Module Overview

Module 4: Analyzing Data

Driving Question: What question can we ask of our data to help us understand the adaptive capacity of salmon? How might that lead to additional questions or new lines of TDC research?

Teacher Facing	Student Facing	Data	Additional Resources
CER: Beyond the Written CER Teacher Guide: Salmon FieldScopes Data Sensemaking Strategies	Student Readings- Frontiers for Young Minds	- Data Submission (Google Form) - Classroom Data Sheet - Data Submission Video	Resource from Module 3: Intro to FieldScope Teacher Resources Student Handout (intro to FieldScope) Video: TDC In Central Valley Chinook Salmon with Nate Mantua
Slide Deck	** Student Reading Handout **FieldScope CER	FieldScope- Spinning Salmon Main Page	
YCCS: Youth Take Ownership of Data Quality SEP: Asking Questions and Defining Problems	Meet the Researchers: Abigail Ward	TDC Flowchart NOAA Central Valley Hatchery Data	

Overview of Activities:
- Inquiry: What questions can we answer with our data? What additional data might we need?
- Reading: Frontiers for Young Minds
- Activity: Writing a claim based on data (CER)
- Data Engagement: Engaging with data submitted in FieldScope

Learning Goals
- Students will explore data sets from other classes and begin to develop questions that can be answered with the data collected.
- Students will generate questions that may require additional information and research.

Environmental Principles and Concepts (EP&Cs)

- **Principle 3 - Natural Systems Change in Ways that People Benefit From and Can Influence** Natural systems proceed through cycles that humans depend upon, benefit from, and can alter.

Community and Citizen Science Core Activities - Connections to Framework:
- Make Meaning
- Share the Work and Take Action

Key Educator Practices:
- Attend to the Unexpected
- Frame the Work Globally and Locally

Key Youth Practices:
- Engage with Complex Social Ecological Systems

Connections to Citizen Science Observations:

Evaluate - Assessing Youth Learning - Environmental Science Agency

Use Citizen Science to Make Changes - Opportunities for Decision Making:

CTE Connections
- Students will explore ways in which data visualization tools can be used to answer scientific questions, connecting to machine learning career pathways.

Connections to Common Core

Productive Dialogue (Speaking and Listening): Say Something

Purposeful Reading: Frontiers for Young Minds

Meaningful Writing: Claims, Evidence, Reasoning