

**U.S. AMOC/U.K. RAPID International Science Meeting
'AMOC Variability: Dynamics and Impacts'**

**Hilton Baltimore - Baltimore, MD
July 16-19, 2013**

Meeting Agenda

Tuesday, July 16

2nd Floor East Foyer

8:30 **Registration/Check In**

Key Ballroom 8

10:30 **Meeting Begins - Introduction** (meeting goals, logistics, etc.)

Session 1. Observations and Dynamics of Seasonal to Interannual Timescales

10:40 **Gerard McCarthy** (invited speaker)
Results from the 26°N Array

11:10 **Monika Rhein**
Measurements of AMOC components in the subpolar North Atlantic

11:30 **LuAnne Thompson**
Predicting surface heat flux with ocean heat content anomalies in the North Atlantic

11:50 **Christopher Meinen**
Meridional overturning estimates using pilot array data at 34.5°S in the Atlantic

12:10 **Elaine McDonagh**
Oceanic fluxes of freshwater across 26°N

12:30 Lunch (on your own)

Key Ballroom 8

Session 1. Observations and Dynamics of Seasonal to Interannual Timescales (continued)

- 14:00 **Steve Yeager** (invited speaker)
The dynamics of historical AMOC variability
- 14:30 **Stuart Cunningham**
Atlantic Meridional Overturning Circulation slowdown causes widespread cooling in the Atlantic
- 14:50 **Adam Blaker**
Historical analogues to the recently observed minima in the Atlantic meridional overturning circulation
- 15:10 **Jian Zhao**
Interannual wind forced variability of the AMOC at 26.5°N
- 15:30 Coffee Break
- 16:00 **Shane Elipot**
The wind stress drives the coherence of the North Atlantic Meridional Overturning Circulation on seasonal and annual time scales
- 16:20 **Renellys Perez**
The sensitivity of the MOC and MHT seasonal cycle to wind forcing
- 16:40 **Thomas Rossby**
On the spatial structure and temporal variability of poleward transport between Scotland and Greenland
- 17:00 **Louis Clement**
On the effect of eddies and Rossby waves on the Meridional Overturning Circulation

Key Ballrooms 11 & 12

- 17:20 **Poster Session 1** (see page 8)

2nd Floor South Foyer

- 18:00 **All Posters Working Session**

Wednesday, July 17

Key Ballroom 8

Session 1. Observations and Dynamics of Seasonal to Interannual Timescales (continued)

- 08:40 **Martha Buckley**
Examining the relationship between low-frequency SST and AMOC variability
- 09:00 **Gokhan Danabasoglu**
An assessment of Atlantic Meridional Overturning Circulation (AMOC) in Coordinated Ocean-ice Reference Experiments (CORE-II)
- 09:20 **Jeremy Grist**
The surface-forced overturning of the North Atlantic: Estimates from modern era atmospheric reanalysis datasets
- 09:40 **Silvia Garzoli**
The fate of the Atlantic Deep Western Boundary Current
- 10:00 **C.K. Shum**
Decadal evolution of the Atlantic Meridional Overturning Circulation
- 10:20 Coffee Break

Session 2. Observations and Dynamics of Decadal to Multi-Centennial Timescales

- 10:50 **Delia Oppo** (invited speaker)
The Atlantic Multidecadal Oscillation: A perspective from paleo archives
- 11:20 **David Thornalley**
Ocean and atmosphere changes in the North Atlantic over the last millennium
- 11:40 **Hali Killbourne**
A paleoclimate perspective on Atlantic Multidecadal Variability
- 12:00 **Aixue Hu**
Effects of the Bering Strait closure on AMOC and global climate under different background climates
- 12:20 Lunch (on your own)

Key Ballroom 8

Session 2. Observations and Dynamics of Decadal to Multi-Centennial Timescales (continued)

- 14:00 **Rym Msadek** (invited speaker)
Role of the AMOC as a source of predictive skill on decadal time scales in the GFDL coupled model: promises and limitations
- 14:30 **Grant Branstator**
Is AMOC more predictable than North Atlantic heat content?
- 14:50 **Jon Robson**
Decadal predictions of the cooling of the North Atlantic in the 1960s
- 15:10 **Mojib Latif**
Dynamics of Southern Ocean centennial variability and AMOC impact

Key Ballrooms 11 & 12

- 15:30 **Poster Session 2** (see page 10)

Key Ballroom 8

Session 2. Observations and Dynamics of Decadal to Multi-Centennial Timescales (continued)

- 17:00 **Matthew Menary**
North Atlantic internal decadal variability in HadGEM3
- 17:20 **Yohan Ruprich-Robert**
Importance of the seasonality of the ocean-atmosphere relationship to produce multidecadal natural AMV/AMOC variability
- 17:40 **Jennifer Mecking**: On the stochastic null hypothesis for Atlantic multi-decadal variability
- 18:00 End of Day 2
- 18:00 U.S. AMOC Executive Committee Meeting (by invitation - 3rd Floor Brent Conference Room)

Thursday, July 18

Key Ballroom 8

Session 2. Observations and Dynamics of Decadal to Multi-Centennial Timescales (continued)

- 08:30 **Sybern Drijfhout** (invited speaker)
Is there a useful indicator for thresholds in the AMOC?
- 09:00 **Laura Jackson**
Sea surface temperature and sub-surface density fingerprints of the AMOC in CMIP5 models
- 09:20 **Wilbert Weijer**
Agulhas Leakage and its impact on the AMOC in the CCSM4
- 09:40 **Rong Zhang**
Have aerosols caused the observed Atlantic Multidecadal Variability?
- 10:00 **Peter Challenor (for Daniel Williamson)**
Estimating the risk of collapse of the AMOC
- 10:20 Coffee Break
- 10:50 **Wei Cheng** (invited speaker)
The AMOC in CMIP5 models: RCP and historical simulations
- 11:20 **Alexey Fedorov**
The interdecadal AMOC mode related to westward propagation of temperature anomalies – in theory and in CMIP5 models
- 11:40 **Jinting Zhang**
The coherence of Atlantic meridional heat transport in climate models
- 12:00 **Thierry Penduff**
Interannual-to-multidecadal AMOC variability: the intrinsic component
- 12:20 Lunch (on your own)

Key Ballroom 8

Session 3. Climate Impacts

- 13:50 **Jianjun Yin** (invited speaker)
Signature of the Atlantic Meridional Overturning Circulation in the North Atlantic dynamic sea level
- 14:20 **Tal Ezer**
On the impact of the AMOC on sea level rise: new evidence that a slowdown of the Gulf Stream is responsible for accelerating sea level rise along the U.S. mid-Atlantic coast
- 14:40 **Peter Challenor**
Structural biases affecting the AMOC?
- 15:00 **Joseph Park**
AMO influences on coastal water levels and extremes

Key Ballrooms 11 & 12

- 15:20 **Poster Session 3** (see page 11)

Key Ballroom 8

Session 3. Climate Impacts (continued)

- 16:30 **Yochanan Kushnir** (invited speaker)
Climatic impacts of long-term North Atlantic SST Variability: Observational evidence and model support
- 17:00 **Thomas Delworth**
Hemispheric-scale impacts of centennial-scale AMOC variations in the GFDL CM2.5 high-resolution coupled model
- 17:20 **Claude Frankignoul**
The influence of the AMOC variability on the atmosphere in CCSM4
- 17:40 **Guillaume Gastineau**
The influence of the Atlantic Multidecadal Oscillation on the observed Northern Hemisphere atmospheric circulation
- 18:00 End of Day 3

Friday, July 19

Key Ballroom 8

Session 3. Climate Impacts (continued)

- 08:30 **Ric Williams** (invited speaker)
Climate effects of ocean overturning on heat content anomalies and atmospheric CO₂
- 09:00 **Andreas Schmittner**
Impacts of AMOC changes on ocean biogeochemistry and atmospheric greenhouse gases inferred from paleoclimate data and modeling
- 09:20 **Feili Li**
The variability of deep ocean convection and Subpolar Gyre in the North Atlantic
- 09:40 **Lesley Allison**
An event-based approach to understanding decadal-scale variability in the Atlantic Meridional Overturning Circulation and associated climate impacts
- 10:00 Coffee Break
- 10:30 **Eric Lindstrom and Meric Srokosz**
Updates & perspectives from funding agencies
- 10:50 **David Marshall**
Observations and dynamics of seasonal to interannual timescales - perspectives and future challenges
- 11:15 **Laurent Terray**
Observations and dynamics of decadal to multi-centennial timescales - perspectives and future challenges
- 11:40 **Mingfang Ting**
Climate impacts - perspectives and future challenges
- 12:05 **Stuart Cunningham**
Discussion of future challenges
Closing remarks
- 12:30 Meeting Adjourns

Poster Session 1.
Observations and Dynamics of Seasonal to Interannual Timescales

Key Ballrooms 11 & 12
Tuesday, July 16 17:20 – 18:00

Magdalena Andres	Boundary currents' responses to remote forcing: observations from the North Atlantic Line W and the North Pacific PN-line
Adam Blaker	Large near-inertial oscillations of the Atlantic MOC
Amy Bower	Two years of observations of warm core anticyclones in the Labrador Sea and their seasonal cycle in heat and salt stratification
Amy Bower	A first look at AMOC branches through the Charlie-Gibbs Fracture Zone from a two-year moored array
Martha Buckley	Examining the relationship between low-frequency SST and AMOC variability
Edmo Campos	Developing an observing array for monitoring meridional fluxes in the Southwest Atlantic
Beth Curry	Observational study of Davis Strait transports
Ruth Curry	Results from the Dynamics of Abyssal Mixing and Interior Transports Experiment (DynAMITE)
Ruth Curry	Line W: A continuing record of Deep Western Boundary Current measurements south of New England
Matthias Fischer	Changes of the AMOC seasonal cycle in MPI-ESM CMIP5 climate projections
Eleanor Frajka-Williams	Variability of the DWBC at 26 deg N from <i>in situ</i> observations and satellite measurements
Will Hobbs	The annual cycle of AMOC transport at 41N
Jong Kim	Sensitivity analysis of the Atlantic Meridional Overturning Circulation through the POP Tangent Linear and Adjoint Models
David Marshall	Attribution of midlatitude AMOC variations to surface wind, heat and freshwater forcing

Charlotte Mielke	Contribution of the DWBC to the AMOC variability at 26N and line W in a high resolution model
Ben Moat	Improvements to the method used to calculate the MOC using data from the 26°N array
Jon Robson	The importance of wind and buoyancy forcing for the boundary density variations and the geostrophic component of the AMOC at 26N
Jon Robson	Predictability of the rapid warming of the North Atlantic in the mid 1990s and its climate impacts
Zoltan Szuts	Salinity transport through the Florida Straits
Virginie Thierry	The Meridional Overturning Circulation north of the AR7W and A25-Ovide lines in recent decades
Maria Valdivieso	Atlantic Ocean freshwater transport in a global ocean eddy-permitting reanalysis
Ric Williams	North Atlantic sea level, heat content and MOC variability over the last 60 years estimated from hydrographic data
Xiaobiao Xu	On the transports connected with the AMOC in the subpolar North Atlantic
Jiayan Yang	Wind-driven variability of the Nordic Seas Overflow and its impact on AMOC
Jian Zhao	Wind driven seasonal cycle of the Atlantic Meridional Overturning Circulation

Poster Session 2.
Observations and Dynamics of Decadal to Multi-Centennial Timescales

Key Ballrooms 11 & 12
Wednesday, July 17 15:30 – 17:00

Adam Blaker	Characteristics and variability of the Atlantic meridional overturning circulation in the RAPIT climate model ensemble
Yanni Ding	AMOC Responses to Volcanic Eruptions in CMIP5 simulations
Paul Gierz	The Atlantic Meridional Overturning Circulation stability influenced by the melting of the Greenland Ice Sheet under various warming scenarios
Sirpa Hakkinen	Northern North Atlantic sea-surface height and ocean heat content variability
Bohua Huang	Multidecadal oscillation of the Atlantic Meridional Overturning Circulation in CMIP5 models
Laura Jackson	The advective feedback on the AMOC in GCMs
Who Kim	Long-term AMOC changes in NCAR ocean/sea ice and community climate system model twentieth century climate simulations
Douglas MacMartin	Frequency domain analysis of AMOC variability mechanisms
Jennifer Mecking	Multi-model comparison for Atlantic Multi-decadal Variability
Matthew Menary	Mechanisms of aerosol-forced AMOC variability in a state of the art climate model
Les Muir	How well does the Atlantic SST dipole index represent AMOC variability on decadal to centennial timescales?
Jon Robson	The Value Of the RAPID array for climate predictions (VALOR)
Liping Zhang	Role of Atlantic Warm Pool-induced freshwater forcing in the AMOC

**Poster Session 3.
Climate Impacts**

Key Ballrooms 11 & 12

Thursday, July 18 15:20 – 16:30

Paola Cessi	Salt feedbacks in the quasi-adiabatic overturning circulation
Victoria Coles	Biogeochemical and freshwater impacts on the tropical and subtropical Atlantic due to Amazon River plume variability
Ines Höschel	The influence of decadal variability in North Atlantic sea surface temperature on climate extremes
Young-Heon Jo	Nonlinear sea level trends in the Atlantic Ocean
Craig Lee	Autonomous Studies of Coupled Physical-Biogeochemical Processes- Lessons from NAB08 and Prospects for the Future