

HAUNANI H KANE

Assistant Professor, Department of Earth Sciences

University of Hawai'i at Mānoa

Email- hkane@hawaii.edu

themegalab.org

EDUCATION

2019 Ph.D. in Earth and Planetary Sciences, University of Hawaii at Manoa (UHM)
2014 M.S. in Geology and Geophysics, UHM
2010 B.S. in Global and Environmental Sciences, UHM

PROFESSIONAL EXPERIENCE

January 2023- Assistant Professor, School of Earth Sciences, University of Hawai'i at Mānoa
2021-2022 Assistant Professor, School of Geographical Sciences & Urban Planning, Arizona State University
2019-2021 National Science Foundation Postdoctoral Research Fellowship in Biology, University of Hawaii at Hilo
2019 Postdoctoral researcher and instructor, Mauka to Makai summer bridge program, Oceanography Department, UHM
2010-2019 Research Assistant, Department of Earth Sciences, UHM

TEACHING EXPERIENCE

2024: EARTH 201 Climate Change (Sync), Instructor, Dept of Earth Sciences UHM
2023- : EARTH 104 Volcanoes in the sea (Async), Instructor, Dept of Earth Sciences UHM
2022: Geography of Oceania, Instructor, Arizona State University
Landform Processes, Instructor, Arizona State University
2019: OCN 201 Science of the Sea, co-instructor, Mauka to Makai Summer Bridge, UH Mānoa

ACADEMIC ADVISING

Kainalu Steward PhD student in Earth Sciences at UHM. Expected graduation date Spring 2026.
Brianna Ninomoto, MS student in TCBES at UHM. Expected graduation date Fall 2024.
Maluhia Kinikmaka, MS student in Marine Biology at UHM. Expected graduation date Spring 2025.
Cherie Kauahi, PhD student in Earth Sciences at UHM. Expected graduation date Fall 2027
Cienna Paet, undergraduate ESVI REU at UHM

PEER REVIEWED PUBLICATIONS

1. Steward, K.K, Ninomoto, B.K., **Kane, H.H.**, Burns, J.H.R., Mead, L., Anthony, K, Mossman, L., Olayon, T., Glendon-Baclig, C.K., Kauahi, C. 2024. Highlighting the Use of UAV to Increase the Resilience of Native Hawaiian Coastal Cultural Heritage. Remote Sensing 16 (12): 2239. <https://doi.org/10.3390/rs16122239>

2. Spengler, A., Pascoe, K., Kapon, C., **Kane, H.** Burns, J. 2024. MEGA Vision: Integrating Reef Photogrammetry Data into Immersive Mixed Reality Experiences. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* 48: 409-414. <https://doi.org/10.5194/isprs-archives-XLVIII-2-2024-409-2024>
3. Mau, M.K.L.M, Stotz, S.A., Minami, C.M, **Kane, H.H.**, Crabbe, K.M, Guth, H.K. 2024. Exploring perspectives and insights of experienced voyagers on human health and Polynesian oceanic voyaging: a qualitative study. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0296820>
4. Burns, J.H.R., Pascoe, K.H., **Kane, H.H.**, Nakoa, J.W.P., Pascoe, M., Pierucci, S.R., Sokol, R.E., Golgotiu, K. A., Cortes, M., Hacker, A., Villela, L., Ninomoto, B.K., Steward, K., Otcenasek, C., Kapon, C.A., 2024. Community-Based Monitoring for Rapid Assessment of Nearshore Coral Reefs Amid Disturbances in Teahupo'o, Tahiti. *Remote Sensing* 16(5): 853. <https://doi.org/10.3390/rs16050853>
5. **Kane, H.H.**, Choy, C.A., Bruno, B., Tachera, D.K., Keliipuleole, K., Wong-Ala, J., Burns, J.H.R., Kapon, C.A., Pascoe, K.H., Steward, K., Alegado, R.A. 2023. Ho'okele ka wa'a: Re-calibrating the sail plan for Native Hawaiians and Pacific Islanders in the ocean sciences. Special Issue: Oceanography on "Building Diversity, Equity, and Inclusion in the Ocean Sciences 36(4): 35-43. <https://doi.org/10.5670/oceanog.2024.137>
6. Burns, J.H.R., Kapon, C.A., Pascoe, K.H., **Kane, H.H.** Accepted. The Culture of Science in Academia is Overdue for Change. Special Issue: Oceanography on "Building Diversity, Equity, and Inclusion in the Ocean Sciences 36(4): 35-43: 146-147. <https://doi.org/10.5670/oceanog.2024.115>
7. Frazier, A.G., M.-V.V. Johnson, L. Berio Fortini, C.P. Giardina, Z.N. Grecni, **H.H. Kane**, V.W. Keener, R. King, R.A. MacKenzie, M. Nobrega-Olivera, K.L.L. Oleson, C.K. Shuler, A.K. Singeo, C.D. Storlazzi, R.J. Wallsgrove, and P.A. Woodworth-Jefcoats, 2023: Ch. 30. Hawai'i and US-Affiliated Pacific Islands. In: *Fifth National Climate Assessment*. Crimmins, A.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, B.C. Stewart, and T.K. Maycock, Eds. U.S. Global Change Research Program, Washington, DC, USA. <https://doi.org/10.7930/NCA5.2023.CH30>
8. Kapon, C.A., Burns, J.H.R., Kane, **H.H.** 2023. Branding the MEGA Lab; methods to improve science communication and citizen science engagement. *Frontiers in Environmental Science* 11. <https://doi.org/10.3389/fenvs.2023.1208683>
9. Burns, J.H.R, Pascoe, K.H., Ferreira, S.B., **Kane, H.H.K**, Kapon, C. Carrel, T.L., Reyes, A., Fukunaga, A. 2023. How Do Underwater Cultural Heritage Sites Affect Coral Assemblages? *Remote Sensing* 15(8). <https://doi.org/10.3390/rs15082130>
10. Harmon, K.C, Winter, K.B, Kurashima, N., Fletcher, C.H., **Kane, H.H.**, Price, M.R. 2021. The role of indigenous practices in expanding waterbird habitat in the face of rising seas. *Anthropocene* 34: 100293. <http://doi.org/10.1016/j.ancene.2021.100293>
11. **Kane, H.H.**, Fletcher, C.H. 2020. Rethinking reef island stability in relation to anthropogenic sea level rise. *Earth's Future* 8(10). <https://doi.org/10.1029/2020EF001525>

12. La Selle, S.P., Richmond, B.R., Jaffe, B., Nelson, A., Griswold, F., Arcos, B., Chagues, C., Bishop, J., Bellanova, P, **Kane, H.**, Lunghino, B., Gelfendbaum, G., 2019. Sedimentary Evidence of Distant Source Tsunamis in the Hawaiian Islands. *Sedimentology* *sed12623*. <http://doi.org/10.1111/sed.12623>
13. **Kane, H.H.**, Fletcher, C.H., Cochrane, E.E., Mitrovica, J.X., Habel, S., Barbee, M., 2017. Coastal plain stratigraphy records tectonic, environmental, and human habitability changes related to sea-level drawdown: 'Upolu, Sāmoa. *Quaternary Research* 18: 246-257. <https://doi.org/10.1017/qua.2017.2>
14. Cochrane, E.E., **Kane, H.**, Fletcher, C.H., Horrocks, M., Mills, J., Barbee, M.M., Morrison, A.E., Matavai Tautunu, M., 2015. Lack of suitable coastal plains likely influence Lapita (~2800 cal. BP) settlement of Samoa: Evidence from south-eastern Upolu. *The Holocene* 26: 126-135. <https://doi.org/10.1177/0959683615596841>
15. **Kane, H.H.**, Fletcher, C.H., Frazer, L.N., Anderson, T., Barbee, M., 2015. Modeling sea-level rise vulnerability of coastal environments using ranked management concerns. *Climatic Change* 131: 349-361. <https://doi.org/10.1007/s10584-015-1377-3>
16. **Kane, H.H.**, Fletcher, C.H., Frazer, N., Barbee, M., 2015. Critical elevation levels for flooding due to sea-level rise. Regional Environmental Change. *Regional Environmental Change* 15: 1679-1687. <https://doi.org/10.1007/s10113-014-0725-6>
17. **Kane, H.H.**, Fletcher, C.H., Romine, B.M., Anderson, T.R., Frazer, L.N., Barbee, M., 2012. Vulnerability assessment of Hawai'i's cultural assets attributable to erosion using shoreline trend analysis techniques. *Journal of Coastal Research* 28: 533-539. <https://doi.org/10.2112/JCOASTRES-D-11-00114.1>

REPORTS & OTHER PUBLICATIONS

18. **Kane, H.**, 2019. Before building another telescope, learn from Hawaiian culture. *Science Advances* 3241.
19. Bishop, J.M, Richmond, B.R., Zaremba, N.J., Lunghino, B.D., and **Kane, H.H.**, 2016. Hurricane Sandy washover deposits on southern Long Beach Island, New Jersey: U.S. Geological Survey Open-File Report 2016-1090, 14p. <https://pubs.usgs.gov/of/2016/1090/ofr20161090.pdf>
20. **Kane, H.H.**, Fletcher, C.H., 2013. Temporal and Spatial Pattern of Sea-level Rise Impacts to Coastal Wetlands and Other Ecosystems. Pacific Island Climate Change Cooperative Grant # 6661281 Public Report, 33p. http://piccc.net/piccc/wp-content/uploads/2015/05/KaneFletcherPICCC_FINAL_low_res.pdf

GRANT ACTIVITY

Current Research Support

- 2/2024-1/2026 UH Sea Grant. Evaluating the resilience of productive rocky intertidal ecosystems to sea level rise using a community-based approach. H Kane (PI), K Steward, A Fukunaga, J Burns (\$151,953.24)

8/2021-7/2025 NASA. Quantifying vulnerability to sea level rise across multiple coastal typologies. J Burns, H Kane (co-I), R Martin (\$535,000).

Past Research Support

8/2020-8/2022 Pacific Islands Climate Adaptation Science Center (PI-CASC). He ala aukai- The Path Near the Sea, Climate Inflections Upon Intertidal Shorelines. L Kapon, H Kane (co-I), J Burns (\$49,999).

8/2020-2/2022 National Fish and Wildlife Foundation. Mitigating impacts from environmental stressors: early response to the Chondria outbreak at Pearl and Hermes Atoll, and Hurricane Walaka impacts at French Frigate Shoals. A. Sherwood, H Kane (co-I), A Kealoha, J Burns, C Smith. (\$299,890.90)

8/2021 Office of Hawaiian Affairs. Native Hawaiian research expedition to Papahānaumokuākea. H Kane (PI) (\$70,000).

8/2019-7/2021 NSF-BIO. NSF Postdoctoral Research Fellowship in Biology, He puko'a kani 'āina: assessing the impact of sea level and storms upon reef islands within Papahānaumokuākea Marine National Monument. H Kane (\$138,00).

PROFESSIONAL ACTIVITIES

2023-- Uehiro Center for the Advancement of Oceanography, advisory council

2022-- Resilient Lalo (French Frigate Shoals, Papahānaumokuākea Marine National Monument Management) Advisory Committee

2021-- Co-author, Fifth National Climate Assessment Hawaii and US Affiliated Pacific Islands

2021 -- Papahānaumokuākea Marine National Monument Management Research Advisory Council

2021-- Papahānaumokuākea Marine National Monument Management cultural working group

2021-- NSF GRFP Reviewer

2019-- Nā Kālai Wa'a Holokai Program, Curriculum development and reef surveys, 2019-present

2014-- Polynesian Voyaging Society crew member

AWARDS AND MEDIA

2023 Grist 50 list

Climate Adaptation Leadership Award for Natural Resources

"Haunani Kane Is Inspiring The Next Generation Of Hawaiian Scientists"

<https://www.civilbeat.org/2023/10/haunani-kane-is-inspiring-the-next-generation-of-hawaiian-scientists/>

2021 New York Times 10 Women Changing the Landscape of Leadership