

# Sébastien Bigorre

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## Research Interests

My main interests are the feedbacks between the atmosphere and ocean, including the impact of stratification in the upper ocean on the atmospheric circulation and hydrological cycle. My goal is to contribute improvements to weather and climate prediction. To do so, I use in-situ and remote sensing observations, as well as numerical model outputs, in conjunction with first principles of physics to understand the pathways of energy and water vapor across the air-sea interface. I am also very interested in ocean dynamics, like the evolution of eddies or the interaction of oceanic flows with topography.

My other interests are the development of instrumentation, improvement of sustainable practices, and education. I also enjoy learning new skills and working on multi-disciplinary projects.

## Education

**Ph.D.** Physical Oceanography, Florida State University, Tallahassee, Florida, 2005 (Dissertation title: Topographic effects on wind driven oceanic circulation. Advisor: William K. Dewar)

**M. Sc.** Condensed Matter Physics, University of Cergy-Pontoise, France, 1997

**M. Sc.** Physics, University of Tours, France, 1996

**B. Sc.** Physics and Mathematics, University of Orleans, France, 1994

## Skills & Community Service

*Computer:* Unix, shell script, Windows, Matlab, Fortran, Python, Perl, C, ocean QG modeling.

*Data analysis and quality control:* Spectral analysis, EOFs, statistics.

*Management:* budget and project management, team leadership; cruise planning and logistics.

*Languages:* English, French, Spanish (beginner).

*Science Community Service:* reviewer for Journal of Physical Oceanography, Journal of Climate, Deep-Sea Research, Journal of Geophysical Research, Dynamics of Atmosphere and Oceans, Bulletin of the American Meteorological Society, proposal reviewer for NSF, panel expert for DOE offshore wind energy. WHOI: active member of sustainability committee and diversity committee, participated in BIG outreach program, member of AVAST technical expert pool.

*Non-Science Community Service:* chair of Social Justice committee at Unitarian Church of Barnstable, volunteer for Horizons for Homeless Children, NOAH shelter and HAC.

## Professional Background

**2022–present: Research Specialist**, Department of Physical Oceanography, Woods Hole Oceanographic Institution. Managed projects and cruises, wrote scientific article, reports and proposals, analyzed data.

**2009–2022: Research Associate (level II 2009-2017, level III 2017-2022)**, Department of Physical Oceanography, Woods Hole Oceanographic Institution. Processed and analyzed in-situ and satellite data, mostly for air-sea interaction research. Communicated scientific results through publications and presentations at conferences (AGU, AMS, OSM, EGU, TOS) and workshops (CLIVAR). Managed projects.

Scientific contributions: co-author on 15 scientific articles (4 as first author) and 25 technical reports (22 as first author). Presented scientific research at more than a dozen conferences and workshops (talks and posters). Reviewed a dozen scientific articles and NSF proposals.

Chief scientist: on 17 cruises, including 1 GOSHIP cruise and 4 global Ocean Observatories Initiative (OOI) cruises. Led cruise planning (including developing Covid19 procedures) and logistics; oversaw teams of up to 30 personnel and projects with equipment worth several million dollars; prepared, validated and optimized instruments; conducted and documented the collection, quality control and analysis of data.

Co-PI: Ocean Reference Stations (ORS) long term time-series from ocean moorings (NOAA, \$2.6M). WHOI contribution to pre-SWOT launch (JPL-NASA, \$109K) managed award, designed measurement strategy, and analyzed and calibrated dataset. Submitted research proposals (NSF, ONR, NOAA).

Supervisor: for one full-time WHOI employee since 2018. In 2019, co-advised Yuqing Liu (MSc at University of Bremen, Germany) during her internship at WHOI, as well as Francesca Search and Sasha Alquinta (MSc at University of Valparaíso, Chile), during their summer internship on the Stratus cruise. Mentored Sarah Nickford (Ph.D, URI) during the OOI Irminger 7 cruise in 2020, and David Carrasco and Maria Gatica (MSc, Universidad de Concepción) during the Stratus cruises in 2020 and 2023 respectively.

Other: familiar with mooring and deck work, CTD, radiosondes, oceanographic and meteorological instrumentation, data quality control and analysis, modeling.

**2006–2009: Postdoctoral Investigator** (Department of Physical Oceanography, Woods Hole Oceanographic Institution. Advisor: Robert Weller): Collected, quality controlled and analyzed data for CLIMODE program, and produced an unprecedented full-year climate quality record of air-sea meteorology in the Gulf Stream. Participated in collaborative effort to update COARE air-sea flux bulk algorithm to version 3.5.

**2001: Visiting Scientist** (Laboratoire des Écoulements Géophysiques et Industriels, University Joseph-Fourier, Grenoble, France): Developed an analytical model for eddy-topography interaction and compared to numerical simulations.

**1998–2005: Research Assistant** (Department of Physical Oceanography, Florida State University): Assisted advisor's research through bibliographic reviews and data analysis.

**1997: Intern** (Laboratoire d'Électrodynamique des Matériaux Avancés, University of Tours, France): Described and documented laboratory experiments to validate vortex dynamics in high temperature superconductors. **Tutor** (University of Cergy-Pontoise, France): Tutored undergraduate students in mathematics and physics.

## Fieldwork At-Sea (730 days)

2024: **GOSHIP I08** (RV *Thompson*, South Indian) and **WHOTS-20** (RV *Sette*, subtropical Pacific), chief scientist.

2023: **STRATUS-21** and **STRATUS-22** (subtropical Pacific), chief scientist. **WHOTS-19**, data specialist.

2022: **STRATUS-20** and **NTAS-21** (subtropical Atlantic), chief scientist. **GOSHIP P02 leg 2** (RV *Revelle*, subtropical Pacific), co-chief scientist.

2021: **NTAS-20**, chief scientist. **STRATUS-19** cruise planning (scientific mission, logistics, safety protocols) on three attempts due to cruise cancellations, in-port work (logistics, lab setup on ship).

2020: **NTAS-18/ATOMIC** (RV *Ron Brown*), and **OOI Irminger 7 – OSNAP DWBC** (RV *Armstrong*, north Atlantic), chief scientist.

2019: **STRATUS-18** (RV *Cabo de Hornos*), chief scientist.

2018: **OOI Argentine Basin year 4** (RV *Atlantis*, south Atlantic), **NTAS-17** (RV *Pisces*), and **STRATUS-17** (RV *Cabo de Hornos*), chief scientist.

2017: **NTAS-16** (RV *Endeavor*): chief scientist. **STRATUS-16** (RV *Ron Brown*).

2016: **OOI Argentine Basin** (RVIB *Palmer*, South Atlantic), chief scientist. **STRATUS-15** (RV *Cabo de Hornos*): performed data quality control and analysis, instrument setup, mooring work, wrote cruise report. **NTAS-15** (RV *Endeavor*): chief scientist.

2015: **OOI Southern Ocean** (RVIB *Palmer*, south Pacific): chief scientist. **OOI Irminger Sea** (RV *Atlantis*): performed data analysis and received training on OOI procedures. **STRATUS-14** (RV *Cabo de Hornos*): performed data quality control and analysis, instrument setup, mooring work, wrote cruise report.

2014: **NTAS-14** (RV *Endeavor*): chief scientist. **STRATUS-13** (RV *Ron Brown*): performed data quality control and analysis, instrument setup, mooring work, wrote cruise report.

2013: **ASIRI** (RV *Revelle*, Bay of Bengal): watch leader for underway CTD, produced data quality control and air-sea fluxes. **NTAS-13** (RV *Ron Brown*): performed data integration, quality control and analysis. **Deepwater Expedition** (*PlanetSolar*, Gulf Stream, Northeast Atlantic): scientific consultant, CTD work.

2012: **NTAS-12** (RV *Pisces*) and **STRATUS-12** (RV *Melville*): performed data collection and analysis, CTD and UCTD casts, launched floats and drifters, prepared instruments.

2011: **STRATUS-11** (RV *Moana Wave*): chief scientist, UCTD and atmospheric radiosondes watches.

2010: **STRATUS-10** (RV *Ron Brown*): operated CTD and UCTD, mooring work, floats and drifters, vertical microstructure profiler measurements, led eddy sampling experiment.

2007: **CLIMODE-2** Access to the sea, onboard RV *Oceanus*: mooring and dragging operations.

2006: **STRATUS-7** (RV *Ron Brown*) and **CLIMODE** (RV *Oceanus*, Gulf Stream, Northeast Atlantic): assisted mooring work, CTD, floats, drifters, and atmospheric radiosondes, analyzed data, wrote cruise reports.

## Refereed Publications

Weller, R.A., R. Lukas, J. Potemra, A.J. Plueddemann, C. Fairall, and **S. Bigorre**, 2022. Ocean Reference Stations: Long-term, open ocean observations of surface meteorology and air-sea fluxes are essential benchmarks. *Bulletin of the American Meteorological Society*, 103, E1968–E1990 <https://doi.org/10.1175/BAMS-D-21-0084.1>

Wang, J., Fu, L. L., Haines, B., Lankhorst, M., Lucas, A. J., Farrar, J. T., Send U., Meinig C., Schofield O., Ray R., Archer M., Aragon D., **Bigorre S.**, Chao Y., Kerfoot J., Pinkel R., Sandwell D., Stalin S., 2021. On the development of SWOT in-situ Calibration/Validation for short-wavelength ocean topography. *Journal of Atmospheric and Oceanic Technology*, 39, 5; <https://doi.org/10.1175/JTECH-D-21-0039.1>

**Bigorre S.**, Plueddemann A.J., 2021. The Annual Cycle of Air-Sea fluxes in the Northwest Tropical Atlantic. *Frontiers in Marine Science*, vol. 7, doi: 10.3389/fmars.2020.612842.

Stevens B. and coauthors, 2021. EUREC4A. *Earth System Science Data*, 13(8), 4067–4119, <https://doi.org/10.5194/essd-13-4067-2021>.

Quinn P.K. and co-authors, 2020. Measurements from the RV Ronald H. Brown and related platforms as part of the Atlantic Tradewind Ocean-Atmosphere Mesoscale Interaction Campaign (ATOMIC). *Earth System Science Data*, 13 (4), 1759-1790, doi: 10.5194/essd-13-1759-2021.

Schlundt M., J.T. Farrar, **S.P. Bigorre**, A.J. Plueddemann, R.A. Weller, 2020. Accuracy of wind observations from open-ocean buoys: Correction for flow distortion. *Journal of Atmospheric and Oceanic Technology*, 37, 687-703.

**Bigorre S.**, Galbraith N., 2018. Sensor performance and data quality control (pp. 243-261). In Venkatesan R., Tandon A., D’Asaro E., Atmanand M. A., (eds.) *Observing the Oceans in Real Time*. Springer Oceanography. Springer, Cham. doi: 10.1007/978-3-319-66493-4\_12.

Bony S., B. Stevens, F. Ament, **S. Bigorre**, P. Chazette, S. Crewell, J. Delanoë, K. Emanuel, D. Farrell, C. Flamant, S. Gross, L. Hirsch, J. Karstensen, B. Mayer, L. Nuijens, J. H. Ruppert Jr., I. Sandu, P. Siebesma, S. Speich, F. Szczap, J. Totems, R. Vogel, M. Wendisch, M. Wirth, 2017. EUREC4A: A Field Campaign to Elucidate the Couplings Between Clouds, Convection and Circulation. *Survey in Geophysics*, 38, 1529-1568, doi: <https://doi.org/10.1007/s10712-017-9428-0>.

Kasparian J., C. Hassler, B. Ibelings, N. Berti, **S. Bigorre**, V. Djambazova, E. Gascon-Diez, G. Guilian, R. Houlman, D. Kiselev, P. Philipp de Laborie, A-D. Le, T. Magouroux, T. Neri, D. Palomino, S. Pfänder, N. Ray, G. Sousa, D. Staedler, F. Tettamanti, J-P. Wolf, M. Beniston, 2017. Assessing the Dynamics of Organic Aerosols over the North Atlantic Ocean. *Sci. Rep.* 7, 45476; doi: 10.1038/srep45476

Stramma L., R.A. Weller, R. Czeschel, **S. Bigorre**, 2014. Eddies and an extreme water mass anomaly observed in the eastern south Pacific at the Stratus mooring. *J. Geophys. Res. Oceans*, 119, 1068–1083, doi:10.1002/2013JC009470.

Edson, J., V. Jampana, R.A. Weller, **S. Bigorre**, A. Plueddemann, C. Fairall, S. Miller, L. Mahrt, D. Vickers, and H. Hersbach, 2013. On the exchange of momentum over the open ocean. *J. Phys. Oceanogr.*, 43, 1589–1610, doi:10.1175/JPO-D-12-0173.1.

Davis, X., R.A. Weller, **S. Bigorre**, and A. Plueddemann, 2013. Local oceanic response to atmospheric forcing in the Gulf Stream region. *Deep-Sea Research II*, 91, 71-83, doi: 10.1016/j.dsr2.2013.02.028.

**Bigorre S.**, R.A. Weller, J. Edson, J. Ware, 2013. A surface mooring for air-sea interaction research in the Gulf Stream. Part 2: Analysis of the observations and their accuracies. *J. Atmos. Ocean. Tech.*, v. 30 (3), pp. 450-469. doi: <http://dx.doi.org/10.1175/JTECH-D-12-00078.1>

Weller R., **S. Bigorre**, J. Lord, J. Ware, J. Edson, 2012. A surface mooring for air-sea interaction research in the Gulf Stream. Part 1: Mooring design and instrumentation. *J. Atmos. Ocean. Tech.*, v. 29, pp. 1363-1376.

**Bigorre S.**, W. K. Dewar, 2009. Oceanic variability near a large scale topographic circulation. *Ocean Modelling*, v. 29, p176-188.

### Technical Reports and Non-Refereed Publications

**Bigorre S. P.**, R. Graham, M. Lankhorst, 2022. "The Northwest Tropical Atlantic Station (NTAS): NTAS-21 Mooring Turnaround Cruise Report Cruise On Board RV Ronald H. Brown October 6-25, 2022 Bridgetown, Barbados – Bridgetown, Barbados". *Tech. Report WHOI-2022-12*.

**Bigorre S. P.**, R. Graham, 2021. "The Northwest Tropical Atlantic Station (NTAS): NTAS-20 Mooring Turnaround Cruise Report Cruise On Board RV Pisces November 4-28, 2021 Newport, RI - Pascagoula, MS". *Tech. Report WHOI-2021-11*.

**Bigorre S. P.**, Weller R.A., Blomquist B., Pietro B., Hasbrouck E. G. H., Pezoa S., 2021. " Stratus 16 Sixteenth Setting of the Stratus Ocean Reference Station, Cruise On Board RV Ronald H. Brown, May 5 – 20, 2017 Rodman, Panama – Arica, Chile", *Technical Report WHOI-2021-04*.

**Bigorre S. P.**, Pietro B., Gubler A., Search F., Hasbrouck E. G. H., Pezoa S., Weller R.A., 2021. " Stratus 17 . Seventeenth Setting of the Stratus Ocean Reference Station. Cruise On Board RV Cabo de Hornos, April 3 – 16, 2018, Valparaiso – Valparaiso, Chile", *Technical Report WHOI-2021-03*.

**Bigorre S.**, Kemp J., Batryn J. , Dobson C., Kuo J., Bogorff D., Llanos N., Furey H., Graham R., Nickford S., 2020. "Irminger Sea 7 Cruise Report. RV Neil Armstrong, AR46 8 August – 4 September 2020, Woods Hole, MA – Woods Hole, MA". *OOI Cruise Report*.

**Bigorre S.P.**, Pietro B., Hasbrouck E. G. H., 2020. "The Northwest Tropical Atlantic Station (NTAS): NTAS-18 Mooring Turnaround Cruise Report Cruise On Board RV Ronald H. Brown January 6 –26, 2020 Bridgetown, Barbados – Bridgetown, Barbados". *Tech. Report WHOI-2020-05*.

**Bigorre S.P.**, Hasbrouck, E. G. H., Pietro B., Search F., Alquinta S., Pezoa S., Llanos N., 2020. "Eighteenth Setting of the Stratus Ocean Reference Station Cruise On Board RV Cabo de Hornos April 8 - 27, 2019 Valparaiso, Chile - Valparaiso, Chile". *Tech. Report WHOI-2020-03*. DOI:10.1575/1912/25488, <https://hdl.handle.net/1912/25488>

**Bigorre S.P.**, Pietro B., Smith J., Lankhorst M., 2018. "The Northwest Tropical Atlantic Station (NTAS): NTAS-17 mooring turnaround cruise report cruise on board FV Pisces May 30 - June 21, 2018 Mayport, FL, USA - Morehead City, NC, USA". *Tech. Report WHOI-2018-02*.

Fairall C.W., P. Zuidema, K. Emanuel, M. Zhao, R. C. Perez, **S. Bigorre**, C. Zhang, J. Thomson, R. Pincus, J. Olson, G. Feingold, C.-A. Clayson, S. DeSzoeke, 2018. "Atlantic Tradewind Ocean-Atmosphere Mesoscale Interaction Campaign (ATOMIC)". White paper submitted to international CLIVAR.

**Bigorre S.,** Pietro B. , Hasbrouck E. G. H., 2017. “NTAS 16 sixteenth setting of the NTAS Ocean Reference Station cruise on board RV Endeavor January 21 - February 8, 2017 Narragansett, Rhode Island - San Juan, Puerto Rico”. *Tech. Report WHOI-2017-07*.

**Bigorre S.,** V. Tamsitt, M. Horn, J. Kemp, L. Houghton, M. Ochs, R. Sanger, 2016. “Southern Ocean 2 Cruise Report. RV Nathaniel B. Palmer - NBP1511. December 6, 2015 – Jan 2, 2015. Punta Arenas, Chile – Punta Arenas, Chile”. *OOI Cruise Report*.

**Bigorre S.,** J. Ryder, J. Smith, M. Lankhorst, 2016. “The Northwest Tropical Atlantic Station (NTAS): NTAS-15 Mooring Turnaround Cruise Report. Cruise On Board RV Endeavor, January 25 – February 13, 2016, Narragansett RI, USA – San Juan, Puerto Rico”. *Tech. Report WHOI-2016-04*.

**Bigorre S.,** R.A. Weller, J. Lord, E. Hasbrouck, B. Pietro, D. Torres Gazale, I. Burgos Jiménez, 2016. “Stratus 15. Fifteenth Setting of the Stratus Ocean Reference Station. Cruise On Board RV Cabo de Hornos, June 15 – 29, 2016. Valparaiso, Chile – Valparaiso, Chile”. *Tech. Report WHOI-2016-03*.

Farrar J. T., B. A. Hodges, **S. P. Bigorre,** N. R. Galbraith, J. B. Girton, Y. Chao, 2015. “UCTD and EM/APEX measurements in support of the April 2015 AirSWOT Campaign : cruise and data report”. *Tech. Report WHOI-2015-04*.

**Bigorre S.,** B. Pietro, J. Smith, E. Morris, A. Plueddemann, 2015. “NTAS-14 Mooring Turnaround Cruise Report. Cruise On Board RV Endeavor. December 5 – 21, 2014. Kingstown RI, USA – Bridgetown, Barbados”. *Tech. Report WHOI-2015-05*.

**Bigorre S.,** R.A. Weller, J. Lord, N. Galbraith, E. Hasbrouck, S. Pezoa, B. Blomquist, 2015. “Stratus 14. Fourteenth Setting of the Stratus Ocean Reference Station. Cruise On Board RV Cabo de Hornos, April 14 – 30, 2015. Valparaiso, Chile – Valparaiso, Chile”. *Tech. Report WHOI-2015-03*.

**Bigorre S.,** R.A. Weller, J. Lord, N. Galbraith, S. Whelan, J. Coleman, M. Pas Contrera, C. Aguilera, 2014. “Stratus 13: Thirteenth Setting of the Stratus Ocean Reference Station. Cruise On Board RV Ron Brown, February 25 – March 15, 2014, Valparaiso, Chile – Arica, Chile”. *Tech. Report WHOI-2014-06*.

**Bigorre S.,** R.A. Weller, J. Lord, N. Galbraith, S. Whelan, J. Holte, U. Cifuentes, E. Sanchez, P. A. Labbé-Ibáñez, M. Mindiola Raboya, S. Oltman, E. Denton, J. Shambaugh, 2012. “Stratus 12: Twelfth Setting of the Stratus Ocean Reference Station. Cruise On Board RV Melville, May 22 – June 4, 2012, Valparaiso, Chile – Galapagos Islands, Ecuador”. *Tech. Report WHOI-2012-08*.

**Bigorre S.,** J. Lord, N. Galbraith, S. Whelan, W. Otto, J. Holte, L. Bariteau, R.A. Weller, 2011. “Stratus 11. Eleventh Setting of the Stratus Ocean Reference Station. Cruise On Board RV Moana Wave March31 – April16, 2011. Arica – Arica, Chile”. *Tech. Report WHOI-2011-06*.

**Bigorre S.,** R.A. Weller, J. Lord, N. Galbraith, S. Whelan, C. Zappa, W. Otto, J. Ram, R. Vasquez, D. Suhm, 2010. “Stratus 10. Tenth Setting of the Stratus Ocean Reference Station. Cruise RB-10-01 January2 – January30, 2010. Charleston, South Carolina – Valparaiso, Chile”. *Tech. Report WHOI-2010-05*.

Tupper G., **S. Bigorre,** R.A. Weller, 2008. “Making progress and wanting more: one-year near-surface current measurements from a surface mooring in the Gulf Stream and other thoughts”. *Proceedings of IEEE/OES/CMTC Ninth Working Conf. on Current Measurement Technology*, Charleston, South Carolina, IEEE, pp. 111– 118, doi:10.1109/CCM.2008.4480852



**Bigorre S.**, R.A. Weller, J. Lord, J. Lund, J. B. Palter, G. H. Tupper, 2007. "CLIVAR Mode Water Dynamics Experiment (CLIMODE). Fall 2006 RV Oceanus Voyage 434, November 16, 2006-December 3, 2006". *Tech. Report WHOI-2007-07*.

**Bigorre S.**, R.A. Weller, J. Lord, S. P. Whelan, N. R. Galbraith, D. Wolfe, L. Bariteau, V. P. Ghate, U. Zajackovski, A. Vera, S. Maenner, B. Hoyt, 2007. "Stratus Ocean Reference Station (20°S, 85°W): mooring recovery and deployment cruise, RV Ronald H. Brown Cruise 06-07, October 9–October 27, 2006". *Tech. Report WHOI-2007-01*.

**Bigorre S.**, 2005. Topographic effects on wind driven oceanic circulation, Ph.D. thesis, Florida State University, p. 100.

## Conference & Workshop Presentations

### *as presenting author:*

**Bigorre S.**, Plueddemann A. "Near Surface Meteorology in the Northwest Tropical Atlantic from Long Term Time Series: Diurnal Cycle and Synoptic Events", [Talk] In: AMS Annual Meeting, January 2023.

**Bigorre S.**, Plueddemann A. "Diurnal Variations of Cloudiness and Surface Fluxes in the Northwestern Tropical Atlantic", [Poster] In: AGU Annual Meeting, New Orleans, Louisiana, December 2021.

**Bigorre S.**, Plueddemann A. "Diurnal cycle of near surface conditions at NTAS", online presentation to ATOMIC group, July 15 2021.

**Bigorre S.**, Plueddemann A. "Climatology of Air-Sea Fluxes at the Northwest Tropical Atlantic Station (NTAS)", Eurec4a colloquium, February 19 2021.

**Bigorre S.**, Plueddemann A., Weller R.A. "Observed and Modeled Air-Sea Flux in the Northwest Tropical Atlantic", [poster]. CLIVAR workshop on Atmospheric Convection and Air-sea Interactions over the Tropical Ocean, Boulder, CO, May 2019.

**Bigorre S.**, Plueddemann A., Weller R.A., December 2018. "Northwest Tropical Atlantic station (NTAS)", [Talk]. ATOMIC planning meeting, Washington D.C.

**Bigorre S.**, May 2018. "Field Validations", [Talk]. OOI workshop Lessons Learned, Corvallis, OR.

**Bigorre S.**, Weller R.A., 2015. "In-Situ Observations of Air-Sea Interaction in the South East Pacific". AMS Annual Meeting, Phoenix, Arizona, January 2015.

**Bigorre S.**, Weller R.A., 2014. "Air-sea interaction observations from a surface mooring in the Gulf Stream", [Talk] In: CASPER workshop, Naval Postgraduate School, Monterey, California, August 2014.

**Bigorre S.**, Weller R.A. "In-Situ Surface Meteorology and Air-Sea Fluxes in and near the Gulf Stream at 38°N 65°W", [Poster] In: Eos. Trans. AGU, Ocean Sciences Meeting Supplement, Salt Lake City, UT, 2012.

**Bigorre S.**, Weller R.A., 2012. "In-situ Air- Sea Fluxes: Accuracy and Representativeness", [Poster] In: CLIMODE workshop, WHOI, July 2012.

**Bigorre S.**, Weller R.A., 2011. "Observations of winter surface conditions near the Gulf Stream", [Talk] In: CLIMODE workshop, WHOI, July 2011.

**Bigorre S.**, Weller R.A., 2010. "Atmospheric forcing near the Gulf Stream: observations and comparisons with NWP", [Talk] In: CLIMODE workshop, WHOI, August 2010.

**Bigorre S.**, Weller R.A. "Air-Sea interaction observations in, across and near the Gulf Stream", [Talk] In: Physical Oceanography seminar series, Woods Hole Oceanographic Institution, MA, June 2009.

**Bigorre S.**, Weller R.A., 2009. "Long -Term Air-Sea In-Situ Observations in the Gulf Stream", [Talk] In: AMS Annual Meeting, Phoenix, Arizona, January 2009.

**Bigorre S.**, Weller R.A., 2008. "Long-Term Air-Sea In-Situ Observations in the Gulf Stream", [Poster] In: EGU Annual Meeting, Vienna, Austria, April 2008.

**Bigorre S.**, Weller R.A., 2006. "Air-Sea Interactions in CLIMODE: In-Situ Observations", [Talk] In: AGU Annual Meeting, San Francisco, California, December 2006.

**Bigorre S.**, Dewar W. K., 2002. "Topographic Effects on Wind Driven Oceanic Circulation", [Talk] In: EGU Annual Meeting, Nice, France, April 2002.

*as non-presenting author:*

Speich, S., Karstensen, J., Fairall, C., Zuidema, P., Gentemann, C., Zhang, D., Bellenger, H., Reverdin, G., Thompson, E., **Bigorre, S.**, Mohr, W., and Kinne, S. and the EUREC4A team: A first glimpse from the EUREC4A-OA/ATOMIC air-sea experiment, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-21028, <https://doi.org/10.5194/egusphere-egu2020-21028>, 2020.

Weller, R., Farrar, J. T., **Bigorre, S.**, Smith, J., Potemra, J., and Santiago-Mandujano, F.: Best practices for surface radiation observations from long-term moored buoys, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-2025, <https://doi.org/10.5194/egusphere-egu2020-2025>, 2020

Plueddemann A., **Bigorre S.**, Weller R.A. "Observed and Modeled Air-Sea Flux in the Northwest Tropical Atlantic", [poster]. AGU Fall meeting, December 2018, Washington DC.

Weller R.A., Plueddemann A., **Bigorre S.**, Fairall C., Stramma L., Czeschel R., Pinker R. "Driving Improved Understanding in the Eastern South Pacific with a Long-Term Ocean Reference Station". 50<sup>th</sup> International Liege Colloquium on Ocean Dynamics. Liège, Belgium, May 2018.

Plueddemann A., **Bigorre S.**, Weller R.A. "Air-Sea fluxes from an ocean reference station in the northwest tropical Atlantic". 50<sup>th</sup> International Liege Colloquium on Ocean Dynamics. Liège, Belgium, May 2018.

Schlundt M., Farrar J. T., Edson J. B., **Bigorre S.**, Vandemark D., Emond M. "Detailed investigation of the role of buoy wind errors in buoy- scatterometer disagreement". NASA Ocean Vector Winds and Satellite Studies. Barcelone, Spain, April 2018.

Ogle S., Tamsitt V., Talley L., Gille S., **Bigorre S.** "Air-sea interactions in the Southeast Pacific: Mooring, ship, and float observations", [Poster] In: AGU Annual Meeting, San Francisco, California, December 2016.

Czeschel R., Weller R. A., Stramma L. and **Bigorre S.** "Eastern Pacific oxygen time series from the Stratus mooring and from floats", [Poster] In: 46. International Liege Colloquium, 06.05.2014, Lüttich, Belgium, 2014.



Stramma L., Weller R.A., Czeschel R., **Bigorre S.**, Schmidtko S. and Oschlies A. “Observed large- and mesoscale oxygen changes in the ocean”, [Talk] In: Goldschmidt Conference 2013, 25.-30.08.2013, Florence, Italy, 2013.

Davis X.J., Weller R. A., **Bigorre S.**, Plueddemann A.J. “Local oceanic response to atmospheric forcing in the Gulf Stream region”, [Poster] In: CLIMODE PI Meeting, Woods Hole Oceanographic Institution, Woods Hole, MA, July 2012.

Davis X.J., Weller R.A., **Bigorre S.**, Plueddemann A.J. “Local oceanic thermal response to atmospheric forcing: the Gulf Stream region”, [Talk] In: Eos. Trans. AGU, Ocean Sciences Meeting Supplement, Salt Lake City , UT, 2012.

Davis X.J., Weller R.A., **Bigorre S.**, Plueddemann A.J., Straneo F., Kwon Y-O., Kelly K.A., Toole J.M. “Eighteen Degree Water formation from moored data”, [Talk] In: CLIMODE PI Meeting, Woods Hole Oceanographic Institution, Woods Hole, MA, 2011.

Farrar J.T., Zappa C.J., Weller R.A., **Bigorre S.**, Moffat C.F., and Straneo F., 2010. “Upper-ocean turbulence beneath the stratus cloud deck of the Southeast Pacific”, [Talk, invited] In: Meeting of the Americas, Foz do Iguassu, Brazil, 2010.

### Synergistic Activities:

Regularly reviews articles for scientific journals and proposals for NSF.

Contributed to the GOSHIP P02 leg 2 cruise blog (<https://www.go-bgc.org/expedition/north-pacific-2022/musical-volcanoes>).

As watch leader of chief scientists, regularly trains and mentors students and young professionals during field cruises on oceanographic instrumentation, air-sea interactions and ocean dynamics.

Contributed to the experimental design of the European and US field programs Eurec4a and ATOMIC.

Actively participates to committees at Woods Hole Oceanographic Institution (Sustainability Task Force, Committee on Diversity, Equity and Inclusion).

Introduced oceanographic research to young students in local classrooms on Cape Cod and in Chile, organized by the student-run volunteer organization Broader Impacts Group and the US embassy in Chile.

Authored an article about best practices in air-sea interaction data collection, part of the monograph “Observing the Oceans in Real-Time”, Springer. The monograph was part of an effort to increase expertise among young professionals in oceanography in India.

Collaborated with scientists from Europe (Switzerland, France) during the PlanetSolar Deepwater expedition to collect scientific data and educate the larger public to climate and ocean dynamics.