

Name: _____ Period: _____ Date: _____



Biscayne National Park

Activity: Analyzing Currents, Climate and Latitude

Question: How do ocean currents impact local climates?

Background:

Ocean currents are important for transporting heat energy around our planet. These currents can have an impact on local climates.

Materials:

- Computer with internet access
- Ocean buoy's [map](#) from previous [activity](#)

Procedure:

1. Open a web browser on your computer and navigate to Wikipedia (<https://www.wikipedia.org/>). In the search bar, type in the first city in the data chart. In the upper right corner of entry, you will find the city's coordinates; record the latitude in the data chart (round to the nearest whole number). Then label the first city on your ocean buoy map.
2. Take a look at where your city is compared to the equator. Make a prediction about the average daily high temperature in your data chart. It's alright if you're not sure; just make your best guess based on where in the world that city is located. Record your prediction in the data chart.
3. Complete the first two steps for the remainder of the cities in your data chart.
4. Return to the Wikipedia page for the first city; click on the "Geography" link on the right side and scroll down to the climate heading. Here you will find a chart with information on that city's

climate including daily average highs and lows, average rainfall (precipitation) and average snowfall. Record this information in your chart for all cities.

Data:

<u>City</u>	<u>Latitude</u>	<u>Predicted Average High °F</u>	<u>Daily Average High °F</u>	<u>Daily Average Low °F</u>	<u>Average Rain (inches)</u>	<u>Average Snowfall (inches)</u>
Boston, United States						
Madrid, Spain						
San Francisco, United States						
Anchorage, United States						
Tokyo, Japan						
Yakutsk, Russia						
Your City:						

Analysis:

1. How did your predictions for each city's climate match up with actual data?

2. How does the proximity to a warm water current impact a city's climate?

3. How does the proximity to a cold water current impact a city's climate?

4. How does being in the middle of a continent impact a city's climate?

5. What other factors could influence the climate of a city?

6. Look at your city's climate - how does its proximity to the coast and ocean currents impact the climate you experience?

Conclusions:

1. Around 40% of the total surface of the Northern Hemisphere is dry land compared to only 20% in the Southern Hemisphere. Predict how cities in the Southern Hemisphere's climate (average temperatures, temperature range, precipitation) differ from cities north of the equator. Explain your predictions with scientific reasoning.
