



**map
the
world
make
difference.**

**Hawai'i Geographic Information Coordinating Council
ANNUAL REPORT 2021-2022**

ABOUT HIGICC

The Hawaii Geographic Information Coordinating Council is a non-profit organization run by volunteers nominated from Hawaii's geospatial community. We are always looking for people to help grow our organization and to support GIS in our community.



Tiffany Drummond



Michael Wahl



Christine Chaplin



Elisse Deleissegues



Sarah Rosenthal



Katie Taladay



Clare Mamura



Yoko Uyehara



Craig Clouet



Sarah Halpern

2021-2022 Board of Directors

(year term up)

Jared Taylor, President (2022)
Christine Chaplin, Vice President (2023)
Mike Wahl, Secretary (2023)
Joan Delos Santos, Treasurer (2022)
Gretchen Chiques (2022)
Sam Aruch (2022)
Craig Clouet (2023)
Clare Mamura (2022)
Mahany Lindquist (2022)
Sarah Rosenthal (2023)
Katie Taladay (2023)

2022-2023 Board of Directors

(year term up)

Mike Wahl, President (2023)
Christine Chaplin, Vice President (2023)
Tiffany Drummond, Secretary (2024)
Yoko Uyehara, Treasurer (2024)
Craig Clouet (2023)
Clare Mamura (2024)
Sarah Halpern (2024)
Sarah Rosenthal (2023)
Katie Taladay (2023)
Elisse Deleissegues (2024)

President's Message

Michael Wahl, President

Aloha,

I didn't expect to become President of HIGICC, ever, but I am honored for being selected and excited about this opportunity. The mission goals of HIGICC are closely related to my own personal goals: to work on collaborative projects, either large or small scale, that help GIS professionals do their jobs more efficiently and effectively, that promote the use of GIS as a field of science, and, overall, for the benefit of the people of Hawai'i and the world.



I have a background in Anthropology and I see GIS as a tool that can empower people who have been historically disenfranchised, a tool that can help us see our environment from multiple perspectives and improve land use decision-making, and a tool that can identify problems and model solutions to make the world a better place. As GIS professionals, we have a great opportunity and ethical responsibility to put our skills and knowledge to work in helping out our communities. I aim to see HIGICC continue to provide educational and networking opportunities and collaborate on projects that help to solve the problems the world is currently facing.

Thank you for your vote of confidence, I will lead this organization to the best of my abilities with honesty and openness and I welcome any questions or comments that would help the HIGICC improve its efforts.

Handwritten signature of Michael Wahl

EVENTS 2021 GIS Day



HIGICC & STEMWORKS PRESENTS:
GIS DAY 2021
NOVEMBER 17TH, 9:00AM-10:30AM

LOCATORS JUNGLE ACTIVITY (ES) REMOTE SENSING (HS)
FUN WITH SURVEY123 (MS & HS) LIDAR (HS)
GIS PROFESSIONAL Q & A STORYMAPPING (MS & HS)

HAWAII GEOGRAPHIC INFORMATION COORDINATING COUNCIL STEMWORKS esri G70 DUDEK

Eventual Knowledge. Spatial Service.

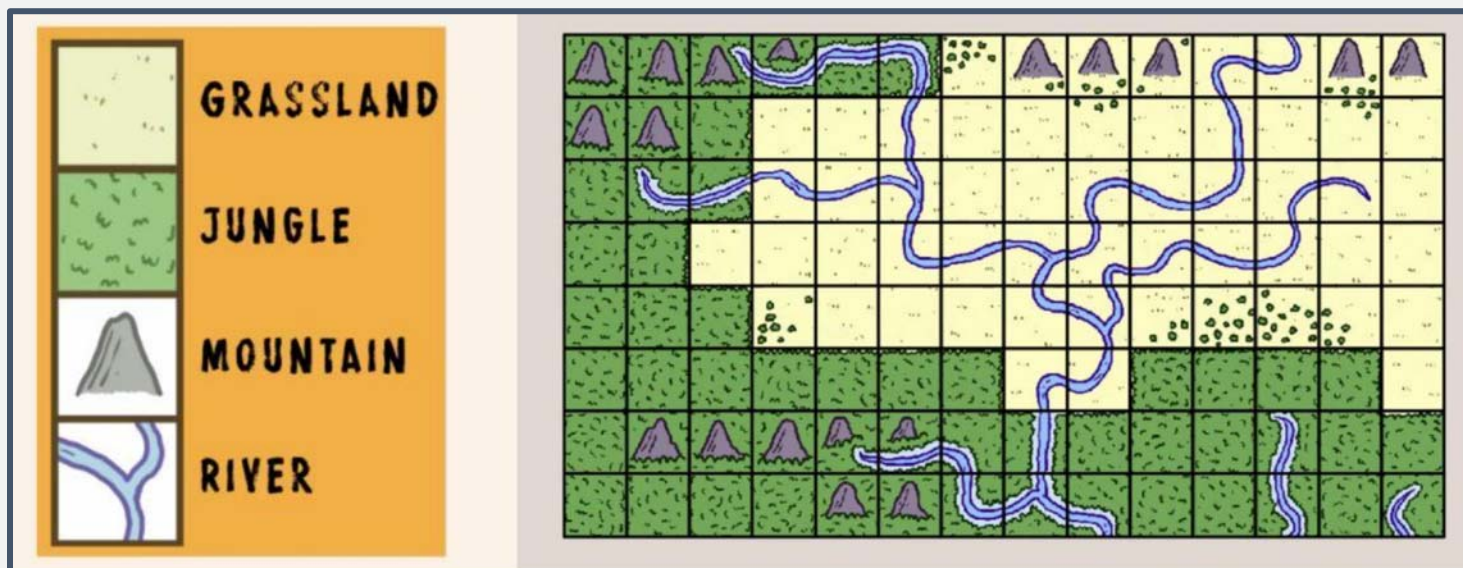
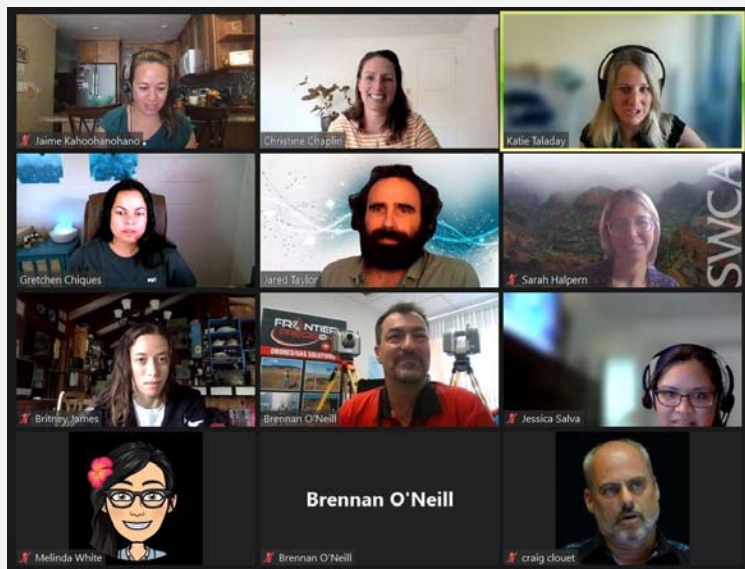
The poster features a cartoon illustration of a leopard, a tree, a river, and a location pin, set against a grid background.

To open GIS Day, the first session held was a CAREER EXPLORATION-where HIGICC members described their geospatial careers, thank you to Michael Wahl, Sarah Harris, and Jim Hayden!

Following the career awareness session, we offered five interactive workshop sessions that students could select from to practice their GIS skills including:

1. Survey123 & QuickCapture led by Patrick Grady
2. Remote Sensing led by Gretchen Chiques
3. LiDAR led by Brennan O’Niell
4. StoryMaps led by Sarah Rosenthal & Sarah Halpern
5. Jungle Activity – Katie Taladay

The recordings for this Virtual GIS Day were shared with at least 10,000 students from 53 schools across the state! Nine GIS professionals volunteered for this spectacular annual event as well as the HIGICC Event Planning Committee. **Mahalo everyone for making this virtual event a success!**



EVENTS 2021 Magic Island BBQ

In July 2021, HIGICC and Frontier Precision hosted a potluck BBQ at Ala Moana Beach Park. Attendees brought delicious food and enjoyed talking about what they learned at the Esri Virtual UC.



EVENTS



STEMworks Conference: UAS Course

On April 29th, HIGICC directors were excited to participate in the 13th Annual STEM Conference by offering an Unmanned Aerial Vehicle (UAV) course to high school students from across the state. The course covered what UAVs are used for, how they fly, how to code specific flight paths, and FAA rules and safety. After the presentation, the students participated in activities where they used their new skills, an iPad, and the DroneBlocks application to code Tello drones to fly in a specific flight path and swarm; and a third exercise in which they used the Tello application to free-fly the drones around obstacles. The course was a great success, and as always, an invitation to present GIS-related topics at the Hawaii STEM Conference is one of the highlights of our year.



EVENTS

HIGICC UAS Workshop & Pau Hana

HIGICC hosted a Unmanned Aircraft Systems (UAS) Workshop on June 17th in the State Office Tower. Presenters included Katie Taladay of MEDB STEMWorks, who presented on UAS in Education; Brett Etheridge of Stantec who gave a presentation on FAA Part 107 Rules. This was followed by a presentation by Craig Clouet and his colleagues at Dudek who showed how different sensors on UAS platforms can collect a variety of data, including lidar, multispectral and thermal data. Finally, Sean Muldoon and Brennan O'Neill of Frontier Precision talked about the Department of Defense and other federal restrictions and Blue UAS Solutions. There was a great deal of interest in all of the topics and it turned out to be a great workshop. The workshop was followed by another fun Pau Hana at Square Barrels hosted by HIGICC and refreshments provided generously by Dudek, Frontier Precision and Stantec.



BUDGET

HIGICC's annual income in non-conference years comes from membership dues, donations and sponsorships. HIGICC usually generates significant additional income in conference years (typically held every 2-3 years). This additional income is used to cover start-up costs for future conferences, as well as any spending deficits in non-conference years.

Typical board expenses include website fees, professional services (e.g., accountant fees), board member travel expenses, scholarship awards, insurance, office supplies, licenses and software, dues, fees and service charges. Additional expenses may be incurred in some years for events such as GIS Day, Data Expos, etc.

This year, income from membership fees generated \$4,320. We also generated an additional \$2,000 in sponsorship income.

Although this year was not a conference year, there were additional carry over income and expenses for previous events that are included in this year's figures. Total income for this year was \$4,483.79.

HIGICC Profit & Loss by Class July 2021 through June 2022

	Unclassified	TOTAL
Income		
4000 · Membership dues income	4,320.00	4,320.00
4050 · Donations income	2,000.00	2,000.00
4300 · Scholarships		
4315 · Scholarship awards	-2,000.00	-2,000.00
Total 4300 · Scholarships	-2,000.00	-2,000.00
4400 · Conference		
4415 · Conference expenses	-186.21	-186.21
Total 4400 · Conference	-186.21	-186.21
4700 · Workshops		
4710 · Workshop income	150.00	150.00
Total 4700 · Workshops	150.00	150.00
4800 · Special Events		
4805 · 20th Anniversary Income	200.00	200.00
Total 4800 · Special Events	200.00	200.00
Total Income	4,483.79	4,483.79
Expense		
5100 · Contact management site	2,052.00	2,052.00
5150 · Insurance	718.00	718.00
5250 · Fees & service charges	225.75	225.75
5300 · Licenses & permits	7.00	7.00
5400 · Dues	600.00	600.00
5500 · Office supplies & expense	642.48	642.48
5550 · Legal & accounting fees	638.74	638.74
6000 · Miscellaneous	470.09	470.09
Total Expense	5,354.06	5,354.06
Net Income	-870.27	-870.27

Total board expenses for the 2021-22 fiscal year, including website, licenses, insurance, office supplies, dues, fees, services charges and carry-over expenses from last year's events totaled \$5,354.06

Because of the pandemic, there was no board travel this year, and we also did not expend funds for any professional services, so we did not run at a deficit this year with net income for the year of -\$870.27

PRESIDENT'S AWARD

Ken Schmidt

Ken began his career with the City in 1990 as a Planner VI with the Department of General Planning, advancing to a GIS Analyst VII, eventually becoming the GIS Administrator in the Department of Planning and Permitting. Ken Schmidt retired in June after nearly 32 years leading the City and County of Honolulu's implementation of GIS.



He established and developed the City's GIS Program into the nationally recognized Honolulu Land Information System (HOLIS), which provides vital data for City programs and useful information for the public. Ken managed the implementation and integration of the land information system with the City's permitting system to enable effective management, tracking, issuance, and inspection of land development and building permits. Through the years, Ken represented the City at national and international GIS forums and helped to organize local GIS Day events and officiate at geography bees to advocate GIS awareness and education in our community and beyond. Ken is a founding member and past president of HIGICC and was awarded the President's Award in 2009 for significant contributions to the geospatial community. He is a recipient of several industry recognitions, such as Esri's Special



Achievement in GIS award in 1998 and 2012, and Esri's GIS Hero in 2011. The City selected him as Employee of the Year in both 1991 and 1996, and City Manager of the Year 2010.



Mark Lierman Memorial Scholarship

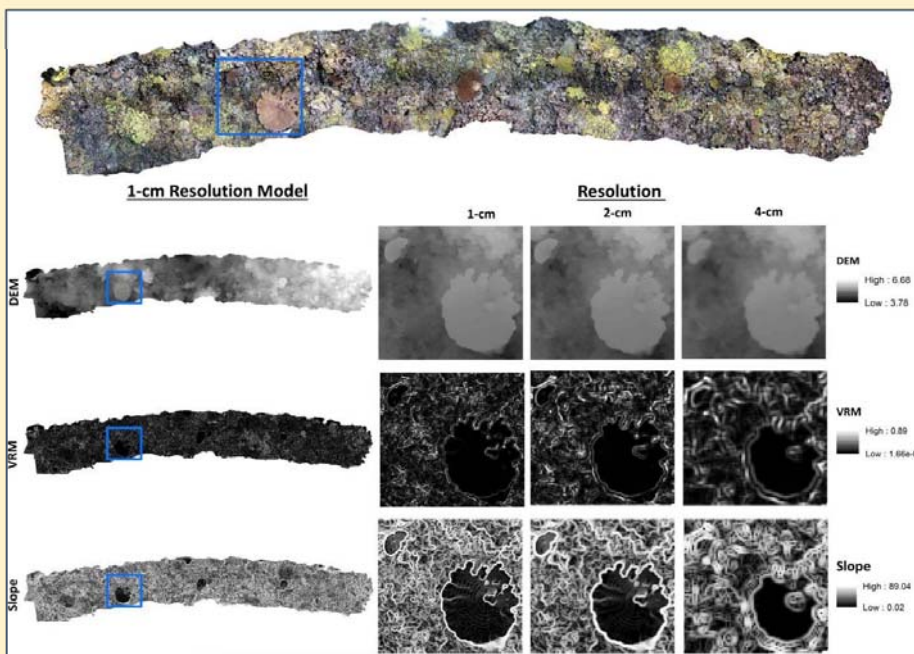
The Mark Lierman Memorial Scholarship is a \$1,000 scholarship that recognizes deserving students who have demonstrated an appreciation for and understanding of geospatial data and geographic information systems (GIS). The HIGICC Board of Directors is proud to announce the 2021 scholarship was awarded to Kailey Pascoe, a Geography PhD student at Arizona State University.



As a lifelong ocean enthusiast and resident of Hawai'i, I've witnessed first-hand the decline of our coral reefs in recent years. As a Native Hawaiian, we consider coral to be our first ancestor that provides birth and death to both the people and the islands. I want to honor my heritage by using science and innovative technologies to understand how coral-reefs respond to climate change. Over the last eight years, I have participated in seven research cruises to PMNM and witnessed firsthand changes in these remote coral-reefs due to hurricanes, bleaching and invasive species. As a graduate student and research technician, I conducted long-term monitoring and 3D modeling at seven of the islands

since 2015. Geographic Information Systems (GIS) plays a major part in my data analysis. Due to the increase in disturbances within PMNM, there is an urgent need to increase the capacity and spatial scale of monitoring of these culturally important islands/atolls. In Fall of 2021, I was accepted as a Geography Ph.D. student at Arizona State University-Hawaii Program. I aim to integrate two emerging technologies, environmental DNA and 3D habitat mapping, to enhance the resolutions of biological and physical data obtained in reef monitoring. This approach has the potential to transform management and conservation of the PMNM by determining critical features for reef resiliency that have yet to be incorporated into management.

Orthomosaics are digitized down to coral species or benthic types and used to track long-term changes in size and condition over time. Benthic Terrain Modeler, an application in GIS, is used to extract 3D habitat metrics from the DEMs. Metrics such as 3D surface area, slope, and curvature are compared at permanent sites over time to determine how habitat complexity is affected by disturbances. Many of these habitat metrics have found significant relationships with coral and fish species. Knowing exactly how 3D habitat metrics and coral species are linked provide valuable information on how coral-reefs may adapt or change with future climate change.



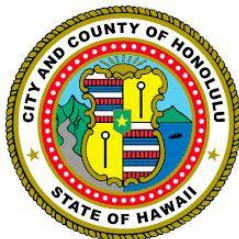
My thesis includes a new method of eDNA, which provides us with in-situ presence and absence data of species we can't see with our eyes or that are easily scared away from human activity. This will allow detailed quantitative investigations from macro to microorganisms to identify reef characteristics that support biodiversity. Giving a more wholesome analysis of coral reef biodiversity and habitat complexity relationships. My data analysis could not be completed without GIS software. This scholarship would help me by providing the financial and scientific support to complete my studies and will greatly benefit my career goals.

Mahalo

To Our Sponsors



To Our Supporters



Stantec

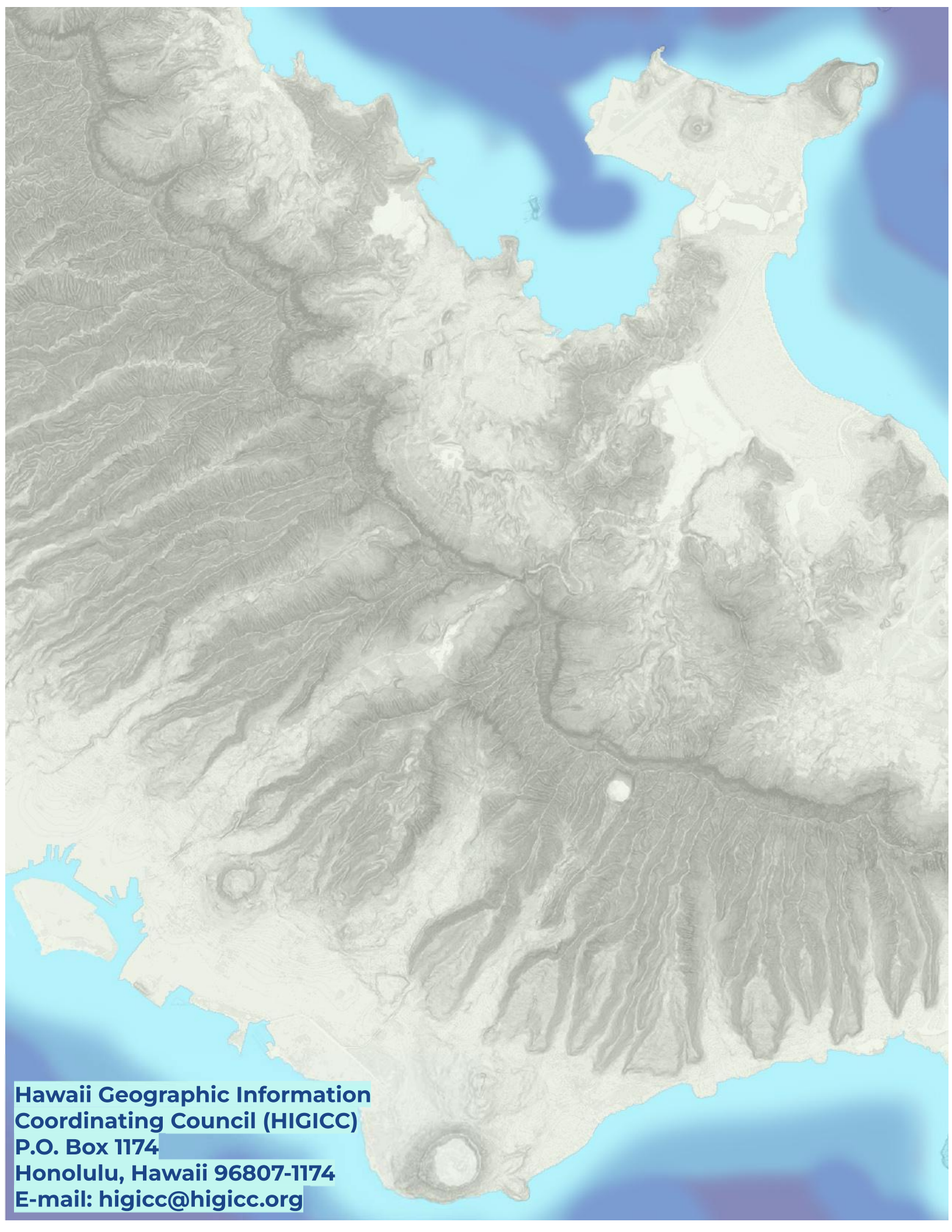


esri

THE SCIENCE OF WHERE™



BOWERS + KUBOTA



**Hawaii Geographic Information
Coordinating Council (HIGICC)
P.O. Box 1174
Honolulu, Hawaii 96807-1174
E-mail: higicc@higicc.org**