

Key Words & Definitions

Abrasion – Scraping away material
Attrition - Load hitting into each other becoming smaller and more rounded.
Bed-load – Stones and other fragments that roll or bounce along the river bed.
Confluence – Where two rivers join.
Drainage basin – Where rainwater collects into a common outlet such as a river.
Erosion – The wearing away of rock, stones and soils.
Gorge – A narrow valley with steep sides, caused by a retreating waterfall.

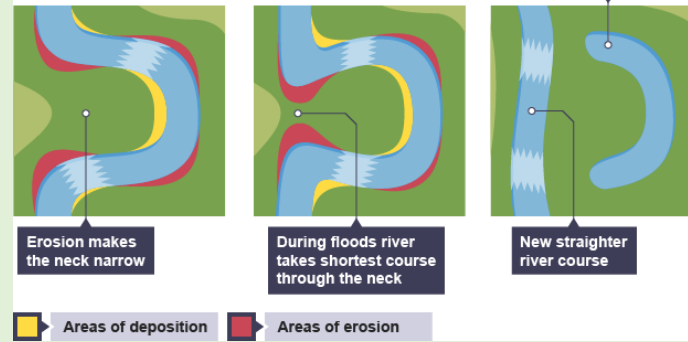
Confluence – Where two rivers join.
Deposit – To drop material, rivers deposit material as they approach the sea.
Flood – An overflow of water from the river.
Floodplain – Flat land around a river that gets flooded when the river overflows.
Hydraulic Action - The force of the water hitting the bed and banks wearing it away.
Saltation – Large rocks being bounced along the bed.
Suspension – Load held in the flow of the river.
Traction - Large boulders that are rolled along the bed.

Cross Profile - The cross-section of a point in a river. Narrow and shallow at source, wide and deep at mouth.
Flash flood – A sudden flood usually caused by a very heavy burst of rain.
Hydrograph - A graph to show how a river responds to a storm.
Peak discharge - The highest discharge the river reaches after a period of rainfall.
Lag time - The difference in time between peak rainfall and peak discharge.
Flood Mitigation - Action taken to reduce the long term risk from flooding.

The Water Cycle

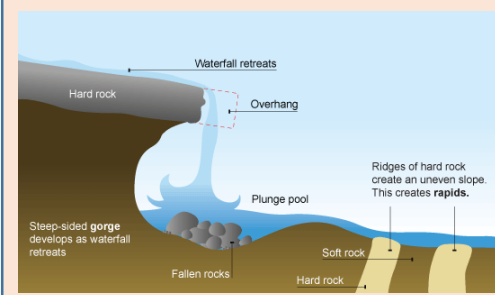
Precipitation	Moisture falling from clouds as rain, snow or hail.
Interception	Vegetation prevent water reaching the ground.
Surface Runoff	Water flowing over surface of the land into rivers
Infiltration	Water absorbed into the soil from the ground.
Transpiration	Water lost through leaves of plants.

Oxbow lake formation

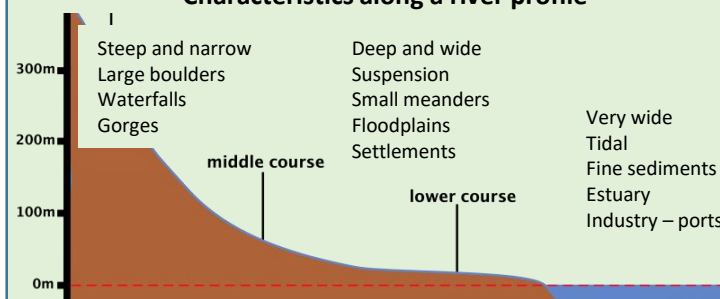


Waterfall formation

Near the source, a river flows over steep slopes from the hill/mountains. This gives the river a lot of energy, so it will erode the riverbed to form narrow valleys.



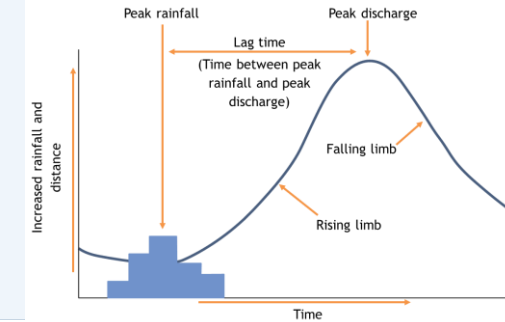
Characteristics along a river profile



Storm Hydrograph

River discharge is the volume of water that flows in a river. Hydrographs record changes in the discharge at a certain point in a river in relation to rainfall.

Factor	Short lag, high discharge	Long lag, lower discharge
Relief	Steep slopes	Gentle slopes
Rock type	Impermeable rock	Permeable rock
Soil	Very thin soil	Deep soil
Natural vegetation	Thin grass, moorland	Forest
Land use	Urbanisation	Rural area
Use of river	Limited use of river	Used for industry, dam built
Drainage density	Higher density	Lower density



Formation of Floodplains and levees

When a river floods, fine silt/alluvium is deposited on the valley floor. Closer to the river's banks, the heavier materials build up to form natural levees.

- ✓ Nutrient rich soil makes it ideal for farming.
- ✓ Flat land for building houses.

Flood Management

Soft Engineering	Hard Engineering
Afforestation – plant trees to soak up rainwater, reduces flood risk. Demountable Flood Barriers put in place when warning raised. Managed Flooding – naturally let areas flood, protect settlements.	Straightening Channel – increases velocity to remove flood water. Artificial Levees – heightens river so flood water is contained. Deepening or widening river to increase capacity for a flood.

River	Length (km)	Continent	Countries in drainage basin
Nile	6650	Africa	Ethiopia, Eritrea, Sudan, Uganda, Tanzania, Kenya, Rwanda, Burundi, Egypt, Democratic Republic of the Congo, South Sudan
Amazon	6400	South America	Brazil, Peru, Bolivia, Colombia, Ecuador, Venezuela, Guyana
Yangtze	6300	Asia	China
Mississippi	6275	North America	United States of America
Severn	354	Europe	Wales and England



The tallest waterfall in the world is Angel Falls in Venezuela where the water falls 979 m. The fall is so long that at warmer times of the year the water turns into mist before it reaches the stream below.