

Groundwater and Contamination of Groundwater

Groundwater:

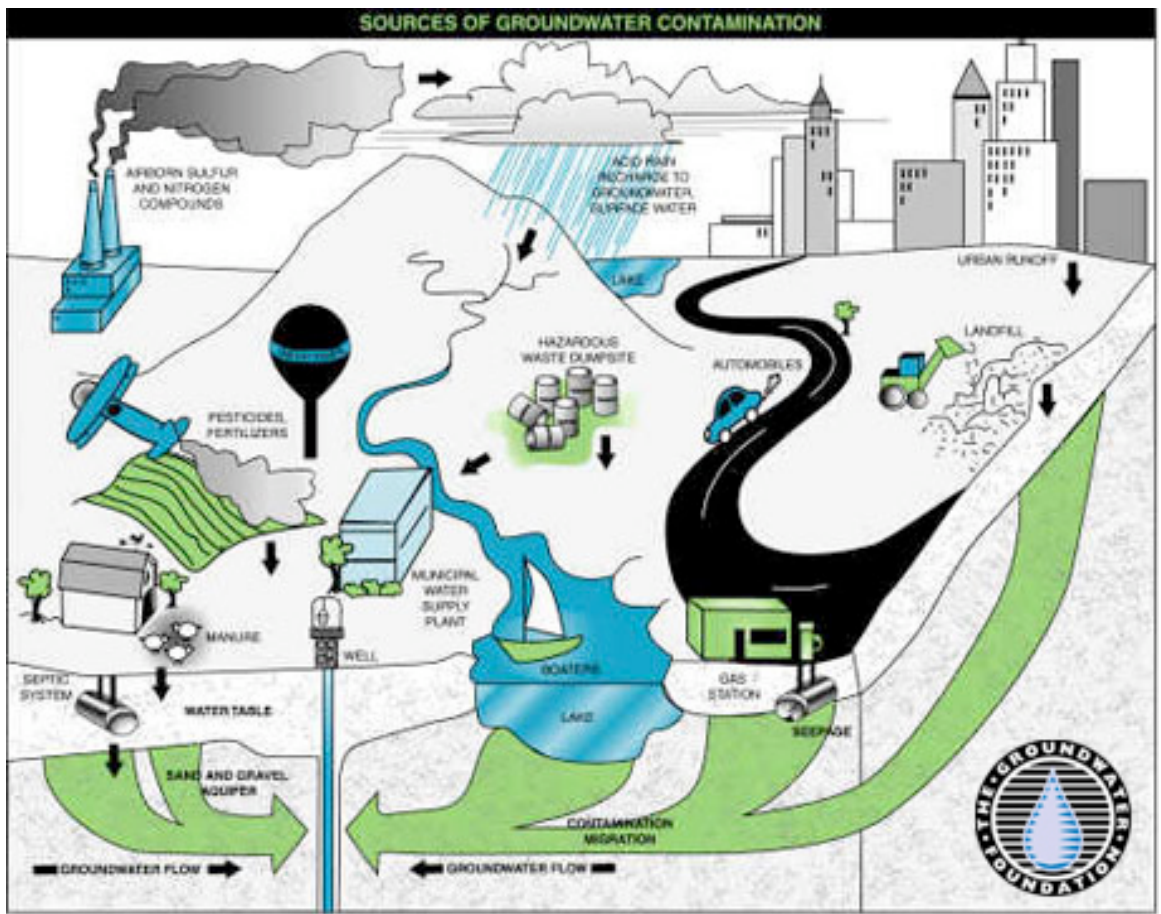
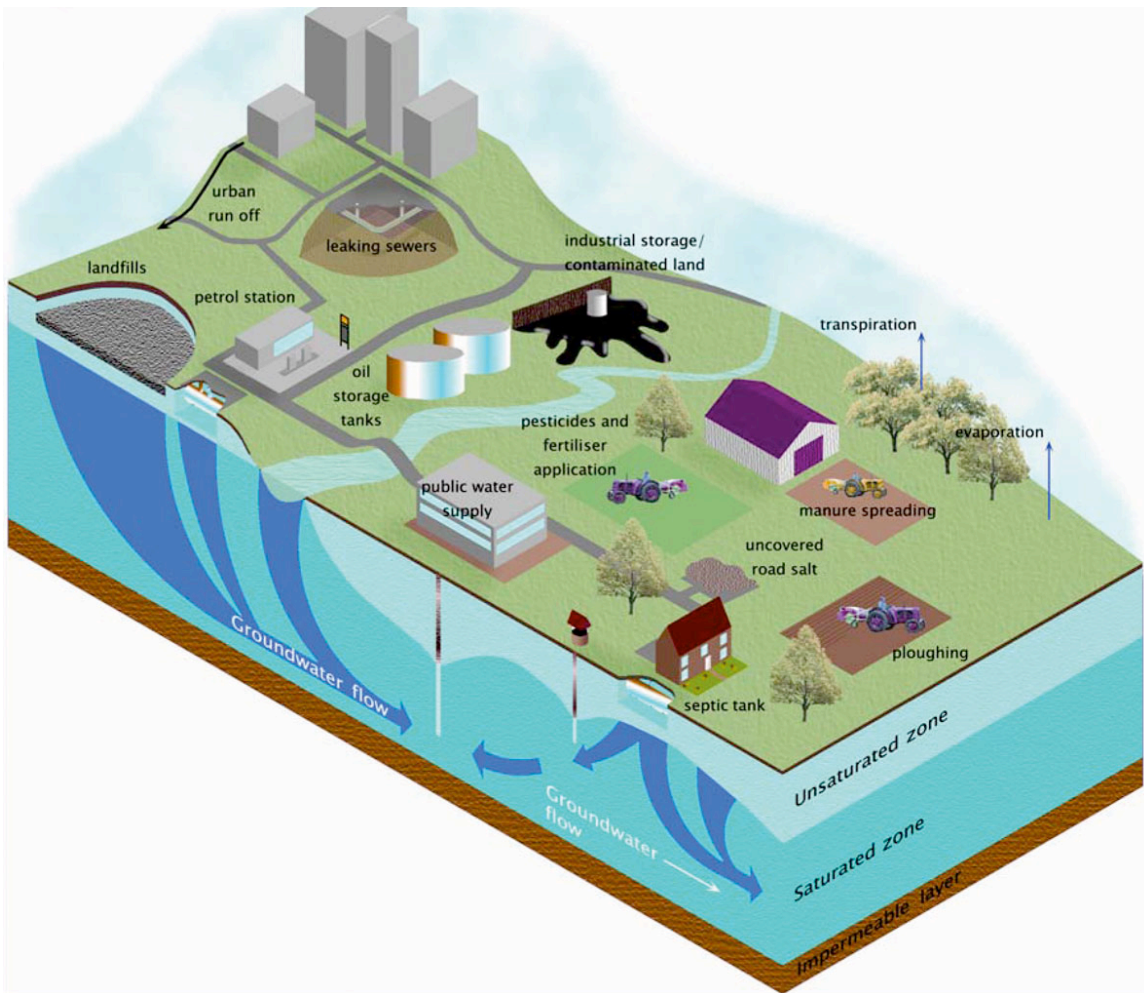
Groundwater is defined by the very water that fills up the empty space under the Earth's surface. It is also the water found in springs, lakes and wells. It is also the raindrops that fall onto of us. The hydrologic cycle is the cycling of groundwater evaporating in the clouds, which eventually falls to Earth and seeps down the surface. Groundwater relies on space to move around. Hence, aquifers that are relatively porous, like sponges, are great for groundwater to move through. Groundwater's most common form maybe liquid water, but it can also be found in soil (moisture), frozen soil in the northern parts of the Earth, or even the very little droplets found in the bedrocks.

Contaminations:

Groundwater contaminations are caused by numerous sources: storage tanks, septic systems, landfills, etc. Such contaminations cause the groundwater to become unfit for human. There is an estimate of approximately 10 million storage tanks buried underground in the United States, and through time, these tanks corrode, cracks and start leaking gas, oil, or whatever chemicals it stores within. The leaks then come into contact with groundwater and pollutes it. Same goes for septic systems that are poorly structured or lack maintenance, bacteria and viruses starts to grow due to the cracks in the system. Every year, more and more hazardous waste sites are found. There is an approximation of over 20 000 abandoned and uncontrolled hazardous waste sites which may contain radioactive waste or deadly chemicals. The protective layers on the very bottom of a landfill, if damaged or in non-existence, causes another source of leaks and contaminations, which is also known as leeching. Fertilizers, pesticides, chemicals and road salt used on the surface of the Earth will eventually end up in the groundwater as the melted ice or rain washes them away and gets soaked in the Earth.

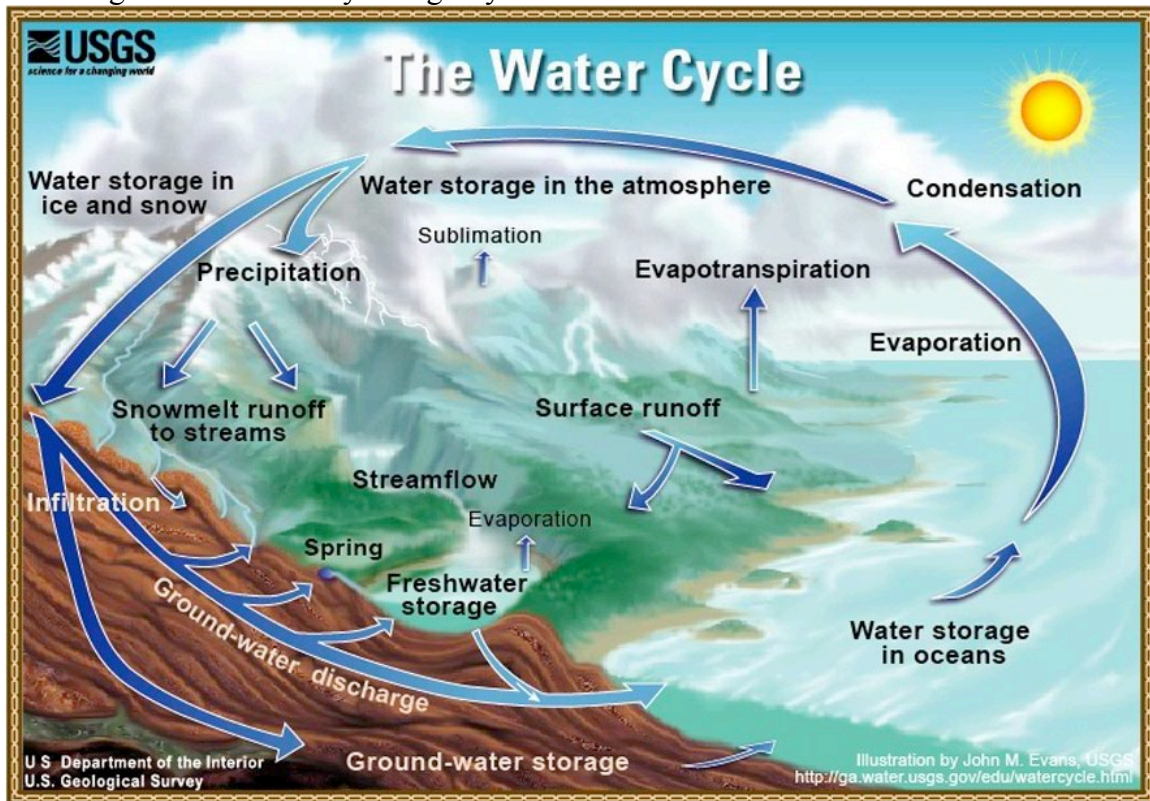
Diagrams:

These diagrams show the sources of contaminations and how does it get to the groundwater.



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This diagram shows the Hydrologic cycle.



Questions:

What impact do humans have on the hydrologic cycle?

Describe the role of groundwater in supplying freshwater.

Explain why cleaning up groundwater is such a difficult and expensive task.

Sources:

<http://www.groundwater.org/gi/sourcesofgwcontam.html>

<http://www.groundwater.org/gi/hydrologiccycle.html>

<http://www.nationmaster.com/encyclopedia/Groundwater>

<http://en.wikipedia.org/wiki/Groundwater>

<http://ga.water.usgs.gov/edu/earthgw.html>

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