

# Lab: Hurricane Tracking

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- **What are hurricanes and where do they form?** Hurricanes are powerful storms that form over warm ocean waters in the Atlantic Ocean or eastern Pacific Ocean near the equator.
- **How do hurricanes form?** Hurricanes are like giant engines that use warm, moist air as fuel. The warm, moist air over the ocean rises upward from near the surface. During a hurricane, large amounts of latent heat are released, increasing the force of the rising air. The warm air rises, causing an area of lower air pressure below. Air from surrounding areas with higher air pressure pushes in to the low pressure area. Then that "new" air becomes warm and moist and rises, too. As the warm air continues to rise, the surrounding air swirls in to take its place. As the warmed, moist air rises and cools off, the water in the air forms clouds. The whole system of clouds and wind spins and grows, fed by the ocean's heat and water evaporating from the surface. Storms that form north of the equator spin counterclockwise. Storms south of the equator spin clockwise. This difference is because of the Coriolis Effect caused by Earth's rotation on its axis.
- **What dangers are associated with hurricanes?** Strong winds are the most common means of destruction associated with hurricanes. Their sometimes continuous barrage can uproot trees, knock over buildings and homes, fling potentially deadly debris around, sink or ground boats, and flip cars. Another major cause of hurricane damage is storm surge. Storm surge is the rising of the sea level due to the low pressure, high winds, and high waves associated with a hurricane as it makes landfall. The storm surge can cause significant flooding and cost people their lives if they're caught unexpected.

## Purpose

You will plot and compare the paths of four hurricanes.

## Materials

Map of the Atlantic Ocean, Caribbean Sea, East Coast, and Gulf of Mexico, and Colored pencils.

## Procedure

1. On the hurricane tracking chart, use Tables 1-4 (on the back of this paper) to plot the path of Hurricanes Katrina, Sandy, Harvey, and Maria for each day using a different color pencil for each.
2. Compare the paths of the four hurricanes.
3. Answer the questions on the back of the hurricane tracking chart.

**Table 1. Hurricane Katrina**

Date (Aug, 2005)	Position (at 7 A.M.)	
	Latitude	Longitude
23	23°N	75°W
24	24°N	76°W
25	26°N	79°W
26	25°N	82°W
27	24°N	85°W
28	26°N	88°W
29	29°N	90°W
30	36°N	88°W
31	40°N	83°W

**Table 2. Hurricane Sandy**

Date (Oct, 2012)	Position (at 7 A.M.)	
	Latitude	Longitude
22	13°N	78°W
23	14°N	78°W
24	17°N	77°W
25	22°N	75°W
26	27°N	77°W
27	29°N	76°W
28	32°N	73°W
29	37°N	71°W
30	40°N	75°W

**Table 3. Hurricane Harvey**

Date (Aug, 2018)	Position (at 7 A.M.)	
	Latitude	Longitude
17	13°N	55°W
18	13°N	60°W
19	14°N	68°W
20	14°N	72°W
23	21°N	92°W
24	24°N	93°W
25	26°N	96°W
26	29°N	97°W
27	29°N	98°W
28	28°N	96°W
29	28°N	95°W
30	30°N	94°W
31	32°N	91°W

**Table 4. Hurricane Maria**

Date (Sep, 2018)	Position (at 7 A.M.)	
	Latitude	Longitude
16	12°N	50°W
17	13°N	56°W
18	15°N	60°W
19	16°N	63°W
20	18°N	66°W
21	20°N	69°W
22	22°N	71°W
23	25°N	72°W
24	29°N	73°W
25	31°N	73°W
26	33°N	73°W
27	35°N	72°W
28	37°N	69°W
29	37°N	60°W