

# VICTORIA W. KEENER, PH.D.

(Updated October, 2017)

Research Fellow  
East-West Center  
1601 East-West Road  
Honolulu, Hawai'i 96848

Office: 808.944.7220  
Fax: 808.944.7298  
Email: KeenerV@EastWestCenter.org  
www.PacificRISA.org

## APPOINTMENTS

<b>Lead Principal Investigator</b> <i>Pacific Regional Integrated Sciences &amp; Assessments (RISA), East-West Center</i>	<b>June 2013-present</b>
<b>Affiliate Graduate Faculty</b> University of Hawaii at Mānoa, Department of Geology and Geophysics	June 2013 – present
<b>Research Fellow</b> <i>Environment Program, East-West Center</i>	2011-present
<b>Post-Doctoral Researcher</b> <i>Department of Biological and Agricultural Engineering, University of Florida</i>	2010-2011

## EDUCATION

<b>Ph.D., Agricultural and Biological Engineering</b> <i>University of Florida</i>	2010
<b>Visiting Graduate Scholar, Earth and Environmental Engineering</b> <i>Columbia University</i>	2006
<b>B.S., Bioengineering</b> <i>Rice University</i>	2002

## RESEARCH INTERESTS

My research interests lay in the intersection of climate and hydrological systems simulation with practical methods of integrating stakeholder needs into climate science research. I have expertise in statistical hydrology, time series and spectral analysis, and participatory process planning with respect to natural resource managers in Hawai'i and the Pacific Islands region.

- Interdisciplinary climate science research and application
- Climate, land and hydrological systems interaction and simulation
- Water utility integration of climate information into decision-support processes
- Time series analysis, spectral analysis, non-linear systems, probabilistic prediction
- Decision support for land and water managers using seasonal and decadal climate information

## PUBLICATIONS

Helweg, D.A. & Keener, V. (2017). Applications of Climate Downscaling in the Main Hawaiian Islands: Balancing Climate Modelers' Products and Impact Modelers' Expectations. Report on a Workshop held April 11-12, 2017. East-West Center, Honolulu, HI.  
<https://doi.org/10.21429/C9CW4R>

Keener, V.W., Helweg, D.A., Asam, S., Balwani, S., Burkett, M., Fletcher, C., Giambelluca, T., Grecni, Z., Nobrega-Olivera, M., Polovina, J., Tribble, G. (2017, in review). Ch. 27: Hawai'i and U.S. Affiliated Pacific Islands : The Fourth National Climate Assessment. U.S. Global Change Research Program, Washington, DC.

Brewington, L., Keener, V., Finucane, M., & Eaton, P. (2017). Participatory Scenario Planning for Climate Change Adaptation Using Remote Sensing and GIS. In S. Walsh (Ed), Remote Sensing for Societal Benefits. Amsterdam: Elsevier.

Helweg, D.A., Keener, V., & Burgett, J.M. (2016). Report from the workshop on climate downscaling and its application in high Hawaiian Islands, September 16–17, 2015: U.S. Geological Survey Open-File Report 2016–1102, 25 p., <http://dx.doi.org/10.3133/ofr20161102>. ISSN: 2331-1258 (online)

## VICTORIA W. KEENER, PH.D.

(Updated October, 2017)

---

- Ferguson, D.B., Finucane, M.L., **Keener, V.W.**, Owen, G. (2016). *Evaluation to Advance Science Policy: Lessons from Pacific RISA and CLIMAS*. In Garfin, G. & Parris, A. *Climate in Context*. West Sussex, England: Wiley.
- Annamalai, H., **Keener, V.W.**, Widlansky, M.J., Hafner, J. (2015) El Niño Strengthens in the Pacific: Preparing for the Impacts of Drought. *AsiaPacific Issues*, No. 122, December 2015.
- Corlew, L.K., **Keener V.W.**, Finucane, M.L., Brewington, L., Nunn, R. (2015) Using Social Network Analysis to Assess Communications and Develop Networking Tools Among Climate Change Professionals Across the Pacific Islands Region. *Psychosocial Intervention*, 24, pp 133-146.
- Finucane, M.L., **Keener, V.W.** (2015): Understanding the climate sensitive decisions and information needs of island communities, *Journal of the Indian Ocean Region*, DOI: 10.1080/19480881.2015.1021181
- Finucane, M.L., Miller, R., Corlew, K., **Keener, V.W.**, Burkett, M., Grecni, Z. (2013). Understanding the climate-sensitive decisions and information needs of fresh water resource managers in Hawai'i. *Climate, Weather and Society*, 5(4): 293-308.
- V.W. Keener**, K. Hamilton, S.K. Izuka, K.E. Kunkel, L.E. Stevens, L. Sun. (2013) Regional Climate Trends and Scenarios for the U.S. National Climate Assessment: Part 8. Climate of the Pacific Islands. NOAA Technical Report, NESDIS, 142-8, Washington, DC.
- V.W. Keener**, S.K. Izuka, & Anthony, S. (2012). Freshwater and Drought on Pacific Islands. In: V.W. Keener, Marra, J. J., Finucane, M. L., Spooner, D., & Smith, M. H. (Eds.), *Climate Change and Pacific Islands: Indicators and Impacts*. Report for the 2012 Pacific Islands Regional Climate Assessment (PIRCA). Washington, DC: Island Press.
- V.W.Keener**, Marra, J. J., Finucane, M. L., Spooner, D., & Smith, M. H. (Eds.). (2012). *Climate Change and Pacific Islands: Indicators and Impacts*. Report for The 2012 Pacific Islands Regional Climate Assessment. Washington, DC: Island Press.
- V.W. Keener**, G.W. Feyereisen, U. Lall, J.W. Jones, D.D. Bosch, R. Lowrance. (2010). El-Niño/Southern Oscillation (ENSO) influences on monthly NO<sub>3</sub> load and concentration, stream flow and precipitation in the Little River Watershed, Tifton, GA. *J. Hydrology*. 381: 352–363.
- V.W. Keener**. (2010). *Hydro-Climatic Influences of El-Nino/Southern Oscillation on Nutrient Loads in the Southeast United States*. PhD Dissertation, Department of Agricultural and Biological Engineering, University of Florida.
- V.W. Keener**, K.T. Ingram, B. Jacobson, J.W. Jones. (2007). Effects of El Niño/Southern Oscillation on simulated phosphorus loading in south Florida. *Tr. ASABE*. 50(6): 2081-89.
- Keener, V.**, Brewington, L., Jaspers, K. (in preparation) *Climate modeler, intermediate modeler, and resource manager perceptions of downscaled climate projections for Hawaii*.
- Brewington, L., **Keener, V.**, & Corlew, L.K. (in preparation). *Sense of community, control, responsibility, and perception of risk among climate professionals in Pacific Islands*.

---

### SELECTED NON-REFEREED PUBLICATIONS AND MEDIA

**V.W. Keener**, M.L. Finucane, L. Brewington (2011-2016). "Climate Matters" Document, available online at <http://www.pacificrisa.org/education-outreach/document>.

- **Climate Matters for Pacific Island Ecosystems (2016)**
- Climate Matters for Island Environments
- Climate Matters for Waikiki Beach
- Climate Matters for Ranchers in Hawai'i

## VICTORIA W. KEENER, PH.D.

(Updated October, 2017)

---

- Climate Matters for Pacific Island Decision Makers

**Guest on Hawaii Public Radio, “The Conversation”**, March 6, 2017. Discussion about the Fourth U.S. National Climate Assessment . <http://hawaiipublicradio.org/post/conversation-monday-march-6th-2017>

**Interview on National FOX News prior to the IUCN conference. August 29, 2016.**

<http://video.foxnews.com/v/5108378146001/obama-creates-largest-ecologically-protected-area-on-earth/?#sp=show-clips>

ThinkTech Hawaii guest, *Climate Change: Beyond Outrage* with Anu Hittle. **“Trickling up and trickling down”, January 19, 2016**

**PBS “Insights” TV show, January 14, 2016 – Panel discussion on the impacts of climate change in Hawaii** with Dr. Chip Fletcher, LYON Inc. CEO Bill Lyon, HI Department of Planning

**PBS “Insights” TV show, February 14, 2013 – Panel discussion on the impacts of climate change in Hawaii** with Dr. Chip Fletcher, DLNR Director William Aila, and NPS and PICCC employee Stanton Enomoto: [http://www.youtube.com/watch?feature=player\\_embedded&v=7ghy7ArhCvg](http://www.youtube.com/watch?feature=player_embedded&v=7ghy7ArhCvg)

**Cover Story of Honolulu Weekly, January 2, 2013 - “Climate Change in Hawaii – It’s Here”**

<http://honoluluweekly.com/cover/2012/12/climate-change-in-hawaii%E2%80%98i-it%E2%80%99s-here/>

**Science Writer** for: *The Where, the Why and the How: 75 Artists Illustrate Wondrous Mysteries Of Science* (2012). Editors, M. Lamothe, J. Rothman, J. Volvoski. Chronicle Books, San Francisco, California.

- Do rogue waves exist?
- What causes ocean currents, and what could happen if they change?
- Where did life come from?

### **Coverage:**

- Science: <http://www.sciencemag.org/content/339/6119/523.summary>
- NPR's Science Friday: <http://sciencefriday.com/blogs/01/18/2013/an-illustrated-guide-to-the-mysterious.html>
- Publishers Weekly: <http://www.publishersweekly.com/978-1-4521-0822-3>
- Smithsonian: <http://blogs.smithsonianmag.com/artscience/2012/11/why-do-we-hiccup-and-other-scientific-mysteries-seen-through-the-eyes-of-artists/>
- Discover Magazine: <http://blogs.discovermagazine.com/visualscience/2012/11/16/from-dark-matter-to-hiccups-75-artists-explore-mysteries-of-science/#.UQwN3e3N78s>

### **SELECTED TECHNICAL AND PUBLIC PRESENTATIONS**

---

**V.W. Keener & Jaspers, K.** “Perceptions and Use of Downscaled Climate Data by Climate Modelers and Resource Managers in Hawaii” in Session PA33D: Toward More Effective Decision Maker-Scientist Engagement I. Presentation at the Fall Meeting of the American Geophysical Union (AGU). December 14, 2016.

**V.W. Keener, Helweg, D. and Grecni, Z.** US Affiliated Islands Representation in the 4th US National Climate Assessment (NCA4). USG-Freely Associated States (FAS) Ambassadors Working Group Meeting (April, 2017)

**V.W. Keener.** Pacific Islands in 2100: Trends and Projections in Climate. Invited Lecture, Annual PRiMO Meeting: Future Islands – climate conditions for Hawai’i and USAPI in the Late 21st Century. Honolulu, HI. (March, 2017)

# VICTORIA W. KEENER, PH.D.

(Updated October, 2017)

---

- V.W. Keener.** The Pacific RISA: Co-Production of Climate Research for Resource Management in Hawaii and the Pacific Islands. Invited Lecture, University of Washington at Pullman, Center for Environmental Research, Education, and Outreach (CEREO), March 3, 2015.
- V.W. Keener,** Marra, J.J., Finucane, M.L., Spooner, D. and Smith, M.H. *The Pacific Islands Regional Climate Assessment (PIRCA)*. Lecture given at the Pacific Risk Management Ohana (PRiMO) Conference, Honolulu Convention Center, Honolulu, Hawaii, March 13, 2013.
- V.W. Keener,** Marra, J.J., Finucane, M.L., Spooner, D. and Smith, M.H. *The Pacific Islands Regional Climate Assessment (PIRCA)*. Keynote Lecture given at the Pacific Islands Regional Climate Forum, Imin International Conference Center, Honolulu, Hawaii, December 10, 2012.
- V.W. Keener** and Finucane, M.L. *“Climate Matters Documentations”: Enabling Regionally-Specific Climate Awareness*. Lecture given at the Annual Meeting of the American Geophysical Union Session: ED32A. Climate Literacy: Reaching Diverse Audiences through Informal Education Experiences, Public Outreach, and Community Programs II, San Francisco, CA, December 5, 2012.
- V.W. Keener** and Miller, L. *Influence of Climate Variability on Trends in Streamflow Records at Selected Sites in the Pacific Islands Region*. Lecture given at the Annual Meeting of the American Geophysical Union, Session: H330. Regional Streamflow Analysis I, San Francisco, CA, December 5, 2012.
- V.W. Keener,** J. Cho, J.W. Jones & D.D. Bosch. Integration of ENSO Signal Power Through Hydrological Processes in the Little River Watershed. Poster presented at the Annual Meeting of the American Geophysical Union, "Understanding Hydrologic Change: Analyses of Regional Streamflow Records" Session, San Francisco, CA, December 5-9, 2011.
- V.W. Keener,** L. Staal, M.L. Finucane. Two Sides of the Same Coin: Communicating Climate Change Science to Stakeholders in Florida and Hawai'i. Poster presented at the Annual Meeting of the American Geophysical Union, "Scientist Participation in Science Communication" Session, San Francisco, CA, December 5-9, 2011.
- V.W. Keener.** Invited lecture, *“Linking Social & Physical Climate Science Research: Pacific RISA and the National Climate Assessment (NCA)”*. The Forestry Pacific Islands Committee (PIC) Meeting. Pagoda Hotel, Honolulu, HI. October 31, 2011.
- V.W. Keener.** Invited Lecture, *“Use of Spectral Methods for Extracting Non-Stationary Hydro-Climatic Oscillations”*. University of Hawai'i at Manoa Department of Geography, Climatology Seminar. Honolulu, HI. September 28<sup>th</sup>, 2011.
- V.W. Keener.** Invited Lecture, *““The PVT Landfill: A Case Study in the Successful Integration of Climate Information for Decision Making”*. Hawaii Office of Planning, Ocean Resources Management and Planning (ORMP) meeting. NOAA Pacific Services Center, Honolulu, HI. July 7, 2011.

---

## AWARDS AND GRANTS/ PROFESSIONAL AFFILIATIONS / OTHER PROFESSIONAL ACTIVITIES

---

- Appointed Lead Author for the Hawaii and Pacific Islands regional chapter of the Fourth U.S. National Climate Assessment, U.S. Global Change Research Program, November, 2016.
- Lead Principal Investigator (September, 2017), **“The Pacific Islands Regional Climate Assessment Sustained Assessment Specialist”** (\$79,463) DOI Pacific Islands Climate Science Center
- Co-Principal Investigator (June, 2016), **“Analyzing Correlations and Effects of Human Migration of Marshallese Islanders”** (\$267,720) DOI Pacific Islands Climate Science Center
- Lead Principal Investigator (September 2015), **“Pacific Islands Regional Integrated Sciences and Assessments (Pacific RISA Phase III) & Pacific Islands Regional Sustained Assessment Specialist”**. (\$ 4,246,800) NOAA NA15OAR4310146
  - **Additional Sustained Assessment funds awarded**, October, 2017 (\$30,800)

## VICTORIA W. KEENER, PH.D.

(Updated October, 2017)

---

- Co-Investigator (September 2015) "**Impacts of Climate Change on Honolulu Board of Water Supply and Planning Strategies for Mitigation**", (\$25,686) Water Resources Foundation
- Lead Principal Investigator (September 2015), "**The Pacific Islands Regional Climate Assessment Sustained Assessment Specialist**" (\$96,990) DOI Pacific Islands Climate Science Center G15AC00509
- Graduate Committee Member, Duncan McIntosh, RSMAS University of Miami Weather, Climate & Society program (July 2013)
- University of Hawaii, Water Resources Research Center, **Affiliate Faculty**, (July 2013-present)
- Pacific Risk Management Ohana (PRiMO) – Navigator’s Councilmember (2013 – 2016)
- Working Group II Reviewer for *Islands* and *Australoasia* regional chapters (2013): The 5<sup>th</sup> Intergovernmental Panel on Climate Change (IPCC) report
- Co-Principal Investigator (2013), "**Water Resources on Guam: Potential Impacts and Adaptive Response to Climate Change for Department of Defense Installations**", SERDP RC-2340, (\$2,279,191)
- Lead Principal Investigator (June 2013 – present), "**Pacific Islands Regional Integrated Sciences and Assessments (Pacific RISA Phase II)**", NOAA NA10OAR4310216, (\$4,020,748)
- Lead Principal Investigator (2012), "**Mapping the Flow of Climate and Water Resource Information in the Pacific Islands**", NOAA-OAR-CPO-2012-2003304, (\$150,785)
- Lead Principal Investigator (2012), "**The Pacific Islands Regional Climate Assessment Forum**", USGS G12AS20008, (\$25,000)
- **Lead Editor**: The 2012 Pacific Islands Regional Climate Assessment ( technical report for the 2014 U.S. National Climate Assessment)
- Co-Chair: Pacific Climate Information System (PaCIS) Freshwater and Drought Focus Area Coordination Team (2012 - present)
- Honorable Mention in Universities Council on Water Resources (2011) Ph.D. National Dissertation Award competition in the category of ‘Natural Sciences and Engineering’ ([http://www.ucowr.org/Awards/2011\\_UCOWR\\_Award\\_Winners\\_files/2011\\_UCOWR\\_Award\\_Winners.pdf](http://www.ucowr.org/Awards/2011_UCOWR_Award_Winners_files/2011_UCOWR_Award_Winners.pdf))
- Technical Reviewer: Journal of Climate Risk Management, Bulletin of the American Meteorological Society, Earth Sciences Research Journal, Elsevier Publishing, Journal of Environmental Management, Frontiers in Ecology and Environment, Weather Climate & Society