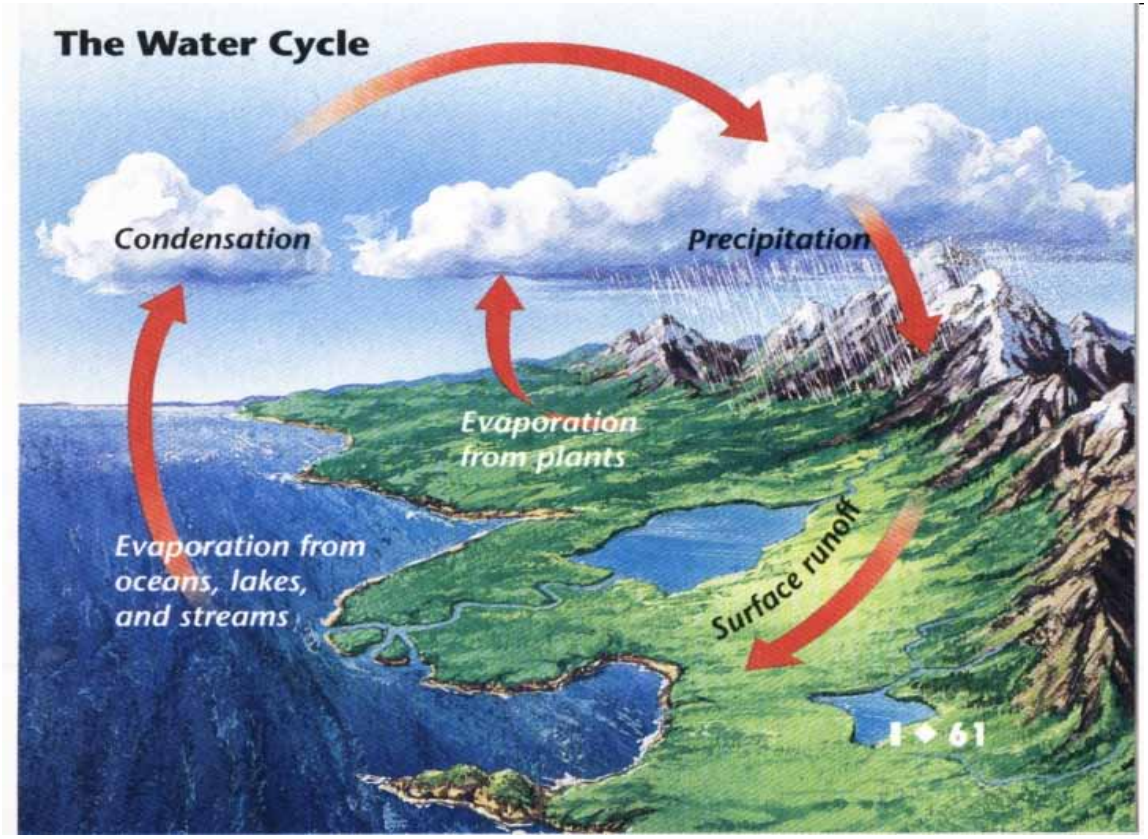
How Did I Get Here?

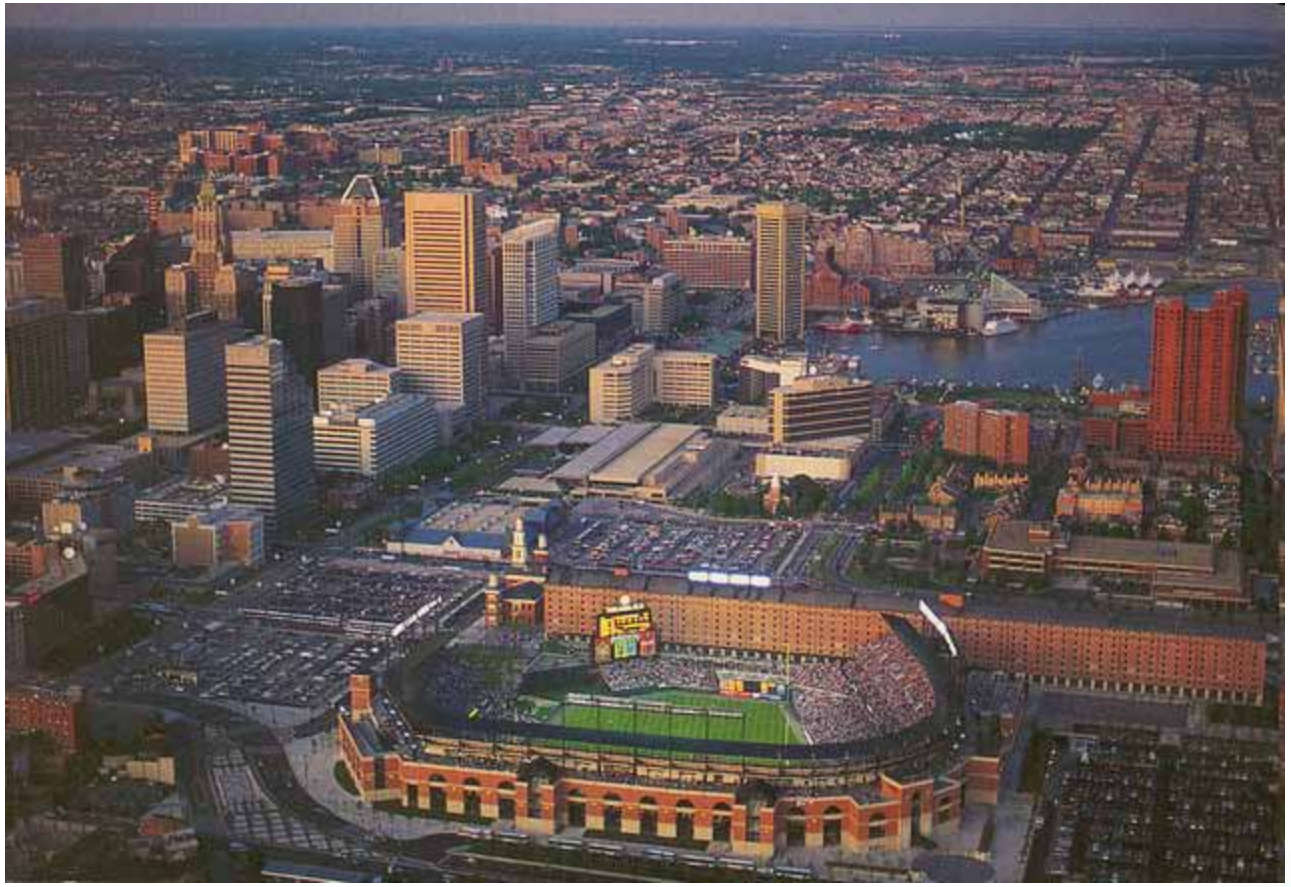
A Journey Through
Baltimore's Water Cycle

Water is being reused and recycled all of the time. The **water cycle** is the never ending movement of water from the atmosphere to earth to groundwater to rivers to oceans and back to the atmosphere.



This does NOT look like Baltimore to me!

Baltimore is a large city with many people living in it. Because there are so many people living in one place, we have a special water cycle.



Now this looks like Baltimore!

We call this an **engineered** water cycle, because it is developed by people instead of by nature.

Where do I start?

As a city, Baltimore has a surface made up mostly of concrete and asphalt. These are called **impervious surfaces**. On the other hand, a **pervious surface** soaks up water easily and allows it to go into the ground. The asphalt on the streets of Baltimore is an impervious surface, so water does not go into the ground. Instead, it evaporates quickly into the air or is quickly rushed into our storm drains.

Grass is a **PERVIOUS** surface.

Asphalt is an **IMPERVIOUS** surface.

Like a sponge and and a plate!

Although there is no beginning to the water cycle, the water we use in Baltimore starts out as water collected in a **catchment**.

A catchment is the land surrounding a dam and the river that flows into it.

Where do I go from here?

A dam is a wall that blocks the flow of water in rivers and makes it possible to store water in large lakes. The water is moved from these large lakes by rivers and pipes.

Liberty Dam outside of Baltimore

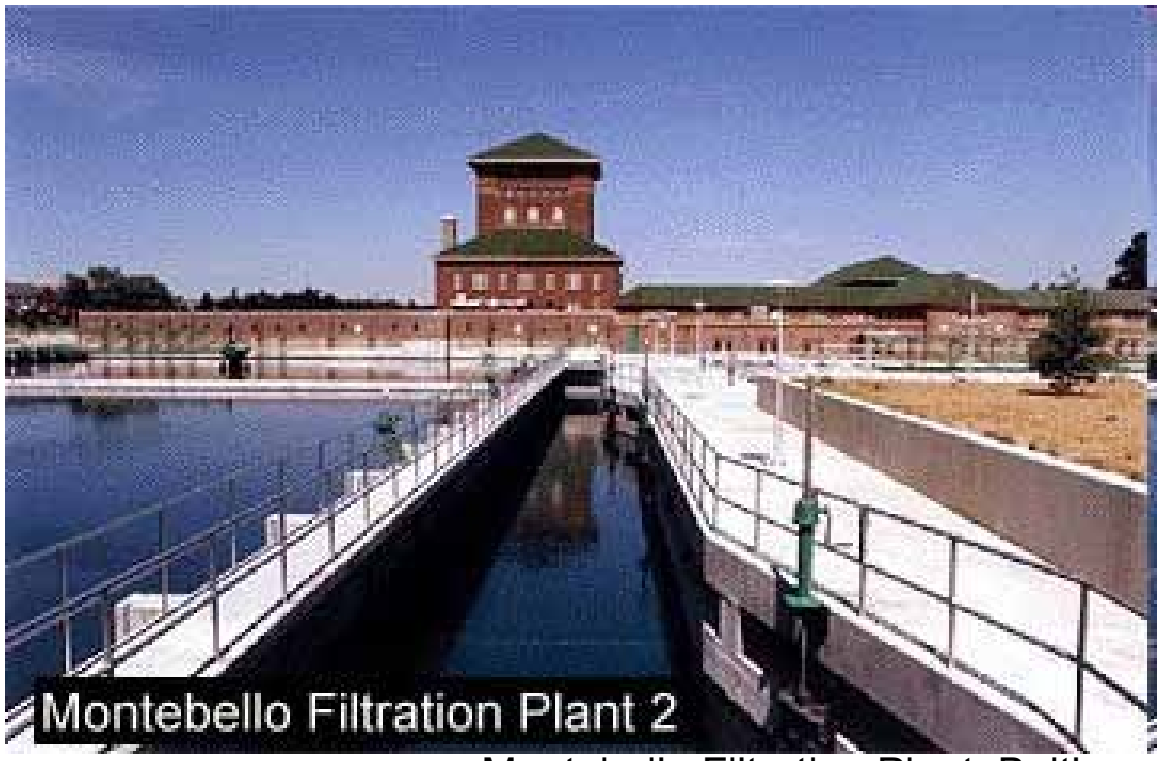
Where do I go from here?

When water is moved from the large lakes, it goes into a lake that is closer to our city. We call this lake a **reservoir**. Reservoirs store water that will be sent to houses and businesses later on.

Liberty Reservoir, Baltimore County

Where do I go from here?

Water from these reservoirs are brought to a water treatment plant. At the plant, the water is filtered to remove harmful substances that could cause sickness.



Montebello Filtration Plant, Baltimore MD

That's how the water we drink gets clean!

Water stored in reservoirs are moved into our neighborhoods through large pipes called **water mains**. Fire hydrants are connected to water mains so that firefighters have plenty of water to fight fires.

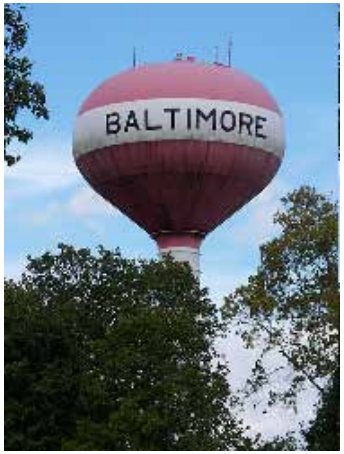
I think I'm getting closer, but now what?

Smaller pipes connect to the large water mains and bring water to our houses, apartments, and businesses. A water meter measures the amount of water used by each household. These small pipes connect to even smaller pipes that lead to our sink faucets and taps.

*So **THAT'S** how I get here!*

And HERE!

And HERE!



And HERE!

What's next?

Wastewater is the water that we use or pour down our drains. This water goes through different pipes and enter our sewer system. The sewer system contains mostly water, but can also transport other waste.

I wonder what else gets into the sewer?

Sewer systems have many pieces to it. Manholes, trunk sewers, and storm drains all work together to make sure that sewage pipes run smoothly without getting blocked.

Manhole

Trunk Sewer

Storm drain system

Water from storm drains flows into the Chesapeake Bay, which means that trash in our storm drains gets released into the water . Water from our sewage system is brought to the water treatment plant. At the plant, the water is treated to remove harmful substances. The clean water is then recycled back to the environment.

Patapsco Wastewater Filtration Plant, Baltimore MD

That's a lot of work to keep the water clean and useful!

The clean water is returned to the natural water cycle where is enters either the ground water or river/bay water.

The End! ***(Or is it?)***

It's **NOT** the end!

(It's a cycle, remember! It keeps going, and going, and going…)

Images taken from:

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