GEOS-Chem Steering Committee Telecon
November 4, 2016 9:30-11:00 Eastern

Attending/Missing**:**
Peter Adams, Kevin Bowman, Mathew Evans, Emily Fischer, Jenny Fisher, **Colette Heald**, **Barron Henderson,** Daven Henze, **Chris Holmes, Daniel Jacob, Dylan Jones, Prasad Kasibhatla,** Hong Liao, **Jintai Lin, Hongyu Liu, Michael Long, Randall Martin, Dylan Millet, Andrea Molod,** Steven Pawson, Jeff Pierce, Jun Wang, **Yuxuan Wang,** Shiliang Wu, **Bob Yantosca**, Lin Zhang, **Qiang Zhang**

1. **Engineer's Report (Bob)**
    - A number of v11 benchmarks since last telecom: 11.1g was FlexChem, v11.1h was fix to remove moisture signature, v11.1i was fix to re-evaporation in wet scavenging
    - Currently working on v11.1j which includes new HEMCO version (including ability to distribute emissions in the vertical, and some new inventories), also tested with GNU Fortran compiler – this will enable users who don't have access to ifort (including ability to run GEOS-Chem on a linux laptop)
    - Anticipating end of 2016 for release of v11.1

2. **Production and Loss rates in KPP for v11-1 (Mike)**
    - FlexChem will facilitate update of chemical mechanism, and will make the code faster, however some of the capabilities of SMVGEAR needed to be retained
    - Have been working on archiving P & L rates for KPP, including for families. This has been added to the KPP configuration file to define families to calculate net P & L for Ox. The code for this was delivered to the Support Team for testing.
    - The Ox family will provide an example if users want to add diagnostics for other chemical families.
    - Note that transition to KPP means that users will need to make their changes to the chemical mechanism in pre-processing before the compilation of the GEOS-Chem code.

3. **GCHP Update (Mike, Randall)**
    - Newsletter describes some of the new attributes for GCHP and it's a great time to get involved
    - Small team working on GCHP, v11.01g is working in GCHP environment
    - Recently solved an issue with conservative re-gridding (need to re-grid from lat-lon to cube-sphere), integrated a tool (Tempest) to deal with re-gridding weights. Some small issues will always remain at the poles, working to minimize this.
    - Planning for a benchmark against GEOS-Chem classic soon, but preliminary results suggest that GCHP runs much faster than classic.
    - Currently running at Harvard, Dalhousie, and soon PKU

4. **GMAO news (Andrea)**
    - New higher resolution (12 km, C720 cube-sphere, with 72 vertical levels) processing system not yet ready for prime time, however there are some proof-of-concept experiments. If there is an interest, some preliminary version could be used by GEOS-Chem community. This includes some relatively substantial changes to the convection parameterization

- Big effort at GMAO for future FP and re-analysis systems to be output on the cube-sphere grid only. Would also provide routines to interpolate to lat-lon if needed.

5. Working Group Report

- Dylan Jones: LETKF ensemble kalman filter code now being tested (GOME-2, OMI, SCIA), is essentially a wrapper code, uses GEOS-Chem as a forward model. Goal is for this to be maintained as an option for GEOS-Chem

6. IGC8 Planning (Daniel)

- Same room at Harvard, with overflow room
- Feedback from IGC7: Overall people are happy with the length of the meeting, Some complaints about clinics and WG overlapping, suggest that first day is devoted to science while people have energy
- Travel funds: expect support from NASA, NSF, EPA, NOAA; logistics support from HUCE, EPRI, MIT
    - NSF asked us to invite some keynote experimental scientists (perhaps to speak on Monday?).
- Meeting Agenda: Randall has worked on this for the last 3 years will not do so this year, Daniel happy to do it or work with someone else who wants to take the lead. If any SSC member would like to help develop agenda, contact Daniel.
- Milestones:
    - By Christmas: website including registration, working on logistics with hotel rooms
    - By Christmas: Daniel will notify PIs about the availability for travel funds
    - By Christmas: invite experimentalist keynote speakers
    - February: strawman agenda for IGC8

7. Designing GEOS-Chem v11-2 (Daniel and all)

- Next version will be v11.2 and not v12 because these are not structural updates preventing back-compatibility
- Public version releases should be every 9 months or so, we have been behind this (~12 months). v11.2 will not be released publically before IGC8, but will be a research-release. However, note that every time we make a major update to the code we do a 1 year benchmark, including comparison with climatological observations.
- Need to now determine what will be included in v11.2. Daniel asked SC to provide rankings, his summary includes only updates that were ranked by someone on SC as priority 1 or 2. Daniel grouped these into types of updates “chemistry”, “emissions”, etc. as there is some logic to how these updates should adopted. Chemistry is prioritized first as these have previously been delayed until post-FlexChem. Next is emissions, next is deposition/surface.
- SC went through list of potential updates (only changes to the proposed list or new updates documented below):
    - Update on OH+NO2 rate not needed (as JPL will not be updating this rate). Removed from list.
    - Isoprene chemistry: Harvard and U. Wollongong have been working on this, now gathering input from other groups. Paul Wennberg and his grad student (Kelvin Bates) now working to provide additional updates to isoprene chemistry. Frank Keutsch also interested in being involved. Expect that this will take about a month, so isoprene chemistry remains high priority but a little bit down the list.

    - Lightning NOx parameterization relies on an old version of the model, and may not be appropriate for current model and would require quite a bit of work to integrate; so remove from list
    - Daniel will follow up with Becky Alexander re: snow NOx source priority
    - Remove MODIS LAI update from list: need a more detailed conversation about how MODIS product used for MEGAN
    - Stratospheric benchmark waiting for ACE-FTS observations, so this update likely delayed.
    - 3D chemical source of CO2 and CO: not a priority for v11.2 (no demand within community currently), to be discussed at IGC8
- Daniel will update the priority table for v11.2 and pass on to Support Team