

# Edexcel Geography A-level

## The Water Cycle and Water Insecurity Glossary of Definitions



**Anticyclone** - A system of high pressure, causing high temperatures and unseasonably high evaporation rates.

**Aquifer** - A permeable or porous rock which stores water

**Channel Flow** - Water flowing in a rivulet, stream or river

**Convective Precipitation** - Solar radiation heats the air above the ground, causing it to rise, cool & condense forming precipitation (often as thunderstorms)

**Cryosphere** - The global water volume locked up within a frozen state (i.e. snow and ice)

**Depression** - A system of low pressure, with fronts of precipitation where low and high pressure air masses meet.

**Desalination Plant** - The conversion of seawater to freshwater, suitable for human consumption.

**Desublimation** - The change of state of water from gas to solid, without being a liquid (the opposite process to sublimation)

**Drainage Basin** - The area of land drained by a river and its tributaries

**Drainage Density** - The total length of all rivers & streams divided by the area of the drainage basin

**Drought** - An extended period of deficient rainfall relative to the statistical average for the region (UN)

**Economic Water Scarcity** - When water resources are available but insufficient economic wealth limits access to it

**ENSO Cycles** - El Nino Southern Oscillations - naturally occurring phenomena that involves the movement of warm water in the Equatorial Pacific.

**Evapotranspiration** - The combined total moisture transferred from the Earth to the atmosphere, through evaporation and transpiration

**Frontal Precipitation** - Where air masses of different temperatures meet at a front, one mass will be forced over another, causing precipitation beneath the front.



**Global Hydrological Cycle** - The continuous transfer of water between land, atmosphere and oceans. The Earth is a closed system.

**Groundwater Flow** - Water moving horizontally through permeable or porous rock due to Gravity.

**Hydrological Drought** - Insufficient soil moisture to meet the needs of vegetation at a particular time

**Infiltration** - The movement of water vertically through the pores in soil.

**Integrated Drainage Basin Management** - Establishing a frame of coordinated efforts between administrations (e.g. local government) and stakeholders (e.g businesses) to achieve balanced management of a basin (World Bank)

**Interception** - Raindrops are prevented from falling directly onto the ground, instead hitting the leaves of a tree.

**Meteorological Drought** - When long-term precipitation trends are below average

**Monsoon** - The drastic variation between wet and dry seasons for sub-tropical areas, caused by a changed prevailing wind. Can lead to annual flooding.

**Open System** - A system affected by external flows and inputs (such as a drainage basin, or a sediment cell)

**Percolation** - Water moving vertically from soil into permeable rock

**Physical Water Scarcity** - A physical lack of available freshwater which cannot meet demand

**Relief Precipitation** - Precipitation caused when air masses are forced to rise over high land, determined by the relief/ morphology of the land

**River Regime** - The pattern of river discharge over a year

**Runoff** - Water flowing over the surface of the ground eg. after precipitation or snowmelt.

**Salinisation** - Where salt water contaminates freshwater stores or soils, creating saline conditions and reducing human use/ consumption.



**Saltwater Encroachment** - The movement of saltwater into freshwater aquifers or soils. This may be caused by sea level rise, storm surges or over-extraction

**Smart Irrigation** - Providing crops with a water supply less than optimal, to make crops resistant to water shortages.

**Storm Hydrograph** - Variation of river discharge over a short period of time (days)

**Sublimation** - The change of state of water from solid to a gas, without being a liquid.

**Throughflow** - Water moving horizontally through the soil, due to gravity

**Transpiration** - The process through which water evaporates through the stomata in plants' leaves

**Water Budget** - The annual balance between inputs and outputs within a system

**Water Conservation** - Strategies to reduce water usage and demand

**Water Recycling** - The treatment and purification of waste water, to increase supply

**Water Scarcity** - There are limited renewable water sources (between 500 and 1000 cubic metres per capita per year)

**Water Security** - The ability to protect and access a sustainable source to adequately meet demand

**Water Sharing Treaty** - International agreements for transboundary sources

**Water Transfer** - Hard engineering projects, such as pipelines or aqueducts, that divert water between basins to meet demand

**Watershed** - The boundary between neighbouring drainage basins

