Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**Lesson 7: How Does a Storm’s Forward Speed Affect Storm Surge Damage?**

Although hurricanes have a rotational motion that is associated with very high wind speeds, they have much slower speeds as the storm moves in the forward direction. A typical hurricane has a forward speed of about only about 15 - 20 miles per hour. How does the forward speed of a storm impact the damage done on property and people due to a storm surge?

**Doing the Science**

1. Start the Storm Surge Simulation by clicking on the “Sim” tab.

2. Select “Storm Factors.”

3. Select “Forward Speed.”

4. Choose one of the three different forward speeds.

5. Make sure to keep all other factors constant, that is, do not change storm intensity, storm size, or location.

6. Click on the “Run” icon.

7. Record the Cost and Damage values displayed in the Damage Assessment portion of the screen in Table 1 below.

8. Again, click on “Forward Speed.” Select a different speed from step 4. Repeat steps 5 – 7.

9. Repeat step 8 for the remaining forward speed.

**Table 1.**

|  |  |  |
| --- | --- | --- |
| **Forward Speed** | **Cost of Damage ($)** | **Damage Factor** |
| Fast |  |  |
| Medium |  |  |
| Slow |  |  |

**Do You Understand?**

1. How does the forward speed of a storm typically compare to the storm’s wind speed?

2. How does a storm’s forward speed impact the damage done by a storm surge?