

2018 - US Climate Modeling Summit

Land-Atmosphere Interactions and Extremes Workshop
April 4, 2018

NCWCP Conference Center,
5830 University Research Court, College Park, MD
NCWCP Guest WiFi available;

To join via a computer, follow this [WebEx link](#) and use the Event Password 20910.

Webex will provide phone access, or use 1-650-479-3208, Access code: 621 410 902.

Background

At the close of the 3rd US Climate Modeling Summit in 2017, several topics for a one-day workshop were proposed. Land surface processes are increasingly being recognized as an important source of predictability at weather to climate time scales, and the land surface represents an important intersection between human activities and the Earth system. Hence for the 4th Summit, the topic of Land-Atmosphere Interactions and Extremes in Earth system models was identified as the subject for the workshop. The workshop will provide a forum for discussions to prioritize research and development for the modeling centers and to promote interactions among the centers and between the centers and the broader community to advance the workshop topical areas. This workshop will consist of 4 parts. Part I will provide an overview of the state-of-the-art of land modeling at the six centers. Parts II through IV will consist of Subject Matter Experts presenting papers and a subsequent group discussion. The subjects addressed will be land-atmosphere interactions and extremes (Part II), hydrological extremes (Part III) and Coastal, land and human interactions (Part IV).

Agenda:

8:00 – 8:30: Arrive at NCWCP, park, mix and mingle

8:30 – 8:45 : Opening remarks (Hendrik Tolman, on behalf of USCMS and Anjuli Bamzai on behalf of the IGIM)

Part I: Modeling centers presentations on modeling activities for land and extremes

Moderator: Hendrik Tolman Rapporteur: Ben Bond-Lamberty

8:45 – 10:15: Center updates (15 minutes per center)
(GFDL, NCEP, GMAO, E3SM, GISS, CESM)

10:15 – 10:45: Break

Part II: Land-Atmosphere interactions and extremes

Moderator: Ruby Leung Rapporteur: Manuela Girotto

10:45 – 11:10 : Paul Dirmeyer - *Land-atmosphere interactions are a coupled model development problem*

11:10 – 11:35 : Francina Dominguez - *How Tracing Water in the Atmosphere and Below the Earth's Surface can Challenge our Assumptions of the Hydrologic System*

11:35 – 12:00 : Park Williams - *Wildfire: causes and feedbacks*

12:00 – 12:30 : Discussion

12:30 – 13:30 Lunch break

Part III: Hydrology and extremes

Moderator: Benjamin Cook Rapporteur: Yuejian Zhu

13:30 – 13:55 : Gabriele Villarini - *Past and future changes in flooding over the central United States: Bridging across time scales*

13:55 – 14:20 : Amir AghaKouchak - *Amplified Temperature Shifts under Droughts in Observations and Model Simulations*

14:20 – 14:45 : Christa Peters-Lidard - *The Role of Land Surface Processes in representing Drought Onset, Intensity, and Recovery*

14:45 – 15:15 : Discussion

15:15 – 15:45: Break

Part IV: Land, Coastal and human interactions

Moderator: John Dunne Rapporteur: Joe Santanello

15:45 – 16:10 : Kirsten Findell - *Land use, continental aridity, and climate extremes*

16:10 – 16:35 : Peter Colohan - *Transforming Water Prediction at the Coasts - Model Coupling for Total Coastal Water Forecasts*

16:35 – 17:00 : Peter Thornton - *Land use and land cover change: The influence of managed disturbances on Earth system feedbacks*

17:00 – 17:30 : Discussion

17:30 : Closing workshop

6:00 pm **Informal dinner** (no host, location TBD)

2018 - US Climate Modeling Summit

April 5, 2018

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Background:

The scope and participants of the meeting are within the general USCMS terms of reference. The participation is institutional and at a high level to enable decisions (two designated principals per organization). The exchange of information between modeling center and agency leads is intended to lead to improved coordination among centers and sponsoring agencies. The first part of the meeting will include updates from IGIM, the USCMS Chair and the centers, with a particular focus on updates and activities during the past year. The second part of the meeting will be dedicated to the initial progress made at centers for CMIP6. The meeting will conclude with a set of specific tasks and/or coordinating actions, and a plan to monitor efforts and track progress associated with tasks and actions.

Agenda:

Part I

8:00 – 8:30 am Arrive, mix and mingle

8:30 – 8:45 am IGIM Introduction [Anjuli Bamzai, NSF]

8:45 – 9:00 am USCMS Chair update [Hendrik Tolman]

9:00 – 10:45 am

Moderator: Annarita Mariotti

Rapporteur: Dave Considine

Center updates (15 minutes per center) (GFDL, NCEP, GMAO, ES3M, GISS, CESM)

- What is new since last year in science, priorities, challenges
- Highlights of USGCRP priority-relevant current activities
- Highlights of center “grand challenge” topics that would benefit from enhanced national coordination, as potential topics for future meetings

Discussion (15 minutes)

10:45 - 11:00 am Break

Moderator: Steven Pawson Rapporteur: Renu Joseph

11:00 – 11:30 am Report out from Land-Atmosphere Interactions and Extremes Workshop
[Ruby Leung and John Dunne)

11:30 – 12:00 am Discussion

12:00 am 13:00 pm Lunch

Part II

13:00 – 15:00 CMIP6 MIPs & DECK progress

Moderator: Dorothy Koch Rapporteur: Dan Barrie

Report out on RFMIP, CFMIP, HighResMIP, DECK
(GISS, NCAR, GFDL, E3SM - 15 min each)

Update on plans, discussion of results, issues (e.g. DECK emissions historical warming trend) and opportunities for research coordination; discussion of scenarios for the next National Climate Assessment (1hr)

15:30 - 16:00 Break

16:00 - 17:00 USCMS organizational issues

Moderators: Hendrik Tolman and Steve Pawson

In reference to the opportunities/actions that have been discussed, centers will discuss organizational arrangements for the coming year.

- Discuss main outcomes, plans and needs for the upcoming year (including communications), identification of possible workshop topics for 2019.
- Nominate USCMS chair and co-chair for the year (rotating yearly among the principals) and IGIM-USCMS coordinator(s) for the year.
- Recap of actions.

Modeling Centers USCMS Principals

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