The Chester River

“The best understood river in the world”

Small enough to be manageable
Big enough to be meaningful
A Drowned River Valley....

Since 18,000 ybp

Largest in U.S.
Monitoring its Health
Chesapeake Bay Monitoring

NOAA’s Smart Buoys provide real-time weather and water observations and interpret locations along the Captain John Smith Chesapeake National Historic Trail.

Current Patapsco Buoy Conditions:
- Air Temp: 79.0°F
- Wind Speed: 12.0 knots
- Wind Direction: 186.0
- Water Temp: 77.0°F
- Wave Height: 1.1 ft

Get more data

COMING SOON. The Annapolis buoy will be deployed approximately 3/4 mile south of Greenbury Point in

Chesapeake Bay Monitoring
4.2 m tall
600 kg

$120,000 US
(7,688,300 RBL)

(10 of them..)
The Chester River
The Chester River

Watershed 505 sq mi/1307 sq km
Surface Water 85 sq mi/ 220 sq km
Shoreline 920 mi / 1580 km
River miles – 43 mi/ 68 km
86% Agricultural Land Use
1. What happens to water quality when it rains?
2. Is water quality different during planting?
3. Is turbidity correlated to precipitation?
4. Water quality controlled from within? Or out?
5. Is water quality different near farms?
6. Tie the Observatory to K-12 curriculum!
The Chester River

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Small enough to be manageable
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The Chester River Watershed Observatory
Pro BOB $10,000 (640K RBL)

Temp, Cond, Salinity, DO, Cond, Turb
Where's the data?
Buoy and Weather Data for the Chester River

http://assets.maracoos.org
FLO (Dock Mounted – Not a Buoy)
Dissolved Oxygen over 7 days
Good enough?

Dissolved Oxygen over 7 days
http://data-fountain.rpsasa.com
We will use the data to answer the questions and feed the models

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6. Tie the Observatory to K-12 curriculum?
1. What happens to water quality when it rains?
2. Is water quality different during planting?
3. Is turbidity correlated to precipitation?
4. Is water quality from the Chester? Or the Bay?
5. Is water quality different near farms?
6. Tie the Observatory to K-12 curriculum!!!!!
Teaching Teachers

$500K since 2013

80 Teachers - 80 hrs

$300 K thru 2017
In every classroom
Trained K-Gray Educators
Build a Buoy
Add Indoor/Outdoor Thermometer to turn a Buoy into an Observation Buoy.
Build it and they will Learn

Air Temperature
Water Temperature
Conductivity (Salinity)
Dissolved Oxygen
pH
Current Velocity
Water Level
More......
Turbidity & Light
Nutrients
The key to education - No walls, urge exploration, fuel curiosity, pique their interest, create peer to peer buzz.... Contagious & Invisible..
Thank You
dlevin2@washcoll.edu