# Participant Call September 12, 2024

Participants: Stefano Galmarini, Christian Hogrefe, Rohit Mathur, Colin Lee, Jesse Bash, Paul Makar, Chris Holmes, Colleen Baublitz

**Special issue manuscript status**

- **Active work:**
    - Activity 1: Makar et al. – critical loads ensemble analysis
        - Manuscript submitted and in open discussion (https://egusphere.copernicus.org/preprints/2024/egusphere-2024-2226/), 1 reviewer comment received, review comment period extended to October 6.
    - Activity 1: Kioutsioukis et al. – multi-model operational, probabilistic, and diagnostic evaluation and analysis of AQMEII4 grid models
        - Stefano prepared a draft in late July and shared it with Iannis, Paul, and Christian.
        - Christian and Paul provided initial comments. Stefano and Iannis are now revising the manuscript and are also regenerating some figures. A high priority item is to define model acronyms (when using acronyms in Figure or Table annotations) and nomenclature that can then also be used in Christian's draft manuscript. After some discussion, the following recommendation was made: In the text, use the full names of simulations like those used in Paul's paper (e.g. "GEM-MACH (Zhang)", "WRF-Chem (UPM)") when discussing results. When possible, full names will also be used in Table and Figure annotations, with unified acronyms only used in cases where using full names is not possible.
        - Christian, Paul, Stefano and Iannis will continue monthly coordination calls.
    - Activity 1: Hogrefe, Galmarini, Makar, Kioutsioukis et al. - multi-model analysis of ozone dry deposition diagnostics (grid-scale and LU-specific) and LU information
        - In early September, Christian sent a first draft to Stefano, Paul, Iannis, and Olivia. A revised draft to be sent to all co-authors and submitted to EPA internal review is envisioned for the end of September, with journal submission targeted for November
        - During the call, Christian provided a brief overview of the main aspects of the manuscript.
        - Christian, Paul, Stefano and Iannis will continue monthly coordination calls.
    - Activity 2: Khan, Clifton, et al. – observational constraints on stomatal conductance and point model sensitivity simulations
        - Anam sent a draft manuscript to all co-authors in July, with detailed comments from all co-authors requested by August.
        - While Anam was not able to participate in the call, she shared via email that she plans to send a revised version to co-authors during the week of September 16 and might then submit the manuscript to the journal within 1-2 weeks after that, depending on whether co-authors have additional changes.
        - In the email exchange with Anam, Christian suggested that Anam reaches out to Stefano a few days before the planned submission so that Stefano can then give Joshua Fu (the special issue guest editor) a heads up on the upcoming submission.

- Activity 2: Vogel et al. - error estimation analysis
    - No updates since the last call. Annika was not able to join the call
- Activity 2: Bash et al. – use of AQMEII4 flux measurement for optimization of selected STAGE resistances and application of revised STAGE formulation to hemispheric CMAQ simulations
    - Jesse worked on other projects over the past months.
    - In June, Anam's shared stomatal conductance estimates for some sites by uploading them to the GoAnywhere site. Jesse plans to add these datasets to his STAGE optimization approach.
    - In a follow-up email exchange after the call, Anam said that she plans to share documentation and dataset for the remaining sites with Jesse in the next week or two.
    - Jesse estimated that he may have a draft manuscript prepared in 1-2 months
- Activity 2 + Activity 1: Olivia's work with Nichole Ruiz on analyzing observed and modeled data at Bugacpuszta is expected to lead to a draft manuscript.
    - Olivia was not able to join the call. In an email exchange with Christian following the call, Olivia shared that there was no change in status since the last call and that she hopes to return to this analysis soon.
- Activity 2 + Activity 1: Toyota et al. potential updates to GEM-MACH - how can results from Activity 2 be used to check/update the representation of dry deposition in regional modeling. The goal is to address negative ozone bias in GEM-MACH forecast system, looking at potential updates to dry deposition scheme (e.g. include VPD impacts on stomatal conductance which currently isn't included)
    - Kenjiro was not able to join the call. In a follow-up email exchange with Paul after the call, Kenjiro shared that he would likely not start working on this before the end of the year.
- Activity 2: Lee, Makar et al. – physics-informed machine learning for potentially refining point model parameter values
    - Colin shared that he has not worked on this project in the last few months but hopes to return to it soon.
- Activity 1: Baublitz et al. - Colleen has started an analysis of Activity 1 wet deposition fields by looking at multi-variable relationships between fluxes and meteorology / concentrations to identify communalities in spatio-temporal patterns of model spread.
    - Colleen shared that she did not work on this project since the last call, but hopes to have new results ahead of the CMAS conference where she will present her work. In addition, Colleen will also be preparing presentations for the AGU meeting in December and the AMS meeting in January.
    - The first priorities for additional work are to include both years and to also include additional regression parameters (e.g. slope) in the analysis.

- **Potential work, currently lower priority:**
    - Activity 1: Lee, Soares, Makar, et al. – use of hierarchical cluster analysis for grid model intercomparison
    - Activity 2: Lee, Makar, et al. – use of meteorological cluster analysis for point model evaluation

- **Published articles:**
  - Galmarini et al. (2021) Activity 1 overview technical note (https://acp.copernicus.org/articles/21/15663/2021/)
  - Hogrefe et al. (2023) analysis of EPA CMAQ NA simulations (https://acp.copernicus.org/articles/23/8119/2023/)
  - Clifton et al. (2023) Activity 2 overview manuscript (https://acp.copernicus.org/articles/23/9911/2023/)

**Other Grid Intercomparison (Activity 1) Updates**

- Model data updates:
  - No updates
- Data storage updates:
  - No updates

**Other Point Intercomparison (Activity 2) Updates**

- No updates.

**Next Call**

The next call is scheduled for October 10. The group decided to keep the calls monthly for now.