

German Environment Agency

ICP Modelling and Mapping meeting April 2021 (37th TF, 28th CCE, 2nd CDM)

ICP M&M Workplan 2022-2023

Preliminary proposals to be discussed

Alice James Casas (Chair)

Markus Geupel, Thomas Scheuschner, Christin Loran (CCE)

Filip Moldan, Sara Jutterström (CDM)

Future workplan 22/23 proposals overview

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	Update of the harmonized CLRTAP receptor map	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

Update of the harmonized CLRTAP receptor map

CURRENT STATE OF THE LRTAP RECEPTOR MAP

For the calculation of critical loads (CCE), for deposition modelling (MSC-West), ozone-effects modelling (ICP Vegetation) knowledge of spatial distribution of receptors is necessary. For that purpose it exists a “harmonized” CLRTAP receptor map.

The map has been compiled lastly in 2007 by the former CCE from a mixture of existing digital and paper sources including the European Environment Agency (EEA) Corine Land Cover 2000, SEI Land European Cover Map (2002 Revision), FAO Soil Map of the World and EEA European Biogeographical regions (2005). The map contains information down to EUNIS level 3 for specific habitat types.

REASONS FOR UPDATING THE MAP

The currently used receptor map respectively the underlying background data is about 20 years old. Considering ongoing land use and land cover changes an update is essential.

PROPOSED APPROACH

- Identifying and involving the current users of the map in WGE and EMEP
- Determining required updates and extensions of the map
- Preparing the call for tenders: The CCE will prepare the call for tenders issued and financed by the German Environment Agency
- Planned start of the project: 2021

Critical Levels of ammonia: Literature review and empirical data provision supporting a workshop

ONGOING HIGH AMMONIA EMISSION, SEVERAL RELATED EFFECTS

CRITICAL LEVELS LASTLY UPDATED IN 2009

Followed by a work of the former Ammonia Expert Group (before TFRN)

CONSENSUS ON IMPORTANCE – NO OBJECTIONS

ICP Modelling & Mapping 2020

WGE-EMEP Meeting 2021

PROJECT OF GERMAN ENVIRONMENT AGENCY

Experimental setups for German sensitive species

Literature review

Preparation of a workshop → stimulation of international scientific discussion

Modelling interaction between air pollution and climate change: N and C

EXPERT WORKSHOP FALL 2022 FOLLOWED BY WORKSHOP REPORT

N and C is a logical link between air pollution and climate change

More interaction needed between the communities

Both communities needs to be involved. Can NFCs help?

Important from the modelling point of view, most „N-models“ have C in them, P is the next step

Models are getting more available and user friendly, but also more complex and data intensive

Forests and wetlands are frequently studied, other types of ecosystems are important too

Globally major C stocks, also susceptible to climate change

Similar principles apply also to agricultural systems, where however, air pollution is less of a driver

Modelling impact of air pollution on biodiversity in 2030 and beyond

REPORT ON METHODOLOGY DEVELOPMENT (2023)

Work needs to progress

Indicators of biodiversity change needs to be agreed upon (HSI)

Ecosystem types included will vary

Available models (several named at this meeting) vary but further model development is needed

There are still unresolved scientific issues, (e.g. less N could be both good and bad, site history is extremely important)

Possibility to issue a call? When? What should be included?

„Too many different critical loads!“ Needs to be taken into account. (Cleut?)

More?

Thank you for your attention