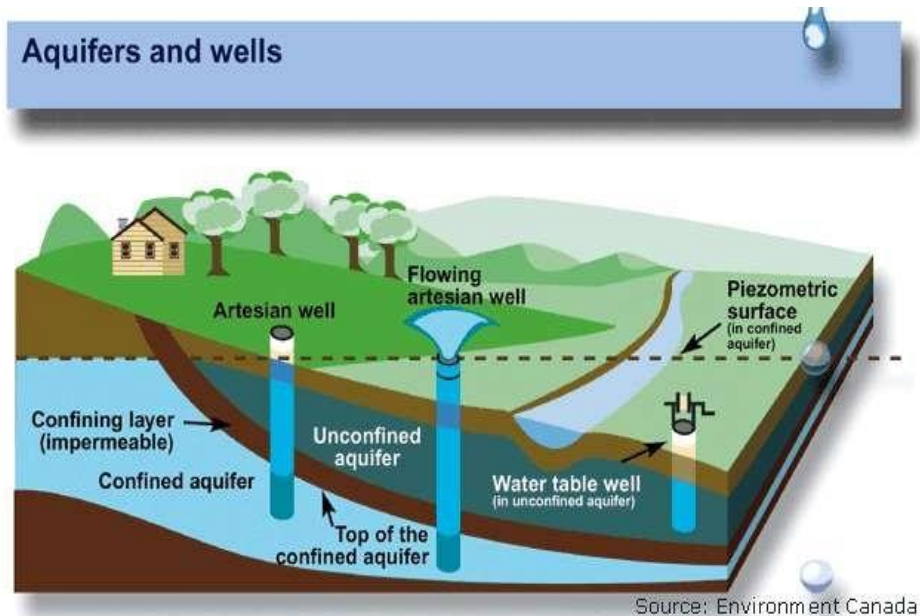
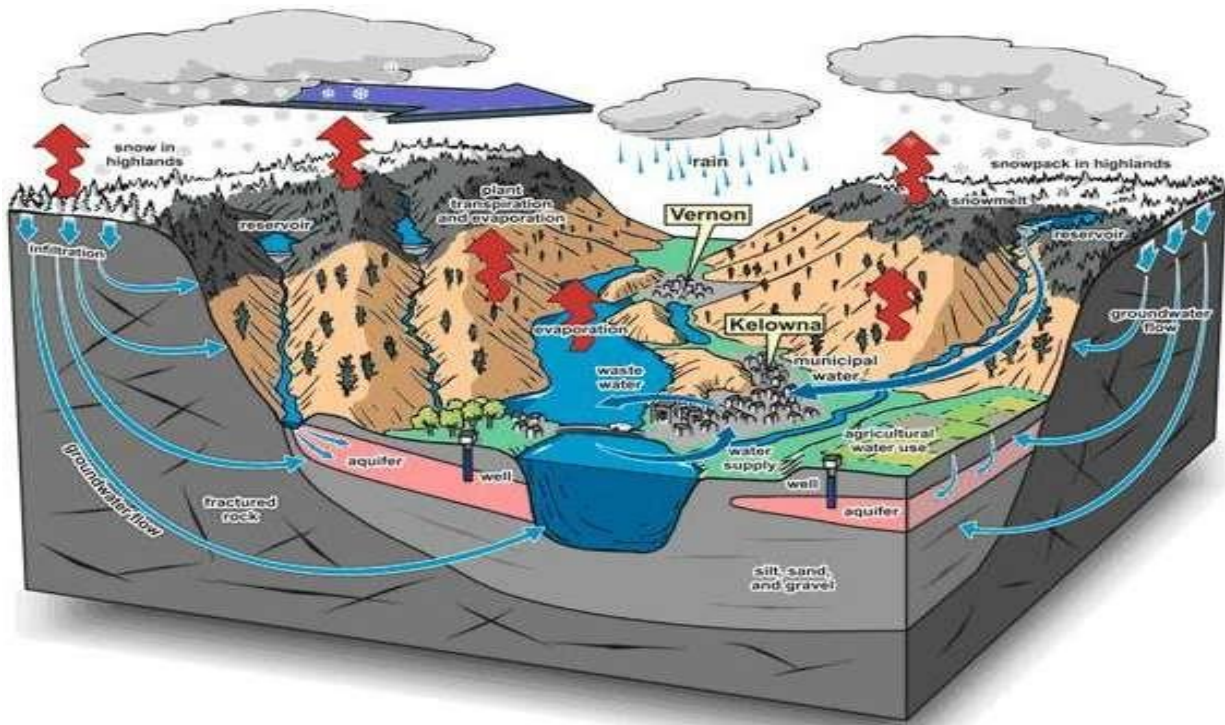


1.6 LANDFORMS AND PROCESSES ASSOCIATED WITH GROUNDWATER

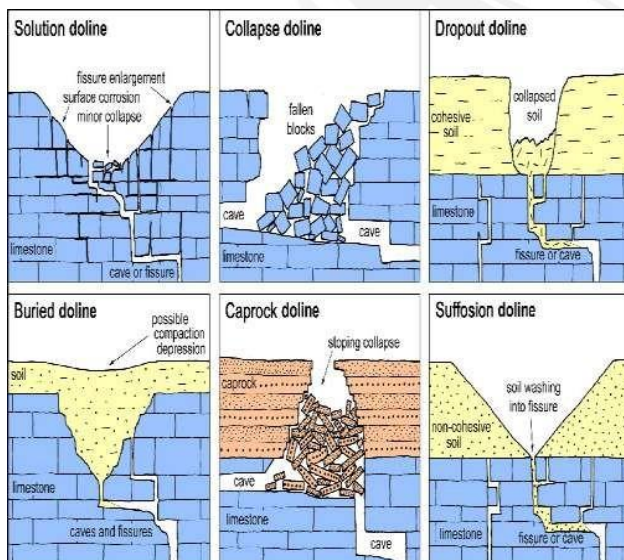


- Ground water like surface water, is also a very powerful natural agent responsible not only for modifying the existing features but also for creating many other geological features on and below the surface of the earth.
- Geological works of ground water may be conveniently studied under two headings namely chemical work and mechanical work
- Water is a great solvent. Groundwater becomes an active agent of dissolution of many rocks like lime stone, dolomites, gypsum, rock salt and the like with which it comes into contact during its downward journey below the surface. It has been observed that water dissolves limestone at a variable rate that depends upon its temperature, composition and above all its carbon dioxide content.
- The dissolution of soluble rocks by groundwater is controlled by a number of factors such as climate, geological structure, topography, porosity and permeability of rocks, composition of rocks, composition of ground water, especially its salts and gaseous content, flow velocity, temperature, pressure, pressure and depth at which the water comes in touch with the rocks.

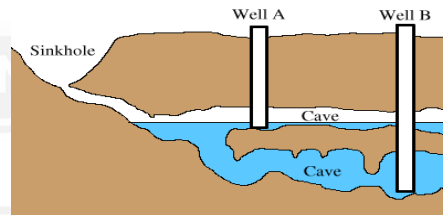
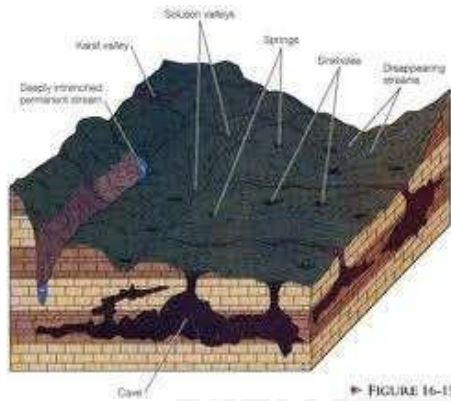
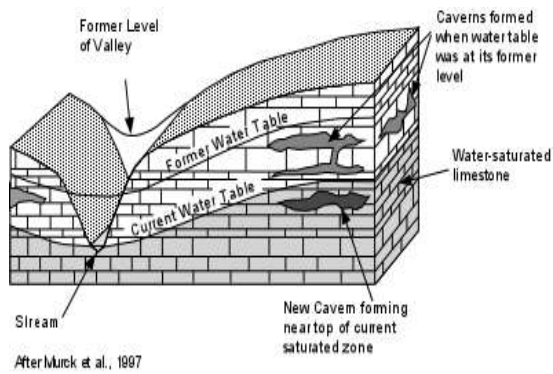


Quite a number of forms are developed due to solvent action of water few are mentioned as below:

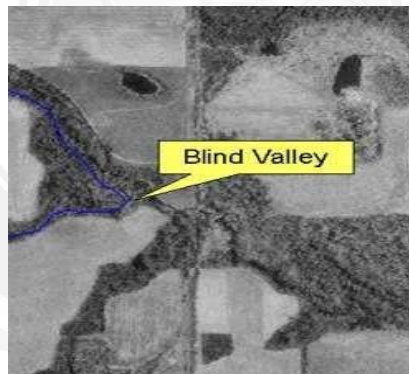
- **Dolines:** These are also termed as swallow holes, sink holes and sometimes simply as sinks. A typical doline is circular or oval depression, which when followed in depth becomes bowl-shaped or cylindrical in cross section.



- **Caves:** these may be defined as naturally carved out underground cavities of various dimensions that always have horizontal opening on the surface. They are similar to tunnels with the exception that a cave does not normally have an exit on the other end.



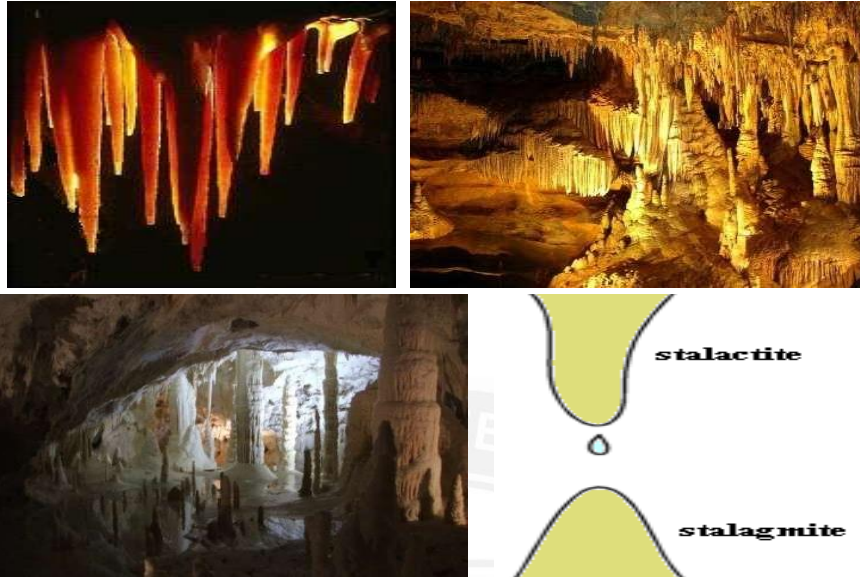
- **Blind Valley:** A blind valley is a valley like feature where a stream flowing through it in the upper reaches suddenly disappears in the lower reaches.



Groundwater is also an active agent of deposition in regions of proper climate and geology. These deposits are typically found to occur in caves and other underground openings and also fissures and cracks in the form of mineral bands, mineral streak or even as distinct mineral layer. Among the minerals very often deposited from the groundwater by precipitation etc. may be mentioned varieties of calcite, silica, fluorite and barite.

The two most commonly known cave deposits are stalactites and stalagmites.

- **Stalactites:** are carbonate projections that hang down from the roof of the caves. They may acquire fantastic shapes like slender rods and cones with flattered bases attached firmly with the roof.



- **Stalagmites:** are also groundwater deposits of carbonate rich droplets from ground upwards.



- **Mechanical Work:** Subsurface water is also invariably characterized with some motion due to one or another reason for instances, under the influence of gravity in the zone of aeration and that of hydrostatic head in the Aquifer and underground streams. The velocity of subsurface flow however, is much less when compared to surface water. Hence the mechanical work of subsurface water is more in theory than in practice.

