

Investigating primary production with Ocean Observing Initiative (OOI) data

Before class:

- Homework questions with graph of chlorophyll data from the Chlorophyll Across the Year exploration activity

Beginning of class:

- Play SeaWiFS chlorophyll animation
- Have everyone log into Blackboard and open Chlorophyll Across the Year “Exploration” page
 - discuss homework answers as a class (goal is to get familiar with the graphs)
- What is OOI? (show maps, mooring array diagrams—links at top of page)
 - chlorophyll fluorometers

Interactive activities:

- Work in pairs (discussion encouraged), submit answers individually
- **Round 1:** *Concept Invention* activity for Chlorophyll in Temperate Zones or Chlorophyll in Polar Zones [divide class in half]. Record answers to “Interpretation and Analysis Questions”
 1. *How did the chlorophyll-a concentration vary over time in the [temperate/polar] zones of the ocean?*
 2. *What is your evidence for the pattern, which you observed, in the data over time?*
 3. *What questions do you still have about patterns in chlorophyll-a concentration over time in the [temperate/polar] zones of the ocean?*

Debrief: compare temperate and polar patterns, evidence, questions

→Student survey

- **Round 2:** *Application* activity for Chlorophyll Inshore vs. Offshore. Record answers to “Interpretation and Analysis Questions”:
 1. *Is there a relationship in primary production among the inshore and offshore locations?*
 - a. *If so, explain what kind of relationship is it? Why do you think that relationship exists for chlorophyll-a concentration among the inshore and offshore locations?*
 - b. *If not, why do you think there is no relationship for chlorophyll-a concentration among the inshore and offshore locations?*
 2. *How does this relationship, or lack of relationship, support or challenge what you previously knew about primary production?*
 3. *What questions do you still have about primary production?*

Debrief: relationships? connection to PP knowledge? remaining questions?


→Student survey


- If time, complete the “Application” activity for Chlorophyll-a Across the Globe or Primary Production Variables


Student access to activity links on Blackboard:


OOI Primary Production Activities

Build Content ▾ Assessments ▾ Tools ▾ Partner Content ▾

 **Activity link: Chlorophyll in Temperate Zones**

 **Activity link: Chlorophyll in Polar Zones**

 **Activity link: Chlorophyll Inshore vs. Offshore**

 **OOI data assignment**

Submit your answers to "interpretation and analysis" questions in the OOI data activities here at the end of class on 3/24/17 (or by Wednesday 3/29).

Written answers are required from the following activities:

1. "Concept Invention" questions under *Chlorophyll-a in Temperate Zones* or *Chlorophyll-a in Polar Zones*
2. "Application" questions under *Chlorophyll-a Inshore vs. Offshore*

Optional: Application questions under *Chlorophyll-a Across the Globe* or *Primary Production Variables*