

Curriculum Vitae

PERSONAL INFORMATION

Name: XIAOBIAO, XU
Sex: Male
Marital status: Married
Nationality: P. R. China
Birth: Jinhua, Zhejiang Province, P. R. China. Sep. 6, 1976
Current address: 1011 Helene's Way, Slidell, LA 70458 USA
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RESEARCH INTERESTS

Numerical modeling of large-scale ocean circulation; Gravity current representation in oceanic general circulation model; Transport and water property of different water masses in the meridional overturning circulation in the Atlantic Ocean; Stratified flow interaction with bottom topography; Eddy generation, propagation, and its role in large-scale circulation and water property distribution;

EDUCATION

- 2001 - 2006 **Ph.D in Meteorology and Physical Oceanography**
Division of Meteorology and Physical Oceanography, Rosenstiel School of Marine and Atmospheric Science (RSMAS), University of Miami, Miami, FL, USA
Dissertation title: Outflow representation in HYCOM. 135 pp
Academic advisor: Prof. Eric P. Chassignet
- 1998 - 2001 **M.S. in Physical Oceanography**
Lab of Marine Science and Numerical Modeling, First Institute of Oceanography, State Ocean Administration, Qingdao, P. R. China
Thesis title: Hydrographic characteristics in the coastal seas of China: an observational and numerical analysis. 59 pp
Academic advisors: Profs. Yeli Yuan and Fangli Qiao
- 1994 - 1998 **B.S. in Oceanography**
Division of Oceanography, College of Physical and Environmental Oceanography, Ocean University of China, Qingdao, P. R. China

WORK EXPERIENCE

- 2006.11 - **Research scientist**, Department of Marine Science, Univ. of Southern Mississippi
2001 - 2006 **Research assistant**, Division of Meteorology and Physical Oceanography, RSMAS, Univ. of Miami

REFEREED PUBLICATIONS

1. Hurlburt H. E., E. J. Metzger, J. Sprintall, S. N. Riedlinger, R. A. Arnone, T. Shinoda, and X. Xu. 2011: Circulation in the Philippine Archipelago simulated by $1/12^\circ$ and $1/25^\circ$ global HYCOM and EAS NCOM, *Oceanography*, in press.
2. Hurlburt H. E., E. J. Metzger, J. Richman, E. P. Chassignet, Y. Drillet, M. W. Hecht, O. L. Galloudec, J. F. Shriver, X. Xu, and L. Zamudio. 2011: Dynamical evaluation of ocean models using the Gulf Stream as an example, in *Operational Oceanography in the 21st Century*, A. Schiller and G. B. Brassington, eds., Springer-Verlag, New York.
3. Xu X., W. J. Schmitz Jr., H. E. Hurlburt, P. J. Hogan, and E. P. Chassignet, 2010: Transport of Nordic Seas overflow water into and within the Irminger Sea: An eddy-resolving simulation and observations. *J. Geophys. Res. - Ocean*, **Vol. 115**, C12048, doi:10.1029/2010JC006351.
4. Metzger E. J., H. E. Hurlburt, X. Xu, A. L. Gordon, J. Sprintall, R. D. Susanto, and H. M. van Aken, 2010: Simulated and Observed Circulation in the Indonesian Seas: $1/12^\circ$ Global HYCOM and the INSTANT Observations. *Dyn. Atmos. Oceans*, doi:10.1016/j.dynatmoce.2010.04.002
5. Legg S., B. Briegleb, Y. Chang, E. P. Chassignet, G. Danabasoglu, T. Ezer, A. L. Gordon, S. Griffies, R. Hallberg, L. Jackson, W. Large, T. M. Özgökmen, H. Peters, J. Price, U. Riemschneider, W. Wu, X. Xu and J. Yang, 2009: Improving oceanic overflow representation in climate models: the gravity current entrainment climate process team. *Bull. Am. Met. Soc.*, doi:10.1175/2008BAMS2667.1
6. Chang Y. S., T. M. Özgökmen, H. Peters and X. Xu, 2008: Numerical simulation of the Red Sea outflow using HYCOM and comparison with REDSOX observations. *J. Phys. Oceanogr.*, **38/2**, 337-358.
7. Xu X., E. P. Chassignet, J. F. Price, T. M. Özgökmen and H. Peters, 2007: A regional modeling study of the entraining Mediterranean outflow. *J. Geophys. Res. - Ocean*, **112**, C12005, doi:10.1029/2007JC004145.
8. Xu X., Y. Chang, H. Peters, T. M. Özgökmen, and E. P. Chassignet, 2006: Parameterization of gravity current entrainment for ocean circulation models using a high-order 3D nonhydrostatic spectral element model, *Ocean Modelling*, **Vol. 14**, 19-44.
9. Chang Y., X. Xu, T. M. Özgökmen, E. P. Chassignet, H. Peters and P. F. Fischer, 2005: Comparison of gravity current mixing parameterizations and calibration using a high-resolution 3D nonhydrostatic spectral element model. *Ocean Modelling*, **Vol. 10**, 342-368.
10. Chao J., X. Xu, 2002: The role of a shelf topographic wave in propagating El Niño signal. *Progress in Natural Science (in Chinese)*, **Vol. 12, No. 4**, 398-402.
11. Chao J., X. Xu, 2001: The dynamic theory of shelf waves and its effect in the propagation of El Niño signal. *Acta Meteorologica Sinica (in Chinese)*, **Vol. 59, No. 5**, 515-523.
12. Qiao F., X. Xu, Y. Tang and W. Zhao, 2001: A numerical study on the path and origin of the Yellow Sea Warm Current (YSWC). *Journal of Hydrodynamics*, **Ser. B, Vol. 3**, 1-9.

CONFERENCE ABSTRACTS

1. Xu X. and H. E. Hurlburt, 2010: Mean transport structure of the western boundary current east of Abaco: Model results and observations. AGU Fall Meeting, Supp. Abstract OS21B-1491
2. Xu X., W. J. Schmitz Jr., H. E. Hurlburt, E. P. Chassignet, and P. J. Hogan, 2010: Circulation of the northern overflow water in subpolar North Atlantic. *Eos Trans, AGU*, **91(26)**, Ocean Sci. Meet., Supp. Abstract PO54A-04.
3. Hurlburt, H E, E. J. Metzger, J. F. Shriver, A. Wallcraft, X. Xu, and L. Zamudio, 2010: Flows through archipelagos in $1/12^\circ$ and $1/25^\circ$ global HYCOM: Indonesia, the Philippines, and the Caribbean/Bahamas. *Eos Trans, AGU*. **91(26)**, Ocean Sci. Meet., Suppl. Abstract PO23C-02
4. Xu X., E. P. Chassignet, and T. L. Townsend, 2008: The Mediterranean outflow in a north Atlantic Simulation. Ocean Sci. Meet., Supp. Abstract 1318.
5. Xu X., E. P. Chassignet, J. F. Price, T. M. Özgökmen and H. Peters, 2007: Numerical representation of the Mediterranean outflow water in the Gulf of Cádiz. The fourth International Ocean-Atmosphere Conference (COAA2007), Suppl. Abstract OC1309.
6. Xu X., Y. S. Chang, H. Peters, T. M. Özgökmen and E. P. Chassignet, 2006: An entrainment parameterization for gravity current mixing in HYCOM. *Eos Trans, AGU*, **87(36)**, Ocean Sci. Meet., Suppl. Abstract OS36A-16.
7. Chang Y. S., X. Xu, T. M. Özgökmen and H. Peters, 2006: Numerical simulation of the Red Sea outflow using HYCOM and compared with REDSOX observation. *Eos Trans, AGU*, **87(36)**, Ocean Sci. Meet., Suppl. Abstract OS36A-15.
8. Halliwell G. R., L. T. Smith, Z. Garraffo, X. Xu and E. P. Chassignet, 2006: Implementation and evaluation of the Price-Yang-Baringer Mediterranean overflow boundary conditions in HYCOM. *Eos Trans, AGU*, **87(36)**, Ocean Sci. Meet., Suppl. Abstract OS36A-17.

MEETINGS and WORKSHOPS (Dec. 2003 -)

- Feb. 07-09 **2011 Layer Ocean Modeling Workshop**, RSMAS/UM, Miami, FL
2011 "Transport balance of the subpolar North Atlantic: Results from an eddy-resolving model"
- Dec. 13-17 **2010 AGU Fall Meeting**, Moscone Center, San Francisco, CA
2010 "Mean transport structure of the western boundary current east of Abaco: Model & Obs."
- Jun. 07-09 **Second U.S. Atlantic MOC Annual Meeting**, Conrad Hotel, Miami, FL
2010 "NSOW transport in the Northern North Atlantic: Insights from eddy-resolving model"
- Feb. 22-26 **2010 Ocean Sciences Meeting**, Convention Center, Portland, OR
2010 "Circulation of the northern overflow water in subpolar North Atlantic"
- Jun. 01-03 **2009 Layer Ocean Modeling Workshop**, RSMAS/UM, Miami, FL
2009 "Comparison of NADW in a basin scale model to observations"

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- May. 04-06 **First U.S. Atlantic MOC Annual Meeting**, Loews Hotel, Annapolis, MD
2009 "Atlantic MOC: observations vs. model"
- Nov. 12-15 **Final GODAE Symposium**, Acropolis Congress, Nice, France
2008 "Simulating MOW in a basin-scale model"
- Aug. 26-28 **Phillippines Experiment (PhilEx) Meeting**, NRL, Monterey, CA
2008 "Phillippines circulation in global models with/without tide"
- May. 28-30 **INSTANT Workshop**, Lamont-Doherty Earth Observatory, Palisades, New York
2008 "Comparison of ITF in high-resolution, global models to observation"
- Mar. 02-07 **2008 Ocean Sciences Meeting**, Orange County Convention Center, Orlando, FL
2008 "MOW in a North Atlantic model"
- Nov. 13-14 **Fourth (final) CPT-GCE Workshop**, RSMAS/UM, Miami, FL
2007 "The Mediterranean Outflow in a basin-scale simulation"
- Aug. 20-22 **2007 Layered Ocean Model Workshop**, University of Bergen, Norway
2007 "The Indonesian Throughflow (ITF) in 0.08° Global HYCOM"
- Jul. 04-06 **Fourth International Ocean-Atmosphere Conference**, Qingdao, China
2007 "Numerical representation of the Mediterranean outflow in the Gulf of Cádiz"
- Apr. 24-26 **11th HYCOM Consortium Meeting**, NRL, Stennis Space Center, MS
2007 "A nest experiment of the Indonesian Seas"
- Nov. 07-09 **10th HYCOM Consortium Meeting**, COAPS/FSU, Tallahassee, FL
2006 "Outflow representation in HYCOM"
- May 15-16 **Third CPT-GCE Workshop**, GFDL/NOAA, Princeton, NJ
2006 "The Mediterranean outflow representation in HYCOM"
- Feb. 20-24 **2006 Ocean Sciences Meeting**, Convention Center, Honolulu, HI
2006 OS36A-15, OS36A-16, OS36A-17
- Feb. 14-16 **2006 Layer Ocean Modeling Meeting**, RSMAS/UM, Miami, FL
2006 "An overflow entrainment parameterization in HYCOM"
- Dec. 06-08 **9th HYCOM Consortium Meeting**, RSMAS/UM, Miami, FL
2005 "Development of a parameterization for gravity current entrainment"
- Nov. 09-10 **Second CPT-GCE Workshop**, Biltmore Hotel, Providence, RI
2004 "Outflow representation with K-profile and Turner's parameterization"
- Oct. 27-29 **8th HYCOM NOPP-GODAE Meeting**: RSMAS/UM, Miami, FL
2004 "Simulate outflow using K-profile and Turner's parameterization"
- Jan. 09-12 **2004 Layer Ocean Modeling Meeting**, RSMAS/UM, Miami, FL
2004 "A comparison of Turner's and K-profile parameterization"
- Dec. 02-03 **First CPT-Gravity Current Entrainment Workshop**, NCAR, Boulder, CO
2003 "NADW in the subpolar North Atlantic Ocean: A proposal"

ACHIEVEMENT

Dissertation “Outflow Representation in HYCOM” was selected in 2006 “Physical Oceanography Dissertation Symposium (PODS-IV)”, in Honolulu, Hawaii.

COMPUTER SKILLS

Hardware Platforms: Workstations (NAVO MSRC/HPC), PC, Mac
Operation Systems: Unix, Linux, Windows, Dos
Language: Fortran 90/77; tcsh/csh scripting
Writing/publishing: Latex, Microsoft office, HTML, CSS
Graphics applications: Matlab, Ferret, Ocean Data View

PROFESSIONAL MEMBERSHIP

American Geophysical Union (AGU)
American Meteorological Society (AMS)
American Association for the Advancement of Science (AAAS)

DISSERTATION COMMITTEE

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