

Ocean Climate Observation Program
Publications
FY 2005

Reviewed Publications and Articles in Press

- Ando K., T. Matsumoto, T. Nagahama, I. Ueki, Y. Takatsuki, and Y. Kuroda, 2005: Drift characteristics of a moored conductivity-temperature sensor and correction of salinity data. *J. Atmos. Oceanic Technol.*, 22, 282-291.
- Ansorge I., S. Speich, J. Lutjeharms, G. Goni, C. Rautenback, P. Froneman and S. Garzoli, March-April 2005: Monitoring the oceanic flow between Africa and Antarctica: Report of the first Good Hope cruise. *South African Journal of Science*, Vol 101, pages 29-35.
- Antonov, J. I., S. Levitus, T. P. Boyer, 2004: Climatological annual cycle of ocean heat content. *Geophys. Res. Lett.*, 31, doi:1029/2003GL018851.
- Arguez, A., M. A. Bourassa, and J. J. O'Brien, 2005: Extraction of the MJO signal from QuikSCAT. *J. Atmos. Oceanic Technol.*, in press.
- Belchansky, G. I., Douglas, D. C., Platonov, N. G., 2004: Duration of the Arctic Sea Ice Melt Season: Regional and Interannual Variability, 1979–2001. *J. of Climate*: Vol. 17, No. 1, pp. 67–80.
- Belchansky, G.I. D.C. Douglas, I.N. Mordvintsev, N.G. Platonov, 2004: Estimating the time of melt onset and freeze onset over Arctic sea-ice area using active and passive microwave data, *Remote Sensing of Environment*, v 92, n 1, p 21-39.
- Bennett, A. F., B. S. Chua, H.-E. Ngodock, D. E. Harrison and M.J. McPhaden, 2005: Generalized inversion of the Gent-Cane model of the Tropical Pacific with Tropical Atmosphere-Ocean (TAO) data. *J. Mar. Res.*, in press.
- Borovikov, A., M. M. Rienecker, C. L. Keppenne, and G. C. Johnson, 2005: Multivariate error covariance estimates by Monte Carlo simulation for assimilation studies in the Pacific Ocean. *Mon. Weather Rev.*, **133**, 2310–2334.
- Bourassa, M. A., 2005: Satellite-based observations of surface turbulent stress during severe weather. *Atmosphere - Ocean Interactions*, Vol. 2., ed., W. Perrie, Wessex Institute of Technology, in press.
- Bourassa, M.A., R. Romero, S.R. Smith, and J.J. O'Brien, 2005: A new FSU winds climatology. *J. Climate*, 18, 3686-3698.
- Bowman, K.P., 2005: Comparison of TRMM precipitation retrievals with rain gauge data from ocean buoys. *J. Climate*, 18, 178-190.

- Boyer, T.P., J. I. Antonov, S. Levitus, R. Locarnini, 2005: Linear trends of salinity for the world ocean, 1955-1998. *Geophys. Res. Lett.*, 32, L01604, doi:1029/2004GL021791.
- Bretherton, Christopher S., Uttal, Taneil, Fairall, Christopher W., Yuter, Sandra E., Weller, Robert A., Baumgardner, Darrel, Comstock, Kimberly, Wood, Robert, Raga, Graciela B., 2004: The Epic 2001 Stratocumulus Study. *Bull AMS*, 85: 967-977 (online at AMS).
- Caccamise, D. J., III, M. A. Merrifield, M. Bevis, J. Foster, Y. L. Firing, M. S. Schenewerk, F. W. Taylor, and D. A. Thomas, 2005: Sea level rise at Honolulu and Hilo, Hawaii: GPS estimates of differential land motion. *Geophys. Res. Lett.*, 32, L03607, doi:10.1029/2004GL021380.
- Cai, W., M.J. McPhaden, and M.A. Collier, 2004: Multidecadal fluctuations in the relationship between equatorial Pacific heat content anomalies and ENSO amplitude. *Geophys. Res. Lett.*, 31, L01201, doi:10.1029/2003GL018714.
- Capotondi, A., M.A. Alexander, C. Deser, and M.J. McPhaden, 2005: Anatomy and Decadal Evolution of the Pacific Subtropical-Tropical Cells (STCs). *J. Climate*, in press.
- Centurioni, L.R., P.P. Niiler and D.-K. Lee, 2004: Observations of inflow of Philippine sea surface water into the South China Sea through the Luzon Strait. *J. Phys. Oceanogr.*, 34, 113-121.
- Chavez, F.P., J.T. Pennington, R. Michisaki and J.P. Ryan, 2004: The Monterey Bay Ocean Time-Series and Observatory (MOTO) Sheds Light on Multi-Decadal Basin-Scale Fluctuations of Anchovies and Sardines. *MBNMS Ecosystem Observations*, 20-21.
- Cibot, C., E. Maisonave, L. Terray, and B. Dewitte, 2005: Mechanisms of tropical Pacific interannual-to-decadal variability in the ARPEGE/ORCA global coupled model. *Clim. Dyn.*, 24, 823-842.
- Cicerone, R., J. Orr, P. Boyd, P. Brewer, P. Haugan, M. Hood, L. Merlivat, T. Oshumi, S. Pantoja, H.-O. Poertner, E. Urban, September 2004: The Ocean in a High CO₂ World, *Oceanography*, Vol 17., No. 3.
- Croll, D.A., B. Marinovic, S. Benson, F.P. Chavez, N. Black, R. Ternullo, B.R. Tershy, 2005: From wind to whales: trophic links in a coastal upwelling system. *Marine Ecology Progress Series*, 289, 117-130.
- Cronin, M. F., N. A. Bond, C. Fairall, and R. A. Weller, 2005: Surface cloud forcing in the east Pacific stratus deck/cold tongue/ITCZ complex. *J. Climate*, accepted.

- Curry, J. A., A. Bentamy, M. A. Bourassa, D. Bourras, E.F. Bradley, M. Brunke, S. Castro, S.H. Chou, C.A. Clayons, W.J. Emery, C.W. Fairall, M. Kubota, B. Lin, W. Perrie, R.A. Reeder, I.A. Renfrew, W.B. Rossow, J. Schulz, S.R. Smith, P.J. Webster, G.A. Wick, and X. Zeng, 2004: SEAFLEX. *Bull. Am. Met. Soc.*, **85**, 409-424.
- DeGrandpre, M.D., R. Wanninkhof, W.R. McGillis, and P.G. Strutton, 2004: A Lagrangian study of pCO₂ dynamics in the eastern equatorial Pacific Ocean. *J. Geophys. Res.*, *109*, doi:10.1029/2003JC001960.
- Delcroix, T., M.J. McPhaden, A. Dessier, and Y. Gouriou, 2005: Time and space scales for sea surface salinity in the tropical oceans. *Deep-Sea Res.*, *52*, 787-813.
- DeSzoeki, S. P., C. S. Bretherton, N. A. Bond, M. F. Cronin, and B. Morley, 2005: The mean structure of the east Pacific atmospheric boundary layer from cold tongue to ITCZ characterized by EPIC 95W observations. *J. Atmos. Sci.*, **64**, 426-442.
- Eicken, H., R. Gradinger, A. Graves, A. Mahoney, I. Rigor, & H. Melling, 2004: Sediment transport by sea ice in the Chukchi and Beaufort Seas: Increasing importance due to changing ice conditions? *Deep Sea Research*, accepted.
- Eisenman, I., L. Yu, and E. Tziperman, 2005: Westerly wind bursts: ENSO's tail rather than the dog? *J. Climate*, in press.
- Feely, R.A., C.L. Sabine, K. Lee, W. Berelson, J. Kleypas, V.J. Fabry and F.J. Millero, 2004: Impact of anthropogenic CO₂ on the CaCO₃ system in the oceans. *Science*, *305*, 362-366.
- Feely, R. A., L. D. Talley, G. C. Johnson, C. L. Sabine, and R. Wanninkhof, 2005: Repeat hydrography cruises reveal chemical changes in the North Atlantic. *EOS, Transactions, American Geophysical Union*, *86* (42); 399, 404.
- Feely, R.A., R. Wanninkhof, W.R. McGillis, M.-E. Carr, and C.E. Cosca, 2004: The effects of wind-speed and gas exchange parameterizations on the air-sea CO₂ fluxes in the Equatorial Pacific Ocean. *J. Geophys. Res.*, *109*, C08S03, doi:10.1029/2003JC001896.
- Firing, Y. L., M. A. Merrifield, T. A. Schroeder, and B. Qiu, 2004: Interdecadal sea level fluctuations at Hawaii. *J. Phys. Oceanogr.*, *34*, 2514-2524.
- Firing, Y. L., and M. A. Merrifield, 2004: Extreme sea level events at Hawaii: The influence of mesoscale eddies. *Geophys. Res. Lett.*, *31* (24), L24306. doi:10.1029/2004GL021539.
- Foltz, G.R., S.A. Grodsky, J.A. Carton, and M.J. McPhaden, 2004: Seasonal salt budget of the northwestern tropical Atlantic Ocean along 38°W. *J. Geophys. Res.*, *109*(C3), C03052, doi:10.1029/2003JC002111.

- Foltz, G.R. and M.J. McPhaden, 2004: 30-70 day oscillations in the tropical Atlantic. *Geophys. Res. Lett.*, 31, L15205, doi:10.1029/2004GL020023.
- Foltz, G.R. and M.J. McPhaden, 2005: Mixed layer heat balance on intraseasonal time scales in the northwestern tropical Atlantic Ocean. *J. Climate*, in press.
- Fonseca, C., G.J. Goni, W. Johns, and E. Campos, 2004: Investigation of the North Brazil Current retroflection and North Equatorial Countercurrent variability. *Geophysical Research Letters*, 31(21):L21304, doi:10.1029/2004GL020054.
- Fowler, C., J. Emery, J. Maslanik, 2004: Satellite-Derived Evolution of Arctic Sea Ice Age: October 1978 to March 2003. *IEEE Geoscience and Remote Sensing Letters*, Vol. 1, No.2.
- Fratantoni and Richardson, 2004: The evolution and demise of North Brazil Current Rings, submitted to *Journal of Physical Oceanography*.
- Garcés-Vargas, J., W. Schneider, R. Abarca del Río, R. Martínez, E. Zambrano, 2005: Inter-annual variability in the thermal structure of an oceanic time series station off Ecuador (1990-2003) associated with El Niño events. *Deep-Sea Res., Part I*, 52, 1789-1805.
- Garzoli, S. And M. O. Baringer, 2005: Estimates of Meridional Heat Transport in The South Atlantic Ocean. *Journal of Marine Research* (under revision).
- Grodsky, S., J. Carton, C. Provost, J. Servain, J. Lorenzetti, and M.J. McPhaden, 2005: Tropical instability waves at 0°N, 23°W in the Atlantic: A case study using Pilot Research Moored Array in the Tropical Atlantic (PIRATA) mooring data. *J. Geophys. Res.*, 110, C08010, doi:10.1029/2005JC002941.
- Hales, B., Takahashi, T. and Bandstra, L., 2005: Atmospheric CO₂ uptake by a coastal upwelling system. *Global Biogeochem. Cycles*, 19. doi.10.1029/2004GB002295.
- Hall, D.K., J.R. Key, K.A. Casey, G.A. Riggs, D.J. Cavalieri, 2004: Seas ice surface temperature product from MODIS, *Transactions on Geoscience and Remote Sensing*, v 42, n 5, 1076-87.
- Hansen, J., L. Nazarenko, R. Ruedy, M. Sato, J. Willis, A. Del Genio, D. Koch, A. Lacis, K. Lo, S. Menon, T. Novakov, J. Perlwitz, G. Russell, G. A. Schmidt, and N. Tausnev, 2005: Earth's energy imbalance: Confirmation and implications. *Science*, **308**, 1431-1435.
- Hare, J. E., C. W. Fairall, W. R. McGillis, B. Ward, and R. Wanninkhof, 2004: Evaluation of the NOAA/COARE air-sea gas transfer parameterization using GasEx data. *J. Geophys.*

Res., **109** (C8): Art. No. C08S.

Hendricks, M.B., M. L. Bender, B.A. Barnett, P. Strutton, and F.P. Chavez, 2005: Triple oxygen isotope composition of dissolved O₂ in the equatorial Pacific: A tracer of mixing, production, and respiration. *J. Geophys. Res.*, **110**, C12021, doi:10.1029/2004JC002735.

Hoteit, I., G. Triantafyllou and G. Petihakis, 2005: Efficient Data Assimilation into a Complex 3-D Physical-Biogeochemical Model Using Partially-Local Kalman Filters. *Annales Geophysicae*, **23**, 1-15.

Hoteit, I., G. Triantafyllou and G. Korres, 2005: Comparison of extended and ensemble based Kalman filters with low and high resolution primitive equation ocean models. *Nonlinear Processes in Geophysics*, **12**, 755-765.

Huebert, B., B. Blomquist, J. E. Hare, C. W. Fairall, T. Bates, and J. Johnson, 2004: Measurements of the sea-air DMS flux and transfer velocity using eddy correlation. *Geophys. Res. Lett.*, **31** (23): Art. No. L23113 [can be found at Hu, C., E. T. Montgomery, R. W. Schmitt, F. Muller-Karger, 2004. The Amazon and Orinoco River plumes in the tropical Atlantic and Caribbean Sea: Observation from space and S-PALACE floats. *Deep-Sea Research*, **51** (10-11), 1151-1171.

Ishida, A., H. Mitsudera, Y. Kashino, and T. Kadokura, 2005: Equatorial Pacific subsurface countercurrents in a high-resolution global ocean circulation model. *J. Geophys. Res.*, **110**, C07014, doi:10.1029/2003JC002210.

Izumo, T., 2005: The equatorial undercurrent, meridional overturning circulation, and their roles in mass and heat exchanges during El Niño events in the tropical Pacific Ocean. *Ocean Dynamics*, **55**, 110-123.

Jiang, C., M.F. Cronin, K.A. Kelly, and L. Thompson, 2005: Evaluation of a hybrid satellite- and NWP-based turbulent heat flux product using Tropical Atmosphere-Ocean (TAO) buoys. *J. Geophys. Res.*, **110**(C9), C09007, doi:10.1029/2004JC002824.

Johnson, M., 2005: Implementing the Global Ocean Observing System. *World Meteorological Organization Bulletin*, Vol. 54 (3), 138-143.

Johnson, G. C., 2005: Generation and initial evolution of a mode water θ -S anomaly. *Journal of Physical Oceanography*, in press.

Johnson, G. C., J. L. Bullister, and N. Gruber. 2005: Labrador Sea Water Property variations in the northeastern Atlantic Ocean. *Geophysical Research Letters*, **32**, L07602, doi:10.1029/2005GL022404.

- Kaiser, J., M.K. Reuer, B. Barnett, and M.L. Bender, 2005: Marine productivity estimates from continuous O₂/Ar ratio measurements by membrane inlet mass spectrometry. *Geophys. Res. Lett.*, in press.
- Kamenkovich, I.V., 2005: The role of daily surface forcing in setting the temperature and mixed layer structure of the Southern Ocean. *J. Geophys. Res.*, **101**, C07006, doi:10.1029/2004JC002610.
- Karstensen, J., P. Schlosser, D.W.R. Wallace, J.L. Bullister, and J. Blindheim, 2005: Water mass transformation in the Greenland Sea during the 1990s. *J. Geophys. Res.*, **110**(C7),
- Keenlyside, N., M. Latif, M. Botzet, M. Jungclaus, and U. Schulzweida, 2005: A coupled method for initializing El Niño Southern Oscillation forecasts using sea surface temperature. *Tellus*, **A57**, 340-356.
- Kelly, K. A., S. Dickinson, and G. C. Johnson, 2005: Comparisons of scatterometer and TAO winds reveal time-varying surface currents for the tropical Pacific Ocean. *Journal of Atmospheric and Oceanic Technology*, **22**, 735-745.
- Key, R.M., A. Kozyr, C.L. Sabine, K. Lee, R. Wanninkhof, J. Bullister, R.A. Feely, F. Millero, C. Mordy, T.-H. Peng, 2004: A global ocean carbon climatology: Results from Global Data Analysis Project (GLODAP). *Global Biogeochem. Cycles*, **18**, GB4031, doi:10.1029/2004GB002247.
- Kleypas J, Buddemeier RW, Eakin CM, Gattuso J-P, Guinotte J, Hoegh-Guldberg O, Iglesias-Prieto R, Jokiel PL, Langdon C, Skirving W, Strong AE, 2005: Comment on "Coral reef calcification and climate change: The effect of ocean warming". *Geophysical Research Letters*, **32**: L08601.
- Kollias, Pavlos, C. W. Fairall, P. Zuidema, J. Tomlinson, and G. A. Wick, 2004: Observations of marine stratocumulus in SE Pacific during the PACS 2003 Cruise. *Geophys. Res. Lett.*, **31**, Art. No. L22110 [can be found at <ftp://ftp.etl.noaa.gov/user/cfairall/oceanobs/pubs/fy05/>].
- Korres, G., I. Hoteit and G. Triantafyllou, 2005: Data assimilation into a Princeton ocean model of the Mediterranean Sea using advanced Kalman filters. *Journal of Marine Systems*, to appear.
- Kwok, R., G. F. Cunningham, and S. S. Pang, 2004: Fram Strait sea ice outflow. *J. Geophys. Res.*, **109**, C01009, doi:10.1029/2003JC001785.
- Langdon C, Atkinson MJ, 2005: Effect of elevated pCO₂ on photosynthesis and calcification of corals and interactions with seasonal change in

temperature/irradiance and nutrient enrichment. *J. Geophysical Res.* 110, C09S07.

Larkin, N.K. and D.E.Harrison, 2005: On the definition of El Nino and US seasonal weather anomalies. *Geophys. Res. Lett.*, 32(13), L13705, doi: 10.1024/2005GL022738.

Larkin, N.K. and D.E.Harrison, 2005: Global seasonal temperature and precipitation anomalies during El Nino autumn and winter. *Geophys. Res. Lett.*, 32, L16705, doi: 10.1029/2005GL022860.

Lentini C., G. Goni and D. Olson, 2005: Investigation of Brazil Current rings in the Confluence region. *Journal of Geophysical Research*, in press.

Levinson (ed.), D.H., P. Ambenje, O. Baddour, G.I. Belchansky, G.D. Bell, M. Chelliah, M.S. Halpert, K. Mo, W.M. Thiaw, M.A. Bell, S.J. Camargo, E.K. Grover-Kopec, E. Blake, R. Pasch, J.E. Box, O.N. Bulygina, N.N. Korshunova, V. Razuvaev, J.C. Christy, E.R. Cook, M.C. Vázquez, B.C. Douglas, D.C. Douglas, S.D. Drobot, C.M. Eakin, C. Woodhouse, R.A. Feely, M.J. McPhaden, M.A. Fortune, B. Garanganga, K.L. Gleason, J.H. Lawrence, D.H. Levinson, M.J. Menne, R.W. Reynolds, S.E. Stephens, A.M. Waple, S. Goldenberg, C. Landsea, J. Kennedy, C. Kocot, D. Phillips, R. Whitewood, K.R. Kumar, W. Landman, N. Maximenko, L. Miller, P. Niiler, L. Talley, A.K. Njogu, F. Rahimzadeh, M. Rajeevan, J. Richter-Menge, E. Rignot, I.G. Rigor, D.A. Robinson, M. Rusticucci, M.J. Salinger, R.C. Schnell, R.S. Stone, D. Stanitski, A. Taghipour, R. Wanninkhof, A.B. Watkins, B. Trewin, P. Zhai, and X. Zou, 2005: State of the climate in 2004. *Bull. Am. Meteorol. Soc.*, 86(6), S1-S86.

Levitus, S., J. I. Antonov, T. P. Boyer, 2005: Warming of the World Ocean, 1955-2003. *Geophys. Res. Lett.*, L02604, doi:10.1029/2004GL021592.

Levitus, S., J. I. Antonov, T. P. Boyer, H. E. Garcia, and R. A. Locarnini, 2005: Linear trends of zonally averaged thermosteric, halosteric, and steric sea level changes for individual ocean basins and the world ocean, (1955-1959)-(1994-1998). *Geophys. Res. Lett.*, 32, L16601, doi:1029/2005GL023761.

Levitus, S., J. I. Antonov, T. P. Boyer, H. E. Garcia, and R. Locarnini, 2005: EOF analysis of upper ocean heat content, 1956-2003. *Geophys. Res. Lett.*, 32, 07,doi:10.1029/2005GL023606.

Lindsay, R. W., Stern, H. L., 2004: A New Lagrangian Model of Arctic Sea Ice. *Journal of Physical Oceanography*: Vol. 34, No. 1, pp. 272–283.

Li, P. Q., J.-Z. Zhang, F. J. Millero, D. A. Hansell, 2005: Continuous colorimetric determination of trace ammonia in seawater with a long-path liquid waveguide capillary cell. *Marine Chemistry*, 96:73-85.

- Li, Y.-H., L. Menviel, and T.-H. Peng, 2005: Nitrate deficits by nitrification and denitrification processes in the Indian Ocean. *Deep Sea Research* (accepted, 2005).
- Li, Z., Adamec, D., Takahashi, T. and Sutherland, S. C., 2005: Global autocorrelation scales of the partial pressure of oceanic CO₂. *J. Geophys. Res.*, **110**, C08002, doi:10.1029/2004/C002723.
- Lumpkin, R. and Z. Garraffo, 2005: Evaluating the decomposition of tropical Atlantic drifter observations, *Journal of Atmospheric And Oceanic Technology*, **22**(9), 1403-1415.
- Lumpkin, C., and S.L. Garzoli, 2005: Near-surface circulation in the tropical Atlantic Ocean. *Deep-Sea Research, Part I*, **52**(3):495-518.
- Lumpkin, R. and M. Pazos, 2005: Measuring surface currents with Surface Velocity Program drifters: the instrument, its data, and some recent results. To appear in "Lagrangian Analysis and Prediction of Coastal and Ocean Dynamics", ed. A. Mariano, T. Rossby and D. Kirwan, in press.
- Lyman, J. M., D. B. Chelton, R. A. deSzoeki, and R. Samelson, 2005: Tropical instability waves as a resonance between equatorial Rossby waves. *J. Phys. Oceanogr*, **35**, 232–254.
- McGillis, W.R., W.E. Asher, R. Wanninkhof, A.T. Jessup, and R.A. Feely (2004): Introduction to special section: Air-Sea Exchange. *J. Geophys. Res.*, **109**(C8), C08S01, doi: 10.1029/2004JC002605.
- McGillis, W.R., J.B. Edson, C.J. Zappa, J.D. Ware, S.P. McKenna, E.A. Terray, J.E. Hare, C.W. Fairall, W. Drennan, M. Donelan, M.D. DeGrandpre, R. Wanninkhof, and R.A. Feely, 2004: Air-sea CO₂ exchange in the equatorial Pacific. *J. Geophys. Res.*, **109**(C8), C08S02, doi: 10.1029/2003JC002256.
- McNeil, C., Katz, D., Wanninkhof, R., Johnson, B., 2005: Continuous shipboard sampling of gas tension, oxygen and nitrogen. *Deep-Sea Research, Instruments and Methods*, **52**, 1767-1785.
- McPhaden, M.J., 2004: Book review of "Our Affair with El Niño" by S. George Philander, Princeton University Press, 2004. *Nature*, **429**, 605–606.
- McPhaden, M.J., 2004: Evolution of the 2002–03 El Niño. *Bull. Am. Meteor. Soc.*, **85**, 677–695.
- McPhaden, M.J. and D. Zhang, 2004: Pacific Ocean circulation rebounds. *Geophys. Res. Lett.*, **31**, L18301, doi:10.1029/2004GL020727.

- Meinen, C.S., S.L. Garzoli, W.E. Johns, and M.O. Baringer, 2004: Transport variability of the Deep Western Boundary Current and the Antilles Current off Abaco Island, Bahamas. *Deep-Sea Research, Part I*, **51**(11), 1397-1415.
- Merrifield, M. A., Y. L. Firing, T. Aarup, W. Agricole, G. Brundrit, D. Chang-seng, R. Farre, B. Kilonsky, W. Knight, L. Kong, C. Magori, P. Manurung, C. McCreery, W. Mitchell, S. Pillay, F. Schindele, F. Shillington, L. Testut, E. M. S. Wijeratne, P. Caldwell, J. Jardin, S. Nakahara, F.-Y. Porter, N. Turetsky, 2004: Tide gauge observations of the Indian Ocean Tsunami, December 26, 2004. *Geophys. Res. Lett.*, **32**, L09603, doi:10.1029/2005GL022610.
- Molinari, R.L., 2004: Annual and decadal variability in the western subtropical North Atlantic: Signal characteristics and sampling methodologies. *Progress In Oceanography*, **62**, 33-66.
- Mooers, C. N. K., C. S. Meinen, M. O. Baringer, I. Bang, R. Rhodes, C. N. Barron, and F. Bub, 2005: "Cross Validating Ocean Prediction and Monitoring Systems". *EOS*, **86**(29), 269, 272-273.
- Morey, S. L., M. A. Bourassa, X. Davis, J. J. O'Brien, and J. Zavala-Hidalgo, 2005a: Remotely sensed winds for forcing ocean models. *J. Geophys. Res.*, accepted.
- Nalli, N. R. and R. W. Reynolds, 2005: Sea surface temperature daytime climate analyses derived from aerosol bias-corrected satellite data. *J. Climate*, in press.
- Niiler, P.P., W. Scuba and D.-K Lee, 2004: Performance of minimet wind drifters in hurricane Fabian. "The Sea", *Journal of The Korean Society of Oceanography*, **9**.
- Noh, Y., Y.J. Kang, T. Matsuura, and S. Iizuka, 2005: Effect of the Prandtl number in the parameterization of vertical mixing in an OGCM of the tropical Pacific. *Geophys. Res. Lett.*, **32**, L23609, doi:10.1029/2005GL024540.
- O'Connor, B.M., R.A. Fine, and D.B. Olson, 2005: A Global comparison of subtropical underwater formation rates. *Deep-Sea Res. I*, **52**, 1569-1590, 2005.
- Olsen, A., J. Triñanes, and R. Wanninkhof, 2004: Sea-air flux of CO₂ in the Caribbean Sea estimated using in situ and remote sensing data. *Remote Sensing of Environment*, **89**, 309–325.
- Olsen, A., Wanninkhof, R., Trinanes, J. A., Johannessen, T., 2005: The effect of wind speed products and wind speed-gas exchange relationships on interannual variability of the air-sea CO₂ gas transfer velocity. *Tellus*, **57B**, 95–106.
- Orr, J.C., V.J. Fabry, O. Aumont, L. Bopp, S.C. Doney, R.A. Feely, A. Gnanadesikan, N. Gruber, A. Ishida, F. Joos, R.M. Key, K. Lindsay, E. Maier-Reimer, R. Matear, P. Monfray, A. Mouchet, R.G. Najjar, G.-K. Plattner, K.B. Rodgers,

- C.L. Sabine, J.L. Sarmiento, R. Schlitzer, R.D. Slater, I. Totterdell, M.-F. Weirig, Y. Yamanaka, and A. Yool, 2005: Anthropogenic ocean acidification over the twenty-first century and its impact on calcifying organisms. *Nature*, **437**(7059), 681–686.
- Paduan, J.D., C. Kim, M. S. Cook, and F. P. Chavez, Calibration and validation of direction-finding high frequency radar ocean surface current observations. *Journal of Oceanic Engineering*, in press.
- Patra, P. K., Maksyutov, S., Ishizawa, M., Nakazawa, T., Takahashi, T. and Ukita, J., Interannual and decadal changes in the sea-air CO₂ flux from atmospheric CO₂ inverse modeling. *Glob. Biogeochem. Cycles*, in press.
- Pavlov, V., O. Pavlova, and R. Korsnes, Reinert, July 2004: Sea ice fluxes and drift trajectories from potential pollution sources, computed with a statistical sea ice model of the Arctic Ocean. *Journal of Marine Systems*, v **48**, n 1-4, p 133-157.
- Peltola, E.; Wanninkhof, R.; Feely, R.; Castle, R.; Greeley, D.; Zhang, J.-Z.; Millero, F. J.; Gruber, N.; Bullister, J. L.; Graham, T., 2003: "Inorganic carbon, nutrient, and oxygen data from the R/V RONALD H. BROWN repeat hydrography cruise in the Atlantic Ocean: CLIVAR CO₂ section A16N_2003A (4 June -11 August, 2003)," ORNL RNL/CDIAC-149 NDP-085, 2005.
- Peng, T.-H., 2005: Anthropogenic CO₂ in the ocean. *Scientia Marina*, **69**(suppl. 1):85-96.
- Pennington, J.T., Mahoney, K. L., D. Kolber, V. S. Kuwahara, R. Calienes and F. P. Chavez, 2005: Primary Productivity and Biogeochemical Cycling in the Eastern Tropical Pacific: A Review. *Progress in Oceanography*, in press.
- Pfirman, S., W.F. Haxby, R. Colony, and I. Rigor, 2004: Variability in Arctic Sea Ice Drift. *Geophys. Res. Lett.*, v. **31**, doi:10.1029/2004GL020063.
- Philippe, R., A.T. Weaver, N. Daget, S. Ricci, and E. Machu, 2005: Ensembles of global ocean analyses for seasonal climate prediction: impact of temperature assimilation. *Tellus A57*, 375-386.
- Pyatt, Hollis, B. A. Albrecht, C. W Fairall, Nick Bond, and P. Minnis, 2005: Evolution of marine atmospheric boundary layer structure across the Cold Tongue ITCZ Complex. *J. Clim.*, **18**, 737-753 [can be found at <ftp://ftp.etl.noaa.gov/user/cfairall/oceanobs/pubs/fy05/>].
- Rajeevan, M. and M.J. McPhaden, 2004: Tropical Pacific upper ocean heat content variations and Indian summer monsoon rainfall. *Geophys. Res. Lett.*, **31**, L18203, doi:10.1029/2004GL020631.

- Ramp, S.R., J. D. Paduan, I. Shulman, J. Kindle, F. L. Bahr, and F. P. Chavez, 2005: Observations of Upwelling and Relaxation Events in the Northern Monterey Bay during August 2000. *Journal of Geophysical Research*, **110**, C07013, doi:10.1029/2004JC002538.
- Rangama, Y., Boutin, J., Etcheto, J., Merlivat, L., Takahashi, T., Delille, B., Frankignoulle, M. and Bakker, D. C. E., 2005: Variability of the air-sea CO₂ flux inferred from shipboard and satellite measurements in the Southern Ocean south of Tasmania and New Zealand. *J. Geophys. Res.*, **110**, C09005, doi:10.1029/2004JC002619.
- Raymond, D. J., S. K. Esbensen, M. Gregg, C. S. Bretherton, L. K. Shay, and T. Uttal, 2004: EPIC2001 and the coupled ocean-atmosphere system of the tropical East Pacific. *Bull. Am. Met. Soc.*, **85**, 1341-1354.
- Reynolds, R.W., H.-M. Zhang, T. M. Smith, C. L. Gentemann and F. Wentz, 2005: Impacts of in situ and additional satellite data on the accuracy of a sea-surface temperature analysis for climate. *International Journal of Climatology*, **25**, 857-864.
- Ricci, S., A.T. Weaver, J. Vialard, and P. Rogel, 2005: Incorporating State-Dependent Temperature–Salinity Constraints in the Background Error Covariance of Variational Ocean Data Assimilation. *Mon. Wea. Rev.*, **133**, 317-338
- Richardson, P., 2004: Caribbean Current and eddies as observed by surface drifters, *Deep-Sea Research*, accepted.
- Rigor, I.G. and J.M. Wallace, 2004: Variations in the Age of Sea Ice and Summer Sea Ice Extent, *Geophys. Res. Lett.*, v. **31**, doi:10.1029/2004GL019492, 2004.
- Rixen, M., J.-M. Beckers, S. Levitus, J. Antonov, T. Boyer, C. Maillard, M. Fichaut, E. Balapoulos, S. Iona, H. Dooley, M.-J. Garcia, B. Manca, A. Giorgetti, G. Manzella, N. Mikhaolov, N. Pinardi, M. Zavatarelli, and the MEDAR Consortium, 2005: The western Mediterranean Deep water: A proxy for climate change. *Geophys. Res. Lett.*, **32**, L12608, doi:10.1029/2005GL022702.
- Roemmich, D., J. Gilson, J. Willis, P. Sutton, and K. Ridgway, 2005: Closing the time-varying mass and heat budgets for large ocean areas: The Tasman Box. *Journal of Climate*, **18** (13), 2330–2343.
- Ryan, J.P., F.P. Chavez and J.G. Belingham, 2005: Physical-biological coupling in Monterey Bay, California: topographic influences on phytoplankton ecology. *Marine Ecology Progress Series*, **287**, 23-32.

- Ryan, JP, HM Dierssen, RM Kudela, CA Scholin, KS Johnson, JM Sullivan, AM Fischer, EV Rienecker, PR McEnaney and FP Chavez, 2005: Coastal Ocean Physics and Red Tides: An Example from Monterey Bay, California. *Oceanography*, **18**:246-255.
- Sabine, C.L., 2005: Carbon cycle changes in the North Pacific. *PICES Press*, **13**(1), 32–36.
- Sabine, C.L., R.A. Feely, G.C. Johnson, P.G. Strutton, M.F. Lamb, and K.E. McTaggart, 2004: A mixed layer carbon budget for the GasEx-2001 experiment. *J. Geophys. Res.*, **109**(C8), C08S05, doi: 10.1029/2002JC001747.
- Sabine, C.L., R.M. Key, A. Kozyr, R.A. Feely, R. Wanninkhof, F.J. Millero, T.-H. Peng, J.L. Bullister, and K. Lee, 2005: Global Ocean Data Analysis Project (GLODAP): Results and data. ORNL/CDIAC-145, NDP-083, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, TN, 110 pp. plus 6 Appendices.
- Sabine, C.L., and N. Gruber, 2005: Response to Comment on "The Ocean Sink for Anthropogenic CO₂". *Science*, **308**(5729), 1743d.
- Sabine, C.L., L. Juranek, C. Lee, D. Nicholson, and A. Ver, 2004: Understanding North Pacific carbon cycle changes. *Eos Trans. Am. Geophys. Union*, **85**(42), 419, 421.
- Schmid, C., The impact of combining temperature profiles from different instruments on an analysis of mixed layer properties. *Journal of Oceanic and Atmospheric Technology*, in press.
- Schmitt, R. W., R. C. Millard, J. M. Toole, W. D. Wellwood, 2005: A double-diffusive interface tank for dynamic response studies. *Journal Marine Research*, **63** (1) 263-289.
- Schneider, N., and B. Cornuelle, 2005: The forcing of the Pacific Decadal Oscillation. *J. Climate*, in press.
- Seo, K.-H. and Y. Xue, 2005: MJO-related oceanic Kelvin waves and the ENSO cycle: A study with the NCEP Global Ocean Data Assimilation System. *Geophys. Res. Lett.*, **32**, L07712, doi:10.1029/2005GL022511.
- Serra, Y. and M.J. McPhaden, 2004: In situ observations of the diurnal variability in rainfall over the tropical Atlantic and Pacific Oceans. *J. Climate*, **17**, 3496–3509.
- Shoosmith, D. R., M. O. Baringer and W. E. Johns, 2005: "A continuous record of Florida Current heat transport at 27°N". *Geophys. Res. Letters*, in press.

- Smith, T.M., and R.W. Reynolds, 2005: A global merged land and sea surface temperature reconstruction based on historical observations (1880-1997). *J. Climate*, **18**, 2021–2036.
- Söderkvist, J., and G. Björk, 2004: Ice thickness variability in the Arctic Ocean between 1954 – 1990, results from a coupled ocean-ice-atmosphere column model. *Climate Dynamics*, **22**: 57-68.
- Steele, M., J. Morison, W. Ermold, I. Rigor, M. Ortmeier, and K. Shimada, 2004: Circulation of summer Pacific halocline water in the Arctic Ocean. *J. Geophys. Res.*, **109**, C02027, doi:10.1029/2003JC002009.
- Strutton, P.G. and F.P. Chavez, 2004: Biological heating in the equatorial Pacific: Observed variability and potential for real-time calculation. *Journal of Climate*, **17**, 1097-1109.
- Thacker, W. C., 2005: Estimating salinity to complement observed temperature: 1. Gulf of Mexico. *Journal of Marine Systems*, in press.
- Thacker, W. C., 2005: Estimating salinity to complement observed temperature: 2. Northwestern Atlantic, *Journal of Marine Systems*, in press.
- The Ocean in a High CO₂ World: A Special Issue of Journal of Geophysical Research-Oceans, Vol. **110**, No. 9, 2005.
- Triantafyllou, G., I. Hoteit, G. Korres and G. Petihakis, 2005: Ecosystem modeling and data assimilation of physical-biogeochemical processes in shelf and regional areas of the Mediterranean Sea. *Applied Numerical Analysis and Computational Mathematics*, **2**, 262-280.
- Vecchi, G.A. and D.E. Harrison, 2005: On the termination of the 1997-98 El Nino: Part I. Mechanisms of oceanic change. *J. Climate*, in press.
- Vecchi, G. A. and M. Harrison, 2005: San Indian Ocean Observing System Simulation experiment. *J. Climate*, in press.
- Vintzileos, A., M.M. Rienecker, M.J. Suarez, S.D. Schubert, and S.K. Miller, 2005: Local versus remote wind forcing of the equatorial Pacific surface temperature in July 2003. *Geophys. Res. Lett.*, **32**, L05702, doi:10.1029/2004GL021972.
- Wanninkhof, R., K.F. Sullivan, and Z. Top, 2004: Air-Sea Gas Transfer in the Southern Ocean. *J. Geophys. Res.*, **109**, C08S19, doi:10.1029/982 2003JC001767.
- White, W.B., D.R. Cayan, P.P. Niiler, J. Moisan, G. Lagerloef, F. Bonjean, and D. Legler, 2004: The seasonal cycle of diabatic heat storage over the Pacific Ocean. *Prog. Oceanogr.*, **64**, 1-29.

- Wick, Gary A., J. Carter Ohlmann, Christopher W. Fairall, and Andrew T. Jessup, 2005: Improved oceanic cool-skin corrections using a refined solar penetration model. *J. Phys. Oceanogr.*, to appear.
- Willis, J. K., D. Roemmich, and B. Cornuelle, 2004: Interannual variability in upper ocean heat content, temperature, and thermosteric expansion on global scales. *J. Geophys. Res.*, **109**, C12036, doi: 10.1029/2003JC002260.
- Wirts, A.E., and G.C. Johnson, 2005: Recent interannual upper ocean variability in the deep southeast Bering Sea. *J. Mar. Res.*, **63**, 381–405.
- Worley, S.J., S.D. Woodruff, R.W. Reynolds, S.J. Lubker, and N. Lott, 2005: ICOADS release 2.1 data and data products. *Intl. J. Climatol.*, **25**, 323-342.
- Yang, J., J. Comiso, D. Walsh, R. Krishfield, and S. Honjo, 2004: Storm-driven mixing and potential impact on the Arctic Ocean. *J. Geophys. Res.*, **109**, C04008, doi:10.1029/2001JC001248.
- Yaremchuk, M and T. Qu, 2004: Seasonal variability of the large-scale currents near the coast of the Philippines. *Journal of Physical Oceanography*, **34**, 844-855.
- Yu, L., R. A. Weller, and B. Sun, 2004: Improving latent and sensible heat flux estimates for the Atlantic Ocean (1988-1999) by a synthesis approach. *J. Clim.*, **17**, 373-393. <http://www.whoi.edu/science/PO/people/lyu/pdfs/YU-atflx-daily-map-jc04.pdf>
- Yu, L., R. A. Weller, and B. Sun, 2004: Mean and variability of the WHOI daily latent and sensible heat fluxes at in situ flux measurement sites in the Atlantic Ocean. *J. Clim.*, **17**, 2096-2118. <http://www.whoi.edu/science/PO/people/lyu/pdfs/YU-atflx-daily-map-validation-jc04.pdf>
- Zeng, X., M. A. Brunke, M. Zhou, C. W. Fairall, N. A. Bond, and D. H. Lenschow, 2004: Marine atmospheric boundary layer height over the Eastern Pacific: Data analysis and model evaluation. *J. Clim.*, **17**, 4159-4170 [can be found at <ftp://ftp.etl.noaa.gov/user/cfairall/oceanobs/pubs/fy05/>]
- Zhang, R., and T.L. Delworth, 2005: Stimulated tropical response to a substantial weakening of the Atlantic thermohaline circulation, *J. Clim.*, **18**(12), 1853-1860, doi:10.1175/CLI460.1, 2005.
- Zhang, J.-Z. and C. J. Fischer, 2005: A simplified resorcinol method for direct spectrophotometric determination of nitrate in seawater. *Marine Chemistry*, in press.

- Zhang, X. and M.J. McPhaden, 2005: Wind stress variations and interannual sea surface temperature anomalies in the eastern equatorial Pacific. *J. Climate*, in press.
- Zhang, H.-M., R. W. Reynolds, and T. M. Smith, 2005: Objective evaluation and requirement on in situ observing system for climate SST. *J. Ocean. Atmos. Tech.*, in press.
- Zhang, X., J.E Walsh, J. Zhang, U.S. Bhatt, M. Ikeda, June 2004: Climatology and Interannual Variability of Arctic Cyclone Activity: 1948-2002. *Journal of Climate*. Boston: Vol. **17**, Iss. 12; p. 2300.
- Zhurbas, V and I. S. Oh, 2004: Drifter-derived maps of lateral diffusivity in the Pacific and Atlantic Oceans in relation to surface circulation patterns. *Journal of Geophysical Research*, **109**, C05015, doi:10.1029/2003JC002241.

Books and Book Chapters

- Chavez, F.P., 2005: *Biological consequences of interannual to multidecadal variability*. Chapter 16 In *The Sea*, Volume 13, A. Robinson and K. Brink (eds.), Harvard University Press, Cambridge, Massachusetts, pp. 643-679.
- Ciais, P., B. Moore, W. Steffen, M. Hood, et al., 2004: *The Integrated Global Carbon Observation Theme: A Strategy to Realise a Coordinated System of Integrated Global Carbon Cycle Observations*. The IGOS Partners, IGBP publications, Stockholm, 53 pp.
- Doney, S.C., R. Anderson, J. Bishop, K. Caldeira, C. Carlson, M.-E. Carr, R. Feely, M. Hood, C. Hopkinson, R. Jahnke, D. Karl, J. Kleypas, C. Lee, R. Letelier, C. McClain, C. Sabine, J. Sarmiento, B. Stephens, and R. Weller, 2004: *Ocean Carbon and Climate Change (OCCC): An Implementation Strategy for U.S. Ocean Carbon Cycle Science*. UCAR, Boulder, CO, 108 pp.
- Hood, E.M., July 2004: *The Global Ocean Carbon Observing System – Connecting national programs and regional networks*. PICES Press, vol **12**, no. 2, 25-29.
- McPhaden, M.J., 2004: Book review of “*Our Affair with El Niño*” by S. George Philander, Princeton University Press, 2004. *Nature*, **429**, 605–606.
- Millero, F.J., 2005: *Chemical Oceanography*, 3rd Edition, CRC Press.
- Schott, F. A., J. P. McCreary Jr., and G. C. Johnson, 2004. Shallow overturning circulations of the tropical-subtropical oceans. In *Earth Climate: The Ocean-Atmosphere Interaction*, C. Wang, S.-P. Xie, and J. A. Carton, Eds., American Geophysical Union Geophysical Monograph 147, 261-304.

Submitted

- Bennett, A.F., B.S. Chua, H.-E. Ngodock, D.E. Harrison, M.J. McPhaden, 2005: Generalized inversion of the Tropical Atmosphere Ocean (TAO) data and the Gent-Cane model of the tropical Pacific. *J. Marine Research*, submitted.
- Bennett, A.F., B.S. Chua, H.-E. Ngodock, D.E. Harrison, and M.J. McPhaden, 2004: Testing the Gent-Cane model of the Tropical Pacific with generalized inversion of Tropical Atmosphere-Ocean (TAO) data. *J. Phys. Oceanogr.*, submitted.
- Bond, N.A. and D.E. Harrison, 2005: U.S. Winter Weather Anomalies with El Nino and negative Arctic Oscillation: 2002-03 and before. *Int'l Journal of Climatology*, submitted.
- Borovikov, A., M.M. Rienecker, C.L. Keppenne, and G.C. Johnson, 2005: Multivariate error covariance estimates by Monte-Carlo simulation for assimilation studies in the Pacific Ocean. *Mon. Wea. Rev.*, submitted.
- Cheng, W., M.J. McPhaden, D. Zhang, and E.J. Metzger, 2005: Recent changes in the Pacific subtropical cells inferred from an eddy resolving ocean circulation model. *J. Phys. Oceanogr.*, submitted.
- Chiodi, A. and D.E. Harrison, 2005: A new mode of Summertime Subtropical SST Variability. *Geophys Res. Lett.*, submitted.
- Colbo, K and R. A. Weller, 2005a: The variability and heat budget of the upper ocean under the Chile-Peru stratus. *J. Mar. Res.*, submitted.
- Colbo, K. and R. A. Weller, 2005b: The accuracy of the IMET sensor package. *J. Atmos. Oceanic Technol.*, submitted.
- Cosca, C.E., Feely, R., Tilbrook, B., Quay, P., Wisegarver, D., Wolfe, C., Juranek, J., 2005: First Underway fCO₂ Observations from the VOS Container Ship Columbus Waikato in the Tropical and Subtropical Pacific. *EOS Trans AGU*, submitted.
- Cronin, M.F., C. Fairall, and M.J. McPhaden, 2005: An assessment of buoy derived and NWP surface heat fluxes in the tropical Pacific. *J. Geophys. Res.*, submitted.
- Douglass, E., D. Roemmich, and D. Stammer, 2005: Interannual variability in northeast Pacific circulation. *J. Geophys. Res.*, submitted.
- Feely, R.A., T. Takahashi, R. Wanninkhof, M.J. McPhaden, C.E. Cosca, S.C. Sutherland and M.-E. Carr, 2005: Decadal Variability of the Air-Sea CO₂ Fluxes in the Equatorial Pacific Ocean. *J. Geophys. Res.*, submitted.

- Feely, R. A., Takahashi, T., Wanninkhof, R., McPhaden, M. J., Cosca, C. E., Sutherland, S. C. and Carr, M-E., 2005: Decadal variability of the air-sea CO₂ fluxes in the equatorial Pacific Ocean. *J. Geophys. Res.*, submitted.
- Fratantoni and Richardson, 2004: The evolution and demise of North Brazil Current Rings. *J. Phys. Oc.*, submitted.
- Harrison, D.E. and M. Carson, 2005: Is the World Ocean warming? *J. Phys. Oc.*, submitted.
- Hoteit, I., and A. Kohl, 2005: Efficiency of reduced-order optimization strategies for four dimensional variational data assimilation. *Journal of Oceanography*, submitted.
- Hoteit, I., B. Cornuelle, A. Kohl and D. Stammer, 2005: An Eddy-Permitting Variational Data Assimilation System for the Tropical Pacific Ocean. *Quarterly Journal of Meteorological Research*, submitted.
- Janowiak, J. E., V. J. D'Agostaro, V. E. Kousky, and R. J. Joyce, 2005: An examination of the diurnal cycle of precipitation in observations and model forecasts during NAME. *J. Climate (NAME Special Issue)*, submitted.
- Kelly, K.A., S. Dickinson, and G.C. Johnson, 2005: Scatterometer winds at TAO buoys reveal time-varying surface currents for the Tropical Pacific Ocean. *J. Atmos. Oceanic Technol.*, submitted.
- Lyman, J.L., G.C. Johnson, and W.S. Kessler, 2005: The structure of 17 versus 33-day tropical instability waves. *J. Phys. Oceanogr.*, submitted.
- McKinley, G. A., Takahashi, T., Butenhuis, E., Chai, F., Christian, J. R., Doney, S. C., Le Quere, C., Lima, I., Murtugudde, R., Shi, L. and Wetzel, P., 2005: North Pacific carbon cycle response to climate variability on seasonal to decadal timescales. *J. Geophys. Res.*, submitted.
- McNeil, B.I., N. Metzl, R.M. Key and R.J. Matear, 2005: An empirical estimate of the Southern Ocean air-sea CO₂ flux, *Global Biogeochem. Cycles*, submitted.
- Morey, S. L., M. A. Bourassa, D. S. Dukhovskoy, and J. J. O'Brien, 2005b: Modeling studies of the upper ocean response to a tropical storm. *Ocean Dynamics*, submitted.
- Roundy, P.E. and G.N. Kiladis, 2005: The observed relationship between the MJO and oceanic Kelvin waves during El Niño development. *J. Climate*, submitted.

- The Second Report on the Adequacy of the Global Observing Systems for Climate in Support of the *United Nations Framework Convention on Climate Change*, 2003, GCOS No. **82**, WMO / TD No. 1143.
- Serreze, M.C. and I.G. Rigor, 2004: Understanding Recent Changes in the Arctic Sea Ice Cover, *Glaciers and Earth's Changing Environment*, ed. P. Knight, Blackwell Publishing, Ltd, Oxford, in press.
- Sutton, P., M. Bowen and D. Roemmich, 2005. Decadal temperature changes in the Tasman Sea. *New Zealand Journal of Marine and Freshwater Research*, submitted.
- Takahashi, T., Sutherland, S. C., Feely, R. A. and Wanninkhof, R., 2005: Decadal change of the surface water pCO₂ in the North Pacific: A synthesis of 35 years of observations. *J. Geophys. Res.*, submitted.
- Tomita, H. and M. Kubota, 2005: Accuracy of various global latent heat flux data. *J. Climate*, submitted.
- Yu, L., X. Jin, and R. A. Weller, 2005: Annual, seasonal, and interannual variability of air-sea heat fluxes in the Indian Ocean. *Journal of Climate*, submitted. <http://www.whoi.edu/science/PO/people/lyu/pdfs/YU-ioflx-jc05.pdf>
- Yu, L., X. Jin, and R. A. Weller, 2005: On seasonal interactions between net surface heat flux and sea surface temperature in the tropical Atlantic Ocean. *Journal of Climate*, submitted. <http://www.whoi.edu/science/PO/people/lyu/pdfs/YU-atl-nflxSST-jc05.pdf>
- Zhou, Mingyyu, Xubin Zeng, Michael Brunke, Zhanhai Zhang, and C. W. Fairall, 2005: Study on macro- and microphysical properties of stratus and stratocumulus over the Eastern Pacific. *J. Appl. Meteorol.*, submitted.

In Preparation

- Cronin, M. F., N. A. Bond, C. Fairall, and R. A. Weller, 2005: Surface cloud forcing in the east Pacific stratus deck/cold tongue/ITCZ complex. *J. Climate*, in review.
- Dickson, A., 2005: Guide of best practices for oceanic CO₂ measurements and data reporting, sponsored by *IOCCP*, in preparation.
- Nojiri, Y. et al., 2004: The International Indoor Seawater Pool pCO₂ Intercomparison - Results and recommended practices. CDIAC Numerical Data Package sponsored by *IOCCP*, in preparation.

Park, G.-H.; Lee, K.; Wanninkhof, R.; Feely, R. A., 2005: Ocean data-based estimates of recent year-to-year variability of oceanic uptake of CO₂. *J. Geophys. Res.*, in preparation.

Raulerson, A. E., A. Arguez, J. J. O'Brien, and S. R. Smith, 2005: Interannual to Interdecadal Surface Air Temperature Variability of Florida. *J. Climate*, in review.

The 10-year Implementation Plan for the Global Observing Systems for Climate in Support of the *United Nations Framework Convention on Climate Change*, in preparation, 2004.

Reports

Bourassa, M. A., 2004: A Sea Surface Stress Parameterization Dependent on Directional Seastate. *CAS/JSC Working Group on Numerical Experimentation, Research Activities in Atmospheric and Oceanic Modeling*. World Meteorological Organization, ed. J. Côté, 2004 Edition, 4.07 □4.08.

Colbo, K., R. Weller, J. Lord, J. Smith, P. Bouchard, C. Fairall, D. Wolfe, E. Serpetzoglou, A. G. V. Tisandie, J. F. S. Bustos, F. Bradley, and J. Tomlinson, 2005: Stratus Ocean Reference Station (20°S, 85°W), Mooring Recovery and Deployment Cruise: R/V Ronald H. Brown Cruise 12-04, December 5 – December 23, 2004. *Woods Hole Oceanogr. Inst. Tech. Rept.*, WHOI-2005-06.

Cronin, M.F., C. Meinig, and C.L. Sabine, 2005: Flux mooring for the North Pacific's western boundary current: Kuroshio Extension Observatory (KEO). *The State of the Ocean and the Ocean Observing System for Climate*, Annual Report, Fiscal Year 2004, NOAA/OGP/Office of Climate Observation, Section 3.13a, 142–146.

Doney, S.C., R. Anderson, J. Bishop, K. Caldeira, C. Carlson, M.-E. Carr, R. Feely, M. Hood, C. Hopkinson, R. Jahnke, D. Karl, J. Kleypas, C. Lee, R. Letelier, C. McClain, C. Sabine, J. Sarmiento, B. Stephens, and R. Weller, 2005: *Ocean Carbon and Climate Change (OCCC): An Implementation Strategy for U.S. Ocean Carbon Cycle Science*, 108 pp., A report of the University Corporation for Atmospheric Research, Carbon Cycle Interagency Working Group, National Science Foundation, 108 pp.

Doney, S.C., R. Anderson, J. Bishop, K. Caldeira, C. Carlson, M.-E. Carr, R. Feely, M. Hood, C. Hopkinson, R. Jahnke, D. Karl, J. Kleypas, C. Lee, R. Letelier, C. McClain, C. Sabine, J. Sarmiento, B. Stephens, and R. Weller, 2004: *Ocean carbon and climate change: An implementation strategy for U.S. ocean carbon research*. A report of the University Corporation for Atmospheric Research,

Carbon Cycle Interagency Working Group, National Science Foundation, 108 pp.

- Feely, R., and R. Wanninkhof, 2005: The global ocean carbon cycle: Inventories, sources and sinks. *The State of the Ocean and the Ocean Observing System for Climate*, Annual Report, Fiscal Year 2004, NOAA/OGP/Office of Climate Observation, Section 2.5, 42–56.
- Feely, R.A., R. Wanninkhof, C. Sabine, G. Johnson, M. Baringer, J. Bullister, C.W. Mordy, and J.-Z. Zhang, 2005: Global repeat hydrographic/CO₂/tracer surveys in support of CLIVAR and global carbon cycle objectives: Carbon inventories and fluxes, *The State of the Ocean and the Ocean Observing System for Climate*., Annual Report, Fiscal Year 2004, NOAA/OGP/Office of Climate Observation, Section 3.15a, 149–168.
- Feely, R.A., R. Wanninkhof, C. Sabine, G. Johnson, M. Baringer, J. Bullister, C.W. Mordy, and J.-Z. Zhang 2005: 2005 Plans, Global repeat hydrographic/CO₂/tracer surveys in support of CLIVAR and global carbon cycle objectives: Carbon inventories and fluxes. *The State of the Ocean and the Ocean Observing System for Climate*, Annual Report, Fiscal Year 2004, NOAA/OGP/Office of Climate Observation, Section 3.14b, 298–300.
- Freitag, H.P, T.A. Sawatzky, K.B. Ronnholm, and M.J. McPhaden, 2005: Calibration procedures and instrumental accuracy estimates of next generation water temperature and pressure measurements. *NOAA Tech. Memo OAR PMEL-128*, NOAA/Pacific Marine Environmental Laboratory, Seattle, WA, 22 pp.
- Hankin, S.C., R. Feely, A. Kozyr, and T.-H. Peng 2005: An end-to-end data management system for ocean pCO₂ measurements. *The State of the Ocean and the Ocean Observing System for Climate*, Annual Report, Fiscal Year 2004, NOAA/OGP/Office of Climate Observation, Section 3.18a, 181–186.
- Hare, J. E., C. W. Fairall, T. Uttal, D. Hazen, Meghan Cronin, Nicholas A. Bond, and Dana Veron, 2005: A seven-cruise sample of clouds, radiation, and surface forcing in the Equatorial Eastern Pacific. *NOAA Tech Memo*, 91pp.
- Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) Science Plan and Implementation Strategy, IGBP Report No. 52, IGBP Secretariat, Stockholm, 76pp, 2005. (Contributor)
- Lueger, 2005: Report of the Miami data reduction systems meeting, Oct. 5 & 6.
- McTaggart, K. E., and G. C. Johnson. 2005: *CTD measurements during 2003 and 2004 as part of the TAO/TRITON Program*. NOAA Data Report OAR PMEL-71, 141 pp. plus data CD.

- Millero, F.J., T. Graham, X. Zhu, W. Hiscock, M. Trapp, D. Valdes and V. Koehler, 2005: Global Ocean Repeat Hydrographic Study: pH and Total Alkalinity Measurements in the North Atlantic (A16N Cruise June – August 2003), *University of Miami Technical Report*, No. RSMAS-2004-05.
- Millero, F. J. , T. Graham, X. Zhu, M. Chanson and V. Koehler, Global Ocean Repeat Hydrographic Study: Total Alkalinity Measurements in the North Atlantic (A22 Cruise October – November 2003), *University of Miami Technical Report*, No. RSMAS-2004-06.
- Millero, F.J. , T. Graham, M. Chanson, W. Hiscock, M. Trapp and D. Pierrot, 2005: Global Ocean Repeat Hydrography Study: pH and Total Alkalinity Measurements in the South Atlantic A16S January – February 2005, *University of Miami Technical Report*, No. RSMAS-2005-04.
- Morey, S. L. M. A. Bourassa, D. Dukhovskoy, and J. J. O'Brien, 2005: Modeling the oceanic response to air-sea fluxes associated with a tropical storm. *CAS/JSC Working Group on Numerical Experimentation, Research Activities in Atmospheric and Oceanic Modeling*, World Meteorological Organization, ed. J. Côté, 2004 Edition, 08:3-4.
- Peltola, E.; Wanninkhof, R.; Feely, R.; Castle, R.; Greeley, D.; Zhang, J.-Z.; Millero, F. J.; Gruber, N.; Bullister, J. L.; Graham, T. "Inorganic carbon, nutrient, and oxygen data from the R/V RONALD H. BROWN repeat hydrography cruise in the Atlantic Ocean: CLIVAR CO2 section A16N_2003A (4 June -11 August, 2003)," ORNL RNL/CDIAC-149 NDP-085, 2005.
- Rolph, J. J., and S. R. Smith, 2005a: *Ronald Brown IMET quality control report: February-May 2004*. RVSMDC report 05-01, Center for Ocean-Atmospheric Prediction Studies, Florida State University, Tallahassee, Florida, 32306-2840, USA, 13 pp.
- Rolph, J. J., and S. R. Smith, 2005b: *Meteor data quality control report: 11 June 2003-4 May 2004*. RVSMDC report 05-02, Center for Ocean-Atmospheric Prediction Studies, Florida State University, Tallahassee, Florida, 32306-2840, USA, 14 pp.
- Rolph, J. J., and S. R. Smith, 2005a: *SAMOS netCDF code manual for quality controlled surface meteorological data*. RVSMDC report 05-03, Center for Ocean-Atmospheric Prediction Studies, Florida State University, Tallahassee, Florida, 32306-2840, USA, 34 pp.
- Rolph, J. J., and S. R. Smith, 2005d: *Ronald Brown IMET quality control report: 27 May 2004 – 18 March 2005*. RVSMDC report 05-04, Center for Ocean-Atmospheric Prediction Studies, Florida State University, Tallahassee, Florida, 32306-2840, USA, 14 pp.

- Sabine, C.L., R.M. Key, A. Kozyr, R.A. Feely, R. Wanninkhof, F.J. Millero, T.-H. Peng, J.L. Bullister, and K. Lee, 2005: *Global Ocean Data Analysis Project (GLODAP): Results and data*. ORNL/CDIAC-145, NDP-083, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, TN, 110 pp. plus 6 Appendices.
- Smith, S. R., 2005: *Shipboard Automated Meteorological and Oceanographic System (SAMOS) Initiative*. Report for 3rd session of the JCOMM Ship Observation Team meeting, 7-12 March 2005, IFREMER, Brest, France, 7pp., submitted.
- Smith, S. R., 2004: *GSOP report on Ocean Observations: Surface Meteorology from Research Vessels*. CLIVAR Global Synthesis and Observation Panel Meeting, Boulder, 7 pp.
- Xie, P., J.E. Janowiak, M. Chen, and P.A. Arkin, 2005: Seasonal and interannual variations of global precipitation in the NCEP CDAS, CDAS2, GFS and CFS. AGU 2005 Spring Science Assembly, May 23-27, 2005, New Orleans, LA.

Proceedings

- Behringer, D.W., and Y. Xue, 2004: Evaluation of the global ocean data assimilation system at NCEP: The Pacific Ocean. *Eighth Symposium on Integrated Observing and Assimilation Systems for Atmosphere, Oceans, and Land Surface*. AMS 84th Annual Meeting, Washington State Convention and Trade Center, Seattle, Washington, 11-15.
- Garzoli, Silvia L. and Molly Baringer, 2005: Meridional heat transport in the South Atlantic. *U.S. CLIVAR Atlantic Science Conference*, 31 January – 2 February 2005, Miami.
- Johns, William, Stuart Cunningham, Molly Baringer, Lisa Beal, Deb Shoosmith, Joel Hirschi, Johanna Baehr, Jochem Marotzke, and Harry Bryden. An Observing System to Monitor the Atlantic Meridional Overturning Circulation and Heat Flux at 26N, *U.S. CLIVAR Atlantic Science Conference*, 31 January – 2 February 2005, Miami.
- Meinen, Christopher, Molly O. Baringer, Deb Shoosmith and Rigoberto F. Garcia, 2005: *The Florida Current: Longterm measurements of the transport of the upper limb of the Meridional Overturning Cell*, *U.S. CLIVAR Atlantic Science Conference*, 31 January – 2 February 2005, Miami.
- O'Brien, K., K. McHugh, G. Vecchi, E. Harrison, S. Hankin, and A. Manke, 2004: The Observing System Monitoring Center: A Tool for Evaluation of the Global Ocean Observing System. *Proceedings of the 20th International Conference on*

Interactive Information and Processing Systems (IIPS) for Meteorology, Oceanography, and Hydrology, 2004 AMS Annual Meeting, Seattle, WA, 12–15 January 2004, paper P1.35.

Rigor, I.G., and Jamie Morison, 2004: Climate Observing System for Arctic Ocean, *Proc. Marine Science in Alaska: 2004 Symposium*, Anchorage, January.

Rigor, I.G., 2004: Variations in the Age of Sea Ice and Summer Sea Ice Extent, Proc. Lamont Mini-conference, Central Arctic: Battleground of Natural and Man-Made Climate Forcing, *Lamont Doherty Earth Observatory of Columbia University*, New York.

Abstracts

Baringer, M. O., C. S. Meinen, C. N. K. Mooers, I. Bang, R. F. Garcia, F. Bub, R. Rhodes, 2005: Western Boundary Current changes along the Florida Coast: A comparison of the Global NCOM model to observations, *Eos Trans. AGU*, 86(18), Jt. Assem. Suppl., (AGU 2005 Joint Assembly Meeting, 23–27 May 2005, New Orleans, LA), Abstract OS32A-02.

Bourassa, M. A., S. L. Morey, S. R. Smith, and J. J. O'Brien, 2005: Objectively gridded fields based on in-situ, satellite, and hybrid satellite/NWP data. Abstracts from *NOAA Office of Climate Observation 3rd Annual System Review*, Silver Spring, MD, in press.

Bullister, J. L. M. J. Warner, R. E. Sonnerup, G. C. Johnson, and N. Gruber. 2004: Decadal Changes in Dissolved CFCs in the Eastern Basin of the North Atlantic. *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract OS23F-03.

Delcroix, T., S. Cravatte, and M.J. McPhaden, 2005: Observed changes in sea surface salinity of the tropical Pacific over the last three decades. In: *Dynamic Planet 2005 Program and Abstract book*, 22-26 August 2005, Cairns, Australia. CSIRO, p. 179.

Gruber, N., J. L. Bullister, G. C. Johnson, J. H. Swift, T. M. Joyce, A. MacDonald, J. Toole, W. A. Smethie, J.-Z. Zhang, and R. Wanninkhof, 2004: Decreasing trends in the dissolved oxygen content of North Atlantic thermocline waters: Possible causes and implications for the ocean carbon cycle. *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract OS23F-07.

Johnson, G. C., J. L. Bullister, N. Gruber, and J.-Z. Zhang, 2004: Water mass property variability in the Eastern Basin of the North Atlantic Ocean. *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract OS23F-02.

McPhaden, M.J., 2005: Intraseasonal variations in the equatorial Pacific and Atlantic Oceans. In: *Dynamic Planet 2005 Program and Abstract book*, 22-26 August 2005, Cairns, Australia. CSIRO, p. 121.

- Raulerson, A. E., A. Arguez, J. J. O'Brien, and S. R. Smith, 2005: Interannual to interdecadal surface air temperature variability of Florida. Abstracts from 15th *Conference on Applied Climatology*, Savannah, GA, Amer. Meteor. Soc.
- Sabine, C. L., R. A. Feely, G. C. Johnson, R. Wanninkhof, F. J. Millero, A. G. Dickson, N. Gruber, and P. Covert, 2005: Decadal changes in ocean carbon uptake. *Seventh International Carbon Dioxide Conference*, September 25-30, Boulder, Colorado.
- Smith, S. R., 2005: Shipboard Automated Meteorological and Oceanographic Systems: A Key Component of an Ocean Observing System. Preprints from 9th *Symposium on Integrated Observing and Assimilation Systems of Atmosphere, Oceans, and Land Surfaces*, San Diego, CA, Amer. Meteor. Soc., CD-ROM.
- Smith, S. R., 2005: Progress of the shipboard automated meteorological and oceanographic system (SAMOS) initiative. Abstracts from 2nd *International Workshop on Advances in the Use of Historical Marine Climate Data (MARCDAT-II)*, Exeter, UK, accepted.
- Smith, S. R., 2005: Shipboard Automated Meteorological and Oceanographic System Initiative. Abstracts from *NOAA Office of Climate Observation 3rd Annual System Review*, Silver Spring, MD, in press.
- Smith, S. R., S. D. Woodruff, and S. Worley, 2005: Marine climatology from research vessels. Abstracts from 2nd *International Workshop on Advances in the Use of Historical Marine Climate Data (MARCDAT-II)*, Exeter, UK, accepted.
- Smith, S. R., E. C. Kent, and S. K. Cook, 2005: Shipboard Automated Meteorological and Oceanographic System (SAMOS) Initiative. Abstracts from 3rd *session of the JCOMM Ship Observation Team*, Brest, France, in press.
- Wanninkhof, R., S. Doney, C. Langdon, J. L. Bullister, G. C. Johnson, M. Warner, and N. Gruber, 2005: Decadal changes in inorganic carbon in the Atlantic Ocean. *Seventh International Carbon Dioxide Conference*, September 25-30, Boulder, Colorado.
- Wanninkhof, R., C. L. Sabine, N. Gruber, R. A. Feely, J. L. Bullister, G. C. Johnson, J.-Z. Zhang, F. Millero, A. G. Dickson, and J. H. Swift, 2004: CO₂/CLIVAR Repeat Hydrography Program: Decadal Changes in the Inorganic Carbon Cycle from the North Atlantic Ocean. *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract OS23F-05.
- Wanninkhof, R., Olsen, A., Triñanes, J., Air-Sea CO₂ Fluxes in the Caribbean Sea from 2002-2004. *Journal of Marine Systems Proceedings of the 37th International Colloquium on Ocean Dynamics: Gas Transfer at Water Surfaces 2005*,

accepted.

Willis, J. K., D. Roemmich, and B. Cornuelle, 2004: Interannual variability in upper ocean heat content, temperature, and thermosteric expansion on global scales. *EOS Trans. AGU*, **85**(47), Fall Meet. Suppl., Abstract OS31A-0562.

Yu, L., 2004: Role of Air-Sea Heat Fluxes in Seasonal Climate and Variability of the Eastern Tropical Atlantic. *Eos Trans. AGU*, **85**(47), Fall Meeting Suppl., Abstract A34A-06.

Yu, L., 2005: SST warming trend in the Indian Ocean: what caused it? 14th Conference on Interaction of the Sea and Atmosphere. *The 86th AMS Annual Meeting*. http://ams.confex.com/ams/Annual2006/techprogram/paper_104821.htm

Yu, L., 2005: Oceanic latent and sensible heat fluxes determined from combining satellite observations with surface meteorology from numerical weather prediction models. 14th Conference on Interaction of the Sea and Atmosphere. *The 86th AMS Annual Meeting*. http://ams.confex.com/ams/Annual2006/techprogram/paper_105303.htm

Encyclopedia Entry

Rigor, I.G., 2004: Arctic Meteorological Stations, *Encyclopedia of the Arctic*, Routledge, New York.

Newsletter

Hood, M., 2004: The Carbon Sink that Can No Longer Cope?, *A World of Science*, Vol. 2, No. 4, 2-5, October-December.

IOCCP ObsNet: Ocean carbon observation system compilations; maps, tables, contacts, reports, links to data. Available on IOCCP Web site.

IOCCP News: Quarterly e-mail and web-based news bulletins, August 2003- present. Available on IOCCP Web site.

Schneegans, S., A. Otchet, R. Missotten, and M. Hood, A System for Managing the Planet by 2015, *A World of Science*, Vol. 2, No. 3, July – September 2004, UNESCO Natural Sciences Quarterly.

Non-refereed Article

Wanninkhof, R. and F.J. Millero, January 2004: Seakeepers network to study sea's role in absorbing greenhouse gases, *Showboats International*, **71**.