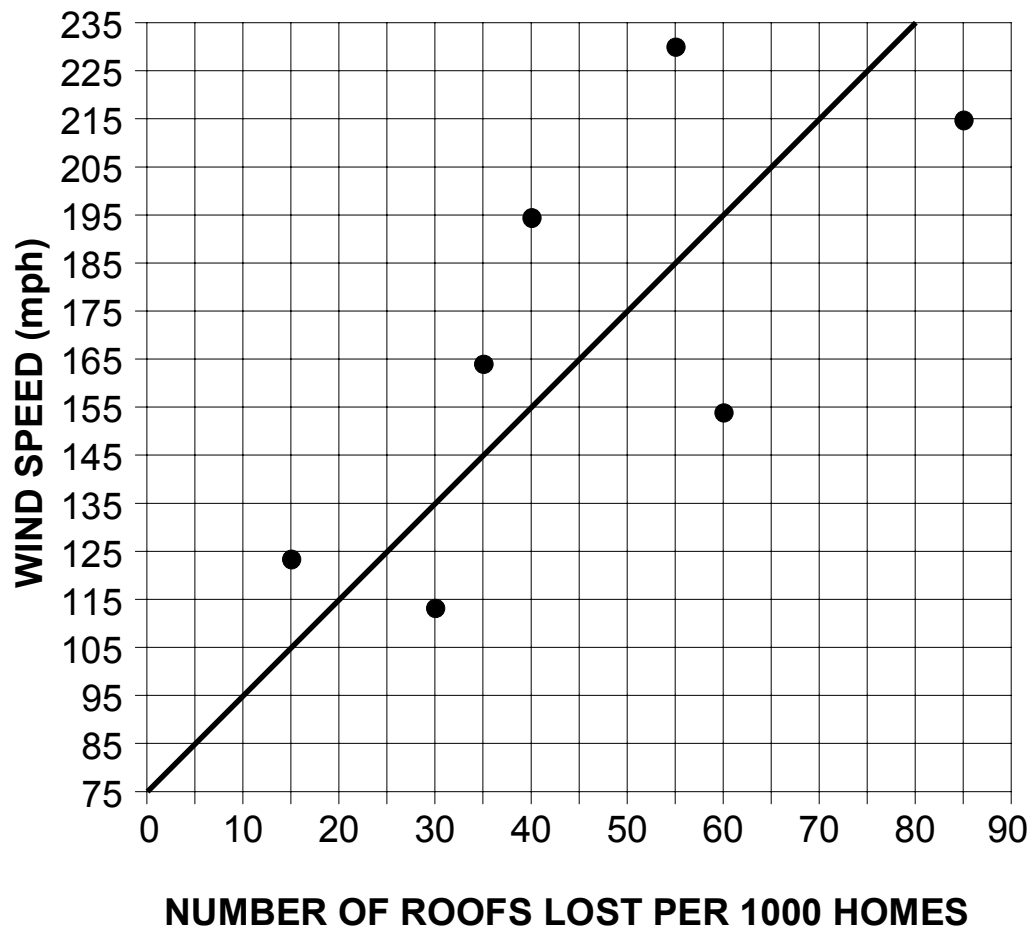- Click "Back" to return to the NOAA Research "Hurricanes" main
  page, or choose "Hurricanes" from Bookmarks or Favorites.
- Click "Gather Data."

III. Gather Data

None of the sets of points that you will place on the graphs on the
next few pages will form perfect lines. You will have to determine
where the line should be to best fit the data points.
Example: Below is a sample data set (a collection of information) to
show you the best-fit line idea. Notice on the graph below that there
is a perfectly straight line that comes as close as possible to all the
data points but doesn't actually touch any data points.

A. Graph Storm Tide vs. Pressure

- Click on the "Tropical Cyclone Reports" site.
- Select "Atlantic" for the basin.
- Select "2003" for the year.
- Select "Claudette."
- Follow the "Hurricane Claudette (Atlantic)" link to see the report in a new browser window.
- Scroll to the bottom of Table 1 to find the pressure at landfall at Matagorda Island, TX.
- In Table 3, in the Storm Tide column, find the highest recorded storm tide.

- Mark the place on the following graph where the two numbers meet.
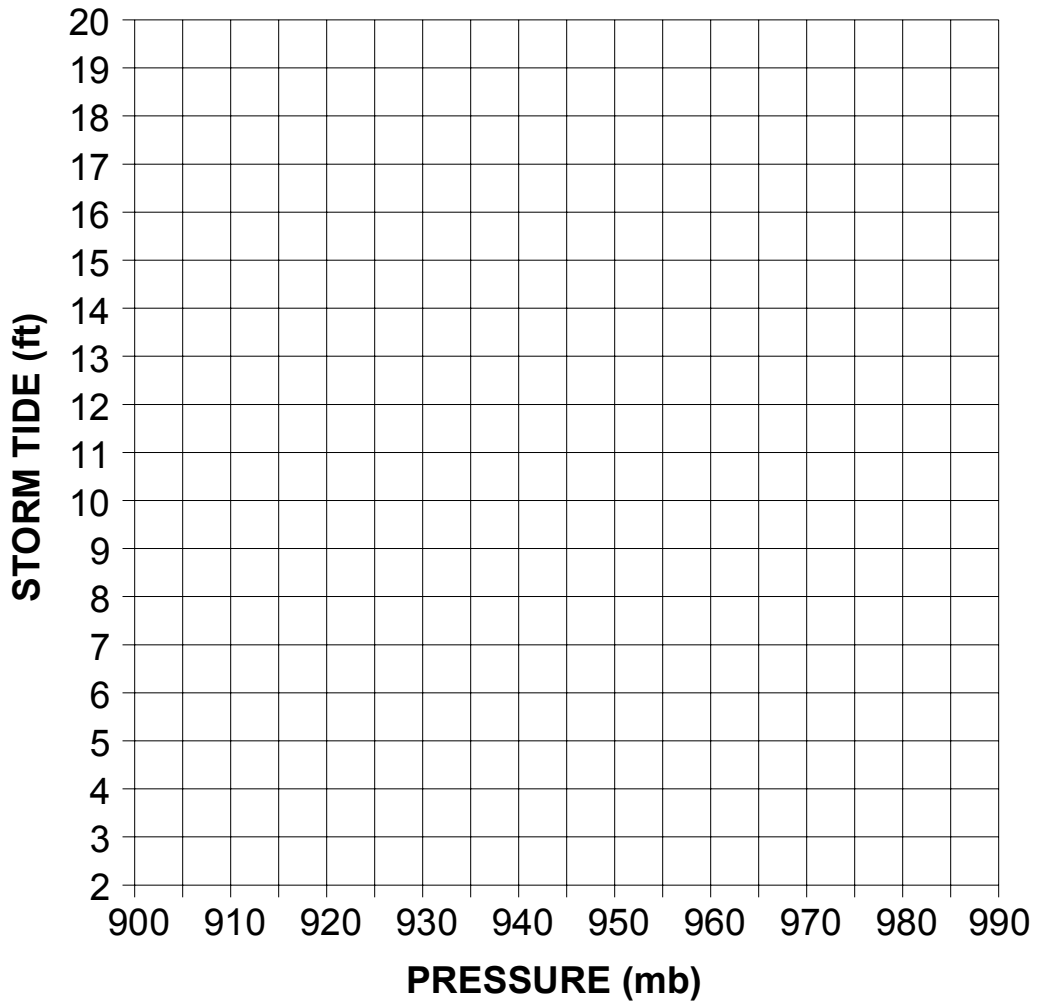
Find and record the same information (pressure at landfall and highest storm tide height) for the following Atlantic hurricanes:

Juan (2003)
Isabel (2003)
Michelle (2001)
Floyd (2001)
Bonnie (1998)
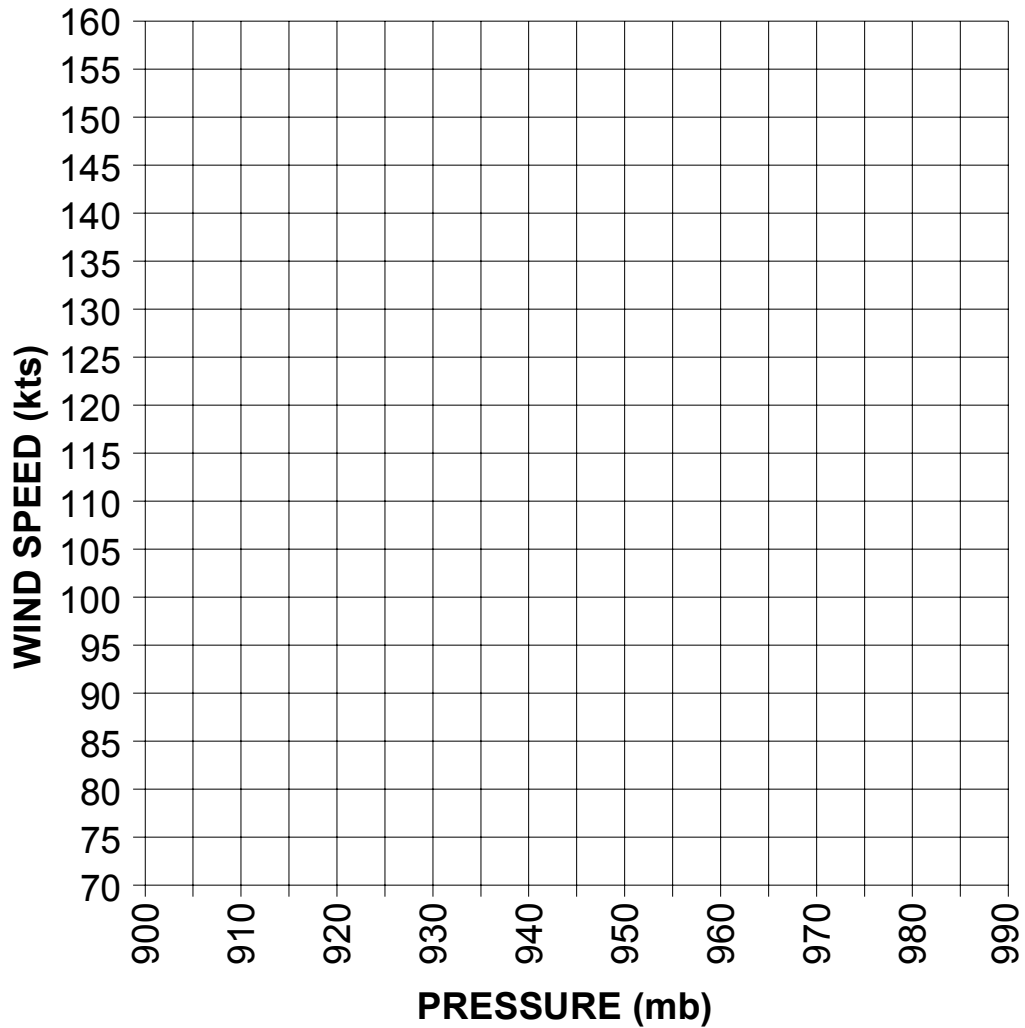Andrew (1992).

Draw a best-fit line.

STORM TIDE (ft) — vertical axis labeled 2 through 20

PRESSURE (mb) — horizontal axis labeled 900, 910, 920, 930, 940, 950, 960, 970, 980, 990

B. Graph Pressure vs. Wind Speed

-Following the same directions, find the wind speed and pressure at
landfall for Hurricane Claudette from Table 1.

- On the following graph, plot the point where the wind speed
intersects with the pressure.
- Do the same for Hurricanes Juan, Isabel, Michelle, Floyd, Bonnie and
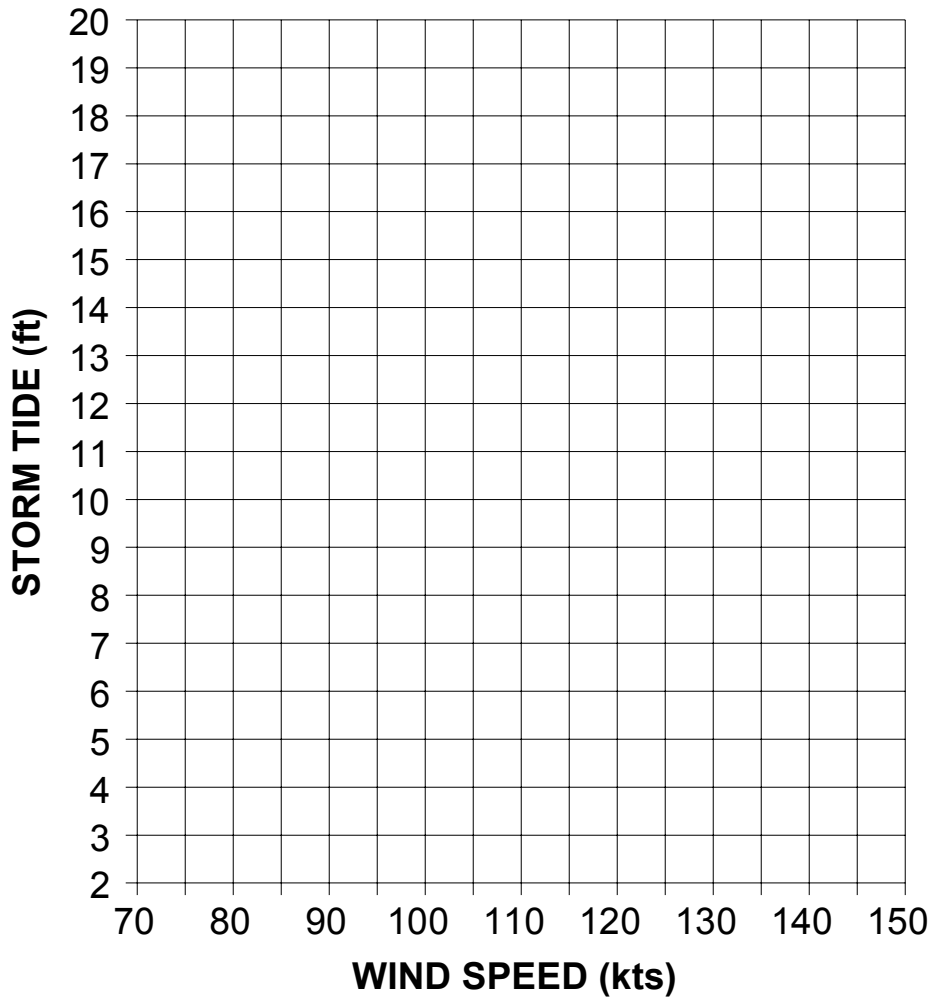Andrew.
- Draw a best-fit line.

WIND SPEED vs. PRESSURE Graph

A blank graph with:
- Y-axis labeled **WIND SPEED (kts)** ranging from 70 to 160 in increments of 5
- X-axis labeled **PRESSURE (mb)** ranging from 900 to 990 in increments of 10

- Click "Back" to return to the Hurricanes "Gather Data.1" web page.
- Click "Forward" at the bottom of the page to go to "Gather Data.2."

C. Graph Tide Height vs. Wind Speed

- Using the Wind Speed and Storm Tide Height numbers from the previous two graphs, plot the point where the values intersect on the graph for Hurricane Claudette.
- Do the same for Hurricanes Juan, Isabel, Michelle, Floyd, Bonnie and Andrew.
- Draw a best-fit line.

A graph with STORM TIDE (ft) on the vertical axis ranging from 2 to 20, and WIND SPEED (kts) on the horizontal axis ranging from 70 to 150.

D. Math Interpretations

- Click on the "Conversion Factors" site.

1. Convert 75 miles per hour to knots. There is 0.864 nautical mile per standard mile. One knot is one nautical mile.

2. Convert 120 miles per hour to kilometers per hour.

3. Convert 920 millibars to inches of mercury.

4. Convert 950 millibars to hPa.

- Click "Back" to return to the Hurricanes "Gather Data.2" web page.
- Click "Forward" at the bottom of the page to go to the "Gather Data.3" web page.

E. Tracking Hurricanes

- Go to <u>one</u> of the following sites.

a. If you live near the Atlantic Ocean, click on the "Atlantic Hurricane Tracking Data by Year" site.

b. If you live near the Pacific Ocean, click on the "Pacific Hurricane Tracking Data by Year" site.

- Click on the year you were born.
- Scroll down the page and look for the worst hurricane that year and click "Details" for the hurricane.

1. Using latitude and longitude numbers, plot the path of the storm when it was classified as a hurricane on the hurricane-tracking chart on the next page.

2. Connect the plotted points to show the path of the hurricane.

3. Compare the track of the hurricane you plotted with the one on the map that shows all hurricanes for that year.

HURRICANE TRACKING CHART