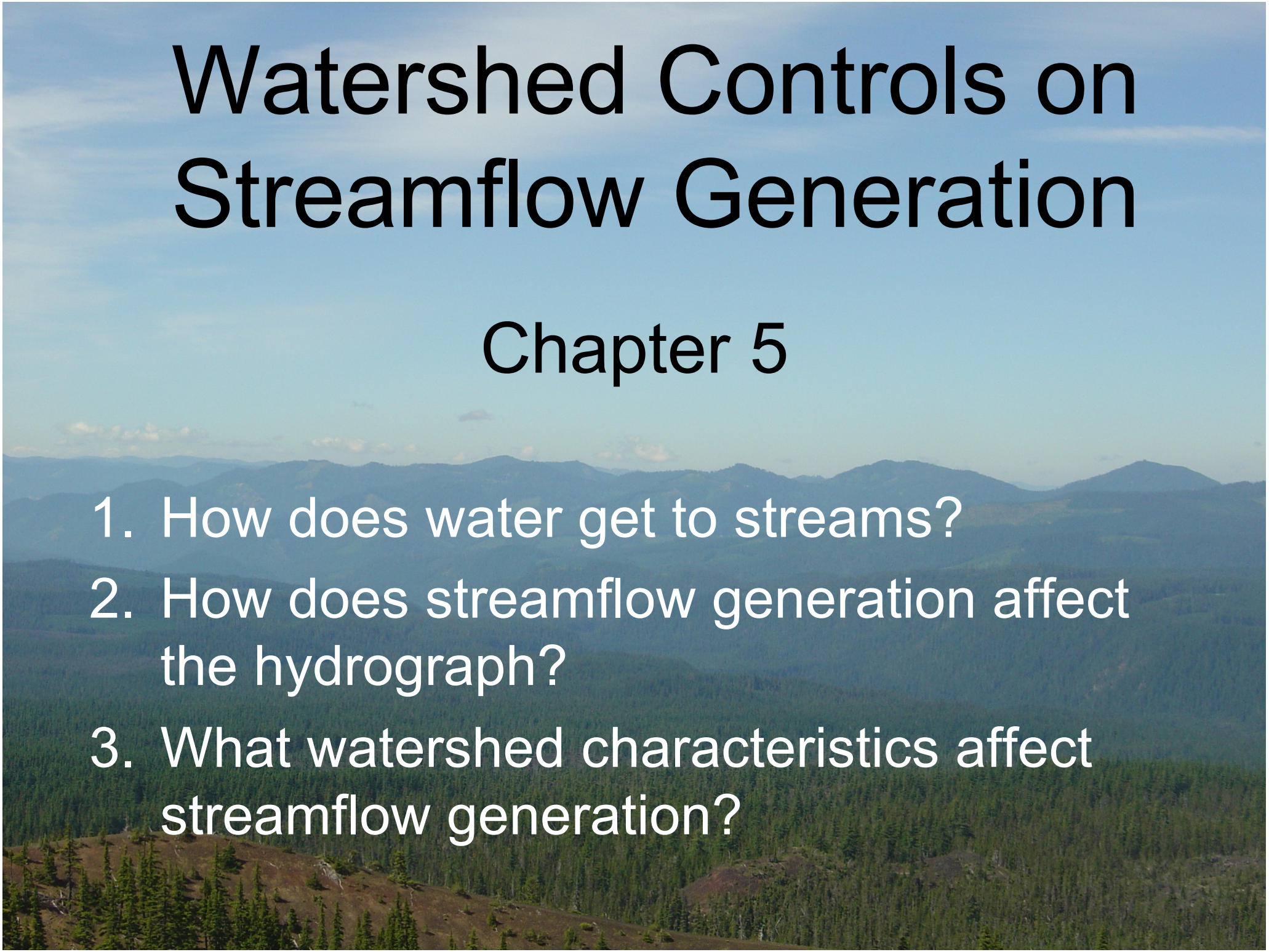


Watershed Controls on Streamflow Generation

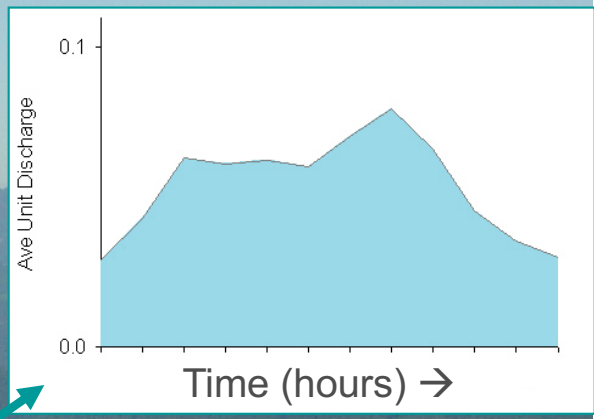
Chapter 5

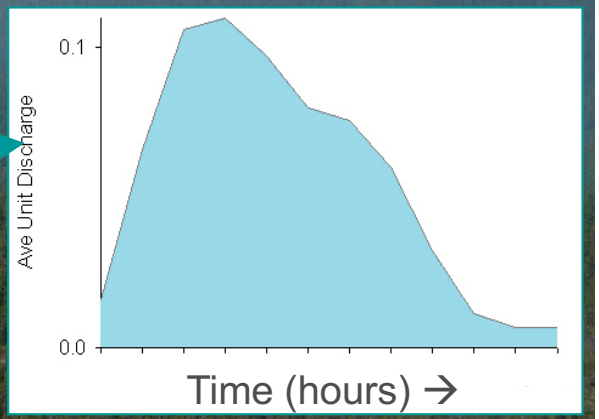
1. How does water get to streams?
2. How does streamflow generation affect the hydrograph?
3. What watershed characteristics affect streamflow generation?

Streamflow generation

- Climate
- Size
- Topography
- Geology
- Soils
- Land use and vegetation

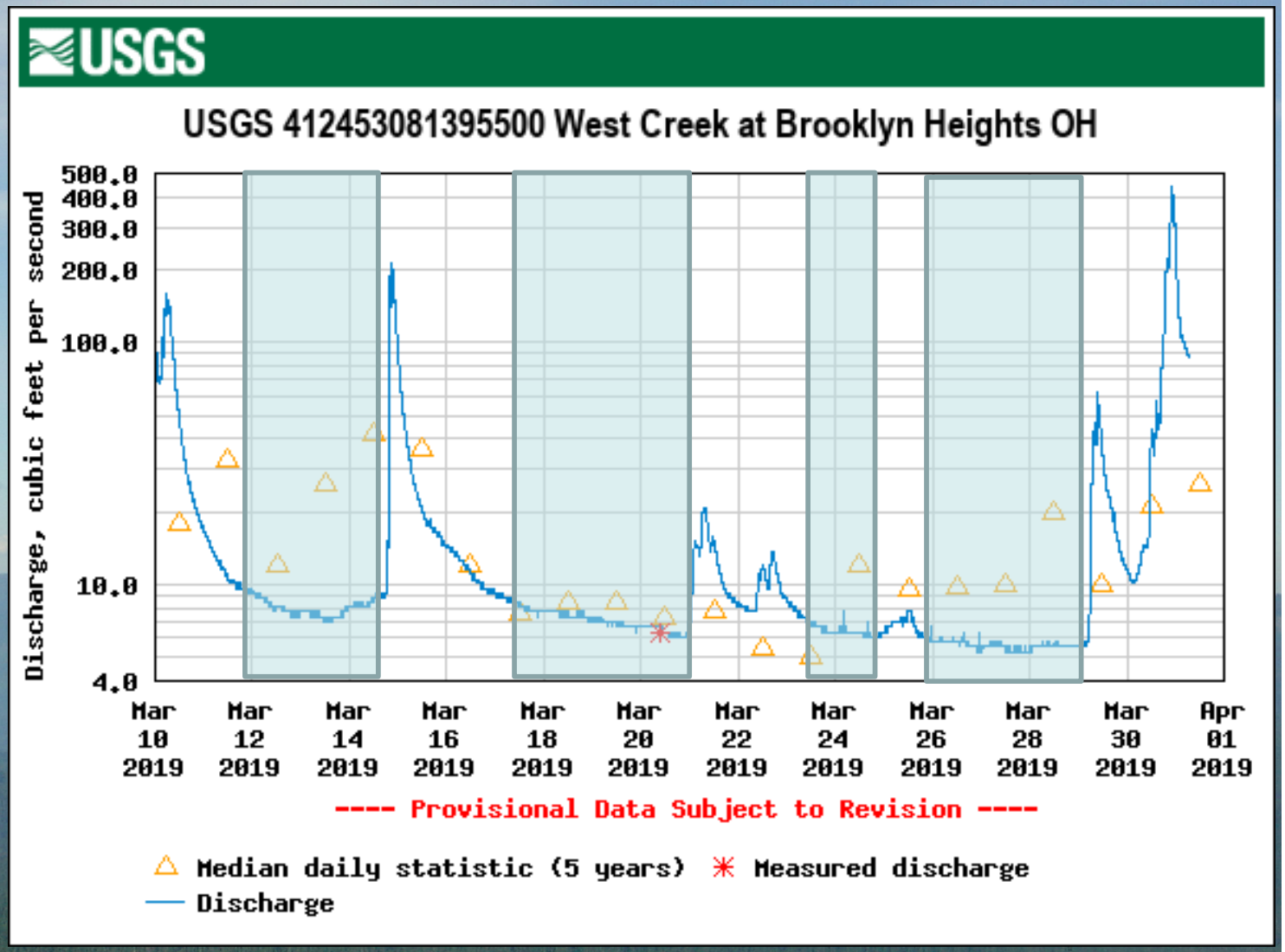
?





Baseflow = sustained low flow in a stream during dry or fair weather conditions

Stormflow = water in the stream that isn't baseflow



Blue boxes indicate baseflow periods.

Runoff vs. streamflow generation

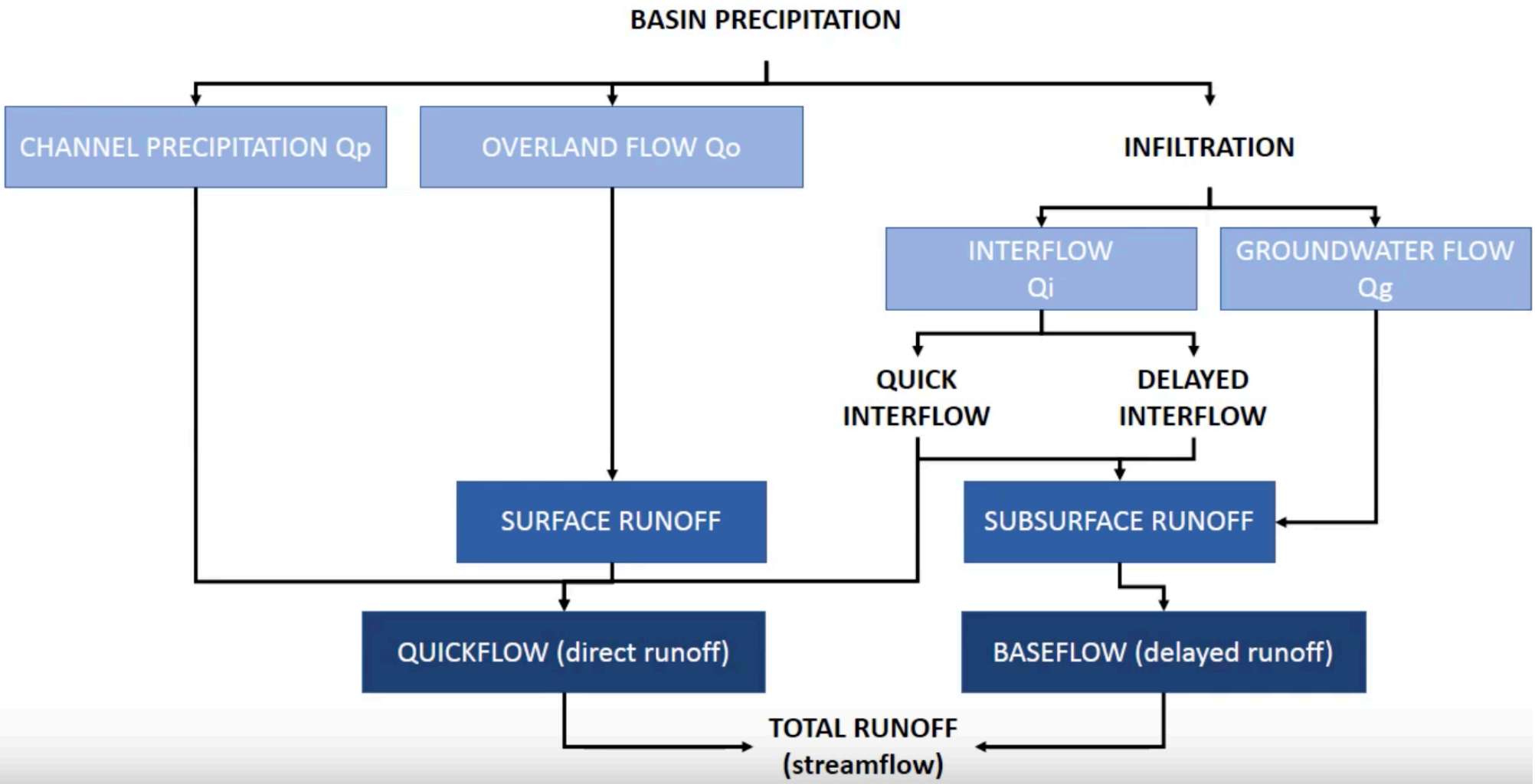
Streamflow generation

- baseflow + stormflow
- both surface and subsurface flowpaths

Runoff

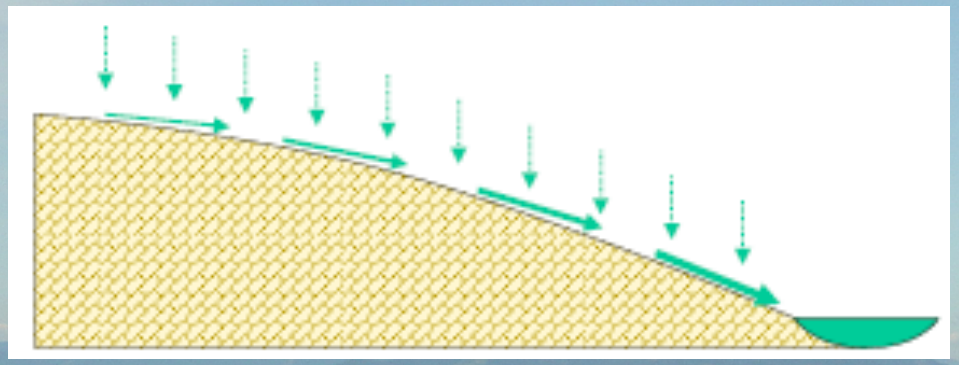
- Not a clearly defined term
- Could invoke only surface flowpaths
- But is more inclusive of lakes & wetlands

Intro video on runoff generation mechanisms

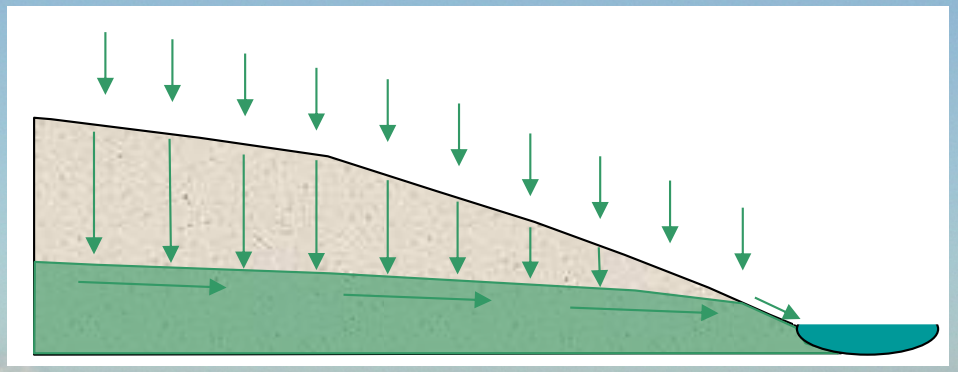


Streamflow generation mechanisms

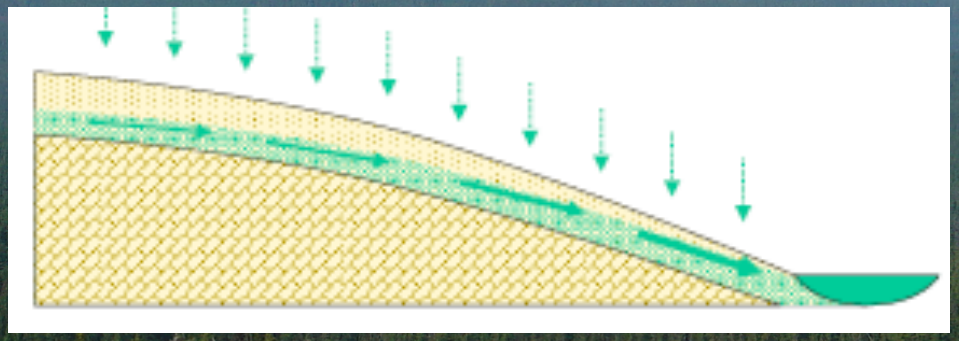
1. Infiltration Excess Overland Flow



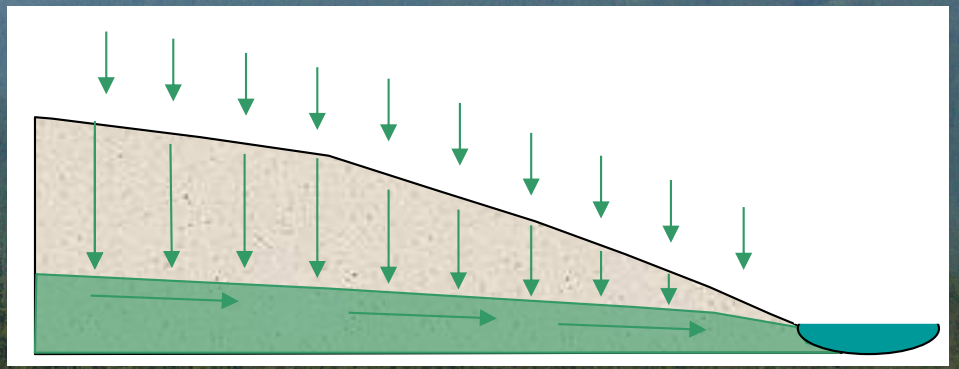
2. Saturation Overland Flow



3. Subsurface Storm Flow



4. Groundwater Flow



Watershed controls on streamflow generation

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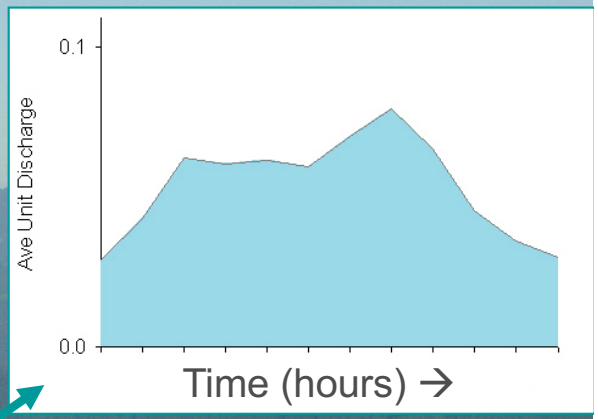
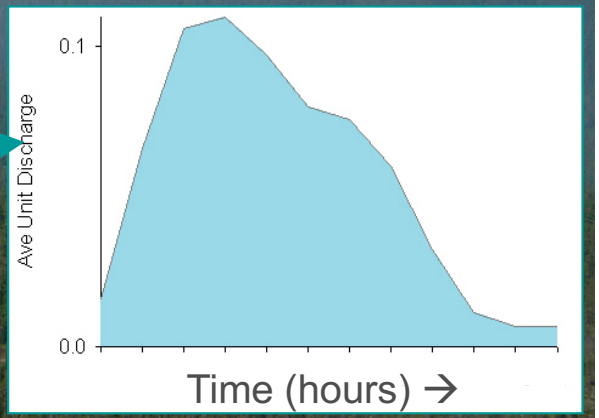
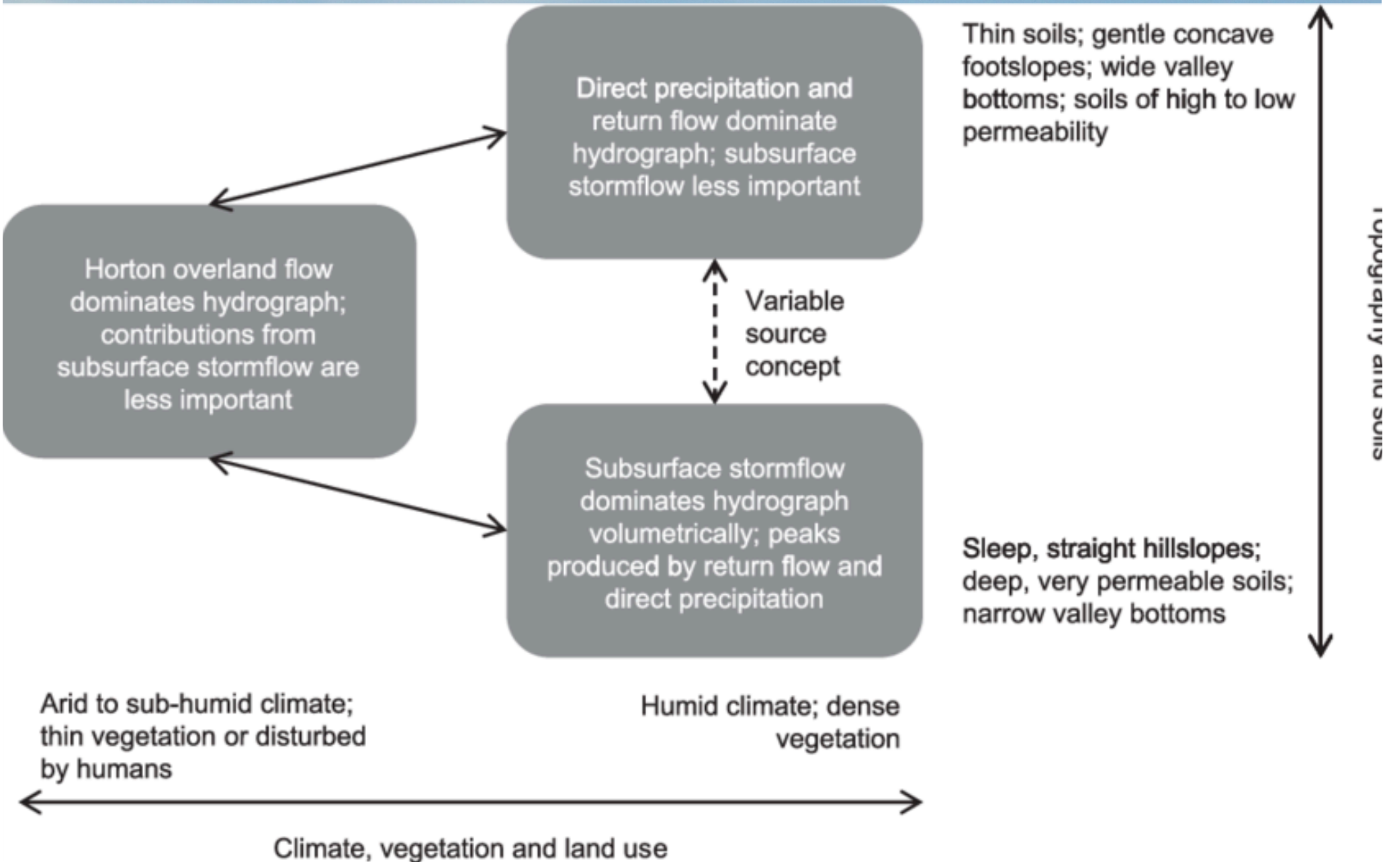
- Land use and vegetation





…will be able to talk in broad generalities about process dominance and hydrographs



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