Project Database of ICP Forests

PROJECT DESCRIPTION

PROJECT INFORMATION

Project title: **CAMS2_40 Regional Air Quality products, Task 4041 Deposition**

Project ID: 262

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In this task we will perform a dedicated study to evaluate the deposition fluxes for key pollutants from the Regional Systems running air pollution forecasts ([1]), as well as from the global CAMS data assimilation and forecasting system. The regional models (and global CAMS) participating in this task will run a common experiment for one recent historical year where observational data is available (2018 or 2019) using the setup from the most recent operational upgrade. Model results for wet deposition of sulphur, oxidized nitrogen, reduced nitrogen and sea salt will be collected and compared to observations from a range of networks in Europe (e.g. EMEP, OSPAR, HELCOM, national data). Dry deposition of the same components, as well as other key pollutants (e.g. ozone, NO2) will be intercompared across models as reliable data on dry deposition fluxes is scarce on the European level.

ICP Forests within the Working Group on Effects under the UNECE Convention on Long-range Transboundary Air Pollution is collecting data on deposition of sulphur and nitrogen at several hundred forest monitoring plots in Europe. This data can be used to evaluate deposition fluxes in the regional models, although canopy exchange processes make it more complicated. In this project, we will mainly use the ICP Forests data to cross-check the magnitude of the wet deposition fluxes (against the modelled data as well as monitoring data from other networks), but we will also attempt to evaluate total sulphur deposition.

The model results will be analyzed with the tools and visualization partly developed through the CAMS_61 project, and the results will be made available through an on-line web interface (AeroVal) - providing an efficient way of involving the modelling teams to actively participate in the evaluation of their own model. Information will be collected from each of the participating modelling teams on what schemes and data that are used for the dry and wet deposition modelling in their model and compiled into an overview that can help in the interpretation of results.

[1] https://regional.atmosphere.copernicus.eu/index.php?category=ensemble&subensemble=hourly_ensemble&date=LAST&calculation-model=ENSEMBLE&species=o3&level=SFC&offset=000