

## 2016 - US Climate Modeling Summit

March 9-10, 2016

Location – ICF (near Farragut West metro)

1725 I (Eye) Street, N.W., 10th Floor

Washington, DC 20006 USA

### **Background:**

Scope and participants of the meeting are within the general USCMS terms of reference:

- Participation is institutional and at high level to enable decisions
- Exchange of information between modeling Center leads and agency leads is intended to lead to improved coordination among Centers and among sponsoring agencies

The first part of the meeting, i.e., on the morning of the first day will focus on providing updates and background information from the federal agencies and USGCRP to USCMS participants. This will be followed by updates from the Centers, with particular focus on updates and activities during the past year.

The second part of the meeting will be dedicated to more specific exchanges among Centers with the goal of enabling decisions on joint actions on specific items.

The meeting will conclude with a set of specific tasks and/or actions, including a process in place to lead and monitor efforts to track progress associated with tasks and actions.

### **MARCH 9**

8:30AM-12:00PM – Background Federal Briefings

[Each briefing includes time for Q&A: 2/3<sup>rd</sup> of the time for presentations; 1/3<sup>rd</sup> for discussion]

8:30 Welcome by USGCRP, and round-the-room introductions  
*Dorothy Koch*

9:00 USGCRP Priorities for FY16 and a sense of out-year priorities  
*Gary Geernaert*

9:30 Seamless Weather-Climate Science and Prediction – federal perspectives –  
*Panel presentations from Agency representatives:*  
*ESPC - Jessie Carman*  
*NWS - Hendrik Tolman*  
*Navy - Dan Eleuterio (remote)*  
*OAR - Annarita Mariotti*  
*NASA - David Considine*  
*NSF - Pat Harr*

*DOE - Renu Joseph  
Air Force – Fred Williams*

10:30 Break

11:00 Future of Federal Supercomputing and Software  
*Steve Binkley; Brian Gross*

12:00 USGCRP - Model Integration Framework(s) spanning IAMs, IAVMs, and ESMs for  
Regional-Scale Impacts Research and Analysis  
*Robert Vallario*

12:30 Discussions and highlights of outstanding questions

1-2:00 Lunch

2:00 – 5:00 PM USCMS Center Updates

2:00 Center updates

Chair: Lamarque, Rapporteurs: TBD

- What is new since last year in science, priorities, challenges
- What are your reactions to the final report from 2015 (include a discussion about software repositories if applicable)
- Highlights of USGCRP priority-relevant current activities
- Highlights of center “grand challenge” topics that would benefit from enhanced national coordination
- Interests in CMIP, CPTs, high resolution modeling
- Seamless prediction - Weather-climate coordination ideas and strategies. What are the center aspirations?

4:30 Summary of key topics to inform next day discussions

5:00 Close of Day 1

[Icebreaker or informal dinner]

## **MARCH 10**

8:30-2:00 USCMS Propositions and Actions

8:30-10:00 Topic 1: CMIP or other Coordinated Modeling activities  
Chair: Schmidt, Rapporteurs (TBD, 2 needed, 1 per hour)

- Given each US center plans for the international CMIP activity<sup>1</sup>, centers representatives will discuss and decide on the proposition:

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<sup>1</sup> [http://embracecmip2015.sciencesconf.org/conference/embracecmip2015/pages/Veronika\\_Eyring.pdf](http://embracecmip2015.sciencesconf.org/conference/embracecmip2015/pages/Veronika_Eyring.pdf)

*“There is the opportunity through national coordination of modeling centers to enhance the scientific utility of some subset of CMIP activities.”*

[Each center will provide a reaction to the proposition, so as to arrive to a formulation of the proposition that is acceptable to the majority of centers listing potential activities and points of contact]

To help define potential actions, discussions will consider issues such as:

- Top priority MIPs for each center
- Complementarity versus need to engage in same experiments
- Timing for MIPs
- Infrastructure and resources
- Beyond CMIP, interest in new diagnostics or alternative scenarios/activities (e.g. US-relevant)
- Potential for other coordinated modeling activities

[Each center will discuss select issues from list and suggest potential actions and POCs; some actions can include only a sub-set of centers.]

- Follow-up actions (if any) and POCs.  
*Actions are to help implement the proposition, if adopted.*

10:00 Break

10:30-12:00 Topic 2: Opportunities and challenges for modeling with high resolution and advanced physical representations

Chair: Leung; Rapporteurs (TBD, 2 needed, 1 per hour)

- Given US centers’ plans for exploring modeling at high resolution and with advanced physics, and recent community workshops on these topics<sup>2</sup>, center representatives will discuss and decide on the proposition:  
*“There is the opportunity and/or need for coordination among modeling centers in reference to modeling at high resolution and with advanced physical representations in order to address important scientific challenges.”*

[Each center will provide a reaction to the proposition, so as to arrive to a formulation of the proposition that is acceptable to the majority of centers listing potential activities and points of contact]

To help define potential actions, discussions will consider issues such as:

- Top priority high resolution or multiscale modeling science questions and experiments at relevant centers - commonalities, differences and opportunities for coordination

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<sup>2</sup> CPT workshop report ref and HR workshop report ref.

- Top priority process model advancements and challenges (parametrization or explicit representation) at each center; interest in the Climate Process Team approach - commonalities, differences and opportunities for coordination
- Computational and infrastructure challenges
- Need for more information via topical workshops.

[Each center will discuss select issues from list and suggest potential actions and POCs; some actions can include only a sub-set of centers.]

- Follow-up actions (if any) and POCs.

*Actions are to help implement the proposition, if adopted.*

12:00 Break

12:30 - 2:00 USCMS organizational issues (Working Lunch)  
(Chair: Ramaswamy, Rapporteur: TBD)

In reference to the propositions that have been adopted and actions that have been decided, centers will discuss what type of USCMS leadership assignments and organizational arrangements might be needed to accomplish actions.

- Recap of actions and POCs;
- Define timing of actions and reporting
- Identify topics of interest for future meetings
- Decide on USCMS means of organization and communication:
  - Need for a USCMS chair for the year – rotating yearly among the Center Directors
  - Need for logistical support from IGIM
  - Need for mid-year meeting (e.g. for input to 2017 USCMS organization)

### **Modeling center representatives**

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