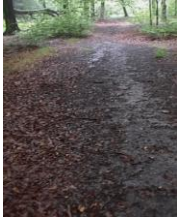Name _____ Pd _____ Date _____

WATERSHED, WATERSHED, EVERYWHERE!

1. Color in the Chesapeake Bay on the map below:

2. Picture Observations and Predictions:

PICTURE	OBSERVATIONS (What do you see?)	PREDICT How might the _____ you see in each picture impact the _____?
1		
2		

PICTURE	OBSERVATIONS (What do you see?)	PREDICT How might the _____ you see in each picture impact the _____?
3		
4		
5		

3. What is a watershed?

_____

_____

4. Take a look at the Montgomery County watershed map at your table. Which major watershed do you live in?

_____

5. Look at the *Montgomery County Stream Conditions* map at your table. Name at least two areas within the Montgomery County watershed that have poor water conditions.

6. List all of the states that make up the Chesapeake Bay Watershed:

7. Explain: What are some things already in place, *or that we can put into place*, that would help protect the waters of the Chesapeake Bay? Think of land surfaces, pollution prevention, and water usage.

8. Does global warming relate at all to the topic of our Chesapeake Bay watershed? How?
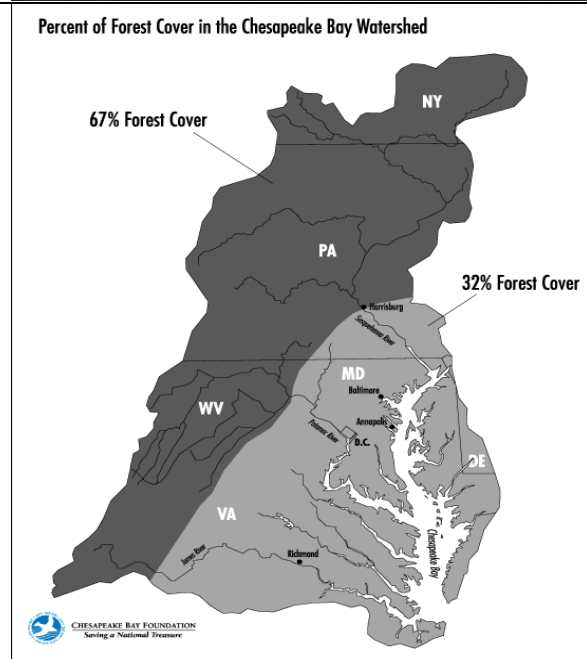
9. Looking at the data:
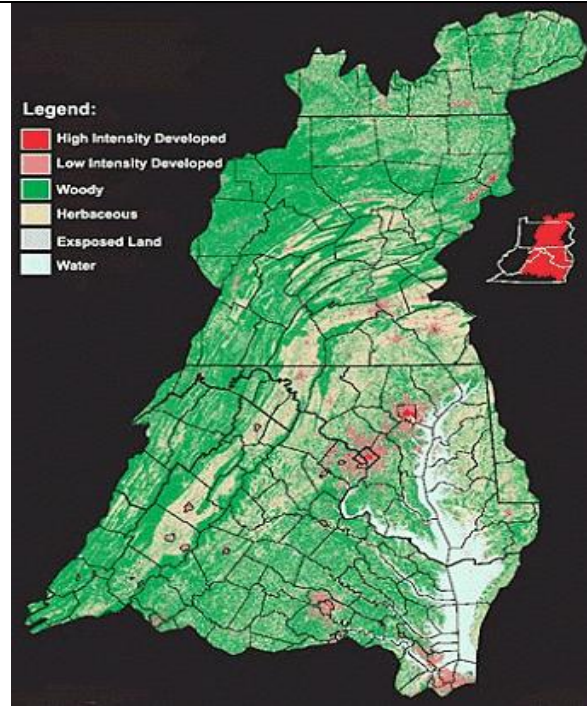
What is this graph showing you?
*(See promethean board for a better picture)*

What can you infer about the water coming from the "high intensity developed areas on the map?

Predict: Which type of land usage would allow the LEAST amount of runoff into the bay?

Percent of Forest Cover in the Chesapeake Bay Watershed

67% Forest Cover

32% Forest Cover

What is this graph showing you?

Which of the two highlighted areas is contributing more runoff to the Chesapeake Bay? Explain your answer.

KEY
- Negative
- 0-10,000 persons
- 10,001-50,000 persons
- 50,001-200,000 persons
- >200,000 persons
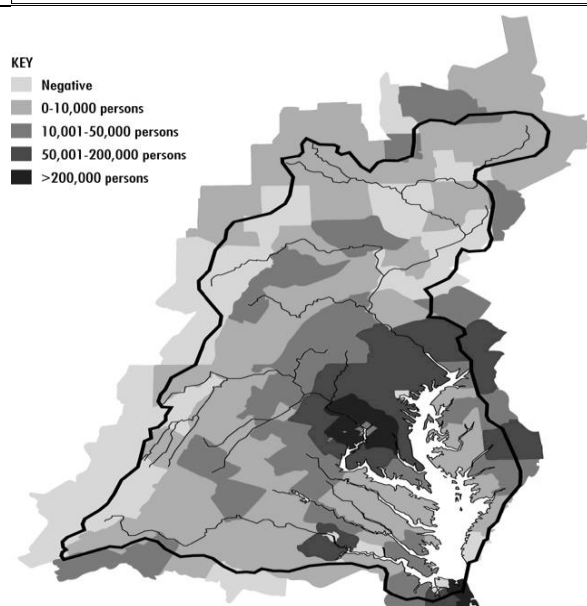
What is this graph showing you?

What might the population of humans in a given area have to do with the health of the Chesapeake Bay?

Draw an arrow to the area(s) on the map with the HIGHEST populations.
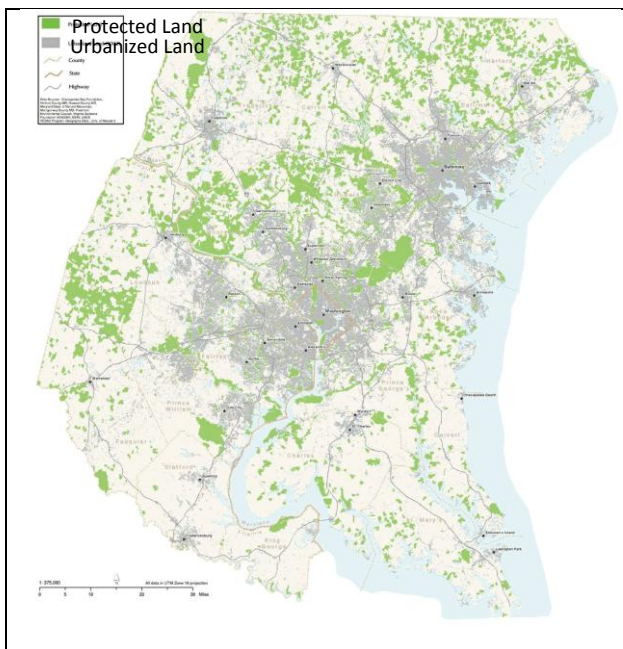
What is this graph showing you?
(See promethean board for a better picture)

What do you think "urbanized" means?

Which type of land is most represented in Maryland and Virginia (according to the map)?

PROTECTED LAND   URBANIZED LAND

As land changes from undeveloped to developed, its ability to absorb rainwater changes. This transformation can be likened to going from a filter to a funnel. Undeveloped land functions like a filter by allowing rainfall to percolate through the ground, which removes pollutants and other impurities. When land becomes developed, this filtering capacity is reduced or lost altogether. It happens primarily as a result of covering land with impervious surfaces—rooftops, roads, parking lots, and other hard surfaces that shed rainwater.

A one-acre parking lot produces 16 times more runoff than a one-acre meadow

By preventing infiltration of rainfall into the ground, impervious surfaces increase the volume of runoff. The more impervious surfaces area there is, the more runoff you get.

The addition of impervious surfaces to a watershed affects streams in both short-term and lasting ways. As stormwater rushes quickly off impervious surfaces, it flushes pollutants both from the surfaces themselves as well as those contained in the rainwater into nearby streams. The increased volume and speed of runoff also scours stream channels, widening them and destroying in-stream habitats.

From Filter to Funnel

Undeveloped Forested Land   Developed Suburban Land

1. Little rain runs off
2. Plant cover and roots allow rainwater to seep slowly into soil
3. Water filters slowly through ground to stream
4. Water clear and clean
   Stream flow stable
   Little erosion
5. Most rainfall runs off quickly
6. Rainfall absorbed by soil reduced
7. Drainage structures replace steams and quicken runoff flow
8. All rainfall runs off very quickly
9. Floods and drought more frequent
   Increased runoff erodes streambanks
   Pollutants degrade water quality
   Sediment clouds water and smothers bottom life