

Clay Trauernicht

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EDUCATION

PhD School of Plant Science, University of Tasmania, 2013
MS Department of Botany, University of Hawaii at Manoa, 2004
BS Department of Biology, University of Denver, 1999

APPOINTMENTS

Assistant Specialist in Ecosystem Conservation and Restoration, Department of Natural Resources and Environmental Management, University of Hawaii at Manoa, 2021-present
Fellow, University of Hawaii Economic Research Organization, 2023-present
Associate Specialist in Fire Science and Management, Department of Natural Resources and Environmental Management, University of Hawaii at Manoa, 2019-2021
Assistant Specialist in Fire Science and Management, Department of Natural Resources and Environmental Management, University of Hawaii at Manoa, 2013-2019
Field Botanist, Department of Conservation, National Tropical Botanical Garden 2007-2009

ACADEMIC INTERESTS AND EXPERTISE

Plant community and population ecology; Fire science and ecology; Land cover change;
Tropical forest and savanna dynamics; R for data visualization, statistical modeling and GIS;
Climate impact modeling; Science communication; Knowledge and technology transfer

HONORS AND AWARDS

2019 Dean's Award for Excellence in Extension, University of Hawaii at Manoa
2015 Roy Goff Fellowship, University of Hawaii Cooperative Extension Service
2010 Jill Landsberg Scholarship, Ecological Society of Australia
2009 Endeavor International Postgraduate Scholarship, Australian Government
2009 Holsworth Wildlife Research Endowment Award, ANZ Trustees Foundation
2002 MAI Graduate Research Fellowship, US Environmental Protection Agency
2002 Distinguished Teaching Assistant Award, Department of Biology, University of Hawaii
2001 Beatrice Kraus Fellowship, Department of Botany, University of Hawaii

PEER-REVIEWED RESEARCH PUBLICATIONS

Published Manuscripts

- C. Trauernicht, A.G. Frazier, J. Dendy, I. Bubb, C. Camacho-Fejeran, J.B. Friday, R.King, J. Manglona, F.Ruegorong, A. Singeo, C.P. Giardina, S. Cordell. In press. How people, rainfall, and vegetation shape tropical island fire regimes across Micronesia. *Journal of Biogeography*.
- C. Trauernicht. 2023. People, not goats, played "a central role" in the Maui Fires. *Science*, eletter <https://www.science.org/doi/10.1126/2f971595-b624-4487-93da-24d8b8d581d6/full/>
- Tran, T.T.K., Bateni, S.M., Rezaie, F., Panahi, M., Jun, C., **Trauernicht, C.** and Neale, C.M., 2023. Enhancing predictive ability of optimized group method of data handling (GMDH) method for wildfire susceptibility mapping. *Agricultural and Forest Meteorology*, 339, p.109587

- Ticktin, T., Mandle, L., Hastings, Z., Hoppe, T., **Trauernicht, C.** 2023. Reducing seed predation by introduced rodents helps, but is insufficient, to prevent long-term decline of common forest trees. *Biological Conservation* 278:1098474
- 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., **Trauernicht, C.** 2022. A Century of Drought in Hawai'i: Geospatial Analysis and Synthesis across Hydrological, Ecological, and Socioeconomic Scales. *Sustainability*, 14(19), p.12023.
- Bowman, D.M., Williamson, G.J., Johnston, F.H., Bowman, C.J., Murphy, B.P., Roos, C.I., **Trauernicht, C.**, Rostron, J. and Prior, L.D., 2022. Population collapse of a Gondwanan conifer follows the loss of Indigenous fire regimes in a northern Australian savanna. *Scientific Reports*, 12(1), pp.1-17.
- Zhu, T.R., Litton, C.M., Giardina, C.P., **Trauernicht, C.** 2021. Moisture availability and ecological restoration limit fine fuels and modelled wildfire intensity following non-native ungulate removal in Hawaii. *J. Appl. Ecology* 58:2207-2219.
- Bremer, L.L., Nathan, N., **Trauernicht, C.**, Pascua, P.A., Krueger, N., Jokiel, J., Barton, J. and Daily, G.C. 2021. Maintaining the Many Societal Benefits of Rangelands: The Case of Hawai'i. *Land*, 10:764.
- Selmants, P.C., Sleeter, B.M., Liu, J., Wilson, T.S., **Trauernicht, C.**, Frazier, A.G. and Asner, G.P., 2021. Ecosystem carbon balance in the Hawaiian Islands under different scenarios of future climate and land use change. *Environmental Research Letters* 16:104020.
- Melone, A., Bremer, L.L., Crow, S.E., Hastings, Z., Winter, K.B., Ticktin, T., Rii, Y.M., Wong, M., Kukea-Shultz, K., Watson, S.J. and **Trauernicht, C.** 2021. Assessing Baseline Carbon Stocks for Forest Transitions: A Case Study of Agroforestry Restoration from Hawai'i. *Agriculture*, 11(3), p.189.
- Nugent, A., R. Longman, **C. Trauernicht**, M.P. Lucas, H.F. Diaz, T.W. Giambelluca. 2021. Fire and rain: the legacy of Hurricane Lane in Hawai'i. *Bulletin of the American Meteorological Society*. Published online: <https://doi.org/10.1175/BAMS-D-19-0104.1>
- Lucas, M.P., **Trauernicht, C.**, Frazier, A.G. and Miura, T., 2020. Long-Term, Gridded Standardized Precipitation Index for Hawai'i. *Data* 5:109.
- Trauernicht, C.** 2019. Vegetation-Rainfall interactions reveal how climate variability and climate change alter spatial patterns of wildland fire probability on Big Island, Hawaii. *Science of the Total Environment* 650:459-469
- Balick, M.J., R.A. Lee, J.M. De Gezelle, R. Wolkow, G. Cohen, F. Sohl, B. Raynor, **C. Trauernicht**. 2019. Traditional lifestyles, transition, and implications for healthy aging: An Example from the remote island of Pohnpei, Micronesia. *PloS one*, 14:e0213567.
- Frazier, A.G., J.L. Deenik, N.D. Fujii, G.R. Funderburk, T.W. Giambelluca, C.P. Giardina, D.A. Helweg, V.W. Keener, A. Mair, J.J. Marra, S. McDaniel, L.N. Ohye, D.S. Oki, E.W. Parsons, A.M. Strauch, and **C. Trauernicht**. 2019. Managing Effects of Drought in Hawai'i and U.S.-Affiliated Pacific Islands pages 95-121 in J.M. Vose, D.L. Peterson, L. David, C.H. Luce, T. Patel-Weynand, editors. *Effects of drought on forests and rangelands in the United States*. Gen. Tech. Rep. WO-98. Washington, DC: U.S.D.A. Forest Service.
- Trauernicht, C.**, T. Ticktin, H. Fraiola, Z. Hastings, A. Tsuneyoshi. 2018. Active restoration enhances the recovery of a Hawaiian mesic forest after fire. *Forest Ecology and Management* 411:1-11
- Bremer, L, L. Mandle, **C. Trauernicht**, K. Burnett, P. Pascua, H.L. McMillen, N. Kurashima, C.A. Wada, S. Quazi, T. Giambelluca, T. Ticktin. 2018. Bringing multiple values to the table: assessing future land-use and climate change in North Kona, Hawai'i. *Ecology and Society* 23
- Gollin, L.X., and **C. Trauernicht**. 2018. The critical role of firefighters' place-based environmental knowledge in responding to novel fire regimes in Hawaii. in C. Fowler, j. Welch, and A. Sullivan,

- editors. *Fire Otherwise: Ethnobiology of Burning for a Changing World*. University of Utah Press, Salt Lake City.
- Wada C., L. Bremer, K. Burnett, **C. Trauernicht**, T. Giambelluca, L.Mandle, E.Parsons, C. Weil, T. Ticktin. 2017. Prioritizing management investments at Pu'u Wa'awa'a, Hawaii using spatial changes in water yield and landscape flammability under forest restoration and climate change. *Pacific Science* 71:401-424
- Mora, C., B. Dousset, I.R. Caldwell, F.E. Powell, R.C. Geronimo, Coral R. Bielecki, C.W. Counsell, B.S. Dietrich, E.T. Johnston, L.V. Louis, M.P. Lucas, M.M. McKenzie, A.G. Shea, H.Tseng, T.W. Giambelluca, L.R. Leon, E.Hawkins, **C. Trauernicht**. 2017. Global risk of deadly heat. *Nature Climate Change* 7:501-506
- Hawbaker, T., **C. Trauernicht**, S. Howard, C. M. Litton, C.P. Giardina, J. Jacobi, L. Fortini, F. Hughes, P. Selmants, Z. Zhu. 2017. Wildland fires and greenhouse emissions for Hawaii. *in* P. Selmants et al. Baseline and projected future carbon storage and greenhouse gas fluxes in ecosystems of Hawaii. US Geological Survey Professional Paper 1834
- Trauernicht, C.**, B.P. Murphy, L.D. Prior, M.J. Lawes, D.M.J.S. Bowman. 2016. Human imposed, fine-grained patch burning explains the population stability of a fire-sensitive conifer in a frequently burnt northern Australian savanna. *Ecosystems* 19:896-909
- Trauernicht, C.**, E. Pickett, C.P. Giardina, C.M. Litton, S. Cordell, A. Beavers. 2015. The contemporary scale and context of wildfire in Hawaii. *Pacific Science* 69:427-444
- Friday, J.B., S. Cordell, C.P. Giardina, F. Inmahn-Narahari, N. Koch, J.K. Leary, C.M. Litton, **C. Trauernicht**. 2015. Future directions for forest restoration in Hawaii. *New Forests* 46:733-746
- Trauernicht, C.**, B.W. Brook, B.P. Murphy, G.J. Williamson, D.J.M.S. Bowman. 2015. Local and global pyrogeographic evidence that indigenous fire management creates pyrodiversity. *Ecology and Evolution* 5: 1908–1918
- Trauernicht, C.**, B. P. Murphy, N. Tangalin, D.M.J.S. Bowman. 2013. Cultural legacies, fire ecology, and environmental change in the Stone Country of Arnhem Land and Kakadu National Park. *Ecology and Evolution* 3:286-297
- Radford, I., A.N. Andersen, G. Graham, **C. Trauernicht**. 2013. The fire refuge value of patches of a fire-sensitive tree in fire-prone savannas: *Callitris intratropica* in Northern Australia. *Biotropica* 45:594-601
- Trauernicht, C.**, B.P. Murphy, T.E. Portner, D.M.J.S. Bowman. 2012. Tree cover–fire interactions promote the persistence of a fire-sensitive conifer in a highly flammable savanna. *Journal of Ecology* 100:958-968
- **Featured as a Research Highlight in *Nature*, April 2012
- Trauernicht, C.**, T. Ticktin, and G. Lopez Herrera. 2006. Cultivation of nontimber forest products alters understory light availability in a humid tropical forest in Mexico. *Biotropica* 38:428-436
- Trauernicht, C.** and T. Ticktin. 2005. The effects of nontimber forest product cultivation on the plant community structure and composition of a humid tropical forest in southern Mexico. *For. Ecol. Mgmt.* 219:269-278

OTHER PUBLICATIONS

- Trauernicht, C. 2021. Pacific Island wildfires highlight vulnerability to climate change and how to address it. Op-Ed, The Hill.
- Trauernicht, C. 2019. Recent Maui fires require proactive, statewide response. Honolulu Civil Beat Community Voice Article
- Trauernicht C. 2018. Fire is the one Hawaii disaster we can avoid. Honolulu Civil Beat Community Voice Article.

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- Trauernicht C., E. Pickett, P. Beimler, C.P. Giardina, C.M. Litton, E. Moller, S. Cordell, J.B. Friday. 2018. A collaborative approach to prioritizing fire management needs for the Pacific region. *Fire Management Today* 76:30-35.
- Trauernicht, C. 2016. Wildfire and Drought Look Out! campaign. Hookele: Pearl Harbor Hickam News, May 13, 2016
- Trauernicht, C. 2016. Be Prepared for Hawaii's year-round fire season. Oahu Army Natural Resource Program Ecosystem Management Bulletin. Vol. 60, Issue 4
- Uyeda, J. and C. Trauernicht. 2015. The Southwest Regional Climate Hub and Climate Change in Hawaii. Hanai' Ai Summer 2015. ctahr.hawaii.edu/sustainag/news/articles/V24-UyedaTrauernicht-HIclimatechange.pdf
- Trauernicht, C. 2013. Guyanan Savannas. In: R.W. Howarth, ed. *Biomes and Ecosystems: An Encyclopedia*. Salem: Salem Press
- Trauernicht, C. 2013. Shu Swamp. In: R.W. Howarth, ed. *Biomes and Ecosystems: An Encyclopedia*. Salem: Salem Press
- Murphy, B.P., C. Trauernicht and D.M.J.S. Bowman. 2012, Dec 20. Scientists and national park managers are failing northern Australia's vanishing mammals. *The Conversation*.

EXTENSION PUBLICATIONS

Peer-Reviewed Technical Guides

- Trauernicht, C.** and Melissa Kunz. 2019. Fuel breaks and fuels management for Pacific Island grasslands and savannas. University of Hawaii Cooperative Extension Service, Forest and Natural Res. Mgmt, Series RM-22.
- Trauernicht, C.** and M.P. Lucas. 2016. Wildfire ignition density maps for Hawaii. University of Hawaii Cooperative Extension Service, Forest and Natural Resource Management Series RM-21
- Trauernicht, C.** and E. Pickett. 2016. Pre-fire planning for Hawaii and Pacific Islands. University of Hawaii Cooperative Extension Service, Forest and Natural Resource Management Series RM RM-20
- Trauernicht, C.** 2016. Fire Management and Species Conservation on Oceanic Islands. Workshop Chapter for the IUCN World Conservation Congress Conservation Campus #WCC_9622.
- Cram, D. and **C. Trauernicht**. 2015. Post-fire soil and vegetation monitoring in Hawaii. University of Hawaii Cooperative Extension Service, Forest and Natural Resource Management Series RM-19
- Stevens, B., J.B. Friday, D. Cram, **C. Trauernicht**. 2014. Protecting tree plantations from fire in Hawaii. University of Hawaii Cooperative Extension Service, Forest and Natural Resource Management Series RM-18
- Lee, R., N., Shere, M.J. Balick, F. Sohl, A.S. Roberts, K. Herrera, S. Dahmer, M. Lieskovsky, W. Raynor, P. Raynor, E. Albert, **C. Trauernicht**, L. Offringa, I. Adam, W. Law. 2010. Pohnpei Primary Health Care Manual. Charleston: CreateSpace Publishing

Fact Sheets and Informational Briefs

- Faccenda, K., M. Chimera, **C. Trauernicht**. 2022. Weed fire risk assessment for Hawaii. Pacific Fire Exchange Fact Sheet. <http://www.pacificfireexchange.org/research-publications-1/>
- Trauernicht, C.**, M. Chimera, E. Pickett, N. Baretto. 2021. Changing Climate and fire: A crisis brewing in the Pacific. Pacific Fire Exchange Fact Sheet. <http://www.pacificfireexchange.org/>
- Trauernicht, C.** and M. Chimera. 2021. Wildfire Review: Abandoned Agriculture is Hawaii's fire problem in 2019. Pacific Fire Exchange Fact Sheet. <http://www.pacificfireexchange.org/>
- Trauernicht, C.** and M. Chimera. 2020. 2019 Wildfire Summary for the Western Pacific. Pacific Fire Exchange Fact Sheet. <http://www.pacificfireexchange.org/>

- Trauernicht, C.** and M. Chimera. 2019. Pacific Island Fuel Breaks Quick Reference. Pacific Fire Exchange Fact sheet. <http://www.pacificfireexchange.org/research-publications-1/>
- Trauernicht, C.,** M. Kunz. 2019. 2018 Wildfires in the Western Pacific. PFX Annual Summary. Pacific Fire Exchange Fact Sheet. <http://www.pacificfireexchange.org/research-publications-1/>
- Trauernicht, C.,** M. Kunz, and M. Chimera. 2019. 2018 Wildfires in Hawaii. PFX Annual Summary. Pacific Fire Exchange Fact Sheet. <http://www.pacificfireexchange.org/research-publications-1/>
- Trauernicht, C.** and M. Kunz. 2019. Pacific Fire Exchange – impacts of fire science communication in the Pacific. Fact Sheet for policymakers.
- D’Antonio, C., S. Yelenik, **C. Trauernicht,** M. Kunz. 2018. Measuring Recovery 25 years after fire. Pacific Fire Exchange Research Brief.
- D’Antonio, C., S. Yelenik, **C. Trauernicht,** M. Kunz. 2018. The Grass-Fire Cycle. Pacific Fire Exchange Fact Sheet.
- Trauernicht, C.** and M. Kunz. 2018. 2017 Wildfires in Hawaii. PFX Annual Summary. Pacific Fire Exchange Fact Sheet. <http://www.pacificfireexchange.org/research-publications-1/>
- Pickett, E, M. Kunz, **C. Trauernicht.** 2017. Addressing Wildfire in Hawaii. One-pager for Hawaii Legislators.
- Fifita, P. and **C. Trauernicht.** 2017. Climate smart agriculture for Pacific Islands. Pacific Island Climate Change Cooperative Fact sheet.
- Trauernicht, C.** and M. Kunz. 2017. Wildfire in the US-Affiliated Pacific Islands. Pacific Fire Exchange Fact Sheet. <http://www.pacificfireexchange.org/research-publications-1/>
- Kunz, M., E. Pickett, **C. Trauernicht.** 2016. Pre-fire planning at-a-glance. Pacific Fire Exchange Fact Sheet.
- Litton, C.M. and **C. Trauernicht.** 2016. Grazing to reduce blazing. Pacific Fire Exchange Fact Sheet. Available Online: <http://www.pacificfireexchange.org/research-publications-1/>
- Trauernicht, C.** 2015. El Niño and long-lead fire weather prediction for Hawaii and US-affiliated Pacific Islands. Pacific Fire Exchange Fact Sheet. Available online at <http://www.pacificfireexchange.org/research-publications-1/>
- Trauernicht, C.** 2014. Wildfire in Hawaii. Pacific Fire Exchange Fact Sheet. Available online at <http://www.pacificfireexchange.org/research-publications/wildfire-in-hawaii-fact-sheet>
- Giardina, C.P., E. Pickett, **C. Trauernicht.** 2013. Overview of the Pacific Fire Exchange. PFX Fact Sheet.

Multi-agency Outreach Publications

- Ecological Drought in the US-Affiliated Pacific Islands. 2019. Pacific Islands Climate Science Center, USGS
- Ecological Drought in the Hawaiian Islands. 2017. Pacific Islands Climate Science Center Workshop, USGS
- Hawaii Wildfire Look Out! 2016. Wildfire safety fact sheet. www.HawaiiWildfire.org/lookout
- Ready, Set, Go! Hawaii. 2014. Wildfire safety checklist. International Association of Fire Chiefs
- Hawaii Wildfire Map. 2014. Hawaii Wildfire Management Organization.

EXTENSION WORKSHOPS AND FIELD TOURS

- Ho’ololi ‘Aina: Changing landscapes, fire and climate change. 2020. Online Forum for Hawaii Conservation Conference, 58 participants.
- Fire Management for Farmers. 2020. Online workshop, 33 participants.
- Dealing With Your Backyard During COVID-19 and Wildfire Season. 2020. Online workshop, 45 participants.
- Chuuk Climate Forum, 2020. 2-day climate adaptation workshop, 40 participants
- Pohnpei Climate Forum, 2020. 2-day climate adaptation workshop, 50 participants
- Fire Science for Guam School Curricula Workshop. 2019. 5-day workshop with US Forest Service, 12 participants.
- Drought and Fire Response Workshop for Pacific Islands. 2019. Pacific Islands Foresters Meeting, 42 participants.

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- Maui County Wildland Fire Tour for Policymakers. 2019. Wildfire solutions for central Maui, 30 participants.
- Wildland fire fuel break mapping workshop - Hawaii Island. 2019. 4-hour workshop for land managers in collaboration with Hawaii Wildfire Management Organization, Kailapa, 38 participants.
- Wildland fire fuel break mapping workshop - Oahu. 2019. 4-hour workshop for land managers in collaboration with Hawaii Wildfire Management Organization, Mililani, Oahu, 35 participants.
- Wildland fire fuel break mapping workshop - Kauai. 2019. 4-hour workshop for land managers in collaboration with Hawaii Wildfire Management Organization, Lihue, Kauai, 23 participants.
- Legislative Wildfire Fire Field Tour. 2018. Exploring solutions to wildfire risk reduction. Oahu. 30 participants.
- Hurricane Lane and Fire Field Tour. 2018. Field tour of fire threats for Hawaii Electric Company, 12 participants.
- Wildland fire fuel break mapping workshop - Maui. 2018. 4-hour workshop for land managers in collaboration with Hawaii Wildfire Management Organization, Kahului, Maui, 45 participants.
- Biocultural Approaches to Enhancing the Impact and Efficacy of Restoration Actions. 2018. 2-hour interactive panel and audience discussion. Hawaii Conservation Conference, Honolulu, HI, 35 participants.
- American Samoa Extension Climate Forum. 2018. 2-day knowledge exchange event for Agriculture and natural resource management agencies on climate science and integrating climate-related resources, 60 participants.
- Wildfire Planning and Risk Assessment. 2018. 3-hour workshop for land managers and home owners at the 2018 Hawaii Wildfire Summit, Waikoloa, Hawaii.
- Exploring Wildfire Summit to Sea in South Kohala. 2018. Field Tour for Hawaii Wildfire Summit, 50 participants.
- Wildland fire fuel break mapping workshop. 2018. 6-hour workshop for land managers in collaboration with Hawaii Wildfire Management Organization, Honolulu, HI, 14 participants.
- Understanding Wildfire in Hawaii – Legislator Field Trip. 2018. Field tour at Palehua, Waianae mountains for Hawaii state legislators, 30 participants.
- Northern Marianas Extension Climate Forum. 2017. 2-day knowledge exchange event for Agriculture and natural resource management agencies on climate science and integrating climate-related resources, 85 participants.
- Guam Extension Climate Forum. 2017. 2-day knowledge exchange event for Extension and resource management agencies on climate science and integrating climate-related resources, 45 participants.
- Wildfire Mitigation Workshop and Field Tour. 2017. Hawaii Conservation Conference. Landscape scale approaches to reducing fire risk and managing rangelands. 30 participants.
- Hawaii Extension Climate Forum. 2017. University of Hawaii. 3-day knowledge exchange event for Extension faculty on climate science, climate projections, and integrating climate-related resources, 45 participants.
- Pacific Fire Exchange Wildfire Mitigation Workshop. 2017. Pacific Risk Management Ohana Annual Conference. Landscape scale approaches to reducing fire risk and managing rangelands. 25 participants.
- Pacific Fire Exchange Puu Waawaa Field Tour. 2017. Nahelehele Dry Forest Symposium tour on prioritizing habitat restoration using fire science, hydrology, and economic research findings. 35 participants.
- IUCN Knowledge Café: Coexisting with Wildfire, 2016. IUCN World Conservation Conference, Honolulu, 8 Participants.
- Pacific Fire Exchange Kahikinui Fire Tour. 2016. Site visit to 5500 acre fire with community members, County and State Firefighters, Dept. of Hawaiian Homelands, Maui County executives and legislators. 40 participants.

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Pacific Fire Exchange Nanakuli Fire Tour. 2016. Brought together NREM research faculty with landowners and state fire responders to examine/discuss fire impacts. 9 participants.

Pacific Fire Exchange Kauai Fire Field Tour. 2016. California Nevada Hawaii Nevada Forest Fire Council Meeting tour of multiple Kauai burn sites. 32 Participants.

Hawaii State Fire Needs. Discussion of Hawaii fire issues with Federal, State, and County fire responders, land managers, and researchers. 16 Participants, 2016

Wildfire preparedness planning Webinar. 2016. Pacific Fire Exchange. Presenter. 17 Participants.

Pacific Fire Exchange Leadership Restructuring. Mediated project partnerships and leadership transition, 2015.

El Niño forecast and pre-fire planning Workshop. 2015. Online workshop & discussion for Hawaiian Watershed Partnership Coordinators, 12 participants.

Community Wildfire Protection Plan Fire Responder meeting, Oahu. Discussion of wildfire concerns with Federal, State, and County Firefighters. 12 participants, 2015

Community Wildfire Protection Plan Resource Manager meeting, Oahu. 10 participants, 2015.

Community Wildfire Protection Plan Public Forum, Kauai. 35 participants, 2015.

Livestock grazing for fuels reduction workshop. 2015. Waianae Ranch, Waianae Kai, Oahu. 14 Participants.

National Geographic BioBlitz Survey & Field Tour 2015. Post-fire Recovery at the Broomsedge Fire. Hawaii Volcanoes National Park. 25 Participants.

Kipapa Fire Field Tour. 2015. Post-fire site visit with US Fish and Wildlife and Koolau Mountain Watershed Partnership members. 8 Participants.

Perspectives on Hawaii's wildfire problem. 2014. Hawaii Conservation Conference, Honolulu, HI. Forum Convener. 100 Participants.

Fire Fundamentals Workshop for Resource Managers. 2014. Hawaii Botanical Forum. 24 Participants.

Community Wildfire Protection Plan Public Forum. 2014. Maui, 15 participants.

SUCCESSFUL GRANT PROPOSALS

2022-2024 Hawaii Sea Grant. Building capacity for community-based agroforestry under climate change (co-PI);

2021-2023. National Park Service, Pacific Islands Fuels Treatment Effectiveness monitoring. (PI), \$59,275

2021-2023. Pacific Islands Climate Adaptation Science Center, Linking models to outcomes – how do Hawai'i stakeholders use and contribute to land-to-sea ecosystem service analyses (PI), \$199,547

2020-2022 Hawaii Emergency Management Authority. A near real-time, high resolution fire risk index for Hawaii state (co-PI), \$999,800

2020 Hawaii Dept. of Land and Natural Resources. Fire Risk Assessment for State Lands (PI), \$70,000

2021-2022 Joint Fire Science Program. The Pacific Fire Exchange for linking fire managers and fire scientists in the Pacific island region (PI). \$203,995

2019-2020, US Geological Survey, Statewide fire probability analysis for Hawaii (PI), \$49,500.

2019-2021, Pacific Islands Climate Adaptation Science Center, Drought and fire risk in the US-Affiliated Pacific islands (Co-PI), \$199,000

2019-2021, Pacific Islands Climate Adaptation Science Center (Co-PI), Fire-prone plant invasions and fire risk (Co-PI), \$203,000

2018-2020, National Park Service. Samoan Traditional Use Study (PI), \$35,500

2018-2020, Western Sustainable Agriculture Research and Education, Climate Science Capacity building for Micronesia Cooperative Extension (PI), \$74,000

2019-2020, USDA Forest Service, Improved fuels information for fire mitigation (PI), \$17,225

2019-2021, USDA Natural Resources Conservation Service, Restoring ecosystem services and biodiversity through agroforestry systems (Co-PI), \$74,999

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2018-2020, USDA McIntire Stennis Program. Decision Science and fire management strategies in Hawaii (Co-PI), \$45,000.

2018-2020, US BLM/DOI Joint Fire Science Program, The Pacific Fire Exchange (PI), \$300,000.

2018-2019, Hawaii Division of Forestry and Wildlife, Spatial database for wildfire incident reporting (PI), \$45,000

2015-2019, USDA Climate Hubs, Climate-Smart Decision Making in Hawaii (PI), \$50,000

2017-2019, USDO Office of Insular Affairs. Climate knowledge exchange for Pacific Cooperative Extension (PI), \$121,000

2016-2018, Pacific Islands Climate Change Cooperative, Agroforestry climate adaptation initiative (PI), \$107,000

2016-2017, Hawaii Division of Forestry and Wildlife, Grazing for fire management at Puu Waawaa Reserve (PI), \$34,000

2015-2017, US BLM/DOI Joint Fire Science Program. Fire science knowledge exchange for the Pacific (PI), \$199,989

2014-2019, USDA Forest Service, Growing the Pacific Fire Exchange (PI), \$162,000

TEACHING EXPERIENCE

Advising

Graduate Advisor: 5 Masters students Graduated; 3 Masters students in Progress

Graduate Committee Member: 2 PhD Students Graduated; 2 Masters Graduated; 1 Masters in Progress

Courses Taught

NREM 494 Environmental Problem Solving (Spring 2019), University of Hawaii at Manoa

NREM 612 Prediction and Control of Ecosystem Degradation (Spring 2018), University of Hawaii at Manoa.

BOT 440 Advanced Ethnobotany (Spring 2013), University of Hawaii at Manoa

BOT 105 Ethnobotany, Kapiolani Community College

BIO 201 Botany (Spring 2012), Brigham Young University-Hawaii

BOT 442 Medical Ethnobotany (Fall 2012), University of Hawaii at Manoa

Other Instructional Experience

Field Ecology Methods, Egypt BioMAP Project, 2007

Wildlife Survey Methods, NSF Biocomplexity Project, University of Hawaii at Manoa, 2007

Teaching Assistant, Botany 101, Department of Botany, University of Hawaii at Manoa, 2002

Teaching Assistant, Biology 101, Department of Biology, University of Hawaii at Manoa, 2001

INVITED PRESENTATIONS

Trauernicht, C. 2022. Wildland fire perspectives in Hawaii – state of knowledge. Hawaii Fire Chiefs' Conference, Kona, Hawaii

Trauernicht, C. 2021. Fire and watershed conservation. South Kohala Coastal Partnership Lecture Series, online.

Trauernicht, C. 2021. Using fire and landscape ecology to understand social-ecological resilience on Pacific islands. Slice of PI-CASC seminar series, Pacific Island Climate Adaptation Science Center, online.

Trauernicht, C. 2019. Wildfire risk and management on Maui. Maui Nui Marine Resources Council Lecture series.

Trauernicht, C. 2018. University of Hawaii Wildland Fire Extension Program. 90 Years of Hawaii Cooperative Extension/100 years of Hawaii 4-H Celebration.

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- Trauernicht, C. 2018. Wildland fire and shape of Pacific Island landscapes. University of Hawaii Institute of Sustainability and Resilience Seminar Series on Climate Change Adaptation, Honolulu, HI.
- Trauernicht, C. 2018. People, fire, and the shape of Pacific Island landscapes. Plenary speaker, Hawaii Wildfire Summit, Waikoloa, Hawaii.
- Trauernicht, C. 2018. Wildland fire and erosion. USGS Drought in the US-Affiliated Pacific Islands Workshop.
- Trauernicht, C. 2018. Wildland fire vulnerability and needs in Hawaii. Hawaii state House of Representatives Committee and Informational Briefing. Honolulu, HI.
- Trauernicht, C. 2017. The Pacific Fire Exchange. Western State Foresters' Meeting, Honolulu, HI.
- Trauernicht, C. 2017. Planning and managing for drought: Wildfire. Pacific Islands Climate Science Center Workshop on Drought and Societal Impacts in the Main Hawaiian Islands. Honolulu, HI
- Trauernicht, C. 2016. Climate change in Hawaii and the US-Affiliated Pacific Islands. SW Extension Climate Change Workshop. Tucson, AZ
- Trauernicht, C. 2016. Hawaii's novel fire regimes and the benefits of managed rangelands. Society of Range Management, California-Pacific Section Meeting, Volcano, HI
- Trauernicht, C. 2016. Challenges to Rapid Wildfire Containment in Hawaii. California-Nevada-Hawaii Forest Fire Council Meeting. Poipu, HI
- Trauernicht, C. 2016. Challenges to Rapid Wildfire Containment. Hawaii State Fire Council Meeting, Kona, HI
- Trauernicht, C. 2015. Wildfire in the Asia-Pacific Region. East-West Center Invited Lecture Series, Honolulu, HI
- Trauernicht, C. 2015. People, fire, and Hawaii's changing landscapes. Nahelehele Dryland Forest Symposium, Kona, HI
- Trauernicht, C. 2015. Climate adaptation and Hawaii Cooperative Extension. Western SARE Ag-Pro Workshop presentation. Kahului, Maui
- Trauernicht, C. 2014. Pyrogeography and novel fire regimes in the Pacific. Invited Faculty lecture, Geography Department Seminar, University of Hawaii. Honolulu, HI
- Trauernicht, C. 2014. Adapting Hawaii's communities and landscapes to cope with wildfire. National Tropical Botanical Garden 'Plants for our Planet' lecture series. Lihue, HI
- Trauernicht, C. 2014. Hawaii State fire history analysis. Hawaii State Fire Council Meeting, Hilo, HI
- Trauernicht, C. 2011. Linking the fire ecology of *Callitris intratropica* to the heterogeneity, diversity, and management of tropical savannas on the Arnhem Plateau. Plenary Speaker. Ecological Society of Australia conference. Hobart, Australia

CONFERENCE PRESENTATIONS

- Trauernicht, C. 2019. Vegetation-Rainfall interactions reveal how climate variability and climate change alter spatial patterns of wildland fire probability on Big Island, Hawaii. American Geophysical Union Annual Meeting, San Francisco, CA.
- Trauernicht, C., E. Pickett, L. Kimball. 2019. A statewide mapping of fire mitigation projects in Hawaii. Hawaii Conservation Conference. Honolulu, HI
- Trauernicht, C. and M. Lucas. 2018. Drought Indices reveal climatic thresholds for wildland fire in Hawaii but differ in their application for real-time fire danger. Hawaii Conservation Conference. Honolulu, HI
- Frazier, A.G., C.P. Giardina, D. Helweg, T.W. Giambelluca, M. Lucas, C. Trauernicht, and T. Miura. 2018. Drought in Hawai'i: State of the Science and Management across Sectors", Hawai'i Conservation Conference, Honolulu, HI.
- M. Lucas, C. Trauernicht, K. Carlson. 2018. Spatially quantifying and attributing 17 years of vegetation and land cover transitions across Hawai'i. American Association of Geographers Annual Meeting, New Orleans, LA.

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- Trauernicht, C. 2018. What islands can teach us about wildland fire, the consequences of land use change and community-based management. 7th International Conference on Environmental Future. Honolulu, HI.
- Frazier, A.G., M. Lucas, C.P. Giardina, T.W. Giambelluca, C. Trauernicht, and T. Miura. 2017. "Analysis of Gridded SPI in Hawai'i from 1920 to 2012 and Management Responses to Drought, Abstract H34D-02, American Geophysical Union Meeting, New Orleans, LA.
- Trauernicht, C. 2017. Current and future landscape flammability in Hawaii. Hawaii Botanical Forum. Honolulu, HI.
- Trauernicht, C. 2017. Climate adaptation and extension in Hawaii. Hawaii Agriculture Conference, Honolulu, HI.
- Gollin, L.X., C. Trauernicht. 2017. The critical role of firefighters' place-based environmental knowledge in responding to novel fire regimes in Hawaii. Society of Applied Anthropology Meeting, Santa Fe, NM
- Trauernicht, C. 2016. Climate cues and community response to fire on Pacific Islands. IUCN Public Forum: Incorporating climate adaptation into agency-level planning in the Pacific Islands region. IUCN World Conservation Congress. Honolulu, HI
- Gollin, L.X., C. Trauernicht. 2015. The wicked problem of wildfires in Hawaii and the critical role of place-based environmental knowledge of firefighters responding to novel fire regimes. Society of Ethnobiology Meeting, Santa Barbara, CA
- Mora, C., B. Dousset, C. Trauernicht, I. Caldwell, Q. Chen, C. Dau, B. Dietrich, R. Fang, R. Geronimo, E. Johnston, L. Li, M.P. Lucas, M. McKenzie, F. Powell. The timing of summer climate departure in cities and its lethal impact. Our Common Future Under Climate Change International Scientific Conference. Paris, France
- Trauernicht, C., T. Hawbaker C.M. Litton, C.P. Giardina, B. Sleeter. 2015. Wildfire in Hawaii – Overview, emissions, and future projections. Hawaii Conservation Conference. Hilo, HI
- Trauernicht, C. 2015. Impact of nonnative ungulate removal on fuels and wildfire dynamics on Pacific Islands. Association for Tropical Biology and Conservation Annual Meeting. Honolulu, HI
- Trauernicht, C. 2015. The savannization of an archipelago: people, landscape change, and Hawaii's novel fire regime. Association for Tropical Biology and Conservation Annual Meeting. Honolulu, HI
- Trauernicht, C. 2015. The Pacific Fire Exchange: bridging science and management. Hawaii Ecosystems Annual Meeting. Hilo, HI
- Trauernicht, C., E. Pickett, C.P. Giardina, C.M. Litton, A. Pierce, JB Friday, S. Cordell. 2014. Defining Hawaii's wildfire problem and developing science-driven solutions. Island Biology Conference. Honolulu, HI
- Giardina, C.P., P. Beimler, S. Cordell, J.B. Friday, C.M. Litton, E. Moller, E. Pickett, C. Trauernicht. 2014. The Pacific Fire Exchange: Partnership driven contributions to fire management on Pacific Islands. Hawaii Conservation Conference. Honolulu, HI
- Friday, JB, S. Cordell, C.P. Giardina, F. Inman-Narahari, N. Koch, J. Leary, C. M. Litton, C. Trauernicht. 2014. Future directions for forest restoration in Hawaii. Restoring Forests Conference. Lafayette, IN
- Trauernicht, C. 2013. Matrix management and wildfires in Hawaii. Hawaii Ecosystems Meeting, Honolulu, HI
- Trauernicht, C. 2013. Forest kipukas and savanna fires. Hawaii Conservation Conference, Honolulu, HI
- Lucas, M., C. Trauernicht, K. Wood, N. Tangalin, D. Burney. 2012. Modeling remnant rare plant locations on the island of Kaua'i. Hawaii Conservation Conference, Honolulu, HI
- Trauernicht, C. 2011. Fire feedbacks, fire-sensitive vegetation, and burning heterogeneity in an Australian tropical savanna. International Congress for Conservation Biology. Auckland, New Zealand
- Trauernicht, C. 2004. The cultivation of *Chamaedorea* palms in the understory of a humid tropical forest in Mexico. Oral Presentation. Assoc. for Tropical Biology and Conservation annual conference. Miami, FL

ORGANIZING COMMITTEES

Hawaii Wildfire Summit. Hawaii Wildfire Management Organization. Waikoloa, Hawaii, 2018.
Hawaii Cooperative Extension and Climate Adaptation Workshop, College of Tropical Agriculture and Human Resources – University of Hawaii, USDA SW Climate Hub, Pacific Islands Climate Change Cooperative
The SW Extension Climate Change Workshop, Tucson, AZ. USDA SW Climate Hub, 2016
Hawaii State Wildfire & Drought Look Out! Campaign. Multi-agency fire safety outreach effort, 2016-present.
Pacific Islands Climate Science Center Hawaii Climate Change Bootcamp, Ka‘u. 2016

WORKING GROUPS AND PROFESSIONAL ASSOCIATIONS

Oahu Wildfire Information and Education Group, 2014-present
Big Island Wildfire Coordinating Group, 2013-present
Hawaii State Drought Committee, 2015-present
SW Cooperative Extension Climate Change working group, 2015-present
National Extension Wildland Fire Initiative 2019-present
American Geophysical Union 2016-present
Association of Tropical Biology and Conservation, 2004-present
International Association of Wildland Fire, 2016-present

MEDIA COVERAGE

Commentary. [Brushfire burns 7300 acres on Kahoolawe](#). Hawaii News Now. 2/22/2020
Invited Guest (live broadcast). [Reducing Maui's Fire Risk](#). Hawaii Public Radio. 11/21/2019
Research and Extension Profile [Hawaii Is Losing As Much Of Its Land To Wildfires As Any Other State](#). Honolulu Civil Beat. 8/8/2019
Research and Extension Profile. [Hawai'i Faces Particular Wildfire Problem, Starting With Erosion](#). Hawaii Public Radio. 7/26/2019
Research and Extension Profile. [Hawai'i Sees 400% Increase in Acres Burned](#). Hawaii Public Radio. 7/26/2019
Research Profile. [Restoration of forest key to fire control, expert says](#). Maui News. 2/10/19
Extension Workshop Profile & Commentary. [Wildfire lessons learned](#). Maui News. 9/30/2018.
TV interview. [A warming planet could trigger more intense wildfire season in Hawaii](#). Hawaii News Now 8/18/2018
Extension Product Featured. [2018 has been a wild year for wildfires, far surpassing numbers since 2015](#). Hawaii News Now 8/19/2018
Authored Commentary. [Fire is the one Hawaii disaster we can avoid](#). Honolulu Civil Beat. 9/12/2018
Commentary. [Wildfire LOOKOUT! Campaign enters 3rd year](#). Big Island Now. 8/20/2018.
TV interview. [Leeward brush fires almost contained, but still burning](#). Hawaii News Now 8/8/2018
TV interview. [How to protect yourself from wildfires](#). KHON2 Honolulu 6/18/2018
Research Profile. [The burning issue](#). Meteorological Technology International 4/2018
Radio Interview. [Hawaii's disaster vulnerability: wildfires](#). Hawaii Public Radio 3/18/2018
Research Highlight. [How aboriginal knowledge can help the world combat wildfires](#). New Scientist 7/5/2017
TV interview. [Wildland fire on Kauai's Na Pali coast highlights drought conditions statewide](#). Hawaii News Now 9/26/2017
Extension Field Trip Profile. [Good neighbors help to fight fires in remote Kahikinui homestead](#). Maui News 9/4/2016

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TV Interview. [Hawaii faces increased wildfire risk this summer](#). Hawaii News Now 5/2/2016
TV interview. [Well before summer, state exceeds budget for fighting wildfires](#). Hawaii News Now 3/21/2016
Radio Interview.
Brush with disaster: the state's wildland firefighters need more resources to keep up with blazes. Front page, Honolulu Star-Advertiser 3/14/2016
Commentary and Prediction. ['Grim' wildfire season expected in county](#). Maui News 2/2/2016
Research Profile. *Oahu hit hard by blazes, data show*. Honolulu Star-Advertiser 1/24/2016
Research Profile. [Mapping Hawaii's wildfires](#). Hawaii Public Radio 1/25/2016
Press statement. Oahu Wildfire Information and Education Group Brushfire Media Event 5/27/2015
Research Profile. [Devastating wildfires pose growing threat to Hawaii's Lush Forests](#). Climate Wire 4/13/2015
TV interview. [Wildfires in the Pacific](#). Think Tech Hawaii 10/1/2014
Research Highlight. [Savannah trees resist fires](#). Nature 484:48, 2012

WEBSITES AND SOCIAL MEDIA

Wildland Fire Extension Program website, 2017-present, <https://www.nrem-fire.org/>
Climate Forum for Cooperative Extension in the Pacific. 2017-present.
<https://pacificclimateexchange.org/>
Pacific Fire Exchange Website. 2013-present. www.PacificFireExchange.org
Pacific Fire Exchange Twitter Account, 2013-present, 834 followers. @PacificFireSci
Hawaii Online Fire History Map. 2014. <http://gis.ctahr.hawaii.edu/WildfireHistory>

SERVICE

Hawaii Fire Potential Outlook Advisor, US Forest Service Predictive Services, 2017-present
USDA NRSC Technical Advisory Committee, Pacific Islands Area, 2017-present
Hawaii Wildfire Management Organization Technical Advisory Committee, 2014-present
College representative, Office of Insular Affairs Climate Adaptation Summit, Guam, 2015
College representative, 2015 SW USDA Climate Hub Extension meeting, UC Davis, 2015
Abstract reviewer, Hawaii Conservation Conference, 2015- 2019
Judge, CTAHR-COE Student Research Symposium, 2015-2018
Reviewer for PNAS, Journal of Ecology, Ecosystems, Global Ecology and Biogeography, PLoS-ONE, Ecosphere, International Journal of Wildland Fire, Biotropica,

EMPLOYMENT AND RESEARCH EXPERIENCE

Plant Ecologist/Instructor, Egypt BIOMAP Project, Sinai Peninsula, 2007
Ecologist, NSF Biocomplexity Project, Amerindian Hunting, University of Hawaii, 2006-2007
Mariculturalist, Hampton Shellfish Company, Southampton, NY, 2006
Ecologist, Ashoka Trust for Research in Ecology & the Environment, BR Hills, India, 2005-2006
Project Supervisor, Pohnpei Biodiversity Project, Micronesia, New York Botanical Garden, 2005
Ecologist, Post-fire forest recovery, Oahu, University of Hawai'i, 2004-2005
MS Research, Nontimber forest product cultivation in Mexico, University of Hawaii, 2001-2004
Research Assistant, Arctic shorebird Migration study, Nunavut, Canadian Wildlife Service, 2001
Research Technician, Seabird nesting, British Columbia, Simon Fraser University, 2001
Research Technician, Lynx habitat, Montana, US Forest Service and Plumb Creek Timber, 2001
Research Technician, Seabird ecology, Davenport, CA, University of California Berkeley, 2001
Intern, Maui Forest Bird Recovery Project, Hanawi, Maui, University of Hawaii, 2000
Intern, Palila Honeycreeper Restoration Project, Mauna Kea, Hawaii, US Geological Survey, 1999

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BS Honors Thesis, Cheatgrass invasion, Canyonlands National Park, University of Denver, 1999

LANGUAGES

English and Spanish (fluent); Pohnpeian and French (conversational); Portuguese (basic)

INTERESTS

Mandolin and guitar, surfing, language, photography