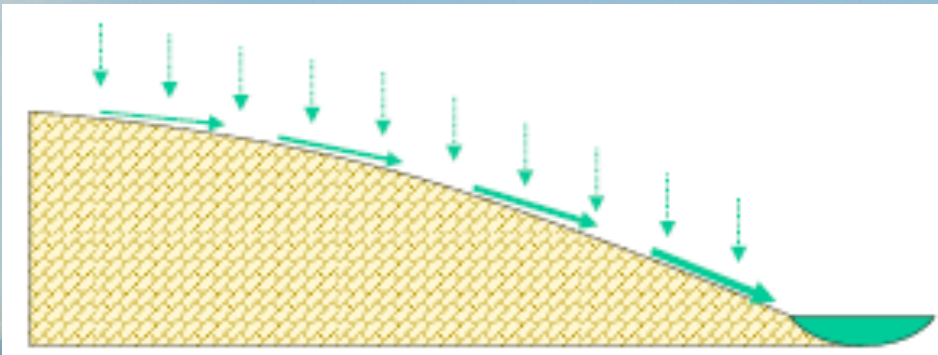
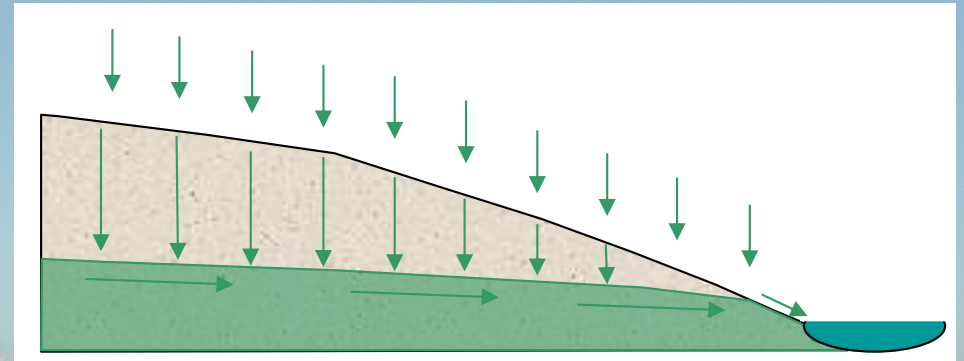


Streamflow generation mechanisms

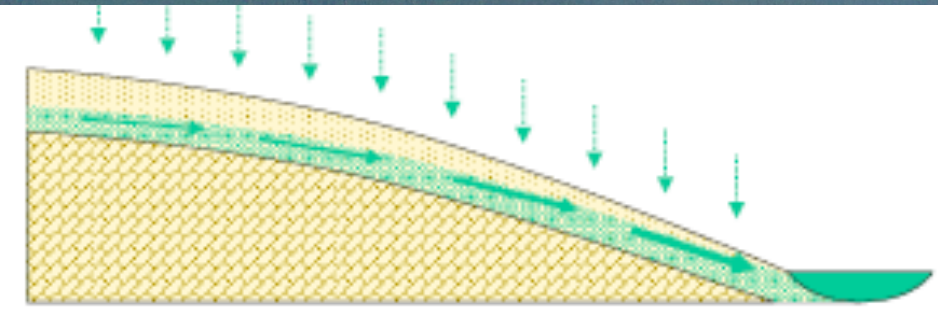
1. Infiltration Excess Overland Flow



2. Saturation Overland Flow

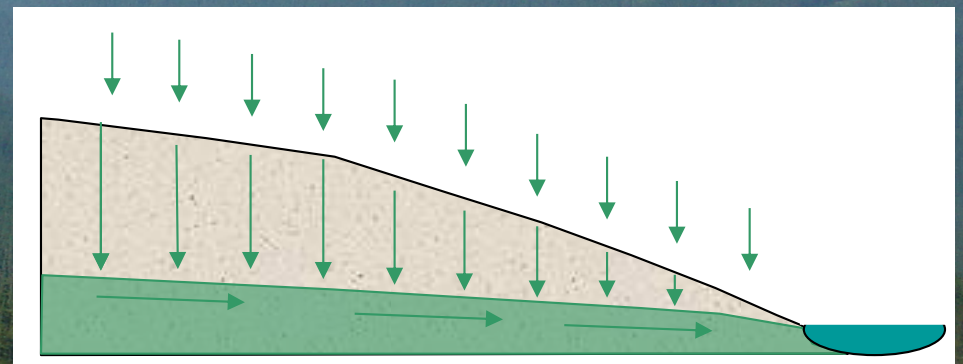



3. Subsurface Storm Flow



(also called interflow)

4. Groundwater Flow

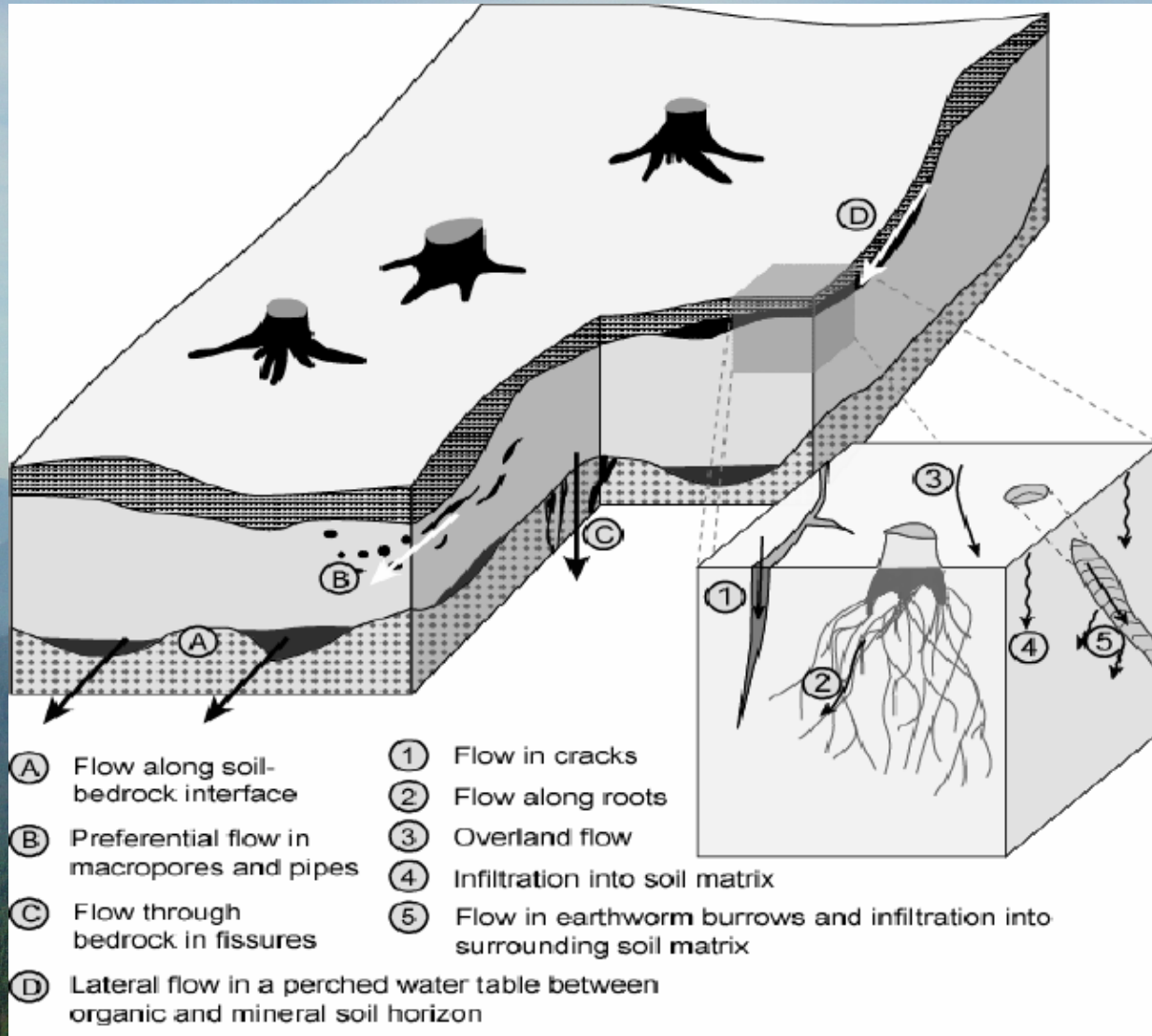


A photograph of a dense forest with many tall, thin trees. Sunlight is filtering through the canopy, creating a dappled light effect on the forest floor. The ground is covered with fallen leaves and some mossy rocks.

Subsurface storm flow is
common in humid, temperate,
forested areas.

Cuyahoga Valley National Park. Photo by A. Jefferson

Subsurface Storm Flow

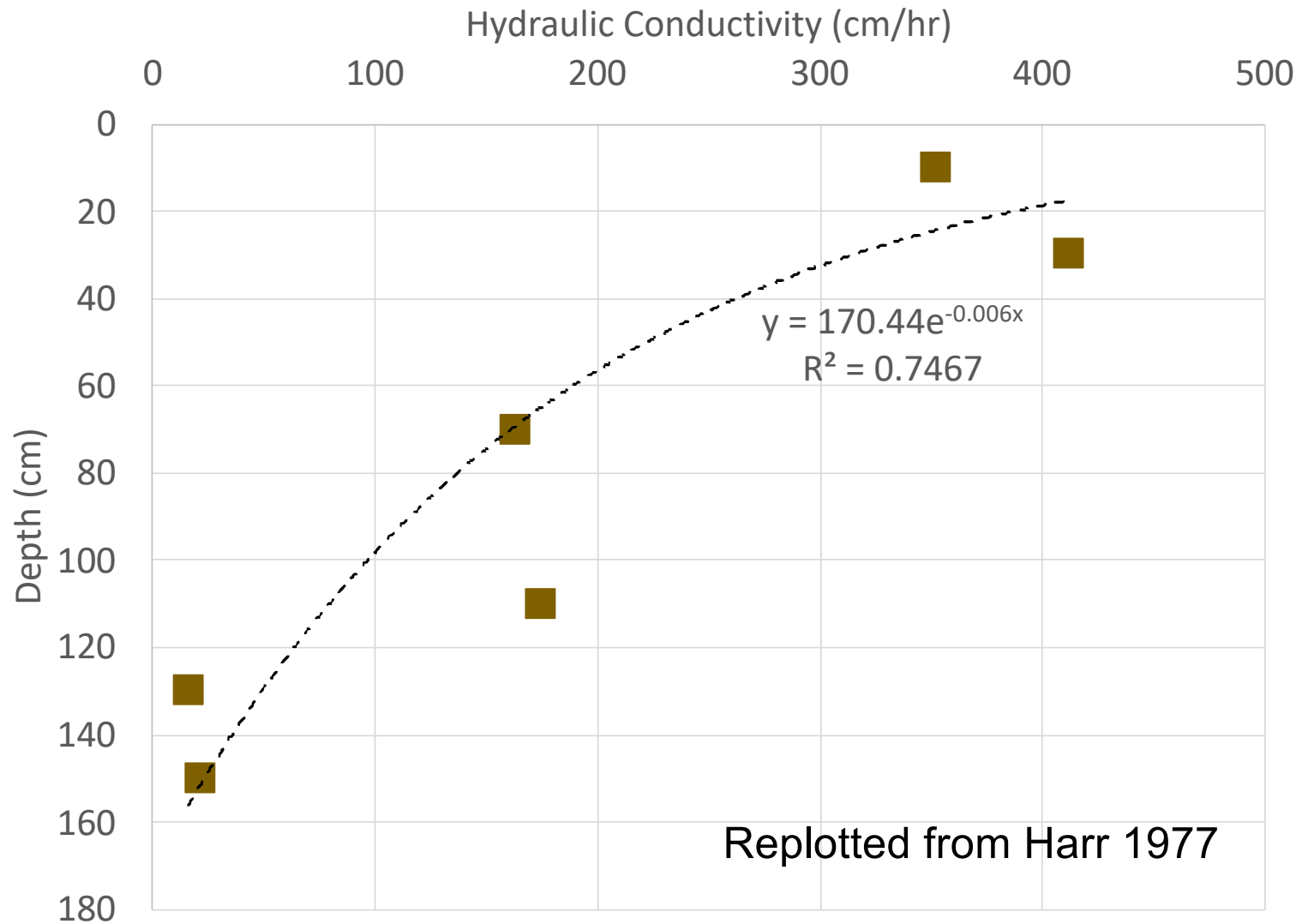
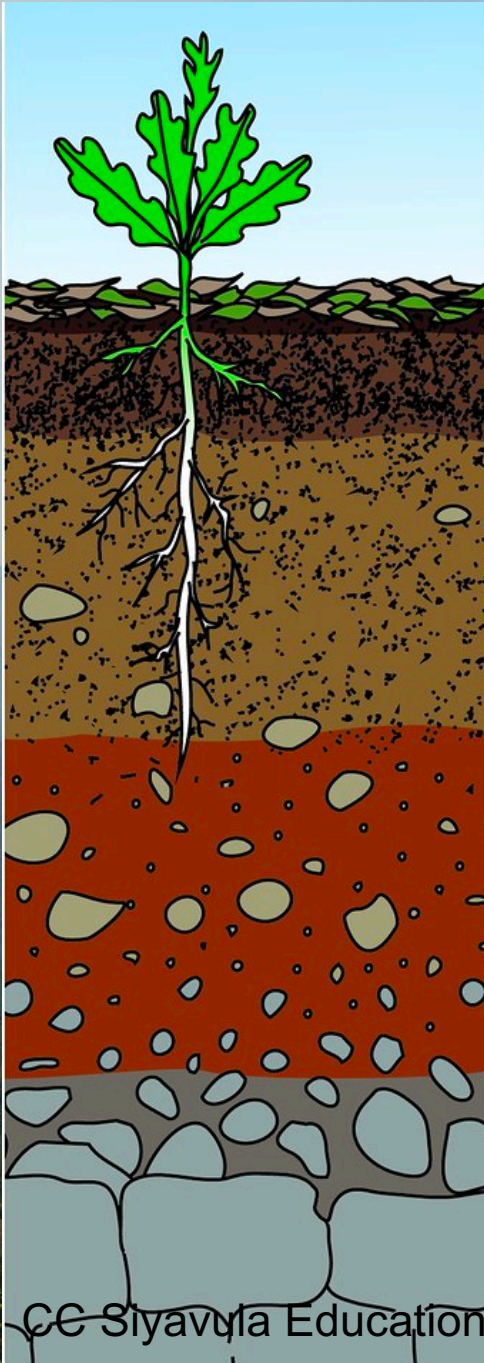


- Water moves rapidly through preferential flow paths (macropores)
- Can be vertical or lateral

Side et al 2001 HP

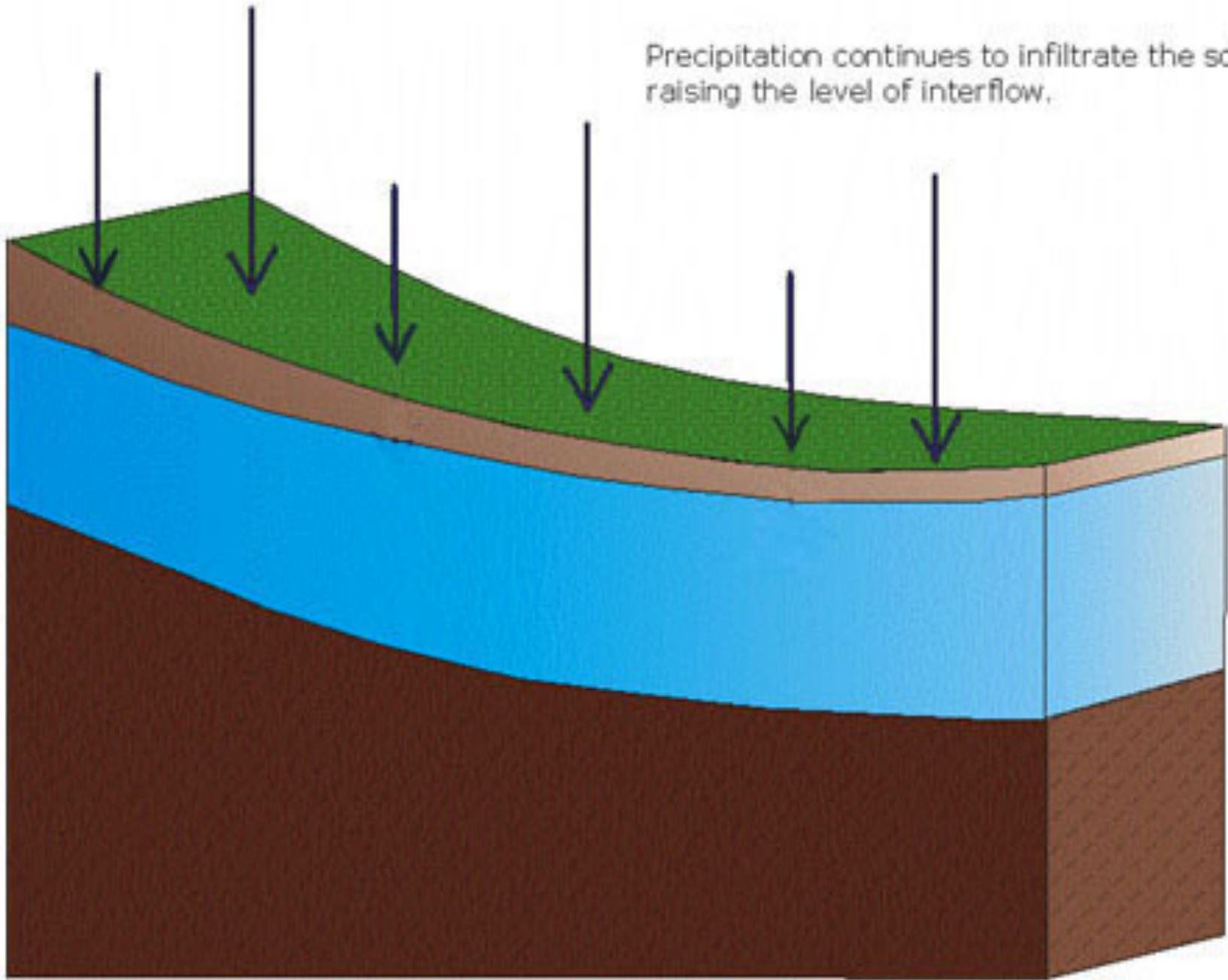
Hydraulic conductivity decreases with depth

... Water forced to move laterally

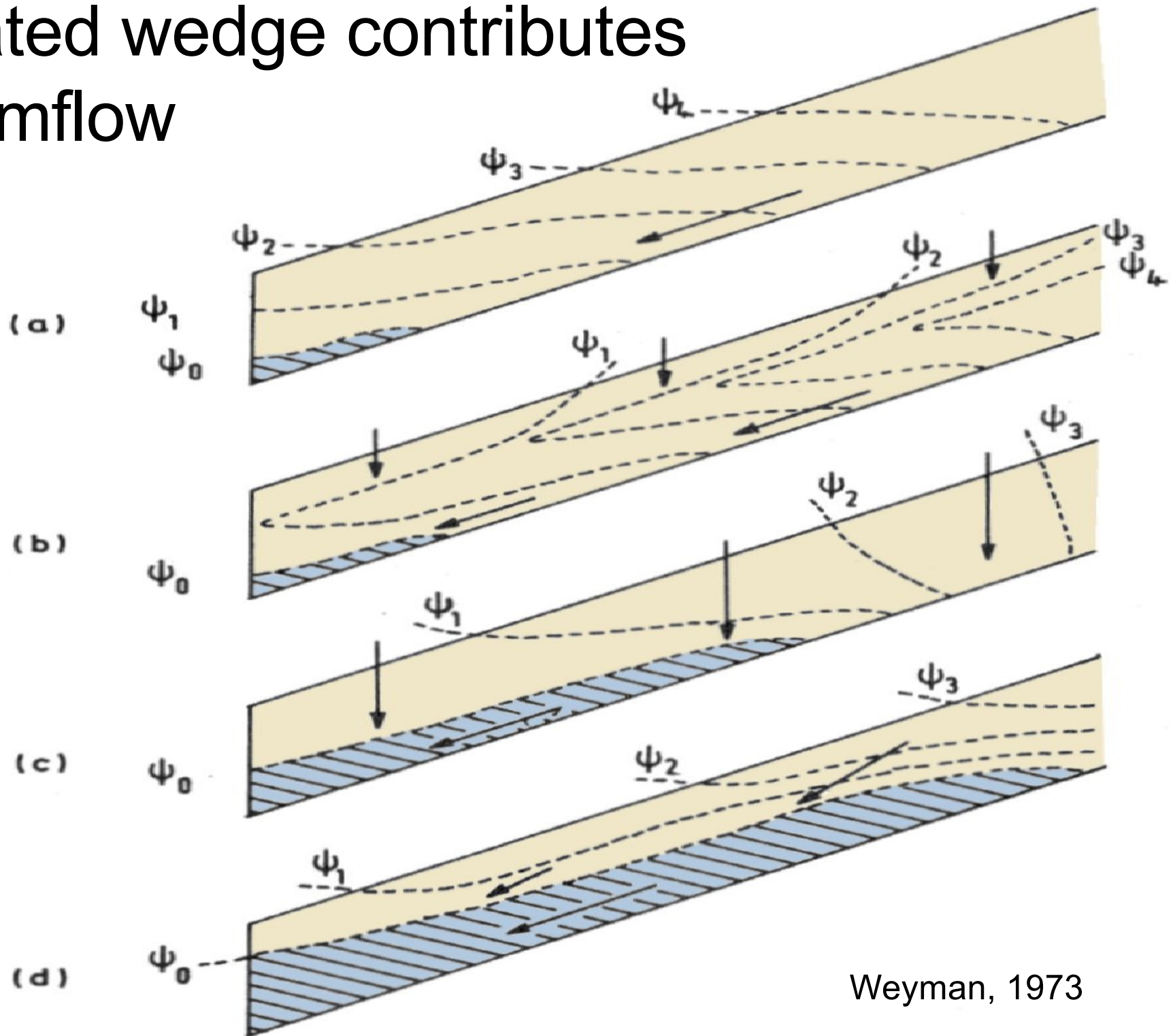


Replotted from Harr 1977

Precipitation continues to infiltrate the soil raising the level of interflow.

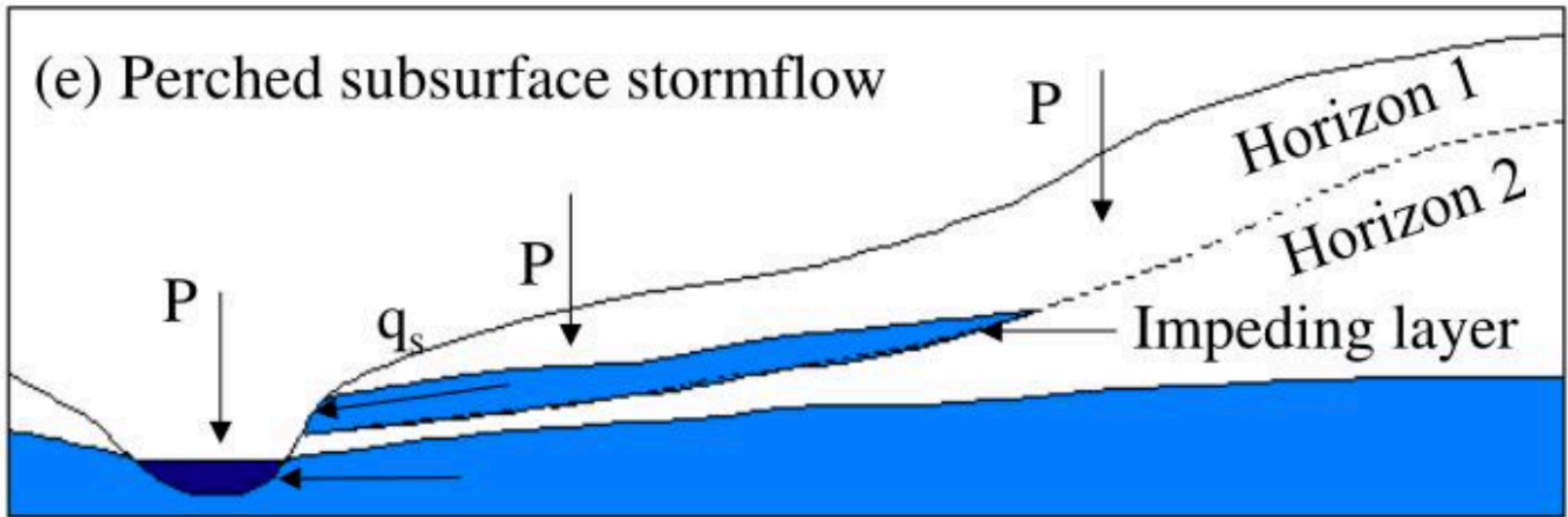


Saturated wedge contributes to stormflow

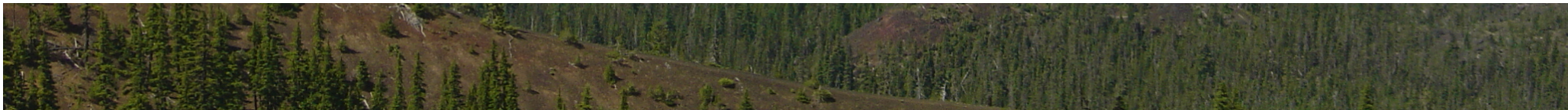


Weyman, 1973

- Wedge often develops at soil-bedrock interface
- This wedge is often perched relative to regional water table.



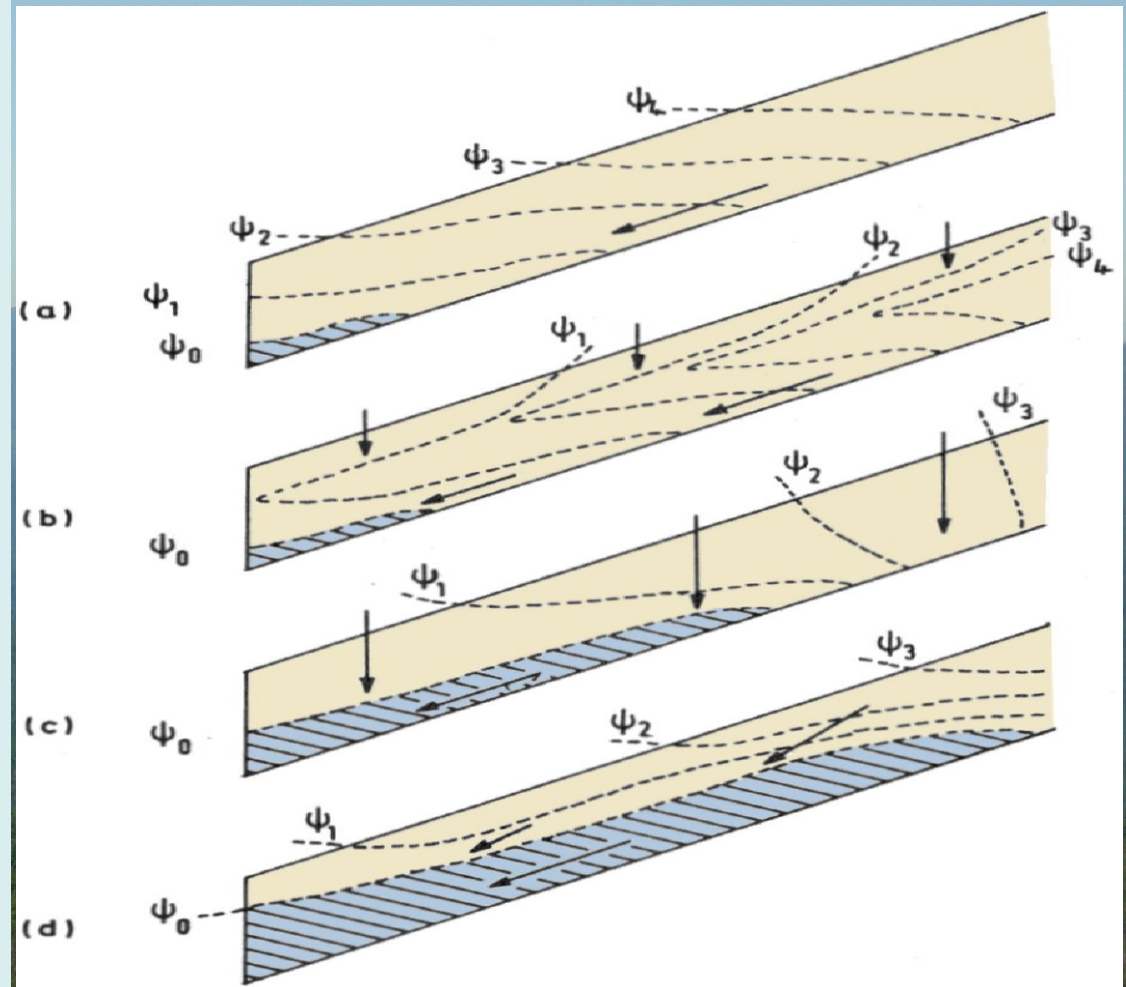
(following Beven, 2001)



Subsurface storm flow (SSF)

(also called interflow)

- Occurs where hydraulic conductivity decreases with depth
- Water forced to move laterally
- Saturated “wedge” contributes storm flow



Weyman, 1973



https://experimental-hydrology.net/wiki/index.php?title=Maimai_Experimental_Watershed