

Name _____

Date _____

Wappinger Creek Storm Data

Open the data set titled “Storm Chemistry”, which shows data from a storm that took place in late May, 1990.

Part 1: Create a graph showing rainfall and flow over time. Next, choose one variable to graph against flow rate.

1. When did the largest amount of rain occur? When did the highest flow occur? Why didn't these happen at the same time?
2. How long did it take for Wappinger Creek to return to a pre-storm flow?
3. Create a graph of rainfall and suspended solids. Explain what happened to suspended solids during the storm event. Why do you think this happened?
4. How are the suspended solids data similar and different to flow?
5. In April of 2007, a flood event occurred in the Northeast, dumping between 50 and 175 mm of rain within a twenty-four hour period. How does this compare with the storm at Wappinger Creek?
6. Graph pH during the storm. How long did it take the stream to return to “normal” pH after the storm event?
7. Graph calcium during the storm event. How are pH and calcium the same? How are they different?
8. Why do you think pH changed more than calcium?
9. Do you think this would change depending on the time of year that the storm occurred? Why?

Part 2: Choose another variable to graph over time. Variable: _____

Then, answer the questions below.

1. Are there any noticeable trends in your graphed data? Explain.
2. How long did it take the stream to ‘recover’ after the storm event?
3. This storm is an example of a pulse event (it happened once and then stopped). How might your variable be affected if these events occurred more often? For instance, would you expect there to be an increase, or decrease, in pH during every storm event?

4. Think about your variable. For instance, if you were interested in looking at pH, think about how a change in pH affects aquatic life. Fill out the chart below, with respect to your variable, and hypothesize how a change in your variable would affect the stream's organisms and physical characteristics over the short and long term.

	Short term	Long term
Algae/phytoplankton production		
Benthic macroinvertebrates		
Fish		
Stream bank vegetation		
Stream bank stability		