Infiltration

Richards' equation: $$\frac{d}{dz}\left(K(\psi)\frac{dh}{dz}\right)=\frac{d\theta}{dt}$$

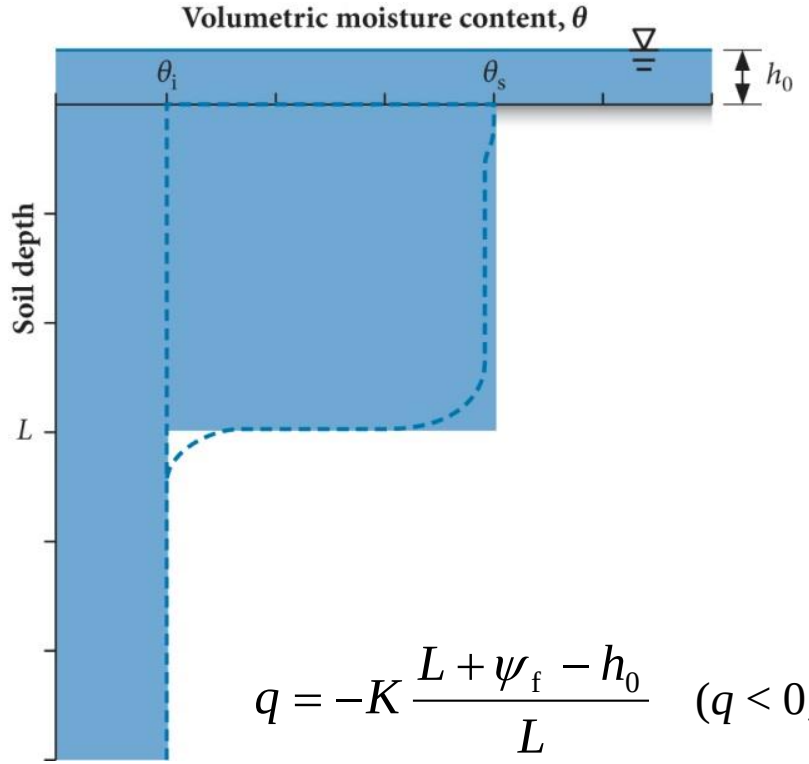
Green and Ampt equation

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

Ponded infiltration

$h = 0 + h_0$

$h = L + \psi_f$



$$q = -K\frac{L + \psi_f - h_0}{L} \quad (q < 0;\ \psi_f < 0;\ L < 0;\ h_0 > 0)$$

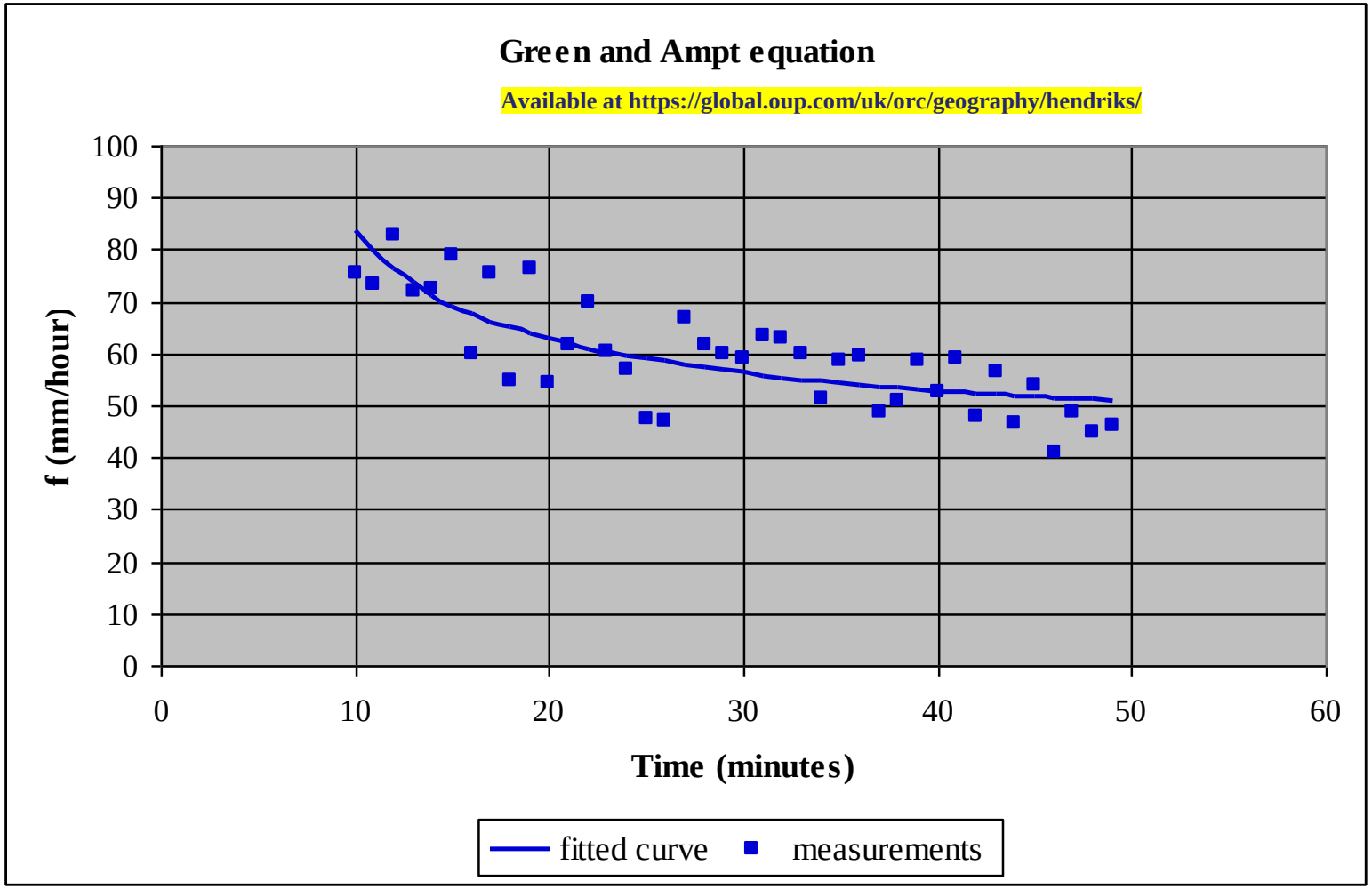
$$f = K\frac{L + S_f + h_0}{L} \quad (f > 0;\ S_f > 0;\ L > 0;\ h_0 > 0)$$

$t \to \infty \Rightarrow f = K$, and $i = 1$ (gravity drainage)

Spreadsheet

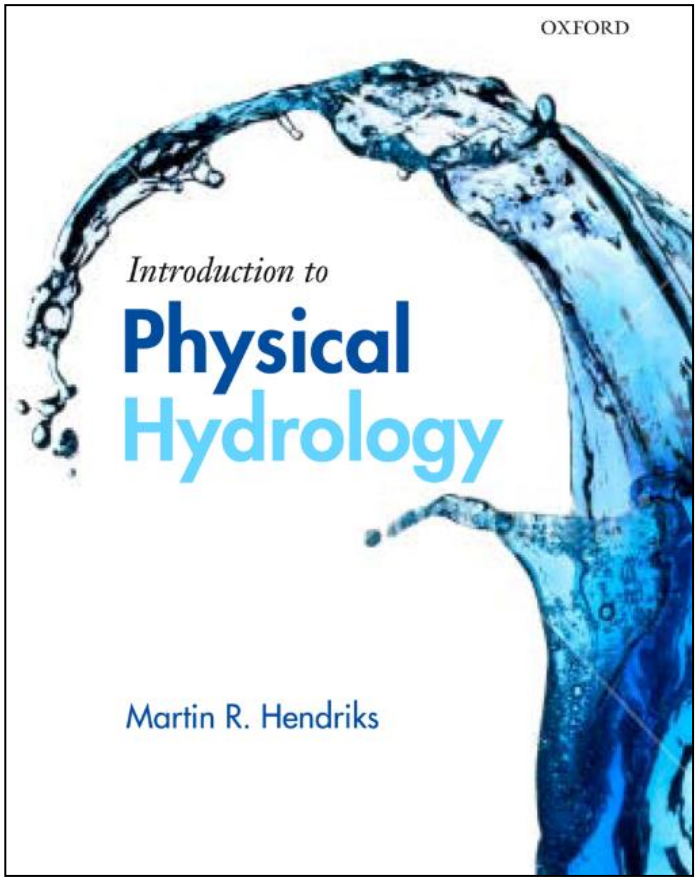
https://www.youtube.com/user/MartinRHendriks/videos

Ponded infiltration



Textbook

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



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