Sensing The Earth:
Tribal College Faculty Data Science Experience

Day 1:
- Opening Ceremony and Welcome
- Plenary Session - Strategic Partnerships with TCUs
- Revitalizing the IPCCWG Strategy Session
- Planning for AIHEC Tribal Climate Resilience
Welcome!
Strategic Partnerships With Tribal College Faculty
Strategy Session 1:
Revitalizing the Indigenous Peoples
Climate Change Working Group
Goal 1: Revisioning the Mission of the IPCCWG

1. **Building Relationships** amongst Tribal College Faculty, Staff, and Students who are leading climate change research, adaptation, and implementation
2. **Connecting to Climate Change Research**, professionals, agency partners, and other professionals to experience the tangible aspects of the work, the hard and soft skills required, and to better understand where opportunities and challenges may exist
3. **Championing and platforming Indigenous Leaders** who are leading ground-level work in adapting to climate change, protecting culturally important plants, animals, landscapes, and seascapes

Goal 2: Identifying Leadership and Organizational Structure of the IPCCWG

1. **Leadership** defined as collective collaborative - with delegations of specific individuals in functional roles
2. Recognizing need for **Critical Infrastructure**
   A. Website and Content Host (Possibility through USDA-NIFA and Livelihoods Knowledge Exchange {LiKEN})
   B. Supporting media, content, and information sharing
   C. Developing an internal/external communications infrastructure
   D. Identifying sources of funding to advance meetings, research, and implementation of IPCCWG partners
3. **Meeting Structure and Equity**
   E. Quarterly meetings (ideally inline with larger events such as AIHEC student meetings)
   F. Located in diversity of places (TCUs as focus, but also ecoregional representation)
   G. Meeting Objectives and Desired Outcomes
Planning Session 1:
AIHEC Tribal Climate Resilience
**Highlights from June 2022 Sensing The Earth Summit**

**Mission:** Cultivate a partnership ecosystem for coordinating information, data resources, training and research to support local Tribal climate resilience planning and implementation.

**Foundational Principles**

1. **Fostering Relationships:** built at the speed of trust. Enter partnerships respectfully, through humility, listening well, and building a system of life enhancements. Recognize traumas experienced by Indigenous Peoples, as well as those who support TCUs, Tribal Climate Resilience, and other alliances, and support health and wellness of partners.

2. **Capacity and Infrastructure** development needs are an area of high need for TCUs; Increased faculty and research personnel are needed, as well as support for Faculty/Staff in terms of funding, training, advocacy, and interinstitutional collaboration. Technological infrastructure, as well as capital costs such as buildings, labs, offices, etc. are needed; TCUs may not have infrastructure in place to support research, large-grants, however there are opportunities to support TCUs through AIHEC and through collaboration with TCUs and other University partners/networks.

3. **Accessing Tools and Workshops** for climate, geospatial applications, data access, are widely available, and there are opportunities to train TCU faculty/staff/student partners without requiring significant costs or infrastructure (outside of reliable internet access). Opportunities to lead application-specific workshops and host meetings on site at TCUs can be leveraged quickly.

4. **Cyber-Infrastructure** is a general need throughout the TCU and TCU-partner ecosystem; on-site data-management requires significant investment in terms of personnel and costs, however can increase local-utilization of data as well as promote data-sovereignty; inline with cyber-infrastructure development, there are opportunities for TCUs (and Tribal Nations) to utilize sustainable energy and materials, as well as increase workforce development.
Vision and Scenarios

- Introduction to tools and how to use them – **Training** through The Carpentries
- **Utilizing Datasets** and standardized ecoregions from the National Ecological Observatory Network (NEON) as well as developing skills to utilize these data
- Training for TCU Faculty/Staff/Students specific to **Data Management**
- Merging local data with larger datasets and **Ground-Truthing** using remote sensing applications
- **Decision Support Platform** for TCUs and Tribal Nations to inform climate adaptation and access climate data; ensuring user-informed design and accessibility for general public
- Accessing and creating a repository of **Open-Access Curriculum**, best practices, and other content
- **Supporting TCU Faculty** directly; developing “faculty exchanges” and inter-institutional collaboration opportunities to pool resources, knowledges, and offer more climate-change, data-science, and workforce development coursework
- Including Federal Partners, Tribal Nations & Communities, and Private Foundations in large-scale planning to **rapidly distribute research and implementation funding**; ensuring Tribal Sovereignty and Nation-to-Nation processes for sustainable development and application
The Public

NPOs / NGOs & Federal Partners

TCUs / PreK-16

Tribal Nation(s) & Professionals

Tribal Decision Support Platform

Open-Access Curriculum

Curation / Matriculation

IKS / TEK

Multi-User Input & Engagement

Environmental Data

Climate Research

Data

Content

User

Information Flow

- Boundary Spanners
- Curated Open-Access Curriculum
- Scientific Research Results
- Dynamic Environmental Data
- Inter-Tribal / Inter-Institutional Knowledge
- People/Place/Power-Specific Knowledge
- Common/Popular/Social Knowledge

Development Focus for Proposals

- Open-Access Curriculum Repository
- Role(s) for Curation / Matriculation
- Tribal Decision Support Platform Infrastructure
- Media / Content Platform
- TCU-based Infrastructure/Capacity/Training
- Role(s) for Tribal Liaison(s)
- Designing Protected Pathways for IKS / TEK
AIHEC Tribal Climate Resilience Planning

**Goal 1:** Review the Logic Map, and identify a specific pathway that is usable within individual partners' applications.

**Goal 2:** Review the Quad Chart Analysis, CLEAN Curriculum Slides, and Menu of Services, share with home institutions and consider if appropriate to support climate change, data, and/or environmental science faculty/staff/student development.

**Goal 3:** Create a workable plan to engage your TCU and/or home-institution(s) as part of an integrated AIHEC Tribal Climate Resilience Plan within the next 6 months.