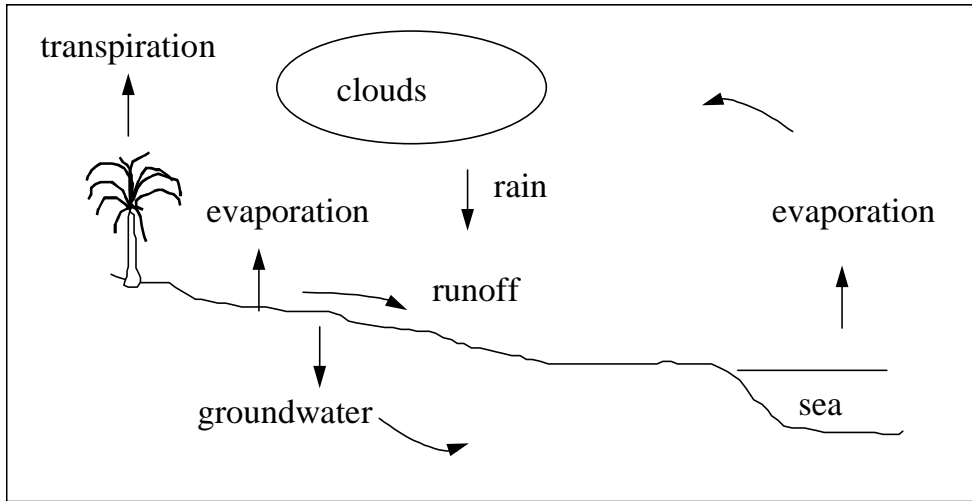


## The Water Cycle

Driven by the energy of the sun, water is continually evaporating from the sea, and from other surface water bodies such as lakes. When the water evaporates it changes from water (a liquid) into water vapour (a gas). Water vapour is a normal part of the atmosphere. When water vapour in the atmosphere expands, it cools and forms tiny droplets, which we can see as clouds. This expansion and cooling happens when the water vapour is forced upwards. This is called **adiabatic expansion** and can happen when air rises up over mountain ranges, for example.

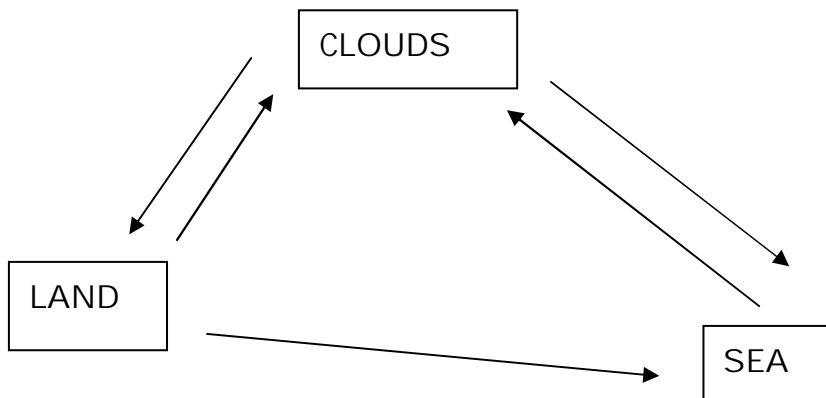
The tiny droplets of water are small enough to stay in the air, but sometimes they join together and fall as rain. Most rain falls over the oceans, but about one fifth (20%) of it falls over land.

Some of the rain falling on the earth evaporates straight away, back into the atmosphere. Some of it sinks down into the ground. This water may be used by plants for growing, or it may flow through the soil and into the rocks below. This water flows slowly through the rocks, and usually comes out at springs or in the beds of rivers. Water that flows through the ground and comes out in rivers is called **baseflow**, and it is the reason that rivers continue to flow during dry weather. Another part of the rain may run straight off the land surface into rivers and streams, where it eventually flows back into the sea.



*The water cycle*

Water comes from the sea, and it is returned back to the sea by streams and rivers in a continuous process. This is why the term “Water Cycle” is used:



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