

Fluvial Process – What Rivers do & pre conditioning  
Ie: mass wasting and weathering

Rain, Rivers, Weather & Water. Davis – New England basis

Infiltration – duration & intensity

Previous condition (vegetation, soil, slope, etc)

Saturation Overland Flow – All spaces filled

Surface layer filled – Overland flow

New Orleans & Texas - Katrina

Hortonian Overland flow has much sediment

Through flow a interflow is seepage generated

Large pressure of ground water running down slope

Turbulent vs. laminar flow

Sheet flow surface H<sub>2</sub>O & sediment

rill - small channel downhill

Piping ability to remove sediment by seepage

Sapping is lowering of springs (surface/h<sub>2</sub>O otable)

Gully – deeper and steeper than rill

Branching channels (first step in cutting landscapes)

Soil Erosion -  $RUSLE = A = RUSLE$

A= Predicted soil loss

R= Climate erosion Rainfall and Runoff

K= Soil erosion factor

L= Slope Length

S= Slope gradient

C= Cover & Management Practices

P= Erosion Control

R= Effect of rainfall & erosion (local differences)

K= Actual vs. standard loss of soil

L + S= Topographic factors

C= Row Crops vs. Bunch Crops

P= Mgt- Paddy, Contour, intercropping

5/A Max to Sustain viable soil and Intermittent vs. permanent flow vs. flood stage

Discharge –  $\frac{\text{Volume H}_2\text{O}}{t}$

t

$Q = wdv$

Cross Section Flow