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

Activities and plans 2014

Gunnar Skotte
Chairman ICP Waters
Norwegian Environment Agency

Heleen de Wit
Head of the Programme Centre
Norwegian Institute for Water Research

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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
Task Force meeting October 2013

- Cesky Krumlov, Czech Republic
  - Ecosystem services
  - Biodiversity
  - Chemical and biological recovery
  - Mercury
  - Dynamic modelling
Status of participation October 2013

Armenia  
Austria  
Belarus  
Canada  
Croatia  
Czech Republic  
Estonia  
Finland  
France  
Germany  
Italy  
Ireland  
Latvia  
Montenegro  
Norway  
Poland  
Russia  
Spain  
Sweden  
Switzerland  
UK  
USA

22 countries

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Publication of trend analysis

Water, Air, & Soil Pollution
February 2014, 225:1880

Trends in Surface Water Chemistry in Acidified Areas in Europe and North America from 1990 to 2008

Øyvind A. Garmo, Brit Lisa Skjelkvåle, Heleen A. de Wit, Luca Colombo, Chris Curtis, Jens Fölster, Andreas Hoffmann, Jakub Hruška, Tore Høgåsen, Dean S. Jeffries, W. Bill Keller, Pavel Krám, Vladimir Majer, Don T. Monteith, Andrew M. Paterson, Michela Rogora, Dorota Rzychon, Sandra Steingruber, John L. Stoddard, Jussi Vuorenmaa, Adam Worsztynowicz
Publication of trend analysis

- Trend analysis of >170 stations in acid-sensitive regions in North America and Europe
- Key components of water chemistry 1990-2008
Downward trends in sulfate
Clear improvement water quality

• Positive trends in pH, alkalinity, ANC
• Tendency to slower improvements after 2000
• Many regions remain clearly acidified
• Some biological recovery can be expected
2014: follow-up of trend analysis

• Include another 4 year of data

• Focus:
  – If all emission reductions are implemented, what will be the state of acid-sensitive surface waters?
  – Comparison of observed trends with modelled trends using deposition and F-factor model, and deposition scenarios

• Results to be presented in October 2014 at TF meeting
Trends: common item for (all?) ICPs

• In 2015, a common report for all ICPs will be prepared with focus on trends in effects related to long-range transported air pollution
New reports:

- **ICPW 114/2013.** Biodiversity in freshwaters: temporal trends and response to water chemistry
- **ICPW 115/2013.** Effects of long range transported air pollution (LRTAP) on freshwater ecosystem services
- **ICPW 116/2014.** Intercomparison 1327: pH, Conductivity, Alkalinity, NO3-N, Cl, SO4, Ca, Mg, Na, K, TOC, Al, Fe, Mn, Cd, Pb, Cu, Ni and Zn
- **ICPW 118/2014.** Biological intercalibration: Invertebrates 1713
Other activities in 2014

• Data harmonisation and quality control
  – Chemical intercomparison
  – Biological intercomparison

• Preparation of 2015 report on biodiversity and climate
  – Biodiversity indices and acidification indices
  – Draft to be presented at TF meeting

• Evaluation of critical loads and exceedances for surface waters (co-operation with focal point ICP M&M)
  – Comparison with WFD requirements
  – Guidance document: 2% of Norwegian area at risk for acidification in 2020 – systematic bias in EMEP deposition?

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Welcome to 2014 Task Force meeting, October 14-16 in Grimstad in Norway