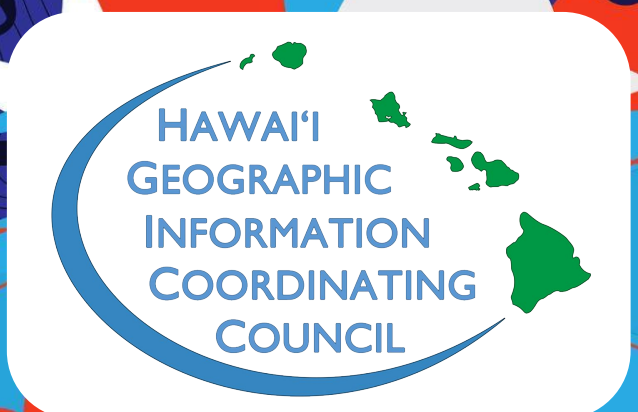


# Hawai'i Geographic Information Coordinating Council ANNUAL REPORT 2020-2021

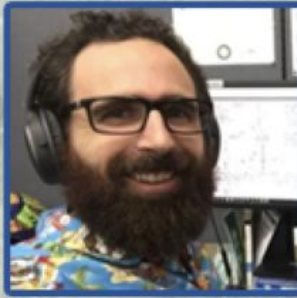


# ABOUT HIGICC

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.



Joan Delos Santos



Jared Taylor



Michael Wahl



Christine Chaplin



Mahany Lindquist



Sarah Rosenthal



Katie Taladay



Clare Mamura



Craig Clouet



Sam Aruch



Gretchen Chiques

## 2020-2021 Board of Directors

(year term up)

Christine Chaplin, President (2021)  
Gretchen Chiques, Vice President (2022)  
Michael Wahl, Secretary (2021)  
Clare Mamura, Treasurer (2022)  
Craig Clouet (2021)  
Joan Delos Santos (2022)  
Sam Aruch (2022)  
Ross Winans (2021)  
Colin Lindeman (2021)  
Jared Taylor (2022)  
Mahany Lindquist (2022)

## 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)

# PRESIDENT'S Message



**Christine Chaplin,  
Outgoing President**

We faced another challenging year dealing with the COVID-19 pandemic, however since our events were all virtual this year we were able to reach everyone in the state.

In August, we kicked off our first ever Hawaii Virtual Geospatial Expo with the help of our partners at STEMWorks. While we missed seeing everyone in person and catching up, we broadened our reach and folks were able to participate from the comfort of their homes. The expo was 3 hours long and filled with incredible presentations. Over 115 individuals attended from around the state, and over 14 presenters on a wide variety of topics. We held our first virtual GIS day, which was a great success with four focus sessions that included a brief presentation and a hands on exercise for students to experiment with.

Our sponsors offered webinars on LiDAR, Global Navigation Satellite Systems, and our federal partners shared with us updates on the USGS 3D Elevation Program, NOAA's Coastal Change Analysis Program, And USDA's new imagery service. Mahalo to all of you who stepped up and provided fantastic presentations for our community.

It's been my pleasure to serve on the HIGICC board as President for the past few years, this year I am happy to hand off the reins to Jared Taylor. Ever since Jared joined HIGICC he's been a proactive member, always eager to participate and share his expertise and we are looking forward to his leadership.

Mahalo,

A handwritten signature in black ink that reads "Christine Chaplin". The signature is written in a cursive, flowing style.

## Jared Taylor, Incoming President

Aloha,

Thank you for nominating me to serve as president of the HIGICC. I am new to the GIS community here in Hawaii having started at the Board of Water Supply as a GIS Analyst only 2.5 years ago. After arriving in the islands, I immediately linked up with the HIGICC and volunteered whenever possible. This was in part because I love GIS and in part because the people involved are so great to be around. This brought me to serve on the board last year where I am continually impressed with the HIGICC.



I am excited to continue serving the GIS community in my new role. The past year has been challenging for everyone as we learn new ways to socialize. With pau hanas and group gatherings still suspended, it is my goal to find new ways to keep the GIS community growing together.

We are very grateful for our sponsors and members and the time they take to make our community well informed and connected. I'd like to remind everyone that you don't have to be on the board to be a part of what we do, we welcome and invite your solutions and participation. Thank you for your engagement in the geospatial community in Hawaii. I am excited to see what we will achieve together.

Mahalo,

A handwritten signature in black ink that reads "Jared Taylor". The signature is written in a cursive, flowing style.

# EVENTS

## 2020 August Geospatial Expo



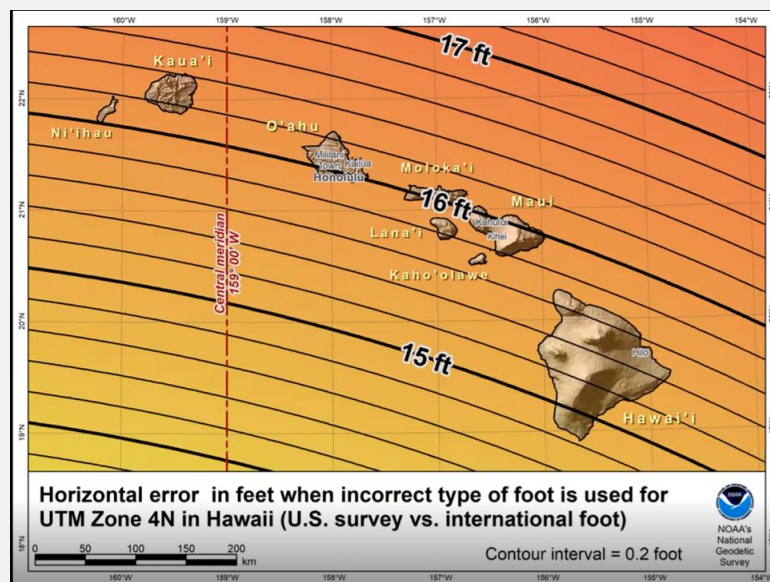
Keynote Speaker Shannon McElvaney from Jacobs, spoke on re-thinking city planning holistically. The planet and humanity has been under a lot of stress, and COVID has exposed many of those stressors: social inequality, interconnectedness, transport impacts on carbon emissions, and a lack of digital services. He spoke to how our patterns are changing from going out to staying in; working and school from home, online shopping, to our recreational and transportation choices having less impact on the environment. He used a few examples to show how the use of geodesign, a planning method that combined design and geography can meet the new challenges and project objectives to plan smart cities to increase quality of life, sustainability over time and resiliency from stressors.

Andrew McGowan of NOAA gave a Lidar survey update for the Islands. Kauai topo-bathymetric lidar includes the island and nearshore depths of up to 60 meters. Oahu and Maui county is land only lidar. The data is still in process and will be made available on the USGS National Map and NOAA Digital Coast. Big Island topographic lidar is being collected for 70% of the island, mostly leeward and it's anticipated to be released in the first quarter of 2021.

NGS Geodetic Advisor, Ed Carlson gave an update on the proposed SPCS2020 Design that includes 20 zones and 2 layers. The conversion of the old US Survey foot to the new International foot, which could cause accuracy problems using UTM feet. [geodesy.noaa.gov](http://geodesy.noaa.gov)

Hawaii Statewide GIS Program's Joan Delos Santos gave a presentation on the state's updates on AGOL data services, including imagery and lidar data. The State's Esri Enterprise License agreement funding has been cut over 40%. State's response to COVID-19 to support multiple agencies with maps, data, applications and reports. Program activities with ArcGIS Hub and Governance projects over the next year. [gis@hawaii.gov](mailto:gis@hawaii.gov)

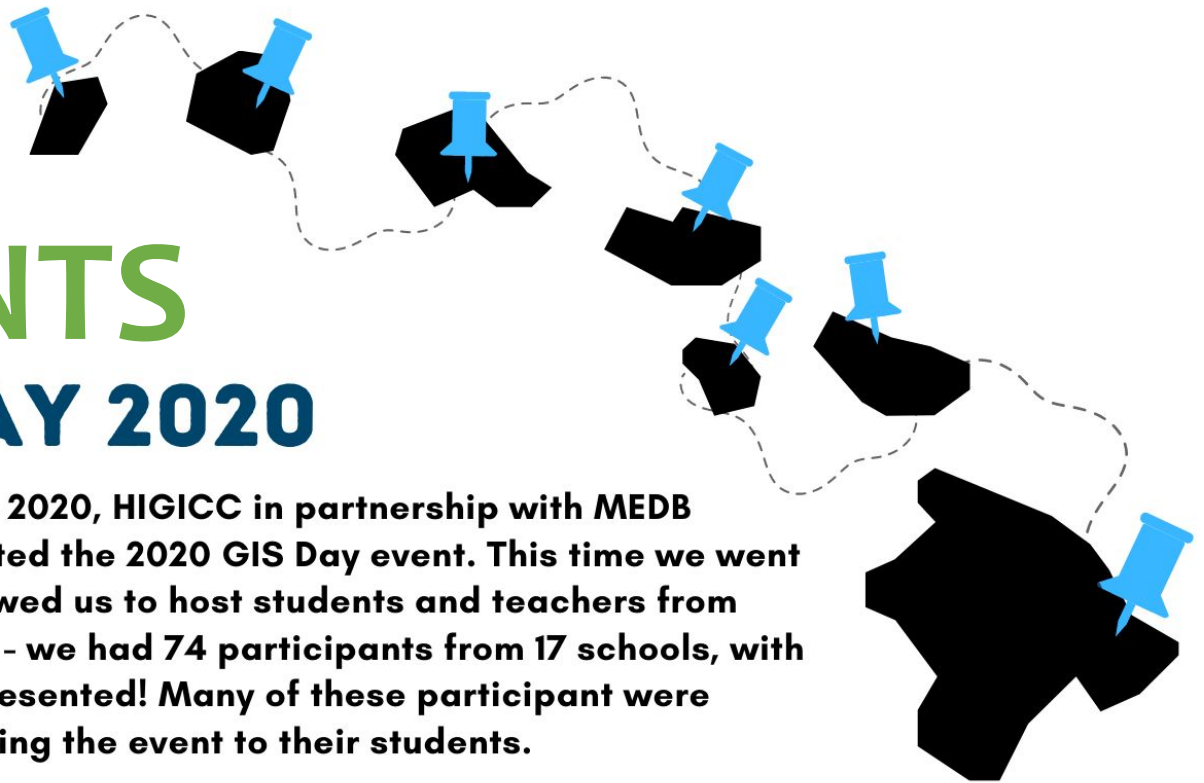
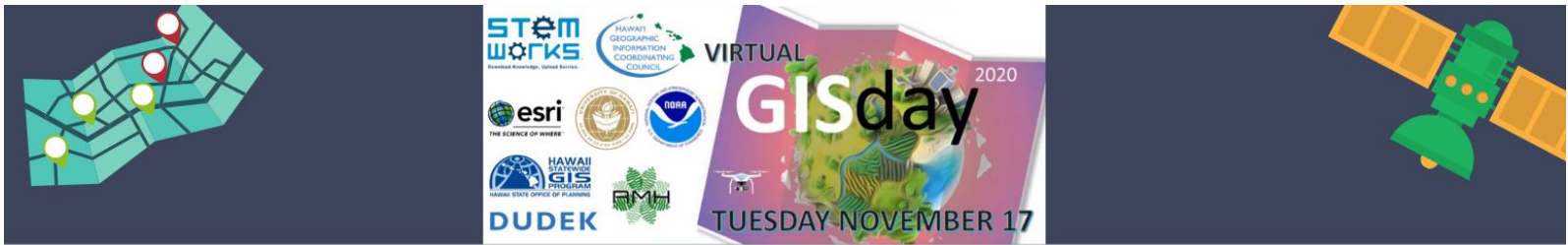
We had many amazing presentations on this day, all available on our website.



Horizontal error in feet when incorrect type of foot is used for UTM Zone 4N in Hawaii (U.S. survey vs. international foot)

Contour interval = 0.2 foot





# EVENTS

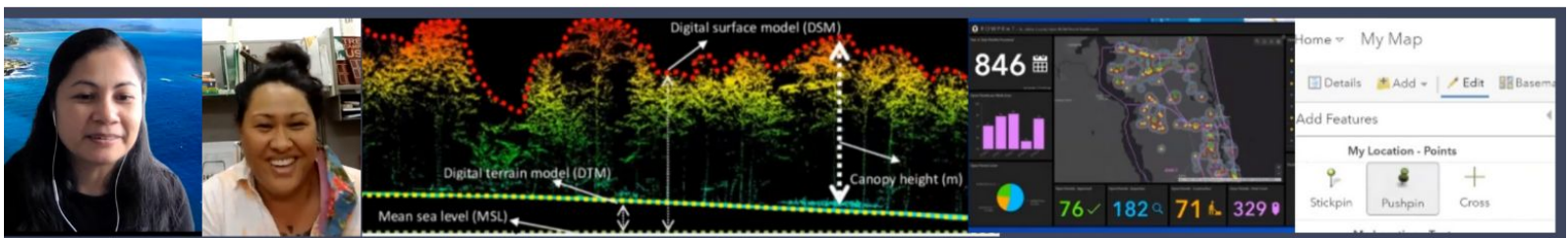
## GIS DAY 2020

On November 17, 2020, HIGICC in partnership with MEDB STEMworks, hosted the 2020 GIS Day event. This time we went virtual! This allowed us to host students and teachers from across the state - we had 74 participants from 17 schools, with all counties represented! Many of these participant were teachers streaming the event to their students.

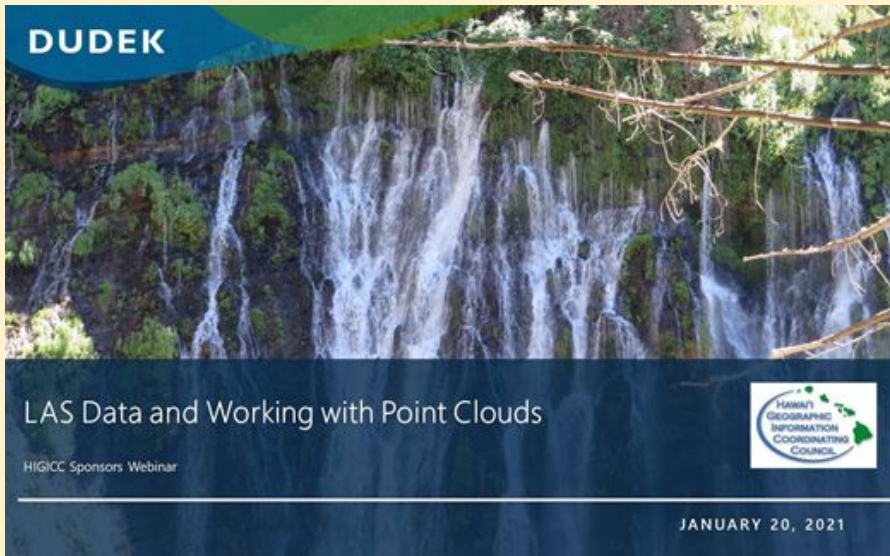
We hosted four, interactive focus sessions.

- GIS at work, where GIS professionals from UH Manoa, Resource Mapping Hawaii, and Dudek shared with the students and teachers how they use GIS in their professions.
- How to create maps in ArcGIS Online and StoryMaps demo.
- ArcGIS Dashboards with a fun exercise using Living Atlas to understand livestock consumption by countries worldwide.
- Introduction to Lidar with hands-on exercises for mapping Diamond Head to make it more fun!

Mahalo to MEDB STEMworks, and our HIGICC Sponsors & volunteers for always making this event one that the students will never forget.



# EVENTS



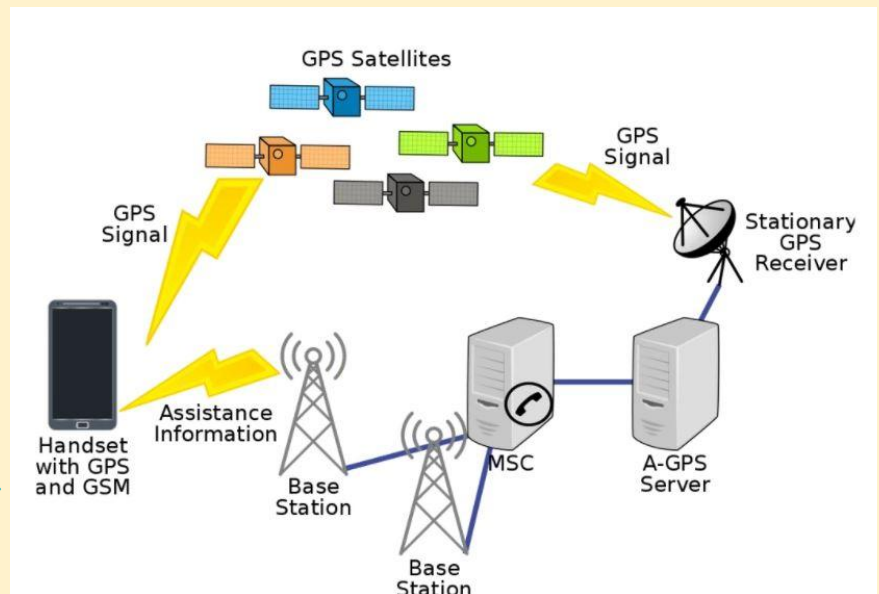
With the start of 2021, HIGICC initiated a webinar series featuring HIGICC sponsors. The first webinar of the series was presented by Dudek on January 20. The presentation featured a Lidar Point Cloud overview. Over 40 HIGICC community members attended. The presentation covered many aspects of LAS data including quality and accuracy, LAS classification, software packages, and data availability.

Dudek reported about their UAS Lidar collection, which has an increased point spacing along with greater detail for analysis and visualization.

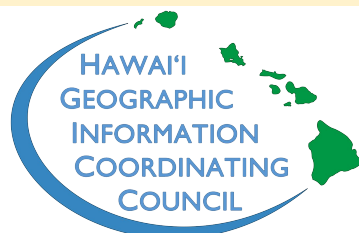
Important sources of free lidar include the Hawaii Statewide GIS Program's geoportal: <https://prod-histategis.opendata.arcgis.com/pages/elevation-service>; and the U.S. Geological Services 3DEP Lidar Explorer: <https://prd-tnm.s3.amazonaws.com/LidarExplorer/index.html#/>. Locally, our NOAA team is also still working to process recently collected lidar data for Hawaii Island. New flights are ongoing for Maui County and Oahu. Much more lidar will be collected in the Hawaiian Islands and in the NWHI.

In February, Frontier Precision hosted a webinar presenting the important topic of using an internet-based reference station for improved GNSS accuracy. The subject example was reference station installations in partnership with the National Park Service and Terraflex.

*Virtual Reference Station (VRS) using multiple base stations to provide corrections to a phone application.*



**DUDEK**



# Geospatial Data Webinar

HIGICC hosted an informative and well-attended geospatial data brown bag webinar on April 19th. Over 50 members of Hawaii's geospatial community tuned in to learn about new data and geospatial initiatives taking place in the state.

USGS National Map Liaison Drew Decker explained the USGS 3D Elevation Program (3DEP) and the 3D Nation Elevation Requirements and Benefits Study. He followed this with a status update of various lidar collection initiatives taking place in Hawaii. He also announced the availability of NHDPlus HR for Hawaii, which is an enhanced version of the National Hydrography Dataset.

Next, Andrew McGowan, Geospatial Analyst and Coordinator, of Lynker Technologies on contract to NOAA, gave an update on the next release of NOAA's C-CAP (Coastal Change Analysis Program) data. He discussed the status of the impervious surface data release, as well as a planned partnership with the US Forest service to model tree canopy statewide. He noted that the next C-CAP release will be a 1-meter product.

Our next presenter was Tony Kimmert, National Imagery Leader at USDA. He talked about a new, high-resolution imagery service for Hawaii that USDA will be releasing soon. Most imagery is from 2018-2020. And all is 4-band with 0.5 meter resolution. With the new service, a user will be able to change the display type, from natural color to color infrared, for example, and will be able to click on an area to determine the date of the imagery as well as the satellite that acquired it.

Benton Ching, Acting Chief of the Technical Integration Branch of the Honolulu District of the US Army Corps of Engineers. Benton related the history of a volunteer georeferencing project that began in 2005 with the objective of georeferencing 2,200 aerial photos of Oahu from 1927 - 1928, the first major imagery acquisition in the Hawaiian Islands. Volunteers from a variety of organizations have georeferenced over 1,600 photos to date! Upon completion, the data will be made publicly available.

## + Hawaii – current status

5

Three projects in work (QL1, QL2b)

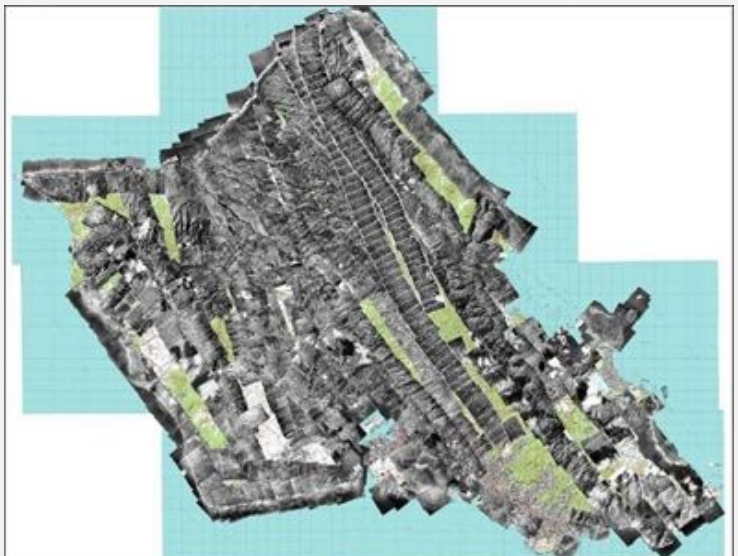
- Big Island – 75% collected; working on partial data release; remainder to be collected with projects below
- Kauai – bathymetric data collected; approx. 70% overall
- Maui Nui and Oahu – approx. 14% collected
- Chiroptera green laser in use with contractor aircraft based on Maui
- Aircraft can collect data for any project based on conditions
- Data collection expected to resume in May

## USGS 3D Elevation Program

### One-meter Impervious Surface



## Coastal Change Analysis Program



1927 Aerial Photography of Oahu



# 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 \$4,250. We also generated an additional \$2,500 in sponsorship income.

## HIGICC Profit & Loss July 2020 through June 2021

<b>4000 · Membership dues income</b>	<b>4,250.00</b>
<b>4050 · Donations income</b>	<b>2,500.00</b>
<b>4400 · Conference</b>	
<b>4410 · Conference income</b>	<b>0</b>
<b>Total 4410 · Conference income</b>	<b>0</b>
<b>4415 · Conference expenses</b>	<b>-62.27</b>
<b>Total 4415 · Conference expenses</b>	<b>-62.27</b>
<b>Total 4400 · Conference</b>	<b>-62.27</b>
<b>4800 · Special Events</b>	
<b>4805 · 20th Anniversary Income</b>	<b>140</b>
<b>4810 · 20th Anniversary Expense</b>	<b>-15</b>
<b>Total 4800 · Special Events</b>	<b>125</b>
<b>Total Income</b>	<b>6,812.73</b>
<b>Expense</b>	
<b>5100 · Contact management site</b>	<b>1,728.00</b>
<b>5150 · Insurance</b>	<b>718</b>
<b>5250 · Fees &amp; service charges</b>	<b>196.91</b>
<b>5300 · Licenses &amp; permits</b>	<b>3.5</b>
<b>5400 · Dues</b>	<b>465</b>
<b>5450 · Travel expense</b>	<b>0</b>
<b>5500 · Office supplies &amp; expense</b>	<b>350.71</b>
<b>5650 · Web conferencing service</b>	<b>0</b>
<b>Total Expense</b>	<b>3,462.12</b>
<b>Net Income</b>	<b>3,350.61</b>

Although this year was not a conference year, there were additional carry over income and expenses for previous events (Anniversary celebration, HIGICC/HLSA conference) that are included in this year's figures.] Total income for this year was \$6,812.73.

Total board expenses for the 2020-21 fiscal year, including website, licenses, insurance, office supplies, dues, fees, services charges and carry-over expenses for the conference and 20<sup>th</sup> Anniversary Celebration totaled \$3,462.12

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 - in fact, we had a net income for the year of \$3,350.61.

As of September 30, 2021, HIGICC had a balance of \$61,266.83.



# PRESIDENT'S AWARD

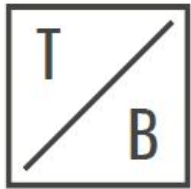
## Brennan O'Neil

This year, the President's Award is honoring Brennan O'Neill. Ever since Brennan landed in Hawaii, he has been a huge advocate for the HIGICC. He's proactively organized pau hana socials with live music and has provided all of the equipment to make them possible. Quite frequently, he is a first responder to our calls for speakers at our webinars and expos, and has saved our bacon during downtime at GIS Day. We want to celebrate his enthusiasm for our community, as well as his expertise and professionalism. You can always count on Brennan to be at our events, with a big welcoming smile on his face! We thank you for your hard work and commitment, and we look forward to many more events to come.

Brennan has a BS Degree in Geology. His first experience with GPS and measuring equipment was as an Earthquake Geologist with U.S. Geological Survey. He measured Plate Tectonic movements along the San Andreas Fault Zone. He then went to work for the University of Colorado as a Geodetic Engineer with University Navstar Consortium (UNAVCO). At UNAVCO he used GPS to measure fault zones and volcanoes all over the world, including the remeasurement of India, Nepal, and China. Brennan went to work for Trimble in 1995 as a Survey and Mapping Sales Engineer, and is a Certified Trimble Survey trainer. He is presently the Hawaiian Pacific Branch Manager for Frontier Precision. In his spare time, he enjoys playing congo drums in a live band, stand up paddling with his lovely wife Kelly & their dog Sparky, and striking up a great conversation.



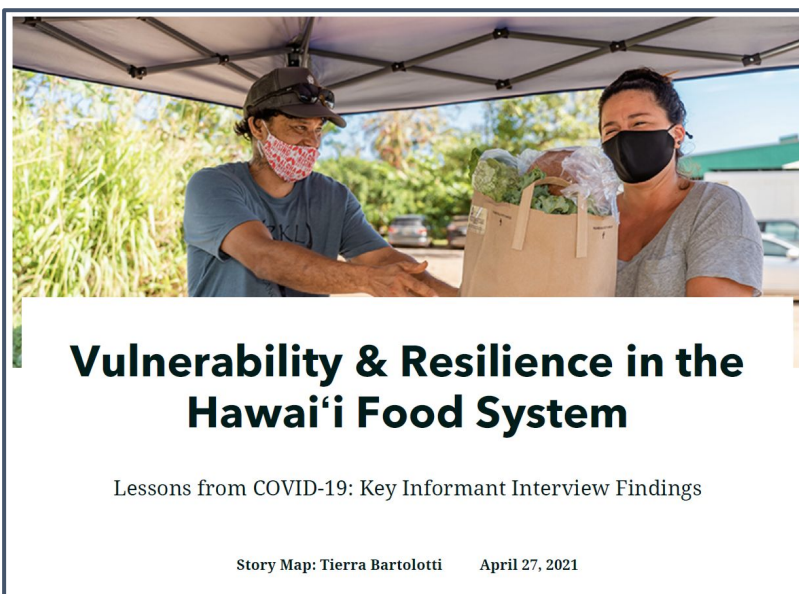
# Mark Lierman Memorial Scholarship



TIERRA  
BARTOLOTTI



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 Tierra Bartolotti. Tierra is a senior in the Sustainable Community Food System program at the University of Hawaii at West Oahu and has been exploring the use of GIS for Sustainability. She has been enjoying the coursework that is required to earn a certificate in GIS. In her last project she used GIS to visualize and translate qualitative data collected analyzing the impacts of COVID-19 on Hawaii's existing food system. This analysis helped identify key points of food system vulnerability while anticipating future natural disasters and economic shocks to Hawaii. Her work in this final project gives the State of Hawaii strategies for developing a more resilient and equitable food system.



<https://storymaps.arcgis.com/stories/8d1bfd63a6498f8a0b5f4a530bab1b>

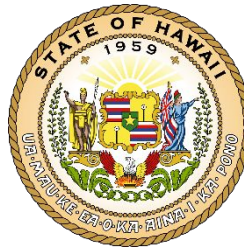
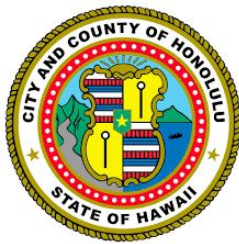
Currently, Tierra is the Clean Transportation Intern at the Blue Planet Foundation, and she has been active in volunteering and environmental education work since high school. She plans to use the award to acquire a new laptop that is compatible with ArcGIS Pro software so she can continue taking online GIS courses with Esri. Her goals moving forward, are to continue to build her knowledge, skillset, and program literacy with GIS. She plans to earn a certificate in GIS by Spring 2022, which coincides with her expected date of graduation.

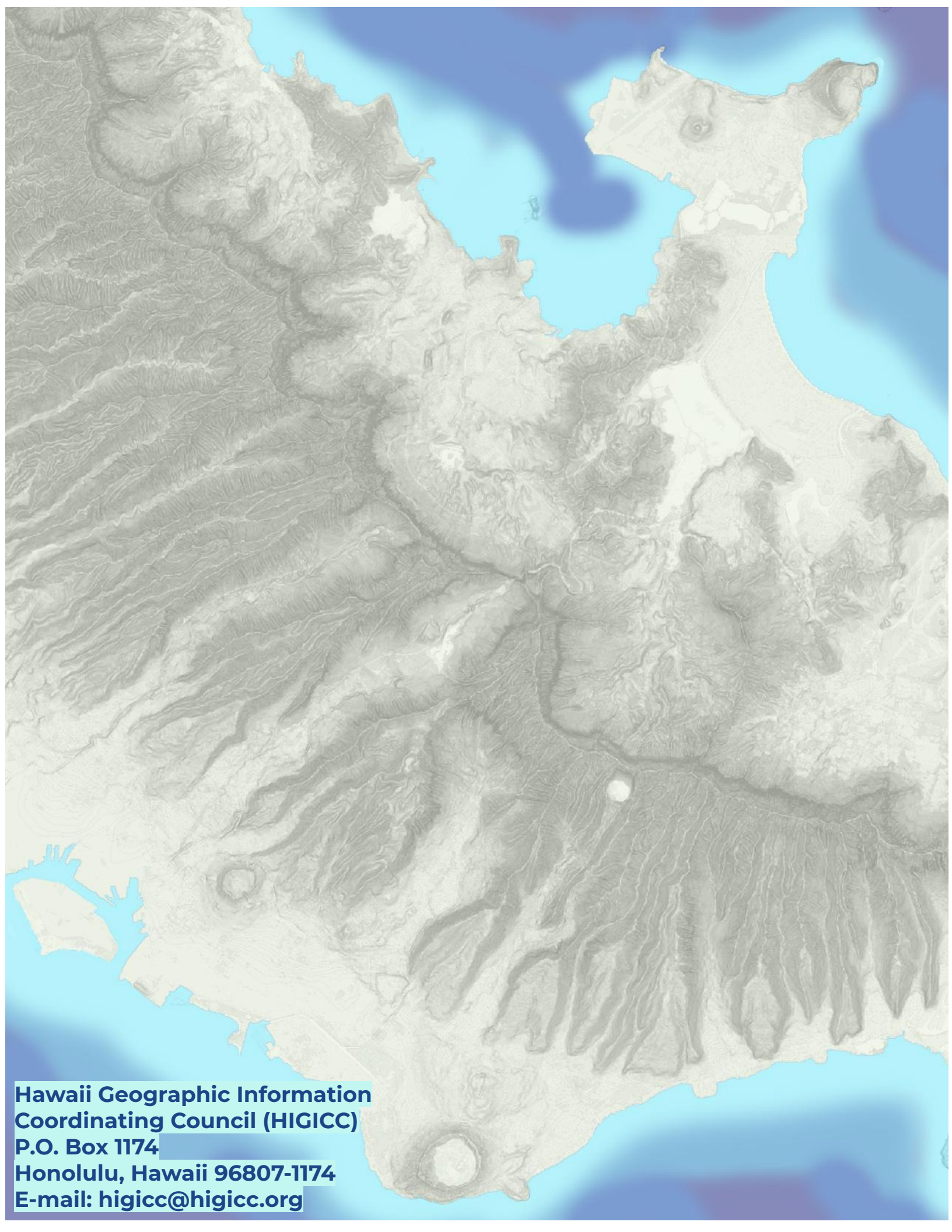
# Mahalo

## To Our Sponsors



## To Our Supporters





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Honolulu, Hawaii 96807-1174  
E-mail: [higicc@higicc.org](mailto:higicc@higicc.org)**