

PARAMETER ESTIMATION APPROACH FOR ACCUMULATED RAIN ESTIMATION FROM FEW

NEAR-GROUND SENSORS

The GRC: $R(x, y, t; \theta)$

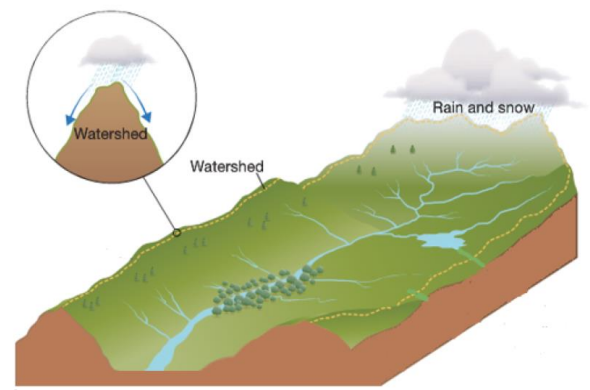
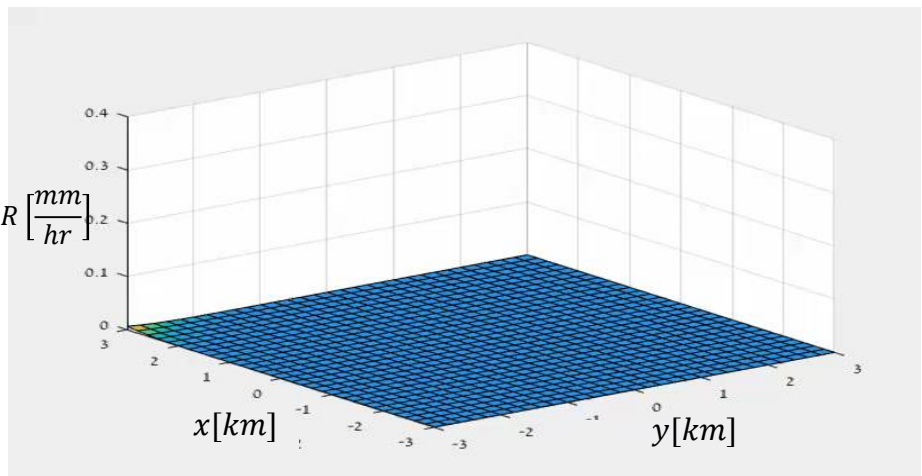


Image source- <http://snyear7geography.weebly.com/catchment.html>

$$\theta = [R_0, \mu_{0x}, \mu_{0y}, \sigma_x^2, \sigma_y^2, \rho, v_x, v_y]$$

The CML

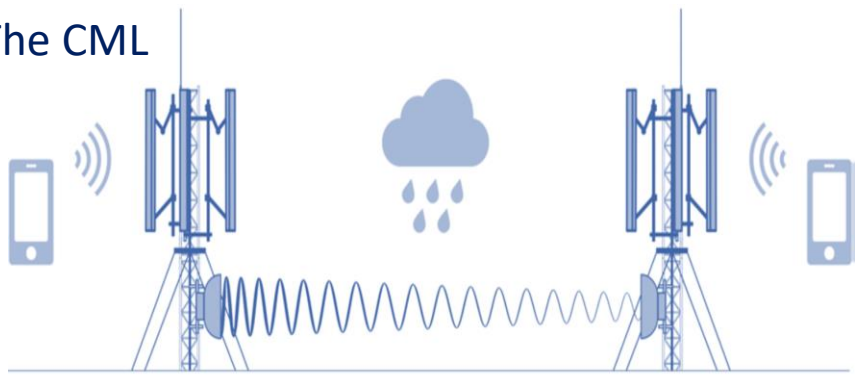
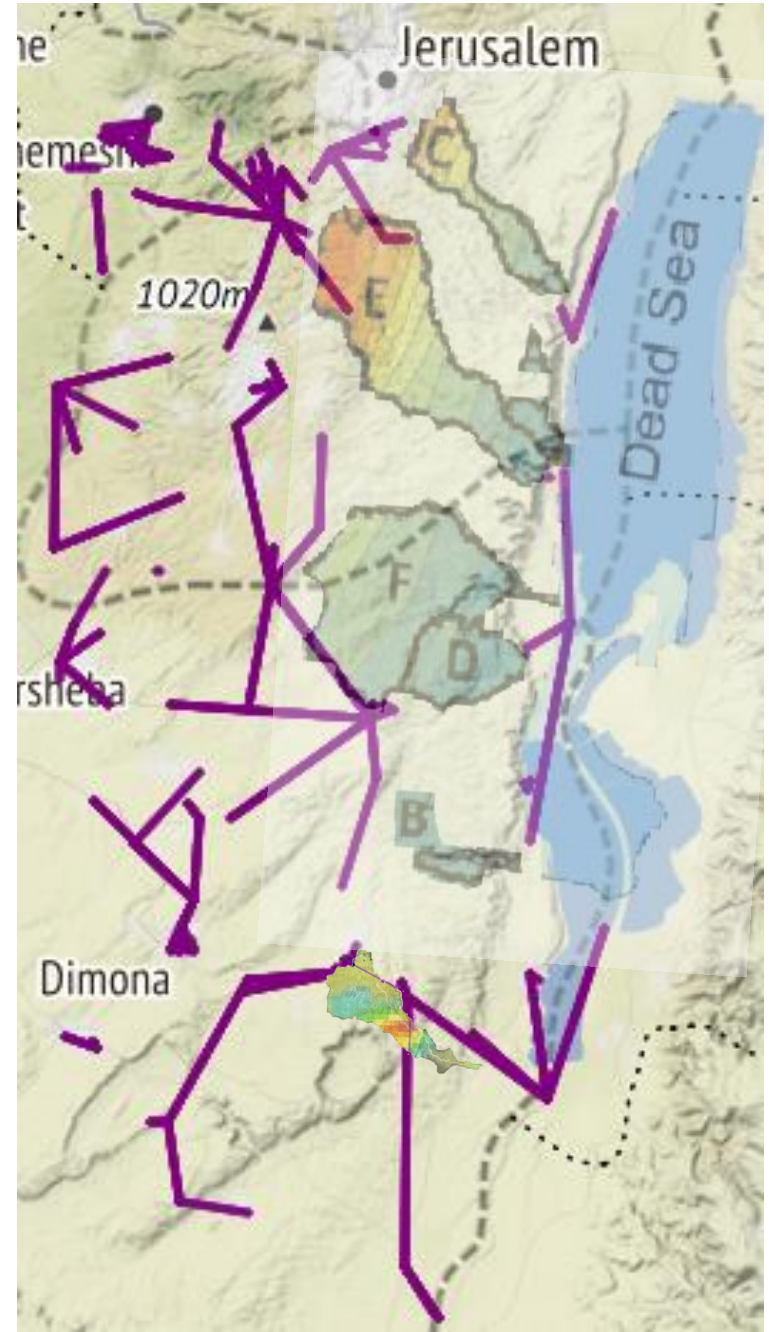
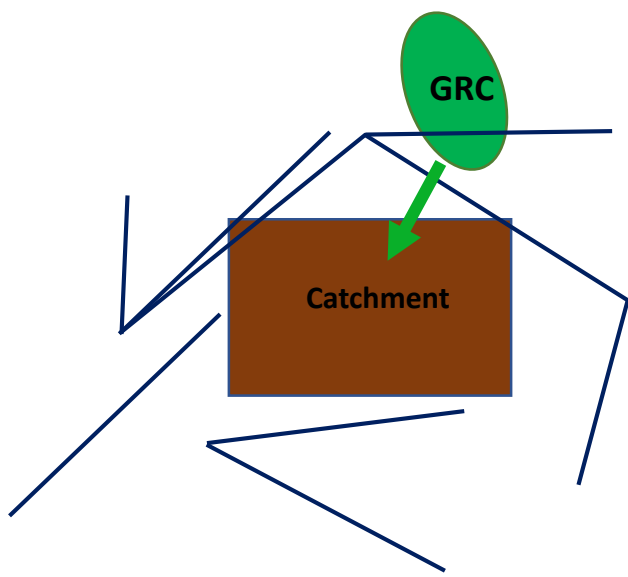


Image source-Ostrometzky, 2017

$$A = aR^bL \rightarrow A(t_n) = \int_L a \cdot R^b(x(l), y(l), t_n) dl$$

$$z_{CML}(t_n) = A(t_n) + w_{CML}; w_{CML} \sim N(0, \sigma_{CML}^2)$$



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