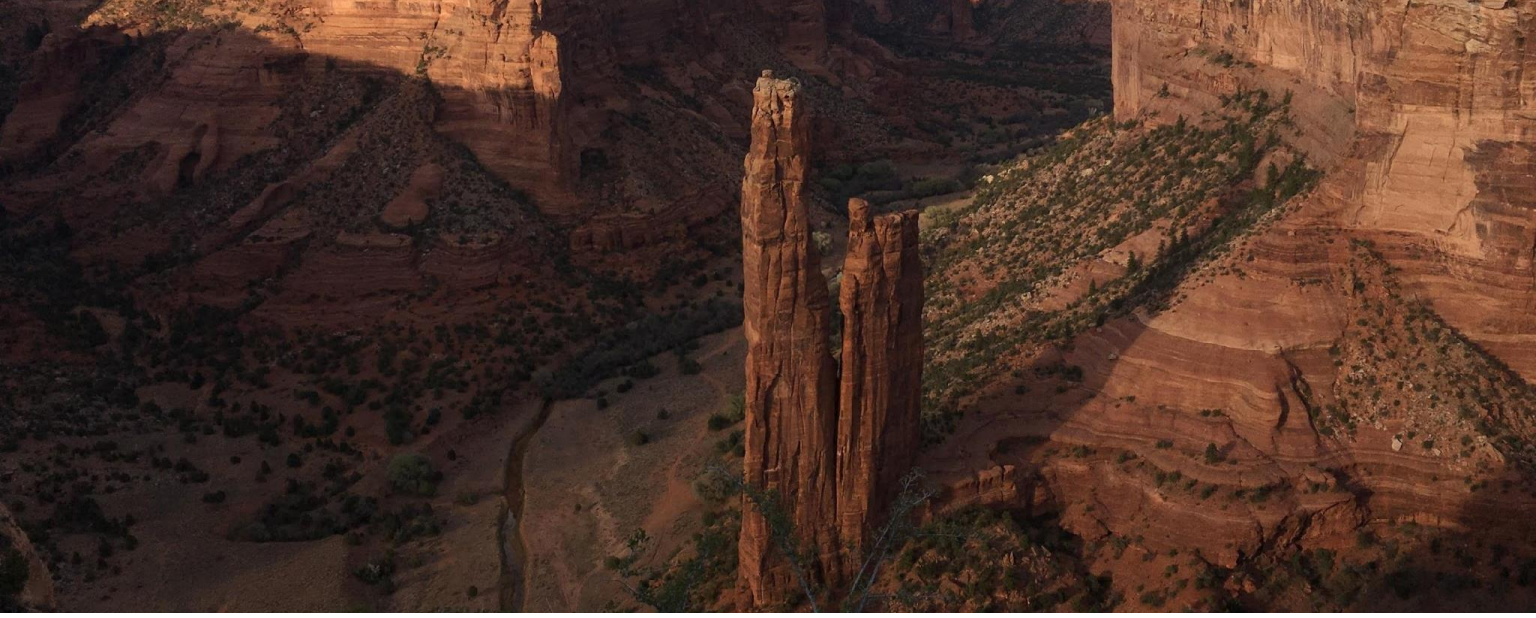
Indigenous Peoples Initiative

2023 Annual Report

Sharing Knowledge and Strengthening Communities | appliedsciences.nasa.gov/indigenous-peoples-initiative



Welcome!

NASA's Indigenous Peoples Initiative (IPI) is dedicated to building lasting relationships with Indigenous communities by creating a trusted, reliable, and Indigenous-centric geospatial community with a focus on environmental justice and climate issues on Indigenous lands and territories. During 2023, the IPI has continued to serve on our commitment to meaningful engagement and capacity building with Indigenous communities. It has been a memorable year as our team has grown in size and scope. Our strategic goals, developed in 2022, have guided our aspirations to establish and maintain respectful and reciprocal collaborations with Tribal environmental professionals, private and nonprofit partners both domestically and internationally, federal agencies, and international space agencies.

It is paramount we center Indigenous perspectives in this work, as we know that despite their critical role in sustaining biodiversity, Indigenous communities are often the most adversely impacted by the effects of climate change. As part of NASA's Earth Action Program, our work intersects with many themes and programs such as Equity and Environmental Justice, Ecological Conservation, Climate and Resilience, Water Resources, Wildland Fires, and more. It is our hope that through concentrated efforts to increase capacity for the use of NASA data and tools we can support Indigenous communities' efforts to protect their lands, water and nonhuman kin. It has been an honor and a privilege to be part of this important work. We look forward to 2024 and beyond.

Thank you for taking the time to review our 2023 summary.

In Gratitude,




Amber, Nikki, Sativa and Victoria

2023 Overview

The Indigenous Peoples Initiative (IPI), within NASA's Capacity Building Program, seeks to support and cultivate efforts within Indigenous communities and NASA to increase the use of Earth Observations (EO) to inform decisions, policies, and actions. This work centers around respectful and reciprocal relationship building through community engagement, dialogue, capacity building and two-way learning. The IPI team co-develops place-based remote sensing trainings and creates diverse Earth science opportunities within NASA and Indigenous communities.

Strategic Goals

Goal 1: Cultivate knowledge sharing pathways around the use of Earth Observations (EO) for Indigenous community action within landscapes

Goal 2: Strengthen the capacity for the use of NASA EO data and tools for Indigenous community action

Goal 3: Uphold and share respectful and reciprocal engagement strategies across NASA Earth Science for Indigenous community action

Goal 4: Increase presence of Indigenous people at NASA to diversify worldviews within Earth Science

What we do

Relationship building through workshops & conferences

Cross-boundary connections across agencies, organizations, internationally

Deep engagement, multi-year relationships where we co-develop trainings with tribes (Navajo Nation, Karuk Tribe, Samish Indian Nation)

Tailored Hands-On trainings

Connecting Tribal Natural Resources employees with NASA researchers and programs

Regional Needs Assessments Dialogue Sessions

Our Impact

Connect. Cultivate. Sustain.

We are committed to the continued, increased, and sustained use of EO data within Indigenous communities to protect and restore the Earth's most vital lands.

In 2023, we forged innovative pathways for impact, community engagement, and action with new activities such as our first co-hosted community event called *Nihimá Nahasdzáán: The Art of Mother Earth* held on the Navajo Nation; in addition to cornerstone training activities such as the co-developed in-person training on *Remote Sensing of Wildfires and Watersheds* held at the Karuk Department of Natural Resources. Our team further solidified our commitment to becoming a trusted, reliable, and Indigenous-centric resource for communities by connecting Tribal Natural Resources employees with NASA scientists for place-based projects and generating guidance for increasing the use of EO data for supporting environment justice and climate change.

CAPACITY BUILDING

Community Engagement

Strategic Partnerships

We held three in-person training sessions, participated in **23 virtual and in-person engagement activities**, hired a new team member to increase dialogue and shared learning among our Tribal partners, continued to work alongside our regional and international partners such as the Institute for Tribal Environmental Professionals (ITEP), the United States Geological Survey (USGS), the Canadian Space Agency (CSA), ESRI, Google, etc.

We also cultivated collaboration and guidance within NASA with Missions, the Office of STEM Engagement, and other Earth Action and Capacity Building Program elements.

2023 Year at a Glance

January

- Assisted with facilitation of NASA's Tribal Consultation in accordance with the 2021 Presidential Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships.
- Presented at the NOAA/NIDIS Southwest Drought Briefing.

February

- Presented *Earth Observations in Service to Society* to the Rivers, Watersheds, and Communities (RWC) group at Washington State University.

March

- Attended the American Indian Higher Education Consortium (AIHEC) conference in collaboration with NASA MAIANSE.
- Provided an in-person training in Orleans, CA to staff and affiliates of the Karuk Tribe's Department of Natural Resources.

April

- Co-hosted two events on the Navajo Nation in Window Rock, Arizona at the Navajo Nation Museum: *Nihimá Nahasdzáán: The Art of Mother Earth gallery community event* and a Roundtable Needs Assessment.
- Offered workshop titled, *Knowledge is Power: Applications of NASA Earth Science Data* at the 14th Annual Tribal GIS Conference in Albuquerque, NM

May

- Served on panel for the Biodiversity and Ecological Conservation joint team meeting focusing on the topic of Indigenous Data Sovereignty.
- Provided training series for the Indigenous Mapping Workshop - Australia in Melbourne in collaboration with Canadian Space Agency, Google, Geosciences Australia, FrontierSI, and Winyama.

July

- Presented at the Native Earth to Sky Workshop in Los Alamos, New Mexico and served on the planning committee.

August

- Presented *Unveiling the Power of Open Science for Indigenous Communities* for TOPS Community forum and Indigenous Peoples Day.

September

- Presented at the PACE Mission Applications Workshop on *The power of collaboration in creating and operationalizing beneficial NASA data, products, and tools.*
- Presented *NASA Data and Tools for Fire & Climate Change* at the ITEP Fire and Climate Change Adaptation Planning for Tribes workshop in Santa Cruz, CA.

October

- Attended the Midwest Climate Resilience Conference in Duluth, MN and presented in a session called *Empowering Decision Makers to Use Earth Observations for Climate Resiliency* alongside other NASA Earth Action elements.

November

- Participated in Braiding Knowledge Summit held at the University of Richmond in coordination with NASA HQ and Amazon Indigenous Leaders
- Attended GEO Week and the Ministerial in Cape Town, South Africa and presented how our team is working towards GEO community building and shared goals.

December

- Attended the 10th International Fire Ecology and Management Congress held in Monterey, California and coordinated interviews for the CHIPS Act activities.
- Presented on *Effective Engagement for Community Action with NASA's Indigenous Peoples Initiative* for the AGU Annual Meeting in San Francisco, CA

Place Based Approach

Karuk Tribe Department of Natural Resources

In-person training on March 28-29 at the Karuk Department of Natural Resources (KDNR) in Orleans, CA.

After a year of dialogue, we collaborated with KDNR to create the *Remote Sensing of Wildfires and Watersheds* workshop.

This training focused on the Karuk tribe's landscape monitoring and data needs with an emphasis on wildfire monitoring and management.

This workshop, provided for KDNR staff, introduced applications of remote sensing data and tools for a variety of natural resource management applications including: wildfires, climate, vegetation health, drought, and more.

The agenda included 5 hands-on exercises, 4 lectures, 2 demos and plenty of time for reflection and discussion.

Innovative Engagement and Dialogue

This year we co-hosted our first community event and needs assessment dialogue session alongside organizers with the USGS, the Navajo Nation Museum, Google, America View, and the World Wildlife Fund. *Nihimá Nahasdzáán: The Art of Mother Earth Gallery* Event was held on April 5th, 2023, on the Navajo Nation in Window Rock, AZ and was an effort to hold space for community members and scientists to come together and share their ways of knowing and understanding of Earth systems.

The Nihimá Nahasdzáán Event took place over two days. The first was an evening event focused on relationship building with all generations of the community, highlighting a holistic approach. This was done with structured relevant and culturally appropriate community activities.

The second day was dedicated to a listening session with Tribal Natural Resources employees to better understand the EO data needs and potential benefits. Major themes of EO interest from this discussion with Tribal employees were on water resources, agriculture, and historical land preservation.

USGS science for a changing world · NASA · AmericaView Empowering Earth Observation Education americaview.org · Google · Navajo Nation Museum

Indigenous Mapping Workshop

Photo credit: European Union, Copernicus Sentinel-2

The Indigenous Mapping Workshop (IMW) provides geospatial trainings for Indigenous people using innovative technologies in partnership with groups such as Google, Esri, and MapBox. In the hands of Indigenous Peoples, these can be powerful tools in the preservation and promotion of Indigenous land stewardship practices.

Training Series, May 30–June 2, 2023, in Naarm (Melbourne)

This year IMW was held in Naarm (Melbourne), Australia and hosted by Winyama, an Indigenous-owned company. In the three years of prior IPI engagement, IMW was hosted by the Firelight Group, based in Canada.

We provided an EO training series in collaboration with the Canadian Space Agency, Geoscience Australia, FrontierSI, and Google.

Collaboration with:

Team Expansion & Needs Assessment

In August, we welcomed a returning IPI team member Victoria Ly, as our Needs Assessment Coordinator. Victoria began their journey with NASA as a DEVELOP intern in 2015 supporting the early phases of the development of the Drought Severity Evaluation Tool (DSET) in collaboration with the Navajo Nation and continued their journey as a Communications Fellow and Assistant Center Lead at Ames. In 2016 and 2017, they supported the IPI in trainings with the Bureau of Indian Affairs (BIA). Since then, Victoria pursued a Master's Degree in Civil and Environmental Engineering at the University of Washington and worked as a Water Resources Engineer at an international engineering consulting firm. Victoria returns to the IPI team with exceptional technical expertise in the way of climate modeling and adaptation, flood risk modeling, snow hydrology, and remote sensing.

EO Uses and Needs Dialogue Sessions

In 2023 and 2024, Victoria is focused on the IPI coordination with NASA HQ on the CHIPS Act of 2022, which requires NASA to conduct a survey on the usage of EO data within States, Tribal, and Territorial governments. Victoria will conduct a series of interviews and in-person dialogue sessions with Tribal stakeholders to understand current uses of EO and future needs for Tribes. Victoria will assist the CFI group in creating a survey that will be disseminated to individuals from these groups to gather feedback to NASA. This process will also inform the future strategy of the IPI for capacity building, regional growth, co-development of EO-based projects, and increased connections on Equity and Environmental Justice issues. We are grateful to expand our team to include Victoria's experience and expertise.

Reflections

Upon reflection, 2023 has brought incredible growth for our team. We are pleased by the increasing desire at NASA to collaborate and develop healthy relationships with US Tribes catalyzed by EO 13175 and the 2021 Presidential Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships. We are inspired by our potential to diversify worldviews within NASA and to empower Indigenous communities to utilize EO data for landscape monitoring, environmental justice, and climate change issues.

In 2024 we look forward to sustaining our healthy relationships, deepening our understanding of the uses and needs of EO data, widening our geographic and institutional reach, strengthening our international relationships, and continuing to build capacity within communities that are protecting and nurturing Indigenous lands and lifeways. We remain committed to the vision of centering Native perspectives and priorities along the way.

Our small but passionate team faces challenges related to the shared traumatic histories of Indigenous communities especially in relation to federal agencies and need for acknowledgement while foraging respectful and reciprocal relationships moving forward. Through experience we have learned that meaningful engagement with Indigenous communities takes time, often more than what is expected/planned for. Each interaction is also unique and while there are shared best practices, there is no one strategy for successful Indigenous engagement.

We also understand that as the capacity increases within Indigenous communities, our team cannot meet all the technical needs of utilizing NASA EO data, products, and tools. Therefore, we are working to increase our network of Indigenous scientists with expertise in the use and applications of EO data and to connect these scientists and Tribal Natural Resources employees to our network of NASA researchers. This requires time to identify internal expertise and establish working relationships.

To that end, we strive to continually adapt, reflect, grow, and create balance as individuals, within our program, across NASA, and with Indigenous communities. This can be a delicate dance as we grow in our network and maintain our priorities of serving tribes across Turtle Island and beyond.

2024 Launches

Focus Areas

Goal 1: Deepening our understanding of current uses and future needs for EO

Goal 2: Widening our geographic and institutional reach

Goal 3: Strengthening international relationships

Goal 4: Continuing to build capacity

NASA EARTH SCIENCE APPLIED SCIENCES

Deepening our understanding of current uses and future needs for EO through a series of interviews, surveys, and in-person dialogue sessions with Tribal stakeholders.

Widening our geographic and institutional reach with outreach and trainings alongside organizations such as the Great Lakes Indian Fish and Wildlife Commission, the Native American Fish and Wildlife Society, the EPA Tribal Affairs network, the Bureau of Indian Affairs, and the USGS Climate Science Adaptation Centers.

Strengthening international relationships with co-developed dialogue and training sessions with a focus on trans-boundary issues across Turtle Island with the Canadian Space Agency (CSA) and First Nations communities, and a project partnership with Māori communities in Aotearoa (New Zealand).

Continuing to build capacity through place-based online and in-person EO trainings at Tribal GIS in Albuquerque, NM (Spring), at the Native American Fish and Wildlife Society Annual Meeting in Welch, MN (2024), the Indigenous Mapping Workshop (Fall 2024), and at the ITEP Tribes and Climate Change Program Meeting in Anchorage, AK (Fall 2024).

We are but a collection of stories

Ancient as the stars themselves

Woven together by Earth and Sky

Longing for connection

Memories engraved in stone and held in flowing waters


COMMUNITY ENGAGEMENT
PLACE-BASED APPROACHES
INDIGENOUS KNOWLEDGE SYSTEMS
TECHNICAL WORKSHOPS