Whatzzzzup-stream?

Water goes with the flow

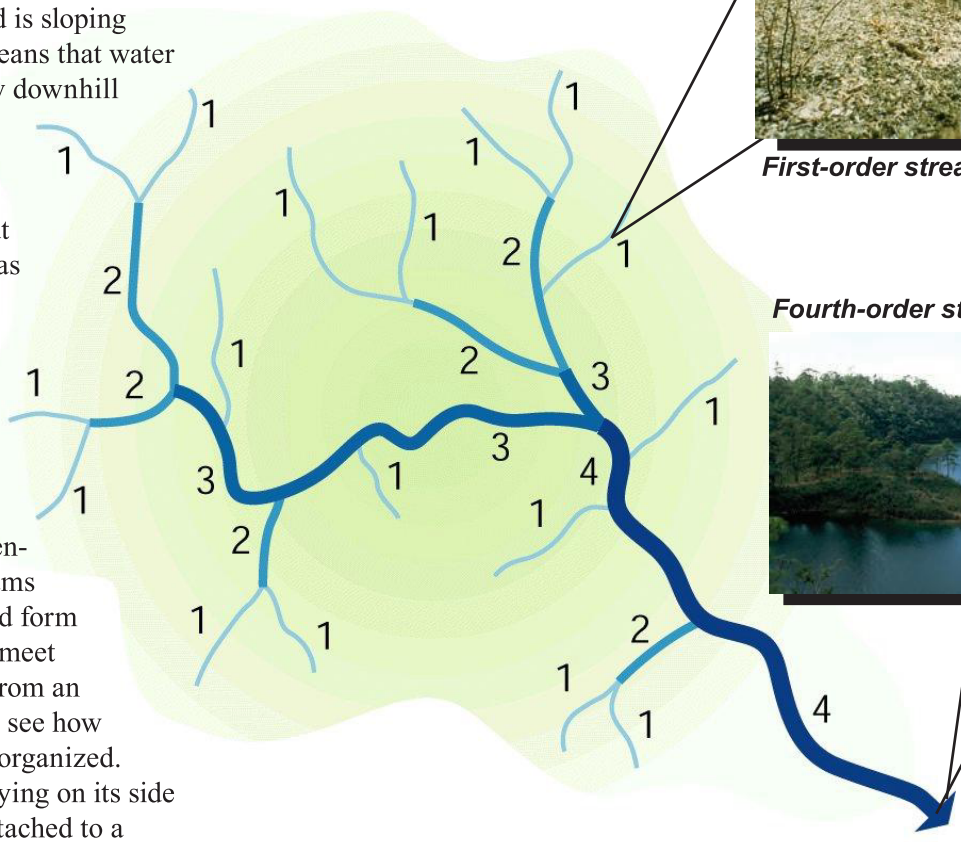
Raise your hand if you live in a watershed! Do you all have your hands raised? Great! Because we all live in a watershed. No matter whether you live in the city or the country, our land is sloping toward the sea. This means that water is always trying to flow downhill to the sea. (Gravity at work!) The next time you are standing next to a stream, think about whatzzzzup-stream. Has this water flowed past another neighborhood like yours? A forest? A farm?

When water falls as rain or snow, it quickly runs together into small streams. Eventually these small streams flow into each other and form rivers. Rivers, in turn, meet to form larger rivers. From an airplane you can easily see how this stream network is organized. It's kind of like a tree lying on its side with many branches attached to a main trunk.

Pick out any location in any stream and all the land that contributes water up to that point is called its *drainage basin* or *watershed*. The watershed of a small stream—one you can cross wearing only rubber boots—might be only a couple of acres in size. On the other hand, if you need fishing waders to get across, the stream is probably draining a square mile or more of land. If scuba gear is required, you know the stream has a large drainage area. Knowing where your water comes from is important, especially if any problems occur upstream. You probably would not want to head out to your favorite swimming hole if that morning a gasoline truck spilled some of its load upstream.

First-order streams are small.

Fourth-order streams are large.



Streams are ordered according to their position in the watershed. The smallest streams have a "1" and are called "first-order" streams.

Hydrologists (scientists who study the movement of water) have devised a system for classifying the position of streams in a watershed. The uppermost channels with no tributaries are designated first-order streams. A second-order stream is formed when two first-order streams meet. Third-order streams are created when two second-order streams join, and so on. A network is formed by all the streams in the watershed, and people can easily see how they connect.

Like nesting dolls, small watersheds are part of larger watersheds, which in turn are part of even larger watersheds. To help keep everything organized, the U.S. Geological Survey developed a system to keep track of all the different scales of watersheds. There are four basic sizes of watersheds in their system. The largest are known as the major river basins and

Let's Go Surfing Now!

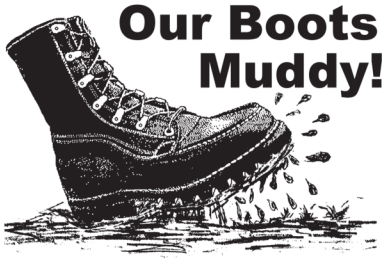
Learn about your watershed at...

http://cfpub1.epa.gov/surf/locate/index.cfm

EPA has developed a web site that can help you identify the watershed you live in and what kind of activities occur in it. The site can also help you join a local watershed protection group or volunteer monitoring association.

* *How many rivers and streams are there in your watershed?*
* *How much land does your watershed drain?*
* *Are there impaired waters in your watershed?*
* *What order stream is near your home?*

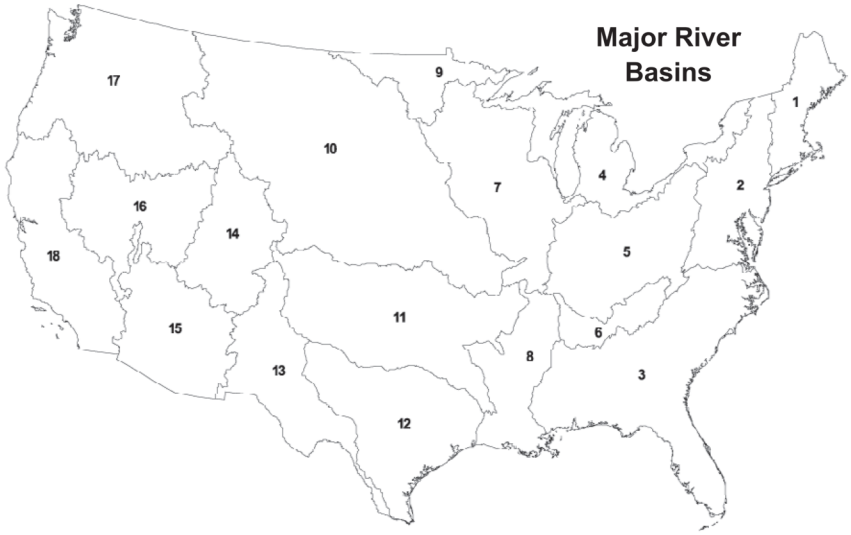
Let's Get Our Boots Muddy!

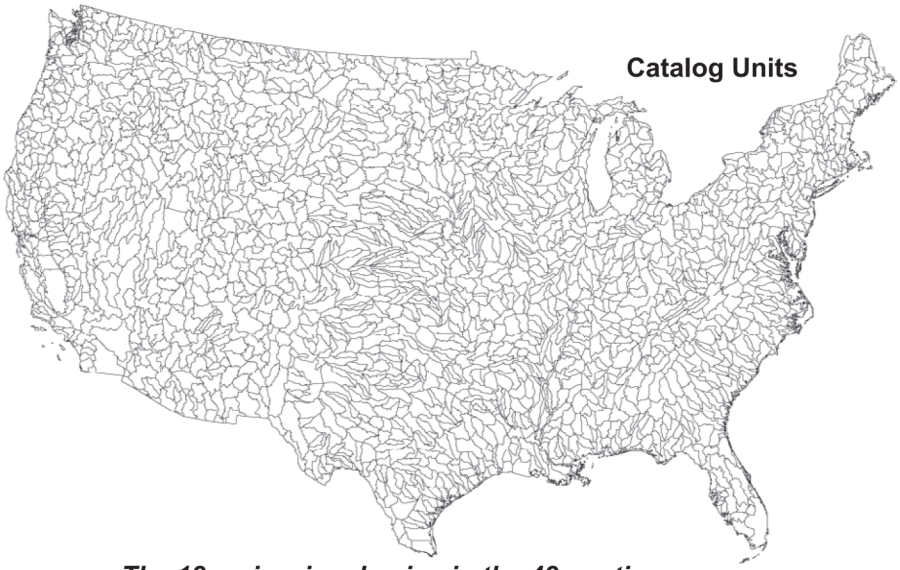


Follow that Stream!

Find a stream near your house and take a walk. *(No trespassing on private property!)*

* *Walking upstream, do you see any smaller streams flowing into your stream?*
* *What order is the stream?*
* *Walking downstream, what does your stream flow into?*
* *After your walk, get on the Internet at http://cfpub1.epa.gov/surf/locate/index.cfm to find out which watershed the stream is in and how healthy its waters are.*





The 18 major river basins in the 48 contiguous states are subdivided into 2,111 catalog units.

include the Rio Grande River Basin (13 on the Major River Basin Map) in the Southwest and the Ohio River Basin (5) in the Midwest.

The smallest watersheds defined in the USGS watershed classification system are called *catalog units*. Generally, when people ask you about your watershed, they are focusing on the catalog unit-size watershed.

Most catalog units are named after the major river that flows through them.

Did you know?

Most Americans (218 million) live within 10 miles of a polluted lake, river, stream, or coastal area.

Career Corner

A *hydrologist* studies the dynamics of surface water.

A *science teacher* teaches young people about science, including organisms and environmental processes.

A *geographic information system (GIS) analyst* creates computer-generated maps that can include wetlands, waterways, and nearby land uses that could affect them.

A *soil conservationist* provides technical assistance regarding erosion to farmers, ranchers, state and local governments, and others concerned about the conservation of soil, water, and related natural resources.