

Chapter

LABORATORY MANUAL

● Hurricanes

Doria/Betsy

Hurricanes are violent storms that form over water in the zone of the Trade Winds. They produce strong winds, high seas, and heavy rain and if they reach land do great damage. When winds reach an intensity of 63 to 117 kilometers per hour, the disturbance is called a tropical storm. But when winds exceed 117 kilometers per hour, the disturbance is called a hurricane if it is in the Atlantic Ocean, Caribbean Sea, or Gulf of Mexico. The term *hurricane* comes from an American Indian word that means "big wind." If this type of storm forms in the North Pacific, it is called a typhoon.

The U.S. Weather Bureau begins reporting a *hurricane watch* when a hurricane reaches a position where it appears likely to endanger land areas. The watch begins a few days before the hurricane is expected to reach land. This gives people an opportunity to take the necessary steps to protect their lives and property. *Hurricane warning* means that all precautions should be taken immediately because your area is expected to be in the path of the hurricane. Hurricanes sometimes take unexpected course changes, which makes them especially dangerous.

Strategy

You will plot the paths of two hurricanes.
You will compare the paths of the two hurricanes.

Materials

pencils (colored—red, blue)

Procedure

1. On the hurricane tracking chart on page 113, plot the path of Hurricane Doria for each day. Plot the path with the red pencil. Use the data in Table 44-1.
2. On the same hurricane tracking chart, plot the path of Hurricane Betsy for each day. Plot the path with the blue pencil. Use the data in Table 44-2.
3. Compare the paths of the two hurricanes.

Data and Observations (See page 113.)

Questions and Conclusions

1. Where did Betsy hit land? _____
2. Where did Doria hit land? _____
3. In which general direction, north or south, do hurricanes move? _____
4. Why do you think hurricanes form over water? _____

5. Which areas of the United States are in the most danger from hurricanes? _____

6. What type of damage is caused by a hurricane? _____

| Date (September 1967) | Position (at 7 A.M.) | |
|--------------------------|----------------------|-----------|
| | Latitude | Longitude |
| 9 | 27.5°N | 79°W |
| 10 | 30.5°N | 77.5°W |
| 11 | 36°N | 71°W |
| 12 | 36°N | 66°W |
| 13 | 36.5°N | 64.5°W |
| 14 | 37.5°N | 65.5°W |
| 15 | 38.5°N | 68°W |
| 16 | 38°N | 74.5°W |
| 17 | 36°N | 76°W |

} Doria (red)

Table 44-2. Hurricane Betsy

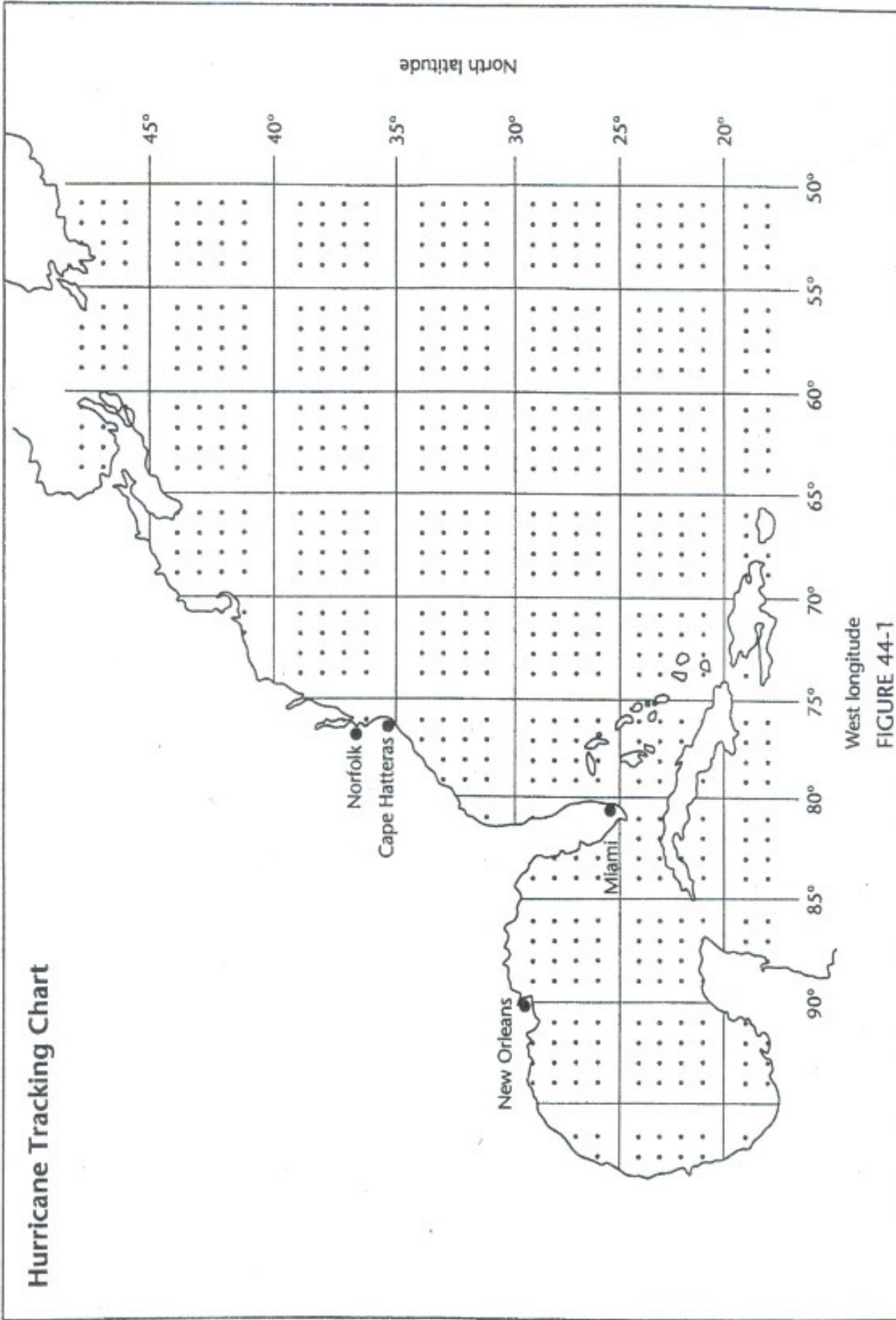
| Date (August–September 1965) | Position (at 7 A.M.) | |
|------------------------------------|----------------------|-----------|
| | Latitude | Longitude |
| 29 | 19.5°N | 63.5°W |
| 30 | 22.5°N | 65.5°W |
| 31 | 23°N | 66.5°W |
| 1 | 21°N | 67°W |
| 2 | 23.5°N | 70°W |
| 3 | 26°N | 73°W |
| 4 | 28°N | 75°W |
| 5 | 28.5°N | 76°W |
| 6 | 29.5°N | 76°W |
| 7 | 25.5°N | 78°W |
| 8 | 25.5°N | 81°W |
| 9 | 26.5°N | 87°W |
| 10 | 29.5°N | 90.5°W |
| 11 | 33°N | 92°W |

} Betsy (blue)

Strategy Check

- ___ Can you plot the path of a hurricane?
- ___ Can you compare the paths of two hurricanes?

Hurricane Tracking Chart



West longitude
FIGURE 44-1