

Atlantic Oceanographic and Meteorological Laboratory

FY-2008 Publications

October 1, 2007 - September 30, 2008

(Names of AOML authors appear in CAPITAL letters)

Peer-Reviewed Publications (includes in press articles)

- [1] ABERSON, S.D. Large forecast degradations due to synoptic surveillance during the 2004 and 2005 hurricane seasons. *Monthly Weather Review*, in press (2008).
- [2] AMORNTHAMMARONG, N., and J.-Z. ZHANG. Shipboard fluorometric flow analyzer for high-resolution underway measurement of ammonium in seawater. *Analytical Chemistry*, 80(4):1019-1026 (2008).
- [3] Bell, M.M., and M.T. MONTGOMERY. Observed structure, evolution, and potential intensity of category 5 Hurricane Isabel (2003) from 12-14 September. *Monthly Weather Review*, in press (2008).
- [4] Bourles, B., A. Busalacchi, E. Campos, F. Hernandez, R. LUMPKIN, M. McPhaden, A. Moura, P. Nobre, S. Planton, J. Servain, J. Trotte, and L. Yu. The PIRATA program: History, accomplishments, and future directions. *Bulletin of the American Meteorological Society*, in press (2008).
- [5] Chavez, F.P., T. Takahashi, W.-J. Cai, G. Friederich, B. Hales, R. WANNINKHOF, and R.A. Feely. Coastal oceans. In *The First State of the Carbon Cycle Report (SOCCR): The North American Carbon Budget and Implications for the Global Carbon Cycle*. Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research, A.W. King, L. Dilling, G.P. Zimmerman, D.M. Fairman, R.A. Houghton, G. Marland, A.Z. Rose, and T.J. Wilbanks (eds.). National Oceanic and Atmospheric Administration, National Climatic Data Center, Asheville, NC, USA, 157-166 (2007).
- [6] DONG, S., S.L. Hautala, and K.A. Kelly. Interannual variations in upper-ocean heat content and heat transport convergence in the western North Atlantic. *Journal of Physical Oceanography*, 37(11):2682-2697 (2007).
- [7] DORST, N.M. The National Hurricane Research Project: 50 years of research, rough rides, and name changes. *Bulletin of the American Meteorological Society*, 88(10):1566-1588 (2007).
- [8] ELIPOT, S., and R. LUMPKIN. Spectral description of oceanic near-surface variability. *Geophysical Research Letters*, doi:10.1029/2007GL032874, in press (2008).
- [9] GOODWIN, K.D., and R.W. Litaker. Emerging technologies for monitoring recreational waters for bacteria and viruses. In *Oceans and Human Health: Risk and Remedies from the Seas*, P.J. Walsh, S.L. Smith, W.H. Gerwick, H. Solo-Gabriele, and L.E. Fleming (eds.). Elsevier Science Publishers, New York, in press (2008).
- [10] GOODWIN, K.D., L. Matragrano, D. WANLESS, C.D. SINIGALLIANO, and M.J. LAGIER. The possibility of false negative results hampers the ability to elucidate the relationship between fecal indicator bacteria and human pathogens and source tracking markers in beach water and sand. In *Marine Pollution: New Research*, T.N. Hofer (ed.). Nova Science Publishers, Inc., New York, in press (2008).
- [11] Griffa, A., R. LUMPKIN, and M. Veneziani. Cyclonic and anticyclonic motion in the upper ocean. *Geophysical Research Letters*, 35(1):L01608, doi:10.1029/2007GL032100 (2008).
- [12] Halliwell, G.R., L.K. Shay, S.D. Jacob, O.M. Smedstad, and E.W. UHLHORN. Improving ocean model initialization for coupled tropical cyclone forecast models using GODAE nowcasts. *Monthly Weather Review*, in press (2008).

- [13] HENDEE, J.C., L. GRAMER, J.A. Kleypas, D. MANZELLO, M. JANKULAK, and C. Langdon. The Integrated Coral Observing Network (ICON): Sensor solutions for sensitive sites. *Proceedings, Third International Conference on Intelligent Sensors, Sensor Networks, and Information Processing*, Melbourne, Australia, December 3-6, 2007. Institute of Electrical and Electronics Engineers (IEEE), in press (2008).
- [14] Hitchcock, G.L., W.S. Arnold, M. Frischer, C.R. KELBLE, and R.K. Cowen. Short-term dispersal of an intentionally-released patch of larval *Mercenaria* Spp. In the Indian River Lagoon, Florida, USA. *Bulletin of Marine Science*, 82(1):41-57 (2008).
- [15] HUANG, X.-L., and J.-Z. ZHANG. Kinetic spectrophotometric determination of submicromolar orthophosphate by molybdate reduction. *Microchemical Journal*, in press (2008)
- [16] Johns, W.E., L.M. Beal, M.O. BARINGER, J.R. Molina, S.A. Cunningham, T. Kanzow, and D. Rayner. Variability of shallow and deep western boundary currents off the Bahamas during 2004-2005: First results from the 26°N RAPID-MOC array. *Journal of Physical Oceanography*, in press (2008).
- [17] LANDSEA, C.W., S.E. FEUER, D.A. GLENN, N. Anderson, W. BREDEMEYER, M. Chenoweth, R. Ellis, J.F. GAMACHE, A. HAGEN, L. HUFSTETLER, C.J. Mock, R. Perez, R. Prieto, J. Sanchez, J.D. SIMS, D. Thomas, and L. WOOLCOCK. A reanalysis of the 1911 to 1930 Atlantic hurricane database. *Journal of Climate*, in press (2008).
- [18] Lavelle, J.W., and W.C. THACKER. A pretty good sponge: Dealing with open boundaries in limited area ocean models. *Ocean Modelling*, 20(3):270-292 (2008).
- [19] LEE, S.-K., and C. WANG. Tropical Atlantic decadal oscillation and its potential impact on the equatorial atmosphere-ocean dynamics: A simple model study. *Journal of Physical Oceanography*, 38(1):193-212 (2008).
- [20] Lee, T.N., N. MELO, E. JOHNS, C. KELBLE, R.H. SMITH, and P.B. ORTNER. On water renewal and salinity variability in the northeast subregion of Florida Bay. *Bulletin of Marine Science*, 82(1):83-105 (2008).
- [21] Levine, N.M., S.C. Doney, R. WANNINKHOF, K. Lindsay, and I. Fung. Impact of ocean carbon system variability on the detection of temporal increases in anthropogenic CO₂. *Journal of Geophysical Research*, in press (2008).
- [22] LORSOLO, S., J.L. Schroeder, P.P. DODGE, and F.D. MARKS. An observational study of hurricane boundary layer small-scale coherent structures. *Monthly Weather Review*, in press (2008).
- [23] LUMPKIN, R., and K. Speer. Global ocean meridional overturning. *Journal of Physical Oceanography*, 37(10):2550-2562 (2007).
- [24] LUMPKIN, R., K. Speer, and K.P. Koltermann. Transport across 48°N in the North Atlantic Ocean. *Journal of Physical Oceanography*, in press (2008).
- [25] Mainelli, M., M. DeMaria, L.K. Shay, and G.J. GONI. Application of oceanic heat content estimation to operational forecasting of recent Atlantic category 5 hurricanes. *Weather and Forecasting*, in press (2008).
- [26] MANZELLO, D.P., R. Berkelmans, and J.C. HENDEE. Coral bleaching indices and thresholds for the Florida Reef Tract, Bahamas, and St. Croix, U.S. Virgin Islands. *Marine Pollution Bulletin*, 54(12):1923-1931 (2007).
- [27] MARKS, F.D., P.G. BLACK, M.T. MONTGOMERY, and R.W. BURPEE. Structure of the eye and eyewall of Hurricane Hugo (1989). *Monthly Weather Review*, in press (2008).

- [28] Moore, R.W., M.T. MONTGOMERY, and H.C. Davies. The integral role of a diabatic Rossby vortex in a heavy snowfall event. *Monthly Weather Review*, in press (2008).
- [29] MUNOZ, E., A.J. Busalacchi, S. Nigam, and A. Ruiz-Barradas. Winter and summer structure of the Caribbean low-level jet. *Journal of Climate*, in press (2008).
- [30] Musgrave, K.D., C.A. Davis, and M.T. MONTGOMERY. Numerical simulations of the formation of Hurricane Gabrielle (2001). *Monthly Weather Review*, in press (2008).
- [31] Palmer, C.J., T.D. Bonilla, J.A. Bonilla, S. Elmir, K.D. GOODWIN, H.M. Solo-Gabriele, and A. Abdelzaher. The future for monitoring. In *Oceans and Human Health: Risk and Remedies from the Seas*, P.J. Walsh, S.L. Smith, W.H. Gerwick, H. Solo-Gabriele, and L.E. Fleming (eds.). Elsevier Science Publishers, New York, in press (2008).
- [32] POWELL, M.D., and T.A. Reinhold. Reply to comments on "Tropical cyclone destructive potential by integrated kinetic energy." *Bulletin of the American Meteorological Society*, 88(11):1800-1801 (2007).
- [33] POWELL, M.D., and T.A. Reinhold. Reply. *Bulletin of the American Meteorological Society*, in press (2008).
- [34] Pu, X., X. Li, C.S. Velden, S.D. ABERSON, and W.T. Liu. Impact of aircraft dropsonde and satellite wind data on the WRF numerical simulation of two landfalling tropical storms during TCSP. *Monthly Weather Review*, in press (2008).
- [35] Reynolds, C.A., M.S. Peng, S.J. Majumdar, S.D. ABERSON, C.H. Bishop, and R. Buizza. Interpretation of adaptive observing guidance for Atlantic tropical cyclones. *Monthly Weather Review*, 135(12):4006-4029 (2007).
- [36] Serafy, J.E., C.R. KELBLE, T.R. Capo, S.A. Luthy and P.B. ORTNER. Vertical movement rates of captive larval billfishes (*Istiophoridae*) collected from the Straits of Florida. *Florida Scientist*, 71(1):23-30 (2008).
- [37] Shay, L.K., and E.W. UHLHORN. Loop current response to Hurricanes Isidore and Lili. *Monthly Weather Review*, in press (2008).
- [38] THACKER, W.C. Estimating salinity between 25°S and 45°S in the Atlantic Ocean using local regression. *Journal of Atmospheric and Oceanic Technology*, 25(1):114-130 (2008).
- [39] WANG, C., and S.-K. LEE. Global warming and United States landfalling hurricanes. *Geophysical Research Letters*, 35(2):L02708, doi:10.1029/2007GL032396 (2008).
- [40] WANG, C., S.-K. LEE, and D.B. ENFIELD. Climate response to anomalously large and small Atlantic warm pools during the summer. *Journal of Climate*, in press (2008).
- [41] WANG, C., S.-K. LEE, and D.B. ENFIELD. Impact of the Atlantic warm pool on the summer climate of the western hemisphere. *Journal of Climate*, 20(20):5021-5040 (2007).
- [42] Westerink, J.J., R.A. Luettich, J.C. Feyen, J.H. Atkinson, C. Dawson, H.J. Roberts, M.D. POWELL, J.P. DUNION, E.J. Kubatko, and H. Pourtaheri. A basin to channel scale unstructured grid hurricane storm surge model applied to southern Louisiana. *Monthly Weather Review*, in press (2008).
- [43] Wu, C.-C., K.-H. Chou, P.-H. Lin, S.D. ABERSON, M.S. Peng, and T. Nakazawa. The impact of dropsonde data on typhoon track forecasting in DOTSTAR. *Weather and Forecasting*, 22(6):1157-1176 (2007).

Technical Reports

- [1] None.

Conference Papers/Bulletins/Newsletters

- [1] Jones, L., P.G. BLACK, S.S. Chen, R.E. Hood, J.W. Johnson, C.S. Ruf, A. Mims, and C.C. Hennon. Next generation airborne Hurricane Imaging Radiometer (HIRAD): Improved forecast skill with wide field imagery. *Tropical Meteorology Special Symposium*, New Orleans, LA, January 20-24, 2008. American Meteorological Society, Boston, 8 pp. (2008).
- [2] Leidner, S.M., J. Ardizzone, J. Terry, E. Brin, and R.M. ATLAS. Impact of satellite-derived ocean winds on hurricane forecasting at global and regional scales. *12th Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS)*, New Orleans, LA, January 20-24, 2008. American Meteorological Society, Boston, 5 pp. (2008).
- [3] Miller, T.L., R.M. ATLAS, P.G. BLACK, J.L. Case, S.S. Chen, R.E. Hood, J.W. Johnson, J. Jones, C.S. Ruf, and E.W. UHLHORN. Simulation of the impact of new aircraft and satellite-based ocean surface wind measurements on H*Wind analyses. *12th Symposium on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS)*, New Orleans, LA, January 20-24, 2008. American Meteorological Society, Boston, 7 pp. (2008).