



Great Antarctic Climate Hack  
October 9-12, 2017  
*#GreatAntarcticClimateHack*

Robert P. Scripps Forum  
for Science, Society  
and the Environment

## **Day 1: Monday, October 9, 2017**

*8:30am Session #1: Chair, Joellen Russell (UArizona)*

**8:30 – 8:45** Introduction/Overview and Welcome by Thomas Bracegirdle (BAS)

**8:45 – 9:00** Goals of the workshop by Joellen Russell (UArizona)

**9:00 – 9:45** Invited Keynote Lecture: “The changing climate of the Southern Ocean: Influence of the meandering pathway of the Antarctic Circumpolar Current” by Lynn Talley (Scripps Institution)

**9:45 – 10:00** Discussion

**10:00 – 10:30** Morning Tea/Coffee

**10:30 – 11:00** Invited Lecture: “Interdisciplinary science, major science gaps, and critical barriers” by Michael White (Nature Magazine)

**11:00 – 12:30** ESMValTool – What, Why and How? Data aggregation and dissemination by Joellen Russell (UArizona)

**12:30 – 1:30** Lunch

*1:30 Session #2 Atmosphere: Chair, Tom Bracegirdle (BAS)*

**1:30 – 1:45** Overview (Tom Bracegirdle, BAS)

**1:45 – 2:15** Climate Data Guide, and more... (David Schneider, NCAR).

**2:15 – 2:45** Reconstructing Past Climate from Sparse Datasets (Ryan Fogt, OhioU)

**2:45 – 2:55** Climate Reanalyzer (Sean Birkel, UMaine)

**2:55 – 3:10** Joint question answer session for all speakers

**3:10 – 3:30** Primer for afternoon practicum

**3:30 – 4:00** Afternoon Tea

**4:00 – 4:30** Atmosphere Metrics Practicum (Tom Bracegirdle, BAS)

**4:30 – 5:30** Discussion on Atmospheric metrics, “If I could have any metric, I’d love to see...”

**5:30 – 6:00** Wrap-up Discussion

**6:00 – 8:00** Evening Ice-breaker on the beachside patio at the workshop venue.



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**Day 2: Tuesday, October 10, 2017**

**8:30am** *Session #3 Ocean: Chair, Joellen Russell (UArizona)*

**8:30 – 8:45** Overview/Importance of Metrics by Joellen Russell (UArizona)

**8:45 – 9:40** Methods and approaches for analyzing ocean dynamical processes around Antarctica by Matt England (UNSW)

**9:30 – 9:45** Discussion

**9:45 – 10:00** Intro to the Practicum – “Is your computer ready?”

**10:00 – 10:30** Morning Tea/Coffee

**10:30 – 11:20** Ocean Metrics Practicum (10 min each for easy, medium, hard)

**11:20 – 11:50** Discussion on Ocean metrics – “If I could have any ocean metric, I’d love to see...”

**11:50 – 12:10** Glaciers and Other Non-traditional Ocean Metrics by Aaron Putnam (U. Maine)

**12:10 – 12:30** Wrap-up (Note-taking of priority metrics for ESMValTool)

**12:30 – 1:30** Lunch

**1:30** *Session #4 Sea Ice: Chair, Marilyn Raphael*

**1:30 – 2:00** Overview of Sea Ice (Marilyn Raphael, UCLA)

**2:00 – 2:15** Sea-ice models: virtues and caveats (Marika Holland, NCAR)

**2:15 – 2:30** Observed Sea-ice Data (Walt Meier, NSIDC)

**2:30 – 2:45** Joint question and answer session for speakers

**2:45 – 3:30** Discussion of Sea Ice Metrics, “If I could have any metric, I’d love to see...”

**3:30 – 4:00** Afternoon Tea

**4:00 – 5:00** Sea ice Metrics Practicum

**5:00 – 5:30** Discussion

**5:30 – 6:00** Wrap-up (Note-taking of priority metrics for ESMValTool)



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**Day 3: Wednesday, October 11, 2017**

**8:30am** Session #5 Ice Sheet / Paleo: Chair, Nancy Bertler (Victoria U and GNS)

**8:30 – 8:40** Overview of the Aims of the Session (Nancy Bertler, Victoria U and GNS)

**8:40 – 9:30** How will Antarctica and the Southern Ocean change under the Paris Agreement in comparison to Business as Usual scenarios? (Rob DeConto, UMass-Amherst)

**9:30 – 9:45** Magnitude and Uncertainty of Glacial Isostatic Adjustment in Sea-level reconstructions  
Pippa Whitehouse (Durham U)

**9:45 – 10:00** Ice Sheet Modeling Inter-comparison (Helene Serloussi, JPL)

**10:00 – 10:30** Morning Tea

**10:30 – 11:15** What can paleo records and reconstructions tell us about Antarctica's future response to global change? (Laurie Menviel, Macquarie U)

**11:15 – 11:30** Snow accumulation reconstruction datasets (Brooke Medley, NASA)

**11:30 – 12:00** Discussion on Paleo-climate metrics, “If I could have any metric, I’d love to see...”

**12:00 – 12:30** Wrap-up (Note-taking of priority metrics for ESMValTool)

**12:30 – 1:30** Lunch

**1:30pm** Session #6 *Ecosystem Response to Climate Change*: Chair, Alia Khan (CU-Boulder, NSIDC)

**1:30 – 1:40** Overview of Aims of the Session Alia Khan (CU-Boulder, NSIDC)

**1:40 – 2:00** Ocean biogeochemistry status in CMIP5 (Cynthia Nevison, CU-Boulder, INSTAAR)

**2:00 – 2:45** Ecosystem Response to Climate Change (David Ainley, Harvey Ecology)

**2:45 - 3:00** Observations at the Palmer Long-term Ecological Research Site (Jeff Bowman, UC-SD)

**3:00 – 3:15** Decadal ecosystem response to an anomalous melt season in a polar desert (Mike Gooseff, CU-Boulder)

**3:15 - 3:30** Joint question/answer session for the speakers

**3:30 – 4:00** Afternoon Tea

**4:00 – 5:00** Ecosystem Practicum (Penguins and the Ross Sea Gyre)

**5:00 – 5:30** Discussion biogeochemistry and ecosystem response metrics. ‘If I could have any metric...’

**5:30 – 6:00** Wrap-up (Note-taking of priority metrics for ESMValTool)

**6:00** – Dinner (on your own)



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**Day 4: Thursday, October 12, 2017**

**8:30 am** *Session #7 Future and wrap-up:* Chairs, Tom Bracegirdle and Joellen Russell

**9:00 – 9:30** Current State of Southern Ocean Biogeochemistry Metrics (Ariane Verdy, UC-SD)

**9:30 – 10:00** Discussion to start finalizing ESMValTools and Metrics

**10 – 10:30** Morning Tea/Coffee

**10:30 – 12:00** Further Discussion to finalize ESMValTools and Metrics

**12 - 12:30** Next steps and Future directions

**12:30** Meeting Ends

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