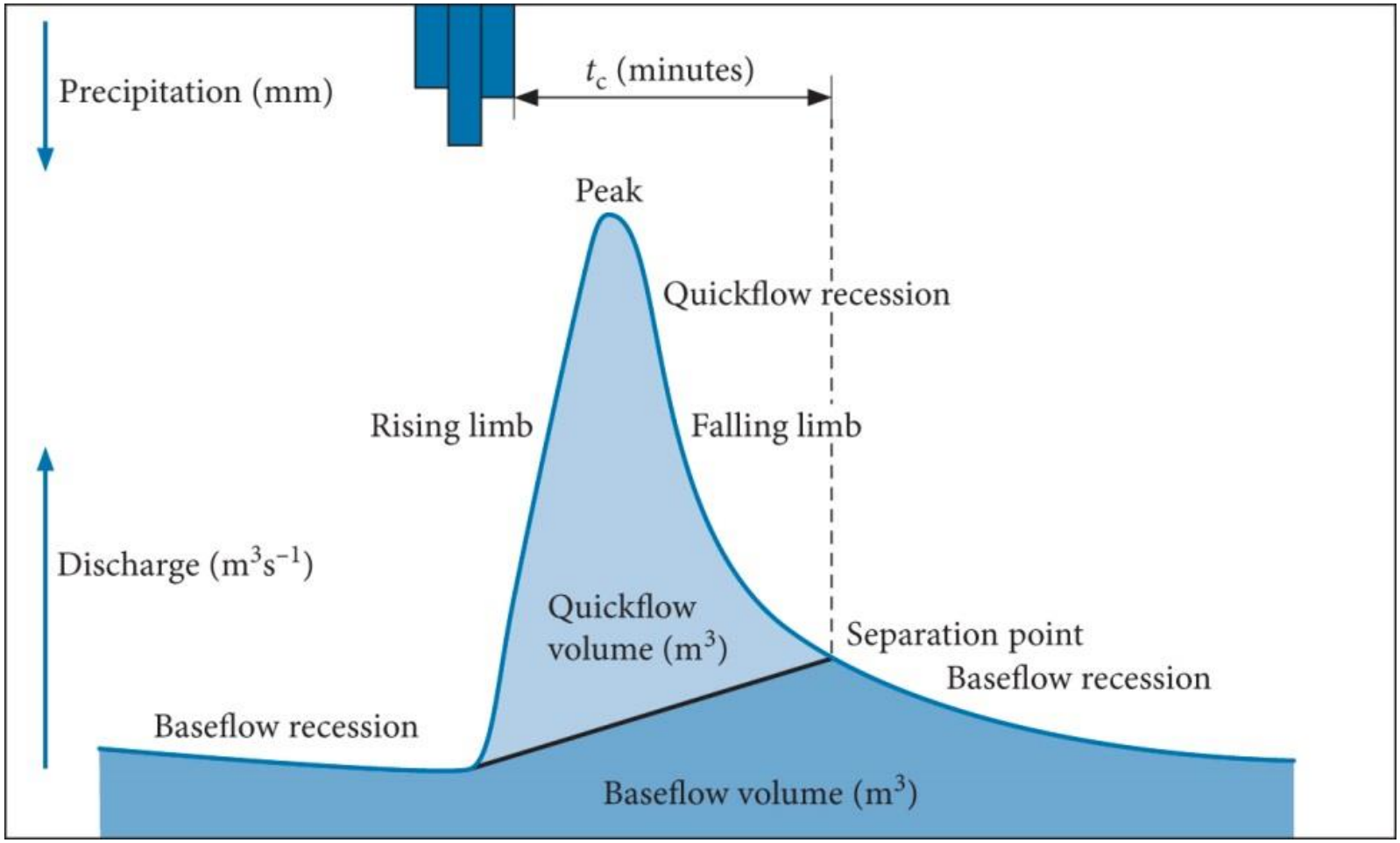
Hydrograph analysis

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



Hydrograph recession analysis

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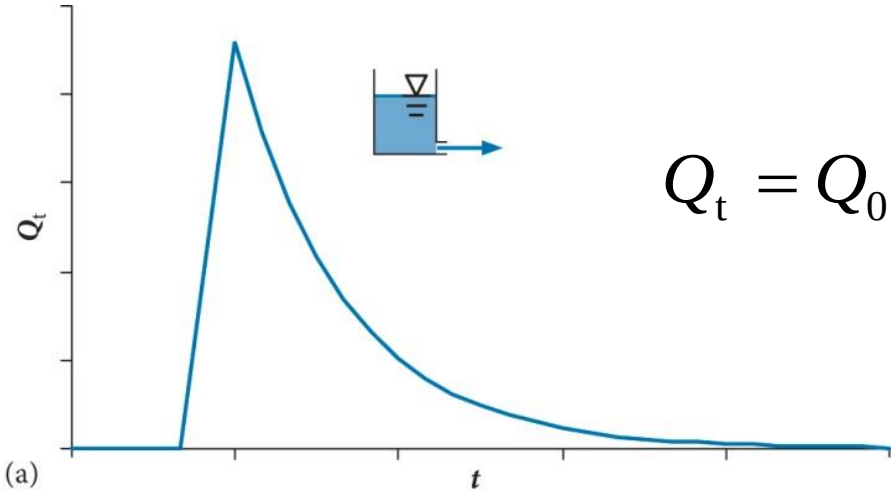
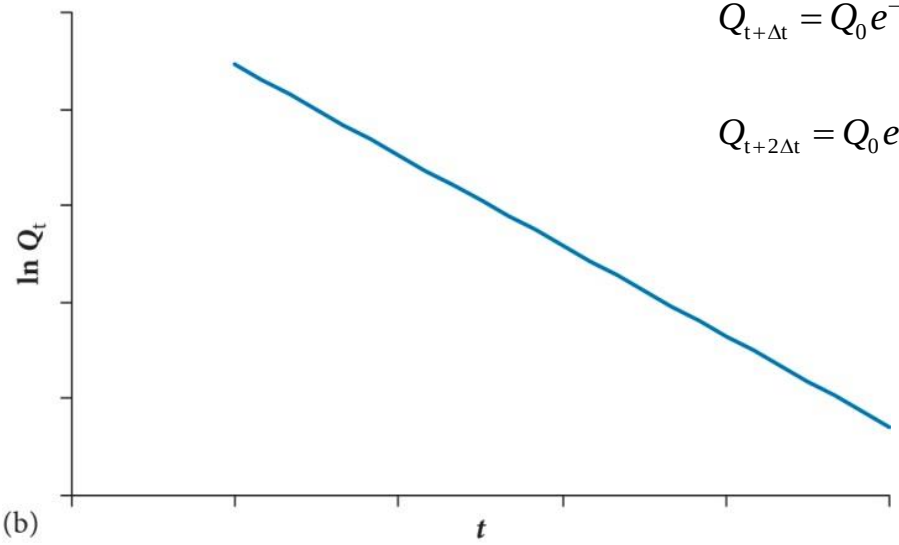


Ephemeral stream

Quickflow reservoir

$$Q_t = Q_0 e^{-\alpha t}$$



$$Q_{t+\Delta t} = Q_0 e^{-\alpha(t+\Delta t)} = Q_0 e^{-\alpha t} e^{-\alpha \Delta t} = Q_t e^{-\alpha \Delta t}$$

$$Q_{t+2\Delta t} = Q_0 e^{-\alpha(t+2\Delta t)} = Q_0 e^{-\alpha t} e^{-2\alpha \Delta t} = Q_0 e^{-\alpha t}\left(e^{-\alpha \Delta t}\right)^2 = Q_t\left(e^{-\alpha \Delta t}\right)^2$$

$$\ln Q_t = -\alpha t + \ln Q_0$$

Hydrograph recession analysis

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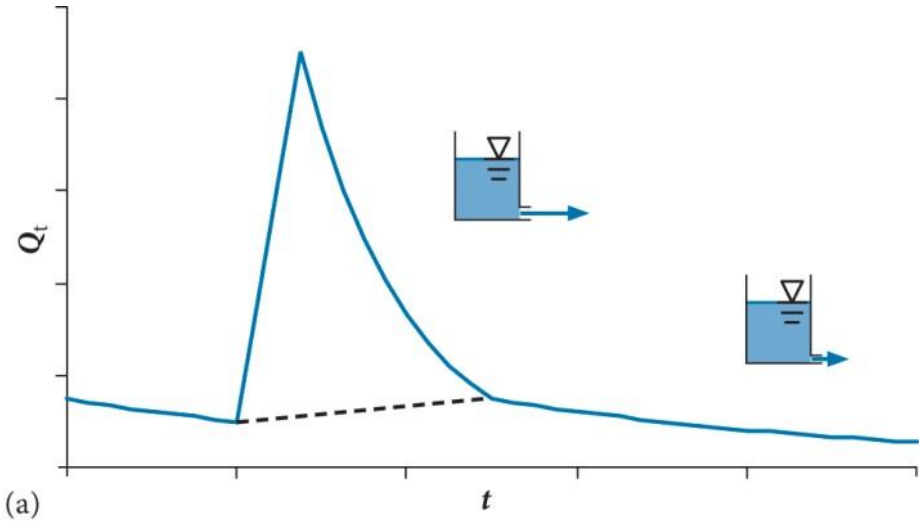
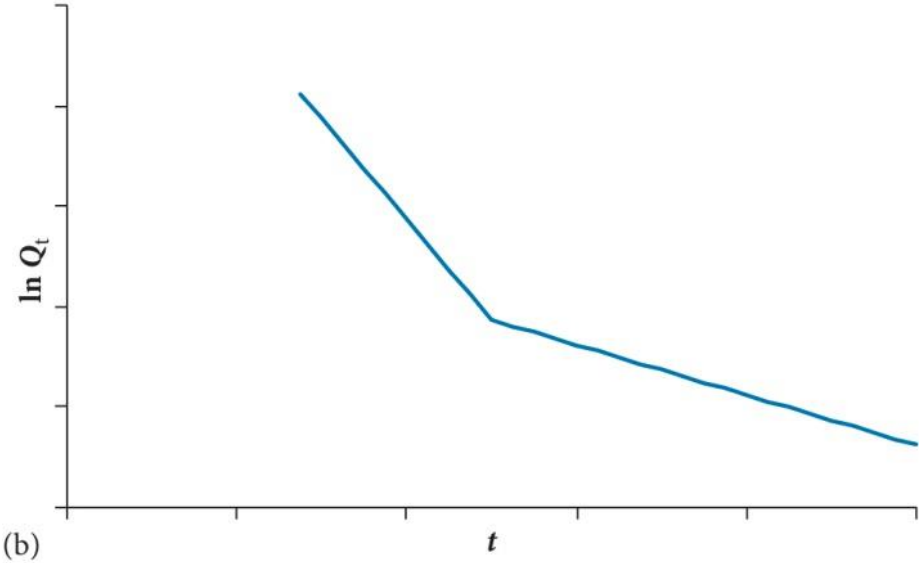


Perennial stream

Quickflow reservoir

Baseflow reservoir

$$Q_t = Q_0 e^{-\alpha t}$$



$$\ln Q_t = -\alpha t + \ln Q_0$$

Hydrograph separation

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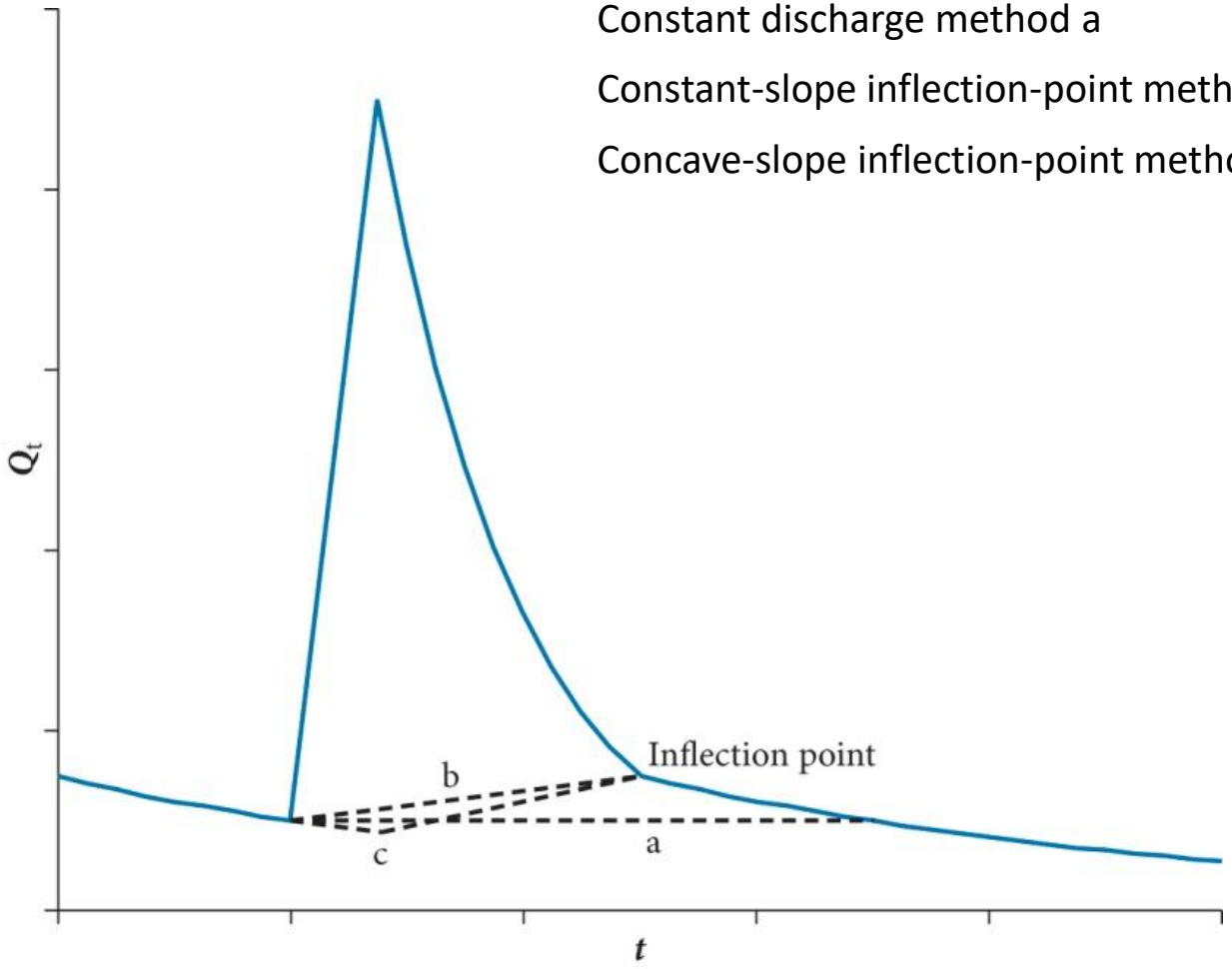
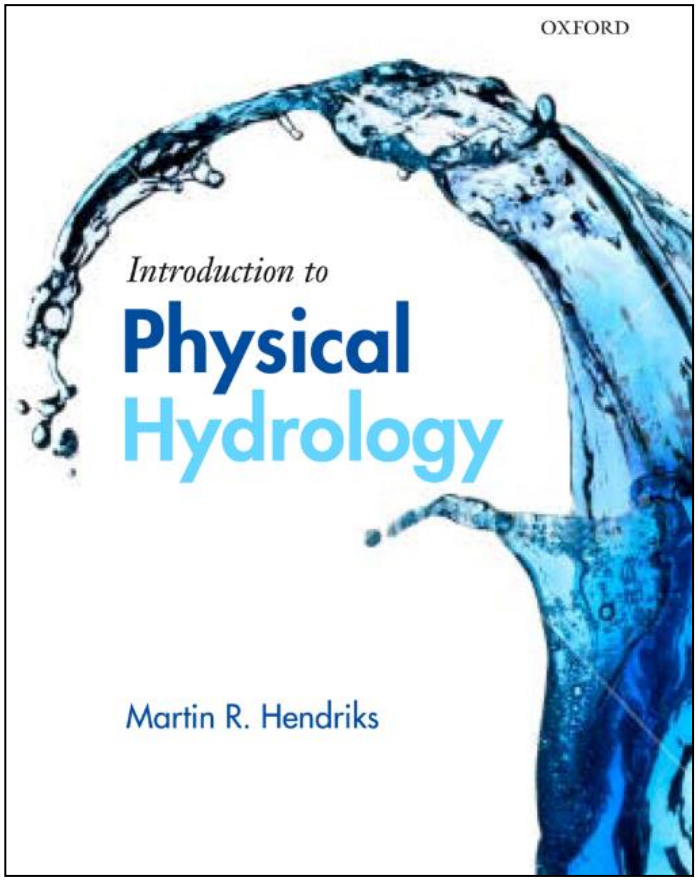


Constant discharge method a

Constant-slope inflection-point method b

Concave-slope inflection-point method c

Textbook



Paperback | 351 pages | Follow the book's didactic concept!
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