A Day in the Life of the Hudson River 2009: **Salinity**

October 8th was a great day, with 3000 students and educators sampling the Hudson River Estuary and connected waterways at over 60 sites. We’re still going through all the data, but some interesting stories have already emerged...

Your Site: ____________________________

If measured, your salinity: ________________

**Salt Around the City**

New York City is crisscrossed by waterways like the Hudson River, the East River, the Harlem River, the Bronx River, Jamaica Bay, and New York Harbor. But each waterway is different.

On a Day in the Life, students at Pier 40 in Manhattan measured the salinity of the Hudson River to be **16.8 parts per thousand**, about half the salinity of the ocean. But on the other side of Manhattan, under the Brooklyn Bridge on the East River, students found the salinity to be much higher at **25 parts per thousand**. Both sites took readings around noon. Why would salinity be so different on opposite sides of Manhattan?

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**Tracking the Salt Front**

The Hudson River down by New York City has a lot of salt, especially compared to the River further north. The salt front is the border between slightly salty water and almost completely fresh water. “Almost” fresh because the salt front is defined as 100 parts per million of chlorides (an ingredient in salt), so low you can’t even taste it!

On the morning of October 8th, students at Garrison Landing, about 53 miles north of Manhattan, measured salinity over several hours. At 9:30, they found the water had **33 parts per million** (ppm) of chloride. At 10:30, they found **46 ppm**. At 11:30, they found **109 ppm** of chloride.

How close were they to the salt front? Why do you think the salinity changed in just two hours? Hint: Can you guess what the tide was doing during those two hours?

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The Day in the Life of the Hudson River website is [http://www.ideo.columbia.edu/edu/k12/snapshotday/](http://www.ideo.columbia.edu/edu/k12/snapshotday/).

Highlights from A Day in the Life are featured on the HRECOS website at: [http://www.hrecos.org](http://www.hrecos.org).