Southern Ocean Workshop
10-13 April 2017
Main Seminar Room, NCAR Mesa Lab

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Monday (10 Apr)

08:30 - 08:50		Introduction
		SAM etc, Antarctic Sea-Ice Variability (Kyle Armour)
08:50 - 09:10	David Thompson	Not the SAM: Another form of large-scale variability in the Southern Hemisphere atmospheric circulation with potential implications for the
09:10 - 09:30	Matthew England	Drivers of Antarctic sea-ice expansion and Southern Ocean surface cooling over the past four decades
09:30 - 09:50	Ed Doddridge	Impact of SAM on the seasonal cycle of sea ice extent around Antarctica
09:50 - 10:10	Marika Holland	Factors driving regional sea ice variability and trends
10:10 - 10:30	Cecilia Bitz	Why Did Antarctic Sea Ice Plumet in late 2016?
10:30 - 11:10	Break	
		ACC I (Dan Whitt)
11:10 - 11:30	Lynne Talley	The meandering and spiraling pathway of the Antarctic Circumpolar Current and climate variations
11:30 - 11:50	Teresa Chereskin	Transport and dynamics of the ACC in Drake Passage from observations made during cDrake
11:50 - 12:20		Discussion (Lead: John Marshall)
12:20 - 13:50		Lunch (NCAR Cafeteria, cash only)
13:50 - 14:10	Andy Hogg	Is the Antarctic Circumpolar Current related to the Meridional Overturning Circulation?
14:10 - 14:30	David Marshall	Eddy saturation of the Antarctic Circumpolar Current
14:30 - 14:50	Sjoerd Groeskamp	Could Cabbeling play a limiting role on the surface to interior pathway of Anthropogenic Carbon in the Southern Ocean?
14:50 - 15:35		Break
		Antarctic Margins (Andy Thompson)
15:35 - 15:55	Steve Rintoul	Ocean-ice shelf interaction, polynya dynamics and bottom water change in East Antarctica
15:55 - 16:15	John Klinck	Effects of projected changes in wind, atmospheric temperature and freshwater inflow on the Ross Sea
16:15 - 16:35	Ryan Abernathey	Water Mass Transformation Under Southern Ocean Sea Ice
16:35 - 16:55	Andrew Stewart	Eddy/tidal mixing and transport at the Antarctic margins
16:55 - 17:25		Discussion (Lead: Matt Long)
17:25 - 20:00		Poster session (refreshments included)
20:00		Shuttle return to hotel

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Tuesday (11 Apr)

08:30 - 08:50		Coffee and discussion
		The (sub)mesoscale of the ACC (Sarah Gille)
08:50 - 09:10	Ute Hausmann	Observed mesoscale eddy signatures in Southern Ocean surface mixed-layer depth
09:10 - 09:30	Hajoon Song	Mesoscale modulation of air-sea CO2 flux in Drake Passage
09:30 - 09:50	Ivy Frenger	The effect of resolving versus parameterizing the ocean mesoscale on ocean anthropogenic carbon storage
09:50 - 10:10	Giuliana Viglione	Spatial Variations of Submesoscale Instabilities in Drake Passage
10:10 - 10:30	Magdalena Carranza	Gradients of bio-optical properties within the Southern Ocean mixed layer
10:30 - 11:00		Break
		Biogeochemistry of the Southern Ocean (Matthew Long)
11:00 - 12:00	Jorge Sarmiento	Role of the Southern Ocean in the Regulation of Carbon, Heat, and Biological Productivity
12:00 - 13:30		Lunch (NCAR Cafeteria, cash only)
13:30 - 13:50	Ken Johnson	Seasonal cycle of nitrate observed with SOCCOM profiling floats and implications for carbon export
13:50 - 14:10	Mike Dinniman	How the cryosphere may affect iron supply to Antarctic phytoplankton blooms
14:10 - 14:30	Curtis Deutsch	The Southern Ocean as a region of high particle transfer efficiency
14:30 - 15:15		Break
15:15 - 15:35	Tyler Rohr	Variability in the mechanisms controlling Southern Ocean phytoplankton bloom phenology in an ocean model and satellite observations
15:35 - 15:55	Britton Stephens	Atmospheric oxygen constraints on Southern Ocean air-sea CO2 flux seasonality
15:55 - 16:15	Eric Kort	Airborne constraints on Southern Ocean carbon and oxygen fluxes: implications for magnitude of exchange and the importance of intense
16:15 - 16:35	Andy Jacobson	Atmospheric constraints on Southern Ocean carbon exchange
16:35 - 17:05		Discussion (Lead: Dennis McGillicuddy)
17:05		Adjourn
17:30		Shuttle return to hotel

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Wednesday (12 Apr)

		The Southern Ocean and Glacial-Interglacial Cycles (Taka Ito)
08:30 - 08:50	Daniel M. Sigman	The role of the Antarctic Ocean in glacial/interglacial CO2 change as diagnosed from upper ocean biogeochemical conditions
08:50 - 09:10	Jess Adkins	Deep-Sea Coral Evidence for the State of the Southern Ocean Biological Pump and Circulation During the Last Glacial Period and Deglaciation
09:10 - 09:30	Raffaele Ferrari	The ocean meridional overturning circulation at the LGM
09:30 - 09:50	Malte Jansen	Deciphering deep ocean circulation changes between the present and last glacial maximum
09:50 - 10:35		Break
10:35 - 10:55	Shantong Sun	Does Southern Ocean surface forcing shape the global ocean overturning circulation?
10:55 - 11:15	Bob Anderson	Geochemical evidence for the state of the ice-age Southern Ocean
11:15 - 11:35	David Ferreira	Linking Glacial-Interglacial cycles to multiple equilibria of climate
11:35 - 11:55	Taka Ito	Carbon cycle responses to the multiple equilibria of climate
11:55 - 12:15	Sophia Hines	Insight into glacial interhemispheric ocean dynamics using a time-dependent box model with realistic ocean physics
12:15 - 13:45		Lunch (NCAR Cafeteria, cash only)
		ACC II (David Marshall)
13:45 - 14:05	Andrew Thompson	The dynamics of a multi-basin overturning circulation
14:05 - 14:25	Emily Newsom	The Atlantic-Pacific Buoyancy Dipole: a Global Context for Southern Ocean Zonal Asymmetry
14:25 - 14:55		Break
14:55 - 15:15	Veronica Tamsitt	Pathways of upwelling deep waters to the surface of the Southern Ocean
15:15 - 15:35	Adele Morrison	Southern Ocean upwelling timescales
15:35 - 15:55	Alison Gray	Observations of the Southern Ocean Meridional Overturning Circulation from Argo Data
15:55 - 16:15	Paul Spence	Localized rapid warming of West Antarctic subsurface waters by remote winds
16:15 - 16:45		Discussion (Lead: Danny Sigman)
16:45		Adjourn
17:00		Shuttle return to hotel

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Thursday (13 Apr)

		ACC II (contd) (John Marshall)
08:30 - 08:50	Peter Gent	Overturning Compensation in an Eddy-Resolving Climate Simulation
08:50 - 09:10	Todd Ringler	Why the ventilation-defined ocean surface layer is materially and dynamically isolated from the adiabatic interior
09:10 - 09:30	Anirban Sinha	Timescales of mesoscale eddy equilibration in the Southern Ocean
09:30 - 10:10	Xiaozhou Ruan	Topographic closure of the overturning circulation in the Southern Ocean
09:50 - 10:10		Break
10:10 - 10:50		Discussion
10:50 - 12:30		Lunch (NCAR Cafeteria, cash only)
12:30		Shuttle return to hotel
12:00-17:00		Informal discussion as desired (Damon Room and Chapman Room)

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Posters (Monday evening)

Jon Baker	Atmospheric CO2 and the Southern Ocean: A master control of global climate?
Ben Bronselaer	Agreement of simulated and observed ocean CO2 uptake
Carolina Dufour	CO2 fluxes in the Southern Ocean: a model-data comparison
Natalie M. Freeman	Present and projected variability of biogeochemical fronts in the Southern Ocean
Ivy Frenger	On the relationship between Southern Ocean eddies and phytoplankton
Sarah Gille	Eddies and the Antarctic Circumpolar Current
Julia Hazel	Modeling Water Mass Production and Basal Melt in the Weddell Sea
Matthew W. Hecht	Partitioning of Southern Ocean heat transport between transient and standing eddies: Insight from an idealized multi-resolution study
Martin Hoecker-Martinez	Flux Estimates from Lagrangian Flights over Drake Passage and the Patagonian Shelf
Taka Ito	Antarctic density stratification and the strength of the circumpolar current during the Last Glacial Maximum
Ken Johnson	Biogeochemical sensor performance in the SOCCOM profiling float array
Colin Lindsay	Variable Southern Ocean sea-to-air fluxes of CO2 tagged by deep ocean 14C
Nikki Lovenduski	Uncertainty in projections of Southern Ocean acidification
Nikki Lovenduski	Variability and change in Southern Ocean carbon: The Drake Passage bellwether
Jessica Masich	Interfacial form stress in the Southern Ocean State Estimate
Kathryn McKain	Large-scale vertical gradients of atmospheric trace gases to constrain air-sea CO2 fluxes in the Southern Ocean
David R. Munro	Inter-annual Variability in the Seasonal Cycle of Nutrients, Dissolved O2, Dissolved Inorganic Carbon, and Surface Ocean pCO2 from the Drake Passage Time-series

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Posters (Monday evening)

Dave Munday	A nonlinear equivalent barotropic model of the ocean
Cynthia Nevison	Constraining Satellite Ocean Color-Derived Export Fluxes in the Southern Ocean Using Atmospheric Potential Oxygen (APO) Data
Ana Ordonez	Synoptic cyclones and sea ice in CESM: Their interactions in historical and projected climates
Alice Della Penna	Lagrangian analysis of Kerguelen's naturally iron-fertilised phytoplankton bloom
Sarah Purkey	Antarctic Bottom Water variability in the Southeast Pacific Basin along 103°W
Cesar B. Rocha	Fine-scale Southern Ocean dynamics from space: Preliminary results
Cristina Schultz	High-Resolution Simulation of Sea Ice, Ocean Circulation and Marine Biogeochemistry in the West Antarctic Peninsula (WAP)
Dan Whitt	Synoptic to planetary scale wind variability enhances phytoplankton at fronts
Samantha Wills	Investigating the observed relationships between variability in Agulhas sea surface temperatures and the atmospheric circulation
Madeleine K. Youngs	Basin-Width Dependence of Northern Deep Convection