



## Teacher Guide—Earth Science Module Final Assessment

1. Have students download 2005 SWMP abiotic and biotic data from several stations within Grand Bay NERR and examine the changes wrought by the severe storm events they identified in their data. Or, download the data yourself, print and copy it for students.

<<http://estuaries.noaa.gov/ScienceData/Graphing.aspx>>

2. Have students use Google Earth to explore the terrain around Grand Bay NERR. In general, what landforms and estuary features can you identify around Grand Bay NERR?

*Answer: Bayous, bays, headlands, coastal beaches, and extensive wetlands lie east and north of Grand Bay NERR.*

3. Are there specific areas (natural, suburban, or urban) areas that seem particularly vulnerable in the midst of a severe storm event?

*Answer: The Chevron refinery and the entire city of Pascagoula seem to be in the direct path of the storm. The bayou areas north of Bangs Lake seem to be vulnerable to storm surges and flooding.*

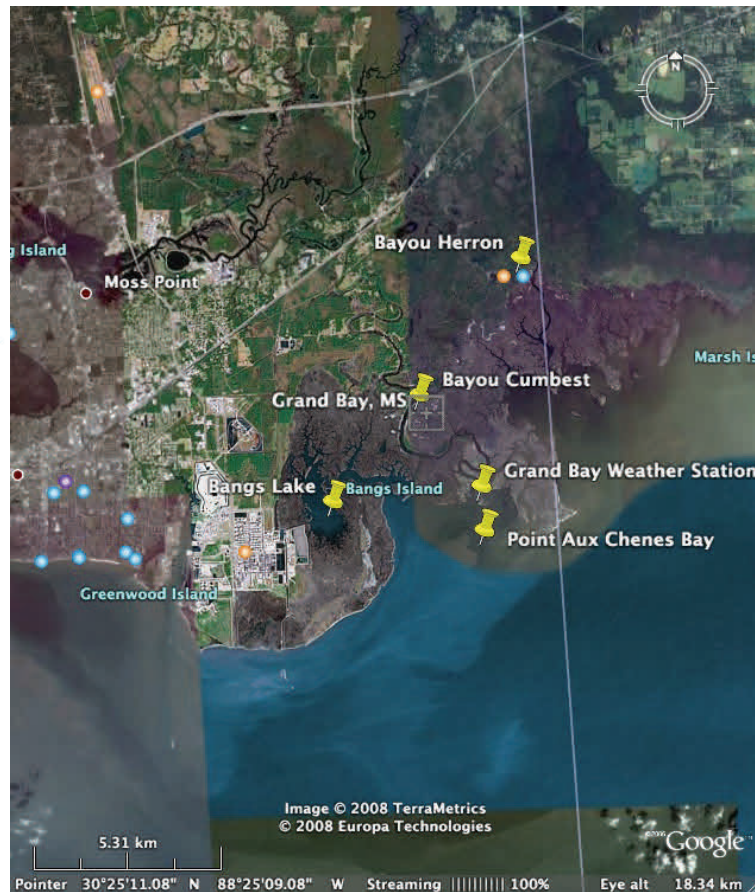


Figure 1. A Google Earth view of the Grand Bay NERR region and monitoring stations.

3. Download 2005 data from the Point Aux Chenes Bay and the Bayou Herron monitoring stations in Grand Bay NERR.
- Describe the general pattern of values at both stations for the week that Katrina struck the estuary.
  - What is the range of values for each parameter at each station? If data is missing, offer an explanation to why no data exists for that time period.
  - How long did it take for the parameter values to return to normal at each station? Explain any differences you find between the two stations.
  - What impacts might the storm have had on organisms, habitats, or human life in the estuary?
  - Do an Internet search to find the actual damage suffered by the Grand Bay area, particularly the Pascagoula area.
  - Can you suggest strategies that could be employed by towns and cities in the area to decrease the damage to both the suburban and estuarine environment?

