

Earth System Science: The Ronald J. Stouffer Symposium

Pictures kindly provided by John Mitchell and Will Cooke











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A Brief History of GFDL Science

Ronald J Stouffer

November 2, 2015

GFDL's 60th Diamond Anniversary





EXIT

Ronald Shuster





MANCHESTER
10K
RACE

CITY
SPORTS

NIKE
KAWA















Preliminary Analysis of Global Eddy-Permitting Isopycnal Coordinate Ocean Models. Watermass Properties and Transports through Key Passages NOAA Geophysical Fluid Dynamics Laboratory, Climate and Climate Group Presented by M. Hameed at NOAA OCO Review, 2012, Silver Spring, MD

Model Description

Model description text describing the ocean model used in the study.

Model description text describing the ocean model used in the study.



Figure 1: Map of the North Atlantic region showing water mass properties.

Watermass

Watermass text describing the properties and characteristics of the water masses.

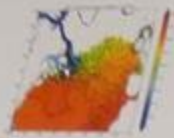


Figure 2: Map of the North Atlantic region showing water mass properties.

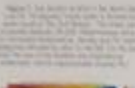


Figure 3: Cross-section plot of water mass properties.



Figure 4: Cross-section plot of water mass properties.



Figure 5: Cross-section plot of water mass properties.

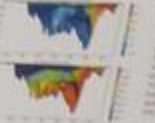


Figure 6: Cross-section plot of water mass properties.

Figure 6 text describing the cross-section plot.

Summary of Results

Summary of Results text describing the key findings of the study.

Future Work

Future Work text describing the planned next steps in the research.



Figure 7: Cross-section plot of water mass properties.

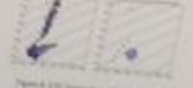


Figure 8: Cross-section plot of water mass properties.



Figure 9: Cross-section plot of water mass properties.



Figure 10: Cross-section plot of water mass properties.

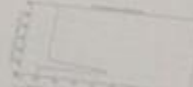
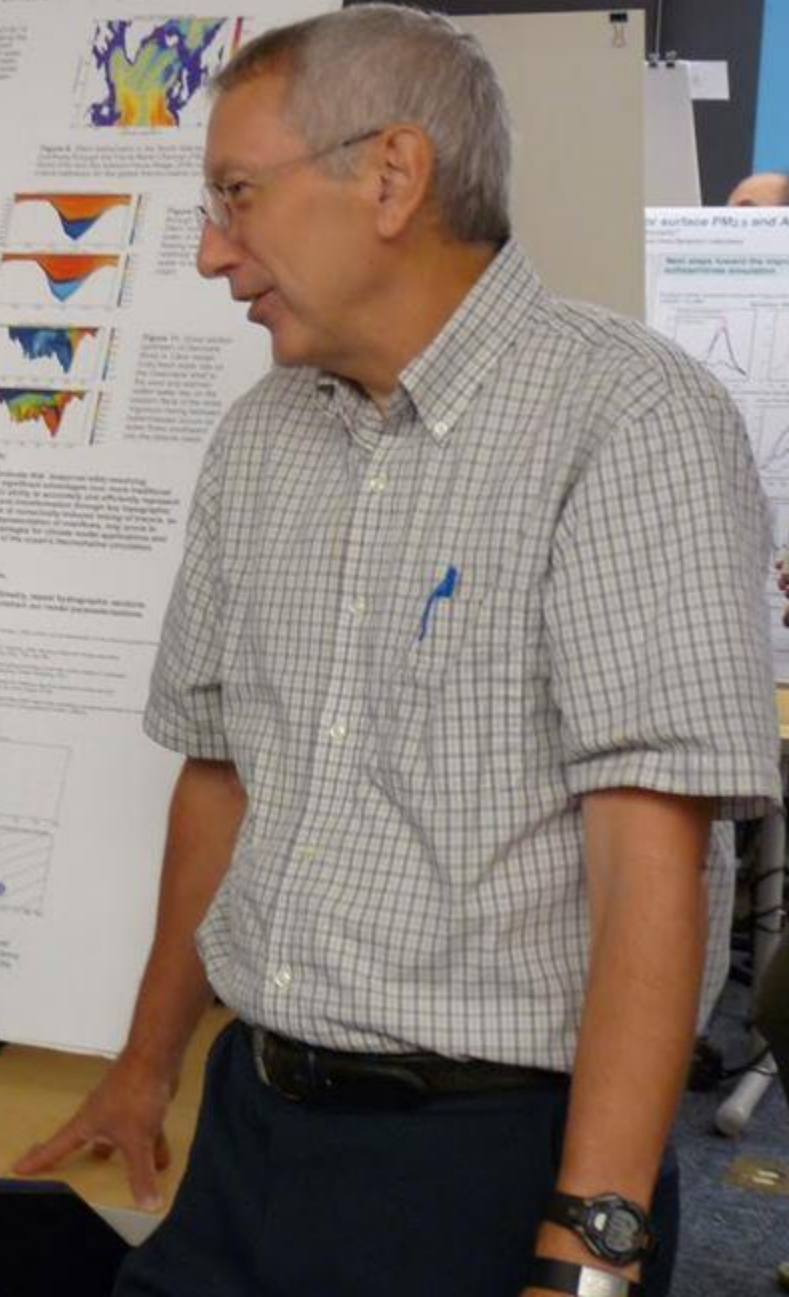
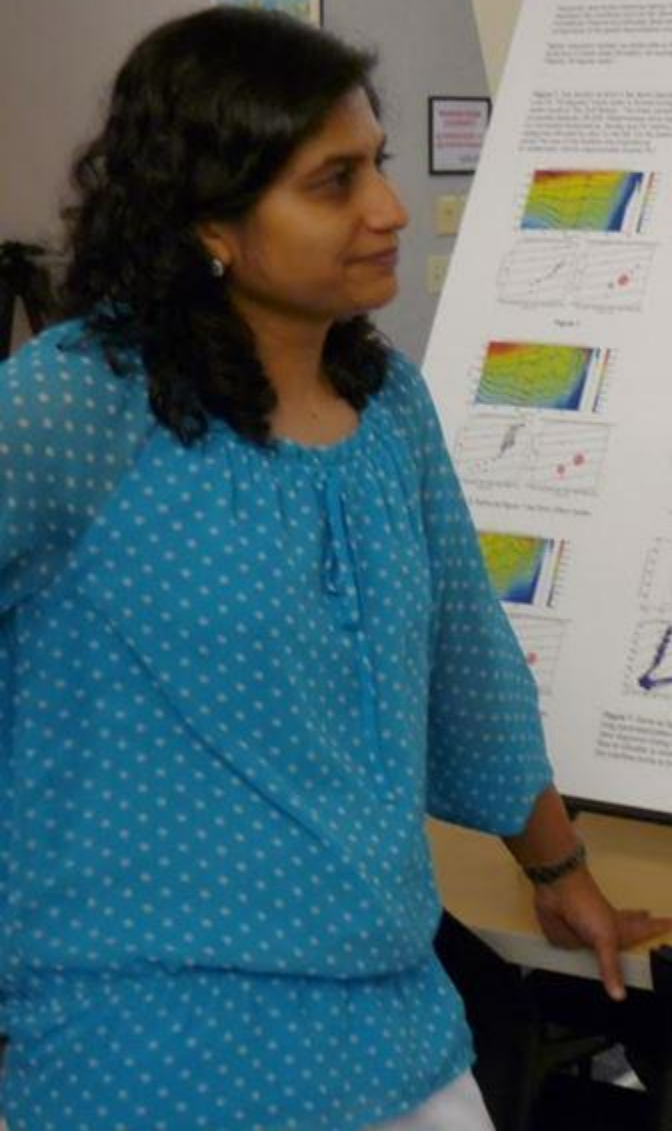


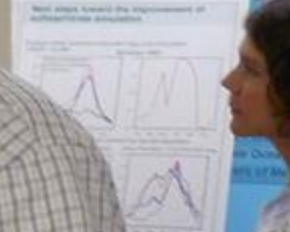
Figure 11: Cross-section plot of water mass properties.

Figure 10 text describing the cross-section plot.

Figure 11 text describing the cross-section plot.



...for surface PM2.5 and AOD



Text describing the PM2.5 and AOD data.





Dr. Amelino



Year	Value	Year	Value
2000	1.0	2005	1.5
2001	1.1	2006	1.6
2002	1.2	2007	1.7
2003	1.3	2008	1.8
2004	1.4	2009	1.9
2005	1.5	2010	2.0
2006	1.6	2011	2.1
2007	1.7	2012	2.2
2008	1.8	2013	2.3
2009	1.9	2014	2.4
2010	2.0	2015	2.5
2011	2.1	2016	2.6
2012	2.2	2017	2.7
2013	2.3	2018	2.8
2014	2.4	2019	2.9
2015	2.5	2020	3.0





GFCEs Near Term Experiment Plans

- High resolution atmosphere-land-only models in time
water mode (25km, HIRAM+)
 - Investigate response changes, extreme events
- CM2.1 (2° atm, 1/4° ocn) using Coupled Data
Assimilation with ensemble filter techniques
 - Investigate predictability and prediction on decadal time scales
- Potentially use high resolution physical climate models
(CM2.3 (10km atm, 1/4° ocn))
 - Importance of resolution on predictability/prediction







MAXIMUM ROOM
OCCUPANCY
89 PERSONS SEATED OR
300 PERSONS STANDING





221 MARSHA DUGG

Pat Stouffer

Ron Stouffer