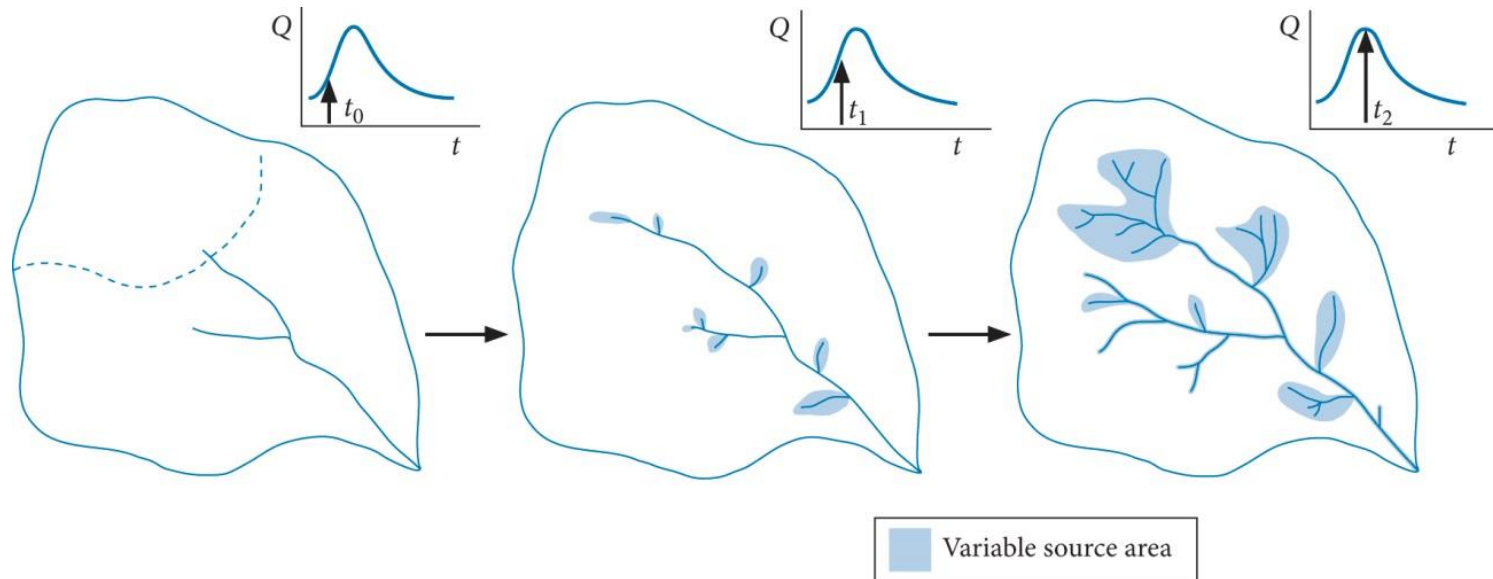


# Variable source areas

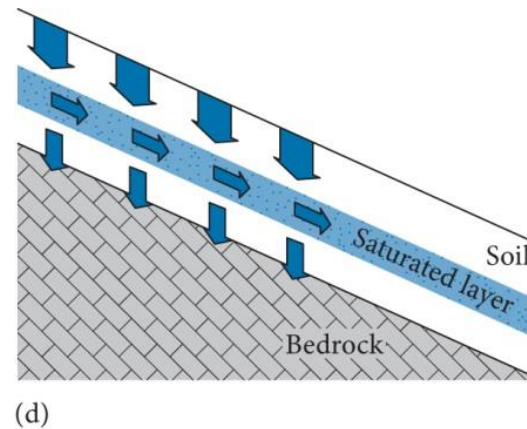
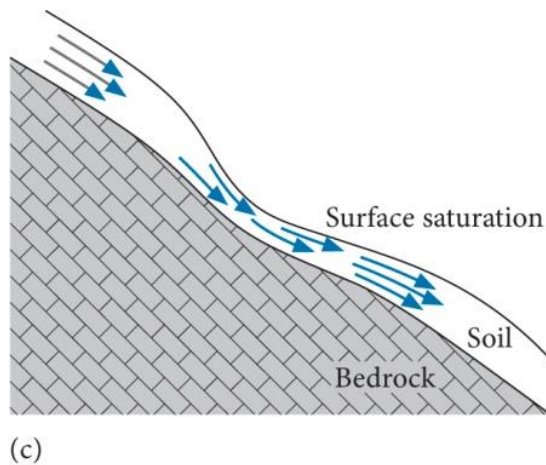
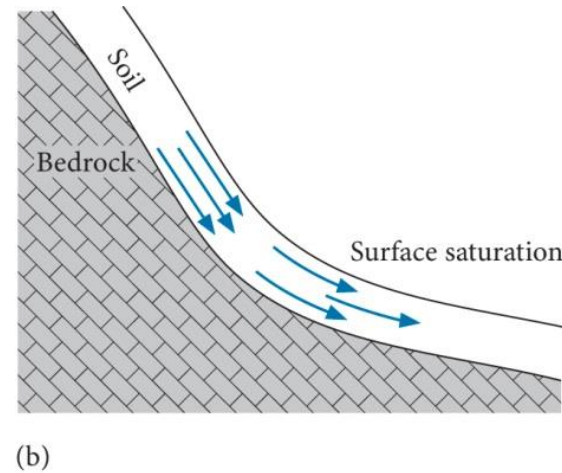
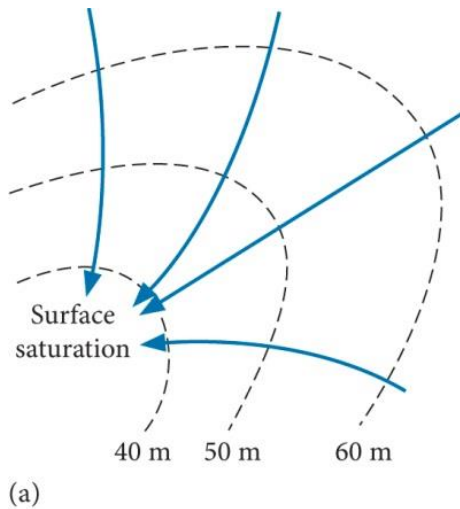
<https://www.youtube.com/user/MartinRHendriks/videos>



From Troch (2008)

# Locations of flow convergence

<https://www.youtube.com/user/MartinRHendriks/videos>

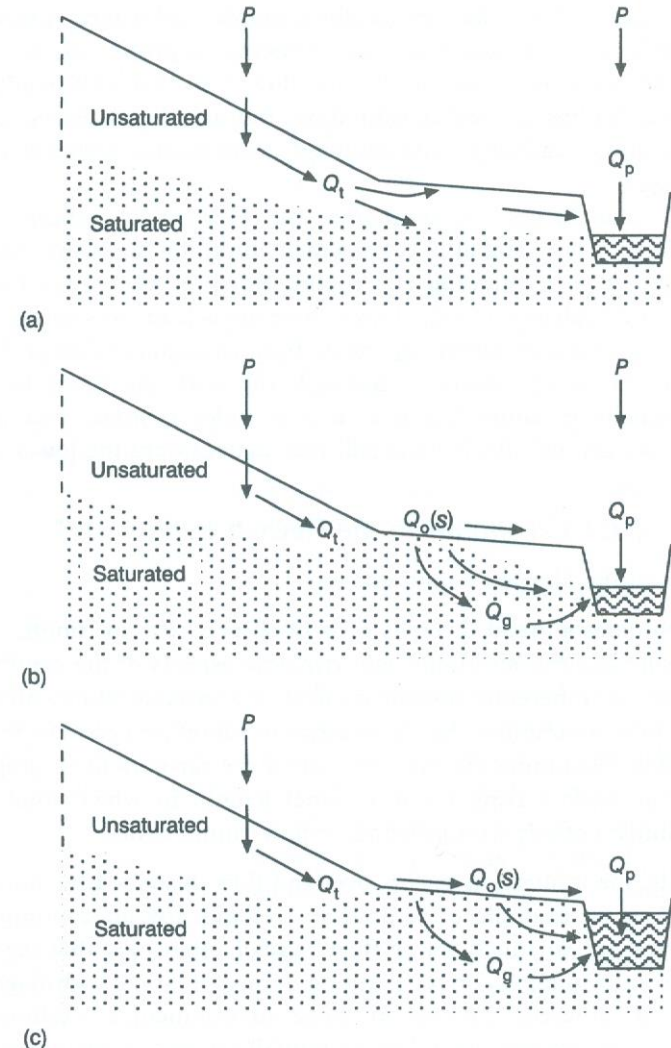


From Ward and Robinson (2000)

# Response to precipitation

<https://www.youtube.com/user/MartinRHendriks/videos>

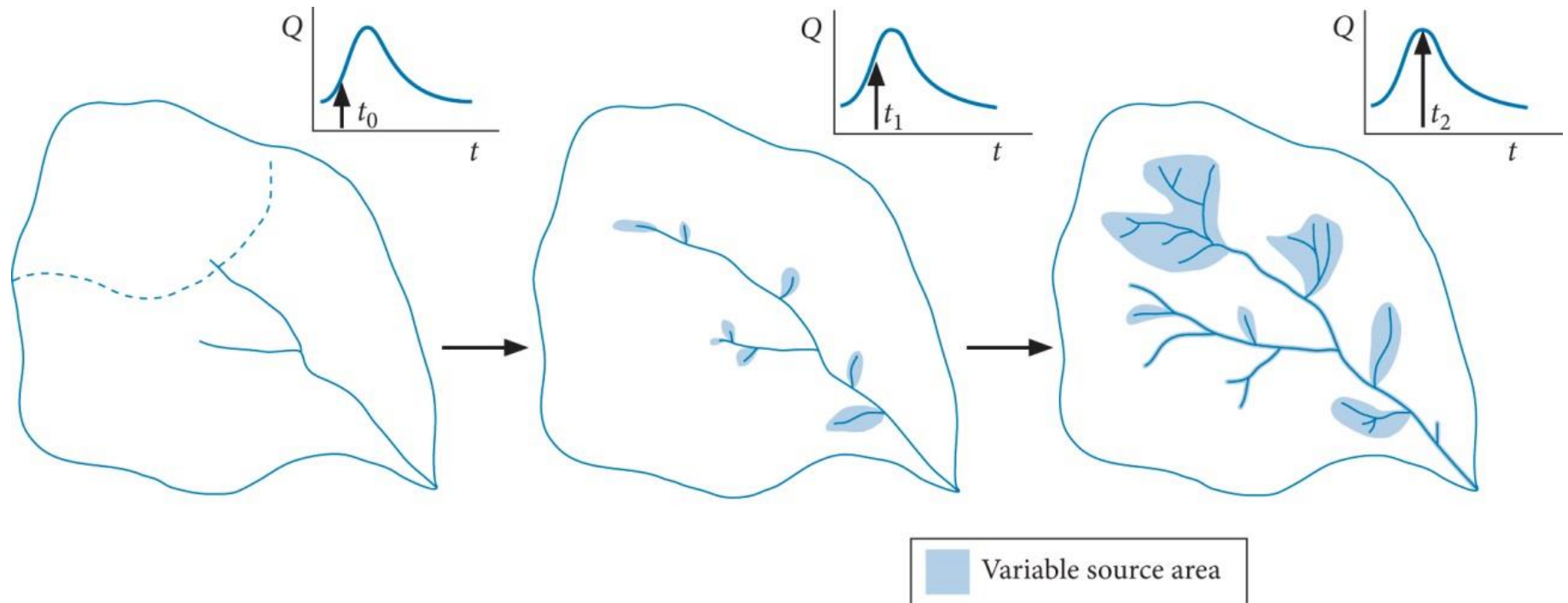
- Groundwater  $Q_g$
- Throughflow  $Q_t$   
(both matrix flow and macropore flow)
- Saturation-excess overland flow  $Q_o$   
= Dunnean overland flow
- Macropore flow: pipeflow



Based on the Hewlett hypothesis  
Source: Ward and Robinson (2000)

# Variable source areas

<https://www.youtube.com/user/MartinRHendriks/videos>



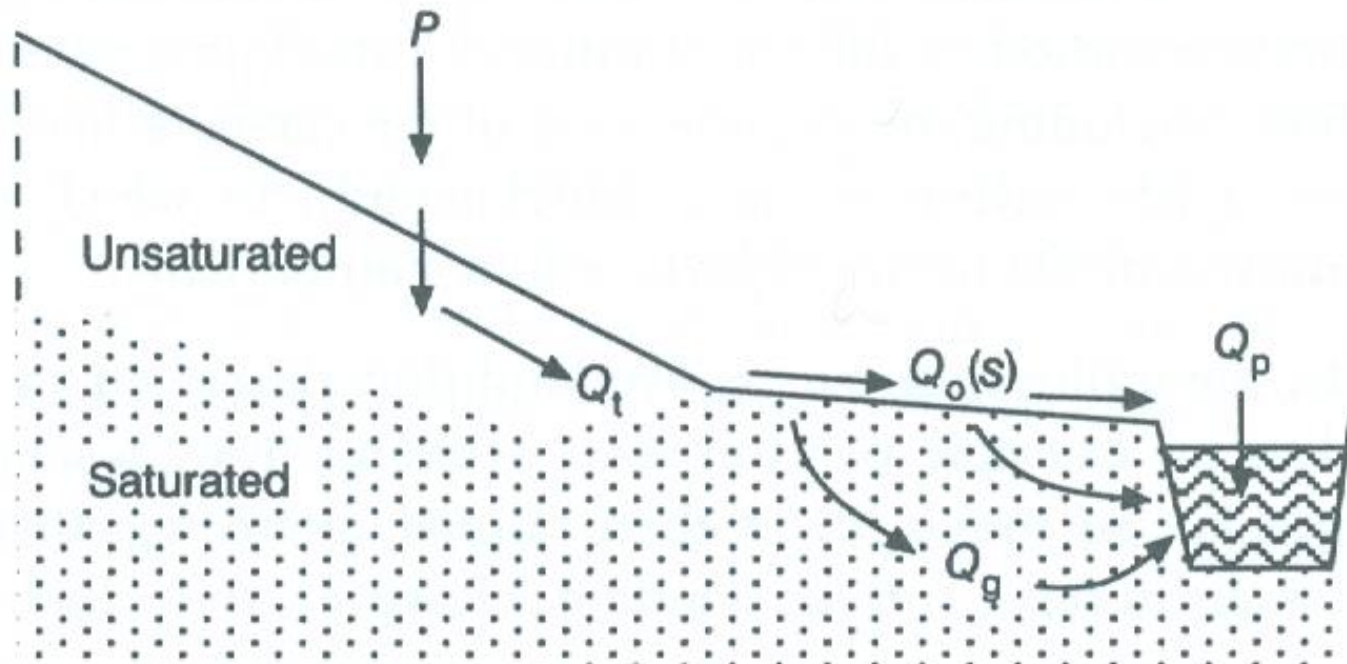
From Troch (2008)

# Topographic convergence

<https://www.youtube.com/user/MartinRHendriks/videos>

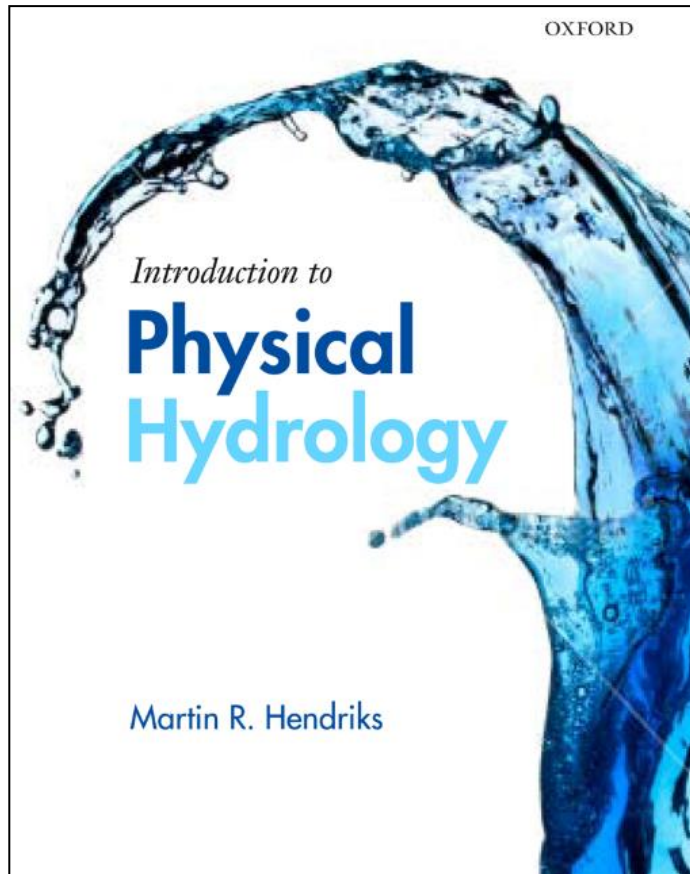
colluviation

alluviation



Source: Ward and Robinson (2000)

# References



Hewlett, J.D. (1961). Watershed management, in Report for 1961 Southeastern Forest Experiment Station, US Forest Service, Asheville, N.C.

Troch, P.A. (2008). Land Surface Hydrology. Chapter 5 in: Bierkens, M.F.P., Dolman, A.J. and Troch, P. (eds.), Climate and the Hydrological Cycle. IAHS (International Association of Hydrological Sciences) Special Publication 8, pp. 99-115.

Ward, R.C. and Robinson, M. (2000). Principles of Hydrology. 4th Edition. McGraw-Hill, 450 pp.

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