

June 7th & 8th, 2016  
Response of global climate to the Antarctic Ozone Hole  
MIT  
Cambridge, MA 02139  
Edwin R. Gilliland Auditorium  
Room 66-110  
<http://whereis.mit.edu/?go=66>  
(Provisional agenda)

Tuesday 7<sup>th</sup> June

All presentations will be 20 min (15 minute talks + 5 minutes for questions).

Morning

**Theme A: How well do we understand ozone forcing and its drivers?**

8.30 to 10.10

(Moderated by Marika Holland)

Doug Kinnison (NCAR): Polar ozone depletion and trends

Susan Solomon (MIT): The "remarkable" record-large Antarctic ozone hole in 2015

Aditi Sheshadri (Columbia): Propagating annular modes

Gabriel Chiodo (Columbia): Large radiative forcing due to ozone depletion offset by albedo over Antarctica

Link to next topic.

Darryn Waugh (JHU): Robustness of the simulated tropospheric response to ozone depletion

10.10 to 10.30

Coffee break

**Theme B: How are ocean circulation, ice cover, heat and carbon uptake and biogeochemistry impacted by the ozone hole?**

10.30 to 11.50

(Moderated by Susan Solomon)

Matthew England (UNSW): Imprint of the Southern Annular Mode on the coupled ocean-atmosphere-ice system

Will Seviour (JHU): The transient response of the Southern Ocean to ozone depletion in GFDL ESM2M

John Marshall, Maxwell Kelley, Anastasia Romanou and Yavor Kostov (MIT, GISS): Rationalizing the SST and sea-ice response of coupled climate models to Antarctic ozone loss.

Irina Marinov(UPenn): Southern Ocean deep convection and teleconnections

11.50 – 12.45

Discussion with speakers as panel  
(Moderated by Ryan Abernathey)

12.45 to 2.00

Lunch

**Theme B (contd) Southern Ocean circulation, ice cover, heat and carbon uptake**  
(Moderated by Darryn Waugh)

Anirban Sinha (Columbia): The timescales of Southern Ocean eddy equilibration

Ryan Abernathey (Columbia): Water Mass Transformation Under Southern Ocean Sea Ice.

Arnaud Czaja (Imperial College): Decoupling of oceanic and atmospheric heat transports over the ACC

Tom Haine (JHU): Thermobaricity in the transition zones between alpha and beta oceans.

3:40 to 4.00

Break

4.00 to 6.00

(Moderated by Irina Marinov)

Anand Gnanadesikan (JHU): Southern ocean biogeochemistry in a changing climate.

Jordan Thomas (JHU): Ocean Carbon and Heat Variability in an Earth System Model

David Ferreira (U Reading): Climate response functions for carbon

Jon Lauderdale (MIT): A new framework for quantifying drivers of Southern Ocean air-sea carbon fluxes.

Nikki Lovenduski, L. Polvani and A. Solomon (CU-Boulder, Columbia): The impact of the ozone hole on Southern Ocean carbon uptake

Jorge Sarmiento (Princeton): TBD

6.00 onwards

Discussions with speakers as panel.

(Moderated by John Marshall)

7.30 onwards

Dinner together in local restaurant.

Wednesday 8<sup>th</sup> June

**Theme C: Can we attribute the impacts of the ozone hole on global climate and identify observable indicators?**

(Moderated by David Ferreira)

8.30 to 9.50

Cecelia Bitz (UW): The Hydroclimate Response to Westerly Wind Enhancement

Larry Horowitz (GFDL): Impacts of historical ozone changes on climate in GFDL-CM3

Lorenzo Polvani (Columbia): The dominant role of natural variability on Antarctic temperature trends, as revealed by their spatial patterns

Ari Solomon (Columbia): Highly predictable responses of the midlatitude jet in the Southern Hemisphere

Coffee break

9.50 to 10.10

10.10 to 12.10

(Moderated by Matthew England)

Sarah Gille (Scripps): Long-term warming trends in the Southern Ocean

John Fyfe (ECCC): Attribution of Southern Ocean warming trends to ozone, aerosol and greenhouse gas forcing

Yavor Kostov (Oxford University/MIT): Interpreting the historical Southern Ocean SST trends in models and observations.

Marika Holland (NCAR), The influence of winds on Ross Sea ice cover: Seasonal lags and explained trends.

Gavin Schmidt and Katherine Marvel (GISS): Insights from single forcing ensembles on SH variability and forced response

Mark England (Columbia): The impact of stratospheric ozone depletion on the Amundsen Sea Low

12.10 to 1.00 Discussion

Discussions with speakers as panel.  
(Moderated by Doug Kinnison)

Lunch.

2.00pm and on in to the afternoon

Discussion by FESD participants and guests:  
Researchers, postdocs and students.