Matthew J. Widlansky

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University of Hawai‘i Sea Level Center, http://uhslc.soest.hawaii.edu
School of Ocean and Earth Science and Technology, University of Hawai‘i at Mānoa
1000 Pope Road, MSB 317, Honolulu, HI 96822

Experience (Full-time Positions)

Associate Director, University of Hawai‘i Sea Level Center (UHSLC) — May 2018–Present
University of Hawai‘i at Mānoa (UH), Honolulu, HI 96822
- Managing scientific research projects relevant to the UHSLC mission of observing, understanding, and forecasting sea level variability
- Developing products for monitoring and forecasting sea level conditions
- Co-supervising tide gauge database quality control and upgrades
  Supervisor: Associate Prof. Philip Thompson

Research Affiliate, Oceanography Department at UH — Apr 2017–Present
- Conducting projects as Principal Investigator (PI) supporting UHSLC

Assistant Researcher, UHSLC — Jul 2016–Apr 2018
- Researched sea level variability related to seasonal climate forecasting
- Performed quality control of tide gauge data products
- Developed products for stakeholders such as tide prediction calendars
  Supervisor: Prof. Mark Merrifield

Postdoctoral Fellow, International Pacific Research Center (IPRC) at UH — Jan 2011–Jun 2016
- Assessed observations and predictions of sea level variability
  Mentors: Profs. Axel Timmermann and Mark Merrifield
- Assessed climate model biases for U.S.-affiliated Pacific Islands
  Mentors: Prof. Kevin Hamilton and Dr. H. Annamalai
- Performed modeling experiments of climate change processes
  Mentors: Profs. Axel Timmermann and Niklas Schneider

Education

Georgia Institute of Technology (Georgia Tech), Atlanta, GA 30332

Ph.D. Major: *Earth and Atmospheric Sciences* — Dec 2010
Dissertation: *Dynamics of the South Pacific Convergence Zone*
Advisor: Prof. Peter J. Webster
Minor: *Environmental Public Policy*

M.S. Major: *Earth and Atmospheric Sciences* — Dec 2007
Thesis: *Variability of the South Pacific Convergence Zone and its influence on the general atmospheric circulation*

B.S. Major: *Earth and Atmospheric Sciences* — May 2005
Highest Honor

Training

- Climate predictability on seasonal and interannual timescales
- Assessing observations and projections for sea level, rainfall, and ocean temperature
- Communicating climate variability uncertainties and policy-relevant risk assessment
- Facilitating collaborative programs between academic, government, and public stakeholders

Research Projects (Budget indicated if PI/Co-PI)

PI, *Assessing Opportunities for Improved Coastal Data Assimilation in Ocean Model Analyses and Seasonal Forecasting Systems* ($739,040)	2023–Present (3YR project)
Co-PI, *University of Hawaii Sea Level Center* ($10,204,397)	2022–Present (5YR project)
PI, *Describing Compound Climate Events in the Tropical Pacific Islands* ($24,995)	2022–2023
PI, *Monitoring the climatology and extremes of coastal sea levels for the U.S. Coast* ($404,414)	2022–Present (3YR project)
Co-PI, *The Pacific RISA Phase IV: Building Equitable and Just Climate Solutions for Pacific Island Resilience to Compound Disasters and Extreme Events* ($4,332,948; CIMAR/UHSLC portion $698,576)	2021–Present (5YR project)
Co-PI, *Assessing Compound Effects of Seasonal Rainfall and Sea Level Extremes on Coastal Flooding in Hawaii* ($80,000)	2020–2022
PI, *Assessing CMIP6 combined projections of changing sea levels and enhanced extreme rainfall events for determining coastal flood risks in the U.S.-affiliated Pacific Islands* ($247,124)	2019–2023
PI, *Climate, health, and migration in Pacific Islands* ($84,653)	2018–2022
Co-PI, *Multi-model seasonal sea level forecasts for the U.S. Coast* ($1,260,113)	2017–2022
Co-Investigator, *Dynamics and seasonal predictability of extreme sea level variability in the tropical western Pacific* PI: Prof. Axel Timmermann (IPRC)	2014–2017
Co-Investigator, *Coastal sea level field study in American Samoa* PI: Dr. Philip Thompson, UHSLC	2015–2016
Participant, *Oceanographic research cruise on board R/V Thompson* PI: Prof. Julian Sachs, Paleoceanography, University of Washington	2012

Selected Activities, Products, and Communications

Mentor, Postdoctoral Scholars studying sea level variability, seasonal forecasting, and climate change projections (Xiaoyu Long, 2017–2021; Laxmikant Dhage, 2020–2022; Xue Feng, 2022–present; Linta Rose, 2022–present)

Dissertation Committees, Member for Ph.D. recipients (Mattie Niznik, Rutgers Univ. 2015; Benjamin Hague, Monash Univ. 2023)

Supervisor, Research quality review of tide gauge data at the UHSLC (2017–present) http://uhslc.soest.hawaii.edu/thredds/uhslc_quality.html?dataset=uhslc_quality

Lead-Developer, Station Explorer web product (2020–present) https://uhslc.soest.hawaii.edu/stations

Facilitator, Sea Level Research Discussion Group (2019–present)

Lead-Developer, Sea Level Forecasts web product (2016–present) https://uhslc.soest.hawaii.edu/sea-level-forecasts/

Co-Developer, Online tool for viewing a climate outlook tailored to the Marshall Islands (2016–present) http://apdrc.soest.hawaii.edu/dashboard_RMI/

Co-Developer, CMIP5 data product to serve oceanic and atmospheric variables on a uniform latitude-longitude grid (2015–present) http://apdrc.soest.hawaii.edu/datadoc/cmip5.php

Technical Contributor, Hawai'i and U.S.-Affiliated Pacific Islands chapter of Fifth National Climate Assessment (NCA5).

Technical Contributor, Pacific Islands Regional Climate Assessment (PIRCA) reports (2020–2021) https://pirca.org/category/publications/reports/

Contributor, Fourth National Climate Assessment (2018), Chapter 27: "*Hawai'i and U.S.-Affiliated Pacific Islands"*. https://nca2018.globalchange.gov/chapter/27/

Contributing Author, IPCC WGI Fifth Assessment Report (2013), Chapter 14: *"Climate Phenomena and their Relevance for Future Regional Climate Change"*. https://www.ipcc.ch/report/ar5/wg1/climate-phenomena-and-their-relevance-for-future-regional-climate-change/

Peer-reviewed Publications (*supervised lead author)

Ray, R.D., **M.J. Widlansky**, A.S. Genz, and P.R. Thompson. (2023) Offsets in tide-gauge reference levels detected by satellite altimetry: ten case studies. *J. Geodesy*. 97 (110). doi: 10.1007/s00190-023-01800-7

Thompson, P.R., **M.J. Widlansky**, and Coauthors. (2023) Sea-level variability and change [in "State of the Climate in 2022, Global Oceans"]. *Bull. Amer. Meteor. Soc.*, 104 (9), S173–S176. doi: 10.1175/BAMS-D-23-0076.2

Widlansky, M.J., X. Long, M. A. Balmaseda, C.M. Spillman, G. Smith, H. Zuo, Y. Yin, O. Alves, and A. Kumar. (2023) Quantifying the benefits of altimetry assimilation in seasonal forecasts of the upper ocean. *J. Geophys. Res. Ocn.*, 128, e2022JC019342. doi:10.1029/2022JC019342

Dusek, G., W.V. Sweet, **M.J. Widlansky**, P.R. Thompson, & J.J. Marra. (2022) A novel statistical approach to predict seasonal high tide flooding. *Front. Mar. Sci.*, 9, 1073792. doi: 10.3389/fmars.2022.1073792

Thompson, P.R., **M.J. Widlansky**, and Coauthors. (2022) Sea level variability and change [in "State of the Climate in 2021, Global Oceans"]. *Bull. Amer. Meteor. Soc.*, 103, S168–S172. doi:10.1175/BAMS-D-22-0072.1

*Dhage, L. and **M.J. Widlansky**. (2022) Assessment of 21st century changing sea surface temperature, rainfall, and sea surface height patterns in the tropical Pacific Islands using CMIP6 greenhouse warming projections. *Earth's Future*, 10, doi:10.1029/2021EF002524

Thompson, P.R., **M.J. Widlansky**, and Coauthors. (2021) Sea level variability and change [in "State of the Climate in 2020, Global Oceans"]. *Bull. Amer. Meteor. Soc.*, 102, S169–S172. doi:10.1175/BAMS-D-21-0083.1

*Long, X., **M.J. Widlansky**, and Coauthors. (2021) Seasonal forecasting skill of sea level anomalies in a multi-model prediction framework. *J. Geophys. Res. Ocn.*, 126, e2020JC017060. doi:10.1029/2020JC017060

Thompson, P.R., **M.J. Widlansky**, and Coauthors. (2021) Rapid increases and extreme months in projections of United States high-tide flooding. *Nature Clim. Change*. doi:10.1038/s41558-021-01077-8

Widlansky, M.J., X. Long, F. Schloesser. (2020) Increase in sea level variability with ocean warming associated with the nonlinear thermal expansion of seawater. *Communications Earth & Environment*, 1, 1–12. doi:10.1038/s43247-020-0008-8

Holbrook N.J. and **Coauthors**. (2020) ENSO-driven ocean extremes and their ecosystem impacts. In: *El Niño Southern Oscillation in a Changing Climate*. 409–428. Wiley. doi:10.1002/9781119548164.ch18

Brown, J.R. and **Coauthors**. (2020) South Pacific Convergence Zone dynamics, variability and impacts in a changing climate. *Nature Reviews Earth & Environment*, 1, 530–543. doi:s43017-020-0078-2

Thompson, P.R., **M.J. Widlansky**, and Coauthors. (2020) Sea level variability and change [in "State of the Climate in 2019, Global Oceans"]. *Bull. Amer. Meteor.* Soc., 101, S129–S184. doi:10.1175/2020BAMSStateoftheClimate.1

Gómez, B.P. and **Coauthors**. (2020) Quality control of in situ sea level observations: a review and progress towards automated quality control. *UNESCO/IOC*. 1, IOC Manuals and Guides No. 83. (IOC/2020/MG/83Vol.1). https://unesdoc.unesco.org/ark:/48223/pf0000373566. doi: 10.25607/OBP-854

*Long, X., **M.J. Widlansky**, and Coauthors. (2020) Higher sea levels at Hawaii caused by strong El Niño and weak trade winds. *J. Climate*, 33, 3037–3059. doi:10.1175/JCLI-D-19-0221.1

Jacox, M.G. and **Coauthors**. (2020) Seasonal-to-interannual prediction of North American coastal marine ecosystems: Forecast methods, mechanisms of predictability, and priority developments. *Progress Oceanography*, 183, 102307. doi:10.1016/j.pocean.2020.102307

Winter, G. and **Coauthors**. (2020) Steps to develop early warning systems and future scenarios of storm wave-driven flooding along coral reef-lined coasts. *Frontiers in Marine Science*, doi:10.3389/fmars.2020.00199

Widlansky, M.J. and Coauthors. (2019) Tropical cyclone projections: Changing climate threats for Pacific Island defense installations. *Weather Clim. Soc.*, 11, 3–15. doi:10.1175/WCAS-D-17-0112.1

Thompson, P.R., **M.J. Widlansky**, and Coauthors. (2019) A statistical model for frequency of coastal flooding in Honolulu, Hawaii, during the 21st century. *J. Geophys. Res. Ocn.*, 124, 2787–2802. doi:10.1029/2018JC014741

Thompson, P.R., **M.J. Widlansky**, and Coauthors. (2019) Sea level variability and change [in "State of the Climate in 2018, Global Oceans"]. *Bull. Amer. Meteor.* Soc., 100, Si–S306. doi:10.1175/2019BAMSStateoftheClimate.1

Chikamoto, Y., and **Coauthors**. (2019) A drift-free decadal climate prediction system for the Community Earth System Model. *J. Climate*, 32, 5967–5995. doi: 10.1175/JCLI-D-18-0788.1

Gingerich, S.B., and **Coauthors**. (2019) Water Resources on Guam: Potential Impacts of and Adaptive Response to Climate Change. *Tech. Rep.*, USGS Pacific Islands Water Science Center. https://apps.dtic.mil/sti/pdfs/AD1084633.pdf

Venegas, R., and **Coauthors**. (2019) Climate-induced vulnerability of fisheries in the Coral Triangle: Skipjack Tuna thermal spawning habitats. *Fish. Oceanogr.*, 28, 117–130. doi:10.1111/fog.12390

Thompson, P.R., and **Coauthors**. (2018) Sea level variability and change [in "State of the Climate in 2017"]. *Bull. Amer. Meteor. Soc.*, 99, S84–S87. doi:10.1175/2018BAMSStateoftheClimate.1

Yoon, H., **M. J. Widlansky**, and P. R. Thompson. (2018) Nu`a Kai: Flooding in Hawaii caused by a "stack" of oceanographic process [in "State of the Climate in 2017"]. *Bull. Amer. Meteor. Soc.*, 99, S88–S89. doi:10.1175/2018BAMSStateoftheClimate.1

Widlansky M.J., J.J. Marra, M.R. Chowdhury, S.A. Stephens, E.R. Miles, N. Fauchereau, C.M. Spillman, G. Smith, G. Beard, and J. Wells. (2017) Multi-model ensemble sea level

forecasts for tropical Pacific islands. *J. Appl. Meteorol.*, 56 (4), 849–862. doi:10.1175/JAMC-D-16-0284.1

Chikamoto, Y., A. Timmermann, **M. J. Widlansky,** M. A. Balmaseda, and L. Stott. (2017) Multi-year predictability of climate, drought, and wildfire in southwestern North America. *Sci. Rep.* doi:10.1038/s41598-017-06869-7

Annamalai, H., V. Keener, **M.J. Widlansky**, and J. Hafner. (2015) El Niño strengthens in the Pacific: Preparing for the impacts of drought. *AsiaPacific Issues*. (122), 1–10. https://www.eastwestcenter.org/publications/el-niño-strengthens-in-the-pacific-preparing-the-impacts-drought

McPhaden, M.J., A. Timmermann, **M.J. Widlansky**, M.A. Balmaseda, and T.N. Stockdale. (2015) The Curious Case of the El Niño That Never Happened: A perspective from 40 years of progress in climate research and forecasting. *Bull. Amer. Meteor. Soc.* 96 (10), 1647–1665. doi:10.1175/BAMS-D-14-00089.1

Niznik, M.J., B. Lintner, A. Matthews, and **M.J. Widlansky**. (2015) The role of tropical-extratropical interaction and synoptic variability in maintaining the South Pacific Convergence Zone in CMIP5 models. *J. Climate.* 28 (8), 3353–3374. doi:10.1175/JCLI-D-14-00527.1

Widlansky M.J., A. Timmermann, and W. Cai. (2015) Future extreme sea level seesaws in the tropical Pacific. *Science Advances.* 1 (8). e1500560. doi:10.1126/sciadv.1500560

Ganachaud, A. and **Coauthors**. (2014) The Southwest Pacific Ocean Circulation and Climate Experiment (SPICE). *J. Geophys. Res.-Oceans.* 119 (11). 7660–7686. doi:10.1002/2013JC009678

Widlansky M.J., A. Timmermann, S. McGregor, M.F. Stuecker, and W. Cai (2014) An interhemispheric tropical sea level seesaw due to El Niño Taimasa. *J. Climate*. 27, 1070–81. doi:10.1175/JCLI-D-13-00276.1

Widlansky M.J., A. Timmermann, K. Stein, S. McGregor, N. Schneider, M. H. England, M. Lengaigne, and W. Cai (2013) Changes in South Pacific rainfall bands in a warming climate. *Nature Clim. Change*. 3, 417–423. doi:10.1038/nclimate1726

Cai W., M. Lengaigne, S. Borlace, M. Collins, T. Cowan, M.J. McPhaden, A. Timmermann, S. Power, J. Brown, C. Menkes, A. Ngari, E.M. Vincent, and **M.J. Widlansky** (2012) More extreme swings of the South Pacific Convergence Zone due to greenhouse warming. *Nature*. 488, 365–369. doi:10.1038/nature11358

Widlansky M.J., P.J. Webster, and C.D. Hoyos (2011) On the location and orientation of the South Pacific Convergence Zone. *Clim. Dynam*. 36, 561–578. doi:10.1007/s00382-010-0871-6

Publicity

Research featured in *Climate Central*, *Discovery News*, *Hakai Magazine*, *Hawaii News Now*, *Hawaii Public Radio*, *Honolulu Star-Advertiser*, and Japan's public broadcast *NHK-TV*.

Interviews on global sea level variability. 2020. Radio and Online.

Interviews on Hawai‘i high sea levels. KHON2/KGMB/KHNL. 2017. Television and Online.

Story on "El Niño-related sea level extremes to increase with greenhouse warming". *Research Highlights*, US CLIVAR. 5 Oct 2015. Online.

Interview in "UH researchers predict swing in sea levels". *Hawaii News Now*, KGMB/KHNL. 25 Sep 2015. Television.

Story on "The Sea Level Seesaw of El Niño *Taimasa*". (2014) *IPRC Climate*. 14 (1). 16–18.

Press Release "What is El Niño *Taimasa*? Strong El Niño events leading to lower local sea levels" *ScienceDaily*, 20 Feb 2014.
Story on "South Pacific Rainfall in a Warming Climate". (2012) *IPRC Climate*. 12 (2). 3–5.
Press Release "Researchers explain regional rainfall projection uncertainty". *University of Hawaii News*, 2 Nov 2012.

Invited Seminars

- Forecasting sea levels, NOAA CO-OPS Sea Level Symposium, *Webinar* Aug 2023
- Monitoring & forecasting sea levels, Pacific International Training Desk, *Webinar* Jul 2022
- National Climate Change and Health Dialogue, *Republic of the Marshall Islands* Jan 2020
- HĀ O KE KAI 2020 Hawai'i State Climate Conference, *Honolulu* Jan 2020
- Pacific Islands Sea Level Forecast tool, NOAA, *Webinar* Jan 2018
- UH and U. Tokyo Joint Symposium on Ocn, Coastal & Atm Sci, *Honolulu* Sep 2017
- Department of Oceanography, Seminar Series, UH, *Honolulu* Feb 2017
- OneNOAA, Science Seminar series Nov 2015
- Island Sustainability Conference (Plenary Speaker), U. Guam, *Guam* Apr 2015
- Pacific Islands Fisheries Science Center, Seminar Series, NOAA, *Honolulu* Jul 2014
- Coral Reef Ecosystem Division, NOAA Fisheries, *Honolulu* Jun 2013
- PacificRISA, UH, *Honolulu* Nov 2012
- Department of Meteorology, Seminar Series, UH, *Honolulu* Oct 2012
- International Scientific Workshop on the SPCZ, *Apia, Samoa* Aug 2010
- International Pacific Research Center, Seminar Series, UH, *Honolulu* May 2010

Conference Presentations

- Monitoring Sea Level Changes, IUGG, *Berlin, Germany* Jul 2023
- Subseasonal-to-Seasonal Prediction Summit*, Reading, U.K.* Jul 2023
- 11th Symposium Joint Center Satellite Data Assim, AMS Annual Meeting, *Denver* Jan 2023
- WCRP Sea Level Conference, *Singapore* Jul 2022
- Seasonal-to-decadal forecasting of the marine env session, AGU OSM*, Virtual* Feb 2022
- WCRP Workshop on Extremes in Climate Prediction Ensembles, *Virtual* Oct 2021
- Understanding Sea Level Rise, AGU Fall Meeting, *Virtual* Dec 2020
- Flooding in the U.S. East Coast, Coastal Solutions Workshop, *Virtual* Jul 2020
- Coastal research session, AGU Ocean Sciences Meeting, *San Diego* Feb 2020
- 17th Annual Climate Prediction Applications Science Workshop, *Charleston* Jun 2019
- Sea level Hotspots from Florida to Maine Meeting, CLIVAR, Norfolk Apr 2019
- 16th Meeting of the GLOSS Group of Experts, *Busan, Korea* Apr 2019
- WCRP Conference on Subseasonal to Decadal Prediction, *Boulder* Sep 2018
- Seasonal climate predictability and applicability session, AOGS, *Honolulu* Jun 2018
- Sea level variability session, AGU Ocean Sciences Meeting*, Portland* Feb 2018
- 16th Symposium on the Coastal Environment, AMS Annual Meeting, *Austin* Jan 2018
- 15th Meeting of the GLOSS Group of Experts, *New York* Jul 2017
- Regional Sea Level Changes and Coastal Impacts, WCRP, *New York* Jul 2017
- 15th Symposium on the Coastal Environment, AMS Annual Meeting, *Seattle* Jan 2017
- Impacts to Coral Reefs, 13th International Coral Reef Symposium, *Honolulu* Jun 2016
- Coasts in Crisis: Sea Level Rise, AGU Ocean Sciences Meeting, *New Orleans* Feb 2016
- Variability of Sea Level Rise session, AGU Fall Meeting, *San Francisco* Dec 2014
- Rising Sea Level session, AGU Ocean Sciences Meeting, *Honolulu* Feb 2014

- Thirty Years of ENSO Research session, AGU Fall Meeting, *San Francisco* Dec 2013
- 13th IPRC Annual Symposium, UH, *Honolulu* Dec 2013
- Tropical Pacific session, AGU Fall Meeting, *San Francisco* Dec 2012
- 12th IPRC Annual Symposium, UH, *Honolulu* Nov 2012
- 10th ICSHMO, Southern Hemisphere Meteorology, *Nouméa, New Caledonia* Apr 2012
- WCRP Workshop on CMIP5 Climate Model Analysis, *Honolulu* Mar 2012
- 11th IPRC Annual Symposium, UH, *Honolulu* Sep 2011
- Workshop on "Hierarchical modeling of climate", ICTP, *Trieste, Italy* July 2011
- Air-Sea Interactions in Southeast Pacific, AGU Fall Meeting, *San Francisco* Dec 2010
- 29th Conference on Hurricanes and Tropical Meteorology, AMS, *Tucson* May 2010
- 22nd Conference Climate Variability & Change, AMS Annual Meeting, *Atlanta* Jan 2010
- 16th Conference on Air-Sea Interaction, AMS Annual Meeting, *Phoenix* Jan 2009
- 6th Annual EAS Graduate Student Symposium, Georgia Tech, *Atlanta* Nov 2008
- SPCZ-Southwest Pacific Ocean session, AGU Fall Meeting, *San Francisco* Dec 2007
- 4th Annual EAS Graduate Student Symposium, Georgia Tech, *Atlanta* Nov 2006

Outreach and Communication

- Workshop, Coastlines and People (NSF CoPe/FIU) Sep 2022
- "Rising sea level" Presenter, K–12 Open House (UHSLC/UH) Oct 2017, 2019
- Guest Lecturer, Anthropology, Geography, and Ocn Depts. (UH) 2016, 2017, 2019
- National Climate Assessment Sectoral Workshop (EWC) Mar 2017
- Science Coordinator, Annual Symposium (IPRC/UH) Mar 2016
- Integrated Water Level Service (NOAA, UH, BoM, NIWA) 2014–present
- Session Convener, Diagonal convection zones (AGU Fall Meeting) Dec 2014
- Workshop, Atmospheric Processes-Latin America (Colombia) May 2013
- Workshop, "Science: Becoming the Messenger" (NSF) Jan 2012
- "Magic Planet" Presenter, K–12 Open House (IPRC/UH) Oct 2011
- Forecaster, Daily Weather Briefings (AMS Annual Meeting) Jan 2010
- Developer. WxBuzz Forecasting Website (EAS/Georgia Tech) 2009–2010
- Computing & Undergraduate Studies, committees (EAS/Georgia Tech) 2008–2010
- Tutor, Georgia Tech Athletic Association 2007–2010
- Teaching Assistant, Climate and Global Change (EAS/Georgia Tech) Fall 2006, 07, 09
- Graduate Student Symposium, coordinator (EAS/Georgia Tech) Fall 2006
- Weather Team Intern, communicating forecasts (WPBF-TV25) May–Aug 2003

Professional Service and Memberships

Journal reviewer:
Clim. Dyn., Earth's Future, Earth Int., Earth Planet. Sci. Lett., Geophys. Res. Lett., J. App. Met. Clim., J. Climate, J. Geophys. Res.-Atm., J. Geophys. Res.-Ocn., Int. J. Climatol., Nature Clim. Change, Nature Comm., Nature Sci. Rep., Q. J. Roy. Meteor. Soc., and *S. H. Earth. Sys. Sci.*

Proposal reviewer:
Climate and Large-scale Dynamics (NSF)*, Paleo Perspectives on Climate Change* (NSF)*,* and *Marsden Fund* (New Zealand)

Member: *AGU*, *AMS*, and *IUGG*

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Selected Awards and Honors

- RCUH Outstanding Employee of the Year, 2nd Pl (Researcher/Manager) 2023
- Poster Award, Climate Variability session, AMS Annual Meeting 2010
- Presidential Fellowship, Georgia Tech 2005–2009
- Commodore (President), Georgia Tech Sailing 2006, 2008
- Quarter Century Award, Earth and Atmospheric Sciences, Georgia Tech 2005
- Faculty Honors, Georgia Tech Spring 2005
- Honor Society, Earth and Atmospheric Sciences, Georgia Tech 2004, 2005
- National Society of Collegiate Scholars 2003–2005
- Team Captain, Georgia Tech Sailing 2003–2005
- Deans List, Georgia Tech 2002–2004
- National Society of Eagle Scouts 2001

Relevant Course Work

Earth and Atmospheric Sciences 2005–2010

Atmospheric Dynamics, Large-scale Dynamics, Dynamic Meteorology, Thermodynamics of Atmospheres & Oceans, Climate Change Modeling, Modeling for Geosciences, Atmosphere & Ocean Interactions, Oceanography, Hurricanes Seminar, Clouds & Aerosols Seminar, Multi-decadal Oscillations Seminar, Teaching Assistant Preparation Course, Tropical Atlantic Variability Seminar

Environmental Science and Public Policy 2005–2010

Environmental Data Analysis, Environmental Policy,
Energy Technology & Policy, Weather Risk & Catastrophe Management

Study Abroad, Tropical Ecology & Environmental Policy Summer 2004

University of Costa Rica, San Ramón and *La Selva Biological Stations*

Software and Data Experience

Scientific programming
MATLAB, Python,
NCAR Command Language (NCL), Integrated Data Viewer (IDV), and Vapor
Fortran and C++

Climate modeling
NCAR CESM,
CMIP5/6 analysis,
ICTP "SPEEDY"

Operating systems
Linux, Windows

Publication
Adobe Illustrator and Photoshop,
Microsoft Office, LaTeX

Web design
HTML & JavaScript, basic coding and website management

Data formats and exchange NetCDF, GeoJSON, CSV and OPeNDAP, GLOBUS, FTP

AI OpenAI services, GitHub Copilot, TensorFlow