

Atlantic Oceanographic and Meteorological Laboratory

FY-2000 Publications

October 1, 1999 - September 30, 2000

(Names of AOML authors appear in CAPITAL letters)

Peer-Reviewed Publications

- [1] Atlas, D., C.W. Ulbrich, F.D. MARKS, R.A. BLACK, E. Amitai, P.T. WILLIS, and C.E. SAMSURY. Partitioning tropical oceanic convective and stratiform rains by draft strength. *Journal of Geophysical Research*, 105(D2):2259-2267 (2000).
- [2] Beal, L.M., R.L. MOLINARI, T.K. Chereskin, and P.E. Robbins. Reversing bottom circulation in the Somali Basin. *Geophysical Research Letters*, 27(16):2565-2568 (2000).
- [3] Boebel, O., R.E. Davis, M. Ollitraut, R.G. Peterson, P.L. Richardson, C. SCHMID, and W. Zenk. Direct observations of the western South Atlantic intermediate depth circulation. *Geophysical Research Letters*, 26(21):3329-3332 (1999).
- [4] Bosart, L.F., C.S. Velden, W.E. Bracken, J. Molinari, and P.G. BLACK. Environmental influences on the rapid intensification of Hurricane Opal (1995) over the Gulf of Mexico. *Monthly Weather Review*, 128(2):322-352 (2000).
- [5] Broecker, W.S., S. Sutherland, and T.-H. PENG. A possible 20th-century slowdown of Southern Ocean deep water formation. *Science*, 286(5442):1132-1135 (1999).
- [6] Broecker, W.S., E. Clark, D.C. McCorkle, T.-H. PENG, I. Hajdas, and G. Bonani. Evidence for a reduction in the carbonate ion content of the deep sea during the course of the Holocene. *Paleoceanography*, 14(6):744-752 (1999).
- [7] Checkley, D.M., P.B. ORTNER, F.E. Werner, L.R. Settle, and S.R. CUMMINGS. Spawning habitat of the Atlantic menhaden in Onslow Bay, North Carolina. *Fisheries Oceanography*, 8(2):22-36 (1999).
- [8] CIONE, J.J., P.G. BLACK, and S.H. HOUSTON. Surface observations in the hurricane environment. *Monthly Weather Review*, 128(5):1550-1561 (2000).
- [9] Cushman-Roisin, B., O.E. ESENKOV, and B.J. Mathias. A particle-in-cell-method for the solution of two-layer shallow-water equations. *International Journal of Numerical Methods in Fluids*, 32(5):515-543 (2000).
- [10] Ffield, A., K. Vranes, A.L. Gordon, R.D. Susanto, and S.L. GARZOLI. Temperature variability within the Makassar Strait. *Geophysical Research Letters*, 27(2):237-240 (2000).
- [11] GARZOLI, S.L., and G.J. GONI. Combining altimeter observations and oceanographic data for ocean circulation and climate studies. In *Satellites, Oceanography, and Society*, D. Halpern (ed.). Elsevier Oceanographic Series, 63 (ISBN 0-444-50501-6), 79-95 (2000).
- [12] Godin, O.A., D. Yu Mikhin, and D.R. PALMER. Monitoring of ocean currents in the coastal zone. *Izvestiya Atmospheric and Oceanic Physics*, 36(1):131-142 (2000).
- [13] HOUSTON, S.H., W.A. Shaffer, M.D. POWELL, and J. Chen. Comparisons of HRD and SLOSH surface wind fields in hurricanes: Implications for storm surge modeling. *Weather and Forecasting*, 14(5):671-686 (1999).

- [14] Jacob, S.D., L.K. Shay, A.J. Mariano, and P.G. BLACK. The 3D oceanic mixed layer response to Hurricane Gilbert. *Journal of Physical Oceanography*, 30(6):1407-1429 (2000).
- [15] JOHNS, E., W.D. WILSON, and R.L. MOLINARI. Direct observations of velocity and transport in the passages between the Intra-Americas Sea and the Atlantic Ocean, 1984-1996. *Journal of Geophysical Research*, 104(C11):25,805-25,820 (1999).
- [16] KATSAROS, K.B. The paradigm for research on atmosphere-ocean interaction at the cusp of the 20th and 21st centuries. *Bulletin of the American Meteorological Society*, 81(4):837-838 (2000).
- [17] KATSAROS, K.B., P. Vachon, P.G. BLACK, P.P. DODGE, and E.W. UHLHORN. Wind fields from SAR: Could they improve our understanding of storm dynamics? *John Hopkins APL Technical Digest*, 21(1):86-93 (2000).
- [18] Kelly, P.S., K.M.M. Lwiza, R.K. Cowen, and G.J. GONI. Low-salinity pools at Barbados, West Indies: Their origin, frequency, and variability. *Journal of Geophysical Research*, 105(C8):19,699-19,708 (2000).
- [19] King, D.B., J.H. Butler, S.A. Montzka, S.A. YVON-LEWIS, and J.W. Elkins. Implications of methyl bromide supersaturations in the temperate North Atlantic Ocean. *Journal of Geophysical Research*, 105(D15):19,763-19,769 (2000).
- [20] LANDSEA, C.W. Climate variability of tropical cyclones: Past, present, and future. In *Storms* (Volume 1), R.A. Pielke, Sr. and R.A. Pielke, Jr. (eds.). Routledge, New York (ISBN 041517239X), 220-241 (2000).
- [21] LANDSEA, C.W., and J.A. Knaff. How much skill was there in forecasting the very strong 1997-1998 El Niño? *Bulletin of the American Meteorological Society*, 81(9):2107-2120 (2000).
- [22] LEE, K., F.J. Millero, R.H. Byrne, R.A. Feely, and R.H. WANNINKHOF. The recommended dissociation constants for carbonic acid seawater. *Geophysical Research Letters*, 27(2):229-232 (2000).
- [23] LEE, K., R.H. WANNINKHOF, R.A. Feely, F.J. Millero, and T.-H. PENG. Global relationships of total inorganic carbon with temperature and nitrate in surface seawater. *Global Biogeochemical Cycles*, 14(3):979-994 (2000).
- [24] Lee, W.-C., and F.D. MARKS. Tropical cyclone kinematic structure retrieved from single Doppler radar observations, Part II: The GBVTD-simplex center finding algorithm. *Monthly Weather Review*, 128(6):1925-1936 (2000).
- [25] Luo, J., P.B. ORTNER, D. FORCUCCI, and S.R. CUMMINGS. Diel vertical migration of zooplankton and mesopelagic fish in the Arabian Sea. *Deep-Sea Research, Part II*, 47(7-8):1451-1473 (2000).
- [26] MOLINARI, R.L., and J.F. FESTA. Effect of subjective choices on the objective analysis of sea surface temperature data in the tropical Atlantic and Pacific Oceans. *Oceanologica Acta*, 23(1):3-14 (2000).
- [27] MORISSEAU-LEROY, N., M.K. Solomon, and J. Basu. *Oracle 8i: Java Component Programming*. Osborne McGraw-Hill (ISBN 0072127376), 697 pp. (2000).
- [28] MORISSEAU-LEROY, N., M.K. Solomon, G.P. Momplaisir, T. Kurian, and E. Griffin. *Oracle 8i SQLJ Programming*. Osborne McGraw-Hill (ISBN 0072121602), 557 pp. (1999).
- [29] Murnane, R.J., C. Barton, E. Collins, J. Donnelly, J. Elsner, K. Emanuel, I. Ginis, S. Howard, C.W. LANDSEA, K. Liu, D. Malmquist, M. McKay, A. Michaels, N. Nelson, J. O'Brien, D. Scott, and T. Webb. Model estimates of hurricane wind speed probabilities. *EOS, Transactions, American Geophysical Union*, 81(38):433, 438 (2000).

- [30] ORTNER, P.B., L.B. Crowder, and D.E. Hoss. The South Atlantic Bight Recruitment Experiment: Introduction and overview. *Fisheries Oceanography*, 8(2):1-6 (1999).
- [31] PENG, T.-H., and F. Chai. Modeling the carbon cycle in the equatorial Pacific Ocean. *Proceedings, Marine Environment: The Past, Present, and Future*, Kaohsiung, Taiwan, January 26-28, 1999. Sueichan Press, 240-255 (2000).
- [32] Pielke, R.A., and C.W. LANDSEA. La Niña, El Niño, and Atlantic hurricane damages in the United States. *Bulletin of the American Meteorological Society*, 80(10):2027-2034 (1999).
- [33] Pielke, R.A., C.W. LANDSEA, R.T. Musulin, and M. Downton. Evaluation of catastrophe models using a normalized historical record: Why it is needed and how to do it. *Journal of Risk and Insurance*, 18(2):177-194 (1999).
- [34] POWELL, M.D. Tropical cyclones during and after landfall. In *Storms* (Volume 1), R. Pielke, Sr. and R. Pielke, Jr. (eds.). Routledge, New York (ISBN 041517239X), 196-219 (2000).
- [35] Quilfen Y., A. Bentamy, P. Delecluse, K.B. KATSAROS, and N. Grima. Prediction of sea level anomalies using ocean circulation model forced by scatterometer wind and validation using TOPEX/Poseidon data. *IEEE Transactions on Geoscience and Remote Sensing*, 38(4):1871-1884 (2000).
- [36] REASOR, P.D., M.T. Montgomery, F.D. MARKS, and J.C. GAMACHE. Low-wavenumber structure and evolution of the hurricane inner core observed by airborne dual-Doppler radar. *Monthly Weather Review*, 128(6):1653-1680 (2000).
- [37] ROGERS, R.F., J.M. Fritsch, and W.C. Lambert. A simple technique for using radar data in the dynamic initialization of a mesoscale model. *Monthly Weather Review*, 128(7):2560-2574 (2000).
- [38] Sabine, C.L., R.H. WANNINKHOF, R.M. Key, C. Goyet, and F.J. Millero. Seasonal CO₂ fluxes in the tropical and subtropical Indian Ocean. *Marine Chemistry*, 72(1):33-53 (2000).
- [39] Shay, L.K., G.J. GONI, and P.G. BLACK. Effects of a warm oceanic feature on Hurricane Opal. *Monthly Weather Review*, 128(5):1366-1383 (2000).
- [40] Vachon, P.W., and K.B. KATSAROS. Atmospheric cyclones from spaceborne SAR. *Backscatter*, 10(4):14-19 (1999).
- [41] WANG, C., and R.H. Weisberg. The 1997-1998 El Niño evolution relative to previous El Niño events. *Journal of Climate*, 13(2):488-501 (2000).
- [42] WILLOUGHBY, H.E. Hurricane heat engines. *Nature*, 401(6754):649-650 (1999).
- [43] WILSON, W.D., and K.D. Leaman. Transport pathways through the Caribbean: The tropical origins of the Gulf Stream. *Current*, 16(1):14-18 (2000).
- [44] ZHANG, J.-Z. Shipboard automated determination of trace concentrations of nitrite and nitrate in oligotrophic water by gas-segmented continuous flow analysis with a liquid waveguide capillary flow cell. *Deep-Sea Research, Part I*, 47(6):1157-1171 (2000).
- [45] ZHANG, J.-Z. The use of pH and buffer intensity to quantify the carbon cycle in the ocean. *Marine Chemistry*, 70(1-3):121-131 (2000).
- [46] ZHANG, J.-Z., C.J. FISCHER, and P.B. ORTNER. Comparison of open tubular cadmium reactors and packed cadmium columns in automated gas-segmented continuous flow nitrate analysis. *International Journal of Environmental Analytical Chemistry*, 76(2):99-113 (2000).

- [47] ZHANG, J.-Z., C.W. Mordy, L.I. Gordon, A. Ross, and H.E. Garcia. Temporal trends in deep ocean Redfield ratios. *Science*, 289(5486):1839 (2000).

Technical Reports

- [1] BERBERIAN, G.A., and A.Y. Cantillo. Oceanographic conditions in the Gulf of Mexico and Straits of Florida: Fall 1976. NOAA Data Report, OAR AOML-36 (PB2000-106209), 64 pp. (1999).
- [2] Boebel, O., S. Anderson-Fontana, C. SCHMID, I. Ansorge, P. Lazarevich, J.R.E. Lutjeharms, M. Prater, T. Rossby, and W. Zenk. KAPEX RAFOS float data report, 1997-1999. Part A: The Agulhas and South Atlantic Current components. GSO Technical Report 2000-2, UCT Oceanography Report 2000-1, 194 pp. (2000).
- [3] ESENKOV, O.E. A numerical study of the dynamics of the Somali Current system. Ph.D. Thesis, University of Miami/Rosenstiel School of Marine and Atmospheric Science, 140 pp. (2000).
- [4] Feely, R.A., M.F. Lamb, D.J. Greeley, and R.H. WANNINKHOF. Comparison of the carbon system parameters at the global CO₂ survey crossover locations in the North and South Pacific Ocean between 1990-1996. Technical Report, ORNL/CDIAC-115, Oak Ridge National Laboratory/Carbon Dioxide Information Analysis Center, 73 pp. (1999).
- [5] FLEURANT, C.I., W.D. WILSON, W. Johns, S.L. GARZOLI, R.H. SMITH, D. Fratantoni, P. Richardson, and G.J. GONI. CTD/O₂, LADCP, and XBT measurements collected aboard the R/V Seward Johnson, February-March 1999: North Brazil Current Rings Experiment, cruise 2 (NBC-2). NOAA Data Report, OAR AOML-37 (PB2001-100485), 298 pp. (2000).
- [6] FLEURANT, C.I., W.D. WILSON, W. Johns, S.L. GARZOLI, R.H. SMITH, D. Fratantoni, P. Richardson, and G.J. GONI. CTD/O₂, LADCP, and XBT measurements collected aboard the R/V Seward Johnson, February-March 2000: North Brazil Current Rings Experiment, cruise 3 (NBC-3). NOAA Data Report (PB2001-100486), OAR AOML-38, 258 pp. (2000).
- [7] FLEURANT, C.I., W.D. WILSON, W. Johns, S.L. GARZOLI, R.H. SMITH, D. Fratantoni, P. Richardson, and G.J. GONI. CTD/O₂, LADCP, and XBT measurements collected aboard the R/V Seward Johnson, December 1998: North Brazil Current Rings Experiment, cruise 1 (NBC-1). NOAA Data Report, OAR AOML-39 (PB2001-101653), 276 pp. (2000).
- [8] HENDEE, J.C. A data-driven soft real-time expert system for producing coral bleaching alerts. Ph.D. Thesis, Nova Southeastern University, 131 pp. (2000).
- [9] JODOIN, C. Detection of direct-sequence spread-spectrum signals in a multipath fading environment. Master's Thesis, Florida Atlantic University, Boca Raton, FL, 120 pp. (1999).
- [10] NELSEN, T.A., S.J. STAMATES, B.J. ELKIND, W.P. DAMMANN, and J.R. PRONI. Field evaluation of the temporal and spatial variations in total suspended matter and current fields at Chesapeake Bay Site 104 and contiguous areas. Final Report, U.S. Army Corps of Engineers, MIPR No. W81W3@00604995, 47 pp. (2000).

Conference Papers/Bulletins/Newsletters

- [1] ABERSON, S.D. The first three years of operational targeting with the NOAA Gulfstream-IV. *Preprints, 4th Symposium on Integrated Observing Systems*, Long Beach, CA, January 9-14, 2000. American Meteorological Society, Boston, 198-199 (2000).

- [2] ABERSON, S.D. Three years of tropical cyclone synoptic surveillance in the Atlantic basin. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 108-109 (2000).
- [3] ABERSON, S.D. Woman and minorities in meteorology since 1950. *Program of the 80th Annual Meeting and Exhibition*, Long Beach, CA, January 9-14, 2000. American Meteorological Society, Boston, 70-71 (2000).
- [4] ABERSON, S.D. Women's trends: The changing status of women in the profession/society. *Preprints, 9th Symposium on Education*, Long Beach, CA, January 9-14, 2000. American Meteorological Society, Boston, 70-71 (2000).
- [5] ABERSON, S.D., and K. Bedka. The operational ensemble of tropical cyclone track guidance at the National Hurricane Center (1976-1998). *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 177-178 (2000).
- [6] BLACK, M.L., and J.L. Franklin. GPS dropsonde observations of the wind structure in convective and non-convective regions of the hurricane eyewall. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 448-449 (2000).
- [7] BLACK, M.L., A.B. Damiano, and S.R. WHITE. The first eyewall penetration by the NOAA G-IV aircraft. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 175-176 (2000).
- [8] BLACK, P.G., E.W. UHLHORN, M.D. POWELL, and J. Carswell. A new era in hurricane reconnaissance: Real-time measurement of surface wind structure and intensity via microwave remote sensing. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 199-200 (2000).
- [9] BLACK, P.G., E.W. UHLHORN, M.D. POWELL, and J. Carswell. A new era in hurricane reconnaissance: Real-time measurement of surface wind structure and intensity via microwave remote sensing. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 199-200 (2000).
- [10] BLACK, P.G., E.W. UHLHORN, J.J. CIONE, G.J. GONI, L.K. Shay, S.D. Jacob, E.J. Walsh, and E.A. D'Asaro. Hurricane intensity change modulated by air-sea interaction effects based on unique airborne measurements during the 1998-1999 hurricane seasons. *Proceedings, 10th Conference on Interaction of the Sea and Atmosphere*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, J7-J8 (2000).
- [11] Campos, E., A. Busalacchi, S.L. GARZOLI, J. Lutjeharms, R. Matano, P. Nobre, D.B. Olson, A. Piola, C. Tanajura, and I. Wainer. The South Atlantic and the climate. *OCEANOBS99: International Conference on the Ocean Observing System for Climate*, Saint Raphael, France, October 18-22, 1999. Centre National d'Etudes Spatiales, Vol. 1, 16 pp. (1999).
- [12] CIONE, J.J., E.W. UHLHORN, and P.G. BLACK. Atmospheric boundary layer and upper ocean structure observed in Hurricane Erika (1997). *Proceedings, 10th Conference on Interaction of the Sea and Atmosphere*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, J70-J71 (2000).
- [13] CIONE, J.J., P. Molina, J. KAPLAN, and P.G. BLACK. SST time series directly under tropical cyclones: Observations and implications. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 1-2 (2000).

- [14] Cook, T.M., L.K. Shay, P.G. BLACK, G.J. GONI, M.M. Huber, S.D. Jacob, and J.J. CIONE. Coupled air-sea interactions during Hurricane Bonnie. *Proceedings, 10th Conference on Interaction of the Sea and Atmosphere*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, J68-J69 (2000).
- [15] D'Asaro, E.A., and P.G. BLACK. Turbulence in the ocean boundary layer below Hurricane Dennis. *Proceedings, 10th Conference on Interaction of the Sea and Atmosphere*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, J62-J63 (2000).
- [16] Digby, S., T. Antczak, R. Leben, G. Born, S. Barth, R. Cheney, D. Foley, G.J. GONI, G. Jacobs, and L.K. Shay. Altimeter data for operational use in the marine environment. *Proceedings, Oceans '99 MTS/IEEE Conference*, Seattle, WA, September 13-16, 1999. Marine Technology Society, 605-613 (1999).
- [17] DODGE, P.P., S.M. Sprat, F.D. MARKS, D.M. Sharp, and J.F. GAMACHE. Dual-Doppler analyses of mesovortices in a hurricane rainband. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 302-303 (2000).
- [18] DUNION, J.P., S.H. HOUSTON, M.D. POWELL, C.S. Velden, and P.G. BLACK. Using surface adjusted GOES low-level cloud-drift winds to improve the estimation of tropical cyclone outer wind radii. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 488-489 (2000).
- [19] ENFIELD, D.B., and A.M. MESTAS-NUNEZ. Tropospheric direct circulations associated with the climatic components of SST variability in the equatorial Pacific. *Proceedings, 10th Conference on Interaction of the Sea and Atmosphere*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, J49-J50 (2000).
- [20] Etcheto, J., J. Boutin, D.C.E. Bakker, Y. Dandonneau, R.A. Feely, H.Y. Inoue, M. Ishii, R.D. Ling, L. Merlivat, P.D. Nightingale, N. Metzl, and R.H. WANNINKHOF. pCO₂ in the equatorial Pacific and Atlantic Oceans: Determination of air-sea CO₂ flux using satellite-borne instruments. *Proceedings, Second International Symposium on CO₂ in the Oceans*, Tsukuba, Japan, January 18-22, 1999. Center for Global Environmental Research (CGER-I037-99), 119-125 (1999).
- [21] Feely, R.A., C.L. Sabine, R.M. Key, T.-H. PENG, and R.H. WANNINKHOF. The U.S. global CO₂ survey in the North and South Pacific Ocean. Preliminary synthesis results. *Proceedings, Second International Symposium on CO₂ in the Oceans*, Tsukuba, Japan, January 18-22, 1999. Center for Global Environmental Research (CGER-I037-99), 193-198 (1999).
- [22] FEUER, S.E., M.L. BLACK, and J.L. Franklin. The asymmetric wind structure of tropical cyclones in various shear environments. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 450-451 (2000).
- [23] Fine, R.A., L. Merlivat, W. Roether, W.M. Smethie, and R.H. WANNINKHOF. Observing tracers and the carbon cycle. *OCEANOBS99: International Conference on the Ocean Observing System for Climate*, Saint Raphael, France, October 18-22, 1999. Centre National d'Etudes Spatiales, Vol. 1, 14 pp. (1999).
- [24] Franklin, J.L., M.L. BLACK, and K. Valde. Eyewall wind profiles in hurricanes determined by GPS dropwindsondes. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 446-447 (2000).
- [25] GAMACHE, J.C., M.L. BLACK, and H.E. WILLOUGHBY. Radial variation of azimuthally averaged flow across the hurricane core as observed with airborne Doppler radar. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 416-417 (2000).

- [26] GARZOLI, S.L., D.B. ENFIELD, G. Reverdin, G. Mitchum, R.H. Weisberg, P. Chang, and J. Carton. COSTA: A Climate Observing System for the Tropical Atlantic. *OCEANOBS99: International Conference on the Ocean Observing System for Climate*, Saint Raphael, France, October 18-22, 1999. Centre National d'Etudes Spatiales, Vol. 1, 19 pp. (1999).
- [27] GOLDENBERG, S.B. Intraseasonal predictability of Atlantic basin hurricane activity. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 59-60 (2000).
- [28] GOLDENBERG, S.B., C.W. LANDSEA, and G.D. Bell. Summary of the 1999 Atlantic hurricane season: A climatic perspective. *Proceedings, 24th Annual Climate Diagnostics and Prediction Workshop*, Tucson, AZ, November 1-5, 1999. National Weather Service, 1-4 (2000).
- [29] GONI, G.J., L.K. Shay, P.G. BLACK, S.D. Jacob, T.M. Cook, J.J. CIONE, and E.W. UHLHORN. Role of the upper ocean structure on the intensification of Hurricane Bret from satellite altimetry. *Proceedings, 10th Conference on Interaction of the Sea and Atmosphere*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, J5-J6 (2000).
- [30] GRAY, J. National Oceanic and Atmospheric Administration research and operation priorities. *Proceedings, South Florida Measurement Center Workshop: Establishment of a Center for Innovative Oceanography in the 21st Century*, Dania, FL, February 24-26, 1999. National Science Foundation, 207-213 (1999).
- [31] HENDEE, J.C. An environmental information synthesizer for expert systems: A framework for use in near real-time detection of harmful algal blooms. *Proceedings, 17th International Conference of the Coastal Society: Coasts at the Millennium*, Portland, OR, July 9-12, 2000. The Coastal Society, 233-241 (2000).
- [32] Humphrey, J.C., S.L. Vargo, J.C. Ogden, and J.C. HENDEE. SEAKEYS 1999: Florida Keys monitoring initiative. *1999 Florida Bay and Adjacent Marine Systems Science Conference, Program and Abstracts*, Key Largo, FL, November 1-5, 1999. University of Florida Sea Grant Program, 240-241 (1999).
- [33] Jacob, S.D., L.K. Shay, P.G. BLACK, and S.H. HOUSTON. Upper ocean response to hurricane wind asymmetries. *Proceedings, 10th Conference on Interaction of the Sea and Atmosphere*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, J66-J67 (2000).
- [34] JOHNS, E., W.D. WILSON, and T.N. Lee. Surface salinity variability of Florida Bay and southwest Florida coastal waters. *1999 Florida Bay and Adjacent Marine Systems Science Conference, Programs and Abstracts*, Key Largo, FL, November 1-5, 1999. University of Florida Sea Grant Program, 169-171 (1999).
- [35] JONES, R.W., and H.E. WILLOUGHBY. Linear motion of a two-layer baroclinic hurricane in shear. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 83-84 (2000).
- [36] KAPLAN, J., and M. DeMaria. Large-scale characteristics of rapidly intensifying tropical cyclones in the North Atlantic basin. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 232-233 (2000).
- [37] Knaff, J.A., and LANDSEA, C.W. Application of the El Niño-Southern Oscillation CLImatology and PERsistence (CLIPER) forecasting scheme. *Experimental Long-Lead Forecast Bulletin*, 9(3):48-50 (2000).
- [38] LANDSEA, C.W., and J.A. Knaff. Application of the El Niño-Southern Oscillation CLImatology and PERsistence (CLIPER) forecasting scheme. *Experimental Long-Lead Forecast Bulletin*, 8(4):34-36 (1999).
- [39] LANDSEA, C.W., and J.A. Knaff. Application of the El Niño-Southern Oscillation CLImatology and PERsistence (CLIPER) forecasting scheme. *Experimental Long-Lead Forecast Bulletin*, 9(1):32-34 (2000).

- [40] LANDSEA, C.W., and J.A. Knaff. Application of the El Niño-Southern Oscillation CLImatology and PERsistence (CLIPER) forecasting scheme. *Experimental Long-Lead Forecast Bulletin*, 9(2):31-33 (2000).
- [41] LANDSEA, C.W., and J.A. Knaff. How much “skill” is there in forecasting El Niño? *Weatherzine*, 23:2-4 (2000).
- [42] LANDSEA, C.W., C.A. Anderson, N. CHARLES, G. Clark, J. Fernandez-Partagas, P. Hungerford, C. Neumann, and M. Zimmer. The Atlantic hurricane database re-analysis project: Results for 1851-1885. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 542-543 (2000).
- [43] Lawrence, J.R., S.D. Gedzelman, and J.C. GAMACHE. Tropical cyclogenesis and stable isotope ratios of water. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 260-261 (2000).
- [44] LEE, K., R.H. WANNINKHOF, R.A. Feely, F.J. Millero, and T.-H. PENG. Global distribution of total inorganic carbon in surface water. *Proceedings, Second International Symposium on CO₂ in the Oceans*, Tsukuba, Japan, January 18-22, 1999. Center for Global Environmental Research (CGER-I037-99), 493-496 (1999).
- [45] LEE, K., R.H. WANNINKHOF, T. Takahashi, S.C. Doney, and R.A. Feely. Interannual variations in oceanic uptake of anthropogenic carbon dioxide for the period of 1982-1995. *Proceedings, Second International Symposium on CO₂ in the Oceans*, Tsukuba, Japan, January 18-22, 1999. Center for Global Environmental Research (CGER-I037-99), 31-34 (1999).
- [46] Lee, T.N., E. Williams, E. JOHNS, and W.D. WILSON. First year results from enhanced observations of circulation and exchange processes in western Florida Bay and connecting coastal waters, including effects of El Niño and Hurricane Georges. *1999 Florida Bay and Adjacent Marine System Science Conference, Programs and Abstracts*, Key Largo, FL, November 1-5, 1999. University of Florida Sea Grant Program, 145-147 (1999).
- [47] Lee, W.-C., and F.D. MARKS. An objective method to determine tropical cyclone center near landfall from WSR-88D data: The GBVTD-simplex algorithm. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 310-311 (2000).
- [48] Lonfat, M., F.D. MARKS, and S. Chen. A study of the rain distribution in tropical cyclones using TRMM/TMI. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 480-481 (2000).
- [49] MARKS, F.D., L. Selevan, and J.C. GAMACHE. WSR-88D derived rainfall distributions in Hurricane Danny (1997). *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 298-299 (2000).
- [50] McAdie, C.J., and P.P. DODGE. Maximum sustained winds in Hurricane Irene as measured by the Miami WSR-88D. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 212-213 (2000).
- [51] McArthur, C., R. Ferry, and J.R. PRONI. Amenities monitoring for dredged material disposal management. *Proceedings, 17th Conference of the Coastal Society: Coasts at the Millennium*, Portland OR, July 9-12, 2000. The Coastal Society, 6 pp. (2000).
- [52] McGillis, W., J. Edson, and R.H. WANNINKHOF. Direct air-sea flux measurements of carbon dioxide over the North Atlantic Ocean and the comparison to indirect methods. *Proceedings, Second International Symposium on CO₂ in the Oceans*, Tsukuba, Japan, January 18-22, 1999. Center for Global Environmental Research (CGER-I037-99), 367-377 (1999).

- [53] McPhaden, M.J., T. Delcroix, K. Hanawa, Y. Kuroda, G. Meyers, J. Picaut, and M.S. SWENSON. The ENSO observing system. *OCEANOBS99: International Conference on the Ocean Observing System for Climate*, Saint Raphael, France, October 18-22, 1999. Centre National d'Etudes Spatiales, Vol. 1, 14 pp. (1999).
- [54] MESTAS-NUNEZ, A.M., and D.B. ENFIELD. El Niño-Southern Oscillation: Canonical and non-canonical aspects. *Proceedings, 24th Annual Climate Diagnostics and Prediction Workshop*, Tucson, AZ, November 1-5, 1999. National Weather Service, 111-114 (2000).
- [55] MURILLO, S.T., W.-C. Lee, and F.D. MARKS. Evaluating the GBVTD-tropical center finding simplex algorithm. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 312-313 (2000).
- [56] NELSEN, T.A., G. GARTE, C.M. FEATHERSTONE, P.L. Blackwelder, T. Hood, C. Alvarez-Zarikian, P. Swart, H.R. Wanless, L. Tedesco, C. Souch, J. Pachut, and J. Arthur. Understanding long-term rainfall, freshwater flow, and salinity patterns with concomitant responses of benthic microfauna, stable isotopes, and pollen in Oyster and Florida Bays. *1999 Florida Bay and Adjacent Marine Systems Science Conference, Programs and Abstracts*, Key Largo, FL, November 1-5, 1999. University of Florida Sea Grant Program, 189-190 (1999).
- [57] Nolan, D.S., M.T. Montgomery, and P.D. REASOR. Studies of the wavenumber one instability in hurricane-like vortices. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 29-30 (2000).
- [58] OOHAMA, K.V. A dynamic and thermodynamic foundation for modeling the moist atmosphere with classical thermodynamics and parameterized microphysics. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 561-562 (2000).
- [59] OTERO, S., N. MORISSEAU-LEROY, N. CARRASCO, and M.D. POWELL. A distributed real-time hurricane wind analysis system. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 197-198 (2000).
- [60] Parrish, J.R., M.L. BLACK, S.H. HOUSTON, P.P. DODGE, and J.J. CIONE. The structure of Hurricane Irene over South Florida. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 456-457 (2000).
- [61] PENG, T.-H., and F. Chai. Modeling the carbon cycle in the equatorial Pacific Ocean. *Proceedings, Second International Symposium on CO₂ in the Ocean*, Tsukuba, Japan, January 18-22, 1999. Center for Global Environmental Research (CGER-1037-99), 183-189 (1999).
- [62] POWELL, M.D., T.A. Reinhold, and R.D. Marshall. GPS sonde insights on boundary layer wind structure in hurricanes. *Proceedings, 10th International Conference on Wind Engineering*, Copenhagen, Denmark, June 21-24, 1999. ICWE, 307-314 (1999).
- [63] PRONI, J.R. Using acoustical methods to study and monitor the discharge of sewage and dredged-material in the coastal ocean. *Proceedings, Fifth European Conference on Underwater Acoustics (ECUA 2000)*, Lyon, France, July 10-13, 2000. European Acoustics Association, Volume 1, 755-760 (2000).
- [64] REASOR, P.D., and M.T. Montgomery. 3D alignment and co-rotation of weak, TC-like vortices via linear vortex Rossby waves. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 268-269 (2000).

- [65] Roemmich, D., O. Boebel, Y. Desaubies, H. Freeland, B. King, P.-Y. Letraon, R.L. MOLINARI, W.B. Owens, S. Riser, U. Send, K. Takeuchi, and S. Wijffels. Argo: The global array of profiling floats. *OCEANOBS99: International Conference on the Ocean Observing System for Climate*, Saint Raphael, France, October 18-22, 1999. Centre National d'Etudes Spatiales, Vol. 1, 12 pp. (1999).
- [66] ROGERS, R.F. Surface-based modification of convectively-generated mesovortices and its implications for tropical cyclogenesis. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 151-152 (2000).
- [67] ROGERS, R.F., S.S. Chen, J.E. Tenerelli, and M. Lonfat. A numerical study of the distribution of precipitation in Hurricane Bonnie (1998). *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 408-409 (2000).
- [68] Sabine, C.L., M.F. Lamb, J.L. Bullister, R.A. Feely, G.L. Johnson, R.M. Key, A. Kozyr, K. LEE, F.J. Millero, T.-H. PENG, and R.H. WANNINKHOF. U.S. JGOFS team examines Pacific Ocean CO₂ data quality. *International WOCE Newsletter*, 38:10-14 (2000).
- [69] Sandrik, A., C.W. LANDSEA, and B. Jarvinen. The North Florida hurricane of 29 September 1896: A historical case of extreme inland high winds. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 547-548 (2000).
- [70] Schubert, W.H., S.A. Hausman, M. Garcia, K.V. OOYAMA, and H.-C. Kuo. Potential vorticity in a moist atmosphere. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 563-564 (2000).
- [71] Shay, L.K., G.J. GONI, P.G. BLACK, S.D. Jacob, J.J. CIONE, and E.W. UHLHORN. Global analogues of deep warm upper ocean layers: Hurricane heat potential estimates. *Proceedings, 10th Conference on Interaction of the Sea and Atmosphere*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, J3-J4 (2000).
- [72] Smith, N.R., D.E. Harrison, R. Bailey, O. Alves, T. Delcroix, K. Hanawa, B. Keeley, G. Meyers, R.L. MOLINARI, and D. Roemmich. The role of XBT sampling in the ocean thermal network. *OCEANOBS99: International Conference on the Ocean Observing System for Climate*, Saint Raphael, France, October 18-22, 1999. Centre National d'Etudes Spatiales, Vol. 1, 26 pp. (1999).
- [73] SMITH, R.H. IASlinks.org: Online management and distribution of oceanographic and meteorological data for the Gulf of Mexico and Caribbean Sea. *Proceedings, First Biennial Intra-Americas Sea Initiative (IASI) Science Meeting*, Panama City, Panama, November 9-11, 1999. University of Miami, 41-42 (1999).
- [74] Sprat, S.M., F.D. MARKS, P.P. DODGE, and D.M. Sharp. Examining the pre-landfall environment of mesovortices within a Hurricane Bonnie (1998) outer rainband. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 300-301 (2000).
- [75] Takahashi, T., R.H. WANNINKHOF, R.A. Feely, R.F. Weiss, D.W. Chipman, N. Bates, J. Olafsson, C. Sabine, and S.C. Sutherland. Net sea-air CO₂ flux over the global oceans: An improved estimate based on the sea-air pCO₂ difference. *Proceedings, Second International Symposium on CO₂ in the Oceans*, Tsukuba, Japan, January 18-22, 1999. Center for Global Environmental Research (CGER-I037-99), 9-15 (1999).
- [76] Tedesco, L.P., C. Souch, J. Pachut, J.A. Arthur, H.R. Wanless, P.L. Blackwelder, T. Hood, C. Alvarez-Zarikian, J. Trefry, W.J. Kang, S. Metz, and T.A. NELSEN. The signature of hurricane sedimentation in the lower Everglades/Florida Bay ecosystem: Recognition of sedimentologic, geochemical, and microfaunal indicators. *1999 Florida Bay and Adjacent Marine Systems Science Conference, Programs and Abstracts*, Key Largo, FL, November 1-5, 1999. University of Florida Sea Grant Program, 194-195 (1999).

- [77] Tenerelli, J.E., S.S. Chen, M. Lonfat, R. Foster, and R.F. ROGERS. Surface winds in Hurricane Floyd: A comparison between numerical simulations, aircraft data, and QuikScat satellite data. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 418-419 (2000).
- [78] UHLHORN, E.W., K.B. KATSAROS, and M.D. POWELL. Assimilation of scatterometer-derived winds into real-time tropical cyclone surface wind analyses. *Preprints, 10th Conference on Satellite Meteorology and Oceanography*, Long Beach, CA, January 9-14, 2000. American Meteorological Society, Boston, 214-215 (2000).
- [79] UHLHORN, E.W., P.G. BLACK, L.K. Shay, J.J. CIONE, S.D. Jacob, and G.J. GONI. Warm core ocean features in the central and eastern Gulf of Mexico. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 147-148 (2000).
- [80] Walsh, E.J., C.W. Wright, D.C. Vandemark, W.B. Krabill, A.W. Garcia, S.H. HOUSTON, M.D. POWELL, P.G. BLACK, and F.D. MARKS. Hurricane directional wave spectrum spatial variation at landfall. *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 327-328 (2000).
- [81] WANG, C. A unified theory for the El Niño-Southern Oscillation. *Proceedings, 10th Conference on Interaction of the Sea and Atmosphere*, Ft. Lauderdale, Florida, May 29-June 2, 2000. American Meteorological Society, Boston, J42-J43 (2000).
- [82] WANNINKHOF, R.H. Recent advances in determining air-sea CO₂ fluxes. *Proceedings, Second International Symposium on CO₂ in the Oceans*, Tsukuba, Japan, January 18-22, 1999. Center for Global Environmental Research (CGER-I037-99), 101-104 (1999).
- [83] Wilkerson, J.C., and J.R. PRONI. Monitoring tropical and subtropical rainfall over the ocean using underwater acoustic techniques. *Proceedings, Fifth European Conference on Underwater Acoustics (ECUA 2000)*, Lyon, France, July 10-13, 2000. European Acoustics Association, Volume 1, 741-746 (2000).
- [84] WILLOUGHBY, H.E., and R.W. JONES. Are the beta gyres really normal modes? *Preprints, 24th Conference on Hurricanes and Tropical Meteorology*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, 187-188 (2000).
- [85] WILSON, W.D. Atlantic western boundary currents. *Proceedings, South Florida Measurement Center Workshop: Establishment of a Center for Innovative Oceanography in the 21st Century*, Dania, FL, February 24-26, 1999. National Science Foundation, 131-140 (1999).
- [86] WILSON, W.D., E. JOHNS, R.H. SMITH, T.N. Lee, and E. Williams. Interaction of freshwater riverine discharges from the Everglades with the Gulf of Mexico and Florida Bay: Preliminary results from a moored array and shipboard surveys. *1999 Florida Bay and Adjacent Marine Systems Science Conference, Programs and Abstracts*, Key Largo, FL, November 1-5, 1999. University of Florida Sea Grant Program, 175-177 (1999).
- [87] Wright, C.W., E.J. Walsh, D.C. Vandemark, W.B. Krabill, A.W. Garcia, S.H. HOUSTON, M.D. POWELL, P.G. BLACK, and F.D. MARKS. Hurricane directional wave spectrum spatial variation in the open ocean. *Proceedings, 10th Conference on Interaction of the Sea and Atmosphere*, Ft. Lauderdale, FL, May 29-June 2, 2000. American Meteorological Society, Boston, J1-J2 (2000).
- [88] YVON-LEWIS, S.A. Methyl bromide in the atmosphere and ocean. *IGACtivities Newsletter*, 19:9-12 (2000).

- [89] ZHANG, J.-Z., R.H. WANNINKHOF, and K. LEE. New production in oligotrophic waters: Estimation based on diel cycle of nitrate. *Proceedings, Joint Global Ocean Flux Study (JGOFS) Open Science Conference*, Bergen, Norway, April 13-17, 2000. JGOFS International Project Office, 76-77 (2000).