

CONTACT INFORMATION	Department of Atmospheric Sciences, University of Hawaii 2525 Correa Road, HIG 350, Honolulu, HI 96822, USA		Tel: (+1) 808 956 2565 E-mail: <a href="mailto:ckaramp@hawaii.edu">ckaramp@hawaii.edu</a> <a href="mailto:ck2424@columbia.edu">ck2424@columbia.edu</a>
RESEARCH INTERESTS	Climate dynamics & Modeling, Paleoclimate Modeling and Model-Proxy Synthesis, ENSO Predictability, Mid-latitude Atmospheric Circulation, Dynamical Systems Theory, Model Optimization, Groundwater Modeling		
EDUCATIONAL BACKGROUND	<b>PhD</b>	Columbia University	Earth & Environmental Engineering 2012
	<b>MPhil</b>	Columbia University	Earth & Environmental Engineering 2011
	<b>MSc</b>	A.U.Th.	Environmental Protection & Sustainable Development 2007
	<b>MSc</b>	A.U.Th.	Hydraulics & Environmental Engineering 2006
	<b>Diploma</b>	Aristotle University of Thessaloniki (A.U.Th.)	Civil Engineering 2006
HONORS & AWARDS	PhD title awarded with Distinction, Columbia University NASA Earth and Space Science Fellow (NESSF) Outstanding Student Paper Award, Atmospheric Sciences Section, AGU Fall Meeting Fellow, Alexander S. Onassis Public Benefit Foundation		2012 2009-2012 2010 2009-2012
APPOINTMENTS	Assistant Professor, Department of Atmospheric Sciences, U. of Hawaii Assistant Researcher, Department of Atmospheric Sciences, U. of Hawaii Postdoctoral Researcher, Department of Meteorology, U. of Hawaii Adjunct Associate Research Scientist, Columbia University Research & Teaching Assistant, Columbia University Research Assistant, Aristotle University of Thessaloniki, Greece		8/2016-date 12/2014-8/2016 09/2012-11/2014 09/2012-date 2008-2012 2005-2007
FUNDED PROJECTS	<ul style="list-style-type: none"><li>• <b>Title:</b> NSF AGS-1602097-Collaborative Research: P2C2-The Role of El Nino/Southern Oscillation (ENSO) Nonlinearities and Asymmetries in Modulating Tropical Pacific Climate. <b>Funding Agency:</b> National Science Foundation. <b>Performance Period:</b> 05/15/2016-04/30/2019. <b>Amount:</b> \$430,283.<b>PI:</b> C. Karamperidou</li><li>• <b>Title:</b> NSF AGS-1304910-Understanding changing ENSO flavors in the mid-Holocene laboratory. <b>Funding Agency:</b> National Science Foundation. <b>Performance Period:</b> 09/01/2013- 08/31/2017. <b>Amount:</b> \$439,605. <b>PI:</b> C. Karamperidou.</li><li>• <b>Title:</b> Dynamics of the Hydrological Cycle in a Changing Climate: Interactions of Low Frequency Climate Mechanisms and Hydrologic Extremes. <b>Funding Agency:</b> National Aeronautics and Space Administration. <b>Performance Period:</b> 09/01/2009-08/31/2012. <b>Amount:</b> \$90,000. <b>Earth and Space Science Fellow:</b> C. Karamperidou.</li><li>• <b>Title:</b> "How can the contribution of climate variability, water release patterns, and hydrologic performance indices towards ecological restoration measures at the Everglades National Park be best quantified and predicted?". <b>Funding Agency:</b> National Park Service. <b>Amount:</b> \$151,721. <b>co-PI and Graduate Research Assistant:</b> C. Karamperidou.</li><li>• "Chrystechsalin (saltwater intrusion in coastal aquifers)", European Union (Undergraduate Research Assistant)</li></ul>		
PUBLICATIONS	Conroy, J.L, <b>C. Karamperidou</b> ,D.A. Grimley, and W.R. Guenthner: <i>Westerly winds across eastern and mid-continental North America during the Last Glacial Maximum: A</i>		

*new data-model assessment*, to be submitted to Quaternary Science Reviews (invited submission)

Kiefer, J. and **C. Karamperidou**, 2019: *High-resolution modeling of ENSO-induced precipitation in the tropical Andes: implications for proxy interpretation.*, Paleoclimatology and Paleoclimatology, in press.

Hou, Z., J. Li, R. Ding, **C. Karamperidou**, W. Duan, T. Liu, and J. Feng, 2018: *Asymmetry of the predictability limit of the warm ENSO phase.* Geophysical Research Letters, 45, 76467653. <https://doi.org/10.1029/2018GL077880>

K. Takahashi, **Karamperidou, C.**, B. Dewitte, 2018: *A theoretical model of strong and moderate El Niño regimes.*, Clim Dyn, doi:10.1007/s00382-018-4100-z

**Karamperidou, C.**, F.F. Jin, and J.L. Conroy, 2017: *The Importance of ENSO Nonlinearities in Tropical Pacific Response to External Forcing.*, Clim Dyn, doi:10.1007/s00382-016-3475-y

F.S.R. Pausata, **C. Karamperidou**, R. Caballero and D.S. Battisti, 2016: *ENSO response to high-latitude volcanic eruptions: the role of the initial conditions*, Geophys. Res. Lett., 43 (16), 8694-8702.

**Karamperidou, C.**, P.N. Di Nezio, A. Timmermann, F.-F. Jin, and K.M. Cobb, 2015: *The response of ENSO flavors to mid-Holocene climate: Implications for proxy interpretation*, Paleoclimatology 30(5), 527-547

Schollaen, K., **C. Karamperidou**, P. Krusic, E.R. Cook, and G. Helle, 2015: *ENSO flavors in a tree-ring 18O record of Tectona grandis from Indonesia.* Climates of the Past, cp-2014-118.

**C. Karamperidou**, M.A. Cane, U. Lall, A.T. Wittenberg, 2013: *Intrinsic modulation of ENSO predictability viewed through a local Lyapunov lens.*, Climate Dynamics, doi: 10.1007/s00382-013-1759-z.

**C.Karamperidou**, V. Engel, E. Stabenau, U. Lall and T. Smith III, 2013: *Implications of multi-scale sea level and climate variability for coastal resources: a case study for south Florida and Everglades National Park, USA., Regional Environmental Change*, doi: 10.1007/s10113-013-0408-8.

**C.Karamperidou**, F. Cioffi, and U. Lall, 2012: *Surface Temperature Gradients as Diagnostic Indicators of Midlatitude Circulation Dynamics*, J. Climate, 25, 4154-4171.

D. Chavas, E. Yonekura, **C. Karamperidou**, N. Cavanaugh, K. Sherafin, 2012: *US Hurricanes and economic damage: an extreme value perspective.*, Nat. Haz. Rev., doi: 10.1061/(ASCE)NH.1527-6996.0000102

**C.Karamperidou**, M.Vafeiadis, and K.L. Katsifarakis, 2010: *Groundwater Resources Management Optimization by means of Artificial Neural Networks.*, Tech. Chron. Sci. J., Technical Chamber of Greece Editions, No 2, pp. 25-32, 2010.

S.Arvanitidou, **C.Karamperidou**, and K.L. Katsifarakis, 2009: *Optimal Hydrodynamic Control of a Contaminant Plume. Proceedings of the Joint Conference of the Hellenic Hydraulic Union, and the Greek Committee for Water Resources Management*, Volos, Greece, 27-30/05/2009

**C.Karamperidou**, E.Karamperidou, and K.L. Katsifarakis, 2007: *Seawater intrusion into the aquifer of Eleftherae-N. Peramos, Kavala, Greece.* WIT Transactions on Ecology and the Environment 104, pp. 3-10, 2007.

INVITED TALKS ENSO Science Symposium, Jan 29-Feb 2, 2019: Hobart, Australia: *Multi-resolution hierarchical modeling of ENSO flavors and their impacts.* Multi-resolution hierarchical modeling  
AT of ENSO flavors and their impacts. (Keynote)  
INTERNATIONAL AGU Fall Meeting 2018, Dec 10-14, 2018, Washington D.C., Session PP33B: Paleoclimatic History of El Niño Southern Oscillation: *A multi-resolution approach to paleo-ENSO diversity in models and data.* (Invited)  
CONFERENCES AGU Fall Meeting 2018, Dec 10-14, 2018, Washington D.C., GC42D: Untangling ENSO Complexity: From the Ancient Past to the Far Future I : *A hierarchy of models for ENSO diversity in past, present and future.*(Invited)

IV International Conference on El Nio Southern Oscillation: ENSO in a warmer Climate, Oct 16-18, 2018, Guayaquil, Ecuador: *A hierarchy of models for ENSO diversity in past, present and future.*(Invited)

INVITED SEMINARS (DEPARTMENTAL, REGIONAL) Forum Math for Industry 2017: Responding to the Challenges of Climate Change: Exploiting, Harnessing and Enhancing the Opportunities of Clean Energy, 2017: *The interacting time scales of tropical Pacific climate: modeling challenges and impacts*  
University of Texas Institute for Geophysics (UTIG), 2017: *Tropical Pacific Climate Change: Learning from the Past to inform the Future.*  
UH Department of Civil Environmental Engineering Seminar Series, 2016: *Metrics Of El Niño Nonlinearity as Constraints for Tropical Pacific Climate Change.*  
Workshop on Using High Resolution Paleoclimate Reconstructions Since AD 1500 in Support of Research on Environmental/Societal Change in Hawaii,, sponsored by the Climate Impacts Research Center of Hawaii Pacific Islands Climate Change Cooperative, 2017: *Using multi-resolution proxies to assess ENSO impacts on the mean state of the tropical Pacific*  
UCSB Interdepartmental Graduate Program in Marine Science (IGPMS) Seminar Series, Santa Barbara, 2015: *ENSO-annual cycle interactions: Insights from models and paleoclimate proxies.*  
The Tropics Rule: a symposium honoring Mark Canes contribution to climate science, Lamont-Doherty Earth Observatory of Columbia University, 2014: *Does El Niño variability affect warming trends in the tropical Pacific?*  
The Subtropical Frontier: A summer school on climate trends, variability and extremes in the subtropics, Navarino Environmental Observatory, Greece, 2013: Invited instructor and lecturer.

OTHER ORAL PRESENTATIONS **C. Karamperidou**, K. Takahashi, B. Dewitte, R. Xie: *A hierarchy of models for ENSO diversity in past, present and future.*, 98th AMS Annual Meeting. Austin, TX, January 2018  
**C. Karamperidou**, R. Xie, P.N. Di Nezio: *A hierarchy of models for ENSO flavors in past climates.*, 2017 AGU Fall Meeting. N. Orleans, December 2017  
**C. Karamperidou**: *ENSO response to highlatitude volcanic eruptions.*, Seminar at UH Atmospheric Sciences Colloquium, October 2017  
**C. Karamperidou** and Jessica Conroy: *Using multi-resolution proxies to assess ENSO impacts on the mean state of the tropical Pacific.*, Past Global Changes (PAGES) Open Science Meeting, Zaragoza, Spain, May 2017  
**C. Karamperidou** "Metrics Of El Niño Nonlinearity as Constraints for Tropical Pacific Climate Change.", Seminar Series, Department of Civil and Environmental Engineering, U. of Hawaii, February 2016.  
**C. Karamperidou**, Fei-Fei Jin and Jessica Conroy, "The Importance of ENSO Non-linearities in Tropical Pacific Response to External Forcing.", AGU Fall Meeting, San Francisco, Dec 2015.  
**C. Karamperidou** and Jessica Conroy, "The Mean State of the tropical Pacific on multidecadal to centennial timescales: Strength of the Bjerknes Feedback and ENSO Influences.", XIX INQUA Congress: Quaternary Perspectives on Climate Change, Natural Hazards and Civilization. Nagoya, Japan, July 27-Aug 3, 2015.  
**C. Karamperidou** and Pedro Di Nezio, "The role of nonlinearities and seasonality in the response of ENSO to climate changes.", 4th CLIVAR Workshop on the Evaluation of ENSO Processes in Climate Models: ENSO in a changing climate. Paris, France, July 8-10, 2015.  
**C. Karamperidou**, "ENSO-annual cycle interactions: Insights from models and paleoclimate proxies.", UCSB Interdepartmental Graduate Program in Marine Science (IGPMS) Seminar Series, Santa Barbara, May, 2015.

**C. Karamperidou**, "*Altered ENSO flavors during the mid-Holocene revealed by model-proxy synthesis*", AGU Fall Meeting, San Francisco, Dec 2014

**C. Karamperidou**, "*Does El Niño variability affect warming trends in the tropical Pacific?*", The Tropics Rule: a symposium honoring Mark Cane's contribution to climate science, Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY USA, October 20-21, 2014.

**C. Karamperidou**, "*ENSO Diversity in the mid-Holocene*", Second Palaeoclimate Modelling Intercomparison Project (PMIP3) general meeting. Namur, Belgium, May 2014.

**C. Karamperidou**, "*ENSO diversity and orbital forcing*", Department of Meteorology Seminar, U. of Hawaii, Honolulu, HI, April 16th, 2014.

**C. Karamperidou**, "*The response of ENSO flavors to orbital forcing: Implications for interpreting proxies*", U.S. CLIVAR ENSO Diversity Workshop, Boulder, CO February 6-8, 2013.

**C. Karamperidou**, "*The interacting dynamics of tropical and extratropical climate: A 'reduced-space' perspective.*", U. Of Hawaii, International Pacific Research Center Seminar, April 30, 2012.

**C. Karamperidou**, "*Bias or Uncertainty: Following the bias cascade in precipitation projections.*", Workshop "Climate Change and Water Cycle, and Communicating Uncertainty, Princeton University, 30-31 March 2012.

**C. Karamperidou**, "*Assessing Uncertainties in ENSO Predictability due to Internal Variability.*", Geology, Earth & Oceanography Series (GEOS), City University of New York (CUNY), February 16th, 2012.

**C. Karamperidou**, M.A. Cane, A.T. Wittenberg, U. Lall, P.N. DiNezio, "*Irregularity in ENSO Predictability Through the Prism of Local Lyapunov Exponents.*", 24th Conference on Climate Variability and Change, 92nd American Meteorological Society Annual Meeting, N. Orleans, LA, January 22-26, 2012.

**C. Karamperidou**, M.A. Cane, A.T. Wittenberg, U. Lall, P.N. DiNezio, "*Decadal ENSO variability as reflected by Local Lyapunov Exponents.*", AGU Fall Meeting 2011, San Francisco, CA, December 5-9, 2011.

**C. Karamperidou**, *Irregularity in ENSO predictability*, DOCP seminar, Lamont-Doherty Earth Observatory, December 2nd 2011.

**C. Karamperidou**, *GCM projections of mid-latitude storm tracks viewed through the prism of low-order models*, Workshop on Hierarchical Modeling of Climate, Trieste, Italy, 18 - 22 July 2011

**C. Karamperidou**, U. Lall, V. Engel, H. Kwon, J. Obeysekera. *Projecting Impacts of Uncertain Sea Level Variability and Rise on Coastal Groundwater Systems: South Florida Applications.*, AGU Fall Meeting 2009, San Francisco, 14-18 December 2009. ⇒ **and over 25 posters presented in AGU, EGU, and AMS meetings.**

#### TEACHING EXPERIENCE

- Instructor, *ATMO752/640: Paleoclimate Model-Proxy Synthesis*, Department of Atmospheric Sciences, University of Hawaii
- Instructor, *ATMO101: Introduction to Weather and Climate*, Department of Atmospheric Sciences, University of Hawaii
- Instructor, *ATMO449: Climate Modeling, Data Analysis and Applications*, Department of Atmospheric Sciences/Civil and Environmental Engineering, University of Hawaii
- co-Instructor, *OCN105: Sustainability in a Changing World*, Department of Oceanography, University of Hawaii
- Guest Instructor, *ATMO752: Dynamics of the El Niño Southern Oscillation Phenomenon*, Department of Meteorology, University of Hawaii, Fall 2014
- Instructor, *The Subtropical Frontier: A summer school on climate trends, variability and extremes in the subtropics*, Navarino Environmental Observatory, Messinia, Greece, June 23-July 3, 2013

- Guest Lecturer, *River & Coastal Hydrodynamics*, Instructors: U. Lall & F. Cioffi, Department of Earth & Environmental Engineering, Columbia University, Spring 2011

#### Teaching Assistant

- *Applied Atmospheric Dynamics*, Instructor: F.-F. Jin, Department of Atmospheric Sciences, U. Hawaii, Spring 2014
- *Dynamics of Climate Variability & Change*, Instructors: M.Cane & L. Goddard, Department of Environmental Sciences, Columbia University, Fall 2011
- *A Better Planet by Design*, Instructors: U. Lall & A.-H. Park, Department of Earth & Environmental Engineering, Columbia University, Fall 2009
- *Environmental Engineering*, Instructor: G.Gong, Department of Earth & Environmental Engineering, Columbia University, Spring 2008

#### STUDENT ADVISING

- **Thesis Advisor:** Jil Kiefer (PhD, 2020 expected), Madeline McKenna (PhD, 2021, expected)
- **Undergraduate Thesis Advisor:** Nicholas Modar (2019, expected)
- **Committee Member:** Dillon Dodson (MSc, 2017), Hui Shi (PhD, 2018)

#### SERVICE

- Member, Curriculum Committee, Department of Atmospheric Sciences, U. of Hawaii (2017-date)
- Non-voting member, Faculty search committees: Department of Oceanography, U. of Hawaii (2018-2019) & Department of Ocean & Resources Engineering, U. of Hawaii (2018-2019)
- SOEST representative (substitute), Graduate Council, U. of Hawaii (2019)

#### SYNERGISTIC ACTIVITIES

- Outreach: Communicating current science and research news to raise public awareness about the importance of technology, energy, diversification and globalism to the future of Hawai'i and the Pacific:  
*Evening Sky News with Tom Macleod on Sky News Network: Hawaii Hurricane Lane, Aug 2018*  
*News Views on Olelo Public Access TV: Climate Change 101, Oct 2017*  
*Jay Fidell's ThinkTech Hawaii Show Is El Nio Changing?, Sep. 2014, Fall 2014.*  
*Developed Presentations and Activities on the Atmospheric Sciences Department for Hawaii High school visits at ATMO organized by the Deans office.*  
*Minnesota Public Radio: Climate Scientists trained to be on hot seat. Aug. 2016*  
*SOEST Open House exhibitor/volunteer, 2013-2017*  
*Organizer (in collaboration with the Columbia University Club of South Florida) of the panel discussion and open to the public event: The Future of Water: innovative interdisciplinary approaches for resilient adaptation to climate change in South Florida, 2011*
- Instructor, Bridge program between Hawaii community colleges and SOEST: "Mauka to Makai". Aug. 2018
- Volunteer Mentor and Judge, Hawai'i Association of Independent Schools, and Hawaii State Science and Engineering Fair (Hawai'i Academy of Sciences), Volunteer mentor in Interview Skills Workshop, organized by the SOEST Professional Development Committee, Sep 2017
- Instructor, *The Subtropical Frontier: A summer school on climate trends, variability and extremes in the subtropics*, Navarino Environmental Observatory, Messina, Greece, June 23-July 3, 2013.
- Convener of AGU Session on "Dynamics and Predictability of Midlatitude Storms in a Changing Climate", AGU Fall Meetings 2011-2016

- Convener of Session on "Understanding and Modeling ENSO in past, present and future climates", AGU Ocean Science Meeting 2014
- Reviewer: NSF proposals, Nature, Nature Geoscience, Journal of Climate, Climate Dynamics, J. of Applied Meteorology & Climatology, Regional Environmental Change, Advances in Water Resources, Weather and Forecasting.

OTHER  
ACADEMIC  
TRAINING

**Expert Witness Training Academy**, August 2016 – August 2018, Mitchell Hamline School of Law, St. Paul, MN

**Dissertations Initiative for the Advancement of Climate Change Research (DIS-CCRS)**, VII Symposium, October 12-19, 2013, La Foret Conference Retreat Center, Colorado Springs, CO

**Community Earth System Modeling (CESM) Tutorial**, 30 July - 03 August 2012, NCAR, Boulder, CO

**Statistical Assessment of Extreme Weather Phenomena under Climate Change**, NCAR ASP Colloquium, June 6-24, 2011, Boulder, CO, USA

**Workshop on Hierarchical Modeling of Climate**, International Centre for Theoretical Physics (ICTP), Trieste, Italy, 18 - 22 July 2011.

**Summer School on Biogeodynamics and Earth System Sciences (BESS)**, Venice, Italy, June 11-18 2010.

PROFESSIONAL  
SOCIETIES &  
ASSOCIATIONS

American Geophysical Union (AGU), American Meteorological Society (AMS), European Geoscience Union (EGU), American Society of Civil Engineers (ASCE), International Association of Hydrogeologists, Technical Chamber of Greece (TEE-TCG)