Christopher S. Meinen – Curriculum Vitae

Christopher S. Meinen
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PROFESSIONAL EXPERIENCE

Oceanographer, Atlantic Oceanographic and Meteorological Laboratory, National Oceanic and Atmospheric Administration, 10/2004–present

Assistant Scientist, Cooperative Institute for Marine and Atmospheric Studies, Univ. of Miami, 8/2002–9/2004

Postdoctoral Fellow and Affiliate Researcher, Department of Oceanography, Univ. of Hawaii at Manoa, 8/2000–7/2002

Postdoctoral Researcher, Joint Institute for the Study of the Atmosphere and Ocean, Univ. of Washington, 3/1998–8/2000

EDUCATIONAL HISTORY

Ph.D. in Oceanography (Physical Option), Univ. of Rhode Island, Kingston, RI, 1998
Dissertation title: "Transport of the North Atlantic Current"
Doctoral Advisor: Prof. D. Randolph Watts

B.A. in Physics and Mathematics, Magna cum Laude, Luther College, Decorah, IA, 1992

HONORS AND AWARDS

NOAA – 2011 AOML Outstanding Scientific Paper Award, for "Florida Current Transport Variability: An Analysis of Annual and Longer-Period Signals" by C. S. Meinen, M. O. Baringer and R. F. Garcia, Deep Sea Res. I, 57 (7), 835-846, 2010.

US Department of Commerce 2007 Bronze Medal - Western Boundary Time Series as part of the Meridional Overturning Circulation team

NOAA – 2002 OAR Outstanding Scientific Paper Award, for "Observations of the warm water volume changes in the equatorial Pacific and their relationship to El Nino and La Nina" by C. S. Meinen and M. J. McPhaden, J. Clim. 13:3551-3559, 2000.

Office of Naval Research - Secretary of the Navy Fellowship, 1992-1995

Phi Beta Kappa, Sigma Pi Sigma, Pi Mu Epsilon (Luther College); **Sigma Xi** (U.R.I.)

SCIENTIFIC STEERING PANELS

IAPSO - Executive Committee – 2011-present
SAMOC - Executive Committee – 2016-present
U.S. AMOC - Executive Committee – 2013-2015
U.S. AMOC - Task Team 1 chair – 2014-2015
U.S. AMOC - Task Team 1 vice-chair – 2013-2014
U.S. CLIVAR - Phenomena, Observations, & Synthesis Panel – 2007-2010

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GRANTS AND PROPOSALS

Western Boundary Time Series Project
Principle investigators: Molly O. Baringer, Christopher S. Meinen, and Silvia L. Garzoli
Funding agency: NOAA
Grant period: Continuing (1982-present)
Grant amount: $400,256 (FY14 budget)

Southwest Atlantic Meridional Overturning Circulation Project
Principle investigators: Christopher S. Meinen, Silvia L. Garzoli, Renellys C. Perez and Shenfu Dong
Funding agency: NOAA
Grant period: Continuing (2008-present)
Grant amount: $228,000 (FY14 budget)

Measuring interannual variability of the AMOC and meridional ocean heat transport at 26.5N: The RAPID-MOCHA Array
Principle investigators: William E. Johns, Molly O. Baringer, and Christopher S. Meinen
Funding agency: NSF
Grant period: 2013-2019
Grant amount: $3,828,652

An Observing System for the Meridional Overturning Circulation and Ocean Heat Transport in the Subtropical North Atlantic: Extension of the RAPID-MOCHA Program
Principle investigators: William E. Johns, Molly O. Baringer, Lisa M. Beal, and Christopher S. Meinen
Funding agency: NSF
Grant period: 2007-2014
Grant amount: $3,944,401

PIRATA Northeast Extension
Principle investigators: Rick Lumpkin, Claudia Schmid, Greg Foltz, and Christopher S. Meinen
Funding agency: NOAA
Grant period: Continuing (2006-2013)
Grant amount: $188,000 (FY12 budget)

A Proposal for an Innovative New Oceanographic Tool to Monitor Long-Term Climate Signals in Near-Real Time: An Expendable-Pod System for Transmitting Data from Subsurface Moored Sensors to Land via Satellite
Principle investigators: Ulises Rivero, Christopher S. Meinen, and Silvia L. Garzoli
Funding agency: NOAA
Grant period: 2009-2012
Grant amount: $373,000

Collaborative Research: Gulf Stream Re-Analysis - Structure, Transport & Dynamics
Principle investigator: Christopher S. Meinen
Funding agency: NSF
Grant period: 2004-2007
Grant amount: $260,875

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GRANTS AND PROPOSALS CONTINUED

Interannual Variability in Warm Water Exchange between the Tropical Pacific and the Subtropics

Principle investigator: Christopher S. Meinen
Funding agency: NSF
Grant period: 2002-2003
Grant amount: $52,692

RESEARCH CRUISES

Meridional Overturning Circulation Heat-flux Array cruise: Oct. 2015
Position: co-Chief Scientist Vessel: R/V Endeavor
Meridional Overturning Circulation Heat-flux Array cruise: Mar. 2014
Position: co-Chief Scientist Vessel: R/V Atlantic Explorer
Southwest Atlantic Meridional Overturning Circulation cruise: Dec. 2012
Position: co-Chief Scientist Vessel: Brazilian R/V Alpha-Crucis
Meridional Overturning Circulation Heat-flux Array cruise: Sep. 2012
Position: co-Chief Scientist Vessel: R/V Endeavor
Western Boundary Time Series – Florida Straits cruise: May 2012
Position: co-Chief Scientist Vessel: R/V F. G. Walton Smith
Meridional Overturning Circulation Heat-flux Array cruise: Mar.-Apr. 2011
Position: co-Chief Scientist Vessel: R/V Knorr
Western Boundary Time Series cruise: Mar.-Apr. 2010
Position: Chief Scientist Vessel: R/V Oceanus
Meridional Overturning Circulation Heat-flux Array cruise: Nov.-Dec. 2009
Position: co-Chief Scientist Vessel: RRS Discovery
Western Boundary Time Series – Florida Straits cruise: Jun. 2009
Position: co-Chief Scientist Vessel: R/V F. G. Walton Smith
Western Boundary Time Series cruise: Apr.-May 2009
Position: Chief Scientist Vessel: NOAA Ship Ronald H. Brown
Southwest Atlantic Meridional Overturning Circulation cruise: Mar. 2009
Position: Chief Scientist Vessel: Brazilian Naval vessel N. H. Cruzeiro do Sul
Western Boundary Time Series cruise: Sep. 2008
Position: Chief Scientist Vessel: R/V Cape Hatteras
Western Boundary Time Series – Florida Straits cruise: Jul. 2008
Position: co-Chief Scientist Vessel: R/V F. G. Walton Smith
Meridional Overturning Circulation Heat-flux Array cruise: Apr. 2008
Position: co-Chief Scientist Vessel: R/V Seward Johnson
Western Boundary Time Series cruise: Sep. 2007
Position: Chief Scientist Vessel: NOAA Ship Ronald H. Brown
Meridional Overturning Circulation Heat-flux Array cruise: Sep.-Oct. 2006
Position: co-Chief Scientist Vessel: R/V Seward Johnson
PIRATA Northeast Extension cruise: May-Jun. 2006
Position: co-Chief Scientist Vessel: NOAA Ship Ronald H. Brown
Western Boundary Time Series cruise: Sep.-Oct. 2005
Position: Chief Scientist Vessel: NOAA Ship Ronald H. Brown

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RESEARCH CRUISES CONTINUED

Meridional Overturning Circulation Heat-flux Array cruise: May-Jun. 2005
Position: co-Chief Scientist Vessel: R/V Knorr
Western Boundary Time Series cruise: Sep.-Oct. 2004
Position: Chief Scientist Vessel: NOAA Ship Ronald H. Brown
Western Boundary Time Series cruise: Feb.-Mar. 2003
Position: Chief Scientist Vessel: NOAA Ship Ronald H. Brown
Hawaii Ocean Mixing Experiment cruise: Jan. 2001
Position: Scientist Vessel: R/V Kaimikai-o-Kanaloa
North Atlantic Current cruise: Jun.-Jul. 1995
Position: Student Scientist Vessel: C/R/V Hudson
Subantarctic Flux and Dynamics Experiment cruise: Feb.-Mar. 1995
Position: Student Scientist Vessel: R/V Melville

REFEREED SCIENTIFIC JOURNAL ARTICLES

Frajka-Williams, Eleanor, Christopher S. Meinen, William E. Johns, David A. Smeed, Aurelie Duchez, Adam J. Lawrence, David A. Cuthbertson, Gerard D. McCarthy, Harry L. Bryden, Ben I. Moat, and Darren Rayner, **Compensation between meridional flow components of the AMOC at 26°N**, *Ocean Sci.*, (submitted), 2016.

Meinen, Christopher S., and Douglas S. Luther, **Structure, Transport, and Vertical Coherence of the Gulf Stream from the Straits of Florida to the Southeast Newfoundland Ridge**, *Deep Sea Res. I*, 111, 16-33, doi:10.1016/j.dsr.2016.02.002, 2016.

Garzoli, Silvia L., Shenfu Dong, Rana Fine, Christopher S. Meinen, Renellys C. Perez, Claudia Schmid, Erik van Sebille, and Qi Yao, **The fate of the Deep Western Boundary Current in the South Atlantic**, *Deep Sea Res. I*, 103, 125-136, doi:10.1016/j.dsr.2015.05.008, 2015.

Perez, Renellys C., Molly O. Baringer, Shenfu Dong, Silvia L. Garzoli, Marlos Goes, Gustavo J. Goni, Rick Lumpkin, Christopher S. Meinen, Rym Msadek, and Ulises Rivero, **Measuring the Atlantic Meridional Overturning Circulation**. *Mar. Tech. Soc. Journal*, 49 (2), 167-177, doi:10.4031/MTSJ.49.2.14, 2015.

McCarthy, Gerard D., David A. Smeed, William E. Johns, Eleanor Frajka-Williams, Ben I. Moat, Darren Rayner, Molly O. Baringer, Christopher S. Meinen, Julie Collins, and Harry L. Bryden, **Measuring the Atlantic Meridional Overturning Circulation at 26°N**, *Prog. Oceanogr.*, 130, 91-111, 2015.

Dong, Shenfu, Molly O. Baringer, Gustavo J. Goni, Christopher S. Meinen, and Silvia L. Garzoli, **Seasonal Variations in the South Atlantic Meridional Overturning Circulation from Observations and Numerical Models**, *Geophys. Res. Lett.*, 41, 4611-4618, doi:10.1002/2014GL060428, 2014.

Meinen, Christopher S., and Silvia L. Garzoli, **Attribution of Deep Western Boundary Current variability at 26.5°N**, *Deep Sea Res. I*, 90, 81-90, doi:10.1016/j.dsr.2014.04.016, 2014.

Garcia, Rigoberto F., and Christopher S. Meinen, **Accuracy of Florida Current volume transport measurements at 27°N using multiple observational techniques**, *J. Atmos. Ocean. Tech.*, 31 (5), 1169-1180, doi:10.1175/JTECH-D-13-00148.1, 2014.

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REFEREED SCIENTIFIC JOURNAL ARTICLES CONTINUED

Smeed, David A., Gerard McCarthy, Stuart A. Cunningham, Eleanor Frajka-Williams, Darren Rayner, William E. Johns, Christopher S. Meinen, Molly O. Baringer, Ben I. Moat, Aurelie Duchez, and Harry L. Bryden, **Observed decline of the Atlantic Meridional Overturning Circulation 2004 to 2012**, *Ocean Sci.*, 10, 29-38, doi:10.5194/os-10-29-2014, 2014.

Baringer, Molly O., Gerard McCarthy, Josh Willis, Matthew Lankhorst, David A. Smeed, Uwe Send, Darren Rayner, William E. Johns, Christopher S. Meinen, Stuart A. Cunningham, Torsten O. Kanzow, Eleanor Frajka-Williams, and Jochem Marotzke, **Global oceans: Meridional Overturning Circulation observations in the North Atlantic Ocean**, in **State of the Climate in 2013**, J. Blunden and D.S. Arndt (eds.), *Bull. Am. Met. Soc.*, 95, S67-S69, 2014.

Meinen, Christopher S., Sabrina Speich, Renellys C. Perez, Shenfu Dong, Alberto R. Piola, Silvia L. Garzoli, Molly O. Baringer, Sergey Gladyshev, and Edmo J. D. Campos, **Temporal variability of the Meridional Overturning Circulation at 34.5°S: Results from two pilot boundary arrays in the South Atlantic**, *J. Geophys. Res.*, 118 (12), 6461-6478, doi:10.1002/2013JC009228, 2013.

Szuts, Zoltan B., and Christopher Meinen, **Salinity transport in the Florida Straits**, *J. Atmos. Ocean. Tech.*, 30, 971-983, doi:10.1175/JTECH-D-12-00133.1, 2013.

Frajka-Williams, Eleanor, William E. Johns, Christopher S. Meinen, Lisa M. Beal, and Stuart A. Cunningham, **Eddy impacts on the Florida Current**, *Geophys. Res. Lett.*, 40 (2), 349-353, 2013.

Meinen, Christopher S., William E. Johns, Silvia L. Garzoli, Erik van Sebille, Darren Rayner, Torsten Kanzow, and Molly O. Baringer, **Variability of the Deep Western Boundary Current at 26.5°N during 2004-2009**, *Deep Sea Res. II*, 85, 154-168, doi:10.1016/j.dsr2.2012.07.036, 2013.

Baringer, Molly O., William E. Johns, Gerard McCarthy, Josh Willis, Silvia Garzoli, Matthew Lankhorst, Christopher S. Meinen, Uwe Send, William R. Hobbs, Stuart A. Cunningham, Darren Rayner, David A. Smeed, Torsten O. Kanzow, Patrick Heimback, Eleanor Frajka-Williams, Allison Macdonald, Shenfu Dong, and Jochem Marotzke, **Meridional Overturning Circulation and Heat Transport Observations in the Atlantic Ocean**, in **State of the Climate in 2012**, J. Blunden and D.S. Arndt (eds.), *Bull. Am. Met. Soc.*, 94, S65-S68, 2013.

Meinen, Christopher S., Alberto R. Piola, Renellys C. Perez, and Silvia L. Garzoli, **Deep Western Boundary Current transport variability in the South Atlantic: Preliminary results from a pilot array at 34.5°S**, *Ocean Sci.*, 8, 1041-1054, doi:10.5194/os-8-1041-2012, 2012.

McCarthy, Gerard D., Eleanor Frajka-Williams, William E. Johns, Molly O. Baringer, Christopher S. Meinen, Harry L. Bryden, Darren Rayner, Aurelie Duchez, Chris Roberts and Stuart Cunningham, **Observed Interannual Variability of the Atlantic Meridional Overturning Circulation at 26.5°N**, *Geophys. Res. Lett.*, 39, L19609, doi:10.1029/2012GL052933, 2012.

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REFEREED SCIENTIFIC JOURNAL ARTICLES CONTINUED

Baringer, Molly O., Stuart A. Cunningham, Christopher S. Meinen, Silvia Garzoli, Josh Willis, Matthew Lankhorst, Allison Macdonald, Uwe Send, William R. Hobbs, Eleanor Frajka-Williams, Torsten O. Kanzow, Darren Rayner, William E. Johns, and Jochem Marotzke. **Global oceans: Meridional overturning circulation observations in the subtropical North Atlantic**, in **State of the Climate in 2011**, J. Blunden and D.S. Arndt (eds.), *Bull. Am. Met. Soc.*, 93(7):S78-S81, 2012.

van Sebille, Erik, Molly O. Baringer, William E. Johns, Christopher S. Meinen, Lisa M. Beal, M. Femke de Jong, and Hendrik M. van Aken, **Propagation Pathways of Classical Labrador Sea Water from its Source Region to 26°N**, *J. Geophys. Res.*, 116, C12027, doi:10.1029/2011JC007171, 2011.

Perez, Renellys C., Silvia L. Garzoli, Christopher S. Meinen, and Ricardo P. Matano, **Geostrophic Velocity Measurement Techniques for the Meridional Overturning Circulation and Meridional Heat Transport in the South Atlantic**, *J. Atmos. Ocean. Tech.*, 28, 1504-1521, doi:10.1175/JTECH-D-11-00058.1, 2011.

Turk, Daniela, Christopher S. Meinen, David Antoine, Michael J. McPhaden, and Marlon R. Lewis, **Implications of changing El Niño patterns for biological dynamics in the equatorial Pacific ocean**, *Geophys. Res. Lett.*, 38, L23603, doi:10.1029/2011GL049674, 2011.

Johns, William E., Molly O. Baringer, Lisa M. Beal, Stuart A. Cunningham, Torsten Kanzow, Harry L. Bryden, Joel J.-M. Hirschi, Jochem Marotzke, Christopher S. Meinen, Benjamin Shaw, and Ruth Curry, **Continuous, Array-Based Estimates of Atlantic Ocean Heat Transport at 26.5°N**, *J. Clim.*, 24(5), 2429-2449, doi:10.1175/2010JCLI3997.1, 2011.

Rayner, Darren, Joel J-M. Hirschi, Torsten Kanzow, William E. Johns, Stuart A. Cunningham, Paul G. Wright, Eleanor Frajka-Williams, Harry L. Bryden, Christopher S. Meinen, Molly O. Baringer, Jochem Marotzke, and Lisa M. Beal, **Monitoring the Atlantic Meridional Overturning Circulation**, *Deep Sea Res. II*, 48, 1744-1753, doi:10.1016/j.dsr2.2010.10.056, 2011.

Baringer, Molly O., Torsten Kanzow, Christopher S. Meinen, Stuart A. Cunningham, Darren Rayner, William E. Johns, Harry L. Bryden, Eleanor Frajka-Williams, Joel J-M. Hirschi, Maria Paz Chidichimo, Lisa M. Beal and Jochem Marotzke, **Meridional Overturning Circulation Observations in the Subtropical North Atlantic**, in **State of the Climate in 2010**, Blunden, J., D. S. Arndt, M. O. Baringer (eds.), *Bull. Am. Met. Soc.*, 92, S95-S98. doi: 10.1175/1520-0477-92.6.S1, 2011.

Turk, Daniela, Christopher J. Zappa, Christopher S. Meinen, James R. Christian, David T. Ho, Andrew G. Dickson, and Wade R. McGillis, **Rain impacts on CO_2 exchange in the western equatorial Pacific**, *Geophys. Res. Lett.*, 37, L23610, doi:10.1029/2010GL045520, 2010.

Kanzow, Torsten, Stuart A. Cunningham, William E. Johns, Joel J-M. Hirschi, Jochem Marotzke, Molly O. Baringer, Christopher S. Meinen, Maria P. Chidichimo, Christopher Atkinson, Lisa M. Beal, Harry L. Bryden, and Julie Collins, **Seasonal Variability of the Atlantic Meridional Overturning Circulation at 26.5°N**, *J. Clim.*, 23(21), 5678-5698, 2010.

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REFEREED SCIENTIFIC JOURNAL ARTICLES CONTINUED

Meinen, Christopher S., Molly O. Baringer, and Rigoberto F. Garcia, **Florida Current Transport Variability: An Analysis of Annual and Longer-Period Signals**, *Deep Sea Res. I*, 57 (7), 835-846, doi:10.1016/j.dsr.2010.04.001, 2010.

Baringer, Molly O., Torsten O. Kanzow, Christopher S. Meinen, Stuart A. Cunningham, Darren Rayner, William E. Johns, Harry L. Bryden, Joel J-M. Hirschi, Lisa M. Beal, and Jochem Marotzke, **The Meridional Overturning Circulation**, in **State of the Climate in 2009**, D. S. Arndt, M. O. Baringer, and M. R. Johnson (eds.), *Bull. Am. Met. Soc.*, 91(6), 66-69, 2010.

Dong, Shenfu, Silvia L. Garzoli, Molly O. Baringer, Christopher S. Meinen, and Gustavo J. Goni, **Interannual Variations in the Atlantic Meridional Overturning Circulation and its Relationship with the Net Northward Heat Transport in the South Atlantic**, *Geophys. Res. Lett.*, 36, L20606, doi:10.1029/2009GL039356, 2009.

Meinen, Christopher S., Douglas S. Luther, and Molly O. Baringer, **Structure, transport and potential vorticity of the Gulf Stream at 68°W: Revisiting older data sets with new techniques**, *Deep Sea Res. I*, 56 (1), 41-60, doi:10.1016/j.dsr.2008.07.010, 2009.

Baringer, Molly O., Christopher S. Meinen, Gregory C. Johnson, Torsten O. Kanzow, Stuart A. Cunningham, William E. Johns, Lisa M. Beal, Joel J-M. Hirschi, Darren Rayner, Hannah R. Longworth, Harry L. Bryden, and Jochem Marotzke, **The Meridional Overturning Circulation**, in **State of the Climate in 2008**, T.C. Peterson and M.O. Baringer (eds.), *Bull. Am. Met. Soc.*, 90(8), s59-s62, 2009.

Peng, Ge, Zulema Garraffo, George R. Halliwell, Ole M. Smedstad, Christopher S. Meinen, Villy Kourafalou, and Patrick Hogan, **Temporal variability of the Florida Current transport at 27°N**, In **Ocean Circulation and El Nino: New Research**, J.A. Long and D.S. Wells (ed.). Nova Science Publishers, New York, 119-137, 2009.

DiNezio, Pedro N., Lewis J. Gramer, William E. Johns, Christopher S. Meinen, and Molly O. Baringer, **Observed Interannual Variability of the Florida Current: Wind Forcing and the North Atlantic Oscillation**, *J. Phys. Oceanogr.*, 39(3), 721-736, doi: 10.1175/2008JPO4001.1, 2009.

Meinen, Christopher S., **Accuracy in mooring motion temperature correction**, *J. Atmos. Oceanic Technol.*, 25(12), 2293-2303, doi:10.1175/2008JTECHO555.1, 2008.

Baringer, Molly O., and Christopher S. Meinen, **The Meridional Overturning Circulation**, in **State of the Climate in 2007**, D. H. Levinson and J. H. Lawrimore (eds.), *Bull. Am. Met. Soc.*, 89(7), s49-s51, doi:10.1175/BAMS-89-7-StateoftheClimate, 2008.

Kanzow, Torsten, Joël J-M. Hirschi, Christopher Meinen, Darren Rayner, Stuart A. Cunningham, Jochem Marotzke, William E. Johns, Harry L. Bryden, Lisa M. Beal, and Molly O. Baringer, **A Prototype System for Observing the Atlantic Meridional Overturning Circulation - Scientific Basis, Measurement and Risk Mitigation Strategies, and First Results**, *J. Operational Oceanogr.*, 1(1), 19-28, 2008.

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REFEREED SCIENTIFIC JOURNAL ARTICLES CONTINUED

Cunningham, Stuart A., Torsten Kanzow, Darren Rayner, Molly O. Baringer, William E. Johns, Jochem Marotzke, Hannah R. Longworth, Elizabeth M. Grant, Joël J-M. Hirschi, Lisa M. Beal, Christopher S. Meinen, and Harry L. Bryden, **Temporal Variability of the Atlantic Meridional Overturning Circulation at 26.5°N**, *Science*, 317, 935, DOI: 10.1126/science.1141304, 2007.

Kanzow, Torsten, Stuart A. Cunningham, Darren Rayner, Joël J-M. Hirschi, William E. Johns, Molly O. Baringer, Harry L. Bryden, Lisa M. Beal, Christopher S. Meinen, and Jochem Marotzke, **Observed flow compensation associated with the Meridional Overturning at 26.5°N in the Atlantic**, *Science*, 317, 938, DOI: 10.1126/science.1141293, 2007.

Baringer, Molly O., and Christopher S. Meinen, **The Meridional Overturning Circulation and Oceanic Heat Transport**, in **Supplement to State of the Climate in 2006**, A. Arguez, ed., *Bull. Am. Met. Soc.*, 88(6), s1-s135, doi: 10.1175/BAMS-88-6-StateoftheClimate, 2007.

Meinen, Christopher S., Molly O. Baringer, and Silvia L. Garzoli, **Variability in Deep Western Boundary Current transports: Preliminary results from 26.5°N in the Atlantic**, *Geophys. Res. Lett.*, 33, L17610, doi:10.1029/2006GL026965, 2006.

Tracey, Karen L., D. Randolph Watts, Christopher S. Meinen, and Douglas S. Luther, **Synoptic maps of temperature and velocity within the Subantarctic Front south of Australia**, *J. Geophys. Res.*, 111, C10016, doi:10.1029/2005JC002905, 2006.

Baringer, Molly O., and Christopher S. Meinen, **Thermohaline Circulation**, in **State of the Climate in 2005**, K. A. Shein, ed., *Bull. Am. Met. Soc.*, 87(6), s1-s102, doi: 10.1175/BAMS-87-6-shein, 2006.

Mooers, Christopher N. K., Christopher S. Meinen, Molly O. Baringer, Inkweon Bang, Robert Rhodes, Charlie N. Barron, and Frank Bub, **Cross Validating Ocean Prediction and Monitoring Systems**, *EOS*, 86(29), 269, 272-273, 2005.

Meinen, Christopher S., **Temporal Sampling: How many sections are needed to quantify the mean transport and structure of a meandering current?**, *J. Atmos. Oceanic Technol.*, 22(4), 476-489, 2005.

Meinen, Christopher S., **Meridional Extent and Interannual Variability of the Pacific Ocean Tropical–Subtropical Warm Water Exchange**, *J. Phys. Oceanogr.*, 35(3), 323-335, 2005.

Meinen, Christopher S., Silvia L. Garzoli, William E. Johns, and Molly O. Baringer, **Transport Variability of the Deep Western Boundary Current and the Antilles Current off Abaco Island, Bahamas**, *Deep Sea Res. I*, 51(11), 1397-1415, 2004.

Chave, Alan D., Douglas S. Luther, and Christopher S. Meinen, **Correction of Motional Electric Field Measurements for Galvanic Distortion**, *J. Atmos. Ocean. Technol.*, 21(2), 317-330, 2004.

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REFEREED SCIENTIFIC JOURNAL ARTICLES CONTINUED

Meinen, Christopher S., Douglas S. Luther, D. Randolph Watts, Alan D. Chave, and Karen L. Tracey, **Mean Stream coordinates Structure of the Subantarctic Front: Temperature, Salinity, and Absolute Velocity**, *J. Geophys. Res.*, 108(C8), 3263, doi:10.1029/2002JC001545, 2003.

Meinen, Christopher S., and Douglas S. Luther, **Comparison of Methods of Estimating Mean Synoptic Current Structure in "Stream Coordinates" with an Example from the Antarctic Circumpolar Current**, *Deep Sea Res. I*, 50(2), 201-220, 2003.

Hendry, Ross M., D. Randolph Watts, and Christopher S. Meinen, **Newfoundland Basin Sea Level Variability from TOPEX/POSEIDON Altimetry and Inverted Echo Sounder/Bottom Pressure Measurements**, *Canadian J. Remote Sensing*, 28(4), 544-555, 2002.

Meinen, Christopher S., Douglas S. Luther, D. Randolph Watts, Karen L. Tracey, Alan D. Chave, and James Richman, **Combining Inverted Echo Sounder and Horizontal Electric Field Recorder Measurements to Obtain Absolute Velocity Profiles** *J. Atmos. Ocean. Technol.*, 19(10), 1653-1664, 2002.

Meinen, Christopher S., and Douglas S. Luther, **Estimating Mooring Motion when the Pressure Sensors Fail: A Method Employing Inverted Echo Sounders**, *J. Atmos. Ocean. Technol.*, 19(9), 1451-1460, 2002.

Meinen, Christopher S., Michael J. McPhaden, and Gregory C. Johnson, **Vertical Velocities and Transports in the Equatorial Pacific during 1993–1999**, *J. Phys. Oceangr.*, 31(11), 3230-3248, 2001.

Meinen, Christopher S., and Michael J. McPhaden, **Interannual Variability in Warm Water Volume Transports in the Equatorial Pacific during 1993–1999**, *J. Phys. Oceangr.*, 31(5), 1324-1345, 2001.

Meinen, Christopher S., **Structure of the North Atlantic Current in Stream–Coordinates and the Circulation in the Newfoundland Basin**, *Deep Sea Res. I*, 48(7), 1553-1580, 2001.

Meinen, Christopher S., and D. Randolph Watts, **Vertical Structure and Transport on a Transect Across the North Atlantic Current near 42°N: Time series and Mean**, *J. Geophys. Res.*, 105(C9), 21869-21892, 2000.

Meinen, Christopher S., and Michael J. McPhaden, **Observations of Warm Water Volume Changes in the Equatorial Pacific and their Relationship to El Niño and La Niña**, *J. Climate*, 13(20), 3551-3559, 2000.

Meinen, Christopher S., D. Randolph Watts, and R. Allyn Clarke, **Absolutely Referenced Geostrophic Velocity and Transport on a Section Across the North Atlantic Current**, *Deep Sea Res. I*, 47(2), 309-322, 2000.

Meinen, Christopher S., and D. Randolph Watts, **Calibrating Inverted Echo Sounders Equipped with Pressure Sensors**, *J. Atmos. Ocean. Technol.*, 15(6), 1339-1345, 1998.

Meinen, Christopher S., and D. Randolph Watts, **Further Evidence that the Sound Speed Algorithm of Del Grosso is More Accurate than that of Chen and Millero**, *J. Acoust. Soc. Am.*, 102(4), 2058-2062, 1997.

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REFEREED SCIENTIFIC JOURNAL ARTICLES CONTINUED

Kellogg, Richard L. and Christopher Meinen, **A Gravity Investigation of the Fayette Structural Zone and Surrounding Area, Northeast Iowa**, *J. Iowa Acad. Sci.*, 100(3), 72-77, 1993.

NON-REFEREED SCIENCE, WORKSHOP AND TECHNICAL REPORTS

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