Challenge of Natural Hazards (Atmospheric and Climate Change)

Adaptation	Responding to climate change by coming up with ways to live and cope with the effects.
Atmospheric circulation	The general movements of air around the Earth due to pressure and temperature.
Atmospheric hazard	Hazards caused by the weather and processes in the atmosphere.
Carbon Capture and Storage (CCS)	The process of capturing carbon dioxide that would normally be emitted into the atmosphere and storing it underground in reservoirs.
Climate change	A distinct change in global or regional patterns of climate, such as changes in temperature or precipitation patterns.
Convection current	The movement of a fluid caused by a difference in temperature or density.
Coriolis Effect	The effect of the Earth's rotation on wind movements.
Eccentricity	The changing of the orbit of the Earth around the Sun from a circular shape to an ellipse.
Eye	An area of a tropical storm with extremely low pressure and calm conditions.
Eyewall	An area of a tropical storm with the most intense, powerful winds and torrential rain.
Ferrel Cell	At around 60° either side of the equator, moist air rises, and travels to lower latitudes at around 30° where it sinks, along with air travelling from the equator.
Fossil fuels	Fuels made up of the remains of organic material, such as oil, coal and gas.
Greenhouse Gases	Gases in the Earth's atmosphere that trap energy and contribute to the greenhouse effect.
Hadley Cell	At the equator, hot moist air rises, moves to higher latitudes (30°) and sinks.
Hazard risk	The probability that a natural hazard will negatively affect a population.
Ice core	A cylinder of ice used to analyse past environmental conditions.
Immediate responses	Actions taken as soon as the hazard happens and in its immediate aftermath.
Long-term responses	Actions taken after the immediate responses when the effects have been minimised.
Milankovitch Cycles	The cyclical variations in the Earth's orbit around the Sun.
Mitigation	Reducing the causes of climate change so that it slows or stops.
Monitoring	Detecting and recording physical changes and warning signs of a hazard.
Natural hazard	A naturally occurring event that is a threat to a population.
Planning	Having systems in place so that the population is prepared for a hazardous event.

Polar Cell	At 60° north or south of the equator, moist air rises and travels to the poles where it sinks.
Prediction	Using monitoring, historical trends and modelling to predict hazardous events.
Primary effects	The effects that are directly caused by the hazard itself.
Protection	Increasing resistance to natural hazards by designing features that withstand them.
Quaternary Period	The geological time period that started 2.6 million years ago and extends into the present.
Secondary effects	The effects that result from the primary effects.
Storm surge	A rise in sea level caused by a tropical storm pushing sea water onto the shore.
The Enhanced Greenhouse Effect	Heating of the Earth at a higher rate due to increased emissions.
The Greenhouse Effect	The natural process where greenhouse gases trap solar energy.
Tropical storm	A very large, spinning storm with high winds and torrential rain that forms in the tropics.

Physical Landscapes in the UK

Abrasion	A form of erosion where loose material and sediment 'sandpapers' the walls and floors of the river or cliff
Attrition	Rocks bang against each other chipping away to make smaller, smoother rocks
Backshore	The upper beach closest to land.
Beach Nourishment	The addition of sand and sediment to an eroding beach by humans. The new material will be eroded by the sea which saves the cliffs or sand dunes from erosion and recession.
Biological Weathering	Rocks are broken apart by vegetation and roots
Chemical Weathering	Where the weak acid in rainwater dissolves chemical compounds in the rock
Drainage Basin	The area of land drained by a river and its tributaries.
Dredging	Rubbish and sediment are dug up from the bottom of the river.
Embankments	Raised riverbanks made of brick or concrete.
Estuary	The tidal part of a river, often muddy and silty.
Fetch	The length of water over which the wind has travelled.
Floodplain	The low lying and wide floor of a river valley. Floodplains are found in the lower course and tend to act as overspill for the river when its channel is full.
Floodplain Zoning	Controlling where houses and buildings are built relative to the river to reduce their risk of flooding.

Freeze Thaw	Water in cracks freezes, expands and breaks rock.
Groyne	Low-lying concrete or wooden walls, constructed perpendicular to the seafront and run out to sea. They encourage the trapping of sediment to reduce erosion caused by longshore drift or by winds.
Hydraulic Action	The pressure of compressed air forced into cracks in a rock face will cause the rock to weaken and break apart.
Impermeable	A rock that does not allow water to pass through it.
Levee	Raised banks of a river which are found in the lower course. Built up during a flood as larger sediment is deposited closest to the river channel
Longshore Drift	The zig-zag transportation of sediment along a beach. Longshore Drift is determined by the direction of the prevailing wind.
Mass Movement	Large and sudden movement of rock and soil downhill usually on a cliff face.
Relief	The difference in the height of land for a particular region. The shape of the land.
Rock Armour	Large boulders of hard rock used to protect coastlines.
Saltation	A form of transportation where sediment bounces along the riverbed pushed by currents. This sediment is too heavy to be fully picked up by the flow of the water.
Salt Marsh	In sheltered bays or behind spits, salt and minerals will build up. Vegetation may establish, further stabilising the marsh
Sand Dune	A depositional landform, where sand and sediment build up around driftwood and accumulate over time.
Sea Wall	Concrete wall built parallel to the seafront, to redirect the energy of waves away from sensitive cliffs or the edge of a coastal town
Solution	Acidic water dissolves chemicals from a rock face into the water
Spit	Sand or shingle extending from the coast into the sea.
Storm Hydrograph	A graph to show the variation of river discharge over a short period of time (days) in response to a rainfall event
Suspension	Small rocks that are light enough to float are carried in the water, rather than along the bed.
Thalweg	The path of fastest water flow in a river.
Traction	Large rocks and boulders are rolled along the bed of the river

The Challenge of Resource Management

Agribusiness	Farms that choose more intensive farming methods or buy modern machinery, to increase crop yield.
Aquifer	A permeable or porous rock which stores water.
Biofuel	Burning crops and vegetation for electricity and heat.
Climate Change	The changing characteristics of the climate and seasons in regions across the world.

Consumption	The use of resources by a population
Desalination	The process of converting saltwater into fresh, clean drinking water.
Ecological Footprint	The impact of human activities measured in terms of the area of biologically productive land and water required to produce the goods consumed and to get rid of the wastes generated
Economic Water Scarcity	A lack of water due to communities lacking the infrastructure or resources to access available water supplies
Energy Deficit	A country that generates less energy than its population needs.
Energy Insecurity	A state in which individuals or communities lack reliable and affordable access to energy sources
Energy Mix	The composition of a country's energy sources.
Fairtrade	A charity that ensures farmers are paid a fair wage and safe regulations.
Fossil Fuel	A natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.
Fracking	The process of releasing trapped natural gas from shale rocks underground.
Hydroelectric Energy	Water trapped in a dam is forced past turbines to generate electricity.
Malnourishment	Not eating enough or getting the right nutrients for health.
Mechanisation	The introduction of machines or automatic devices into the collection and harvesting of resources
Non-renewable	An energy source that is finite and can run out. It takes extremely long time periods for the energy source to be created.
Physical Water Scarcity	When natural water resources are insufficient to meet all demands.
Renewable	An energy sourced that can be used continuously without it running out (wind, solar, geothermal) and generally have a smaller impact on the environment
Resource	A stock or supply of something that has a value or purpose
Social Well-being	The quality of life and standard of living for a population.
Soil Erosion	The removal of topsoil, making it less able to grow crops.
Surplus	When there is more than enough of a resource to meet the demands of the population
Sustainable	An action which can be continued indefinitely as it does not cause significant damage to the environment, people, or the economy.
Water Conservation	Reducing use of water for non-essential needs.
Water Transfer Scheme	Moving water from surplus to deficit regions, possibly internationally.