Curriculum Vitae

LAURA BREWINGTON, CO-DIRECTOR
Pacific Research on Island Solutions for Adaptation (RISA)

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EDUCATION

University of North Carolina at Chapel Hill
Chapel Hill, NC USA
PhD Geography, 2011

University of North Carolina at Chapel Hill
Chapel Hill, NC USA
BS Biostatistics, 2001

RESEARCH INTERESTS

Climate change adaptation, Island conservation, Biosecurity, Invasive species, Geospatial analysis, Protected areas, Remote sensing, Geographic Information Systems, Land use/land cover change

APPOINTMENTS

2023–	Member, Invasive Species Advisory Committee, Washington, DC
2023–	Affiliate Faculty, University of Hawai‘i Sea Grant, Honolulu, HI
2021–	Research Professor, Arizona State University Global Institute of Sustainability and Innovation, Honolulu, HI
2020–	Founder and Core Team Member, the Pacific Regional Invasive Species and Climate Change Management Network, Honolulu, HI
2013–	Research Fellow, East-West Center, Honolulu, HI
2020–21	Visiting Scientist, Health and Biosecurity, the Commonwealth Scientific and Industrial Research Organisation, Darwin, Australia
2020–23	Affiliate Researcher, University of Hawai‘i Water Resources Research Center, Honolulu, HI
2013–19	Program Manager, Pacific Research on Island Solutions for Adaptation program, East-West Center, East-West Center, Honolulu, HI
2012–13	Post-Doctoral Researcher, Center for Galapagos Studies, University of North Carolina at Chapel Hill, Chapel Hill, NC
2011–12	Biosecurity and Quarantine Fellow, WildAid, Inc., Galapagos, Ecuador
2006–11	NSF-IGERT Pre-doctoral Trainee in Population and Environment, Carolina Population Center, University of North Carolina at Chapel Hill, Chapel Hill, NC
2002–06	Biostatistician and Geospatial Analyst, Rho Inc., Chapel Hill, NC
2001–02	Biostatistician, Pharmacyclics Inc., Sunnyvale, CA

CURRENT RESEARCH PROJECTS

Supporting WMO Region V and the Pacific Islands Regional Climate Assessment through Climate Indicators Monitoring, Early Warning Systems Development, and Capacity Building
Position: Lead Investigator
Affiliation: Arizona State University, Honolulu, HI

- Improve coordinated climate information services at regional and country scales in all countries of the Pacific Islands region

- Support the next generation of Pacific Islands Regional Climate Assessment (PIRCA) reports, climate early warning systems (CLEWS), and Local2030 Island Network dashboards
- Accelerate the use of localized climate information in Palau through the PIRCA network

Enhancing Climate Information and Knowledge Services for Resilience in 5 Island Countries of the Pacific Ocean
Position: Co-Lead Investigator
Affiliation: East-West Center, Honolulu, HI

- Lead in-country needs assessment workshops with stakeholders in the Republic of the Marshall Islands and Palau to identify the relevant climate variables, timescales, and uncertainty associated with climate impacts, as well as gaps in the provision and accessibility of climate information for decision-making
- Support the creation of integrated, sector-specific early warning systems
- coordinate training activities in the use of climate early warning systems and ensure they are integrated into country-specific dashboards or climate information portals

The Pacific RISA Phase IV: Building Equitable and Just Climate Solutions for Pacific Island Resilience to Compound Disasters and Extreme Events
Position: Co-Lead Investigator
Affiliation: Arizona State University & East-West Center, Honolulu, HI

- Promote Pacific-wide ecological resilience through the development of scientifically-based Strategic Action Plans that address critical invasive species issues facing the region
- Lead peer-to-peer knowledge exchanges between the County of Kauaʻi and other Hawaiʻi or regional jurisdictions to facilitate a better understanding the risks and impacts associated with compound climate hazards of interest
- Track program- and project-focused metrics of equity and inclusion across all research activities

Pacific Invasive Species and Climate Change (RISCC) Management Network
Position: Co-Founder
Affiliation: Arizona State University & East-West Center, Honolulu, HI

- Enhance Pacific ecological security through research and coordination around the nexus of climate change and invasive species
- Identify priority lines of research, informed by managers, to examine the interactions between invasive species and climate change
- Build a network of resource managers, researchers, and community members and organizations

Center for Community Energy and Environmental Justice (CCEEJ) TCTAC for EPA Region 9
Position: Investigator
Affiliation: Arizona State University, Honolulu, HI

- Partner with the Hawaiʻi Energy Equity Hui to conduct environmental and energy justice needs assessment and analyses
- Increase grant success and administration capacity
- Support decision-making and advance community champions

Pacific Islands Regional Climate Assessment (PIRCA)
Position: Investigator
Affiliation: East-West Center, Honolulu, HI

- Coordinate with PIRCA collaborators and others to contribute to the National Climate Assessment
- Document cross-sectoral case studies of regional climate adaptation measures

- Evaluate appropriate case studies for inclusion in the PIRCA and ground-truth the accurate representation and utility of indicator variables

PUBLICATIONS

Brewington, L., Keener, V.W., Hull, K., Pap, R., & Williams, M. (In Review). Peer-to-peer exchanges on island resilience planning for transformative adaptation to climate hazards. *Ocean & Coastal Management*.

Evans, A., **Brewington, L.**, Brown-Lima, C., Fusco, E., Gregg, R., Lieurance, D., Parsons, E., Nagy, C., Thurman, L., & Morelli, T.L. (In Review). Understanding the challenges and priorities for climate-informed invasive species management across multiple scales. *Conservation Science and Practice*.

Brewington, L., Bryson, C., Frazier, A.G., Keener, V.W., Marra, J.J., Matsutaro, E.X., Mochimaru, K., & Moehlenkamp, P. (2024). A climate services dialog to build sector-based Climate Early Warning Systems in the Republic of Palau. *Bulletin of the American Meteorological Society*, 105(8): E1610–E1618. https://doi.org/10.1175/BAMS-D-24-0157.1.

Brewington, L., Greenwood, L., & Rodgers, L. (2024). Recommendations for incorporating invasive species into U.S. climate change adaptation planning and policy. *Conservation Science and Practice*, e13210: 1–12. https://doi.org/10.1111/csp2.13210.

Hoffmann, B.D., **Brewington, L.**, Andreozzi, P., Day, M.D., Ero, M., Jackson, T., Martin, C., & Montgomery, M. (2024). Three new strategies to improve biosecurity and invasive species management to build resilience in Pacific Islands. *NeoBiota*, 92: 193–210. https://doi.org/10.3897/neobiota.92.122103.

Evans, A., **Brewington, L.**, Brown-Lima, C., Fusco, E., Gregg, R., Lieurance, D., Parsons, E., Nagy, C., Thurman, L., & Morelli, T.L. (2023). *Assessing the RISCC: Priorities for and Barriers to Climate-informed Invasive Species Management in the United States*. *NISC Cross-RISCC Survey Report*. Amherst, MA: Northeast Climate Adaptation Science Center. https://zenodo.org/doi/10.5281/zenodo.10595614

Brewington, L., Eichelberger, B., Reed, N., Parsons, E., Kerkering, H., Martin, C., Miles, W., Idechong, J., & Burgett, J. (2023). Pacific Island perspectives on invasive species and climate change. In S.J. Walsh, C.F. Mena, J.R. Stewart, J.P. Muñoz Pérez (Eds): *Island Ecosystems. Social and Ecological Interactions in the Galapagos Islands*. Cham: Springer, pp. 59–78. https://doi.org/10.1007/978-3-031-28089-4_5.

Frazier, A.G., Giardina, C.P., Giambelluca, T.W., **Brewington, L.,** Chen, Y-L., Chu, P-S., Fortini, L.B., Hall, D., Helweg, D.A., Keener, V.W., Longman, R.J., Lucas, M.P., Mair, A., Oki, D.S., Reyes, J.J., Yelenik, S.G., & Trauernict, C. (2022). A century of spatial and temporal patterns of drought in Hawai'i across hydrological, ecological, and socioeconomic scales. *Sustainability*, 14(19): 12023. https://doi.org/10.3390/su141912023.

Krzesni, D. & **Brewington, L**. (2022). What do climate impacts, health, and migration reveal about vulnerability and adaptation in the Republic of the Marshall Islands? *Climate Action*, 1(22). https://doi.org/10.1007/s44168-022-00023-4.

Hoffmann, B., Faulkner, C., **Brewington, L**., & Lawton, F. (2022). Field quantifications of probability of detection and search patterns to form protocols for the use of detector dogs for eradication assessments. *Ecology and Evolution*, 12(6): e8987. https://doi.org/10.1002/ece3.8987.

Brewington, L., Kokame, K., & Lewis, N. (2021). A changing climate and its implications for health and migration in the Pacific: Examples from the Marshall Islands. *AsiaPacific Issues*, 149: 1–8. http://www.jstor.org/stable/resrep35906.

Brewington, L., Burgett, J., Martin, C., Kerkering, H., & Arnott, C. (2021). *When Invasive Species and Climate Change Intersect: Survey of Hawai'i Natural Resource Managers*. Honolulu: The Pacific Regional Invasive Species and Climate Change Management Network. Zenodo. https://doi.org/10.5281/zenodo.7735287.

Bremer, L.L., Elshall, A.S., Wada, C.A., **Brewington, L.**, Delevaux, J.M.S., El-Kadi, A.I., Voss, C.I., & Burnett, K.M. (2021). Effects of land cover and watershed protection futures on sustainable groundwater management in a heavily utilized aquifer in Hawai‘i (USA). *Hydrogeology Journal*. http://dx.doi.org/10.1007/s10040-021-02310-6.

Shuler, C., **Brewington, L.**, & El-Kadi, A.I. (2021). A participatory approach to assessing groundwater recharge under future climate and land-cover scenarios, Tutuila, American Samoa. *Journal of Hydrology: Regional Studies*, 34: 100785. https://doi.org/10.1016/j.ejrh.2021.100785.

Brewington, L. (2020). Transitions and drivers of land use/land cover change in Hawai‘i: A case study of Maui. In S.J. Walsh, D. Riveros-Iregui, J. Acre-Navarro, & P.H. Page (Eds), *Land Cover/Land Use Change on Islands: Social & Ecological Threats to Sustainability*. Heidelberg: Springer, pp. 89–117. https://doi.org/10.1007/978-3-030-43973-6_4.

Pizzitutti, F., **Brewington, L**., & Walsh, S.J. (2020). Human and natural environments, Island of Santa Cruz, Galapagos: A model-based approach to link land cover/land use changes to direct and indirect socio-economic drivers of change. In S.J. Walsh, D. Riveros-Iregui, J. Acre-Navarro, & P.H. Page (Eds), *Land Cover/Land Use Change on Islands: Social & Ecological Threats to Sustainability*. Heidelberg: Springer, pp. 183–203. https://doi.org/10.1007/978-3-030-43973-6_8.

Walsh, S.J., Bilsborrow, R.E., **Brewington, L**., Shao, Y., Mattei, H., Nazario, J.A., Laso, F., Page, P.H., Frizzelle, B.G., & Pizzitutti, F. (2020). Social-ecological drivers of land cover/land use change on islands: A synthesis of the patterns and processes of change. In S.J. Walsh, D. Riveros-Iregui, J. Acre-Navarro, & P.H. Page (Eds), *Land Cover/Land Use Change on Islands: Social & Ecological Threats to Sustainability*. Heidelberg: Springer, pp. 63–88. https://doi.org/10.1007/978-3-030-43973-6_3.

Frazier, A. & **Brewington, L**. (2020). Current changes in alpine ecosystems of Pacific Islands. In *Encyclopedia of the World's Biomes*. Amsterdam: Elsevier, pp. 607–619. https://doi.org/10.1016/B978-0-12-409548-9.11881-0.

Brewington, L., Keener, V., & Mair, A. (2019). Simulating land cover change impacts on groundwater recharge under selected climate projections, Maui, Hawai‘i. *Remote Sensing*, 11 (24): 3048. https://doi.org/10.3390/rs11243048.

Brewington, L. (2018). Stakeholder perceptions of invasive species and participatory remote sensing in the Galapagos Islands. In M. Lourdes Torres & C. Mena (Eds), *Understanding Invasive Species in the Galapagos Islands: From the Molecular to the Landscape*. Cham: Springer, pp. 175–192. https://doi.org/10.1007/978-3-319-67177-2_10.

Brewington, L., Keener, V., Finucane, M., & Eaton, P. (2016). Participatory scenario planning for climate change adaptation using remote sensing and GIS. In S. Walsh (Ed), *Remote Sensing for Societal Benefits*. Amsterdam: Elsevier, pp. 236–252. http://dx.doi.org/10.1016/B978-0-12-409548-9.10434-8.

S.J. Walsh, Page, P.H., **Brewington, L**., Bradley, J.R., & Mena, C.F. (2016). A beach vulnerability framework for the Galapagos Islands: Fusion of World-View 2 imagery, 3-D laser scanner data & unmanned aerial vehicles. In S. Walsh (Ed), *Remote Sensing for Societal Benefits*. Amsterdam: Elsevier, pp. 159–175. http://dx.doi.org/10.1016/B978-0-12-409548-9.10434-8.

Corlew, L.K., Keener, V., Finucane, M., **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: 133–146. https://doi.org/10.1016/j.psi.2015.07.004.

Brewington, L., Frizzelle, B.G., Walsh, S.J., Mena, C.F., & Sampedro, C. (2014). Remote sensing of the marine environment: Challenges and opportunities in the Galapagos Islands of Ecuador. In J. Denkinger & L. Vinueza (Eds), *The Galapagos Marine Reserve*. Cham: Springer, pp. 109–136. https://doi.org/10.1007/978-3-319-02769-2_6.

Brewington, L., Engie, K., Walsh, S.J., & Mena, C.F. (2013). Collaborative learning and global education: Studying human-environment interactions in the Galapagos Islands. *Journal of Geography*, 112: 179–192. https://doi.org/10.1080/00221341.2012.740066.

Brewington, L. (2013). The double bind of tourism in Galapagos society. In S.J. Walsh & C.F. Mena (Eds), *Social, Terrestrial, and Marine Interactions in the Galapagos Islands: Frameworks and Perspectives*. New York: Springer, pp. 105–125. https://doi.org/10.1007/978-1-4614-5794-7_6.

Brewington, L. (2013). Mapping invasion and eradication of feral goats in the Alcedo region of Isabela Island, Galapagos. *International Journal of Remote Sensing*, 34(7): 2286–2300. https://doi.org/10.1080/01431161.2012.743695.

Bigue, M., **Brewington, L**., Rosero, O., & Cervantes, K. (2012). *The Quarantine Chain: Establishing an Effective Biosecurity System to Prevent the Introduction of Invasive Species into the Galapagos Islands*. San Francisco: WildAid, Inc. https://zenodo.org/doi/10.5281/zenodo.10905893.

Brewington, L. (2011). The role of agriculture in Galapagos Island conservation. *Grassroots Development*, 32: 52–56.

Walsh, S.J., McCleary, A.L., Heumann, B.W., **Brewington, L**., Raczkowski, E.J., & Mena, C.F. (2010). Community expansion and infrastructure development: Implications for human health and environmental quality in the Galapagos Islands of Ecuador. *Journal of Latin American Geography*, 9(3): 137–159. http://dx.doi.org/10.1353/lag.2010.0024.

WHITE PAPERS & CONFERENCE PROCEEDINGS

[Greenwood, L., **Brewington, L**., Rodgers, L., and Zajicek, P.] Invasive Species Advisory Committee. (2023). *Invasive Species Threaten the Success of Climate Change Adaptation Efforts.* Adopted Nov 14, 2023. Washington, DC: National Invasive Species Council. http://dx.doi.org/10.13140/RG.2.2.35659.81441. Available at: https://www.doi.gov/sites/default/files/documents/2024-02/isac-climate-change-white-paper-november-2023.pdf.

Invasive Species Advisory Committee. (2023). Underserved Communities and Invasive Species. Adopted Nov 14, 2023. Washington, DC: National Invasive Species Council. Available at: https://www.doi.gov/sites/default/files/documents/2024-02/isac-underserved-communities-white-paper-november-2023.pdf.

Invasive Species Advisory Committee. (2023). National Priorities of the Invasive Species Advisory Committee, 2022-2024. Adopted Nov 14, 2023. Washington, DC: National Invasive Species Council. Available at: https://www.doi.gov/sites/default/files/documents/2024-02/isac-national-priorities-white-paper-november-2023.pdf.

[Andreozzi, P., Quitugua, R., Ero, M., **Brewington, L**.] Pacific Ecological Security Conference. (2022). *Strategic Action Plan for Coconut Rhinoceros Beetle*. Pacific Ecological Security Conference (PESC), Koror, Palau. Zenodo. https://doi.org/10.5281/zenodo.7683206.

[Day, M., Martin, C., **Brewington, L**.] Pacific Ecological Security Conference. (2022). *Pacific Biocontrol Strategic Action Plan*. Pacific Ecological Security Conference (PESC), Koror, Palau. Zenodo. https://doi.org/10.5281/zenodo.7683179.

[Hoffmann, B., Boudjelas, S., Montgomery, M., & **Brewington, L**.] Pacific Ecological Security Conference. (2022). *Biosecurity Plan for Invasive Ants in the Pacific*. Pacific Ecological Security Conference (PESC), Koror, Palau. Zenodo. https://doi.org/10.5281/zenodo.7683199.

Krzesni, D. & **Brewington, L**. (2022). *Climate Change, Health, and Migration in the Marshall Islands: Profiles of Resilience and Vulnerability*. Honolulu: The East-West Center. http://dx.doi.org/10.13140/RG.2.2.11332.85120. Available at: https://www.eastwestcenter.org/sites/default/files/private/ewcirapmarshalls.pdf.

Marra, J., Courtney, C., & **Brewington, L**. (2021). *The Pacific Islands Climate Storybook.* Honolulu, HI: Pacific Research on Island Solutions for Adaptation. Available at: www.pacificrisa.org/pacific-islands-climate-storybook/.

Brewington, L. (2020). *Proceedings: First National Climate Change and Health Dialog, Marshall Islands*. Honolulu, HI: Pacific Research on Island Solutions for Adaptation. Available at: https://www.pacificrisa.org/wp-content/uploads/2020/06/RMI_Climate_Change__Health_Dialog_Proceedings.pdf.

Brewington, L., Burgett, J., Poe, A., & Murry, B. (2015). *Lessons Learned from the Island LCCs: Toward Best Practices to Address Unique LCD Challenges*. Washington, DC: US Fish and Wildlife Service.

Brewington, L. & McCleary, A.L. (2009). From cultivation to crisis: Invasive guava on Isabela Island in the Galapagos Archipelago of Ecuador. In M. Wolff & M. Gardener (Eds), *Proceedings of the Galapagos Science Symposium 2009*. Puerto Ayora: Charles Darwin Foundation, pp. 139–142**.**

GRANTS & FELLOWSHIPS (TOTAL $18,423,057)

2024–26	Supporting WMO Region V and the Pacific Islands Regional Climate Assessment through Climate Indicators Monitoring, Early Warning Systems Development, and Capacity Building (US National Oceanic and Atmospheric Administration): $1,860,916
2023–26	SDSU TCTAC: The Center for Climate Action, Energy and Environmental Justice (EPA Environmental Justice Thriving Communities Technical Assistance Centers Program): $1,500,000
2022–27	Enhancing Climate Information and Knowledge Services for Resilience in 5 Island Countries of the Pacific Ocean (UN Environment Programme/Green Climate Fund): $1,155,971
2021–26	The Pacific RISA Phase IV: Building Equitable and Just Climate Solutions for Pacific Island Resilience to Compound Disasters and Extreme Events (US National Oceanic and Atmospheric Administration): $7,010,696
2020–21	Pacific RISA: Building International Adaptation and Resilience to a Changing Climate in the Pacific Islands (US National Oceanic and Atmospheric Administration): $700,000
2020–21	Foreign Assistance for Pacific Islands (US Department of State, Bureau of Oceans and International and Scientific Affairs): $529,000
2019–21	Development of Drought Analyses with Managers of National Park and US Fish and Wildlife Service Natural Resources in Hawai‘i (US Department of Interior Pacific Islands Climate Adaptation Science Center): $285,293
2019–20	Advancing Best Practices for the Analysis of the Vulnerability of Military Installations in the Pacific Basin to Coastal Flooding under a Changing Climate (US Department of Defense Strategic Environment and Research Development Program): $26,000
2018–20	Climate, Health, and Migration in Pacific Islands (US National Oceanic and Atmospheric Administration International Research and Applications Project): $477,079
2018–20	‘Ike Wai: Securing Hawai‘i’s Water Future (US National Science Foundation): $15,000
2017–20	Synthesis of Drivers, Patterns, and Trajectories of LCLUC in Island Ecosystems (NASA LCLUC Synthesis Program): $30,000
2016–19	The Pacific Islands Regional Climate Assessment Sustained Assessment Specialist (US Department of Interior Pacific Islands Climate Adaptation Science Center): $99,740
2015–20	The Pacific RISA: Supporting Integrated Decision Making Under Climatic Variability and Change in Hawai‘i and the US-Affiliated Pacific Islands (US National Oceanic and Atmospheric Administration): $4,246,800
2015–17	Impacts of Climate Change on Honolulu Board of Water Supply and Planning Strategies for Mitigation (Water Research Foundation): $266,667
2014–15	Development of an Integrated, Island-Relevant Concept of Landscape Conservation Design for the LCC Network (US Fish and Wildlife Service, Implementing Strategic Habitat Conservation): $32,245
2011–12	Quarantine and Biosecurity Fellowship (WildAid, Inc.): $24,000
2010	UNC Graduate School Tuition Incentive Scholarship (University of North Carolina at Chapel Hill): $18,000
2009–10	Inter-American Foundation Grassroots Development Program (Inter-American Foundation): $20,000

2009	Off-Campus Dissertation Research Fellowship (University of North Carolina at Chapel Hill): $7,350
2007–09	Research Residencies for Field Research, Carolina Population Center (University of North Carolina at Chapel Hill): $8,800
2006–11	NSF-IGERT Traineeship in Population and Environment, Carolina Population Center (National Science Foundation Integrative Graduate Education and Research Traineeship): $109,500

DATASETS

Brewington, L., Bremer, L.L., Rotzoll, K., & Elshall, A.S. (2020). *Data of effects of land cover and watershed protection futures on sustainable groundwater management in Hawai'i* (Version v1.0). Zenodo. http://doi.org/10.5281/zenodo.3930544. Honolulu, HI: East-West Center, University of Hawai'i, US Geological Survey Pacific Islands Water Science Center.

Brewington, L. (2019). *Maui Future Land Cover Scenarios*. Vector Digital Data Set (Polygon; Version v1.1). Available from: https://www.pacificrisa.org/wp-content/uploads/2020/04/Maui_future_land_cover_scenarios_v1-1.zip. Honolulu, HI: East-West Center.

Brewington, L. (2015). *Maui Future Land Cover Scenarios*. Vector Digital Data Set (Polygon; Version v1.0). Available from: http://pacificrisa.org/wp-content/uploads/2015/10/Maui_future_land_cover_scenarios.zip. Honolulu, HI: East-West Center.

SERVICE & MEMBERSHIP

Association of American Geographers (AAG)
American Association for the Advancement of Science (AAAS)
Pacific Invasives Partnership (PIP)
Population Association of America (PAA)
American Statistical Association (ASA)

FIELD RESEARCH METHODS

Qualitative/quantitative: Interviews, participant observation, surveys
Spatial: GPS data collection, correction, calibration, vegetation transects, monitoring plots, field sampling

COMPUTING

General software: Microsoft Office, Adobe
Analytical software: SAS, STATA, Matlab, Atlas.ti
Database: Microsoft Access
Remote Sensing and GIS software: ERDAS Imagine, ArcGIS, ArcGIS Pro, ENVI, Quantum GIS

LANGUAGES

English: Native
Spanish: Fluent (reading, writing, and conversation)
French: Basic (reading, writing, and conversation)
Samoan: Basic (reading, writing, and conversation)

COMPLETED RESEARCH PROJECTS

Development of Drought Analyses with Managers of National Park and US Fish and Wildlife Service Natural Resources in Hawai'i
Position: Investigator
Affiliation: East-West Center, Honolulu, HI

- Conduct detailed survey of Hawai‘i land managers and their approaches to drought and wildfire management
- Identify perceptions of drought and drought-related threats to regional water resources, document management actions during drought, and identify lessons learned that may be useful to other land managers statewide

The Pacific Regional Integrated Sciences and Assessments (RISA): Supporting Integrated Decision Making Under Climatic Variability and Change in Hawai‘i and the US-Affiliated Pacific Islands
Position: Investigator
Affiliation: East-West Center, Honolulu, HI

- Support the integration of flexible processes in policy and planning for building adaptive capacity to climate variability and change in diverse Pacific Island settings
- Engage regularly with decision makers in crafting usable climate scenarios based on downscaled climate data appropriate at small island scales
- Develop decision support tools that quantify, map, and value ecosystem services from land and sea
- Evaluate program effectiveness throughout the region as justification for decision-making and new research directions, as well as funding sources

International Research and Applications Project: Climate, Health, and Migration in Pacific Islands
Position: Lead Investigator
Affiliation: East-West Center, Honolulu, HI

- Identify and provide climate information and services to the Marshall Islands health sector in support of the development of a climate early warning system
- Track and map migration flows from the Marshall Islands to other regions in the Pacific through analysis and publication of existing climate and migration survey data
- Provide information and promote partnerships in the Hawai’i healthcare sector by improving coordination between local, national, and regional entities

The Maui Groundwater Project
Position: Investigator
Affiliation: East-West Center, Honolulu, HI

- Evaluate stakeholder needs for climate change information in water resource decision-making on Maui Island, HI
- Develop spatially explicit land cover scenarios for potential future Maui land cover, as inputs to a hydrology model to evaluate groundwater recharge under future climate and management decisions
- Identify how uncertainty about climate information influences stakeholder understanding about climate change, and preferences and trade-offs for management solutions

‘Ike Wai: Securing Hawai‘i’s Water Future
Position: Spatial Analyst
Affiliation: East-West Center, Honolulu, HI

- Develop spatially explicit land cover scenarios for potential future land cover in the Pearl Harbor (Oahu Island) and Hualalai (Hawai‘i Island) aquifer systems, as inputs to a hydrology model to evaluate groundwater recharge under future climate and management decisions

Advancing Best Practices for the Analysis of the Vulnerability of Military Installations in the Pacific Basin to Coastal Flooding under a Changing Climate
Position: Spatial Analyst

Affiliation: East-West Center, Honolulu, HI

- Integrate geographic, biophysical, and infrastructure data for five Pacific and coastal US military installations for analysis within a GIS modeling environment
- Test model outputs using pre-defined sea level rise scenarios to show impacts of sea level rise on critical infrastructure and mission readiness
- Provide estimates of event magnitude and frequency that will assist Department of Defense managers in assessing and responding to anticipated impacts

Impacts of Climate Change on Honolulu Board of Water Supply and Planning Strategies for Mitigation
Position: Investigator
Affiliation: East-West Center, Honolulu, HI

- Use scenario planning and groundwater modeling to improve resilience to climate change impacts for the Honolulu Board of Water Supply on the island of Oahu
- Work with the USGS to provide climatic and hydrologic modeling results to inform the study on expected changes to temperature, precipitation, water availability, sea level rise, and salt water intrusion as a result of climate change
- Assess vulnerabilities regarding water balance, historical water quality, and infrastructure risks and reliability
- Develop management and treatment strategies to address anticipated changes in climate and their impacts on the Honolulu Board of Water supply and its assets

Development of an Integrated, Island-Relevant Concept of Landscape Conservation Design for the LCC Network
Position: Analyst
Affiliation: East-West Center, Honolulu, HI

- Identify and categorize key ecological, social, and conservation management differences and similarities between islands and continental systems that are relevant to achieving sustainable landscapes/seascapes at regional scales
- Conceptualize a conservation framework that integrates planning processes for both terrestrial and marine resources that is consistent with the LCC Network Vision and Mission, and that connects landscape conservation design (LCD) efforts for islands and mainland LCCs
- Develop LCD guidelines, definitions, and goals appropriate for islands that are consistent with SIAS metrics for LCD

Galapagos Island Coastal Vulnerability and Modeling of Linked Human-Environment Interactions
Position: Postdoctoral Researcher
Affiliation: Center for Galapagos Studies at the University of North Carolina at Chapel Hill

- Build geospatial databases and conduct interdisciplinary analysis to characterize human and natural processes and interactions that govern coastal vulnerability and resilience
- Determine how stresses vary over wide-ranging temporal and spatial scales, analyze their impacts, and isolate key factors that lead to vulnerability in human-environmental systems
- Deploy remote sensing and modeling techniques as decision-making tools for environmental sustainability

Quarantine Operations, Biosecurity, and Port Optimization
Position: Biosecurity and Quarantine Fellow
Affiliation: WildAid, Inc., Galapagos, Ecuador

- Evaluate cargo shipping procedures, in collaboration with Ecuadorian institutions, including the Ministries of Environment and Transportation, Galapagos National Park and the Galapagos Inspection and Quarantine System
- Provide training in geospatial analysis to Galapagos National Park Service and Charles Darwin Research Station personnel
- Develop port and shipping protocols that meet international biosecurity standards for island territories

Species Invasions and Human Migration in the Galapagos Islands of Ecuador
Position: Doctoral Student
Affiliation: Department of Geography, Center for Galapagos Studies, and the Carolina Population Center at the University of North Carolina at Chapel Hill; the Inter-American Foundation; Galapagos, Ecuador

- Evaluate the drivers and effects of conservation policies, including efficacy of protected areas, the introduction, control, and eradication of non-native species, and human migration and tourism
- Carry out vegetation surveys and transects of invasive plant species as ground truth data for time-series remote sensing analysis of land use/land cover change
- Conduct qualitative and quantitative analysis of in-depth interviews and brief surveys with over 100 policy makers, stakeholders, and members of rural households

Frontier Migration and the Rural Environment in Ecuador
Position: Research Assistant
Affiliation: Department of Geography and the Carolina Population Center at the University of North Carolina at Chapel Hill, the National Institutes of Health

- Build geospatial datasets from agricultural census data to link with demographic information from rural areas within the Amazon Basin of Ecuador
- Develop and test measures of environmental quality from satellite imagery and other spatial datasets and compared them with survey data from households on environmental conditions
- Conduct time-series spatial and statistical analysis methods for parameterizing land use/land cover change models