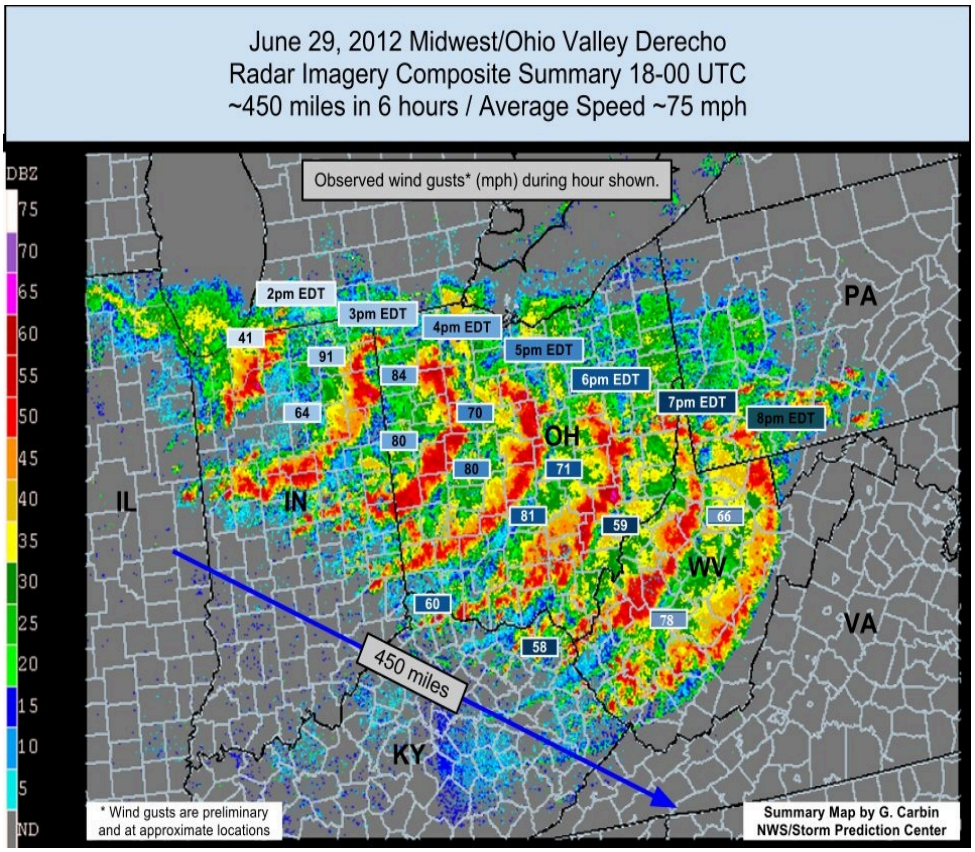
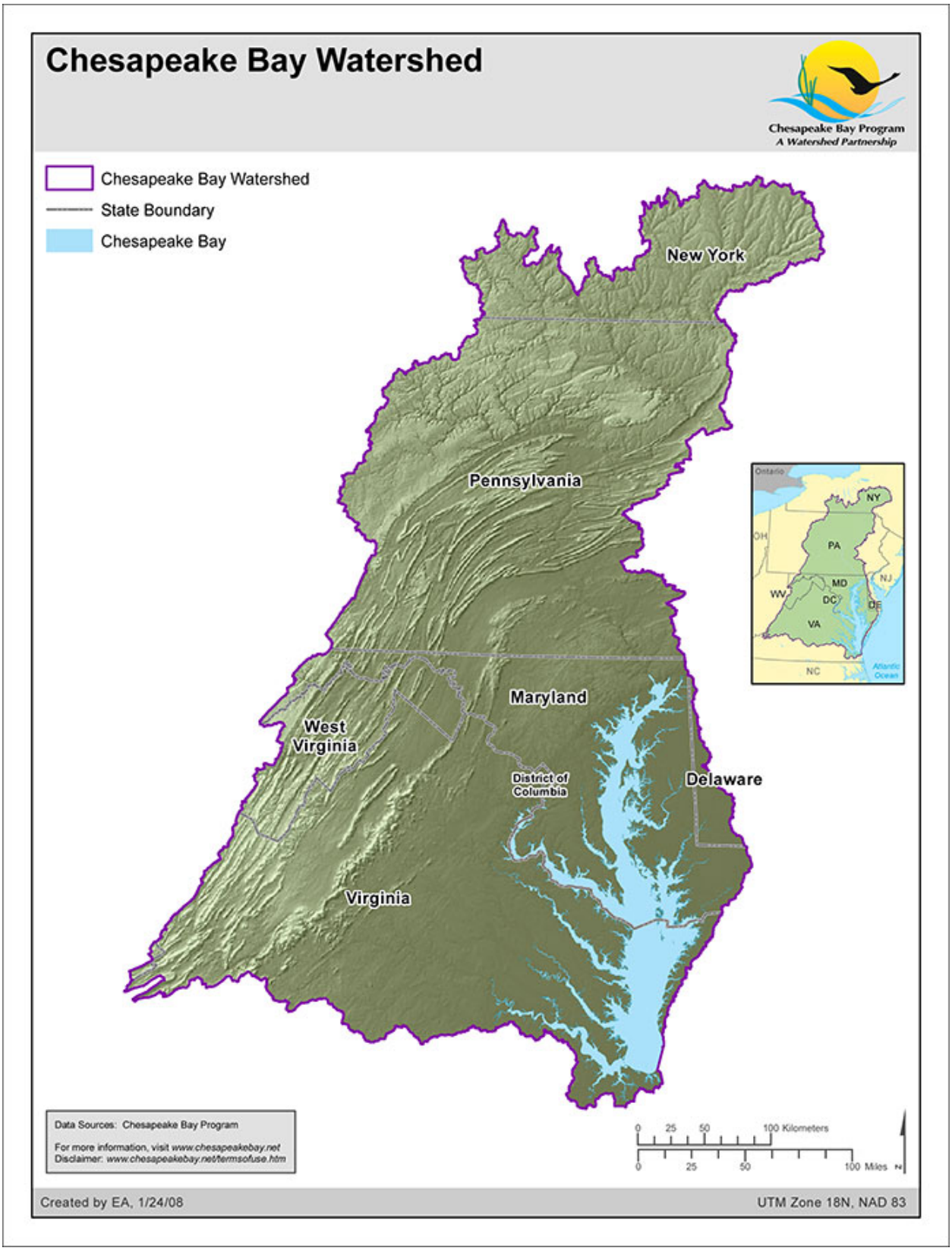
In August of 2012, students at Paw Paw Schools began a yearlong climate research project. Students were interested in many aspects of climate change. Most notably, there had been a large storm system, a derecho event, on June 29, 2012. According to the National Weather Service (http://www.erh.noaa.gov/rlx/science/derecho/), "On the morning of June 29th, 2012 an area of multi-cellular convection, resulting from a decaying mesoscale convective system the night before, extended from eastern Iowa into northwest Illinois. The area of convection continued to organize and propagate, becoming a significant derecho event that moved through West Virginia and offshore into the Atlantic Ocean off the coast of Virginia around midnight."

With this storm came a lot of local damage and power outages. Paw Paw, WV was hard hit. Power was off for some time. This had a direct impact on students. When students returned to school in the fall they began to put together questions about stream flow, stream health, and runoff and sediment levels. All of these events have a direct impact on water quality and macroinvertebrates living in local streams.



As a part of the Chesapeake Bay watershed, the Potomac River drains directly into the Bay, Bullett Run drains directly into the Potomac River. Students began researching storm events and erosion on Bullett Run.

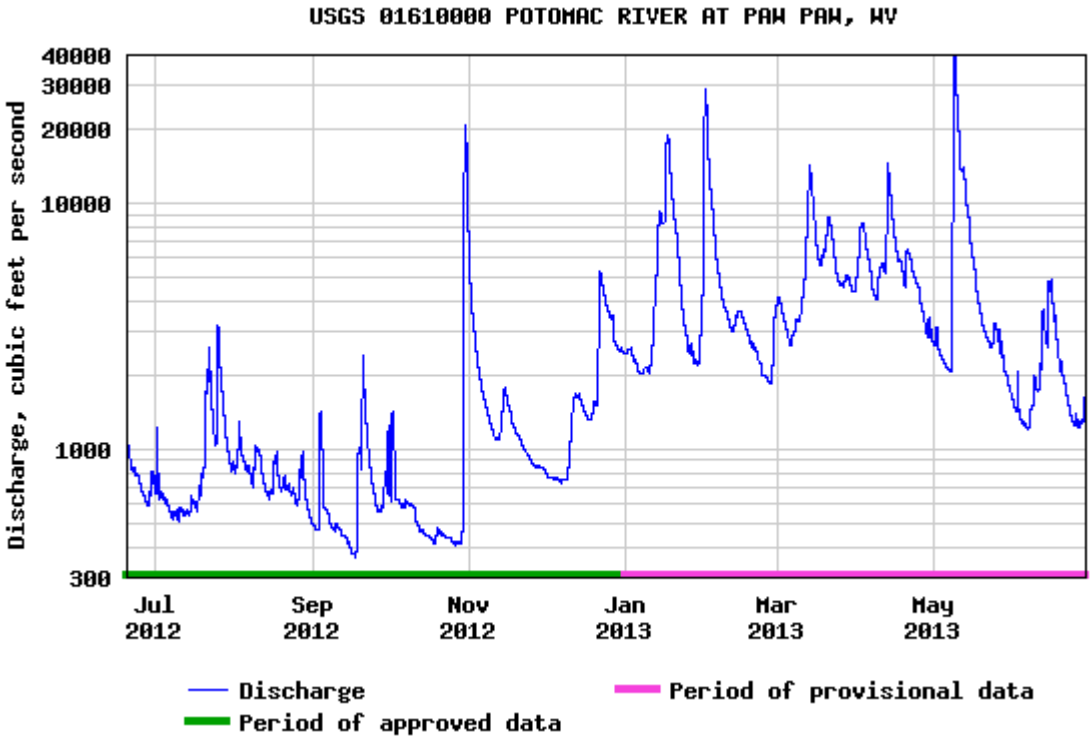


Bullett Run is a short walking distance from the school campus and allows easy access to the water for stream monitoring.

Students used GLOBE hydrology protocols to measure data on Bullett Run on October 5th and March 19th.

Discharge, cubic feet per second

Most recent instantaneous value: 1,600 06-28-2013 15:15 EST



Data provided from:
http://nwis.waterdata.usgs.gov/usa/nwis/uv/?cb_00060=on&cb_00065=on&format=gif_default&period=&begin_date=2012-06-21&end_date=2013-06-28&site_no=01610000

Students planted trees on the school campus in the spring of 2012 and again in the fall of 2012. A total of 24 flowering trees were planted. Students will monitor stream flow as trees mature to see if runoff is directly impacted in a positive way. Students also planted 2 rain gardens on the school campus to help slow down the campus runoff near the playground area. The playground is located directly in front of Bullett Run (on the other side of the fence).

Students pose the following questions:

“Will planting trees along the Bullett Run riparian zone reduce runoff and help to stabilize the banks along Bullett Run” Students also question if intensity of storm events is having a direct impact on water quality in Bullett Run.