# Participant Call December 12, 2024

Participants: Paul Makar, Roberto San Jose, Laurens Ganzeveld, Stefano Galmarini, Christian Hogrefe, Jesse Bash, Colin Lee

**Special issue manuscript status**

- **Active work:**
  - Activity 1: Makar et al. – critical loads ensemble analysis
    - Manuscript submitted (https://egusphere.copernicus.org/preprints/2024/egusphere-2024-2226/), open discussion period ended with 2 reviewer comments, revised version due December 26
    - As previously discussed, reviewer 2 asked about the effects of the model biases on the CL exceedances (e.g. all models are biased low for wet deposition). Paul performed a simple bias correction and asked collaborators to redo the CL calculations. This was done for both NA and EU. There were some iterations with the collaborators performing the CL calculations. Paul has the new figures, most will go into the SI. In the main manuscript, the figures will now show 2010, 2016, and bias corrected 2016.
    - Paul plans to send the revised manuscript to co-authors by December 13, ask for feedback by December 18, and resubmit before Christmas.
  - Activity 1: Kioutsioukis, Galmarini et al. – multi-model operational, probabilistic, and diagnostic evaluation and analysis of AQMEII4 grid models
    - Draft sent to modelers 11/21, requested feedback by December 11
    - Feedback period extended to December 16
    - Next steps: Revisions, EPA internal review.
  - Activity 1: Hogrefe, Galmarini, Makar, Kioutsioukis et al. - multi-model analysis of ozone dry deposition diagnostics (grid-aggregated and LU-specific) and LU information
    - Manuscript revised based on co-author comments and two EPA internal reviews
    - Manuscript now submitted for final EPA clearance
    - Could submit once clearance is obtained, but probably will wait until January to not end up at the bottom of a stack of incoming manuscripts that might pile up over the holidays.
  - Activity 2: Khan, Clifton, et al. – observational constraints on stomatal conductance and point model sensitivity simulations
    - Manuscript submitted (https://egusphere.copernicus.org/preprints/2024/egusphere-2024-3038/), 1 reviewer comment, still waiting for a second reviewer, discussion period extended until December 29
  - 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 is at the AGU conference this week, but still joined the call
    - At the AGU, Jesse talked to Olivia to discuss ongoing analyses.
    - Jesse still plans to have draft manuscript by the end of January.

- Activity 1: Baublitz et al. - 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 is at the AGU conference this week, presented a poster of her AQMEII4 analysis work at CMAS, now preparing AGU poster building on the CMAQ presentation.
- Activity 2: Vogel et al. - error estimation analysis
    - In a recent call with Olivia, Stefano, and Christian, Annika recapped her work to date and shared that she is planning to resume this work now
    - Annika still plans to write two manuscripts, one methods-focused and one application-focused
- 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)
    - Next updates expected in January
- Activity 2: Lee, Makar et al. – physics-informed machine learning for potentially refining point model parameter values
    - Colin has resumed his analysis started in 2023 and is now scoping out what a manuscript might look like.
- 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 but shared via email that she still plans to pursue this paper.

- **Potential work, currently lower priority:**
    - Activity 1: Lee, Soares, Makar, et al. – use of hierarchical cluster analysis for grid model intercomparison
        - The underlying paper (not AQMEII4 related) needs to be published first to establish the methodology before potentially applying it to the AQMEII4 data. Colin is working on the resubmission.
        - Colin has started to look at the gridded data needed for this planned analysis (all data is archived at https://jeodpp.jrc.ec.europa.eu/ftp/jrc-opendata/ENSEMBLE/data/model-data/)
        - Christian will share the data dictionary explaining file nomenclature and structure.
    - 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 Point Intercomparison (Activity 2) Updates**

- Laurens offered that he could share an update on his student's work during the January call.

**Next Call**

The next call is scheduled for January 9, 2025.