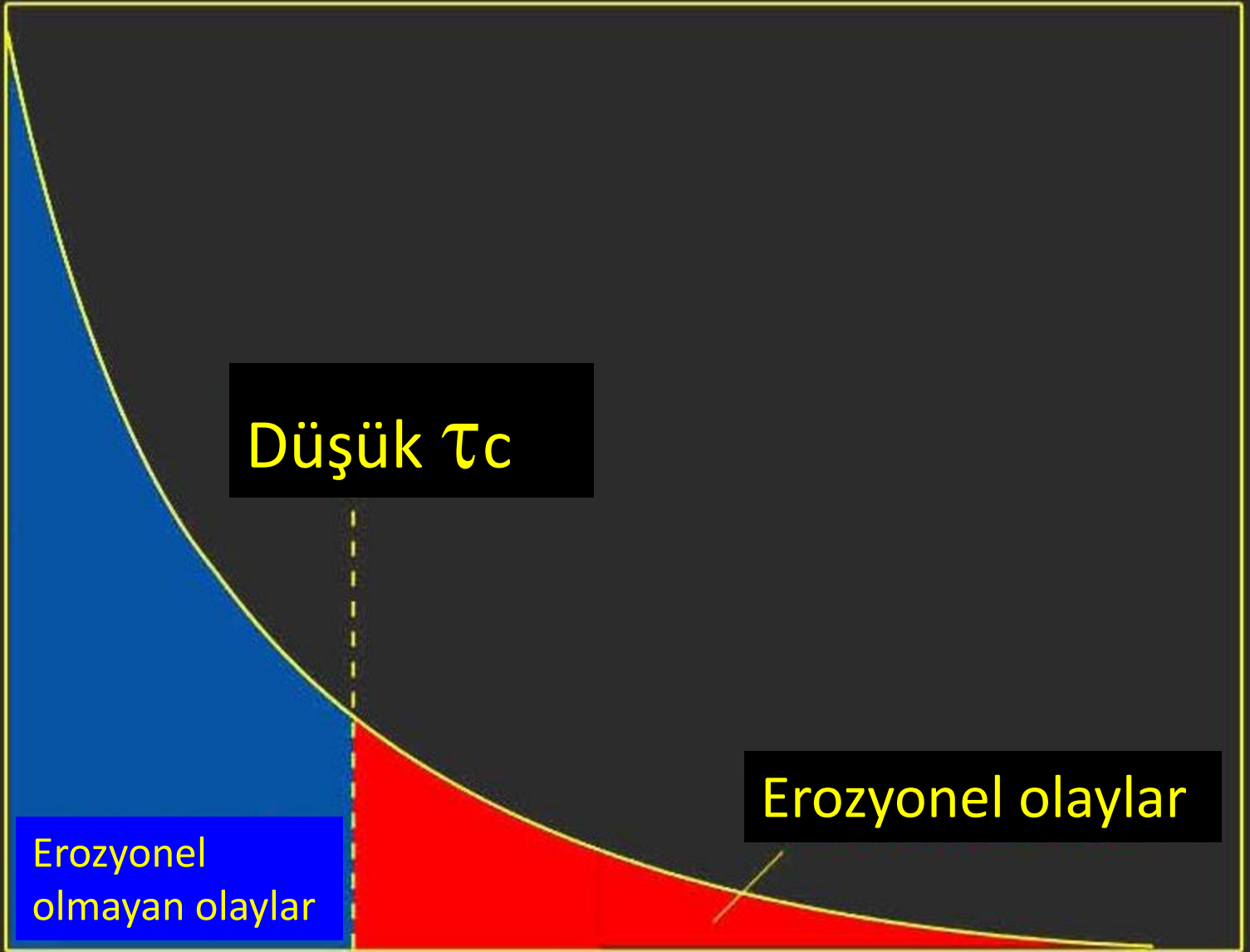
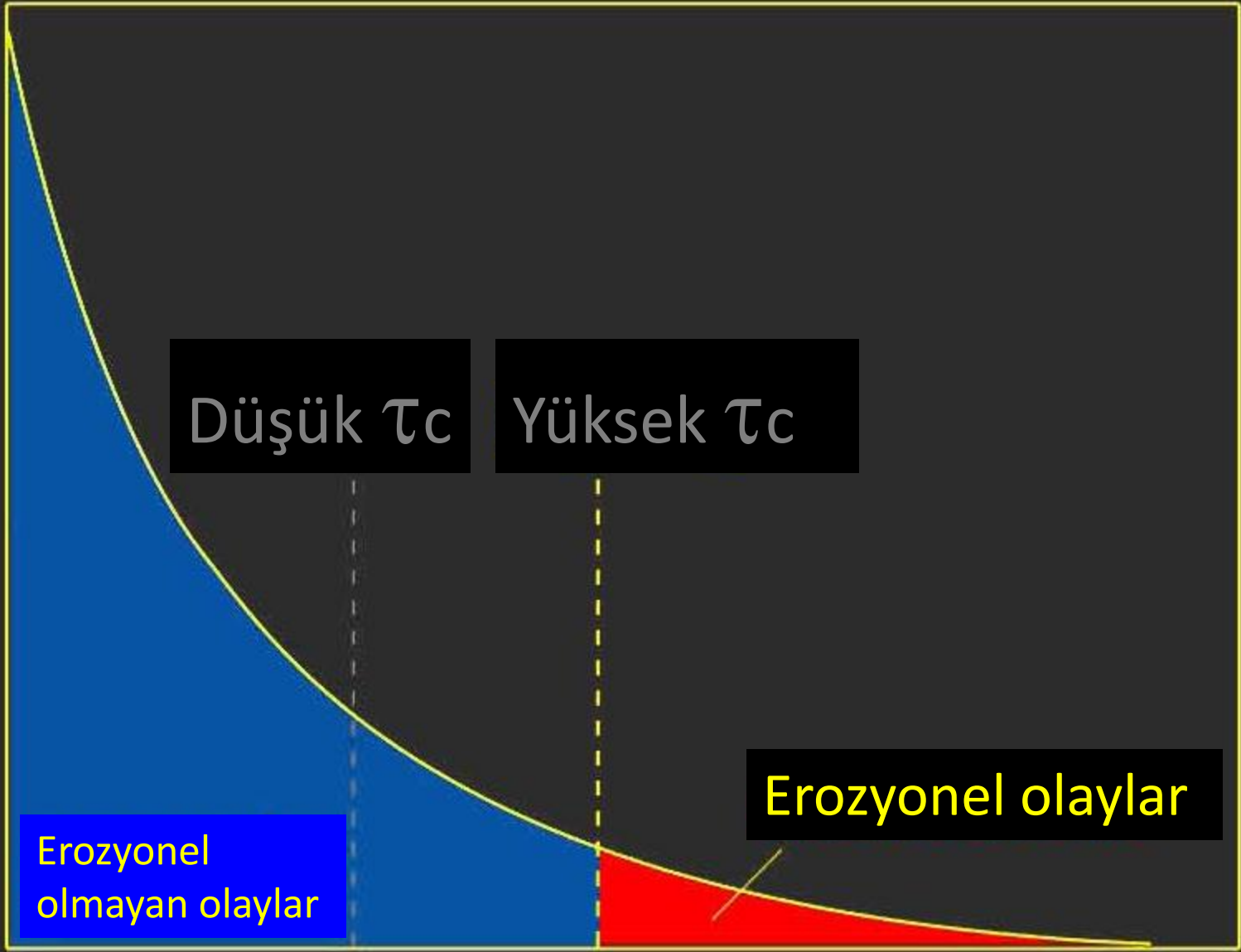


Sıklık



Q, boşalım

Sıklık



Düşük τ_c

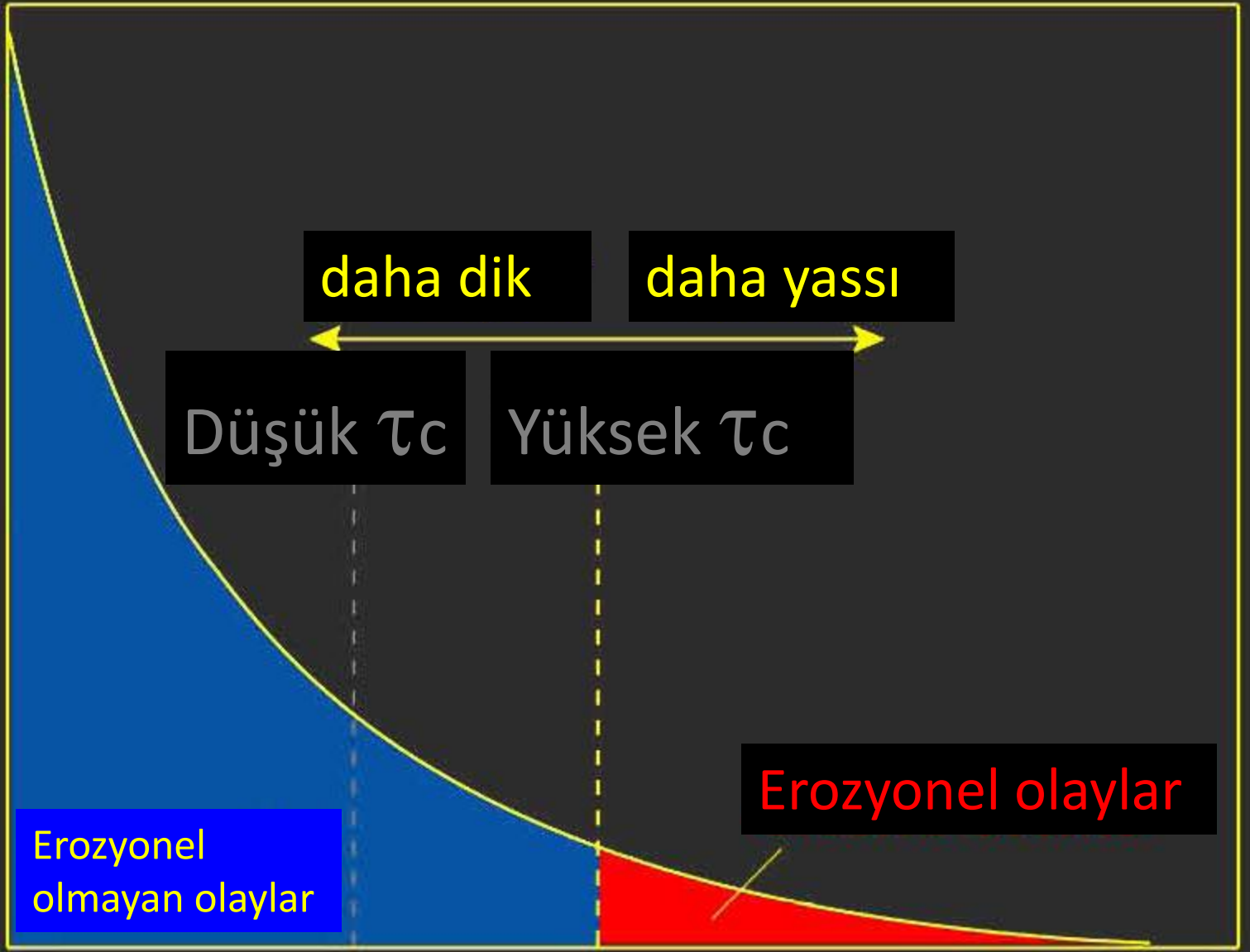
Yüksek τ_c

Erozyonel olmayan olaylar

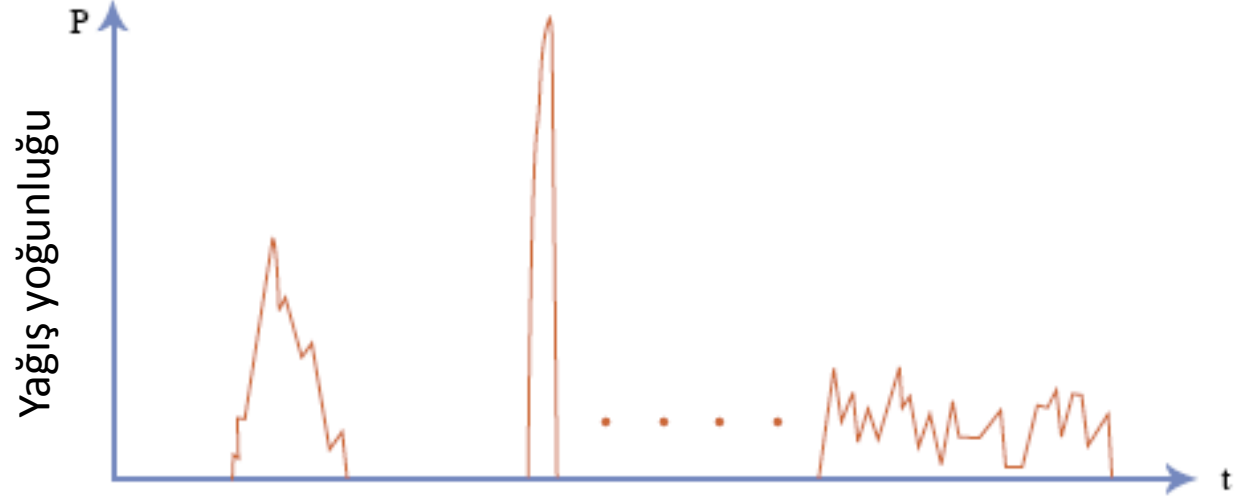
Erozyonel olaylar

Q, boşalım

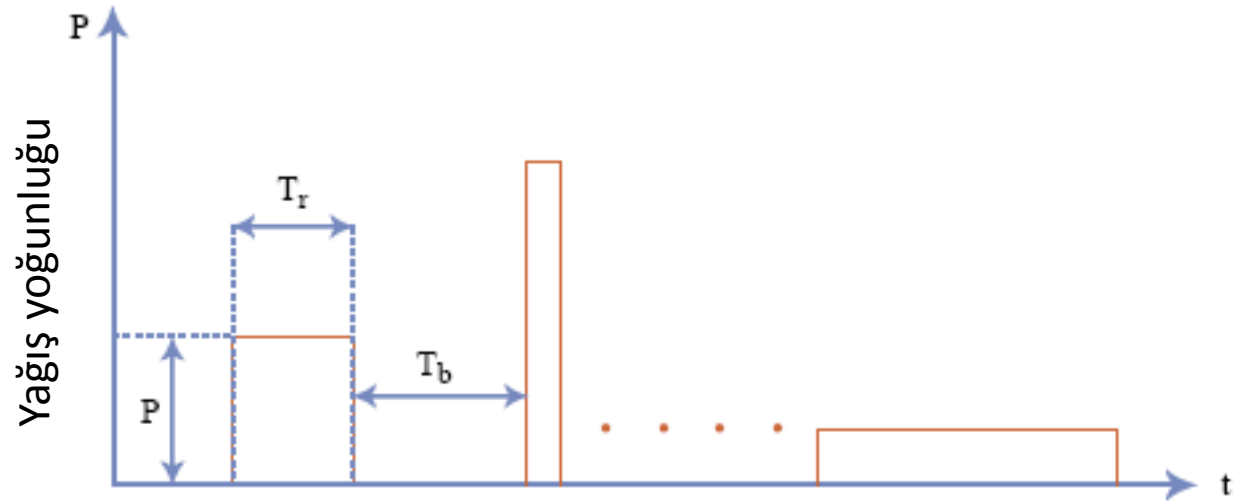
Sıklık



Q , boşalım



(a) Güncel



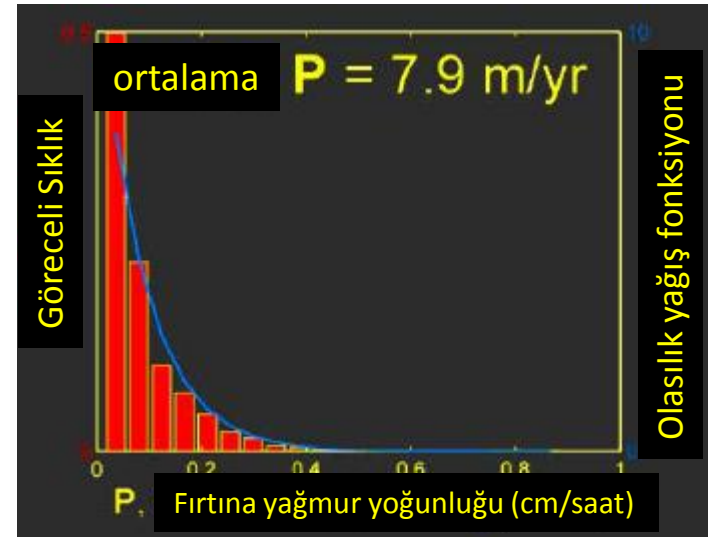
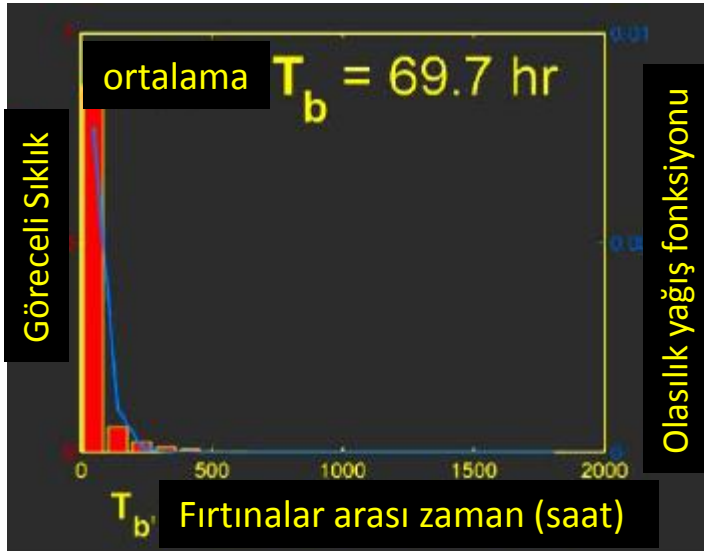
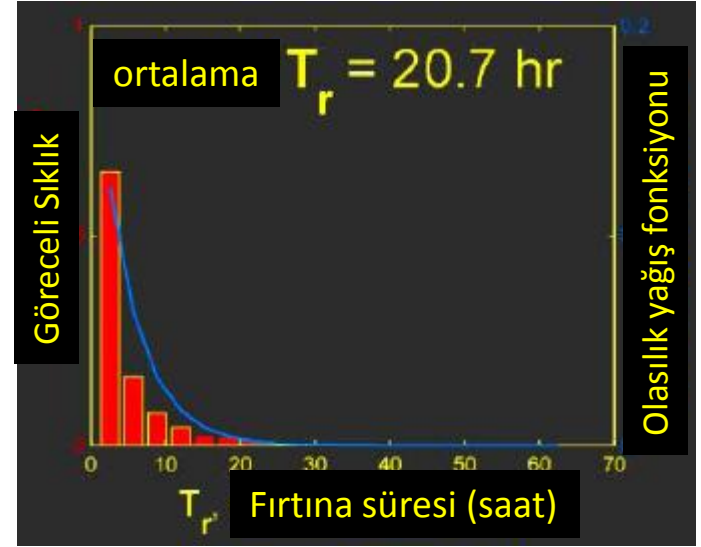
(b) Model

Poisson dikdörtgenel yağış modelinin şematik gösterimi

Euraka, Kaliforniya bölgesi için Poisson yağış modelinin Parametreleri

(Eagleson, 1978)

Saatlik yağış verisi, 1954-1993
Ulusal İklim Veri Merkezi
(www.ncdc.gov)



Olasılıksal –aşamalı oyulma modeli

Tucker & Bras, 2000

$$E = K_R K_C K_{\tau C} A^m S^n$$

- $K_R = K_R$ (fiziksel parametreler, ρ , g , ke , genişlik, litoloji (kaya türü))
- $K_C = K_C$ (iklimsel parametreler, P , Tr , Tb)
- $K_{\tau C} = K_{\tau C}$ ($Rc/P \propto \tau C / P$, A , S ; 0'dan 1'e kadar değişir)
- Bilinmeyen anahtar parametreler: τC , ke ve a (yada n)
- Temel varsayımdan, $E = ke (\tau b^a - \tau C^a)$

Temel Kayaç Kanal Oyulum Modelleri

Temel Yaklaşım

$$E = k_r (\tau - \tau_{cr})^n \quad \text{or} \quad E = k_r (\tau^n - \tau_{cr}^n)$$

$$E = K_{eff} A^m S^n$$

$$K_{eff} = K_r K_s \beta_{\tau_{cr}} \quad ; \quad n = \frac{2}{3} a \quad ; \quad m = \frac{2}{3} ac(1-b)$$

Akarsu Güç Modeli

$$K_r = k_r k_{cr}^{-2a/3} k_s^a$$

$$K_s = k_s^{2a/3(1-b)}$$

$$\beta_{\tau_{cr}} = 1$$

Empirik Bağlantılar

$$k_r = C_r^{1/3} \rho g^{2/3}$$

$$Q_r = k_r A^3$$

$$w_{cr} = k_r Q_{cr}^3$$

$$(w/w_{cr}) = (Q/Q_{cr})^3$$

Olasılıksal Model (Tucker ve Bras

$$K_r = k_r k_{cr}^{-2a/3} k_s^a$$

$$K_s = (P)^{\gamma_h - \epsilon_h} F_{\tau_{cr}}^{-1} \exp(-I/(P)F_{\tau_{cr}}) \Gamma(\gamma_h + 1)$$

$$\beta_{\tau_{cr}} = \frac{[\Gamma(\gamma_h + 1, R_c/P) - (R_c/P)^{\gamma_h} \exp(-R_c/P)]}{\Gamma(\gamma_h + 1)}$$

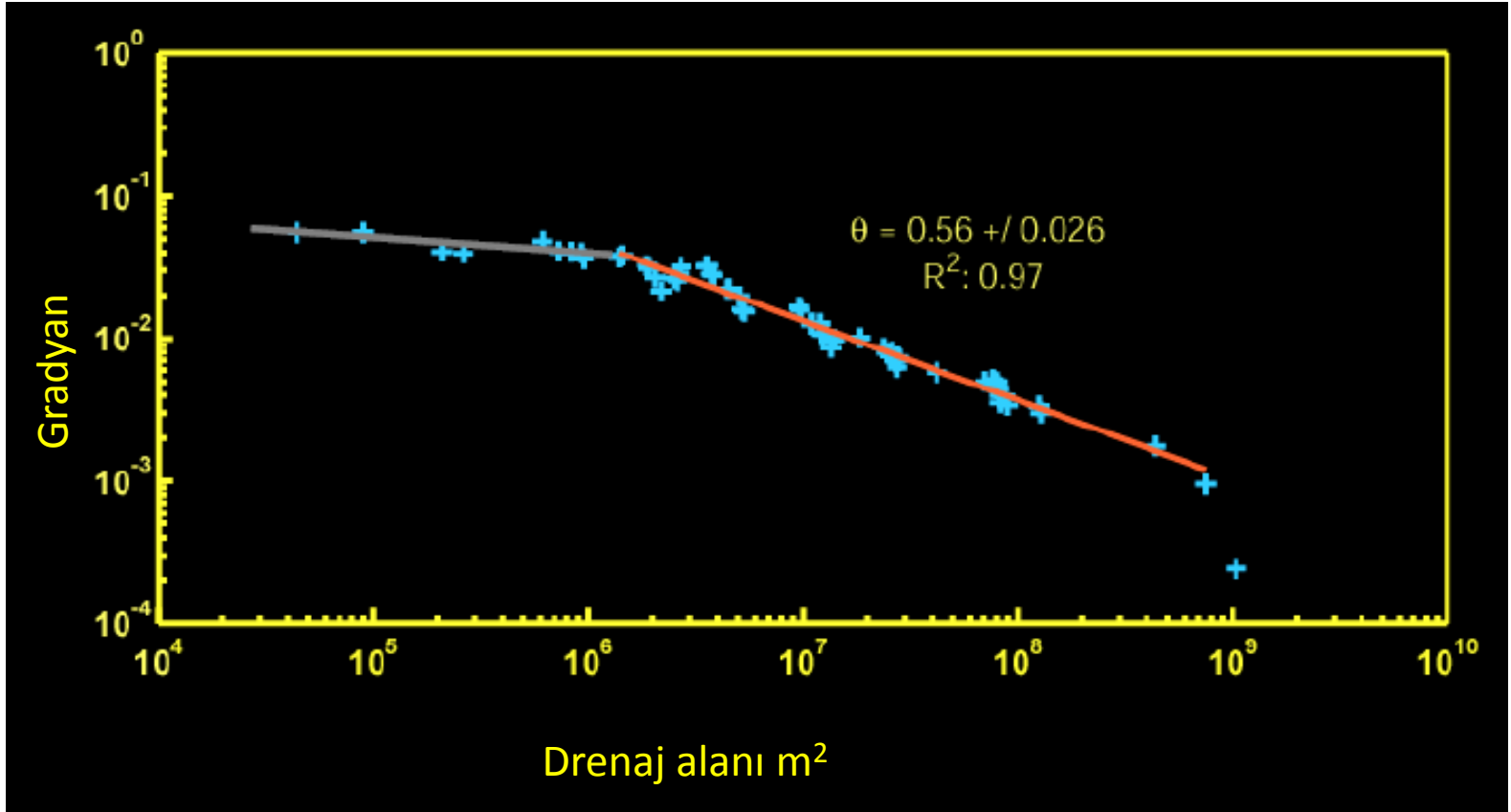
Üstler Kuralı (olasılıksal model)

$$c = 1$$

$$\gamma_h = 2a(1-s)/3$$

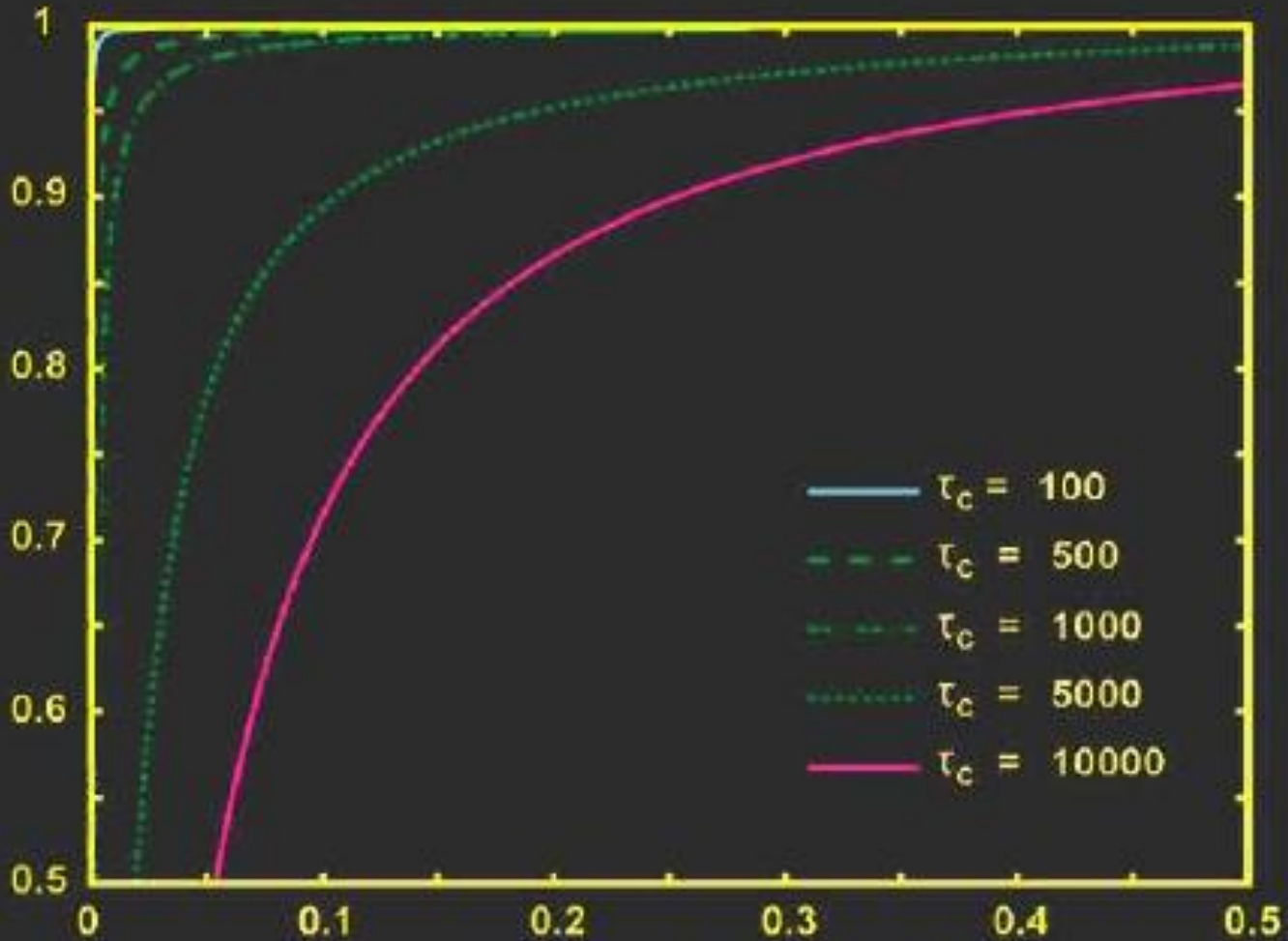
$$\epsilon_h = 2a(b-s)/3$$

Karışık temel kayası-alüvyal akarsu (Apalaşlar, VA)



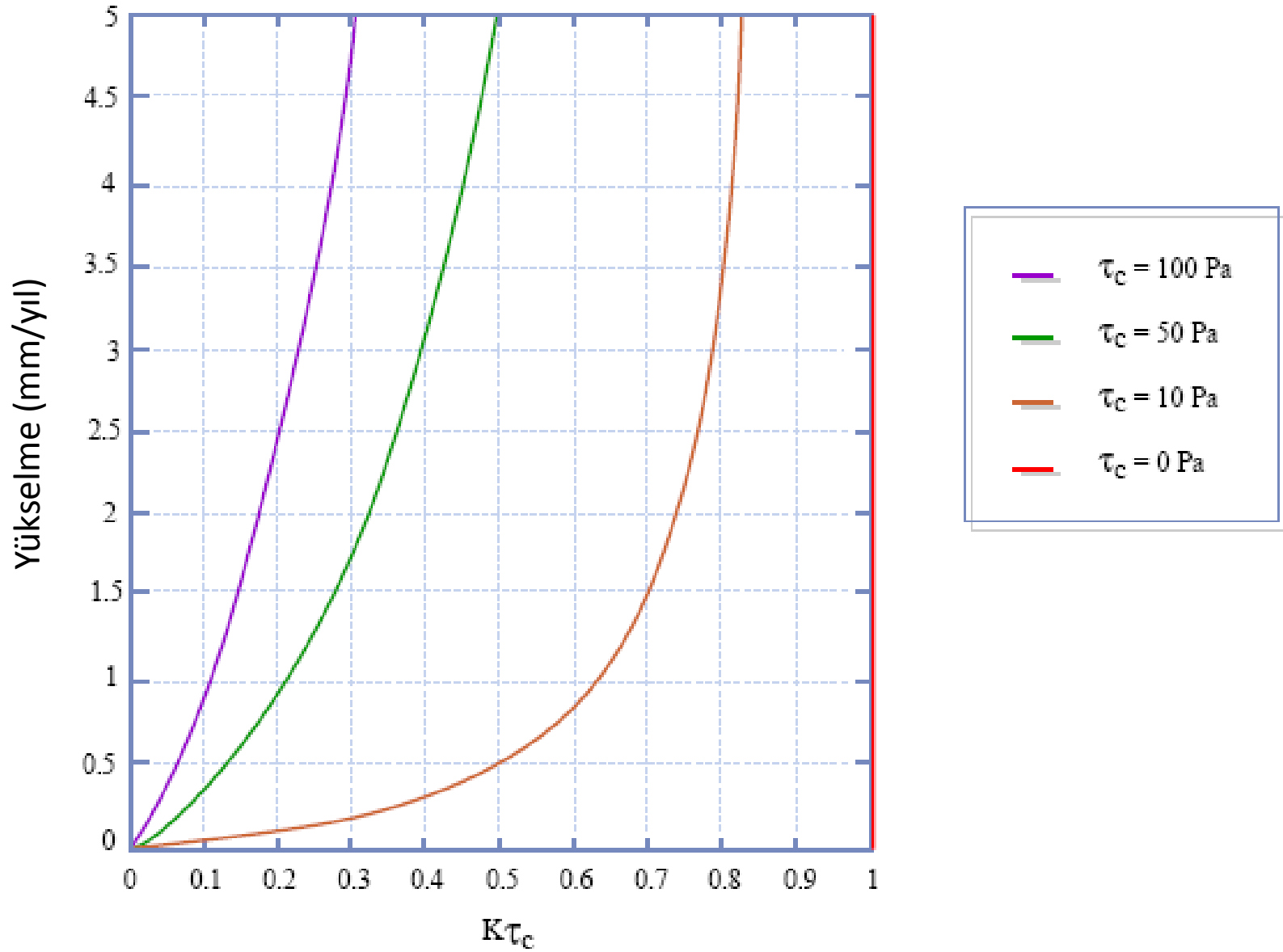
Ayrılma sınırlı temel kayalarında konkavlık indeksi ayırt edilemez

Fraksiyonel Eşik Term.



Normalize edilmiş eğim (S/S_{ref})

Denge durumunda K_{τ_c}



Rölyef yükselme oranı bağıntısına model etkisi

