



ICP Modelling and Mapping Progress in activities in 2021

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7th Joint EMEP / WGE meeting
Web-Conference, 13 – 16th September 2021



ICP M&M Task Force news and ongoing activities

Communication with NFCs

Newsletter since July 2019

» Condensed information to NFCs on main ICP M&M topics

- Summarising main achievements
- Announcing main M&M relevant events
- Encouraging contribution to the on-going work

» 5th letter published in July 2021

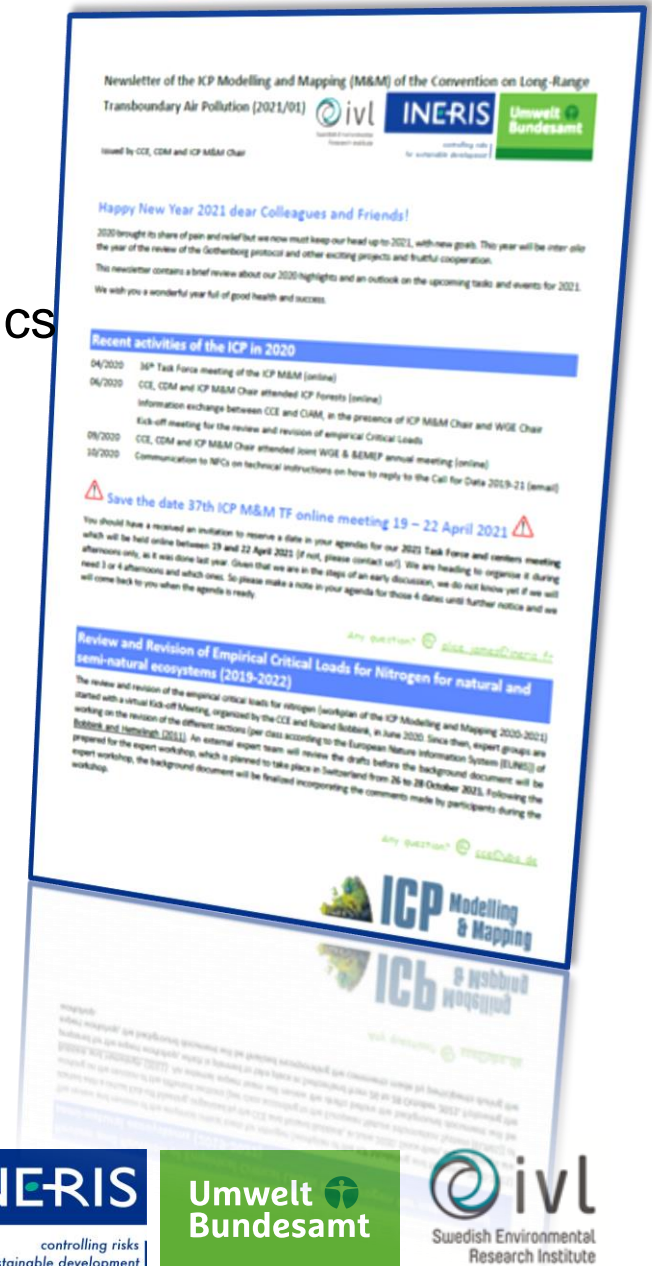
Newsletters are available online:

<https://www.umweltbundesamt.de/en/news-0?parent=67248>



Directly in your email box ?

➤ ask alice.james@ineris.fr

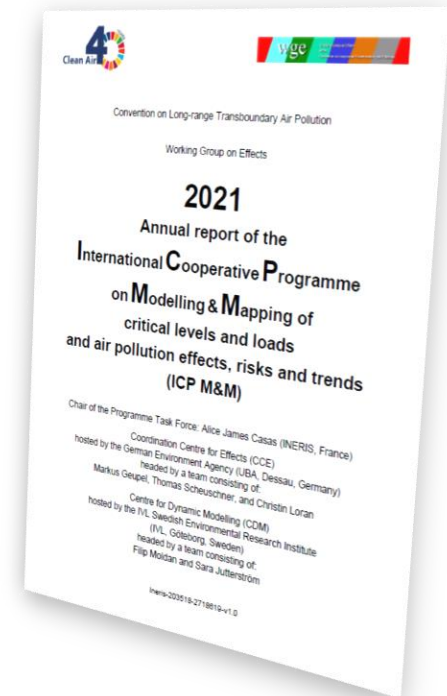


ICP M&M Task Force news and ongoing activities

Communication with NFCs

37th Task Force annual meeting 20 – 22 April 2021

- » Online Teams meeting
- » 3 afternoons
- » 22 Parties to the Convention, ca. 75 participants
- » Main topics on scientific work linked to Critical Loads
- » Contributions to Gothenburg Protocol Review
- » Long Term Strategy review



[ICP M&M 2021 Report available from CCE website – Meeting page](#)

ICP M&M – Contributions to/with other groups

Informing on ICP M&M, CCE and CDM work and encouraging the collaboration with other bodies of the Convention (online meetings)

- ICP Vegetation Annual Meeting (January 2021)
- EMEP/WGE Extended Bureaux Meeting (March 2021)
- ICP Integrated Monitoring Annual Meeting (April 2021)
- ICP Waters Annual Meeting (April 2021)
- ICP Forests Annual Meeting (June 2021)

Meeting other groups within and outside the Convention

- Collaboration with CEIP and MSC-W for contribution to the Gothenburg Protocol review process (emission > deposition > CL exceedances calculations)

CCE ongoing activities for workplan 20/21

ECE/EB.AIR/144/Add.2

<i>Workplan item</i>	<i>Activity description/objective</i>	<i>Expected outcome/deliverable</i>	<i>Lead body(ies)</i>	<i>Resource requirements and/or funding source</i>
1.1.1.13	<p>Call for data and contributions Steady-state Critical Loads:</p> <p>(a) update of National Critical Loads by National Focal Centres</p> <p>(b) establishment of European Background Database by CCE</p>	<p>Database (2020/2021) for Critical Loads for acidification and eutrophication; Report</p>	<p>ICP Modelling and Mapping/CCE</p>	<p>National Focal Centres and Germany</p>
1.1.1.14	<p>Empirical Critical Loads: Review and revision of the empirical Critical Loads on nitrogen published in 2011</p>	<p>Report on empirical Critical Loads in Europe (2021)</p>	<p>ICP Modelling and Mapping/CCE</p>	<p>National Focal Centres and recommended contributions</p>

National Contributions of CL data

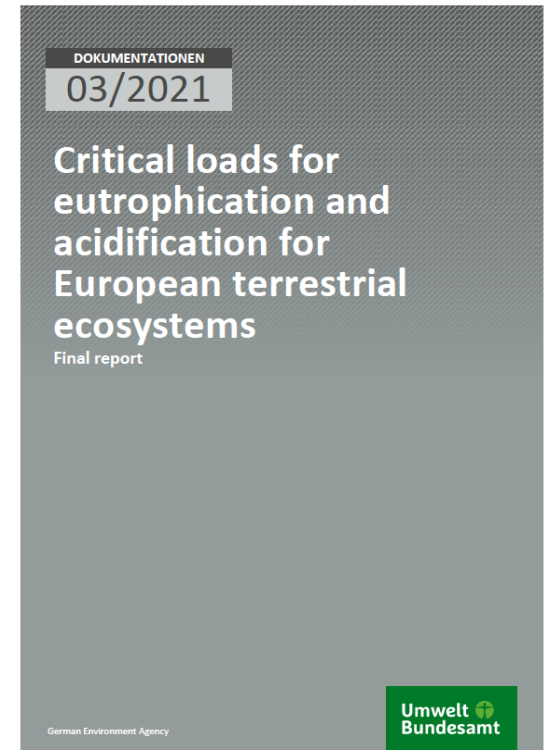
- » 8 contributions of new datasets for SMB CL
- » 6 confirmation of previous datasets for SMB CL
- » 7 contributions on Empirical Critical Loads

→ for the rest of the parties CL data of the newly updated European Background Database is applied

CCE ongoing activities for workplan 20/21 (2/6)

European Background Database

- » Project coordinated by CCE
- » Duration: November 2019 – February 2021
- » Partner: Wageningen Environmental Research
 - Database operational
 - Report is available
<https://www.umweltbundesamt.de/publikationen/critical-loads-for-eutrophication-acidification-for>



Review and revision of Empirical Critical Loads

- » Process coordinated by CCE, 45 Authors
- » Duration: 2020 – 2022
- » Funding: CCE / NFCs

- » Time frame:
 - 06/2020: Virtual Kick-off Meeting
 - 06/2020 – 06/2021: Experts updating the chapters of Bobbink et al. 2011
 - 07/2021 – 09/2021: Review round of the chapters by external experts
 - 26-28/10/2021: Expert workshop in Switzerland (Determination of revised CL)
 - 11/2021 – 04/2022: Completion and publication of the new report on CL

Review and revision of Empirical Critical Loads

- » Expert workshop in Switzerland (Determination of revised CL)
 - 26-28 October 2021
 - Hosted by Switzerland
 - Venue: Sorell Hotel Ador, Bern
 - Up to 60 participants
 - participants will need a COVID-certificate
 - remote participation will be possible (MS Teams, registration needed) for those not able or willing to travel
 - deadline for registration is 1st October
 - More information and registration document:
<https://www.umweltbundesamt.de/en/news-0?parent=67248>

Review of the Gothenburg Protocol

- » preparatory document ECE/EB.AIR/2020/3 – ECE/EB.AIR/WG.5/2020/3 – Annex I
- » Question 2.2 b “What is the annual change (or change every 5 years) in exceedance of critical loads for acidification and eutrophication between 1990 and 2018/2019 in terms of percentage ecosystems with exceedances and accumulated excess, based on current critical loads ?”
 - details have been delivered to be included in the first draft of report of the review and will be presented in the joint thematic session on the contribution of scientific bodies to the review of sufficiency and effectiveness of the Gothenburg Protocol
- » Question 2.8 “What are the expected impacts of new scientific findings on environmental and health effects assessments on critical loads ?”
- » Additional question “How and where do updated Critical Loads values affect the exceedances?”
 - details and answers will be delivered with the second draft of CCE contribution

Cooperative processes under the convention

- » CCE contributed to a paper lead by **MSC-W** comparing impact of 3 ammonia scenarios (2005, 2017 and 2030) i.a. on CL exceedance – *submitted & in review* ([preprint](#))
- » CCE contributed data and statistical analysis to the update of the latest EEA Technical Report about “Costs of air pollution from European industrial facilities” compiled by **INERIS**, using reduction scenarios (reducing Nitrogen emissions for different countries) to illustrate the impact in CL exceedance
- » Contribution to the EMEP Status Report 2021 ([direct link](#))

Contribution to improving and reviewing methods

- » Both project mentioned above promoted the further development of workflow and database structure of CCE

CDM ongoing activities for workplan 20/21

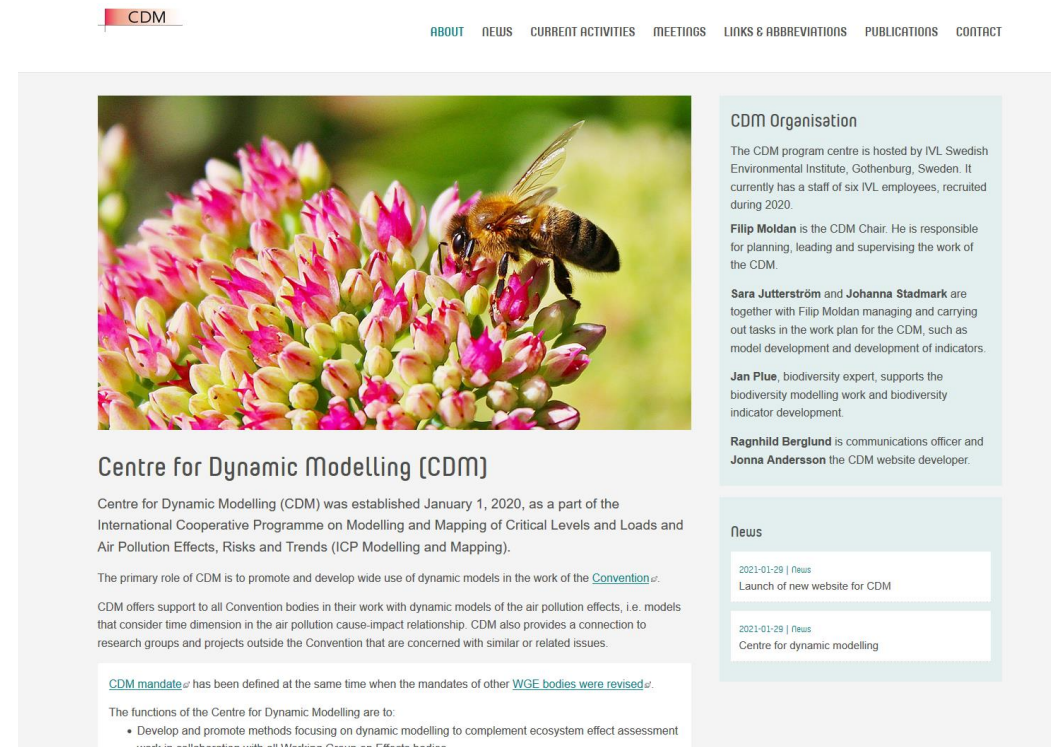
ECE/EB.AIR/144/Add.2

<i>Workplan item</i>	<i>Activity description/objective</i>	<i>Expected outcome/deliverable</i>	<i>Lead body(ies)</i>	<i>Resource requirements and/or funding source</i>
1.1.1.22	Review of the dynamic modelling work under the Convention; identification of areas of common interest and potential gaps	Final report 2020	ICP Modelling and Mapping	Recommended contributions
1.1.1.23	Development of metrics for quantifying damage to biodiversity due to air pollution and of biodiversity damage indicators suitable as a criterion for calculating critical loads for nitrogen as a nutrient	Report on indicators of damage to biodiversity (2021)	ICP Modelling and Mapping	Recommended contributions

CDM ongoing activities for workplan 20/21

CDM web page launched www.wge-cdm.se

- » Basic information about CDM, mandate, people, institution etc.
- » Activities, Meetings, Publications, Contact
- » We ask for feedback on “Links & Abbreviations” and on “Publications” (and on anything else).



The screenshot shows the homepage of the Centre for Dynamic Modelling (CDM). The header includes a navigation menu with links for ABOUT, NEWS, CURRENT ACTIVITIES, MEETINGS, LINKS & ABBREVIATIONS, PUBLICATIONS, and CONTACT. The main content area features a large image of a bee on a pink flower. Below the image is the title "Centre for Dynamic Modelling (CDM)" and a paragraph explaining its establishment in January 2020 as part of the International Cooperative Programme on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends (ICP Modelling and Mapping). The text describes the primary role of CDM as promoting the use of dynamic models and offers support to Convention bodies. A sidebar on the right contains sections for "CDM Organisation" (listing the chair, staff, and other experts) and "News" (with two recent news items dated 2021-01-29).

CDM ongoing activities for workplan 20/21

“Review of the dynamic modelling work under the Convention”

- » Based on individual ICP homepages, WOS and other sources
- » >20 models, wide range of processes modelled
- » CDM hired biodiversity expert and consulted with several national experts to finish the work, physical start-up meeting would have been beneficial

“Report on indicators of damage to biodiversity”

- » Definitions needs to be agreed upon (biodiversity, damage to biodiversity etc)
- » Ultimately the mission is to illustrate and quantify undesirable effects of N deposition
- » Data gaps, possibilities for future Call for Data
- » Relationship to the existing critical loads work

Future workplan 22/23 proposals

WP item	Activity description / objectives	Expected outcome /deliverable	Lead body(ies)	Resource requirements and/or funding sources
#1	Empirical Critical Loads: Review and revision of the CLemp N published in 2011 (continued)	Report on Empirical Critical Loads in Europe (2022)	ICP M&M / CCE	National Focal Centres and recommended contributions
#2	Harmonization of the receptor map for Europe	Harmonized receptor map for Europe (2023)	ICP M&M / CCE	CCE and Germany
#3	Critical Levels of ammonia : literature review and empirical data provision supporting a workshop	Organization of an International Workshop and Workshop report	ICP M&M / CCE	CCE and Germany
#4	Modelling interaction between air pollution and climate change: N and C	Expert workshop (2022)	ICP M&M / CDM	CDM and National Focal Centres experts
#5	Modelling impact of air pollution on biodiversity in 2030 and beyond	Report on methodology development (2023)	ICP M&M / CDM	CDM and National Focal Centres experts

ICP M&M 2021 – Main messages & discussion

Main messages you are invited to take back home or proposals to discuss now

- European Background Database : report is now [available](#)
- Review and Revision of Empirical CL : ongoing till Spring 2022
- Steady-state CL: a CCE report to underline the 2021 CL database will be prepared for early 2022
- Updating the harmonized CLRTAP receptor map: CCE-tender will be published on the UBA-Website within the next days/weeks
- CDM is planning for physical meeting/workshop on modelling, spring 2022, on biodiversity modelling and other modelling work

