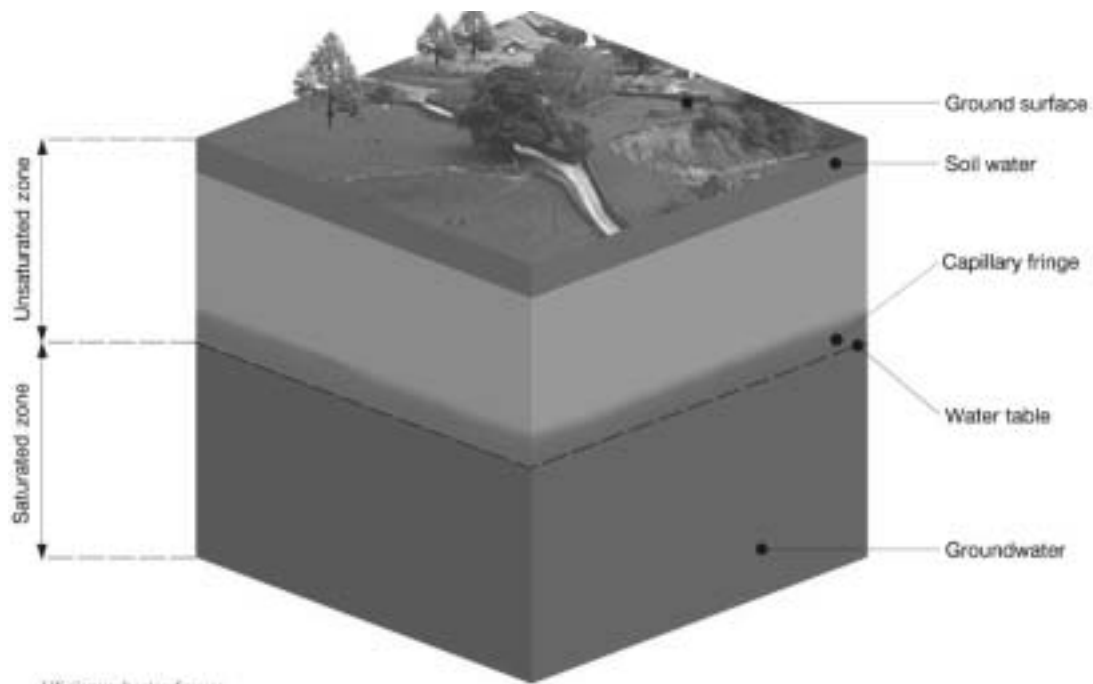


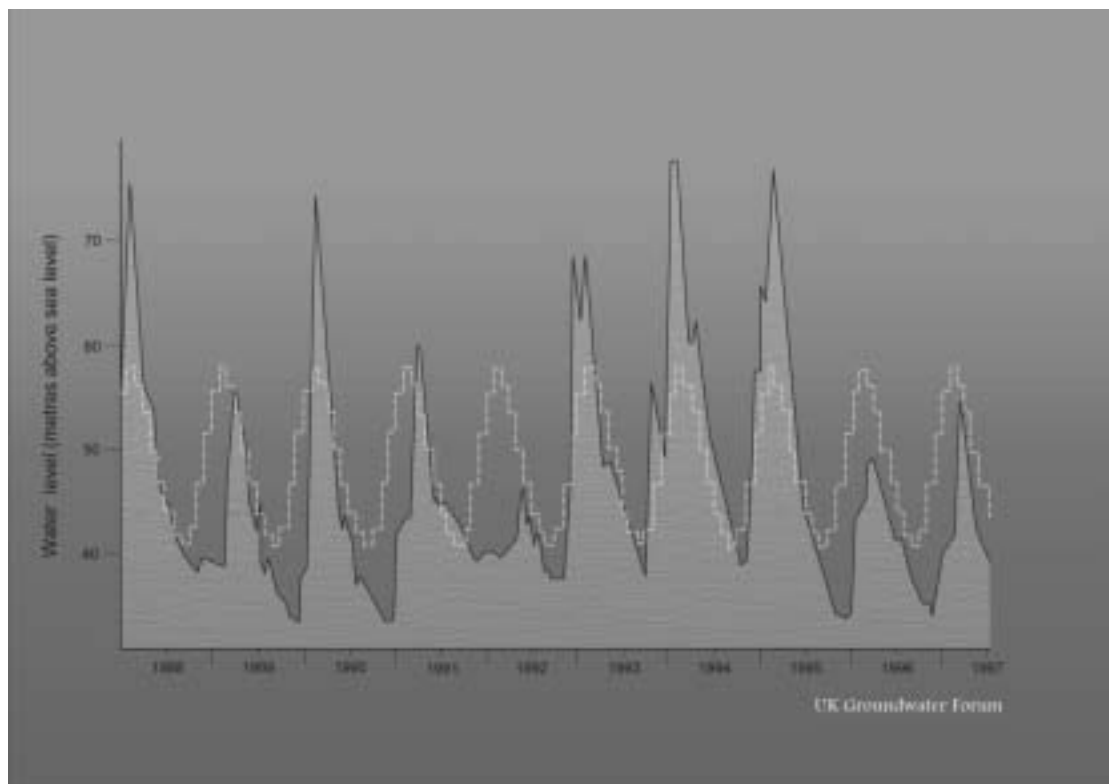
What is groundwater?

The rainfall that soaks into the ground and moves downwards into spaces and cracks in the rocks below the ground surface becomes **groundwater**. The study of groundwater is called **hydrogeology**.



People are able to use groundwater when they dig wells or drill boreholes into the rocks, or in places where the groundwater reappears at the surface as a spring. When a well is dug or a borehole is drilled, water moves into the hole and rises up to a certain level, called the **water table**. The rock below the water table is **saturated**, and this is the water that people use when they take water from the well or borehole. The rock or ground above the water table is called the **unsaturated** (or **vadose**) zone. The water table is not always at the same distance below the surface of the ground, but is usually deeper in higher areas of land, and closer to the surface in lower lying areas such as valleys.

The water table also changes depending on the amount of rain that falls. When a lot of rain falls, water will usually move down into the rocks and cause the water table to rise. In times of drought, the water table will fall. This is why many wells and some boreholes dry up during droughts. Water tables often follow an annual pattern, which is related to the rainfall. The level of the water table can be plotted out as a graph as it changes over time; this type of diagram is called a **hydrograph**:



A hydrograph of the groundwater level in the Chalk aquifer in the UK.

Sometimes small water tables can form above the main water table, caused for example by layers of clay that prevent water moving down to the main water table. Such water tables are called **perched water tables**, and they usually are unable to provide a lot of water because they cover a much smaller area than the main water table.

Source: J Davies et al (2002) Development of a curriculum and training of supervision teams in borehole construction in Malawi. British Geological Survey Internal Report CR/02/219N