

Ryan J. Longman, Ph.D.
Curriculum Vitae

Honolulu, HI
USA

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QUALIFICATIONS SUMMARY:

Over 13-years of experience teaching and conducting high-level scientific research in the Pacific with a focus on climate science, climate monitoring, the quality control and assurance of environmental data, climate change adaptation, climate finance and project proposal development. Strong working knowledge of sustainable development and the impacts of climate change in Hawai'i and in Pacific island countries and territories.

EDUCATION:

Doctorate of Philosophy, University of Hawai'i at Mānoa, USA, 2015

- Major: Geography Ph.D. Dissertation: "The Effects of Trade Wind Inversion Variability on High Elevation Climates in Hawai'i" Advisor: Tom Giambelluca

Masters of Arts, Geography, University of Hawai'i at Mānoa, USA, 2011

- Major: Geography M.A. Thesis: " Homogenization of long-term solar radiation time series using a clear-sky radiation model and assessment of solar radiation variability

Bachelor of Arts, Interdisciplinary Studies, University of Hawai'i at Mānoa, USA, 2007

EXPERIENCE:

Oceania Research Fellow, East-West Center, Pacific Island Development Program, Honolulu Hawai'i, (Nov. 2019 – Present).

- Co-developed the "Pacific Drought Knowledge Exchange (PDKE)", which is an information and knowledge sharing platform where scientists, resource managers and community members can exchange ideas and co-produce, site-specific data products and information to that can be used to better inform resource management decisions.
- Co-Developed the "Hawai'i Climate Data Portal (HCDP)", an online repository that provides near-real time access to a wide variety of data and information products specific to Hawai'i and the United States Affiliated Pacific Islands.
- Support ongoing efforts of the Pacific Islands Development Program
- Write and manage several grants that support data production and data dissemination in Hawai'i and the USAPI.
- Managing a team of climate scientists, project specialists, research assistants and students within the University of Hawai'i system.

Climate Change Adaptation Work & Short-term Consultancies, Honolulu HI, USA.

- **Research Assistant** - Assisted a UNDP Country Capacity Development Specialist in the development of project proposals for submission to the Green Climate Fund (GCF) to finance the development of National Adaptation Plans (NAP) in several developing and

least developed countries including: Somalia, Tajikistan, Kyrgyz Republic, Cambodia, Timor-Leste, Palau, and Oman; Assisted in the development of NAP's for Timor-Leste, South Sudan, Palau, and Nigeria. Assisted with various projects related to strengthening institutional capacity and disaster risk reduction capabilities in developing countries including Vanuatu, Timor-Leste, Kenya, and others (Dec. 2017 to Dec. 2022).

- **Senior Environmental Specialist** (Social Impact) – Prepare the USAID Regional FAA 118/119 Tropical Biodiversity Analysis, to identify the current state and needs related to tropical forest and biodiversity conservation in 12 Pacific Island countries (May 2022 to Aug. 2022).
- **Project Development Specialist** (DT-Global) – Provided strategic support to NGOs in Vanuatu and Fiji, to develop their project proposal applications for submission to UNDP AFCIA (Oct. 2021 – Dec. 2021).
- **Resilience Specialist** (DT-Global) – Developed a “Climate Resilience Scorecard” for implementation in Pacific Islands Countries. (Aug. 2021 – Oct 2021.)
- **Project Preparation Specialist** – (Asian Institute of Technology Regional Resource Centre for Asia and the Pacific) 1. Assisted in the development of a specialized online course on how to develop concept notes for the Green Climate Fund's, Simplified Approval Process (SAP) (May 2020- Feb. 2021); 2) Worked directly with participants from Bhutan, Nepal, and the Maldives on GCF proposal development (June 2021)
- **Teaching Assistant** – (University of the South Pacific) Assisted in the development and delivery of a specialized (online) graduate level course on climate finance and project preparation (PC 412) for the University of the South Pacific: Pacific Center for Environment and Sustainable Development (Jan. 2020 – Jun. 2020).
- **Project Preparation Trainer** – (DT-Global) Design and implement a specialized climate change adaptation project preparation course and supporting materials for stakeholders in Fiji, Kiribati, Tonga, and Samoa (Jul. 2019 – Sep. 2019).
- **Project Preparation Trainer** – (AECOM) Design and implement a specialized climate change adaptation project preparation course and supporting materials for stakeholders in Vanuatu, Solomon Islands, Papua New Guinea. (Feb. 2019 – April 2019).

Lecturer, University of Hawai'i College System: University of Hawai'i at Mānoa, University of Hawai'i, West O'ahu, and University of Hawai'i Maui College HI, USA, (Jan. 2010 – May. 2022).

- Design curriculum and instruct several university level geography courses, including: The Natural Environment (GEOG101) and Natural Environment Lab (GEOG101L), World Regional Geography (GEOG102), Introduction to Climatology (GEOG 300) and Water and Society (GEOG305); Have taught a total of 249 credit-hours over the past 12 years.

Post Doctorate Research, Honolulu HI, USA, (Jan. 2015 – Nov. 2019).

- **Climate Analyst** (Research Cooperation of the University of Hawai'i) - Identify and develop best practices and procedures for the quality assessment and quality control of daily meteorological data across multiple temporal resolutions (Dec. 2017– Nov. 2019).
- **Research Fellow** (University of Hawai'i at Mānoa, Department of Geography and Environment) - Identified and archived 25-years of meteorological and developed methods to produce a set of daily temperature and rainfall maps for the State of Hawai'i; conducted rigorous scientific analysis centered around the identification of synoptic atmospheric disturbances in the Hawai'i (Jan. 2015 - Nov. 2017).

Graduate Research Assistant / Field Technician, Honolulu HI, (Jan. 2009 - May 2015).

- Assisted in climate station installation and maintenance; developed sophisticated methods for the quality assurance, quality control and homogenization of meteorological data records; optimized a clear-day solar radiation model for Hawai'i; worked on the Evapotranspiration and Climate atlas of Hawai'i.

AFFILIATIONS:

Oceania Research Fellow, Pacific Islands Development Program, East-West Center
Associate Climatologist, Water Resources Research Center, University of Hawai'i at Mānoa
Research Faculty, Center for Pacific Island Studies, University of Hawai'i at Mānoa
Graduate Affiliate Faculty, Pacific Island Studies Department, University of Hawai'i at Mānoa

PROFESSIONAL SKILLS:

- Scientific research and writing
- Climate adaptation project preparation (problem/objective tree analysis, theory of change, logframe preparation, monitoring and evaluation)
- Data analysis and data visualization
- Computer programming (Visual Basic, R, Unix/Linux: Command line, Python)
- Policy analysis and Journal peer-review (International Journal of Climatology, Solar Energy, Scientific Data Journal of Renewable and Sustainable Energy, Journal of Water, Journal of Hydrometeorology)

LANGUAGES:

English (native); Spanish (fluent)

PUBLICATIONS:

Peer-Reviewed Journal Articles

- Mourey, A.J., Shea, T., Costa, F., Shiro, B., **Longman R.J.** (*In Press*, 2023) Years of magma intrusion primed Kilauea Volcano for the 2018 eruption –Bulletin of Volcanology)
- Frazier, A.F., Giardina, C.P., Giambelluca, T.W., Brewington, L., Chen, Y-L., Chen, P-S., Fortini, L.B., Hall, D., Helweg, D.A., Keener, V.W., **Longman**, R.J., Lucas, M.P., Mair, A, Oki, D.S. , Reys, J.J., Yelenik, S.G., Trauernicht, C., (2022) A century of spatial and temporal patterns of drought in Hawai'i across hydrological, ecological, and socioeconomic scales, Sustainability, 14, 12023.([Link](#))
- Longman, R.J.**; Frazier, A.G.; Giardina, C.P.; Parsons, E.W.; McDaniel, S. (2022) The Pacific Drought Knowledge Exchange: A Co-Production Approach to Deliver Climate Resources to User Groups. Sustainability, 14, 10554.([Link](#))
- Adhikari, M. **Longman R.J.**, Giambelluca, T.W., Lee, C.N., and He, Y. (2022) Climate Change Impacts and Shifting Landscape of Dairy Industry in Hawai'i, Translational Animal Science. 6(2). ([Link](#))

- Huang, Y-F. Tsang, Y-P., Gayte, M. **Longman, R.J.** Nugent, A., Kodama, K., Lucas, M. and Giambelluca., T.W., (2022) Hourly rainfall data from rain gauge networks and weather radar up to 2020 across the Hawaiian Islands. *Scientific Data*. 9(334) ([Link](#))
- Lucas, M. P., **Longman, R.J.**, Giambelluca, T. W., Frazier, A.F., Mclean, J. Cleveland, S.B., Haung, Y, and Lee, J.H. (2022). Optimizing automated kriging to improve spatial interpolation of monthly rainfall over complex terrain. *Journal of Hydrometeorology* 23(4) ([Link](#)).
- Longman R.J.**, Peterson, C. L., Baroli, M., Frazier, A. F., Cook, Z., Parsons, E. W. Dina, M., Kamelamela, K. L., Steele, C., Burnett, R., Swanston, C. and Giardina, C. P. (2022). Climate Adaptation for Tropical Island Land Stewardship: Adapting a Workshop Planning Process to Hawai'i Bulletin of the American Meteorological Society, 103. ([Link](#))
- McLean, J., Cleveland S.B., Dodge II M., Lucas M.P., Longman R.J., Giambelluca T.W., and G. Jacobs G.A. (2021). Building a portal for climate data-mapping automation, visualization, and dissemination. *Concurr. Comput. Pract. Exp.* ([Link](#))
- Longman, R.J.**, Elison Timm, O., Giambelluca, T.W., and Kaiser L., (2021). A 20-year analysis of disturbance-driven rainfall on O'ahu, Hawai'i." *Monthly Weather Review*, 146(6), 1767-1783. ([Link](#))
- Xue, L., Wang, Y., Newman, A.J. Ikeda, K, Rasmussen, R.M., Giambelluca, T.W., **Longman, R.J.**, Monaghan, A.J., Clark, M.P., and Arnold, J.R., (2020). How will rainfall change over Hawai'i in the future? High-resolution regional climate simulation of the Hawaiian Islands. *Bulletin of Atmospheric Science and Technology*, 118, 1-32. ([Link](#))
- McLean, J.H., Cleveland, S.B., Lucas, M.P., **Longman R.J.** Giambelluca., T.W., Leigh, J., and Jacobs., J.A., (2020). The Hawai'i Rainfall Analysis and Mapping Application (HI-RAMA): Decision Support and Data Visualization for Statewide Rainfall Data. *Practice and Experience in Advanced Research Computing*. 239-245. ([Link](#))
- Longman, R.J.**, Newman, A.J. Giambelluca, T.W. Lucas, M., (2020). Characterizing the uncertainty and assessing the value of gap-filled daily rainfall data in Hawai'i. *Journal of Applied Meteorology and Climatology*, 59 (7), 1261-1276. ([Link](#))
- Nugent, A.D., **Longman, R.J.**, Trauernicht, C., Lucas, M.P, Diaz, H.F. Giambelluca, T.W., (2020). Fire and Rain: The Legacy of Hurricane Lane in Hawai'i, *Bulletin of the American Meteorological Society* (E954-E967). ([Link](#))
- Longman, R.J.**, Frazier, A.G., Newman, A.J., Giambelluca, T.W., Schanzenbach, D., Kagawa-Viviani, A., Needham, H., Arnold, J.R., Clark, M.P., (2019). High-resolution gridded daily rainfall and temperature for the Hawai'i Islands (1990-2014). *Journal of Hydrometeorology*, 20, 489-508. ([Link](#))
- Newman, A.J., Clark, M.P., **Longman, R.J.**, Gillard, E. Giambelluca, T.W., and Arnold, J.R., (2019). Use of daily station observations to produce high-resolution gridded probabilistic precipitation and temperature time series for the Hawaiian Islands. *Journal of Hydrometeorology*, 20, 509-5229. ([Link](#))
- Newman, A.J., Clark, M.P., **Longman, R.J.**, and Giambelluca, T.W., (2019). Methodological InterComparisons of Station-based Gridded Meteorological Products: Utility, Limitations, and Paths Forward. *Journal of Hydrometeorology*, 20, 531-547. ([Link](#))
- Longman, R.J.**, Giambelluca, T.W., Nullet, M.A., Frazier, A.G., Kodoma, K, Crausbay, S.D., Krushelnycky P.D., Cordell S, Clark M.P., Newman A.J. and Arnold J.R., (2018). Compilation of climate data from heterogeneous networks across the Hawaiian Islands. *Scientific Data*, 5: 180012. ([Link](#))
- Krushelnycky, P.D., Starr, F., Starr, K., **Longman, R.J.**, Frazier, A.G., Loope, L.L. and Giambelluca, T.W., (2016). Change in trade wind inversion frequency implicated in the decline of an alpine plant. *Climate Change Responses*, 3 (1). ([Link](#))

- Longman, R.J.**, Diaz, H.F., and Giambelluca, T.W., (2015). Sustained Increases in Lower Tropospheric subsidence over the central tropical North Pacific drives a decline in High Elevation precipitation in Hawai'i. *Journal of Climate*, 28(22) 8743-8759. ([Link](#))
- Mora, C., Frazier, A.G., **Longman R.J.**, Dacks R.S., Walton M.M, Tong, E.J., Sanchez, J.J., Kaiser, L.R., Stender, Y.O., Anderson, J.M., Ambrosino, C.M., Fernandez-Silva, I., Griffen, L.M., and Giambelluca, T.W., (2013). Mora et al. reply. *Nature*, 511. ([Link](#))
- Gotsch, S. G., Crausbay, S.D., Giambelluca, T.W. Weintraub, A.E., **Longman R.J.**, Asbjornsen, H., Hotchkiss, S.C., Dawson, T.E., (2014). Water relations and microclimate around the upper limit of a cloud forest in Maui, Hawai'i. *Tree Physiology*, tpu050. ([Link](#))
- Longman, R.J.**, Giambelluca, T.W., Allis, R.J., and Barnes, M., (2014). Temporal solar radiation change at high elevations in Hawai'i. *Journal of Geophysical Research*, 119 (10) 6022-6033. ([Link](#))
- Crausbay, S.D, Frazier, A.G., Giambelluca, T.W., **Longman, R.J.**, and Hotchkiss, S.C., (2014). Moisture status during a strong El Niño explains a tropical montane cloud forest's upper limit. *Oecologia*, 175, 273-284. ([Link](#))
- Mora, C., Frazier, A.G., **Longman, R.J.**, Dacks, R.S., Walton, M.M., Tong, E.J., Sanchez, J.J., Kaiser, L.R., Stender, Y.O., Anderson, J.M., Ambrosino, C.M., Fernandez-Silva, L., Griffen, L.M., and Giambelluca, T.W. (2013). The projected timing of climate departure from recent variability. *Nature*, 502, 183-187. ([Link](#))
- Longman, R.J.**, Giambelluca, T.W., and Nullet, M.A., (2013). Use of a clear-day solar radiation model to homogenize solar radiation measurements in Hawai'i. *Solar Energy*, 91,102-11. ([Link](#))
- Longman, R.J.**, Giambelluca, T.W., and Frazier, A.G. (2012). Modeling clear-sky solar radiation across a range of elevations in Hawai'i: Comparing the use of input parameters at different temporal resolutions. *Journal of Geophysical Research*, 117. ([Link](#))

Textbook Contributions

- Longman, R.J.** 2016: Solar Power. In D. Hess (Ed.) McKnights Physical Geography A landscape appreciation (12th ed., pp. 81). Hoboken N.J.

Technical Reports

- Bettinger, K., and **Longman, R.J.**, (2020). Pacific Island Country Climate Factsheets. USAID Climate Ready Knowledge Products, Contract Number AID-492-H-17-00001 ([Link](#))
- Longman, R.J.**, Elison-Timm, O., Giambelluca, T.W., and Kaiser, L. (2018). A Climatology of Cold Fronts in O'ahu Hawai'i (1990-2010). Technical Report Honolulu Board of Water Supply, Honolulu Hawai'i 43 pp.
- Longman, R.J.**, Giambelluca, T.W., Nullet, M.A., and Loope, L.L. (2015). Climatology of Haleakalā. Technical Report No. 193. Pacific Cooperative Studies Unit, University of Hawai'i, Honolulu, Hawai'i. 126 pp. ([Link](#))
- Giambelluca, T.W., Shuai, X., Barnes, M.L., Alliss, **R.J.**, **Longman, R.J.**, Miura, T., Chen, Q., Frazier, A.G., Mudd, R.G., Cuo,, L., and Businger, A.D. (2014). Evapotranspiration of Hawai'i. Final report submitted to the U.S. Army Corps of Engineers—Honolulu District, and the Commission on Water Resource Management, State of Hawai'i.

Journal Articles In Review

- Kodama, K., Kourkchi, E., **Longman, R.J.**, Lucas., M.P., Bateni, S., Huang, Y-F, Kagawa-Viviani, A., Mclean, J., Cleveland, S.B., Giambelluca, T.W., (*In Review: Journal of Geophysical Research*)

Rezaei A., Heggy E., Bateni, S., Karami, H., **Longman R.J.**, Band, S.S. Utilizing new machine learning approaches to predict urban runoff: A case study of El-Qasr region in Egypt– (*In Review: Water Resources Management*)

Adhikari, M., Kantar, M.B., Longman, R.J., Lee, C.N., Oshiro, M., Caires, K., and He, Y. Genome-wide association study for carcass weight in pasture-finished beef cattle in Hawai'i. (*In Review: Frontiers in Genomics*)

Factsheets

Longman et al. (2023) Wildfire on Guam, Pacific Drought Knowledge Exchange ([Link](#))

Longman et al. (2023) Impacts of El Nino on climate and Ecosystems in Guam. Pacific Drought Knowledge Exchange ([Link](#))

Longman et al. (2023) Future Climates of Guam, Pacific Drought Knowledge Exchange ([Link](#))

Longman R.J., McDaniel S., Frazier A.G. Giardina C.P. (2021) Impacts of El Niño on Climate in Hawai'i Volcanoes National Park, Pacific Drought Knowledge Exchange. ([Link](#))

Longman R.J., McDaniel S., Frazier A.G. Giardina C.P. (2021) Future Climate Projections at Hawai'i Volcanoes National Park, Pacific Drought Knowledge Exchange. ([Link](#))

Longman R.J., McDaniel S., Frazier A.G. Giardina C.P. (2021) A 100-Year History of Drought at Hawai'i Volcanoes National Park, Pacific Drought Knowledge Exchange. ([Link](#))

Longman R.J., Parsons. E, Adkins, E., Frazier A.G. Giardina C.P. (2021) Impacts of El Niño on Climate in Pu'u Wa'awa'a, Pacific Drought Knowledge Exchange. ([Link](#))

Longman R.J., Parsons. E, Adkins, E., Frazier A.G. Giardina C.P. (2021) The Future Climate of Pu'u Wa'awa'a, Pacific Drought Knowledge Exchange. ([Link](#))

Longman R.J., Parsons. E, Adkins, E., Frazier A.G. Giardina C.P. (2021) A 100-Year History of Drought at Pu'u Wa'awa'a, Pacific Drought Knowledge Exchange. ([Link](#))

Longman R.J., Parsons. E, Adkins, E., Trauernicht, P. Frazier A.G. Giardina C.P. (2021) Fire History and Risk at Pu'u Wa'awa'a, Pacific Drought Knowledge Exchange. ([Link](#))

Kunz, M., **Longman R.J.**, Frazier A.G. Giardina C.P. (2021) Drought & Non-Native Mammals in Hawai'i, Pacific Drought Knowledge Exchange. ([Link](#))

Kunz, M., **Longman R.J.**, Frazier A.G. Giardina C.P. (2021) Drought & Conservation Operations in Hawai'i, Pacific Drought Knowledge Exchange ([Link](#))

Kunz, M., **Longman R.J.**, Frazier A.G. Giardina C.P. (2021) Drought & Ecological Restoration in Hawai'i, Pacific Drought Knowledge Exchange ([Link](#))

Oral Presentations and Conference Proceedings in the Past 12-months

Jan. 2023 2023 Pacific Water Conference. Presentation Title: Data at your fingertips: The Frontier of climate science in Hawai'i., Honolulu HI,

Jan. 2023 Pacific Islands Climate Adaptation Science Summit. Presentation Title: Data at your fingertips: The Frontier of climate science in Hawai'i., Honolulu HI,

Oct. 2022 Hawai'i Drought Monitoring and Knowledge Exchange workshop series hosted by the National Drought Mitigation Center and the East-West Center. Presentation Title: The Pacific Drought Knowledge Exchange, In person - Līhu'e, Honolulu, Kahului and Hilo, HI.

Sep. 2022 12th Pacific Islands Conference of Leaders, Honolulu Hawai'i. Side event: Climate Data and Information, for Adaptation Planning in the Pacific, Honolulu HI.

- Sep. 2022 12th Pacific Islands Conference of Leaders, Honolulu Hawai'i. Public Plenary: Scaling up Climate Finance for the Blue Pacific Continent. Panel moderator, Honolulu, HI.
- Aug. 2022 Honolulu Geospatial Expo. Presentation Title: Hawai'i Climate Data Portal, Honolulu HI.
- Jun. 2022 East-West Center Insights. Presentation Title: The Pacific Drought Knowledge Exchange, virtual.
- Jun. 2022 Southwest Climate Hub (SWCH) Drought Learning Network Annual Meeting, Presentation Title: The Pacific Drought Knowledge Exchange, Las Cruces, New Mexico.
- May. 2022 2022 USDA Forest Service Region 5 Climate Change Integration Team (CCIT) Webinar Series.: The Pacific Drought Knowledge Exchange. Virtual presentation.
- Apr. 2022 Technology, Colleges, and Community Worldwide Online Conference Title: The Hawai'i Climate Data Portal (HCDP). Virtual presentation.
- Apr. 2022 Briefing with the National War College. Title: Climate Monitoring and the Development of Decisions Support Tools, Honolulu, HI.
- Mar. 2022 The Hawai'i Climate Data Portal (HCDP). Official Launch Title: HCDP overview and attributes. . Virtual presentation.
- Jan. 2022 Hawaiian Studies 651 " 'Aina Waiwai: Water, Food Sovereignty, and Ancestral Abundance Presentation Title: The Climate of Hawai'i. Virtual presentation.
- Dec. 2021 The Pacific Drought Knowledge Exchange Kickoff Meeting. Presentation Title: The Pacific Drought Knowledge Exchange I, Projects and Products. . Virtual presentation.
- Nov. 2021 Hawai'i Cattlemen's Council Annual Meeting. Presentation Title: The Hawai'i Rangeland Information Portal. A decision Support Tool for Ranchers. Virtual

Recent Press Releases and News Articles Past 24-months

- Sep. 2022 Valuable data tool designed for Hawai'i Island Farmers, University of Hawai'i News. ([Link](#))
- Jul. 2022 Climate Adaptation Science Center Collaboration, "Launch of Hawai'i climate portal provides powerful tools for local decision-making" ([Link](#))
- Jun. 2022 Honolulu Civil Beat "Hawaii's Extreme Drought Is Forcing Ranchers And Farmers To Get Creative" ([Link](#))
- May. 2022 UH News "Machine learning' improves rainfall mapping, water plans" ([Link](#))
- Mar. 2022 Anybody can make a rainfall map with new climate portal. National Public Radio ([Link](#))
- Mar. 2022 Revolutionary climate data portal critical to future planning. University of Hawai'i News ([Link](#))
- Dec. 2021 American Geophysical Union Meeting Fall meeting Video Series Title: Hawai'i EPSCoR Ike Wai Project, University of Hawai'i AGU ([Link](#))
- Jun. 2021 Pacific Islands CASC Supports Drought Community of Practice in Hawai'i; USGS, Climate Adaptation Insights. ([Link](#))
- Jun. 2021 Pacific Islands CASC Supports Drought Community of Practice in Hawai'i; USGS, Climate Adaptation Insights. ([Link](#))
- Jun. 2021 Kona lows, other storm events make outsize contribution to state's rainfall; Honolulu Star Advertiser ([Link](#))
- Jun. 2021 Better water management goal of storm, rainfall data analysis; University of Hawai'i News. ([Link](#))
- Jul. 2020 Hurricane Lane brought fire and rain to Hawai'i; University of Hawai'i News. ([Link](#))

- Jul. 2020 Fire and Rain? New UH study sheds light on Hurricanes effect of wildfire; Hawai'i News Now ([Link](#))
- Jul. 2020 Fire and Rain: The Legacy of Hurricane Lane In Hawai'i; East West Center News. ([Link](#))

Recent Academic Grants:

Dates of Award	Title	Amount
2020-2022	Co-Lead Investigator (NOAA, NWS) Routine Monitoring of Climate in the State of Hawai'i: Establishment of State Climate Divisions	\$94,991
2022-2025	Senior Personal (NSF EPSCoR: Harnessing the Data Revolution for Island Resilience. The University of Hawai'i proposes the RII Track 1 EPSCoR Proposal.	\$20,000,000
2022-2024	NIDIS in Hawaii – Expanding and enhancing stakeholder-driven drought products and services	\$295,000
2022-2026	Lead Investigator: (USFS/NRCS) Supporting the development and delivery of climate data and information to resource managers in Hawai'i and the USAPI through the Pacific Drought Knowledge Exchange.	\$50,000
2022-2023	Co-Lead Investigator (NOAA CIROH) An evaluation of the NextGen National Water Model in tropical conditions with the aim of improving hyperlocal flood forecasting.	\$900,000