Where do the critters live?

Objective. Participants will determine where ocean critters might be based on ocean temperatures.
National Science Education Standards: Content Standards A; 5-8 C, High School C

Introduction
Any aspect of the physical environment that affects living organisms is called a "physical factor". Aquatic organisms are greatly affected by various physical factors such as temperature, salinity, dissolved oxygen, depth, and several others. In the open coastal ocean, temperature can be a strong determinate of animal distribution. This is a web-based activity that uses ocean temperatures to understand where various ocean organisms can be found. Students are asked to answer a series of questions about the potential location of organisms by following links to observing systems for recent information on water temperatures and comparing these with the optimal temperatures for each organism to decide where they might be.

Study the below table to determine the optimal temperature ranges for these ocean organisms.

Critter name	Critter optimal temperature (^{0}C)	Potential Location
Tarpon	20-35	_____
Winter flounder	10-12	_____
Striped bass	18-23	_____
American Lobster	8-14	_____
Florida (spiny) Lobster	22-26	_____
Eelgrass	0-25	_____
Turtle Grass	15-35	_____

Go to the following website: http://www.ndbc.noaa.gov
Locate water temperatures at several offshore sites from Maine to Florida and record below. Place the correct location by state beside the organism in the above chart.

Location	Temperature ^{0}C
Maine	_____
New York	_____
Virginia	_____
South Carolina	_____
Florida (Miami)	_____

Suggested questions:
Which organisms would you expect to find in South Carolina at this time?
Which organisms would you expect to find in Maine at this time?
Which organisms would you expect to find in Florida at this time?
Are there any organisms that might live anywhere from Maine to Florida?

References:
National Science Education Standards: http://www.nap.edu/readingroom/books/nses/
Temperature ranges for fish: http://home.cfl.rr.com/floridafishing/temp.htm
Temperature ranges for American Lobster:
http://www.lobsters.unh.edu/offshore_fishery/faq/faq.html
Temperature optimal for Spiny Lobster:
http://www.ingentaconnect.com/content/els/01657836/1995/00000024/00000002/art0036
Temperature optimal for seagrasses; L. Murray, personal observations