



UNECE CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION

International Cooperative Programmes on Integrated Monitoring of Air Pollution Effects on Ecosystems

27th ICP IM Task Force Meeting, Helsinki, Finland, 5 June 2019

Suggested agenda, with annotations

1. Opening of the meeting

2. Approval of the agenda

3. Approval of the minutes from the 26th ICP IM Task Force meeting, Warsaw 2018.

The minutes were distributed by mail to all participants, and are available on the ICP IM web site at the programme centre: <https://www.syke.fi/download/noname/%7BD7069EDF-08F7-471D-9F0D-3420399C8B7B%7D/137846>.

4. Activities during 2018/19 - Information

The ICP IM activities in 2018/2019 included work on S and N input and output budgets for IM sites, dynamic vegetation modelling, the Annual ICP IM Report No 27 and common items such as outreach and common activities.

Meetings:

- Thomas Dirnböck, Environment Agency Austria, represented ICP IM in the 33rd Task Force meeting of ICP Modelling & Mapping and Joint Expert Group on Dynamic Modelling, in Bern, 18 to 20 April 2018.
- ICP IM Programme Manager Martin Forsius and Co-Chair Ulf Grandin participated in the eLTER H2020 annual meeting and development eLTER Research Infrastructure in Sofia, Bulgaria, 23–25 May 2018.
- The former ICP IM Chair Lars Lundin represented ICP IM in the 34th Task Force Meeting of ICP Forests, in Riga, 23-25 May 2018.
- Martin Forsius and Ulf Grandin represented ICP IM and Co-chair Salar Valinia represented Sweden in the Fourth Joint Session of the Working Group on Effects and the Steering Body to EMEP in Geneva, Switzerland, 10–14 September 2018.
- Martin Forsius participated in the joint 2018 conference organized by ILTER and its East Asia Pacific (EAP) Network in Taichung City, Taiwan, 15–19 October 2018.
- Ulf Grandin represented ICP IM and Salar Valinia represented Sweden at the NEC Directive Ecosystem Monitoring subgroup meeting in Brussels, 30 November 2018.
- Ulf Grandin, Martin Forsius and Maria Holmberg took part in the eLTER project planning meeting for the eLTER ESFRI process, in Rome, Italy 5–6 December 2018.

- Martin Forsius participated in the ‘Global event on clean air’, a special session at the 38th session of the Executive Body to the Convention on Long-range Transboundary Air Pollution (LRTAP) in Geneva, Switzerland, 12–13 December 2018.
- Martin Forsius took part in the eLTER plus meeting in Helsinki, Finland, 21–23 January 2019.
- Ulf Grandin took part in the eLTER project planning meeting for the eLTER ESFRI process, in Frankfurt, 19-20 February 2019.
- Ulf Grandin, Salar Valinia, and Martin Forsius represented ICP IM in the EMEP Steering Body and Working Group on Effects Bureaux meeting in Laxenburg, Austria, 19–21 March 2019.
- Ulf Grandin represented ICP IM and Salar Valinia represented Sweden at the NEC Directive Ecosystem Monitoring subgroup meeting in Brussels, 2 April 2019.
- Martin Forsius and Ulf Grandin attended the final Annual Meeting for participants of the eLTER H2020 Starting Communities project in Dalmahoy, United Kingdom, 13-16. May 2019
- The twenty-seventh meeting of the Programme Task Force on ICP Integrated Monitoring was organized as a joint 2019 Task Force Meeting of ICP Waters and ICP Integrated Monitoring in Helsinki, Finland from June 4 to June 6, 2019.

The Programme Centre received the 2017 data from most IM sites, data are now stored in the ICP IM database; further on item 8.

Scientific work regarding priority topics has continued:

- The Programme Centre prepared the ICP IM contribution to the Joint Report 2017 of the ICPs, TF health and Joint Expert Group on Dynamic Modelling for the WGE (ECE/EB.AIR/GE.1/2018/3– ECE/EB.AIR/WG.1/2018/3).
- Weldon, J., and Grandin, U. 2019. *Major disturbances test resilience at a long-term boreal forest monitoring site*. Ecology and Evolution 9:4275-4288.
<https://doi.org/10.1002/ece3.5061>
- Holmberg, M., Aherne, J., Austnes, K., Beloica, J., De Marco, A., Dirnböck, T., Fornasier, M.F., Goergen, K., Futter, M., Lindroos, A.J., Krám, P., Neiryneck, J., Nieminen, T.M., Pecka, T., Posch, M., Rowe, E.C., Scheuschner, T., Schlutow, A., Valinia, S., Forsius, M. 2018. *Modelling study of soil C, N and pH response to air pollution and climate change using European LTER site observations*. Science of the Total Environment 640-641: 387-399.
<https://doi.org/10.1016/j.scitotenv.2018.05.299>.
- Dirnböck, T., Pröll, G., Austnes, K., Beloica, J., Beudert, B., Canullo, R., De Marco, A., Fornasier, M.A., Futter, M., Goergen, K., Grandin, U., Holmberg, M., Lindroos, A.J., Mirtl, M., Neiryneck, J., Pecka, T., Nieminen, T.M., Nordbakken, J.F., Posch, M., Reinds, G.J., Rowe, E., Salemaa, M., Scheuschner, T., Starlinger, F., Uziębło, A.K., Valinia, S., Weldon, J. Wamelink, W., & Forsius, M. 2018. Currently legislated decreases in nitrogen deposition will yield only limited plant species recovery in European forests. Environmental Research Letters 13 (2018) 125010. <https://doi.org/10.1088/1748-9326/aaf26b>
- ICP IM participates in a joint coordinated exercise on dynamic modelling together with other ICPs (Joint Expert Group on Dynamic Modelling, JEG DM). Priority in the ICP IM work is given to site-specific modelling activities and development/testing of new methodologies for assessing the connections between air pollution and climate change.

- PhD Karin Eklöf at SLU Sweden, is suggested to lead the work on ecosystem effects by Hg and HM. **Approval** by the Task Force.

From the 2018-2020 work plan:

<i>Workplan item</i>	<i>Activity description/objective</i>	<i>Expected outcome/deliverable</i>	<i>Outcome</i>
1.1.1.28	Long-term trends in atmospheric deposition and run-off water chemistry of S and N compounds at ICP Integrated Monitoring catchments in relation to changes in emissions and hydrometeorological conditions	Scientific paper (2018)	Vuorenmaa et al. 2018, STOTEN
1.1.1.29	Dynamic modelling on the impacts of future deposition scenarios on soil and water conditions in ICP Integrated Monitoring catchments	Scientific paper (2018)	Holmberg et al. 2018, STOTEN
1.1.1.30	Dynamic modelling on the impacts of deposition and climate change scenarios on ground vegetation	Report (2019)	Dirnböck et al. 2018 Env. Res. Letters
1.1.1.31	Relationship between critical load exceedances and empirical ecosystem impact indicators	Scientific paper (2019)	In progress.

5. Discussions – break out groups, 1 hr.

Background: In line with the priorities set out in the long-term strategy for the Convention, science-based decision-making and an effects-oriented approach will remain an essential component of the Convention and the links between science and policy development will be retained and strengthened. User-friendly effect indicators and cost-benefit assessments are important to policymakers, politicians and the public and will be further developed. The science-related work in the period 2019–2022 will aim to make additional progress on the remaining and emerging challenges identified in the long-term strategy (e.g., particulate matter, tropospheric ozone, critical load exceedances and linkages between air pollution, climate change and biodiversity).

The EMEP Steering Body and Working Group on Effects Bureau Meeting in 2018 and 2019, recommended the ICP IM Task Force to discuss how IM can make further use of EMEP data. The 2018-2019 Work Plan stress a further integration of the various elements covered by EMEP and the effects-oriented activities under the Working Group on Effects. This integration may be demonstrated through common or joint outcomes and deliverables, such as e.g. assessment reports, country reports and joint websites.

Task:

We will form break out groups where each group should discuss and come up with suggestions on the following topics. Each group should have a secretary who summarise the discussions!

- a) Content of the new WGE web site. What should be mandatory to report for an overview of IM sites on the web site?

- b) Continued and intensified work on ecosystem effects from mercury and other heavy metals is a prioritised area. In which ways could ICP IM contribute with knowledge, data and research/assessment?
- c) In what ways could ICP IM increase its cooperation with other ICPs, particularly regarding dynamic modelling (all ICPs), cause-effect relationships in terrestrial systems (ICP Forests, ICP Vegetation), and surface waters (ICP Waters), see point 6c.
- d) In what ways could ICP IM increase its cooperation with EMEP (which is one priority in the CLRTAP Work Plan)?

6. Work plan and future work priorities

- **New WGE web page**

Decision on mandatory contributions from countries in ICP IM

Suggestion: A basic set of meta data for each IM site as mandatory, as asked for by the web page group in May 2019, else what comes out of the discussions.

On a longer time frame inclusion of all IM sites in ILTER's database DEIMS for cross referencing. DEIMS is an on-line tool for public access to comprehensive metadata about field research and monitoring stations and sites.

- **Reports to be prepared/finalized in 2019/20**

Information: According to the ICP IM work plan, ICP IM will produce the following:

Scientific paper on the relationship between critical load exceedances and empirical ecosystem impact indicators. Responsible: Programme Centre and NFPs of Austria and Sweden.

Report/scientific paper on HM trends in concentrations and fluxes across ICP IM sites in Europe. Responsible: Programme Centre and individual researchers.

Scientific paper on the impacts of catchment characteristics, climate and hydrology on N processes. Responsible: Programme Centre and individual researchers.

2020: Scientific paper on the recovery in the epiphytic lichen community in the IM catchments, after the decrease in S deposition. Responsible: NFP Sweden.

- **Suggested items for Work Plan 2020-2022**

- Report/scientific paper on state and effects of mercury and heavy metals at the IM sites.
- Scientific paper on effects in vegetation from climate change and air pollution
- Scientific paper on the recovery in the epiphytic lichen community after the decrease in S deposition.
- Report/scientific paper on continued work on N impacts and exceedance of critical load.
- Other suggestions from the break out discussion groups

- **Co-operation with other ICP:s, EMEP and organisations**

- Suggestions from the break out discussion groups, items c) and d).

The EU NEC directive:

Information: The EU has approved the new directive on national emission ceilings (2016/2284), and the Article 9 and Annex V of the directive contains instructions on reporting of ecosystem effects. Work of the ICPs is directly referred to. By 1 July 2019 Member States must report the first set of monitoring data measured at these sites.

LTER-Europe:

The European Long-Term Ecosystem Research network (eLTER) is developing rapidly (<http://www.lter-europe.net/>). Many of the LTER-Europe sites are also ICP IM sites so there is a need to discuss means of further cooperation.

Information: Discussions about a formal cooperation between WGE and eLTER has started in May 2019.

7. Financing/external applications

Financial support for the international coordination of effects-oriented activities under the CLRTAP is available through voluntary contributions to the Trust Fund.

Some key actions of the EU Horizon 2020 framework programme are open for research proposals. Such funding can be used for supporting research activities related to ICP IM, and the participating institutes are encouraged to look into the possibilities for joint applications. Information is available at: <http://cordis.europa.eu/>.

The NFPs may report on any progress in this field.

8. Data submission and database status

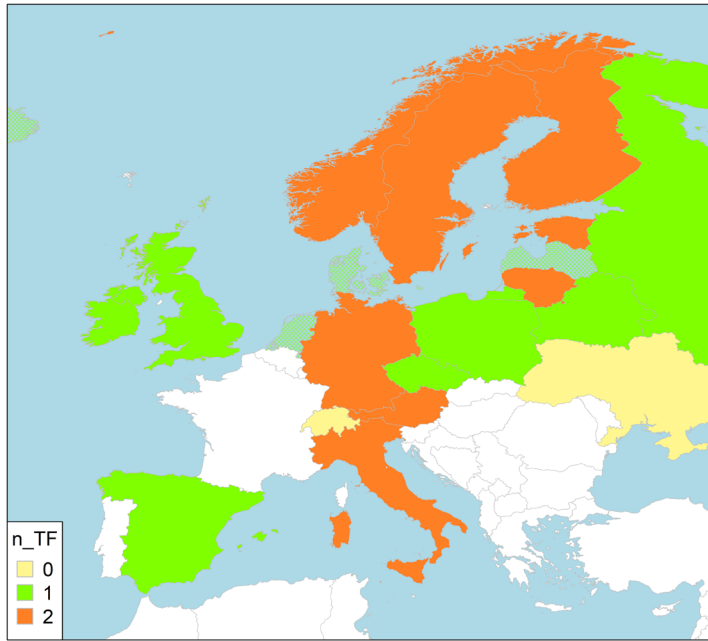
Will be presented by Sirpa Klemola. The Programme Centre will present the current status of the database for the meeting. A detailed description is given in the 28th Annual Report 2019. Most of the National Focal Points have submitted the results from 2016 to the Programme Centre. These data are incorporated into the IM database.

The following countries have continued data submission to the ICP IM data base during the period 2014–2018: Austria, Belarus, the Czech Republic, Estonia, Finland, Germany, Ireland, Italy, Lithuania, Norway, Poland, the Russian Federation, Spain, Sweden, Switzerland and Ukraine. Poland rejoined the network and included several sites in 2017.

The number of sites with on-going data submission for at least part of the data years 2013–2017 is 49 from sixteen countries. Sites from Canada, Latvia and United Kingdom only contain older data.

9. Next Task Force meeting

Decision: Main issue for ICP IM Task Force is if we want to continue to have joint TF meetings with ICP waters. Identification of potential countries interested in arranging next meeting.



Number of ICP IM TF meeting hosted by the different countries in the IM community.

10. Other business

11. End of meeting