



Instructions—Zone Predictors

As Zone Predictors, you will:

- Plot tropical storms on tracking maps.
- Calculate the directional speed of the storm.
- Use the Cone of Uncertainty tool to determine probable areas of tropical storm landfall.
- Identify three breakpoint areas.
- Inform ETA Advisors which breakpoint areas have been selected.

You will receive downloaded satellite data on your team computer at timed intervals.

For each advisory (ADV) you receive:

1) Plot tropical storms on tracking maps.

On your storm tracking map locate the number of degrees latitude for the advisory, find the longitude line for the correct degree reading, and follow the lines toward each other until they intersect. Place a colored pencil dot to mark the spot. This will be the coordinate point for the location of the storm at the given advisory.

2) Calculate the directional speed in mph.

Find the number of miles the storm traveled from one point to the next by using your compass and the scale (in miles) on your map. (Set your compass to the distance between two advisory points on your tracking map. Use the scale on your storm tracking map to estimate the number of miles the storm has traveled between these two advisories.)

$$\text{Speed} = \frac{\text{Distance (miles)}}{\text{Time (hours)}}$$

$$\text{Directional Speed} = \frac{\text{Number of Miles (from one point to another)}}{\text{Number of Hours Between Advisories}}$$

Example: If the storm traveled 100 miles in 6 hours (from 0800 to 1400), the directional speed of the storm would be:

$$\frac{100 \text{ miles}}{6 \text{ hours}} = 16.7 \text{ miles per hour}$$

- ▶ Record the directional speed of the storm on your data worksheet in miles per hour (mph).

3) When you have plotted two advisories on your tracking map, connect the two coordinates by drawing a dashed line with your colored pencil.

4) Use the Cone of Uncertainty tool to determine three breakpoint areas:

- Place the vertex of the tool (point where the rays originate) on your first coordinate on your tracking map.
- Align the dashed line of the tool with the dashed line drawn between your two coordinates. (The dashed line of the cone is now overlapping the general direction of the hurricane on your tracking map.)
- Extend the rays of the tool until they reach landfall. These landfall areas within the Cone of Uncertainty are called breakpoint areas.

A breakpoint area is an official location identified by the National Weather Service in predicting probable zones of storm impact. Any city, state, or island within the Cone of Uncertainty is a potential breakpoint area.

- Pick the three closest areas and update the data worksheet with this new information.

5) Inform the Lead Meteorologist and the ETA Advisors on your team about the three breakpoint areas you have selected.

6) Repeat steps 1-5 for each new advisory (ADV).



© 1999-2015 by Wheeling Jesuit University/Center for Educational Technologies®. 316 Washington Ave., Wheeling WV, 26003-6243.
All rights reserved. Privacy Policy and Terms of Use.