

**Lesson 5: How Does Storm Intensity Affect Storm Surge Damage?**

Hurricanes and other tropical systems are categorized by their intensity using a scale from 1 – 5. All other factors being equal, a storm with an intensity of “5” is the most powerful storm. How does the intensity 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 “Storm Intensity.”
4. Choose one of the five different storm intensities.
5. Make sure to keep all other factors constant, that is, do not change storm size, forward speed, 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 “Storm Intensity.” Select a different intensity from step 3. Repeat steps 5 – 7.
9. Repeat step 8 for other storm intensities. You can analyze all five storm intensity values if you wish.

Table 1.

Storm Intensity	Cost of Damage (\$)	Damage Factor
1		
2		
3		
4		
5		

Do You Understand?

1. How is storm pressure related to storm intensity?
2. How is wind speed related to storm pressure?
3. How does storm intensity impact the damage done by a storm surge?