Participant Call January 16, 2020

Participants: Christian Hogrefe, Johannes Bieser, Marta Garcia Vivanco, Stefano Galmarini, Rohit Mathur, Aura Lupascu, Donna Schwede, Ana Ascenso, Roberto San Jose, Richard Kranenburg, Paul Makar

Agenda:

- Status updates from regional-scale grid modeling participants (activity 1)
  - Johannes - downloaded all data, will create BC/IC this week, will start with NA domain because his group is still working on processing the EU emissions
  - Christian: performed an annual CMAQ simulation for 2016 with the M3DRY deposition option. Will redo the simulation with updated boundary conditions (see below). Will run CMAQ with an updated version of the STAGE dry deposition option. Will share the updated CMAQ STAGE deposition code developed by Jesse Bash with CMAQ groups. This updated code allows for the inline calculation of the AQMEII4 landuse-specific diagnostic deposition variables
  - Marta: new machines new version of CHIMERE (2018) is available soon and may be used, discussing with developers on using that version. Hopes to start in February. Still needs to download some files
  - Ana: did not finish met yet, once finished with met, will start using CHIMERE after that. Aveiro is currently using 2016 version, but may also move to 2018. to be decided
  - Aura: worked on boundary conditions, created emissions, domain is larger than TNO, now matching TNO with EDGAR to gapfill north africa/middle east, start simulations next week
  - Roberto: asked BSC for CPU starting March, expect proposal to be accepted, can start simulations March 1 if proposal is approved
  - Richard: downloaded all inputs, Richard expects to start run next week or week after.
  - Paul: ready to go, probably will start next week - may run multiple simulations, probably will take about 2 weeks per year
  - Stefano will provide model codes, credentials once groups are ready to postprocess / upload
- Status update on box model intercomparison (activity 3)
  - Donna: EPA will set up data site, still working through some issues
  - Olivia has been collecting observational data
  - Donna will write optional wrapper to read in observational data for participating box model
  - Once obs data is available, will reach out to participants
  - Stefano's suggestion: reach out to participants via email with status update; Donna / Olivia will follow up on this
- Update on “single hour” modeling (activity 2)
  - Stefano and Christian to follow up with Chris Holmes
- Boundary condition processing update
  - There was an error in the meta data in the extracted CAMS fields that were shared with everybody about which variables were hydrophilic and hydrophobic. Specifically, the long_name definitions of “aermr07” – “aermr10” in the AER* files were incorrect. aermr07 is hydrophilic organic matter (not hydrophobic), aermr08 is hydrophobic organic matter (not

hydrophilic), aermr09 is hydrophilic black carbon (not hydrophobic), and aermr10 is hydrophobic black carbon (not hydrophilic). – Christian will send follow-up email to everyone (this is not a problem if the regional model just adds these two components together anyway - e.g. WRF-Chem, LOTOS-EUROS)

    - Paul and Christian also noted that the OM concentrations in the CAMS fields are fairly high, some of it presumably due to wildfires and some of it due the empirically-derived SOA scaling from biogenic and anthropogenic emissions. Depending on where regional modelers locate their boundaries relative to areas of high CAMS OM fields, this may affect the interpretation of differences in simulated aerosol concentrations and will have to be kept in mind during the analysis phase of the activity.
- Updated FAQ with Q&A on deposition units
- Coordination on generation of critical load database between Canada, U.S., and EU
    - Johannes: German UBA will provide critical load database. Gridding? Suggest using 0.125 x 0.125 AQMEII4 grid, this is how it will be done in NA. Johannes' impression is that the transfer of the dataset from the Netherlands to UBA resulted in some loss of knowledge and the new owners/maintainers of the database (UBA) may not have in-depth familiarity with all aspects of that dataset yet. Paul: Julian may actually help based on his prior work.
    - Paul: Julian Ahern at Trent University, was previously involved in developing European critical loads database. Has volunteered to help coordinate the creation of the NA critical load database - Donna and Paul are facilitating. Paul will pass Johannes' contact information to Julian to explore if methodology could be coordinated between NA and EU, worth exploring
    - On the EPA side, Chris Clark and Jason Lynch will be the points of contact
- Upcoming meetings and conferences
    - EGU spring meeting Vienna, May 2020 - Paul submitted abstract, focuses mostly on GEM-MACH - https://www.egu2020.eu/
    - HTAP meeting Edinburgh April 2020 - https://tfhtap2020conference.eventbrite.com
    - Acid Rain 2020, October 2020, Japan - https://www.acidrain2020.org/
- Request to share North American WRF setup (WPS and WRF namelists) with Aura - Christian will follow up with Aura and include Alma in the exchange