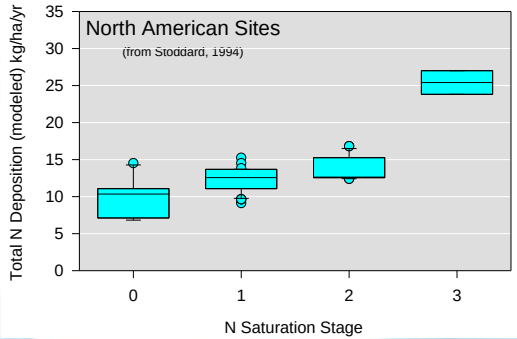
- -N deposition is highest
- -catchment N retention is limited (because of thin soils/bare rock)

Ackn. Kari Austnes

Nitrogen saturation – NO3 leaching is an indicator

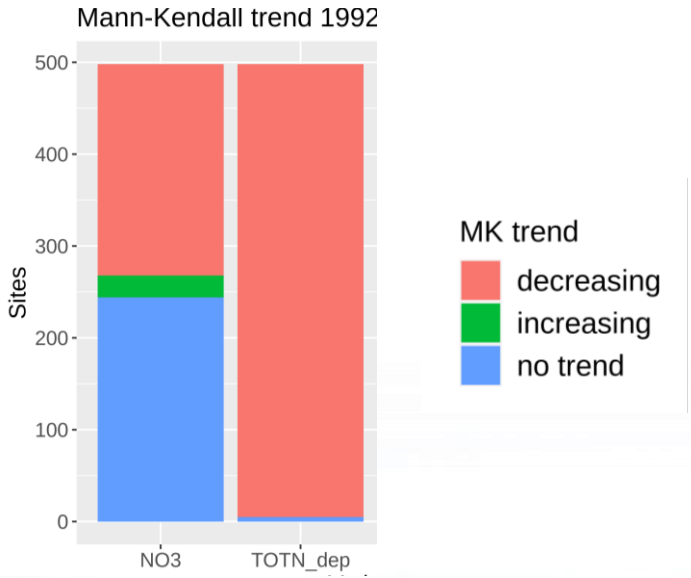






Ackn. John Stoddard

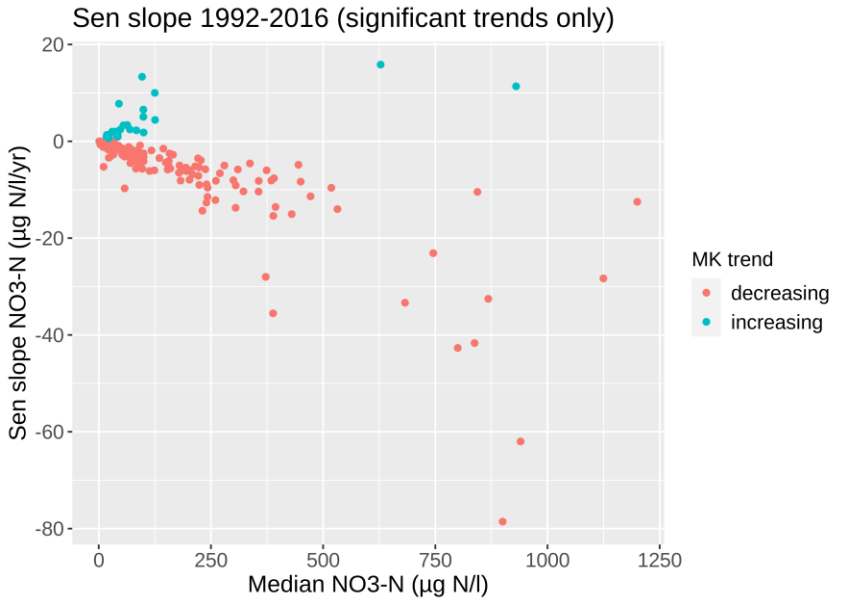
Trends in N deposition and surface water NO3



- Significant declines in N deposition – nearly everywhere
- Decreasing and non-significant trends in NO_3 concentration dominate
  - Some upward trends (mainly Sweden, NE US)

Ackn. Kari Austnes

Largest trends in NO3-rich surface waters

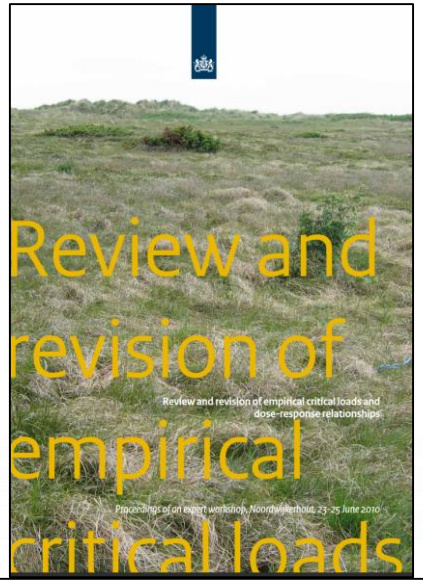


- In agreement with ICP IM results (presented by Jussi yesterday)
- Big question:
  - Is this all driven by N deposition (no!), land cover (no!), climate (?), or a combination of factors (probably…)
  - Next step: more advanced statistical analysis (GAMM)

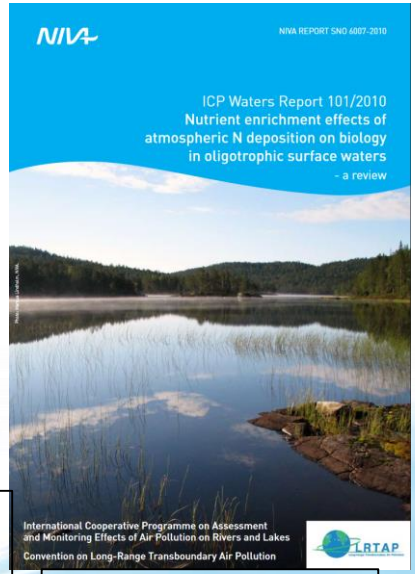
Ackn. Kari Austnes

Plans for the future - I

- Combined report addressing trends in N and empirical loads for nitrogen (ongoing process led by CCE), to be delivered in 2021
- Literature review and data analysis on biological responses to nitrogen (Nordic database), participation in expert workshops



Proceedings from expert workshop in 2010
Bobbink and Hettelingh (eds), 2011



De Wit and Lindholm, 2010
Literature review

Plans for the future - II

Report for 2022

- Most relevant topic is probably biological recovery and critical limits (dose/response relationships)

Task Force meeting 2021

- Riga welcomes us again!
- Joint with ICP IM?

Common for all ICPs

- Review and revision of the Gothenburg protocol
- Inputs to the Scientific Strategy
- Nitrogen might be a subject that ICPs could collaborate on more than they do at present (not just critical loads)