

# Christina M. Patricola

Department of Geological and Atmospheric Sciences  
Iowa State University  
cmp28@iastate.edu; (515) 294-9874  
<https://ge-at.iastate.edu/directory/christina-patricola/>

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## Education

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### Cornell University

**Ph.D. Atmospheric Science**, minor in Quaternary Geology, 5/2010

Dissertation: *Processes and Prediction of Climate Change in Northern Africa and the Central United States*

Advisors: Kerry H. Cook, Stephen Colucci

**M.S. Atmospheric Science**, 1/2007

Thesis: *Interactions Between North African Vegetation and the African Easterly Jet: A Mechanism for Abrupt Climate Change*

Advisor: Kerry H. Cook

**B.S. Geological Sciences**, cum laude (College of Engineering), 5/2005

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## Professional Experience

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Assistant Professor, Department of Geological and Atmospheric Sciences Iowa State University (ISU), Ames, IA	8/2020 – present
Affiliate, Climate and Ecosystem Sciences Division Lawrence Berkeley National Laboratory (LBNL), Berkeley, CA	8/2020 – present
Program Domain Lead, Climate and Atmospheric Processes Program LBNL, Berkeley, CA	1/2019 – 8/2020
Research Scientist, Climate and Ecosystem Sciences Division LBNL, Berkeley, CA	8/2016 – 8/2020
Associate Research Scientist, Department of Atmospheric Sciences Texas A&M University, College Station, TX	9/2013 – 8/2016
Affiliate, Computational Research Division LBNL, Berkeley, CA	8/2013 – 8/2016
Assistant Research Scientist, Department of Atmospheric Sciences Texas A&M University, College Station, TX	3/2012 – 9/2013
Postdoctoral Research Associate, Department of Atmospheric Sciences Texas A&M University, College Station, TX	8/2010 – 3/2012

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## Research Interests

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Climate dynamics, climate variability and change, extreme weather events, tropical cyclones, atmosphere-ocean interactions, high-resolution climate modeling, land-atmosphere interactions, paleoclimate

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## External Grants Awarded

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**Total: \$1,443,865 as PI; \$11,762,305 as co-PI; \$1,995,000 as co-I**

**Title:** Variability and Change in Tropical Cyclone Characteristics: Coupled Atmosphere-Ocean Drivers and Coastal Impacts  
**Sponsor:** U.S. Department of Energy (DOE) Office of Science Early Career Research Program  
**PI:** **CM Patricola**  
**Period:** 9/1/2020 – 8/31/2025  
**Amount:** **\$752,548 (ISU)**

**Title:** Collaborative Research: The relationship between El Niño-Southern Oscillation (ENSO) Diversity and Tropical Cyclones in a Hierarchy of Models  
**Sponsor:** National Science Foundation (NSF)  
**PIs:** SJ Camargo (Columbia Univ.); C Karamperidou (Univ. Hawaii); **CM Patricola (ISU)**  
**Co-PI:** C-Y Lee (Columbia Univ.)  
**Period:** 2/15/2021 – 2/29/2024  
**Amount:** \$677,945 total (**ISU: \$221,003**)

**Title:** CALibrated and Systematic Characterization, Attribution, and Detection of Extremes (CASCADE) Scientific Focus Area (SFA)  
**Sponsor:** U.S. Department of Energy (DOE)  
**PI:** WD Collins  
**Co-PI:** **CM Patricola**  
**Period:** 10/1/2019 – 9/30/2022  
**Amount:** **\$8.25M (LBNL)**

**Title:** Assessing the Influence of Background State and Climate Variability on Tropical Cyclones Using Initialized Ensembles and Mesh Refinement in E3SM  
**Sponsor:** U.S. Department of Energy (DOE)  
**PI:** R Saravanan (Texas A&M Univ.)  
**Co-PI:** **CM Patricola**; TA O'Brien; P Chang  
**Period:** 9/1/2019 – 8/31/2022  
**Amount:** \$896,107 total (**LBNL: \$216,000**)

**Title:** Anthropogenic Influences on Extreme Precipitation in the San Francisco Bay Area  
**Sponsor:** City and County of San Francisco and San Francisco Public Utilities Commission (SFPUC)  
**PI:** **CM Patricola**  
**Co-I:** MF Wehner  
**Period:** 10/17/2018 – 6/15/2021  
**Amount:** **\$250,000 (LBNL)**

**Title:** Weather Effects on the Lifecycle of DoD Equipment Replacement ([WELDER](#)): A Plug-in for the BUILDER Sustainment Management System  
**Sponsor:** Department of Defense (DoD)  
**PI:** P Larsen  
**Co-PI:** **CM Patricola**  
**Period:** 3/1/2019 – 1/31/2022  
**Amount:** **\$2,500,000 (LBNL)**

**Title:** Land-Atmosphere Coupling and Convection in the Water Cycle  
**Sponsor:** U.S. Department of Energy (DOE)  
**PI:** IN Williams  
**Co-PI:** M Torn  
**Co-I:** SC Biraud, TA O'Brien, **CM Patricola**  
**Period:** 2/1/2018 – 1/31/2021  
**Amount:** **\$1,995,000 (LBNL)**

**Title:** The Impact of Canonical and Non-canonical El Niño and the Atlantic Meridional Mode on Atlantic Tropical Cyclones  
**Sponsor:** National Science Foundation (NSF)  
**PI:** **CM Patricola**  
**Co-PI:** P Chang and R Saravanan (served as PI after Patricola moved from Texas A&M to LBNL)  
**Period:** 2/1/2014 – 1/31/2017  
**Amount:** **\$220,314 (Texas A&M Univ.)**

**Title:** Understanding Causes of Climate Model Biases in the Southeastern Tropical Atlantic  
**Sponsor:** National Science Foundation (NSF)  
**PI:** P Chang  
**Co-PI:** **CM Patricola**  
**Period:** 9/1/2013 – 8/31/2016  
**Amount:** **\$796,305 (Texas A&M Univ.)**

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### Subcontracts Awarded

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**Total: \$226,295 as PI**

**Title:** CALibrated and Systematic Characterization, Attribution, and Detection of Extremes (CASCADE) subcontract  
**Subcontractor:** Lawrence Berkeley National Laboratory  
**PI:** **CM Patricola**  
**Period:** 1/1/2021 – 9/30/2022  
**Amount:** **\$216,158 (ISU)**

**Title:** Conditional Probabilistic Event Attribution  
**Subcontractor:** Regents of the University of California and Lawrence Berkeley National Laboratory  
**PI:** **CM Patricola**  
**Period:** 8/1/2014 – 7/31/2015  
**Amount:** **\$10,137 (Texas A&M Univ.)**

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## Internal Grants Awarded

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Sponsor: Iowa State LAS Dean's High Impact Award for Undergraduate Research  
PI: **CM Patricola**, with Juan Pablo Mangual (student)  
Period: 1/2022 – 6/2022  
Amount: **\$1,200**

Sponsor: Iowa State LAS Dean's High Impact Award for Undergraduate Research  
PI: **CM Patricola**, with Nathan Erickson (student)  
Period: 1/2022 – 6/2022  
Amount: **\$1,200**

Sponsor: Iowa State LAS Dean's High Impact Award for Undergraduate Research  
PI: **CM Patricola**, with Alyssa Dallmann (student)  
Period: 1/2021 – 6/2021  
Amount: **\$500**

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## Computational Resource Awards

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Title: Understanding the Physical Drivers of Variability and Change in Extreme Weather Events  
[ATM190016]

Sponsor: NSF/Extreme Science and Engineering Discovery Environment (XSEDE)  
PI: **CM Patricola**  
Amount: 123,750 node hours (\$43,876 equivalent)  
Period: 10/1/2019 – 9/30/2022

Title: Numerical Weather and Climate Prediction (MTEOR 408X/508X) [EES210040]  
Sponsor: NSF/Extreme Science and Engineering Discovery Environment (XSEDE)  
PI: **CM Patricola**  
Amount: 1,600 node hours (\$515 equivalent)  
Period: 12/7/2021 – 12/6/2022

Title: Anthropogenic Influences on Extreme Precipitation in Convection-Permitting Climate Models  
Sponsor: DOE Office of Science  
PI: **CM Patricola**  
Amount: 2 million NERSC hours  
Period: 1/2019 – 1/2022

Title: Weather Effects on the Lifecycle of DoD Equipment Replacement (WELDER)  
Sponsor: DOE Office of Science  
PI: **CM Patricola**  
Amount: 2.0 million NERSC hours  
Period: 1/2019 – 1/2022

Title: The Impact of Canonical and Non-canonical El Niño and the Atlantic Meridional Mode on Atlantic Tropical Cyclones  
Sponsor: NSF/Extreme Science and Engineering Discovery Environment (XSEDE)  
PI: **CM Patricola**  
Co-PI: P Chang and R Saravanan  
Amount: 10 million core hours (\$357,122 equivalent)  
Period: 7/1/2014 – 6/30/2017

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## Publications

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### Peer-reviewed Journal Articles

**Published: 57 total; 18 first-authored; 8 first-authored by postdoctoral or student advisee; 5 first-authored by student co-advisee**

\* Postdoctoral advisee

\*\* Graduate advisee

\*\*\* Undergraduate advisee

+ Graduate co-advisee

### **In review (2)**

- Erickson\*\*\*, N., & **Patricola**, C. M. (2022). Future Projections of the El Niño – Southern Oscillation in CMIP6: Influence of Climate Model Bias. *Journal of Geophysical Research: Atmospheres*, in revision.
- Bercos-Hickey\*, E., **Patricola**, C. M., Collins, W. D., & Loring, B. (2022). The Relationship Between African Easterly Waves and Tropical Cyclones in Historical and Future Climates in the HighResMIP-PRIMAVERA Simulations. *Journal of Geophysical Research: Atmospheres*, in revision.

### **2022**

1. **Patricola**, C. M., Cassidy\*\*\*, D.J., & Klotzbach, P. J. (2022). Tropical Oceanic Influences on Observed Global Tropical Cyclone Frequency. *Geophysical Research Letters*, 49(13), e2022GL099354.
2. **Patricola**, C. M., Wehner, M. F., Bercos-Hickey\*, E., Maciel\*\*\*, F. V., May, C., Mak, M., Yip, O., Roche, A., & Leal, S. (2022). Future Changes in Extreme Precipitation over the San Francisco Bay Area: Dependence on Atmospheric River and Extratropical Cyclone Events, *Weather and Climate Extremes*, 36, 100440.
3. Sena\*, A. C. T., **Patricola**, C. M., & Loring, B. (2022). Future Changes in Active and Inactive Atlantic Hurricane Seasons in the Energy Exascale Earth System Model. *Geophysical Research Letters*, 49, e2022GL100267.
4. Danso\*, D. K., **Patricola**, C. M., & Bercos-Hickey\*, E. (2022). The Influence of African Easterly Wave Suppression on Atlantic Tropical Cyclone Activity in a Convection-Permitting Model. *Geophysical Research Letters*, 49, e2022GL100590. [EOS research spotlight]
5. Bercos-Hickey\*, E., O'Brien, T. A., Wehner, M. F., Zhang, L., **Patricola**, C. M., Huang\*, H., & Risser M. D. (2022). Anthropogenic Contributions to the 2021 Pacific Northwest Heatwave. *Geophysical Research Letters*, 49, e2022GL099396.
6. Klotzbach, P. J., Wood, K. M., Schreck, C. J., Bowen, S. G., **Patricola**, C. M., & Bell, M. M. (2022). Trends in Global Tropical Cyclone Activity: 1990-2020, *Geophysical Research Letters*, 49, e2021GL095774.
7. Risser, M. D., Collins, W. D., Wehner, M. F., O'Brien, T. A., Paciorek, C. J., O'Brien, J. P., **Patricola**, C. M., Huang\*, H., Ullrich, P., & Loring, B. (2022). A Method for Detection and Attribution of Regional Precipitation Change Using Granger Causality: Application to the United States Historical Record. *Climate Dynamics*, in press.

### **2021**

8. Sobel, A. H., Wing, A. A., Camargo, S. J., **Patricola**, C. M., Vecchi, G. A., Lee, C.-Y., & Tippett, M. K. (2021). Tropical Cyclone Frequency. *Earth's Future*, 9(12), e2021EF002275.
9. Bercos-Hickey\*, E., **Patricola**, C. M., & Gallus, W. A., Jr. (2021). Anthropogenic Influences on Tornadoic Storms. *Journal of Climate*, 34(22), 8989–9006.
10. Huang\*, H., **Patricola**, C. M., & Collins, W. D. (2021). The Influence of Ocean Coupling on Simulated and Projected Tropical Cyclone Precipitation in the HighResMIP-PRIMAVERA Simulations, *Geophysical Research Letters*, 48(20), e2021GL094801.

11. [Huang\\*](#), H., **Patricola**, C. M., Winter, J. M., Osterberg, E. C., & Mankin, J. S. (2021). Rise in Northeast US Extreme Precipitation Caused by Ocean Variability and Climate Change. *Weather and Climate Extremes*, 33, 100351.
12. Lin, I.-I., Rogers, R. F., Huang, H.-C., Liao, Y.-C., Herndon, D., Yu, J.-Y., **Patricola**, C. M., Zhang, J. A., Herndon, D., Chang, Y.-T., Pun, I.-F., & Lien, C.-C. (2021). A Tale of Two Rapidly-Intensifying Supertyphoons: Hagibis (2019) and Haiyan (2013). *Bulletin of the American Meteorological Society*, 102(9), E1645–E1664.
13. Hagos, S., Leung, L. R., Garuba, O., & **Patricola**, C. M. (2021). Influence of Background Divergent Moisture Flux on the Frequency of North Pacific Atmospheric Rivers. *Journal of Climate*, 34, 6129–6139.
14. [Fu+](#), D., Chang, P., **Patricola**, C. M., Saravanan, R., Liu, X., & Beck, H. E. (2021). Central American Mountains Inhibit Eastern North Pacific Tropical Cyclone Activity. *Nature Communications*, 12(1), 4422.
15. [Bercos-Hickey\\*](#), E., & **Patricola**, C. M. (2021). Anthropogenic Influences on the African Easterly Wave-African Easterly Jet System. *Climate Dynamics*, 57(9), 2779–2792.
16. Zhou, Y., O’Brien, T. A., Ullrich, P. A., Collins, W. D., **Patricola**, C. M., & Rhoades, A. M. (2021). Uncertainties in Atmospheric River Life Cycles by Detection Algorithms: Climatology and Variability. *Journal of Geophysical Research: Atmospheres*, 126(8), e2020JD033711.
17. [Huang\\*](#), H., **Patricola**, C. M., [Bercos-Hickey\\*](#), E., Zhou, Y., Rhoades, A., Risser, M. D., & Collins, W. D. (2021). Sources of Subseasonal-to-Seasonal Predictability of Atmospheric Rivers and Precipitation in the Western United States. *Journal of Geophysical Research: Atmospheres*, 126(6), e2020JD034053.
18. Liu, X., Ma, X., Chang, P., Jia, Y., [Fu+](#), D., Xu, G., Wu, L., Saravanan, R., & **Patricola**, C. M. (2021). Ocean Fronts and Eddies Remotely Forcing Atmospheric Rivers and Heavy Precipitation. *Nature Communications*, 12, 1268.
19. Risser, M. D., Wehner, M. F., O’Brien, J. P., **Patricola**, C. M., O’Brien, T. A., Collins, W. D., Paciorek, C. J., & [Huang\\*](#), H. (2021). Detection and Attribution for Observed Precipitation Over the Contiguous United States - Part I: Quantifying the Influence of Natural Climate Variability on in Situ Measurements of Seasonal Total and Extreme Daily Precipitation. *Climate Dynamics*, 56(9), 3205–3230.
20. Kurian, J., Li, P., Chang, P., **Patricola**, C. M., & Small, J. (2021). Impact of the Benguela Coastal Low-Level Jet on the Southeast Tropical Atlantic SST Bias in a Regional Ocean Model. *Climate Dynamics*, 56(9), 2773–2800.

## **2020**

21. O’Brien, T. A., Risser, M. D., Loring, B., Elbashandy, A. A., Krishnan, H., Johnson, J., **Patricola**, C. M., O’Brien, J. P., Mahesh, A., Prabhat, Ramirez, S. A., Rhoades, A. M., Charn, A., Diaz, H.I., & Collins, W.D. (2020). Detection of Atmospheric Rivers with Inline Uncertainty Quantification: TECA-BARD v1.0. *Geoscientific Model Development*, 13(12), 6131–6148.
22. Rhoades, A. M., Jones, A. D., Srivastava, A., [Huang\\*](#), H., O’Brien, T. A., **Patricola**, C. M., et al. (2020). The Shifting Scales of Western US Landfalling Atmospheric Rivers. *Geophysical Research Letters*, 47(17), e2020GL089096.
23. Balaguru, K., **Patricola**, C. M., Hagos, S. M., Leung, L. R., & Dong, L. (2020). Enhanced Predictability of Eastern Pacific Hurricane Activity using the ENSO Longitude Index. *Geophysical Research Letters*, 47(16), e2020GL088849.
24. O’Brien, T. A., Payne, A. E., Shields, C. A., Rutz, J., Brands, S., Castellano, C., et al. (2020). Detection Uncertainty Matters for Understanding Atmospheric Rivers. *Bulletin of the American Meteorological Society*, 101(6), E790–E796.
25. Gutowski, W. J., Ullrich, P. A., Hall, A., Leung, L. R., O’Brien, T. A., **Patricola**, C. M., et al. (2020). The Ongoing Need for High-Resolution Regional Climate Models: Process Understanding and Stakeholder Information. *Bulletin of the American Meteorological Society*, 101(5), E664–E683.

26. **Patricola**, C. M., **O'Brien**<sup>+</sup>, J. P., Risser, M. D., Rhoades, A. M., O'Brien, T. A., Ullrich, P. A., Stone, D. A., & Collins, W. D. (2020). Maximizing ENSO as a Source of Western US Hydroclimate Predictability. *Climate Dynamics*, 54(1), 351-372.

### **2019**

27. Walsh, K. J. E., Camargo, S. J., Knutson, T. R., Kossin, J., Lee, T.-C., Murakami, H., & **Patricola**, C. M. (2019). Tropical Cyclones and Climate Change. *Tropical Cyclone Research and Review*, 8, 240-250.
28. **Hsu**<sup>+</sup>, W.-C., **Patricola**, C. M., & Chang, P. (2019). The Impact of Climate Model Sea Surface Temperature Biases on Tropical Cyclone Simulations. *Climate Dynamics*, 53 (1), 173-192.
29. **Fu**<sup>+</sup>, D., Chang, P., **Patricola**, C. M., & Saravanan, R. (2019). High Resolution Tropical Channel Model Simulations of Tropical Cyclone Climatology and Intraseasonal-to-Interannual Variability. *Journal of Climate*, 32(22), 7871-7895.
30. Vahmani, P., Jones, A. D., & **Patricola**, C. M. (2019). Interacting Implications of Climate Change, Population Dynamics, and Urban Heat Mitigation for Future Exposure to Heat Extremes. *Environmental Research Letters*, 14 (8), 084051.
31. Foltz, G. R., Brandt, P., Richter, I., Rodriguez-Fonseca, B., Hernandez, F., Dengler, M., et al. (2019). The Tropical Atlantic Observing System. *Frontiers in Marine Science*, 6 (206), 1-36.
32. **O'Brien**<sup>+</sup>, J. P., O'Brien, T. A., **Patricola**, C. M., & Wang, S.-Y. S. (2019). Metrics for Understanding Large-scale Controls of Multivariate Temperature and Precipitation Variability. *Climate Dynamics*, 53, 3805-3823.

### **2018**

33. **Patricola**, C. M., & Wehner, M. F. (2018). Anthropogenic Influences on Major Tropical Cyclone Events. *Nature*, 563(7731), 339-346.
34. Williams, I. N., & **Patricola**, C. M. (2018). Diversity of ENSO Events Unified by Convective Threshold Sea Surface Temperature: A Nonlinear ENSO Index, *Geophysical Research Letters*, 45, 9236-9244.
35. Timmermans, B., **Patricola**, C. M., & Wehner, M. F. (2018). Simulation and Analysis of Hurricane-Driven Extreme Wave Climate Under Two Ocean Warming Scenarios. *Oceanography*, 31(2), 88-99.
36. **Patricola**, C. M., Camargo, S. J., Klotzbach, P. J., Saravanan, R., & Chang, P. (2018). The Influence of ENSO Flavors on Western North Pacific Tropical Cyclones. *Journal of Climate*, 31(14), 5395-5416.
37. **Patricola**, C. M., Saravanan, R., & Chang, P. (2018). The Response of Atlantic Tropical Cyclones to Suppression of African Easterly Waves. *Geophysical Research Letters*, 45(1), 471-479.

### **2017**

38. **Patricola**, C. M., Saravanan, R., & Chang, P. (2017). A Teleconnection Between Atlantic Sea Surface Temperature and Eastern and Central North Pacific Tropical Cyclones. *Geophysical Research Letters*, 44(2), 1167-1174. [EOS research spotlight]
39. **Patricola**, C. M., & Chang, P. (2017). Structure and Dynamics of the Benguela Low-Level Coastal Jet. *Climate Dynamics*, 49, 2765-2788.
40. Pall, P., **Patricola**, C. M., Wehner, M. F., Stone, D. A., Paciorek, C. J., & Collins, W. D. (2017). Diagnosing Conditional Anthropogenic Contributions to Heavy Colorado Rainfall in September 2013. *Weather and Climate Extremes*, 17, 1-6.
41. **Fu**<sup>+</sup>, D., Chang, P., & **Patricola**, C. M. (2017). Intrabasin Variability of East Pacific Tropical Cyclones During ENSO Regulated by Central American Gap Winds. *Scientific Reports*, 7(1), 1658.

### **2016**

42. **Patricola**, C. M., Chang, P., & Saravanan, R. (2016). Degree of simulated suppression of Atlantic tropical cyclones modulated by flavour of El Niño. *Nature Geoscience*, 9(2), 155-160.
43. Zuidema, P., Chang, P., Medeiros, B., Kirtman, B. P., Mechoso, R., Schneider, E. K., et al. (2016). Challenges and prospects for reducing coupled climate model SST biases in the eastern tropical Atlantic and Pacific oceans: The US CLIVAR Eastern Tropical Oceans Synthesis Working Group. *Bulletin of the American Meteorological Society*, 97(12), 2305-2328.

## 2015

44. **Patricola**, C. M., Chang, P., & Saravanan, R. (2015). Impact of Atlantic SST and High Frequency Atmospheric Variability on the 1993 and 2008 Midwest Floods: Regional Climate Model Simulations of Extreme Climate Events. *Climatic Change*, 129(3), 397–411.
45. Walsh, K. J. E., Camargo, S. J., Vecchi, G. A., Daloz, A. S., Elsner, J., Emanuel, K., et al. (2015). Hurricanes and Climate: The U.S. CLIVAR Working Group on Hurricanes. *Bulletin of the American Meteorological Society*, 96(6), 997–1017.
46. Daloz, A. S., Camargo, S. J., Kossin, J. P., Emanuel, K., Horn, M., Jonas, J. A., et al. (2015). Cluster Analysis of Downscaled and Explicitly Simulated North Atlantic Tropical Cyclone Tracks. *Journal of Climate*, 28(4), 1333–1361.

## 2014

47. Xu, Z., Li, M., **Patricola**, C. M., & Chang, P. (2014). Oceanic Origin of Southeast Tropical Atlantic Biases. *Climate Dynamics*, 43(11), 2915–2930.
48. **Patricola**, C. M., Saravanan, R., & Chang, P. (2014). The Impact of the El Niño-Southern Oscillation and Atlantic Meridional Mode on Seasonal Atlantic Tropical Cyclone Activity. *Journal of Climate*, 27(14), 5311–5328.
49. Liu, Y., Chiang, J. C. H., Chou, C., & **Patricola**, C. M. (2014). Atmospheric Teleconnection Mechanisms of Extratropical North Atlantic SST Influence on Sahel Rainfall. *Climate Dynamics*, 43(9), 2797–2811.

## 2013 and earlier

50. **Patricola**, C. M., & Cook, K. H. (2013). Mid-twenty-first Century Climate Change in the Central United States. Part II: Climate Change Processes. *Climate Dynamics*, 40(3), 569–583.
51. **Patricola**, C. M., & Cook, K. H. (2013). Mid-twenty-first Century Warm Season Climate Change in the Central United States. Part I: Regional and Global Model Predictions. *Climate Dynamics*, 40(3), 551–568.
52. **Patricola**, C. M., Li, M., Xu, Z., Chang, P., Saravanan, R., & Hsieh, J.-S. (2012). An Investigation of Tropical Atlantic Bias in a High-Resolution Coupled Regional Climate Model. *Climate Dynamics*, 39(9), 2443–2463.
53. **Patricola**, C. M., & Cook, K. H. (2011). Sub-Saharan Northern African Climate at the end of the Twenty-first century: Forcing Factors and Climate Change Processes. *Climate Dynamics*, 37, 1165–1188.
54. **Patricola**, C. M., & Cook, K. H. (2010). Northern African Climate at the end of the Twenty-first Century: An Integrated Application of Regional and Global Climate Models. *Climate Dynamics*, 35, 193–212.
55. Cook, K. H., Vizy, E. K., Launer, Z. S., & **Patricola**, C. M. (2008). Springtime Intensification of the Great Plains Low-level Jet and Midwest Precipitation in GCM Simulations of the Twenty-first Century. *Journal of Climate*, 21, 6321–6340.
56. **Patricola**, C. M., & Cook, K. H. (2008). Atmosphere/Vegetation Feedbacks: A Mechanism for Abrupt Climate Change over Northern Africa. *Journal of Geophysical Research*, 113, D18102.
57. **Patricola**, C. M., & Cook, K. H. (2007). Dynamics of the West African Monsoon under Mid-Holocene Precessional Forcing: Regional Climate Model Simulations. *Journal of Climate*, 20(4), 694–716.

## **Peer-reviewed Book Chapters**

- Lin, I.-I., Camargo, S. J., **Patricola**, C. M., Boucharel, J., Chand, S., Klotzbach, P., Chan, J., Wang, B., Chang, P., Li, T., Jin, F.-F. (2020). Chapter 17: ENSO and Tropical Cyclones. In ENSO in a Changing Climate. (eds McPhaden M, Santoso A, Cai W) AGU Monograph Series. ISBN: 978-1-119-54812-6.
- Wehner, M. F., Zarzycki, C., & **Patricola**, C. M. (2019). Estimating the Human Influence on Tropical Cyclone Intensity as the Climate Changes. In: Collins J., Walsh K. (eds) Hurricane Risk. Hurricane Risk, vol 1. Springer, Cham, 235-260.

## **Climate Assessment Reports**

- Contributing Author:** Seneviratne, S. I., X. Zhang and Coauthors (2021). Weather and Climate Extreme Events in a Changing Climate. In: Climate Change 2021: The Physical Science Basis. Contribution of

Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J. B. R. Matthews, T. K. Maycock, T. Waterfield, 51 O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press.

**Contributing Author:** Collins M and Coauthors (2013). Long-term Climate Change: Projections, Commitments and Irreversibility. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

### Nonrefereed Publications

**Patricola, C. M. (2018).** Tropical Cyclones Are Becoming Sluggish. *Nature News & Views*, 558, 36-37.

Feng, Y., Negron-Juarez, R. I., **Patricola, C. M.**, Collins, W. D., Uriarte, M., Hall, J. S., Clinton, N., & Chambers, J. Q. (2018). Rapid remote sensing assessment of impacts from Hurricane Maria on forests of Puerto Rico. *PeerJ Preprints* 6:e26597v1.

**Patricola, C. M.**, Chang, P., Saravanan, R., Li, M., & Hsieh, J.-S. (2011). An Investigation of the Tropical Atlantic Bias Problem Using a High-Resolution Coupled Regional Climate Model, *U.S. CLIVAR Variations*, 9(2), 9-12.

**Patricola, C. M.**, & Cook, K. H. (2007). The African Humid Period: Evidence for abrupt climate change in northern Africa. *Climate Variability and Predictability (CLIVAR) Focus on Africa*, 2pp.

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## Invited Talks

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### 2022

- Tropical Cyclone Frequency: The Role of Seeds and the Large-Scale Environment. **AGU Fall Meeting**, Chicago IL and virtual, Dec 2022.
- A High-Resolution Regional Climate Model Framework for Projecting Future Change in Historically Impactful Extreme Weather Events. **AGU Fall Meeting**, Chicago IL and virtual, Dec 2022.
- Tropical Cyclone Frequency: The Role of Seeds and the Large-Scale Environment. Earth/Space Sciences Seminar Series, **Columbus State University**, Columbus GA (virtual), Nov 2022.

### 2021

1. Natural and Anthropogenic Influences on Tropical Cyclones. Department of Geographic and Atmospheric Sciences, **Northern Illinois University**, DeKalb IL (virtual), Nov 2021.
2. Variability and Change in Precipitation from Tropical Cyclones, Atmospheric Rivers, and Extratropical Cyclones. **Statistics and climate extremes workshop, University of Melbourne** (virtual) Nov 2021.
3. Improving Seasonal Prediction and Future Projection of Western U.S. Precipitation. Research Applications Laboratory (RAL) Seminar, **NCAR**, Boulder CO (virtual), Aug 2021.

### 2020

4. Variability and Change in Tropical Cyclone Characteristics. Regional and Global Model Analysis (RGMA) Principal Investigators (PI) Meeting, **U.S. Department of Energy (DOE)**, virtual, Oct 2020.
5. Anthropogenic Influences on Major Tropical Cyclone Events. **Miami Climate Symposium 2020: Predicting and Living with Extremes**, University of Miami, Miami FL, Jan 2020.

## 2019

6. Natural and Anthropogenic Influences on Tropical Cyclones. Department of Geological and Atmospheric Sciences, **Iowa State University**, Ames IA, Nov 2019.
7. Natural and Anthropogenic Influences on Tropical Cyclones. Department of Atmospheric Sciences, **Texas A&M University**, College Station TX, Sep 2019.
8. Attribution of Extreme Weather Events to Climate Variability and Change. **2019 California Extreme Precipitation Symposium (CEPSYM)**, University of California Davis, Jun 2019.
9. Characterizing El Niño's Diversity and its Climate Implications. Berkeley Geography Colloquium, **University of California, Berkeley CA**, Apr 2019.
10. Natural and Anthropogenic Influences on Tropical Cyclones. GFDL seminar series, **GFDL**, Princeton NJ, Mar 2019.
11. Natural and Anthropogenic Influences on Tropical Cyclones. The University of Texas Institute for Geophysics (UTIG) Seminar Series, **The University of Texas at Austin**, Austin TX, Feb 2019.

## 2018

12. Oceanic and Atmospheric Controls on Tropical Cyclone Activity. Atmosphere, Ocean, and Climate Dynamics Brown Bag Seminar, **Stanford University**, Stanford, CA, May 2018.
13. Oceanic and Atmospheric Controls on Tropical Cyclone Activity. **AGU Fall Meeting**, Washington DC, Dec 2018.

## 2017

14. Oceanic and Atmospheric Sources of Tropical Cyclone Predictability. **Workshop on Atlantic Climate Variability – Dynamics, Prediction and Hurricane Risk**, Columbia University, New York City, NY, Sep 2017.
15. Anthropogenic Influences on Tropical Cyclone Intensity and Rainfall. **Workshop for Typhoon, Cloud and Climate Study**, National Taiwan University, Taipei, Taiwan, Aug 2017.
16. Oceanic and Atmospheric Controls on Tropical Cyclone Activity. Department of Atmospheric Sciences, **National Taiwan University**, Taipei, Taiwan, Aug 2017.
17. Oceanic and Atmospheric Controls on Tropical Cyclone Activity. Department of Applied Mathematics and Theoretical Physics, **University of Cambridge**, Cambridge, UK, Feb 2017.
18. Oceanic and Atmospheric Controls on Tropical Cyclone Activity. Department of Civil and Environmental Engineering, **Northeastern University**, Boston, MA, Feb 2017.

## 2016

19. Large-scale climate controls on extreme climate events. Climate and Ecosystem Sciences Division, **Lawrence Berkeley National Laboratory**, Berkeley, CA, Jun 2016.
20. The Benguela Low-Level Coastal Jet and Ocean Model Biases in the Benguela Coastal Upwelling Region. **U.S. CLIVAR Process Study and Model Improvement (PSMI) Panel Meeting**, Woods Hole, MA (virtual), Jun 2016.
21. The Influence of El Niño Flavors on Atlantic and North Pacific Tropical Cyclone Activity. **AIR Worldwide**, Boston, MA, Jun 2016.
22. Large-scale climate controls on extreme climate events in the past, present, and future. Department of Geological and Mining Engineering and Sciences, **Michigan Technological University**, Houghton, MI, Apr 2016.
23. Oceanic and Atmospheric Controls on Tropical Cyclone Activity. Department of Marine Sciences, **University of North Carolina at Chapel Hill**, Chapel Hill, NC, Mar 2016.
24. Large-scale climate controls on extreme climate events. Department of Environmental Sciences, **University of California, Riverside**, Riverside, CA, Mar 2016.
25. Large-scale climate controls on extreme climate events. Department of Geography and Atmospheric Science, **University of Kansas**, Lawrence, KS, Feb 2016.

## 2013

26. The Impact of the El Niño-Southern Oscillation and Atlantic Meridional Mode on Seasonal Atlantic Tropical Cyclone Activity. Climate Group Brown Bag, **Lawrence Berkeley National Laboratory**, Berkeley, CA, Aug 2013.

## 2011

27. An Investigation of the Tropical Atlantic Bias Problem Using a High-Resolution Coupled Regional Climate Model. **International Symposium on Regional Earth System Modeling and Analysis (RESMA)**, Beijing, China, May 2011.
28. An Investigation of the Tropical Atlantic Bias Problem Using a High-Resolution Coupled Regional Climate Model. **Ocean University of China**, Qingdao, China, May 2011.

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## Contributed Presentations

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presented by first author unless denoted by #

\* Postdoctoral advisee

\*\* Graduate advisee

\*\*\* Undergraduate advisee

## 2023 (abstract accepted)

- Sena\*, A.C.T.; C.M. **Patricola**; B. Loring. “Projected Changes in the Active Atlantic Hurricane Season in the Energy Exascale Earth System Model.” (poster) *AMS Annual Meeting*, Boulder, CO and virtual, Jan 2023.
- Erickson\*\*\*, N.E.; C.M. **Patricola**. “Future Projections of the El Niño – Southern Oscillation in CMIP6: Influence of Climate Model Bias.” *AMS Annual Meeting*, Boulder, CO and virtual, Jan 2023.
- Mueller\*\*, T.J.; C.M. **Patricola**; E. Bercos-Hickey\*. “The Influence of ENSO on Future Atlantic Tropical Cyclone Activity.” *AMS Annual Meeting*, Boulder, CO and virtual, Jan 2023.

## 2022

1. Mueller\*\*, T.J.; C.M. **Patricola**; E. Bercos-Hickey\*. “The Influence of ENSO on Future Atlantic Tropical Cyclone Activity.” *AGU Fall Meeting*, Chicago IL and virtual, Dec 2022.
2. Danso\*, D.K.; C.M. **Patricola**; E. Bercos-Hickey\*. “Influence of African Easterly Wave Suppression on Atlantic Tropical Cyclone Activity in a Convection-Permitting Model.” (poster) *AGU Fall Meeting*, Chicago IL and virtual, Dec 2022.
3. Erickson\*\*\*, N.E.; C.M. **Patricola**. “Future Projections of the El Niño – Southern Oscillation in CMIP6: Influence of Climate Model Bias.” *AGU Fall Meeting*, Chicago IL and virtual, Dec 2022.
4. Huang\*, H.; W.D. Collins; C.M. **Patricola**; Y. Ruprich-Robert; P.A. Ullrich. “Contrasting Responses of Atlantic and Pacific Tropical Cyclone Activity to Atlantic Multidecadal Variability.” *AGU Fall Meeting*, Chicago IL and virtual, Dec 2022.
5. Francis, C.K.; S.J. Camargo; C-Y. Lee; C.M. **Patricola**, N. Erickson\*\*\*; C. Karamperidou. “The El Niño Southern Oscillation-Tropical Cyclone Relationship in a Statistical-Dynamical Downscaling Model.” (poster) *AGU Fall Meeting*, Chicago IL and virtual, Dec 2022.
6. Neher, J; M. Mak; C. May; M.F. Wehner; C.M. **Patricola**; A. Roche; “Surviving the Storm: Evolution of San Francisco Bay Area Extreme Precipitation from Past to Future Climates and Updated Intensity Duration Frequency Curves for Actionable Science.” *AGU Fall Meeting*, Chicago IL and virtual, Dec 2022.
7. Mueller\*\*, T.J.; C.M. **Patricola**; E. Bercos-Hickey\*. “The Influence of ENSO on Future Atlantic Tropical Cyclone Activity.” *AMS 35<sup>th</sup> Conference on Hurricanes and Tropical Meteorology*, New Orleans, LA and virtual, May 2022. (poster) [received Outstanding Student Poster Presentation Award]

8. [Sena\\*](#), A.C.T.; C.M. **Patricola**; B. Loring. “Projected Changes in the Active Atlantic Hurricane Season in the Energy Exascale Earth System Model.” *AMS 35<sup>th</sup> Conference on Hurricanes and Tropical Meteorology*, New Orleans, LA and virtual, May 2022.
9. Camargo, S.J.; C. Karamperidou; M.K. Tippett; B. Fosu; C.Y. Lee; C.M. **Patricola**; A.H. Sobel. “Tropical Cyclone Environmental Fields in CMIP6 Models: Biases, Projections and ENSO Diversity Influence.” *AMS 35<sup>th</sup> Conference on Hurricanes and Tropical Meteorology*, New Orleans, LA and virtual, May 2022.
10. Lin, I-I; RF Rogers; H-C Huang; Y-C Liao; D Herndon; J-Y Yu; Y Chang; J Zhang; CM **Patricola**; I-F Pun; C-C Lien. “Ocean Interaction and the Intensity Evolution of Two High-Impact Super Typhoons: Hagibis (2019) and Haiyan (2013).” *European Geosciences Union (EGU) General Assembly 2022*, Vienna, Austria, and virtual, May 2022.
11. Lin, I-I; RF Rogers; H-C Huang; Y-C Liao; D Herndon; J-Y Yu; Y Chang; J Zhang; CM **Patricola**; I-F Pun; C-C Lien. “Ocean Interaction and the Intensity Evolution of Two High-Impact Super Typhoons: Hagibis (2019) and Haiyan (2013).” *American Geophysical Union Ocean Sciences Meeting*, virtual, Mar 2022.
12. [Erickson\\*\\*\\*](#), N.; C.M. **Patricola**. “Future Projections of the El Niño Southern Oscillation (ENSO): Effects of Climate Model Bias.” *15<sup>th</sup> Annual Research in the Capitol*, Des Moines IA, Feb 2022. (poster)
13. [Mangual-Pagán\\*\\*\\*](#), J.P.; C.M. **Patricola**. “The Impact of Upper-Ocean Salinity and Temperature on Tropical Cyclone Rapid Intensification.” *American Meteorological Society Annual Meeting Student Conference*, Houston, TX, Jan 2022.
14. [Bercos-Hickey\\*](#), E.; C.M. **Patricola**. “The relationship between African easterly waves and tropical cyclones in historical and future climates in the HighResMIP-PRIMAVERA simulations.” *102<sup>nd</sup> American Meteorological Society Annual Meeting*, virtual, Jan 2022.
15. [Bercos-Hickey\\*](#), E.; T.A. O’Brien; M.F. Wehner; L.M. Swenson; C.M. **Patricola**; D. Yang; H. [Huang\\*](#); Y. Zhou; H.A.I. Diaz; M.D. Risser; L. Zhang. “Anthropogenic and Meteorological Contributions to the 2021 Pacific Northwest Heatwave.” *102<sup>nd</sup> American Meteorological Society Annual Meeting*, virtual, Jan 2022.
16. Maudlin, L.C.; K.J. Franz, W.J. Gutowski, Jr.; B.W. Johnson; C.M. **Patricola**; A.D. Wanamaker. “The Development of an Evaluation Instrument for a New Climate Science Program.” *102<sup>nd</sup> American Meteorological Society Annual Meeting*, virtual, Jan 2022.

## 2021

17. [Huang\\*](#), H.; C.M. **Patricola**; W.D. Collins. “The Influence of Ocean Coupling on Simulated and Projected Tropical Cyclone Precipitation in the HighResMIP-PRIMAVERA Simulations.” *American Geophysical Union Fall Meeting*, New Orleans, LA and virtual, Dec 2021.
18. [Bercos-Hickey\\*](#), E.; T.A. O’Brien; M.F. Wehner; L.M. Swenson; C.M. **Patricola**; D. Yang; H. [Huang\\*](#); Y. Zhou; H.A.I. Diaz; M.D. Risser; L. Zhang. “Anthropogenic and Meteorological Contributions to the 2021 Pacific Northwest Heatwave.” *American Geophysical Union Fall Meeting*, New Orleans, LA and virtual, Dec 2021.
19. Lin, I-I; RF Rogers; H-C Huang; Y-C Liao; D Herndon; J-Y Yu; Y Chang; J Zhang; CM **Patricola**; I-F Pun; C-C Lien. “Ocean Interaction and the Intensity Evolution of Two High-Impact Super Typhoons: Hagibis (2019) and Haiyan (2013).” *American Geophysical Union Fall Meeting*, New Orleans, LA and virtual, Dec 2021.
20. Ito, M.; C. Karamperidou; P. Sadowski; S. Camargo; C.-Y. Lee; C.M. **Patricola**. “Explainable Artificial Intelligence for Insights into the Relationship between ENSO and Tropical Cyclone Genesis.” *American Geophysical Union Fall Meeting*, New Orleans, LA and virtual, Dec 2021.
21. Risser, M.D.; W.D. Collins; M.F. Wehner; T.A O’Brien; C.J. Paciorek; J.P. O’Brien; C.M. **Patricola**; H. [Huang\\*](#); P.A. Ullrich; B. Loring. “Detection and Attribution of Regional Precipitation Change with Granger Causality: Overcoming Limited Observations, Modeling Uncertainty, and Large Internal Variability.” *American Geophysical Union Fall Meeting*, New Orleans, LA and virtual, Dec 2021.

22. Liu, X.; R. Saravanan; P. Chang; D. Fu; C.M. **Patricola**; T.A. O'Brien. "Differing Evolutions of Flow and Moisture Bias in a Climate Model and Their Influences on Weather Extremes." *American Geophysical Union Fall Meeting*, New Orleans, LA and virtual, Dec 2021.
23. Collins, W.D.; M.D. Risser; M.F. Wehner; T.A. O'Brien; C.J. Paciorek; J.P. O'Brien; C.M. **Patricola**; H. Huang\*; P.A. Ullrich; B. Loring. "Detection and Attribution of Regional Precipitation Change with Granger Causality: Approaches to Short- and Long-Lived Climate Forcers." *American Geophysical Union Fall Meeting*, New Orleans, LA and virtual, Dec 2021.
24. Bercos-Hickey\*, E.; C.M. **Patricola**. "Anthropogenic Influences on the African Easterly Jet-African Easterly Wave System." *34<sup>th</sup> Conference on Hurricanes and Tropical Meteorology*, virtual, May 2021.
25. Lin, I.-I.; R. Rogers; H.C. Huang; Y.C. Liao; D.C. Herndon; J.Y. Yu; Y.T. Chang; J. Zhang; C.M. **Patricola**; I.F. Pun; C.C. Lien. "Rapid Intensification of Super typhoon Hagibis (2019)." *34<sup>th</sup> Conference on Hurricanes and Tropical Meteorology*, virtual, May 2021.
26. Bercos-Hickey\*, E.; C.M. **Patricola**. "Anthropogenic Influences on African Easterly Waves." *101<sup>st</sup> American Meteorological Society Annual Meeting*, virtual, Jan 2021.
27. Hagos, S.M.; R. Leung; O. Garuba; C.M. **Patricola**. "The Influence of Background Divergent Moisture Flux on the Frequency and Spatial Distribution of North Pacific Atmospheric Rivers." *101<sup>st</sup> American Meteorological Society Annual Meeting*, virtual, Jan 2021.
28. I.-I. Lin, R. F. Rogers, H. C. Huang, Y. C. Liao, J. Y. Yu, C. M. **Patricola**, J. Zhang, D. C. Herndon, Y. T. Chang, I. F. Pun, and C. C. Lien. "Rapid Intensification of Supertyphoon Hagibis (2019)." *101<sup>st</sup> American Meteorological Society Annual Meeting*, virtual, Jan 2021.
29. Liu, X.; R. Saravanan; P. Chang; C.M. **Patricola**; T.A. O'Brien. "The Impact of Systematic Model Errors on the Simulation of Atmospheric Rivers." *101<sup>st</sup> American Meteorological Society Annual Meeting*, virtual, Jan 2021.

## **2020**

30. Rhoades, A.; A.D. Jones; A.K. Srivastava; H. Huang\*; T.A. O'Brien; C.M. **Patricola**; P.A. Ullrich; M.F. Wehner; Y. Zhou. "The Shifting Scales of Western US Landfalling Atmospheric Rivers Under Climate Change." *American Geophysical Union Fall Meeting*, virtual, Dec 2020.
31. Camargo, S.J.; C. Karamperidou; C.-Y. Lee; C.M. **Patricola**. "Projected changes in ENSO modulation of TC activity in global climate models." *American Geophysical Union Fall Meeting*, virtual, Dec 2020.
32. Gutowski Jr, W.J.; P.A. Ullrich; A.D. Hall; L.R. Leung; T.A. O'Brien; C.M. **Patricola**. "The Ongoing Need for High-Resolution Regional Climate Models: Process Understanding and Stakeholder Information." *American Geophysical Union Fall Meeting*, virtual, Dec 2020.
33. Liu, X.; R. Saravanan; P. Chang; C.M. **Patricola**; T.A. O'Brien. "Assessing the influence of background state and model bias on weather extremes using initialized ensembles in a climate model." *American Geophysical Union Fall Meeting*, virtual, Dec 2020.
34. Zhou, Y.; T.A. O'Brien; P.A. Ullrich; W.D. Collins; C.M. **Patricola**; A. Rhoades. "Uncertainties in Atmospheric River Life Cycles by Detection Algorithms: Climatology and Variability." *American Geophysical Union Fall Meeting*, virtual, Dec 2020.
35. Huang\*, H.; C.M. **Patricola**; T.A. O'Brien; E. Bercos-Hickey\*; Y. Zhou; W.D. Collins; A. Rhoades M.D. Risser. "Sources of Subseasonal-to-seasonal Predictability of Atmospheric Rivers and Precipitation in the Western United States." *American Geophysical Union Fall Meeting*, virtual, Dec 2020.
36. Lin, I.-I.; R.F. Rogers; H.-C. Huang; Y.-C. Liao; J.-Y. Yu; C.M. **Patricola**; J. Zhang; D. Herndon; Y. Chang, I.-F. Pun; C.-C. Lien. "Rapid Intensification of Super typhoon Hagibis (2019)." *American Geophysical Union Fall Meeting*, virtual, Dec 2020.
37. Risser, M.D.; M.F. Wehner; J.P. O'Brien; C.M. **Patricola**; T.A. O'Brien; W.D. Collins; C.J. Paciorek; H. Huang\*. "High-Resolution Detection and Attribution for Extreme Precipitation over the Contiguous United States." *American Geophysical Union Fall Meeting*, virtual, Dec 2020.
38. **Patricola**, C.M.; Natural and Anthropogenic Influences on Extreme Weather Events. Department of Agronomy Fall Seminar Series, *Iowa State University*, Ames IA, Oct 2020.

39. Lin, I.-I.; S. Camargo; C.M. **Patricola**; J. Boucharel; S. Chand; P.J. Klotzbach; J.C.L. Chan; B. Wang; P. Chang; T. Li; F.-F. Jin. “AGU Centennial Monograph – ENSO in a Changing Climate: ENSO and Tropical Cyclones.” *American Geophysical Union Ocean Sciences Meeting*, San Diego CA, Feb 2020.
40. **Patricola**, C.M.; I.N. Williams; J.P. O’Brien; M.D. Risser; A.M. Rhoades; T.A. O’Brien; P.A. Ullrich; D.A. Stone; W. D. Collins. “The Longitude of Tropical Pacific Deep Convection: A Perspective on ENSO Diversity and Implications for Western US Hydroclimate.” *100<sup>th</sup> American Meteorological Society Annual Meeting*, Boston MA, Jan 2020.
41. Bercos-Hickey\*, E.; C.M. **Patricola**. “Anthropogenic Influences on Severe Storms in the Midwest.” *100<sup>th</sup> American Meteorological Society Annual Meeting*, Boston MA, Jan 2020.
42. Bercos-Hickey\*, E.; C.M. **Patricola**. “Anthropogenic Influences on the African Easterly Jet-African Easterly Wave System.” *100<sup>th</sup> American Meteorological Society Annual Meeting*, Boston MA, Jan 2020.

## 2019

43. **Patricola**, C.M.; I.N. Williams; J.P. O’Brien; M.D. Risser; A.M. Rhoades; T.A. O’Brien; P.A. Ullrich; D.A. Stone; W. D. Collins. “The Longitude of Tropical Pacific Deep Convection: A Perspective on ENSO Diversity and Implications for Western US Hydroclimate.” *American Geophysical Union 2019 Fall Meeting*, San Francisco CA, Dec 2019.
44. Risser, M.D.; C.J. Paciorek; M.F. Wehner; T.A. O’Brien; C.M. **Patricola**. “Historical Relationships Between Climate Forcings and Observed Extreme Precipitation.” *American Geophysical Union 2019 Fall Meeting*, San Francisco CA, Dec 2019.
45. Williams, I.N.; S. Qiu; C.M. **Patricola**. “Influences of surface energy partitioning on convective initiation and organization: Observations and cloud-permitting model experiments.” *American Geophysical Union 2019 Fall Meeting*, San Francisco CA, Dec 2019.
46. O’Brien, T.A.; M.D. Risser; B. Loring; A. Elbashandy; C.J. Paciorek; A.B. Charn, H.A. Inda Diaz; A. Mahesh; J.P. O’Brien; C.M. **Patricola**; S. Arriaga-Ramirez; A. Rhoades; H. Krishnan; M.F. Wehner; W.D. Collins. “The Importance of Uncertainty in the Detection of Weather Events: Probabilistic Detection of Atmospheric Rivers.” *American Geophysical Union 2019 Fall Meeting*, San Francisco CA, Dec 2019.
47. Jones, A.D.; P. Vahmani; T. Hong; X. Luo; C.M. **Patricola**. “Water, Energy, Health, and Heat: Multi-Sector Urban Tradeoffs in a Warming World.” *American Geophysical Union 2019 Fall Meeting*, San Francisco CA, Dec 2019.
48. **Patricola**, C.M.; J.P. O’Brien; M.D. Risser; A.M. Rhoades; T.A. O’Brien; P.A. Ullrich; D.A. Stone; W. D. Collins. “Maximizing ENSO as a Source of Western US Hydroclimate Predictability.” *3<sup>rd</sup> Atmospheric River Tracking Method Intercomparison Project (ARTMIP) Workshop*, Lawrence Berkeley National Laboratory, Berkeley CA, Oct 2019.
49. **Patricola**, C.M.; P. Chang; R. Saravanan; M.F. Wehner. “Natural and Anthropogenic Influences on Tropical Cyclones.” *Workshop on Risk Analysis for Extremes*, Lawrence Berkeley National Laboratory, Berkeley CA, Jul 2019.
50. Fu, D.; P. Chang; C.M. **Patricola**; R. Saravanan. “Impact of Central America Orography on Eastern North Pacific Tropical Cyclone Activity.” *AMS 99<sup>th</sup> Annual Meeting*, Phoenix AZ, Jan 2019.

## 2018

51. O’Brien, J.P.; T.A. O’Brien; C.M. **Patricola**; S.Y. Wang. “Multivariate Metrics to Quantify Co-occurring Extremes Resulting from the Dipole Circulation Pattern.” *American Geophysical Union 2018 Fall Meeting*, Washington DC, Dec 2018.
52. Fernandez, A.; K. Kashinath; J. McAuliffe; C.M. **Patricola**; M. Prabhat; P.B. Stark; M.F. Wehner. “Using a statistical tropical cyclone genesis model for assessing differences in climate scenarios and geographic basins.” *American Geophysical Union 2018 Fall Meeting*, Washington DC, Dec 2018.
53. O’Brien, T.A.; M.D. Risser; J.P. O’Brien; C.M. **Patricola**; W.D. Collins. “Chance Rather than Trends in the Unusual 2017 California Wet Season.” *American Geophysical Union 2018 Fall Meeting*, Washington DC, Dec 2018.
54. **Patricola**, C.M.; R. Saravanan; P. Chang. “The Response of Atlantic Tropical Cyclones to Suppression of African Easterly Waves.” *PIRATA-23*, Marseille, France, Oct 2018.

55. **Patricola**, C.M.; P. Chang; R. Saravanan; W.-C. Hsu. “Oceanic and Atmospheric Sources of Seasonal Tropical Cyclone Predictability.” *Second International Conference on Seasonal to Decadal Prediction*, NCAR, Boulder CO, Sep 2018.
56. **Patricola**, C.M.; M.F. Wehner; “Anthropogenic Influences on the Intensity and Rainfall of Major Tropical Cyclone Events.” *Cyclone Risk in Small Island States (CRISIS) Workshop*, The University of the West Indies at Mona, Jamaica, Jul 2018. (virtual)
57. **Patricola**, C.M.; M.F. Wehner; D.A. Stone. “Anthropogenic Influences on the Intensity and Rainfall of Major Tropical Cyclone Events.” *8<sup>th</sup> GEWEX Open Science Conference*, Canmore, Canada, May 2018.
58. Wehner, M.F., C. M. **Patricola**; M. D. Risser. “Attributing Human Induced Changes to Extreme Weather.” *8<sup>th</sup> GEWEX Open Science Conference*, Canmore, Canada, May 2018. (Invited)
59. **Patricola**, C.M.; M.F. Wehner; D.A. Stone. “Anthropogenic Influences on the Intensity and Rainfall of Major Tropical Cyclone Events.” *AMS 33<sup>rd</sup> Conference on Hurricanes and Tropical Meteorology*, Ponte Vedra FL, Apr 2018.
60. **Patricola**, C.M.; R. Saravanan; P. Chang. “The Response of Atlantic Tropical Cyclones to Suppression of African Easterly Waves.” *AMS 33<sup>rd</sup> Conference on Hurricanes and Tropical Meteorology*, Ponte Vedra FL, Apr 2018.
61. Fu, D.; P. Chang; C.M. **Patricola**. “Seasonal Predictability Study of Tropical Cyclones using a High-Resolution Tropical Channel Model.” *AMS 33<sup>rd</sup> Conference on Hurricanes and Tropical Meteorology*, Ponte Vedra FL, Apr 2018.
62. Fernandez, A.; K. Kashinath; J. McAuliffe; C.M. **Patricola**; M. Prabhat; P.B. Stark; M.F. Wehner. “A Predictive Statistical Model for Tropical Cyclone Genesis.” *AMS 33<sup>rd</sup> Conference on Hurricanes and Tropical Meteorology*, Ponte Vedra FL, Apr 2018.
63. Wehner, M.F.; C.M. **Patricola**; M.D. Risser. “Estimating the human influence on recent hurricanes.” *European Geosciences Union (EGU) General Assembly 2018*, Vienna, Austria, Apr 2018.
64. **Patricola**, C.M.; M.F. Wehner; D.A. Stone.; B. Timmermans. “Anthropogenic Influences on the Intensity, Rainfall, and Ocean Wind-Waves of Major Tropical Cyclone Events.” *International Detection and Attribution Group Workshop*, Berkeley CA, Mar 2018.
65. O’Brien, T.A.; J.P. O’Brien; M.D. Risser; C.M. **Patricola**; W.D. Collins. “A Weakening of Rainy Events in CA.” *International Detection and Attribution Group Workshop*, Berkeley CA, Mar 2018.
66. Timmermans, B.; C.M. **Patricola**; M.F. Wehner. “Sensitivity of simulated hurricane wind-waves to perturbed wave model physics.” *2018 AGU Ocean Sciences Meeting*, Portland OR, Feb 2018.
67. Timmermans, B.; C.M. **Patricola**; M.F. Wehner; H. Krishnan. “Hurricane Generated wind-waves under perturbed wave model physics.” *2018 AGU Ocean Sciences Meeting*, Portland OR, Feb 2018.
68. **Patricola**, C.M.; R. Saravanan<sup>#</sup>; P. Chang. “A Teleconnection between Atlantic Sea Surface Temperature and Eastern and Central North Pacific Tropical Cyclones.” *2018 AMS Annual Meeting*, Austin TX, Jan 2018.
69. Hsu, W.-C.; D. Fu; P. Chang; C.M. **Patricola**; R. Saravanan; S. Yeager; G. Danabasoglu. “Hindcast of Seasonal Tropical Cyclone Activity Using Sea Surface Temperature from CESM Decadal Predictions.” *2018 AMS Annual Meeting*, Austin TX, Jan 2018.

## 2017

70. Wehner, M.F.; C.M. **Patricola**; M.D. Risser. “Estimating the human influence on Hurricanes Harvey, Irma and Maria.” *American Geophysical Union 2017 Fall Meeting*, New Orleans LA, Dec 2017.
71. Wehner, M.F.; C.M. **Patricola**; C. Zarzycki. “Quantifying the human influence on recent individual major hurricanes.” *6<sup>th</sup> International Summit on Hurricanes and Climate Change: From Hazard to Impact*, Crete, Greece, Jun 2017.
72. Pall, P.; C.M. **Patricola**<sup>#</sup>; M.F. Wehner; D.A. Stone; C.J. Paciorek; W.D. Collins. “Diagnosing Conditional Anthropogenic Contributions to Heavy Colorado Rainfall in September 2013.” *International Detection and Attribution Group (IDAG) meeting*. Berkeley CA, Mar 2017.

## 2016

73. **Patricola**, C.M.; R. Saravanan; P. Chang “The Teleconnection Between Atlantic Sea Surface Temperature and Eastern Pacific Tropical Cyclones.” *American Geophysical Union 2016 Fall Meeting*, San Francisco CA, Dec 2016. (poster)
74. Hsu, W.-C.; C.M. **Patricola**; P. Chang. “Quantifying the Impact of Sea Surface Temperature Biases on Simulated Tropical Cyclones.” *American Geophysical Union 2016 Fall Meeting*, San Francisco CA, Dec 2016. (poster)
75. Hsu, W.-C.; C.M. **Patricola**; P. Chang<sup>#</sup>. “Impact of Sea Surface Temperature Biases on Tropical Cyclone Simulations.” *Tropical Atlantic Conference and PREFACE General Assembly*, Paris, France, Nov 2016.
76. **Patricola**, C.M. “Multiscale Oceanic Influences on Extreme Events in a Changing Climate.” *U.S. Department of Energy Regional & Global Climate Modeling (RGCM) Program Principal Investigators Meeting*, Washington DC, Nov 2016. (plenary)
77. **Patricola**, C.M.; P. Pall; M.F. Wehner; D.A. Stone; C.J. Paciorek; W.D. Collins “Diagnosing Anthropogenic Contributions to Heavy Colorado Rainfall in September 2013.” *U.S. Department of Energy Regional & Global Climate Modeling (RGCM) Program Principal Investigators Meeting*, Washington DC, Nov 2016. (poster)
78. Saravanan, R.; C.M. **Patricola**; X. Ma; J. Steinweg-Woods; R. Montuoro; P. Chang. “Beyond downscaling: The utility of regional climate models for mechanistic studies.” *Modeling Hierarchies Workshop*, Princeton University, Princeton NJ, Nov 2016.
79. **Patricola**, C.M.; J. Kurian; W.-C. Hsu; R. Montuoro; P. Li; P. Chang.<sup>#</sup> “Sources and Impacts of Tropical Atlantic Ocean Biases.” *CLIVAR Open Science Conference*, Qingdao, China, Sep 2016. (poster)
80. Fu, D.; P. Chang; C.M. **Patricola**. “Impact of Central American Gap-Winds on Intrabasin Variability of Eastern North Pacific Tropical Cyclones During ENSO.” *AMS 32<sup>nd</sup> Conference on Hurricanes and Tropical Meteorology*, San Juan, Puerto Rico, Apr 2016. (poster)
81. **Patricola**, C.M.; R. Saravanan; P. Chang. “Deterministic and Stochastic Aspects of ENSO’s Impact on Atlantic and Eastern North Pacific Tropical Cyclones.” *AMS 32<sup>nd</sup> Conference on Hurricanes and Tropical Meteorology*, San Juan, Puerto Rico, Apr 2016.
82. **Patricola**, C.M.; P. Chang; R. Saravanan. “Deterministic and Stochastic Aspects of El Niño’s Impact on Atlantic Tropical Cyclones.” *2016 AGU Ocean Sciences Meeting*, New Orleans LA, Feb 2016.
83. **Patricola**, C.M.; P. Chang; R. Saravanan. “Deterministic and Stochastic Aspects of El Niño’s Impact on Atlantic Tropical Cyclones.” *2016 AMS Annual Meeting*, New Orleans LA, Jan 2016.
84. Pall, P.; C.M. **Patricola**; M.F. Wehner; D. Stone; C.J. Paciorek; W.D. Collins. “Diagnosing Anthropogenic Contributions to Heavy Colorado Rains in September 2013.” *2016 AMS Annual Meeting*, New Orleans LA, Jan 2016.

## 2015

85. **Patricola**, C.M.; P. Chang; R. Saravanan. “Reduced Effectiveness of Atlantic Hurricane Suppression During Central Pacific El Niño.” *American Geophysical Union 2015 Fall Meeting*, San Francisco CA, Dec 2015.
86. Pall, P. C.M. **Patricola**; M.F. Wehner; D.A. Stone. “Diagnosing Possible Anthropogenic Contributions to Colorado Floods in September 2013.” *American Geophysical Union 2015 Fall Meeting*, San Francisco CA, Dec 2015.
87. **Patricola**, C.M.; J. Small; B. Medeiros; P. Chang; P. Zuidema. “Coupled Air-Sea Interactions in Coastal Upwelling Regions.” *US CLIVAR Workshop on Translating Process Understanding to Improve Climate Models*, GFDL, Princeton NJ, Oct 2015. (poster)
88. **Patricola**, C.M.; P. Chang<sup>#</sup>; R. Saravanan. “Deterministic and stochastic aspects of El Niño’s impact on Atlantic tropical cyclones.” *PIRATA-PREFACE-CLIVAR Tropical Atlantic Variability Conference*, Cape Town, South Africa, Aug 2015.
89. Kurian, J.; C.M. **Patricola**; P. Chang<sup>#</sup>; R. Saravanan. “Impact of Resolving Along-Shore Wind Structure on the SST Bias and Coastal circulation along Angola-Benguela Coast.” And “The Benguela Coastal Low-Level Jet: An Atmospheric Source of Oceanic Bias in the Angola-Benguela Frontal Zone.” *PIRATA-PREFACE-CLIVAR Tropical Atlantic Variability Conference*, Cape Town, South Africa, Aug 2015.

90. Pall, P.; C.M. **Patricola**; M.F. Wehner; D.A. Stone; C.J. Paciorek; W.D. Collins. “Diagnosing Possible Anthropogenic Contributions to Heavy Colorado Rainfall in September 2013.” *European Geosciences Union (EGU) General Assembly 2015*, Vienna, Austria, Apr 2015.
91. Verma, T; C.M. **Patricola**; J.S. Hsieh; R. Saravanan; P. Chang. “Remote Influences of Atmospheric and Oceanic Variability on Heat Waves and Cold Spells in a Regional Climate Model.” *2015 AMS Annual Meeting*, Phoenix AZ, Jan 2015. (poster)

## 2014

92. **Patricola**, C.M; R. Saravanan; P. Chang. “Response of Seasonal Atlantic Tropical Cyclone Activity to Suppression of African Easterly Waves in a Regional Climate Model.” *American Geophysical Union 2014 Fall Meeting*, San Francisco CA, Dec 2014. (poster)
93. Pall, P. C.M. **Patricola**; M.F. Wehner; D.A. Stone; C.J. Paciorek; W.D. Collins. “Diagnosing Possible Anthropogenic Contributions to Heavy Colorado Rainfall in September 2013.” *American Geophysical Union 2014 Fall Meeting*, San Francisco CA, Dec 2014.
94. **Patricola**, C.M.; P. Chang<sup>#</sup>; R. Saravanan. “The Impact of East Pacific and Central Pacific El Niño on Seasonal Tropical Cyclone Activity: High-resolution Tropical Channel Model Simulations.” *Tropical Atlantic Variability/PIRATA-19 Meeting*, Pernambuco, Brazil, Nov 2014.
95. **Patricola**, C.M.; P. Chang<sup>#</sup>; R. Saravanan. “Oceanic Influence on Seasonal Atlantic Tropical Cyclone (TC) Activity: Pacific vs. Atlantic.” *DOE 2014 Principal Investigator Meeting*, Washington DC, May 2014.
96. **Patricola**, C.M.; P. Chang; R. Saravanan. “The Impact of Canonical and Non-canonical El Niño on Seasonal Tropical Cyclone Activity: High-resolution Tropical Channel Model Simulations.” *AMS 31<sup>st</sup> Conference on Hurricanes and Tropical Meteorology*, San Diego CA, Apr 2014.
97. Camargo, S.J.; D. Shaevitz; Y. Lu; A.S. Daloz; J.G. Dwyer; K. Emanuel; J.P. Kossin; A .H. Sobel; G.A. Vecchi; K. Walsh; M. Zhao; J. Jonas; D. Kim; T. LaRow; Y.K. Lim; C.M. **Patricola**; M.J. Roberts; E. Scoccimarro; P.L. Vidale; H. Wang; M.F. Wehner. “Overview of the characteristics of tropical cyclones in the US CLIVAR Hurricane Working Group Models.” *AMS 31<sup>st</sup> Conference on Hurricanes and Tropical Meteorology*, San Diego CA, Apr 2014.
98. **Patricola**, C.M.; P. Chang; R. Saravanan. “The Impact of Canonical and Non-canonical El Niño on Seasonal Tropical Cyclone Activity: High-resolution Tropical Channel Model Simulations.” *2014 AGU Ocean Sciences Meeting*, Honolulu HI, Feb 2014.
99. Jing, Z.; R. Montuoro; C.M. **Patricola**; P. Chang<sup>#</sup>; M. Wei. “A Data-Model Comparative Study of Hurricane Katrina and its Impact on Ocean Mixing.” *2014 AGU Ocean Sciences Meeting*, Honolulu HI, Feb 2014.

## 2013

100. **Patricola**, C.M.; P. Chang; R. Saravanan. “The Impact of Canonical and Non-canonical El Niño on Atlantic Tropical Cyclone Activity: High-resolution Tropical Channel Model Simulations.” *American Geophysical Union 2013 Fall Meeting*, San Francisco CA, Dec 2013. (poster)
101. **Patricola**, C.M; R. Saravanan<sup>#</sup>; P. Chang. “The Impact of the El Nino-Southern Oscillation and Atlantic Meridional Mode on Seasonal Atlantic Tropical Cyclone Activity.” *Tropical Atlantic Variability Meeting / PIRATA-18 Meeting*, Venice, Italy, Oct 2013.
102. **Patricola**, C.M; R. Saravanan; P. Chang. “The Impact of the El Nino-Southern Oscillation and Atlantic Meridional Mode on Seasonal Atlantic Tropical Cyclone Activity.” *US CLIVAR Hurricane Working Group Workshop*, Princeton NJ, Jun 2013.
103. Chang, P.; C.M. **Patricola**; R. Saravanan. “The Impact of the El Niño-Southern Oscillation and Atlantic Meridional Mode on Seasonal Atlantic Tropical Cyclone Activity.” *American Geophysical Union 2013 Spring Meeting*.
104. **Patricola**, C.M; R. Saravanan; P. Chang. “The Impact of the El Nino-Southern Oscillation and Atlantic Meridional Mode on Seasonal Atlantic Tropical Cyclone Activity.” *Berkeley Atmospheric Sciences Symposium (BASC)*, Berkeley CA, Feb 2013.
105. **Patricola**, C.M; R. Saravanan; P. Chang. “The Impact of the El Nino-Southern Oscillation and Atlantic Meridional Mode on Seasonal Atlantic Tropical Cyclone Activity.” *2013 AMS Annual Meeting*, Austin TX, Jan 2013.

106. Verma, T.; J.S. Hsieh; C.M. **Patricola**; R. Saravanan; P. Chang. “Climate extremes in uncoupled and coupled regional climate models.” *2013 AMS Annual Meeting*, Austin TX, Jan 2013. (poster)

## 2012

107. **Patricola**, C.M.; R. Saravanan; P. Chang. “The Impact of the El Niño-Southern Oscillation and Atlantic Meridional Mode on Seasonal Atlantic Tropical Cyclone Activity.” *American Geophysical Union 2012 Fall Meeting*, San Francisco CA, Dec 2012.
108. Chang, P.; Z. Xu; M. Li; C.M. **Patricola**. “Oceanic Origin of Tropical Atlantic SST Biases.” *American Geophysical Union 2012 Fall Meeting*, San Francisco CA, Dec 2012.
109. **Patricola**, C.M.; P. Chang; R. Saravanan; R. Montuoro. “The effect of atmosphere-ocean-wave interactions and model resolution on Hurricane Katrina in a coupled regional climate model.” *European Geosciences Union (EGU) General Assembly 2012*, Vienna, Austria, Apr 2012.
110. **Patricola**, C.M.; M. Li; Z. Xu; P. Chang; R. Saravanan. J.S. Hsieh. “An Investigation of Tropical Atlantic Bias in a High-Resolution Coupled Regional Climate Model.” *2012 AMS Annual Meeting*, New Orleans LA, Jan 2012.

## 2004-2011

111. **Patricola**, C.M.; M. Li; Z. Xu; P. Chang; R. Saravanan. J.S. Hsieh. “An Investigation of Tropical Atlantic Bias in a High-Resolution Coupled Regional Climate Model.” *American Geophysical Union 2011 Fall Meeting*, San Francisco CA, Dec 2011.
112. Xu, Z.; M. Li; C.M. **Patricola**; P. Chang. “Oceanic origin of tropical Atlantic biases.” *American Geophysical Union 2011 Fall Meeting*, San Francisco CA, Dec 2011.
113. Saravanan, R.; J.S. Hsieh; C.M. **Patricola**; P. Chang; M. Li. “High-resolution Coupled Regional Climate Modeling in the Atlantic Sector.” *American Geophysical Union 2011 Fall Meeting*, San Francisco CA, Dec 2011. (poster)
114. **Patricola**, C.M.; P. Chang; R. Saravanan. “Atmospheric and Oceanic Biases in the Tropical Atlantic in a Regional Coupled Model.” *Workshop on Coupled Ocean-Atmosphere-Land Processes in the Tropical Atlantic*, Miami FL, Mar 2011.
115. **Patricola**, C.M.; K.H. Cook. “Northern African and Indian Precipitation at the end of the 21<sup>st</sup> Century: An Integrated Application of Regional and Global Climate Models.” *American Geophysical Union 2008 Fall Meeting*, San Francisco CA, Dec 2008. (poster)
116. Cook, K.H.; C.M. **Patricola**; E.K. Vizy. “Use of a Coupled Atmosphere/Vegetation Regional Climate Model for Studying Abrupt Climate Change: Green Sahara, Brown Amazon, and Atmospheric Jet Dynamics.” *American Geophysical Union 2008 Fall Meeting*, San Francisco CA, Dec 2008.
117. Cook, K.H.; C.M. **Patricola**; Z.S. Launer; E.K. Vizy. “Simulated 21<sup>st</sup> century dynamics and hydrology of the Great Plains low-level jet.” *2008 AMS Annual Meeting*, New Orleans LA, Jan 2008.
118. **Patricola**, C.M.; K.H. Cook. “Interactions Between Vegetation and the Dynamics of the West African Monsoon: A Mechanism for Abrupt Climate Change in the Sahel and Sahara.” *American Geophysical Union 2006 Fall Meeting*, San Francisco CA, Dec 2006.
119. **Patricola**, C.M.; K.H. Cook#. “Easterly waves in the tropical Atlantic: Climatology and variability.” *2005 AMS Annual Meeting*, San Diego CA, Jan 2005.
120. Vizy, E.K.; C.M. **Patricola**; K.H. Cook. “Modes of Variability in the West African Monsoon and their Relevance to Climate Change.” *American Geophysical Union 2004 Fall Meeting*, San Francisco CA, Dec 2004.

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## Awards

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2013	Outstanding Research Staff Award, Dept. Atmospheric Sciences, Texas A&M
1/2006	AMS Global Change & Climate Variation Travel Scholarship
6/2005 – 5/2006	Cornell University Fellowship
5/2004 – 9/2004	NASA/NY Space Grant, awarded by Cornell University

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## Teaching

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Course	Credits	Semester	Cumulative enrollment	Effort	TA
MTEOR 408X/508X: Numerical Weather and Climate Prediction	3	S22	20	100%	N
MTEOR 399X: Writing for Research	1-2	S21, S22	31	100%	N
MTEOR 499: Senior Research	2	F21, F22	30	100%	N
MTEOR 360X	3	S23		100%	N
MTEOR 490F/590P: Atmosphere - Ocean Interactions	2	S21	11	100%	N

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## Advising

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### Postdoctoral Advisees (4)

Iowa State University (2):

<b>Derrick Danso</b>	10/2021-present
<b>Ana Sena</b>	6/2021-present

Lawrence Berkeley National Laboratory (2):

<b>Huanping Huang</b>	9/2019-7/2022	Now Assistant Professor at Louisiana State Univ.
<b>Emily Bercos-Hickey</b>	6/2019-present	

### Graduate Advisees (5)

Iowa State University:

<b>Tyler Mercurio</b>	Future Changes in Historically-Impactful Midwest Flood Events	8/2022-	M.S. projected 2024
<b>Nathan Erickson</b>	Climate Change Influences on Convective Storms	8/2022-	M.S. projected 2024
<b>Juan Pablo Mangual</b>	Understanding the Controls on Global Tropical Cyclone Frequency in Paleoclimate Simulations	5/2022-	M.S. projected 2024
<b>Dakota Forbis</b>	Future Changes in Tropical Cyclone Characteristics: Influence of Ocean Coupling	8/2021-	Ph.D. projected 2026
<b>Teryn Mueller</b>	The Influence of ENSO on Future Atlantic Tropical Cyclone Activity	5/2021-	M.S. projected 2023

## Graduate Committee Member (8)

### Iowa State University (5):

- **Alaina Chormann**, M.S., Geology (2022)
- **Elise Schultz**, Ph.D., Meteorology (projected 2022)
- **Indrani Ganguly**, Ph.D., Meteorology (projected 2023)
- **Samuel Ritter**, Ph.D., Meteorology (projected 2026)
- **Fouzia Fahrin**, Ph.D., Meteorology (projected 2026)

### Texas A&M University (2):

- **Dan Fu**, Ph.D., Oceanography (2018); currently Research Scientist at Texas A&M Univ.
- **Wei-Ching Hsu**, Ph.D., Oceanography (2018); currently postdoc at University of Georgia

### University of California, Santa Cruz (1):

- **John P. O'Brien**, Ph.D., Climate and Atmospheric Sciences (2019); currently postdoc at NCAR

## Undergraduate Advisees (9)

### Iowa State University (8):

<b>Lexie Merley *</b>	Meteorology Senior Thesis <i>Impacts of Future Climate Change and Drought on Gross Primary Productivity over Midwest Croplands</i>	S2022; F2022
<b>Delenn Palmer</b>	Meteorology Senior Thesis <i>Impact of Climate Change on Cold Air Outbreak Frequency and Strength over the US Midwest</i>	S2022; F2022
<b>Grace Hansen</b>	First-Year Honors Program; Undergraduate Research <i>Future Projections of Sea Surface Temperature and Salinity: Implications for Tropical Cyclones</i>	S2021; SU2022
<b>Nathan Erickson</b> Currently grad student at ISU	LAS Dean's High Impact Award; Meteorology Senior Thesis <i>Future Projections of the El Niño-Southern Oscillation: Effects of Climate Model Bias</i>	S2021; F2021; S2022
<b>Juan Pablo Mangual</b> Currently grad student at ISU	LAS Dean's High Impact Award; Meteorology Senior Thesis <i>The Impact of Upper-Ocean Salinity and Temperature on Tropical Cyclone Rapid Intensification</i>	S2021; F2021; S2022
<b>Daniel Cassidy</b> Currently Broadcast Meteorologist at KWWL	Undergraduate Research; Meteorology Senior Thesis <i>The Impact of Ocean Variability on Global Tropical Cyclone Activity</i>	S2021; F2021; S2022
<b>Jared Schadler</b>	Undergraduate Research <i>Future Change in the Indian Ocean Dipole</i>	SU2021
<b>Allysa Dallmann *</b> Currently grad student at U.T. Austin	LAS Dean's High Impact Award; Meteorology Senior Thesis <i>The Influence of ENSO on Future Winter Precipitation and Temperature in the Southwestern United States</i>	S2021; F2020

\* denotes co-advisee.

### Lawrence Berkeley National Laboratory (1):

<b>Flor Vanessa Maciel</b> Currently grad student at UCLA	Berkeley Lab Undergraduate Research program <i>Future Change in Extreme Precipitation over the San Francisco Bay Area</i>	SU2020
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## External Service

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### Editorial service

Editor, *Geophysical Research Letters* (357 manuscripts)

2019 – 2021

### Reviewer

- **Funding agencies (23 proposals):**
  - Department of Energy (14)
  - National Science Foundation (9)
  - Natural Environment Research Council of the UK (1)
- **Journals (53 papers):**
  - *Geophysical Research Letters* (8)
  - *Journal of Climate* (7)
  - *Climate Dynamics* (7)
  - *Journal of Geophysical Research - Atmospheres* (6)
  - *Nature Communications* (3)
  - *Proceedings of the National Academy of Sciences of the United States of America* (3)
  - *Nature* (2)
  - *Science* (2)
  - *Scientific Reports* (2)
  - *International Journal of Climatology* (2)
  - *Advances in Meteorology* (1)
  - *Bulletin of the American Meteorological Society* (1)
  - *Climatic Change* (1)
  - *Earth and Planetary Science Letters* (1)
  - *Earth and Space Science* (1)
  - *Earth Interactions* (1)
  - *International Journal of Geophysics* (1)
  - *Nature Geoscience* (1)
  - *npj Climate and Atmospheric Science* (1)
  - *Quarterly Journal of the Royal Meteorological Society* (1)
  - *Weather and Climate Extremes* (1)
  - *Weather and Forecasting* (1)
  - *WIREs Climate Change* (1)
- **Reports (1 report):**
  - California's Fourth Climate Change Assessment

### Synergistic Activities

- Working Group member and report co-author, 10<sup>th</sup> International Workshop on Tropical Cyclones (IWTC-10) (2022)
- Session Co-chair, [Tropical Cyclone-Ocean Interactions: From Weather to Climate](#), American Geophysical Union Ocean Sciences Meeting (2/2022)
- Panelist, [Climate Change and Tropical Cyclones](#), AMS 34<sup>th</sup> Conference on Hurricanes and Tropical Meteorology Virtual Meeting (5/12/2021)
- Organizer, DOE Regional & Global Modeling and Analysis (RGMA) program Climate Extremes Monthly Meeting (2020)
- Session co-chair, Multi-year Earth system variability, predictability and prediction, U.S. Department of Energy (DOE) Regional and Global Model Analysis (RGMA) Principal Investigators (PI) Virtual Meeting (10/2020)
- Panelist, [Miami Climate Symposium 2020: Predicting and Living with Extremes](#), Miami FL (1/22/2020)

- Session Chair, [Identifying the Climate Change Signal in Weather Events](#), American Meteorological Society 100<sup>th</sup> Annual Meeting, Boston MA (1/15/2020)
- Working Group member and report-co-author, 9<sup>th</sup> International Workshop on Tropical Cyclones ([IWTC-9](#)) (2018)
- Member, Scientific Steering Group, Prediction and Research Moored Array in the Tropical Atlantic ([PIRATA](#)) (2018 – 2022)
- Judge for Student Poster Competition, AMS 32<sup>nd</sup> Conference on Hurricanes and Tropical Meteorology (4/2016)
- U.S. CLIVAR Hurricane Working Group ([HWG](#)) (2011 – 2014)

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## Institutional Service

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### Iowa State University:

- Curriculum Committee, Dept. of Geological & Atmospheric Sciences (8/2022-present)
- Diversity, Equity, and Inclusion Committee, Dept. of Geological & Atmospheric Sciences (8/2022-present)
- Climate Science Program Committee, Dept. of Geological & Atmospheric Sciences (8/2020-present)
- Hosted 4 department seminar speakers (2020-present)
- LAS Dean's Advisory Council presentation (11/4/2022)
- Provided input for LAS recruiting campaign (10/2022)
- Coffee with faculty mentor: Earth, Wind, and Fire Learning Community (9/2022)
- Fall 2022 field trip: Earth, Wind, and Fire Learning Community (8/20/2022)
- Faculty Panel: Earth, Wind, and Fire Learning Community (MTEOR/GEOL 113) (4/4/2022)
- Organizer and Judge, 29<sup>th</sup> Annual Iowa State University Atmospheric Science Undergraduate Research Symposium (12/2021)
- Coffee with faculty mentor: Earth, Wind, and Fire Learning Community (9/16/2021)
- Fall 2021 field trip: Earth, Wind, and Fire Learning Community (8/21/2021)
- Faculty Panel: Earth, Wind, and Fire Learning Community (4/5/2021)
- Judge, 28<sup>th</sup> Annual Iowa State University Atmospheric Science Undergraduate Research Symposium (11/2020)
- Coffee with faculty mentor: Earth, Wind, and Fire Learning Community (9/11/2020)
- Science Hall mural lightning talk (9/4/2020)

### Lawrence Berkeley National Laboratory:

- Area Council Member, Earth and Environmental Sciences Area (EESA) (2019 – 2020)
- Division Council Member, Climate and Ecosystem Sciences Division (CESD) (2019 – 2020)
- Organizer, LBNL EESA Climate Modeling booth at AGU Fall Meeting (12/2019)
- Organizer, DOE BER Program Manager site visit to LBNL (10/14/2019)
- Prepared slides, DOE BER Science & Technology (S&T) presentation, EESA (6/2019)
- Organizer and presenter, session on DOE BER RGMA projects during LBNL site visit by Director of DOE BER Climate and Environmental Sciences Division (2/21/2019)
- Proposal Reviewer, Laboratory Directed Research & Development (LDRD), EESA (2/2019)
- Mentor, Earth and Environmental Sciences Area Mentoring Program (2018)
- Seminar coordinator, Climate and Ecosystem Sciences Division (2017 – 2018)
- Volunteer at California State University STEM Career Awareness Day (5/2017)

### Cornell University:

- Seminar coordinator, Department of Earth and Atmospheric Sciences (2004 – 2008)

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## Professional Affiliations

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2005 – present      American Meteorological Society ([AMS](#))  
2006 – present      American Geophysical Union ([AGU](#))  
2020 – present      [Sigma Xi](#)