

GLOBAL CLIMATE CHANGE, SEA LEVEL, AND LOUISIANA

Materials

For each group of 3-4:

- flask with cold dyed water
- heat lamp
- thermometer
- glass or wooden rod.
- marker
- timer

Extension

Using a map of Louisiana draw what you think a 5° C rise in temperature may do to the coastline as we know it.

National Standards

A: Science as Inquiry

B: Physical Science

References

Louisiana fossil page-
<http://www.intersurf.com/~chalcadony/lafoossil1.shtml>
Gulf Coast for Teachers, Union of Concerned Scientists-
http://www.ucsusa.org/gulf/gcc_hallengeteachers.html

Students will learn that the rise and fall of sea level can occur through various mechanisms.

Background

You don't need just an ice melt event in Antarctica to make sea level rise in Louisiana. Increase in sea water temperature can also raise sea level (Remember what water molecules do when cooled).

Procedure

1. Place the rod in the flask and mark the initial depth of the water.
2. Next, record the water temperature.
3. Turn on a heat lamp and take several readings of the water level and temperature every 3 minutes for 30 minutes. You should have ~10 measurements of each.

Can you relate this experiment to what might happen to the coast of Louisiana as sea water temperatures rise?

Post-activity questions

1. Has the location of the Louisiana coast changed over time?
2. Do we have evidence of these changes in the fossil record?
Describe some of this evidence.
3. What human activities may lead to an overall rise in sea level?

