# ICP Waters

International Cooperative Programme on Assessment and Monitoring Effects of Air Pollution on Rivers and Lakes

## Current issues

## Task Force meeting in Helsinki June 4-6

UNECE

Clean Air 40 YEARS

# Change in leadership ICP Waters

- Kari Austnes leader of Programme Centre
- Heleen de Wit Chair

- Motivated by the Norwegian Environment Agency to strengthen the scientific leadership of ICP Waters
- Chair and leader of Programme Centre are both responsible for leading ICP Waters as centre for air pollution effects on surface waters, to produce cience-based support for clear-air policy

# Participation

- Welcome to new Focal Centres!
  - Armenia, Georgia and Spain
- Thanks to ICP Integrated Monitoring for continued good collaboration and organization of joint meetings
- Thank you National Focal Centres!
  - Attending and contribution to Task Force meetings
  - Timely and good quality contributions to databases
  - Participation in intercomparisons
  - Active contributions to thematic reports and publications

# Participation in annual activities


| | Chemical data (last yr of delivery) | Biological data (last year with data) | Participation in TF meetings 2016-2019 | Participation in chemical intercomparison 2016-2017 | Participation in biological intercalibration 2016-2018 |
|---|---|---|---|---|---|
| Armenia | 2012 | | ● | | |
| Austria | 2015 | | ● | ● | |
| Belarus | 2015 | | | | |
| Belgium | | | | ● | |
| Canada | 2018 | | ● | ● | |
| Croatia | | | | | |
| Czech Rep. | 2018 | 2017 | ● | ● | |
| Estonia | 2018 | | ● | ● | ● |
| Finland | 2018 | | ● | ● | |
| France | | | | ● | |
| Georgia | | | ● | | |
| Germany | 2018 | 2017 | ● | ● | ● |
| Ireland | 2018 | 2016 | ● | ● | ● |
| Italy | 2018 | | ● | ● | |
| Latvia | 2019 | 2018 | ● | | |
| Lithuania | | | | ● | |
| Moldova | 2018 | | ● | ● | |
| Montenegro | 2012 | | ● | | |
| Netherlands | 2016 | | ● | ● | |
| Norway | 2018 | 2018 | ● | ● | ● |
| Poland | 2018 | | ● | ● | |
| Russia | 2016 | | ● | ● | |
| Serbia | | | | ● | |
| South Africa | | | ● | | |
| Spain | 2014 | | ● | ● | |
| Sweden | 2018 | 2018 | ● | ● | ● |
| Switzerland | 2018 | 2017 | ● | ● | ● |
| UK | 2018 | 2015 | ● | ● | |
| USA | 2018 | | ● | ● | |
| **Total** | **21** | **8** | **23** | **22** | **6** |

NIVA

Clean Air 40 YEARS

# Programme aims

- Assess the degree and geographic extent of the impact of atmospheric pollution, in particular acidification, on surface waters
- Collect information to evaluate dose/response relationships
- Describe and evaluate long-term trends and variation in aquatic chemistry and biota attributable to atmospheric pollution

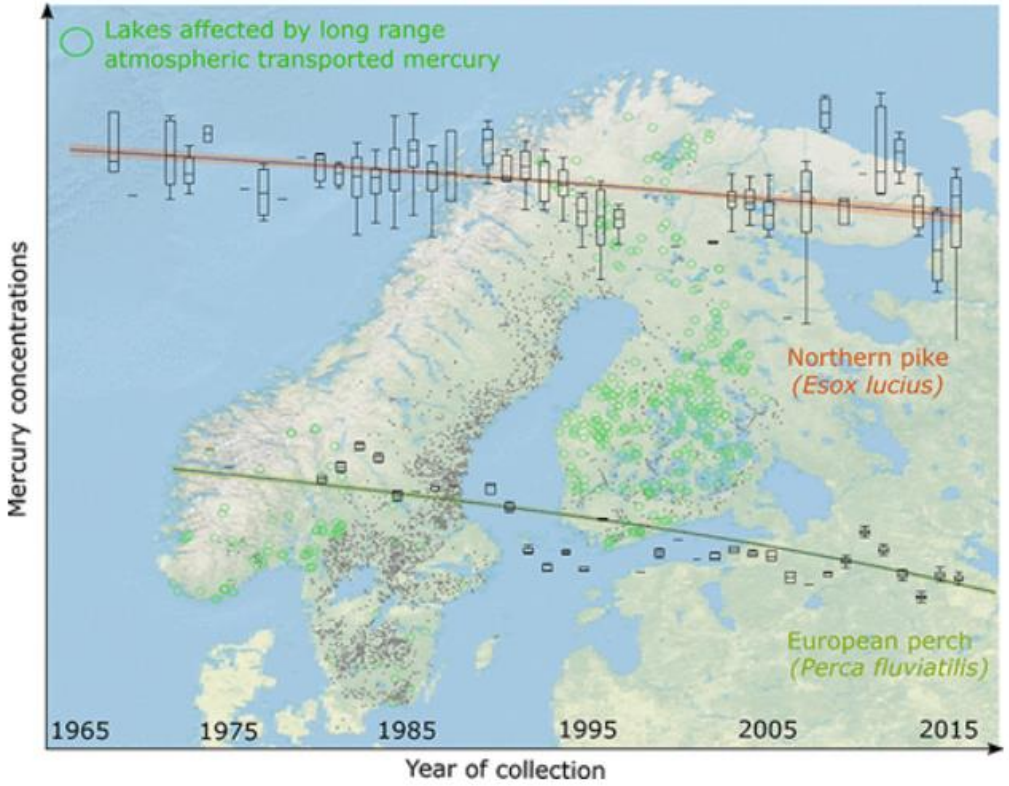
| | |
|---|---|
| Sulphur and nitrogen | 2019: Trends in water chemistry<br>2018: Regional assessment of acidification |
| | 2020: (Reactive) Nitrogen? |
| Heavy metals | 2017: Mercury report |
| Biological recovery<br>Biodiversity | 2016: Biodiversity invertebrates |
| | 2021: Recovery and fish? |

# 2018-2019 Workplan

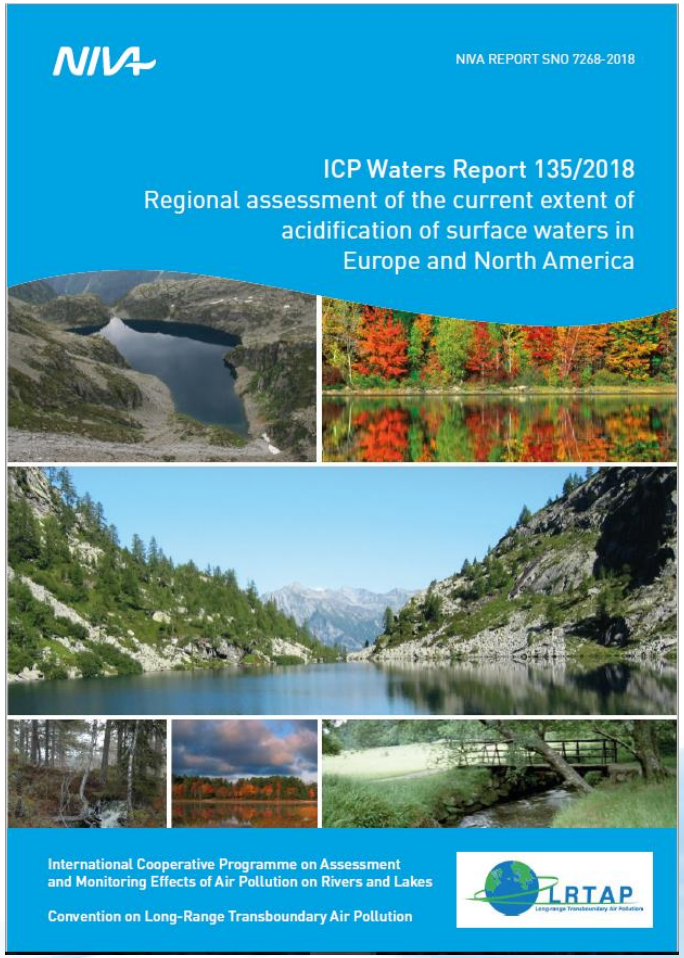
| | | | |
|---|---|---|---|
| 1.1.1.10 | Regional assessment of surface water acidification | Final report (2018) | ICP Waters with possible contributions from ICP Modelling and Mapping and ICP Integrated |
| 1.1.1.11 | Prepare new thematic report for 2019 (suggested topic "Retention and effects of reactive nitrogen in surface waters"; to be decided at 2018 ICP Waters Task Force meeting) | Report (2019) | ICP Waters with possible contributions from other bodies under the Convention |
| 1.1.1.34 | Further explore the fish mercury database | Report or scientific paper | ICP Waters |
| **1.4** | **Improving the functioning of WGE and EMEP and their subsidiary bodies** | | |
| 1.4.1 | Analyse effects monitoring networks within WGE to improve integrated working and reporting | Report on the effects monitoring network within WGE (2019) | WGE, ICPs |
| 1.4.3 | Develop a common portal to enable integrated assessments and to assist Parties in their implementation of air pollution strategies | Improvement of data access via the web (2019) | EMEP, WGE including ICPs and other subsidiary bodies |

# Recent publications

Long-term decline in Hg in fish



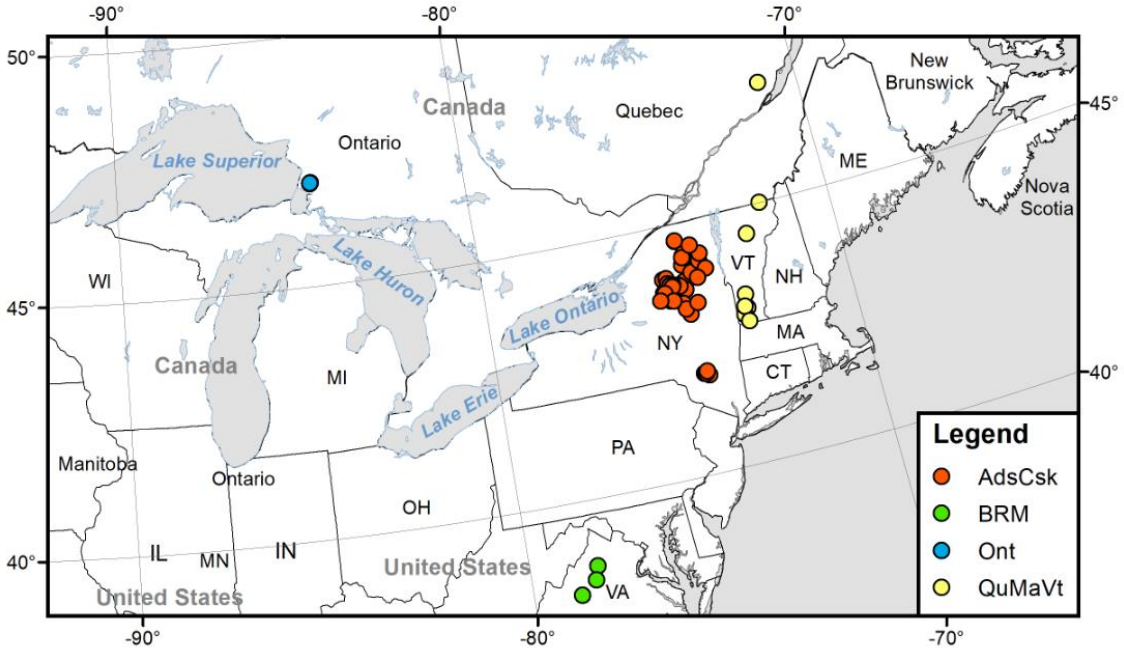

Braaten et al. 2019 *Environ. Sci. Technol.* 53, 1834-1843.



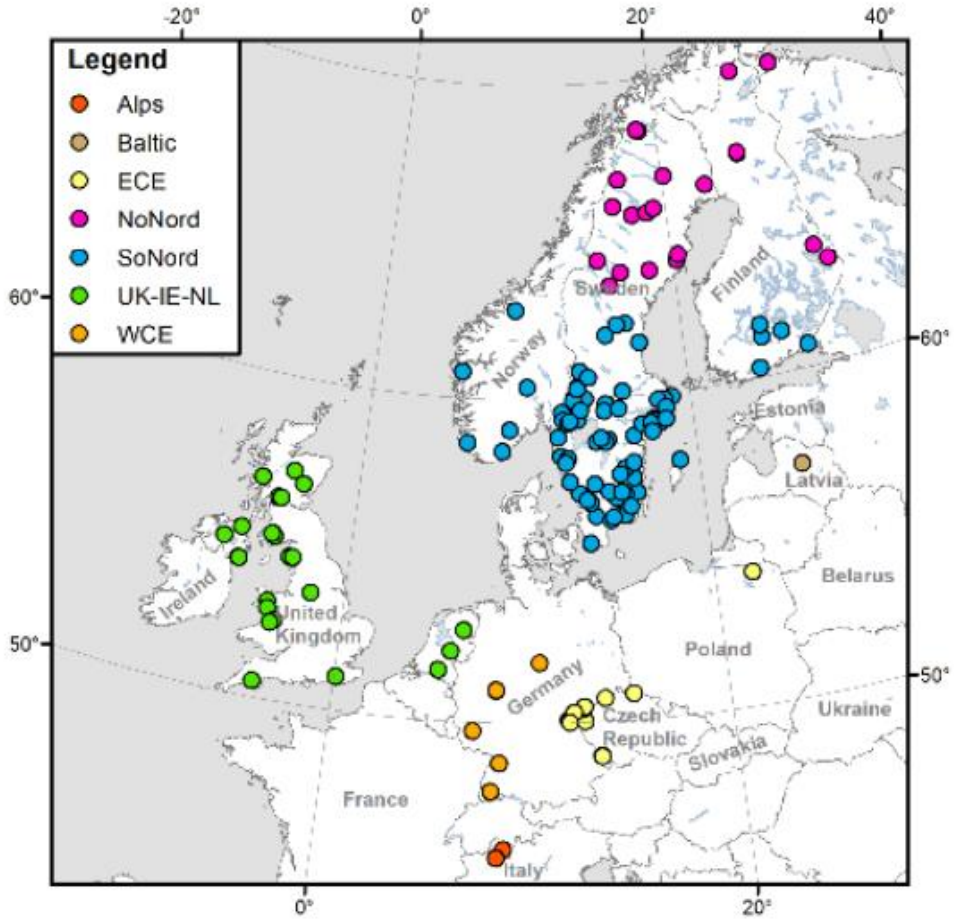

Austnes et al. 2018

# Extended database & current trend analysis

- >500 core sites (at least 1 sample/yr)
- >200 sites with seasonal/monthly samples



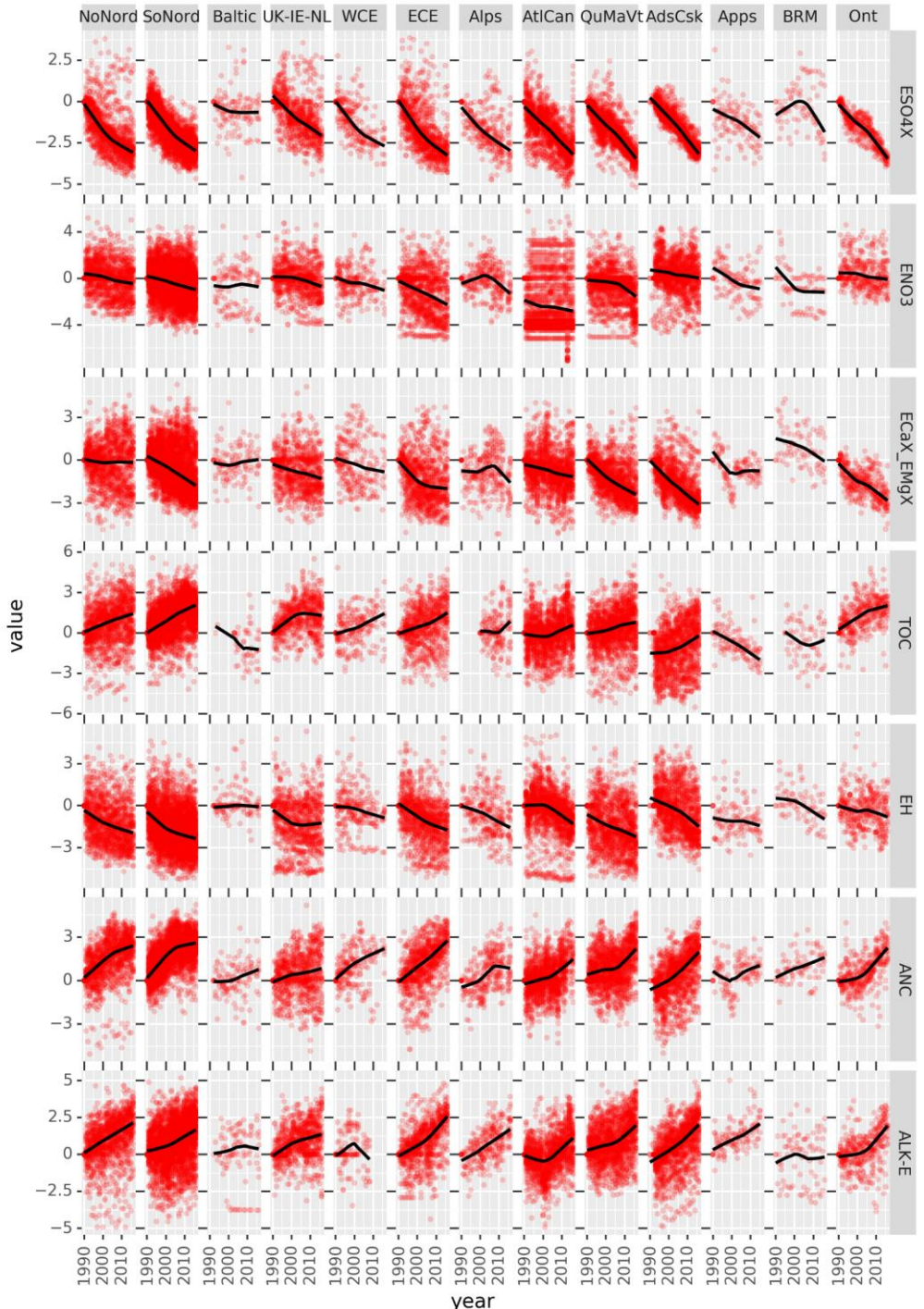

75 sites in N. America. 68 lakes and 7 rivers/streams




156 sites in Europe 112 lakes and 44 rivers/streams

# Ongoing trend assessment water chemistry

- 1990-2016
- Long-term trends
- Episodes
- Breakpoints
- Land use change & recovery



# Current issues ICP Waters

- Data portal & open access
  - How is the open data access policy in your country?
- Trend assessment
  - Presentation later today
- Support for NEC Directive
- Continued collaboration with ICP IM and other bodies under Convention
- Workplan 2020-2021

- Possible thematic reports 2020-2021
  - **Long-Term Changes in Watershed Retention of Nitrogen**

    **Its Causes and Aquatic Consequences**

    1994

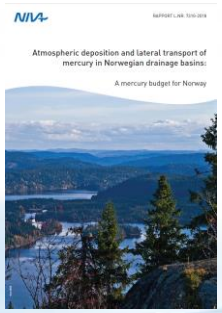
    John L. Stoddard

    ManTech Environmental Technology, Inc., U.S. Environmental Protection Agency, Environmental Research Laboratory, Corvallis, OR 97333

  - Ca limitation?
  - Climate as a confounding factor?
  - Biological recovery – fish?

# Policy-relevant messages – annual report to WGE
# Based on activities programme centre & NFCs

- Minamata convention
  - Contributions to guidelines on monitoring in freshwater ecosystems
  - Presence at COP meetings
- Mercury budget Norway
  - TF on Reactive Nitrogen uses National Nitrogen Budgets




- Acidification report
  - Pointing out current status, data availability in acid-sensitive areas (or lack there-of), usefulness of other databases (WFD) to assess acidification
  - Relevant to NEC Directive
- Climate change and land-use impacts on recovery
- EECCA countries

# Enjoy the meeting!

TF meeting 2010 in Helsinki

TF meeting 2018 in Warsaw