

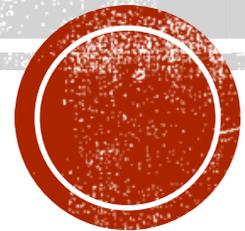
COMMUNICATING THE MEANING OF PLACE:

Landsat images, art and discovery.

Carole Mandryk¹, Michelle Schwengel-Regala¹, and Peder Nelson²

¹Osher Lifelong Learning Institute, University of Hawaii at Mānoa

²Geography, Oregon State University





- Who are we?
- What did we do?
- Why did we do it?
- How did it go?





Peder Nelson



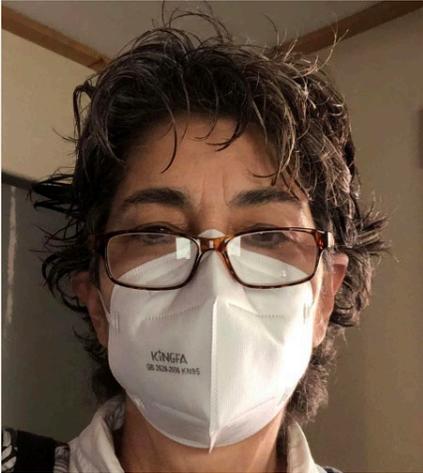
Michelle Schwengel-Regala



Who
we
are



Rusty Low

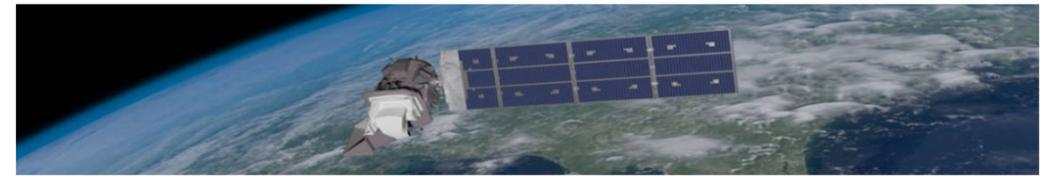


Carole Mandyk



What did we do?

To celebrate 50 Years of Landsat, we offered a new interdisciplinary course, *Opening the Aperture: Interpreting Satellite Imagery through Art* through the Osher Lifelong Learning Institute at the University of Hawai'i, Mānoa and invited OLLI members nationwide to participate.



Calling all scientists and artists!

Special virtual course offering for all OLLI members!

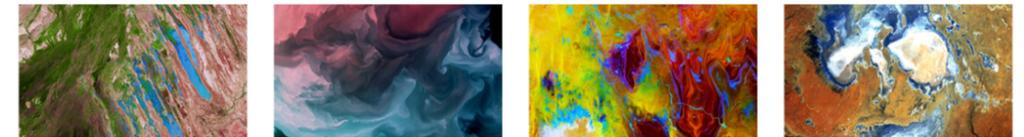
Tuesdays Jan 18 to Feb 22 1:00-2:30 pm HST (6 EST, 5 CST, 3 PST)

To celebrate 50 years of NASA-USGS Landsat Earth observations from space, OLLI-UH Manoa is offering *Opening the Aperture: Interpreting Satellite Imagery Through Art* as a virtual course for OLLI participants nationwide. Explore the mesmerizing beauty of our planet as seen by satellite sensors in space. Interpret that beauty in your own work using the artistic media of your choice. In this virtual class, you will work in your own home studio, guided online by scientist and studio artist facilitators in this special one time-class offering.

Part I: NASA GLOBE Observer Land Cover Science Lead Peder Nelson will share the art and science of remotely sensed Earth images we have obtained from space. First we cover how we learn about the changes taking place on Earth using satellites. You will be able personally manipulate a digital image from where you live (or a place you are interested in) and discover how satellite data shows us things we can't see with our own eyes.

Part 2: Data is art. Artist Michelle Schwengel-Regala, former NSF Artist in Residence, Antarctic Research Program, will lead the studio sessions of this course with Peder on hand to assist in helping us know what we see. Expect lively discussions about climate change and other topics as we paint, knit, color, digitize, etc. In our home studios!

The resulting art products of this course will be featured in a potential gallery show in Honolulu to celebrate *50 Canvases - 50 Years of Landsat*. We hope to promote and excite the public about a generation of Landsat science using art in social media, connecting everyone with the profound changes taking place on our planet over our lifetimes.



Materials: Each participant will supply the art materials of their choice. For conventional materials (paint, pencils, markers), we request work to be done on 12x12" canvases if possible, to facilitate gallery display. For digital artists, the art should have sufficient resolution for a minimum 12x12" dimensions. Textile art and 3D interpretations are also encouraged.

Learn about Landsat science here: <https://landsat.visibleearth.nasa.gov/>

See examples of art interpreting Landsat data here: <https://eros.usgs.gov/image-gallery/earth-as-art>

See examples and ideas here: <https://www.nasa.gov/feature/goddard/2021/nasa-invites-you-to-create-landsat-inspired-arts-and-crafts>

Want to know more? Contact your instructors, Peder Nelson peder.nelson@oregonstate.edu and Michelle Schwengel-Regala hookthereef@gmail.com



Why did we do it?

- Have fun, Make some art, Learn about satellite imagery and Earth
- Show the public the relevance of land cover to their daily lives
- Explore the intersections of art, science, inspiration, and meaning.

The mission of OLLI is to keep older adults engaged. Our OLLI has hosted several courses that actively engaged people in participating in GLOBE Observer data collection and citizen science and climate change.

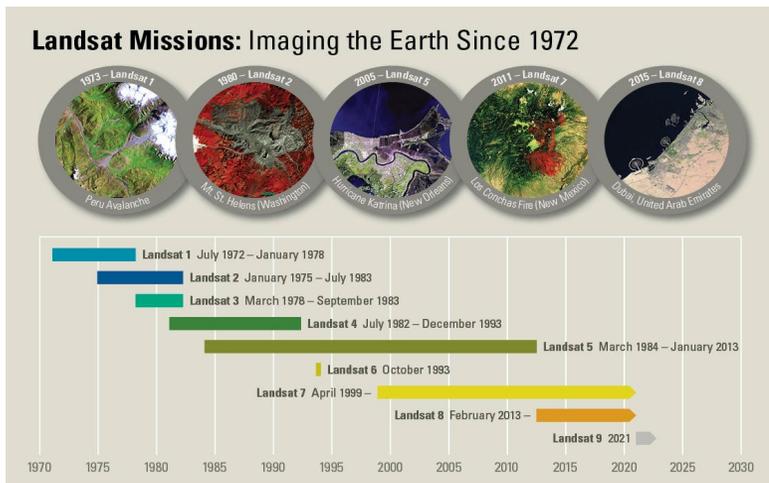
Our goal here was to excite them about the 50 years of Landsat that overlapped with their adult lives, and also how Landsat data connects with things in their life that are important to them.



The Course Part 1: Science

Adult learners from across the USA were:

- Introduced to the NASA/USGS Landsat earth-observing satellite, how digital data are converted into color image and interpreted; why the science is important,
- Taught how to use the GLOBE Observer Citizen Science app to collect ground-based land cover observations and photos in areas of significance to them, and
- Provided access to relevant Landsat images based on their requests.



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GLOBE

GLOBE Observer, the app of The GLOBE Program, invites you to make environmental observations that complement NASA satellite observations to help scientists studying Earth and the global environment. Those in the 120+ GLOBE countries can download and use the app.
[Lee esta página en español.](#)

By using the GLOBE Observer app, you are joining the GLOBE community and contributing important scientific data to NASA and GLOBE, your local community, and students and scientists worldwide.

To participate, download the app, register with an email address (you can also register using a web form), then go outside and follow the prompts in the app to observe your environment. New and interested users are encouraged to learn more about The GLOBE Program. A one-page summary of GLOBE Observer is also available.

The GLOBE Observer app currently includes four main tools: Clouds, Mosquito Habitat Mapper, Land Cover and Trees.

Choose your protocol:
Clouds
Mosquito Habitat Mapper
Land Cover
Trees

Visit the GLOBE Website
Visit the Observer Website

HawaiiView
A Nonprofit Organization to Promote Remote Sensing Data and Technology in Hawaii

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Remote Sensing of Paradise

HawaiiView is part of AmericaView, a nationwide partnership of remote sensing scientists who support the use of Landsat and other public domain remotely sensed data through applied remote sensing research, K-12 and higher STEM education, workforce development, and technology transfer.

[Get in touch](#)

What We Do

We advance the availability, timely distribution, and widespread use of remote sensing data and technology.

We advance education by providing remote sensing data and technology to K-12 and higher education.

We identify unique research and development needs, foster remote sensing pilot projects, and to establish longer term partnerships.

The Course Part 2: Art

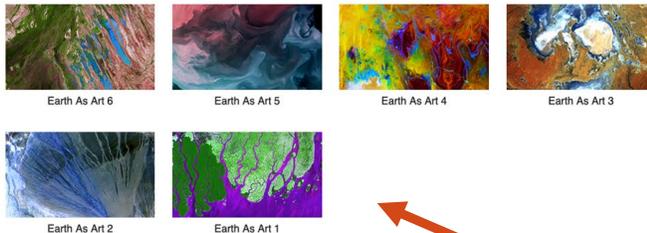
- Students were encouraged to interpret their image of interest in their desired art medium. Virtual studio sessions provided opportunities for participants to share their connections to place, and discuss the conceptual and material considerations of the artmaking process.

Earth as Art



In addition to their scientific value, many satellite images are simply intriguing to look at. Satellites capture an incredible variety of views of Earth. See the mesmerizing beauty of river deltas, mountains, and other sandy, salty, and icy landscapes. Some might even remind you of actual famous works of art!

Collections



Sources of inspiration

Art of Landsat

NASA Invites You to Create Landsat-Inspired Arts and Crafts



How?

- Search the [Landsat Image Gallery](#) for an image that inspires you.
- Get crafting! This can be anything from watercolor paintings to knitted accessories to a tile mosaic – whatever sparks your creativity.
- Share your creation with us on social media using the hashtag [#LandsatCraft](#)

Why?

For almost 50 years, Landsat satellites have collected images of Earth from space, representing the longest continuous space-based record of our planet's surface. It's a joint mission of NASA and the U.S. Geological Survey, and both scientists and the public have free access to the 9 million scenes in this invaluable archive. Landsat images provide the ability to observe changes in Earth's landscapes and coastal regions over time.

The images can be strikingly beautiful – see the [Earth as Art](#) galleries from our partners at USGS and an [eBook](#) from NASA as examples – but they're much more than that. Behind the images are highly calibrated data that land managers and policy makers use to make decisions about Earth's resources and our environment. Landsat has long provided often-unique information about agricultural productivity, ice sheet dynamics, urban growth, forest monitoring, natural resource management, water quality and the impacts of climate change on our planet.

In September, Landsat 9 is scheduled to launch and continue this legacy. In honor of the launch, we invite you to get creative and show us what Landsat means to you! Create art or make a craft that's inspired by a favorite Landsat image or the satellite itself, and share it with us on social media.

Learn more about the history of the Landsat mission and Landsat 9 at [landsat.gsfc.nasa.gov](#) or with this [USGS fact sheet](#).

Create and Share Your #LandsatCraft

After you have finished creating your Landsat-inspired craft or piece of art, take a picture and upload it to Twitter, Instagram or Facebook. Make sure you use the hashtag [#LandsatCraft](#) so we know that you are taking part in the event.

If a [#LandsatCraft](#) post catches our eye, we may share your work on our [@NASAEarth](#) social media accounts. We may also feature your art in a NASA Flickr gallery. You can follow [@NASAEarth](#) on Twitter, Instagram and Facebook for submission updates and featured art throughout the summer.



Images of agriculture from space often combine bright colors and interesting shapes and lines. NASA Earth science social manager Katy Mersmann created embroidery based on an image of canola fields in Canada.
Credits: Katy Mersmann/NASA





Michelle Schwengel-Regala, Ross Island, Antarctica

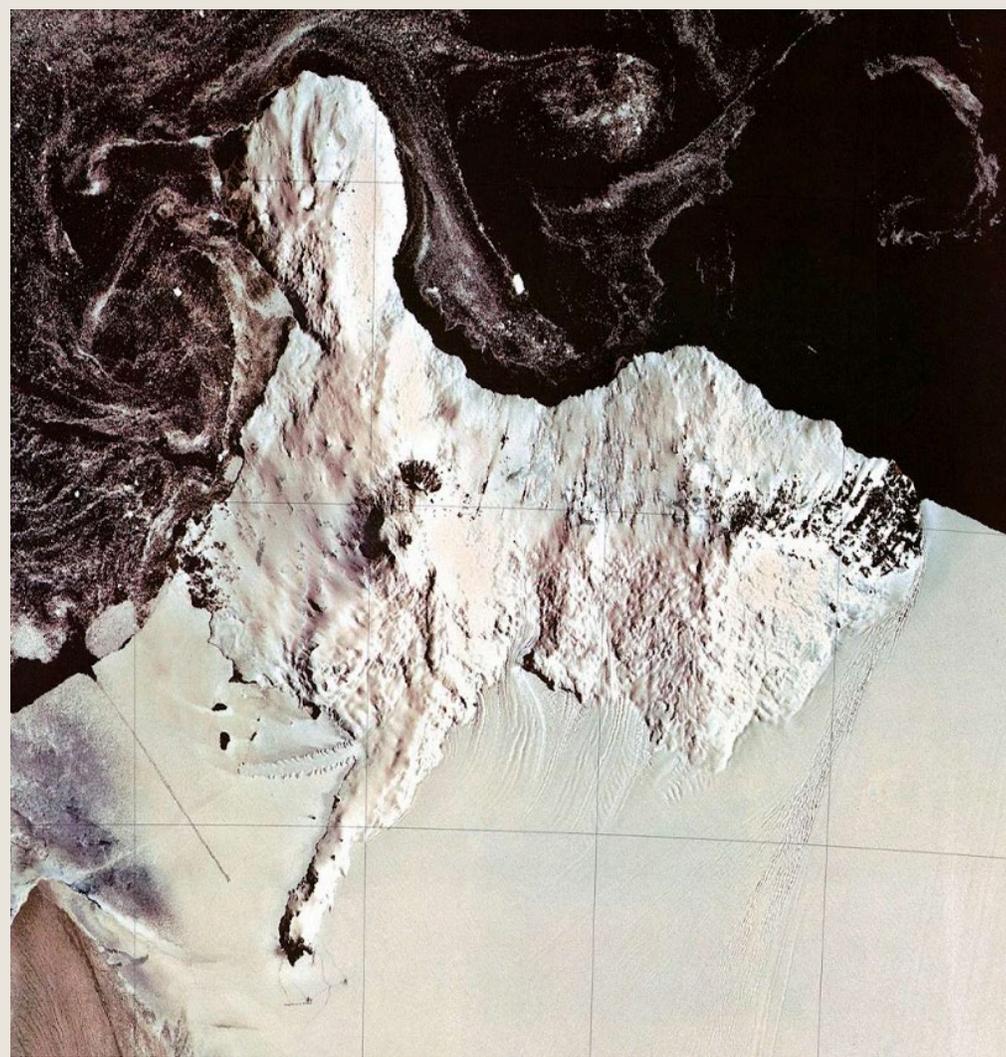


Image from 1975



Fiber, crochet ~10" wide so far





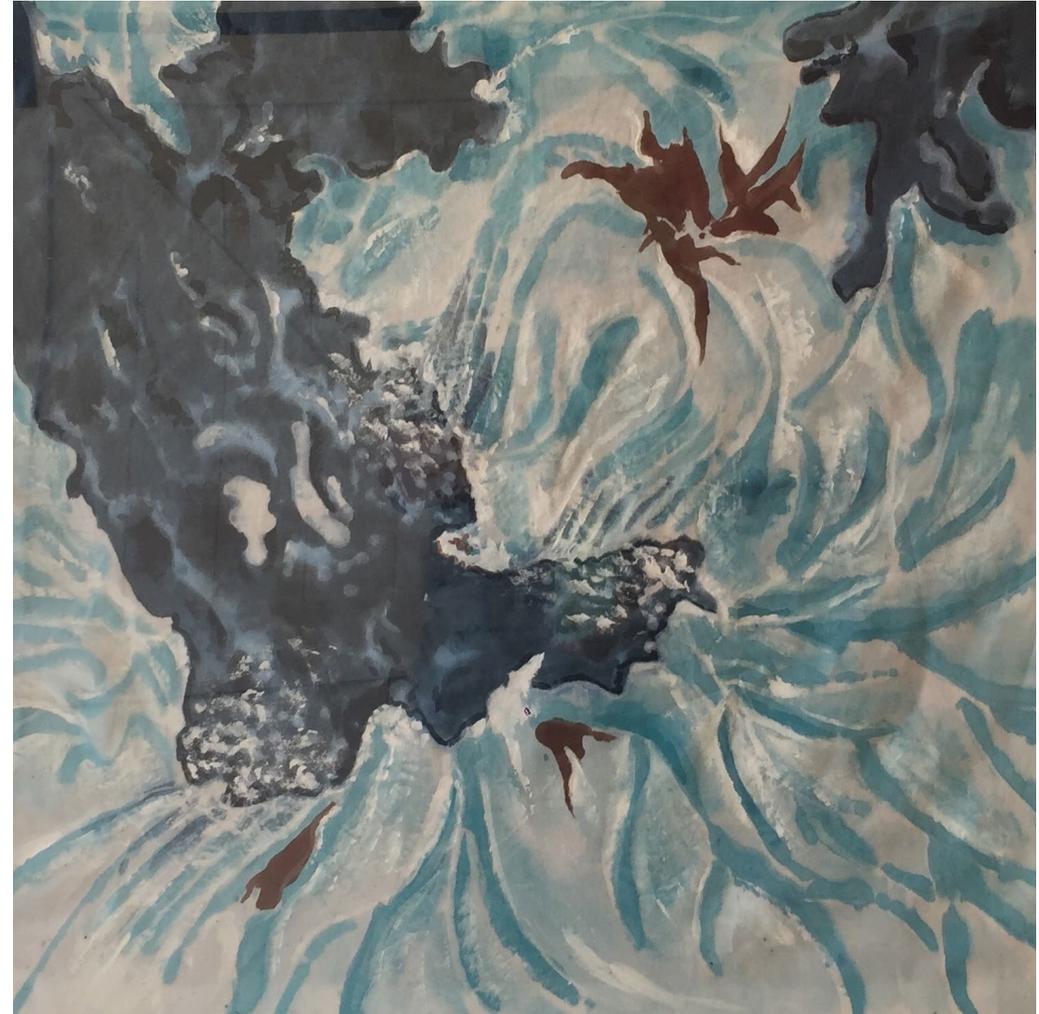
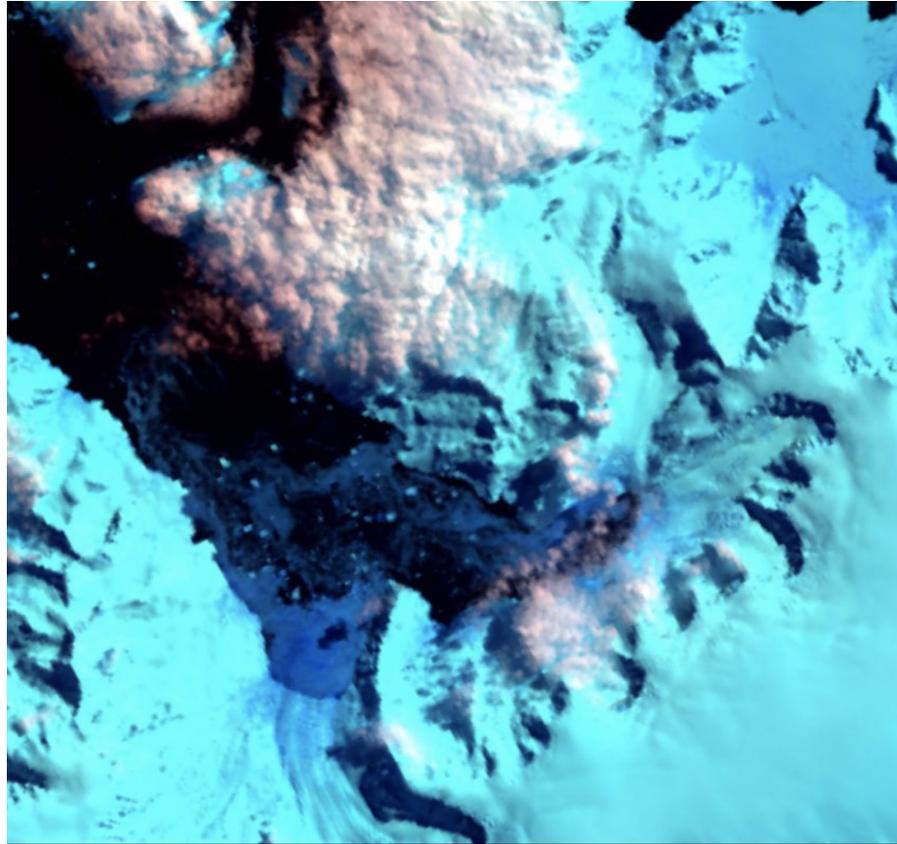
Here are a few examples of students' works showing “before and after” of Landsat source images and artworks illustrating varied approaches, materials, meanings.

Thank you to: Linda Green, Richard Hoyt, Robin Katz, Beth Larson, Linda McGuire, Joyce Mitsunaga, Tony Nakamura, Mary Trost, Helen Turano, Val Yoshikane, and Nora Tomlinson for sharing the following.

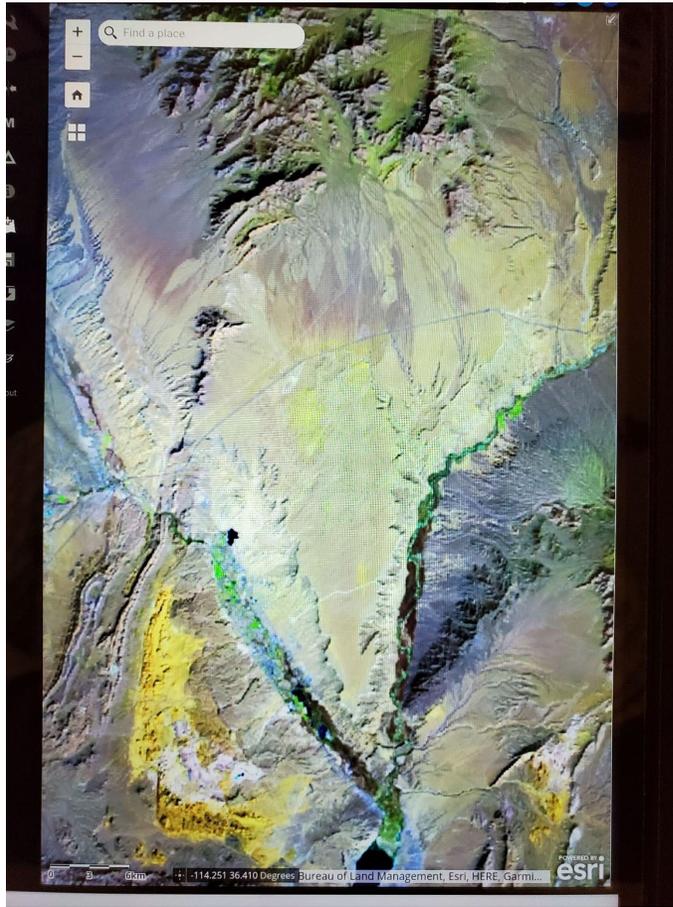




Linda Green, Neko Harbor Antarctica

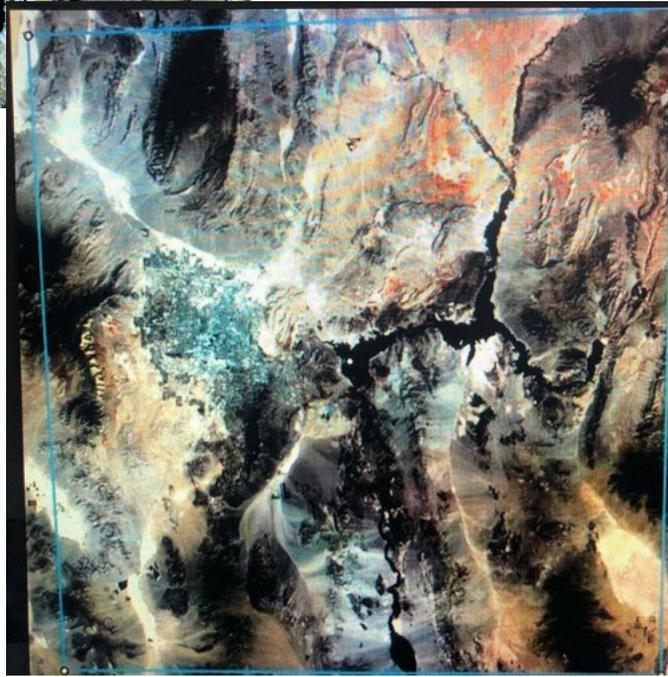
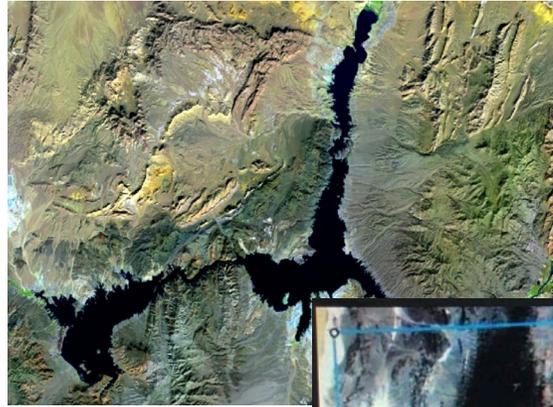


Richard Hoyt, Mormon Mesa, Nevada





Robin Katz, Lake Mead





Beth Larson, Yarnell, AZ



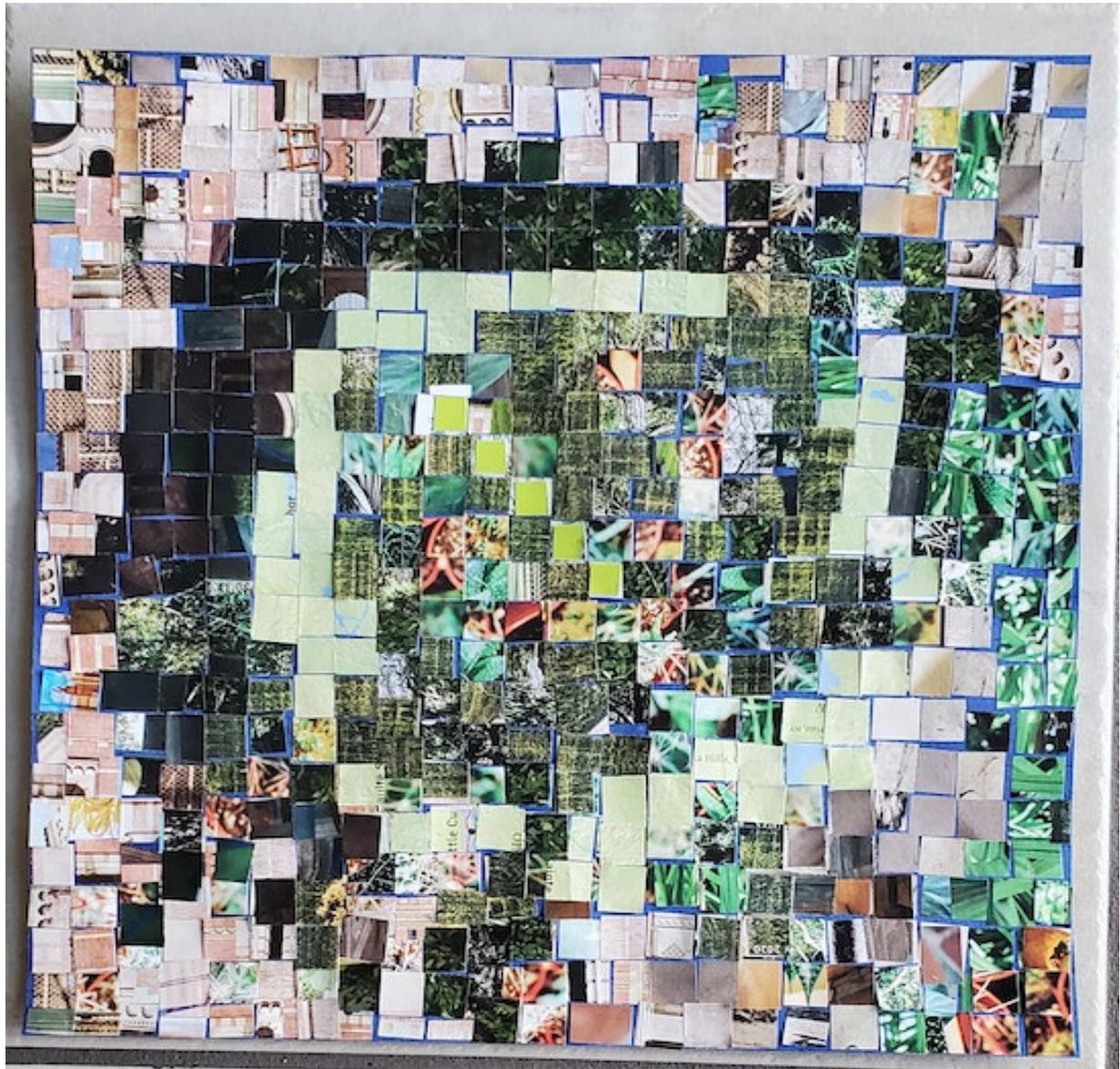
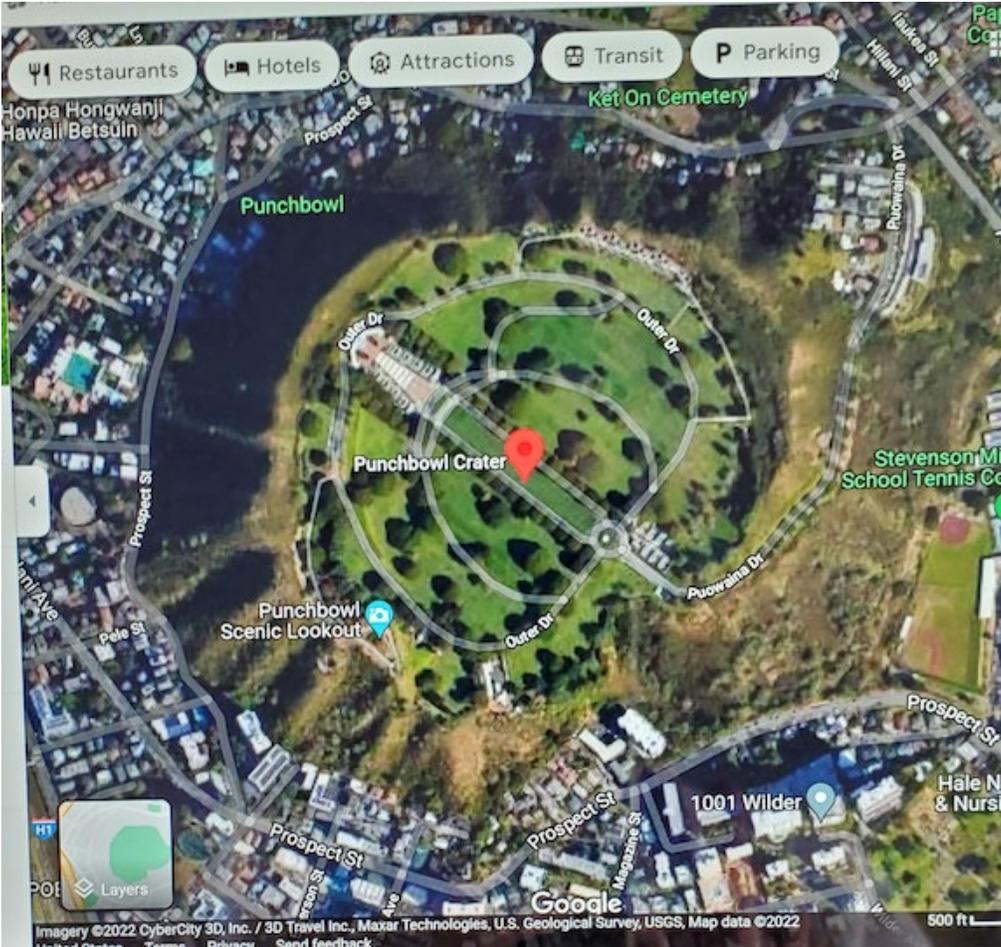
Yarnell Hill Fire





Linda McGuire, Milwaukee, Lake Michigan

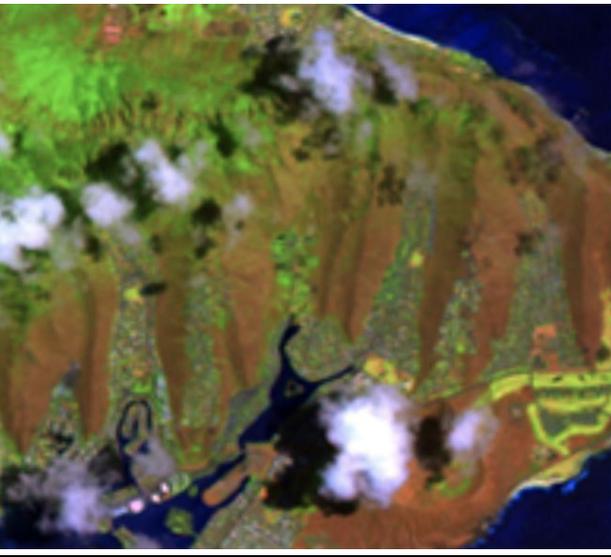
Joyce Mitsunaga, Punchbowl National Cemetary, Oahu



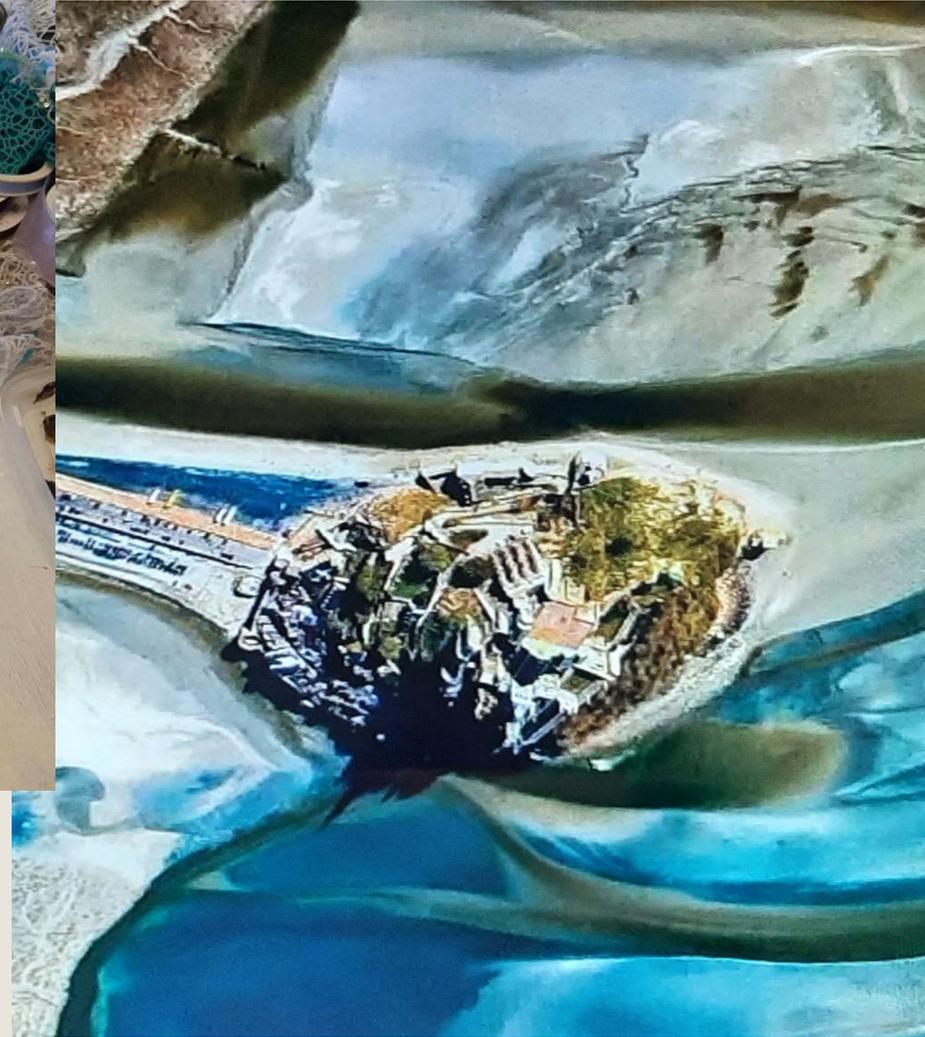
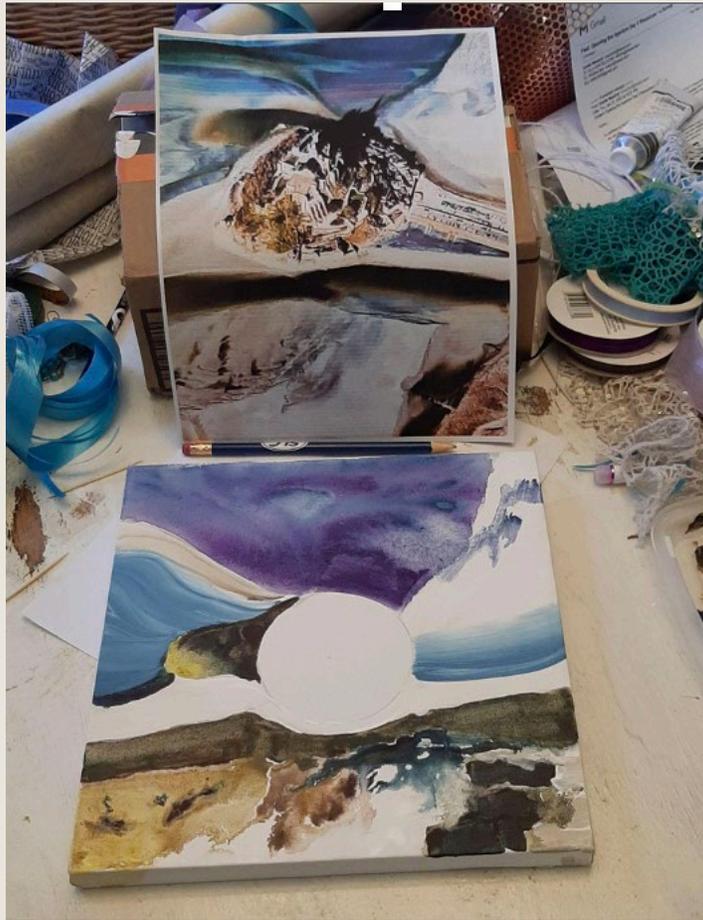


Tony
Nakamura

Kamilonui Valley farm lots in Hawaii Kai, Oahu



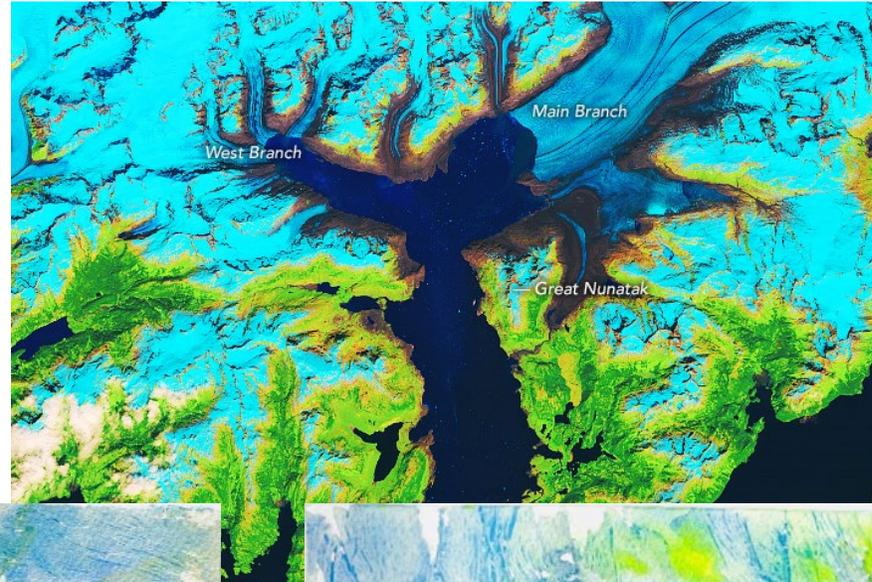
Mary Trost



Mont Saint-Michel, France

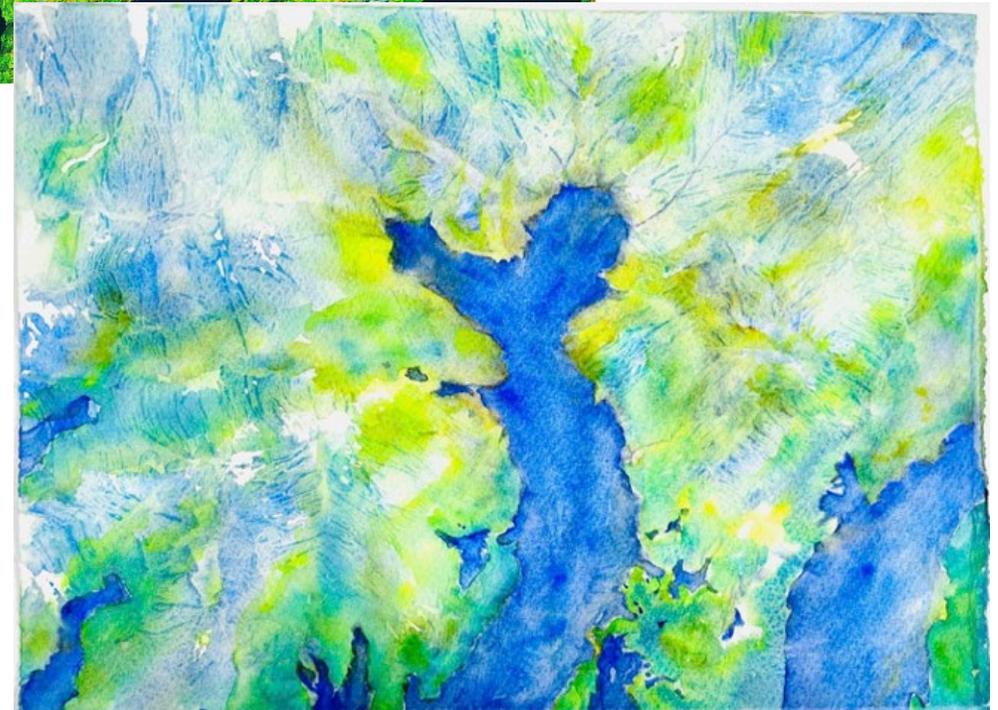


Helen Turano, Columbia Glacier, Alaska



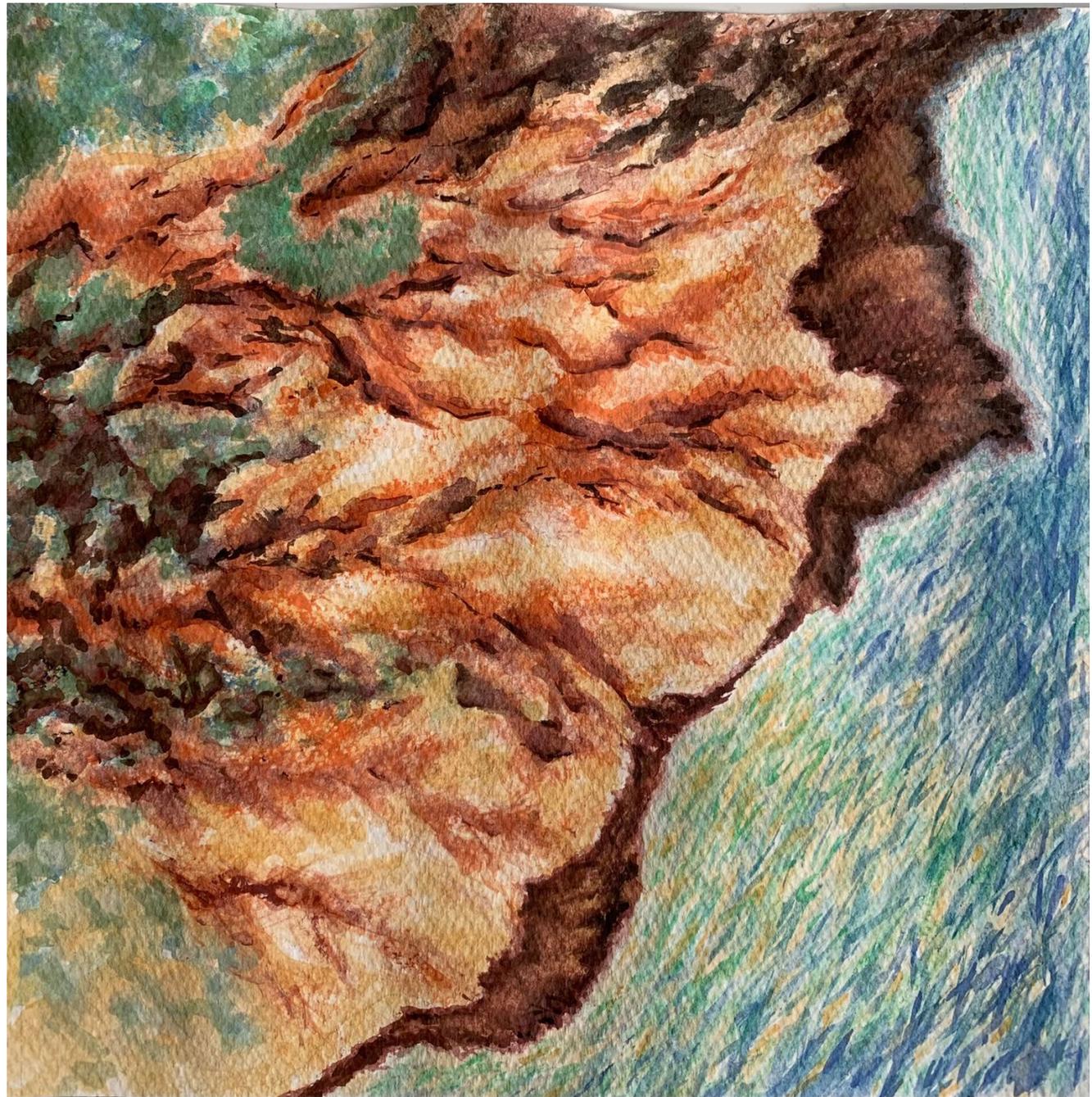
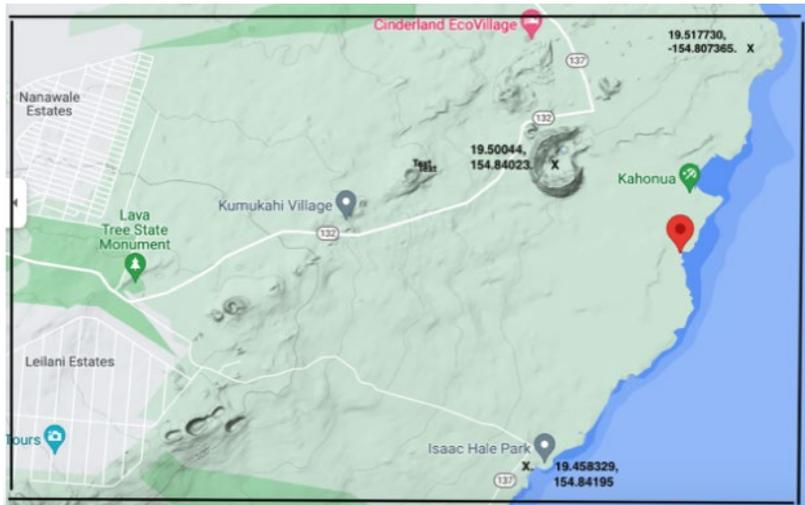
2019

1986



Val Yoshikane, Kapoho, Hawaii Island

I used watercolors by “the art of soil” made from soil! The colors are so rich! Kapoho was my childhood playground. In 2018 the lava flow covered hundreds of Kapoho homes, extending into the ocean & caused discoloration of the ocean.





Nora Tomlinson Pololu Trail, Kohala Forest Reserve, Hawaii Island





Student Reactions

What did you like most about this course?

“I loved the combination of science and art!”

“It was multifaceted, with input from students and teachers from a variety of fields, areas of expertise, and perspectives.”

“I liked the concept of combining technology, satellite mapping and imagery, with art.”

Can we do it again?

Any Questions?

