



Ocean Acidification: Is There a Problem?

Summary

Ocean Acidification is a current topic in the ocean and climate news. Students will utilize a guided WebQuest to research the possible future effects of ocean acidification, explore current models used to predict the changes in the ocean's pH and discuss the current data collection for research.

Key Concepts

- Investigate the development of scientific understanding of ocean acidification.
- Explore current models for predicting pH changes in the ocean and the instruments used to construct them.

Objectives

Include clear, measurable statements of what students will be able to do, such as:

- Navigate the internet to explore ocean acidification findings in the past and predicted future.
- **Record** their findings from internet sites on ocean acidification.
- Demonstrate critical analysis of current (and projected) instruments to measure ocean acidification.
- **Communicate** the ongoing story of ocean acidification with classmates in pairs and through whole class discussions
-

Materials

- Access to the internet
- "pH data for the World's Oceans" map
- Ocean AcidificationWebQuest

Procedure

1. Monitor student completion of the Webquest.
2. Use completed Webquests to lead class discussion.
3. This activity can be used as a lead-in or follow-up lesson to other ocean acidification activities.

Assessment

- **Performance**—Students will use class time efficiently to stay on task to complete the webquest.
- **Performance**- Students will discuss their findings from the Webquest in a whole-class discussion.
- **Product**—Students will complete the Webquest.

Additional Resources

Sites for current and future pH collection:

<http://www.pmel.noaa.gov/co2/story/OA+Observations+and+Data>

http://ebbandflow.mbari.org/sections/conditions/MBARI_moorings/oa1_buoy.shtml

<http://data.aos.org/maps/sensors/>

Kolbert, Elizabeth. “The Acid Sea” National Geographic April 2011.

<http://ngm.nationalgeographic.com/2011/04/ocean-acidification/kolbert-text>

Extensions

- Discuss examples of ocean acidification research.
- Have students research an organism that may not be around if the pH of the ocean does drop.
- Missing flyer activity (rubric available) Here Today, Gone in 2061