

# Newsletter of the ICP Modelling and Mapping (M&M) of the Convention on Long-Range Transboundary Air Pollution (2021/07)

Issued by CCE, CDM and ICP M&M Chair



## 37<sup>th</sup> Task Force, 28<sup>th</sup> CCE and 2<sup>nd</sup> CDM meeting

Our 37<sup>th</sup> Modelling and Mapping Task Force meeting, together with the 28<sup>th</sup> Coordination Centre for Effects (CCE) and 2<sup>nd</sup> Centre for Dynamic Modelling (CDM) meetings were held online (Microsoft Teams) from 20<sup>th</sup> to 22<sup>nd</sup> April 2021 afternoons. It gathered 75 delegates at the most, from 26 countries including representatives of the Convention intergovernmental bodies, expert groups and scientific centres (WGE Bureau, ICP Forests, ICP Integrated Monitoring, ICP Vegetation and ICP Waters, and the CIAM). Several experts presented their recent progress in the field of critical loads and other ICPs were invited to present the state of play of their work. The meeting allowed ICP M&M community to be informed on the progress of activities of CCE, including the [update of the European Background Database](#), the contributions received following the [call for data on national critical loads](#), and the [review and revision of the empirical critical loads for nutrient nitrogen](#). CDM also reported on its progress regarding the [WGE webportal](#) and the further development for [biodiversity critical loads](#). Besides this reporting on ongoing activities within the biennial 2020-2021 workplan, other topics were tackled during the meeting, the main one being the possible [contributions from ICP M&M to the ongoing process of review of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone \(Gothenburg Protocol\)](#). ICP M&M will be contributing to the review with (i) CCE providing input data to analyze changes in exceedance of Critical Loads for acidification and eutrophication since last decades and projected changes ; (ii) ICP providing contribution to work on the assessment of the expected impacts of new scientific findings on environmental and health effects assessments, e.g. on Critical Loads, critical levels of ozone, PM, NO<sub>2</sub> and NH<sub>3</sub>, dynamic modelling of ecosystem recovery, interactions between air pollution, climate change, nitrogen fluxes and other stress factors for biodiversity.

Our 2021 report including the proceedings and notes from this meeting is available on the [CCE website hosting all information related to our ICP M&M](#).

Any question? @ [alice.james@ineris.fr](mailto:alice.james@ineris.fr)

## Recent activities of the ICP in 2020

- 02/2021 CCE and ICP M&M Chair attended ICP Vegetation meeting (online)
- 03/2021 CCE, CDM and ICP M&M Chair attended WGE/EMEP Bureaux meeting (online)
- 04/2021 CCE, CDM and ICP M&M Chair organized the ICP M&M annual meeting (online)
- 05/2021 CCE attended ICP Waters (online)  
CCE and CDM attended ICP Integrated Monitoring (online)
- 06/2021 CCE and ICP M&M Chair attended ICP Forests (online)

## Processing responses to the latest CFD

In response to the latest [Call for data](#) in total 16 countries submitted data and information to the CCE. All those countries on the one hand sent information on the use and application of empirical Critical Loads and/or on the other hand information on the national status of SMB-Critical Load modelling. The information on empirical Critical Loads will be used for the workshop and to prepare the report on “Review and revision of empirical Critical Loads” (see section below). The country specific information on SMB Critical Loads will be used for the Exceedance Calculations for Review of the Gothenburg Protocol.

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## New report available for the Background Database for Critical Loads

From 2019 to 2021, CCE had contracted Wageningen Environmental Research (WUR) and members of the former CCE to build, update and document the Background Database through the project “Critical loads for eutrophication and acidification for European terrestrial ecosystems”. This work is now achieved, and output is available in a final report which provides a description of the datasets used to construct a database that can be used as a basis for critical load computations. Datasets are described in general terms. Furthermore, the derivation of input data for the critical load models is described in detail. Next, a description is given of an R package and R scripts that can be used for these critical load computations. Both the installation of the scripts as well as their functioning is described and so are the associated data. Thereafter, a ‘validation’ is given of the R package and R scripts. Results are validated against the 2017 results from the Fortran based background data base computations of RIVM-CCE. Furthermore, a comparison is made with national critical load data submitted to the CCE by Ireland and Germany. Finally, critical loads related to the eutrophying effects of nitrogen are compared to empirical critical loads of nitrogen. **We are pleased to announce that the report on the background database project has been published and can be downloaded [here](#).**

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## Review and Revision of Empirical Critical Loads for Nitrogen for natural and semi-natural ecosystems (2019-2022)

Since the CCE initiated the review and revision of the empirical CL in 2019, several milestones have already been achieved. Before the end of 2019, an initial literature review was conducted by the Thünen Institute on behalf of the CCE. The actual process started in June 2020 with a virtual kick-off meeting. Since then, the CCE, together with Roland Bobbink, has been responsible for coordinating the expertise around the work of 45 authors involved in updating the various chapters of the previous report (Bobbink et al., 2011). The first (internal) revision is now completed and CCE is preparing the progress report to be sent to WGE for the 7<sup>th</sup> joint session. A second review by external experts is planned between August and September 2021. **We are also pleased to announce that the UNECE CCE expert workshop on empirical Critical Loads for nitrogen is currently planned for 26th to 28th October 2021 in Bern, Switzerland and that information on this event can be found [here](#).**

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## New project upcoming soon: Update of the harmonized land cover map

The CCE is planning to launch a project to update the existing European Land Cover Map including a spatial extension to the EECCA countries. The map currently used by the CCE is the one described in Cinderby et al. (2007) and in Slootweg et al. (2009). The project duration is planned from October 2021 to January 2023. **The call for proposals** is expected to be published in August or September 2021 and **will be announced on the CCE homepage under “[projects coordinated by the CCE](#)”**.

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