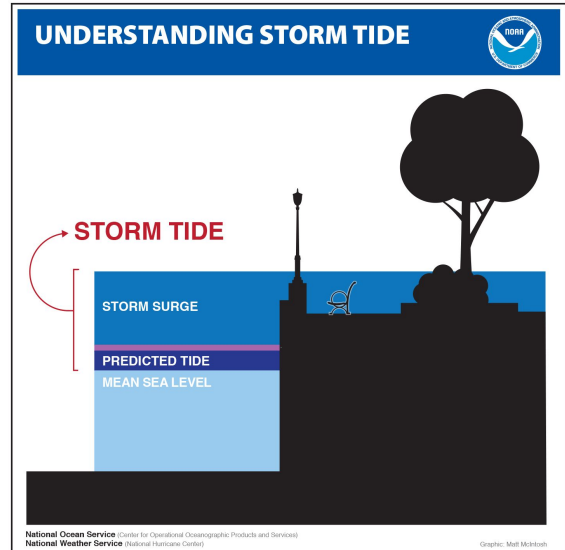


RESEARCH PROJECT: DETERMINING STORM SURGE HEIGHT

Your mission: You are joining a team of scientists who are studying the effects of storms along the U.S. coast. Your task is to pick a storm event for a coastal location and design a research plan to help you gather data about the water height before, during, and after the storm. You already know something about the typical or average water height in the area due to tides. Your goal now is to determine the additional effect a storm can have on water height. Once your plan is accepted, you are to carry out your data collection, analyze it, and report your findings to the team.



Which Storm?

- Use the internet and search for news stories using keywords such as 'flooding,' and 'storm tides.' Include the location you are interested in, such as 'Miami, Florida.'
- Once you have found a storm to study, record the date(s) when flooding occurred:

- Record the location(s), coastal cities or beaches where the flooding occurred:

Form Your Question: Write your research question in the space below.

Example: How did Winter Storm Jonas impact water levels in Baltimore, MD?

How did _____ impact water levels _____?

Get the Data: To answer your question, use the data tool to create a tide chart.

- Using the map features in [Level 4](#), zoom into the area near the storm.
- Select (click) one of the colored markers closest to the area you are studying.
- Inside the small pop-up window, click 'More info.'
- Scroll down the page and change the date range to include the dates around the time of the storm. Include at least 2 days before and after the storm occurred.
- Click the 'Plot' button. Save or print the chart, if desired.

Interpret the data: Using your tide chart, answer the questions below.

1. On the tide chart, is there evidence that the sea levels were higher than expected during the storm? If yes, how can you tell?

2. What was the height of the highest storm tide? _____

3. At the time of the highest storm tide, how much did the sea level rise above the predicted sea level?

4. What was the approximate moon phase during the storm (*use the online moon phase calendar*)?
 - a. Full or new moon
 - b. Gibbous or Crescent
 - c. Quarter moon

5. What effect could moon phase have on flooding due to a storm?

Draw a Conclusion: What is the answer to your question? Use evidence and data to support your conclusion.
