

Hosmay Lopez

Citizenship Status: U.S. Citizen

Oceanographer
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Google Scholar profile:
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<http://www.researcherid.com/rid/M-3278-2015>

EDUCATION

Ph. D. Meteorology and Physical Oceanography, 2013
University of Miami, Miami, FL, USA
Committee: Ph.D., Ben P. Kirtman (chair)
Ph.D., Chidong Zhang
Ph.D., Mohamed Iskandarani
Ph.D., Robert Burgman

B.S. Double Major in Meteorology and Applied Mathematics, 2009
Florida State University, Tallahassee, FL, USA
GPA: 3.83 / 4.0 Magna Cum Laude

PROFESSIONAL EXPERIENCE

Oceanographer: NOAA/Atlantic oceanographic and Meteorological Laboratory,
November 2019-present.

Assistant Scientist: CIMAS/University of Miami, January 2017-November 2019.

Post-doctoral Associate: CIMAS/University of Miami, May 2014-December 2016.

Post-doctoral Associate: RSMAS/University of Miami, January 2014 – May 2014.

Graduate Research Associate: RSMAS/University of Miami, August 2009 – December 2013.

TEACHING EXPERIENCE

University of Miami, Miami, FL

2011, Graduate Teaching Assistant

MSC243 Introduction to Weather Forecasting (undergraduate)

University of Miami, Miami, FL

2013, CCS HPC Workshop at RSMAS

CESM tutorial section (speaker)

PEER REVIEWED PUBLICATIONS

Lee, S. K., Lopez, H., Kim, D., Wittenberg, A. T., & Kumar, A. (2021). A Seasonal Probabilistic Outlook for Tornadoes (SPOTter) in the Contiguous United States Based on the Leading Patterns of Large-Scale Atmospheric Anomalies. *Monthly Weather Review*, 149(4), 901-919.

<https://journals.ametsoc.org/view/journals/mwre/149/4/MWR-D-20-0223.1.xml>

Gronholz, A., Dong, S., Lopez, H., Lee, S. K., Goni, G., & Baringer, M. (2020).

Interannual variability of the South Atlantic Ocean heat content in a high-resolution versus a low-resolution general circulation model. *Geophysical Research Letters*, 47(23), e2020GL089908.

<https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2020GL089908>

Kim, D., Lee, S. K., Lopez, H., Foltz, G. R., Misra, V., & Kumar, A. (2020). On the role of Pacific-Atlantic SST contrast and associated Caribbean Sea convection in August–October US regional rainfall variability. *Geophysical Research Letters*, 47(11), e2020GL087736.

<https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2020GL087736>

Dong, S., Lopez, H., Lee, S. K., Meinen, C. S., Goni, G., & Baringer, M. (2020). What Caused the Large-Scale Heat Deficit in the Subtropical South Atlantic Ocean During 2009–2012? *Geophysical Research Letters*, 47(11), e2020GL088206.

<https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2020GL088206>

Kim, D., Lee, S. K., & Lopez, H. (2020). Madden–Julian Oscillation–Induced Suppression of Northeast Pacific Convection Increases US Tornadogenesis. *Journal of Climate*, 33(11), 4927-4939.

https://journals.ametsoc.org/view/journals/clim/33/11/jcli-d-19-0992.1.xml?tab_body=pdf

Kim, D., Lee, S. K., Lopez, H., & Goes, M. (2020). Pacific Mean-State Control of Atlantic Multidecadal Oscillation–El Niño Relationship. *Journal of Climate*, 33(10), 4273-4291. https://journals.ametsoc.org/view/journals/clim/33/10/jcli-d-19-0398.1.xml?tab_body=pdf

Lee, S. K., Kim, D., Foltz, G. R., & Lopez, H. (2020). Pantropical response to global warming and the emergence of a La Niña-like mean state trend. *Geophysical*

- Research Letters*, 47(3), e2019GL086497.
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019GL086497>
- Lopez, H., Lee, S. K., Dong, S., Goni, G., Kirtman, B., Atlas, R., & Kumar, A. (2019). East Asian Monsoon as a modulator of US Great Plains heat waves. *Journal of Geophysical Research: Atmospheres*, 124(12), 6342-6358.
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018JD030151>
- Lee, S. K., R. Lumpkin, M. O. Baringer, C. S. Meinen, M. Goes, S. Dong, H. Lopez, and S. G. Yeager. (2019): Global Meridional Overturning Circulation Inferred from a Data-Constrained Ocean & Sea-Ice Model. *Geophysical Research Letters*, 46(3), 1521-1530. <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018GL080940>
- Majumder, S., Goes, M., Polito, P. S., Lumpkin, R., Schmid, C., & Lopez, H. (2018): Propagating modes of variability and their impact on the western boundary current in the South Atlantic. *Journal of Geophysical Research: Oceans*.
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018JC014812>
- Goni, G. J., Sprintall, J., Bringas, F., Cheng, L., Cirano, M., Dong, S., ... & Rivero, U. (2019). More than 50 years of successful continuous temperature section measurements by the Global Expendable Bathythermograph Network, its integrability, societal benefits, and future. *Frontiers in Marine Science*, 6, 452.
<https://www.frontiersin.org/articles/10.3389/fmars.2019.00452/full>
- Lopez, H., B. P. Kirtman (2018): ENSO influence over the Pacific North American sector: Uncertainty due to atmospheric internal variability, *Climate Dynamics*, 1-24.
<https://link.springer.com/article/10.1007/s00382-018-4500-0>
- Lopez, H., R. West, S. Dong, G. Goni, S.-K. Lee, B. P. Kirtman, and R. Atlas (2018): Early emergence of anthropogenically-forced heat waves in the western US and Great Lakes. *Nature Climate Change*, doi: 10.1038/s41558-018-0116-y.
<https://www.nature.com/articles/s41558-018-0116-y>
- Lee, S.-K., H. Lopez, E.-S. Chung, P. DiNezio, S.-W. Yeh, and A. T. Wittenberg (2018). On the fragile relationship between El Niño and California rainfall. *Geophysical Research Letters*, 45. <https://doi.org/10.1002/2017GL076197>.
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2017GL076197>
- Lee, S.-K., D. L. Volkov, H. Lopez, W. G. Cheon, A. L. Gordon, Y. Liu and R. Wanninkhof (2017): Wind-driven ocean influences on the contrasting sea-ice trends around West Antarctica. *Journal of Geophysical Research: Oceans*, doi: 10.1002/2016JC012416.
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016JC012416>
- Lopez H., G. Goni, and S. Dong (2017): A reconstructed South Atlantic Meridional Overturning Circulation time series since 1870. *Geophysical Research Letter*, doi: 10.1002/2017GL073227.
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2017GL073227>
- Lopez, H., S. Dong, S.-K. Lee, and E. Campos (2016): Remote influence of Interdecadal Pacific Oscillation on the South Atlantic meridional overturning circulation variability, *Geophysical Research Letter.*, 43, 8250–8258, doi:10.1002/2016GL069067.
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016GL069067>
- Lopez, H., and B. P. Kirtman (2016): Investigating the seasonal predictability of significant wave height in the West Pacific and Indian Oceans, *Geophysical Research*

Letter., **43**, 3451–3458, doi:10.1002/2016GL068653.

<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016GL068653>

Lopez H., S. Dong, S-K Lee, and G. Goni (2016): Decadal modulations of Interhemispheric Global Atmospheric Circulations and Monsoons by the South Atlantic Meridional Overturning Circulation. *J. Climate*, **29**, 1831–1851, doi: 10.1175/JCLI-D-15-0491.1. <https://journals.ametsoc.org/view/journals/clim/29/5/jcli-d-15-0491.1.xml>

Lopez H., and B. P. Kirtman (2014): WWBs, ENSO predictability, the spring barrier, and extreme events, *Journal of Geophysical Research: Atmospheres* **119** (17), 10,114–10,138. <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2014JD021908>

Lopez H., and B. P. Kirtman (2014): Tropical Pacific internal atmospheric dynamics and resolution in a coupled GCM. *Climate Dynamics*, 1–19. doi:10.1007/s00382-014-2220-7. <https://link.springer.com/article/10.1007%2Fs00382-014-2220-7>

Lopez H., and B. P. Kirtman (2013): Westerly wind bursts and the diversity of ENSO in CCSM3 and CCSM4, *Geophysical Research Letter.*, **40**, 4722–4727. doi:10.1002/grl.50913. <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/grl.50913>

Lopez H., B. P. Kirtman, E. Tziperman, and G. Gebbie (2013): Impact of interactive westerly wind bursts on CCSM3, *Dynamics of Atmospheres and Oceans*, doi:10.1016/j.dynatmoce.2012.11.001. <https://www.sciencedirect.com/science/article/abs/pii/S0377026512000541>

CONFERENCE PRESENTATIONS

Talks:

2020, Increasing frequency of fast growing and slowing decaying el Nino events in the 21st century. NOAA Climate Portfolio Program Office. NOAA/Atlantic Oceanographic and Meteorological Laboratory. Miami, FL, United States.

2019, Current and future efforts by the NOAA/Atlantic Oceanographic and Meteorological Laboratory on developing sub seasonal to seasonal forecasts. NOAA/Geophysical Fluid Dynamics Laboratory, Princeton, NJ, United States.

2018, Heat waves over the United States. Projections and future predictions. NOAA Climate Portfolio Program Office. NOAA/Atlantic Oceanographic and Meteorological Laboratory. Miami, FL, United States.

2018, A reconstructed South Atlantic Meridional Overturning Circulation time series since 1870: Implications for weather and climate. 2018 Ocean Sciences Meeting. New Orleans, LA, United States.

2018, Attributions of North American heat waves and the pivotal role of natural variability versus climate change. University of Miami, Miami, FL, United States.

2017, Regionally dependent summer heat wave response to increased surface temperature in the US. 2017 AGU Fall Meeting. New Orleans, LA, United States.

2017, Attributions of North American heat waves and the pivotal role of natural variability versus climate change. NOAA/AOML, Miami, United States.

2016, The role of the South Atlantic Meridional Overturning Circulation on weather and climate. NOAA/AOML, Miami, United States.

2016, New science approaches in the Physical Oceanography Division. NOAA/AOML, Miami, United States.

2015, The impact of the South Atlantic Meridional Overturning Circulation variability on extreme weather events in the Northern Hemisphere with particular emphasis in the United States. NOAA Central Library Brown Bag Seminar Series. NOAA Headquarters, Silver Springs, MD, United States.

2015, Relationship between decadal variability of European and North American heat waves and South Atlantic Meridional heat transport. IUGG 26th General Assembly. Prague, Czech Republic.

2013, Impact of westerly wind bursts on tropical Pacific variability and predictability. Meteorology and Physical Oceanography student seminar. University of Miami, Miami, FL, United States.

2011, Impact of interactive westerly wind bursts on CCSM3. WCRP Open Science Conference. Denver, CO, United States.

2011, Impact of interactive westerly wind bursts on CCSM3. 91st Annual Meeting of the American Meteorological Society (AMS). Seattle, WA, United States.

2011, Internal atmospheric dynamics and climate. Meteorology and Physical Oceanography student seminar. University of Miami, Miami, FL, United States.

2010, Westerly wind burst modulation by the sea surface temperature. Meteorology and Physical Oceanography student seminar. University of Miami, Miami, FL, United States.

Posters:

2017, A reconstructed South Atlantic Meridional Overturning Circulation time series since 1870. Ocean Surface Topography Science Team Meeting. Miami, FL, United States.

2016, Linking the South Atlantic Meridional Overturning Circulation and the Global Monsoons. 2016 Ocean Sciences Meeting. New Orleans, LA, United States.

2015, Linking the South Atlantic Meridional Overturning Circulation and the Global Monsoons. 2015 AGU Fall Meeting. San Francisco, CA, United States.

2011, Impact of interactive westerly wind bursts on CCSM3. WCRP Open Science Conference. Denver, CO, United States.

AWARDS AND HONORS

Florida State University, Dean's List. Fall 2007
Florida State University, Dean's List. Spring 2008
Florida State University, Dean's List. Fall 2008

Florida State University, Dean's List, Spring 2009
Florida State University, Magna Cum Laude, Degree Honor, 2009
University of Miami, Award of Academic Merit, 2013.

COMPUTING SKILLS

Operating systems: Linux, Mac, & Window

Coding: FORTRAN (advanced), GrADS (advanced), NCL, MATLAB, Shell scripting.

Modeling: Running coupled ocean-atmosphere general circulation models.

PROFFESIONAL ASSOCIATIONS AND ACTIVITIES

2019-present. Member of the NOAA-OAR-CPO-MAPP CMIP6-Trask-Force Team

2016-present. Member of the US-AMOC Science team for US CLIVAR.

2017-present. Reviewer for the Journal of Ocean Modelling.

2017-present. Reviewer for the Journal of Climate.

2016-present. Reviewer for the Journal of Geophysical Research.

2016-present. Reviewer for the Journal of Meteorological Research.

2013-present. Member of the American Geophysical Union.

2013-present. Reviewer for the Journal of Geophysical Research Letter.

2012-present. Reviewer for the Journal of Climate Dynamics.