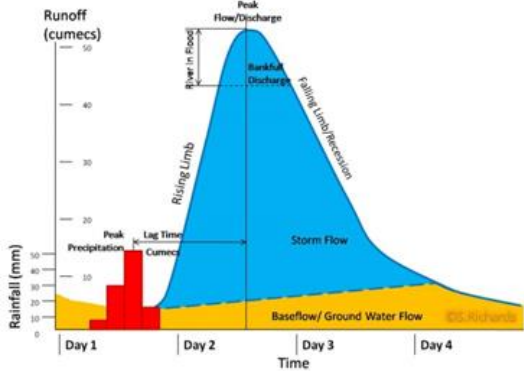


Notes for teachers

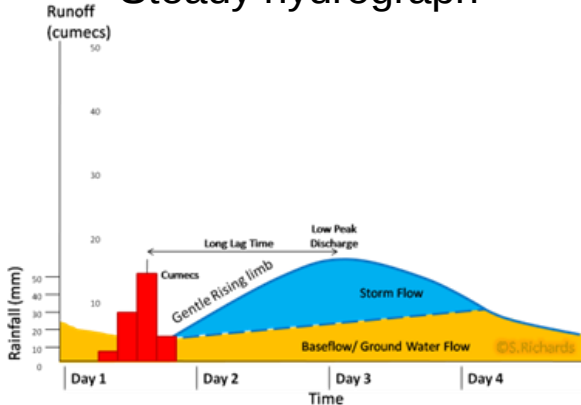
- Print sheets on A3, guillotine clue cards on p3 into half as clues are repeated.
- Clues cards on p3 will help students to fill in some of the areas, which need teacher elaboration to complete the notes.

Flashy hydrograph



What causes storm hydrographs to be different?

Steady hydrograph



Precipitation	- Prolonged rainfall – - Intense storms – -Snowmelt –	- If rain falls gently over a long period of time, - If precipitation falls in the form of snow it reduces
Antecedent Conditions	- Previous rainfall may have saturated stores, so - Freezing weather freezes the soil therefore - Hot summers may bake the soil therefore	- If evapotranspiration rates are high (eg in summer)
Vegetation	- Deciduous trees - Harvesting of crops	- Deciduous woodland in summer provides high amounts of interception and evapotranspiration. This means - Coniferous trees provide continuous
Relief	Steep slopes	Gentle slopes
Soils	- Clay soils encourage surface run-off due to - Thin soils are easily saturated, reducing	- Deep soils increase - A loam soil is best for storing water as it is a mix of
Geology	Impermeable rock such as granite/slate prevents Therefore, soils are	Permeable or porous rock which allows Therefore soils are
Human Activity	- Urbanisation - Deforestation - Farming	- Afforestation – encourages - Contour ploughing encourages -Allowing natural wetlands to store water (e.g.) - Conserving rural areas
Basin Morphology (size of basin)	- A smaller basin will mean that rainfall reaches the channel. - A circular basin has a shorter lag time because the extremities are	- A large basin will have a longer lag time because - An elongated basin will have a longer lag time because the extremities are
Drainage Density (number of surface streams/tributaries in a given area)	Density is higher on impermeable rocks and clays. The higher the density the greater the probability of flash floods.	Density is lower on permeable rocks and sands.

Gentle slopes

Hot weather bakes the soil dry

Cold weather freezes the soil

Harvesting crops

Sandy (loam) soils

Deciduous vegetation in winter

Deforestation

If evapotranspiration rates are high, stores are depleted

Urbanisation

Permeable rock

Large basin

Small basin

Conserving rural areas

Circular basin

Impermeable rock

Coniferous trees

Previous rainfall has saturated stores in the drainage basin

Low drainage density

Harvesting crops

Thin soils

Steep slopes

Deciduous vegetation in summer

Clay soils

Deep soils

Afforestation

Elongated basin

High drainage density

Gentle slopes

Hot weather bakes the soil dry

Cold weather freezes the soil

Harvesting crops

Sandy (loam) soils

Deciduous vegetation in winter

Deforestation

If evapotranspiration rates are high, stores are depleted

Urbanisation

Permeable rock

Large basin

Small basin

Conserving rural areas

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Elongated basin

High drainage density