Participant Call May 18, 2023

Participants: Christian Hogrefe, Paul Makar, Ummugulsum Alyuz, Kenjiro Toyota, Jon Pleim, Colleen Baublitz, Olivia Clifton, Chris Holmes, Roberto San Jose, Jesse Bash

Grid intercomparison (Activity 1)

- Model data updates:

    - Christian: No updates on data uploads since the last call

    - 10707: the sum of the effective conductances often exceeds the deposition velocity - in an email following the April call, Richard identified potential issues with the calculation of some diagnostic variables, no updates since then

    - 10712: Chris: still working on post-processing GEOS-Chem outputs, will provide updates as they become available

- Data processing updates:

    - Christian: Corrected matched receptor files for 10702 (Aura's WRF-Chem) daily wet deposition fluxes of SO4 and NH4 (CAPMON monitors) for NA 0241 and 0251 - previous extractions had been based on an older uploaded .ens.bz2 file, but the newer files still show a large underestimation of observed fluxes.

- Data storage updates:

    - No updates since the last call - Files for 10707, 10710, and 10712 (initial tests only) as well as the latest set of receptor extractions are still on the sftp server until the next, final batch transfer will occur, all other files have been transferred to the ENSEMBLE server

- Analysis updates:

    - Iannis and Paul prepared, shared, and submitted extended abstracts ahead of the 39th International Technical Meeting on Air Pollution Modeling and Its Application (ITM), using initial results from the grid model data fields.

Point intercomparison (Activity 2)

- Activity 2 call held May 2. Olivia is working on her invited ITM talk, interacting with Anam on calculating observation-based (water flux and carbon flux) estimates of stomatal flux. During the call, Olivia shared some initial results which will be included in the ITM presentation.

ITM presentations

- Olivia, Iannis and Paul will all give AQMEII4 presentations at the 39th ITM to be held in Chapel Hill, NC May 22 - 26. Draft presentations were shared with co-authors and feedback was requested May 19.

ACP Special issue

- Galmarini et al. (2021) Activity 1 overview technical note - published (https://acp.copernicus.org/articles/21/15663/2021/)
- Hogrefe et al. (2023) analysis of EPA CMAQ NA simulations - reviewer comments received, revisions to be submitted 5/19 (https://acp.copernicus.org/preprints/acp-2023-10/)
- Clifton et al. (2023) Activity 2 overview manuscript - currently in open discussion, one reviewer comment received (https://egusphere.copernicus.org/preprints/2023/egusphere-2023-465/)
- Additional planned / potential manuscripts:
  - Activity 1: Kioutsioukis et al. – multi-model evaluation and analysis of AQMEII4 grid models
  - Activity 1: Makar et al. – critical loads ensemble analysis - may have draft in July
  - Activity 1: Makar 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
  - Activity 2: Khan, Clifton, et al. – observational constraints on stomatal conductance and point model sensitivity simulations
  - Activity 2: Lee, Makar, et al. – use of meteorological cluster analysis for point model evaluation
  - Activity 2: Lee, Makar et al. – physics-informed machine learning for potentially refining point model parameter values
  - Activity 2: Bash et al. – use of AQMEII4 flux measurement for optimization of selected STAGE resistances

Next call June 15