

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