

Mark A. Bourassa
Curriculum Vitae

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EDUCATION

Ph.D. in Atmospheric Sciences (Tropical Met.), Purdue Univ.	08/90 – 01/94
M.Sc. in Meteorology, University of Alberta	09/86 – 05/89
B.Sc. (spec) in Physics, University of Alberta	09/81 – 05/85

PROFESSIONAL EXPERIENCE

University of Alberta: Research Assistant	1988 – 1990
Purdue University: Research Asst./Teaching Asst.	1990 – 1993
College of Marine Studies, Univ. of Delaware: Postdoctoral Fellow	1994 – 1995
Center for Ocean-Atmospheric Prediction Studies, Florida State University: Research Associate	1996 – 2002
Department of Meteorology & COAPS Florida State University: Assistant Professor	2002 – 2008
Geophysical Fluid Dynamics Institute (GFDI) Associate Department of Meteorology & COAPS	2004 –
Florida State University: Associate Professor	2008 –

ACTIVITIES AND HONORS

ONR Ocean Science Postdoctoral Fellow	1994 – 1995
Science Working Team, NASA NSCAT mission	1996 – 1999
Ocean Vector Winds Science Team, NASA/OSU QuikSCAT mission	1998 –
Co-chair for QuikSCAT surface truth	1998 – 2005
AMS Committee on Interaction of the Sea and Atmosphere	2003 – 2006
Next Vector Winds Mission Science Working Group	2003 – 2004
Shipboard Automated Meteorological and Oceanographic Systems (SAMOS) Working Group	2005 –
SEAFLUX Working Group	2005 –
NOAA Expert Team on the State of the Ocean	2005 –
NASA Tropical Cloud Systems and Processes (TCSP) science team	2005 – 2008
Associate Editor Journal Atmospheric and Oceanic Technology	2007 –
Co-chair of the (USCLIVAR) High Latitude Surface Fluxes Working Group	2008 –
NASA Ocean Vector Winds Science Team Leader	2008 –
NASA PO.DAAC User Working Group	2008 –
William T. Pecora Award for the QSCAT mission team	2008
GCOM-W2 Mission Science Working Group	2009 –

PROFESSIONAL MEMBERSHIP

American Geophysical Union
American Meteorological Society
IEEE Geosciences & Remote Sensing Society
Pan Ocean Remote Sensing Conference (PORSEC)

REFEREED PUBLICATIONS

- Bourassa, M. A., and K. McBeth-Ford, 2008: Uncertainty in scatterometer-derived vorticity, *J. Atmos. Oceanic Technol.*, submitted.
- Guimond, S.R. and **M. A. Bourassa**, 2008: A Diagnostic Study of the Effects of Trough Interactions on Tropical Cyclone QPF. *Mon. Wea. Rev.*, submitted.
- Kara, A. B., A. J. Wallcraft, and **M. A. Bourassa**, 2008: Air-Sea Stability Effects on the 10m Winds Over the Global Ocean: Evaluations of Air-Sea Flux Algorithms. *J. Geophys. Res.*, **113**, C04009, doi:10.1029/2007JC004324.
- Kara, A. B., A. J. Wallcraft, C. N. Barron, E. J. Metzger, H. E. Hurlburt and **M. A. Bourassa**, 2008: Accuracy of 10 m wind speeds from satellites and NWP products near land-sea boundaries, *J. Geophys. Res.*, **113**, C10020, doi:10.1029/2007JC004516, 2008.
- Hughes, P., and **M. A. Bourassa**, J. Rolph, and S. R. Smith, 2008: Tropical Atlantic flux variability. *J. Clim.*, submitted.
- Morey, S. L., D. S. Dukhovskoy, and **M. A. Bourassa**, 2008: Connectivity between variability of the Apalachicola River flow and the biophysical oceanic properties of the northern West Florida Shelf. *Continental Shelf Research*, accepted.
- Perrie, W., W. Zhang, **M. A. Bourassa**, H. Shen, and P. Vachon, 2008: Impact of satellite winds on marine wind simulations. *Weather and Forecasting*, **23**, 290-303.
- Weissman, D. E., and **M. A. Bourassa**, 2008: Measurements of the Effect of Rain-induced Sea Surface Roughness on the Satellite Scatterometer Radar Cross Section. *IEEE Trans. Geosci. Remote Sens.*, **46**, 2882-2894.
- Bourassa, M. A.**, R. N. Maue, S. R. Smith, P. J. Hughes, and J. Rolph, 2007: Global winds. State of the Climate in 2006. A. Arguez, H. J. Diamond, F. Fetterer, A. Horvitz, and J. M. Levy, Eds., *Bull. Amer. Meteor. Soc.*, **88**, S25-S27.
- Gierach, M. M., **M. A. Bourassa**, P. Cunningham, P. Reasor, and J. J. O'Brien, 2007: Vorticity-Based Detection of Tropical Cyclogenesis. *J. Appl. Meteor. Clim.*, **46**, 1214–1229.
- Kara, A. B., J. Metzger, **M. A. Bourassa**, 2007: Ocean Current and Wave Effects on Wind Stress Drag Coefficient and Fluxes over the Global Ocean. *Geophys. Res. Letts.*, **34**, L01604, doi:10.1029/2006GL027849.
- Bourassa, M. A.**, S. R. Smith, P. Hughes, and J. Rolph, 2006: “Atlantic monthly air-sea fluxes and the 2005 hurricanes”, State of the Climate in 2005. *Bull. Amer. Meteor. Soc.*, **87**, 535 pp.
- Morey, S. L., **M. A. Bourassa**, D. S. Dukhovskoy, and J. J. O'Brien, 2006: Modeling studies of the upper ocean response to a tropical storm. *Ocean Dynamics*, DOI: 10.1007/s10236-006-0085-y.
- Morey, S. L., S. Baig, **M. A. Bourassa**, D. S. Dukhovskoy, and J. J. O'Brien, 2006: Remote forcing contribution to storm-induced sea level rise during Hurricane Dennis. *Geophys. Res. Letts.*, **33**, L19603–19607, doi:10.1029/2006GL027021.

- Arguez, A., **M. A. Bourassa**, and J. J. O'Brien, 2005: Detection of the MJO signal from QuikSCAT. *J. Atmos. Oceanic Technol.*, **22**, 1885-1894.
- Bourassa, M. A.**, R. Romero, S. R. Smith, and J. J. O'Brien, 2005: A new FSU winds climatology. *J. Clim.*, **18**, 3,692-3,704.
- Kara, B. A., A. J. Wallcraft, H. E. Hurlburt, and **M. A. Bourassa**, 2005: Black Sea mixed layer sensitivity to various wind and thermal forcing products on the climatological time scales. *J. Clim.*, **18**, 5266-5293.
- Morey, S. L., **M. A. Bourassa**, X. Davis, J. J. O'Brien, and J. Zavala-Hidalgo, 2005: Remotely sensed winds for episodic forcing of ocean models. *J. Geophys. Res.*, **110**(C10), C10024, doi:10.1029/2004JC002338.
- Bourassa, M. A.**, 2004: An Improved Seastate Dependency For Surface Stress Derived from In Situ and Remotely Sensed Winds. *Advances in Space Res.*, **33**(7), 1136-1142.
- Curry, J. A., A. Bentamy, **M. A. Bourassa**, D. Bourras, M. Brunke, S. Castro, S. Chou, C. A. Clayson, W. J. Emery, L. Eymard, C. W. Fairall, M. Kubota, B. Lin, W. Perrie, R. R. Reeder, I. A. Renfrew, W. B. Rossow, J. Schulz, S.R. Smith, P.J. Webster, G. A. Wick, X. Zeng, 2004: SEAFLUX. *Bull. Amer. Meteor. Soc.*, **85**, 409-424.
- Smith, S. R., J. Servain, D. M. Legler, J. N. Stricherz, **M. A. Bourassa**, and J. J. O'Brien, 2004: In situ based pseudo-wind stress products for the tropical oceans. *Bull. Amer. Meteor. Soc.*, **85**, 979-994.
- Bourassa, M. A.**, David M. Legler, and James J. O'Brien, 2003: Scatterometry Data Sets: High Quality Winds Over Water. *Advances in the Applications of Marine Climatology - The Dynamic Part of the WMO Guide to the Applications of Marine Climatology*. WMO/TD-No.1081 (JCOMM Technical Report No.13, WMO/TD-No. 1081), 159-174.
- Bourassa, M. A.**, D. M. Legler, J. J. O'Brien, and S. R. Smith, 2003: SeaWinds Validation with Research Vessels, *J. Geophys. Res.*, **108**, 3019, DOI 10.1029/2001JC001081.
- Hanley, D., **M. Bourassa**, J. J. O'Brien, S. Smith, and E. Spade, 2003: A quantitative evaluation of ENSO indices. *J. Clim.*, **16**, 1249-1258.
- Hilburn, K. A., **M. A. Bourassa**, and J. J. O'Brien, 2003: Scatterometer-derived research-quality surface pressure fields for the Southern Ocean. *J. Geophys. Res.*, **108**, 10.1029/2003JC001772.
- Lagerloef, G., R. Lukas, F. Bonjean, J. Gunn, G. Mitchum, **M. Bourassa**, and T. Busalacchi, 2003: El Nino Tropical Pacific Ocean surface current and temperature evolution in 2002 and outlook for early 2003. *Geophys. Rev. Lett.*, **30**, 10.1029/2003GL017096.
- Sharp, R. J., **M. A. Bourassa**, and J. J. O'Brien, 2003: Reply to "Comments on 'Early Detection of Tropical Cyclones Using SeaWinds-Derived Vorticity'", *Bull. Amer. Meteor. Soc.*, **85**, 1417.
- Weissman, D. E., **M. A. Bourassa**, J. Tongue, and J. J. O'Brien, 2003: Calibrating the QuikSCAT/SeaWinds Radar for Measuring Rain Over Water. *IEEE Trans. Geosci. Remote Sens.*, **41**, 2814-2820.
- Sharp, R. J., **M. A. Bourassa**, and J. J. O'Brien, 2002: Early detection of tropical cyclones using SeaWinds-derived vorticity. *Bull. Amer. Meteor. Soc.*, **84**, 879-889.

- Weissman, D. E., **M. A. Bourassa**, and J. Tongue, 2002: Effects of rain-rate and wind magnitude on SeaWinds scatterometer wind speed errors. *J. Atmos. Oceanic Technol.*, **19**, 738–746.
- Bourassa, M. A.**, D. G. Vincent, and W. L. Wood, 2001: A sea state parameterization with capillary waves and non-arbitrary wave age. *J. Phys. Oceanogr.*, **31**, 2840–2851.
- Bourassa, M. A.**, 2000: Shear–stress model for the aqueous boundary–layer near the air–sea interface. *J. Geophys. Res.*, **105**, 1167–1176.
- Pegion, P. J., **M. A. Bourassa**, D. M. Legler, and J. J. O'Brien, 2000: Objectively-derived daily "winds" from satellite scatterometer data. *Mon. Wea. Rev.*, **128**, 3150–3168.
- Zierden, D. F., **M. A. Bourassa**, and J. J. O'Brien, 2000: Cyclone surface pressure fields and frontogenesis from NASA Scatterometer (NSCAT) winds. *J. Geophys. Res.*, **105**, 23967–23981.
- Bourassa, M. A.**, D. G. Vincent, W. L. Wood, 1999: A flux parameterization including the effects of capillary waves and sea state. *J. Atmos. Sci.*, **56**, 1123–1139.
- Bourassa, M. A.**, L. Zamudio, and J. J. O'Brien, 1999: Non-inertial flow in NSCAT observations of Tehuantepec winds. *J. Geophys. Res.*, **104**, 11,311–11,320.
- Smith, R. S., **M. A. Bourassa**, and R. J. Sharp, 1999: Establishing more truth in true winds. *J. Atmos. Oceanic Technol.*, **16**, 939–952.
- Verschell, M. A., **M. A. Bourassa**, D. E. Weissman, and J. J. O'Brien, 1999: Model validation of the NASA Scatterometer winds. *J. Geophys. Res.*, **104**, 11359–11374.
- Bourassa, M. A.**, M. H. Freilich, D. M. Legler, W. T. Liu, and J. J. O'Brien, 1997: Wind observations from new satellite and research vessels agree. *EOS Trans. of Amer. Geophys. Union*, **78**, 597 & 602.

BOOKS AND BOOK CHAPTERS

- Bourassa, M. A.**, 2006, Satellite-based observations of surface turbulent stress during severe weather, *Atmosphere - Ocean Interactions*, Vol. 2., ed., W. Perrie, Wessex Institute of Technology Press, Southampton, UK, 35 – 52 pp.