SEDIMENT DATA AND PREPROCESSING

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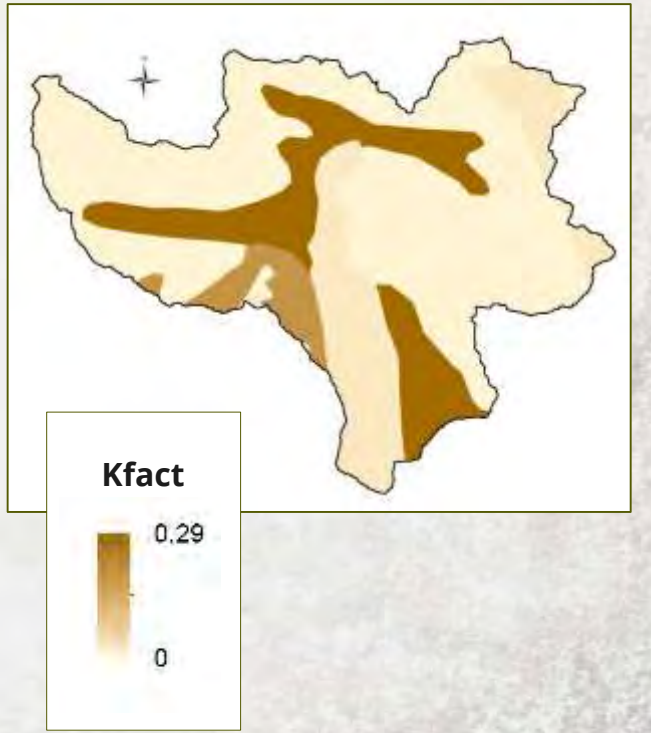
SOILS

Soil Survey of India: Erodibility (Kfact)

- Use same texture classes derived from TYPE field for water yield AWC
- Map texture class using the Roose table in the InVEST User Guide

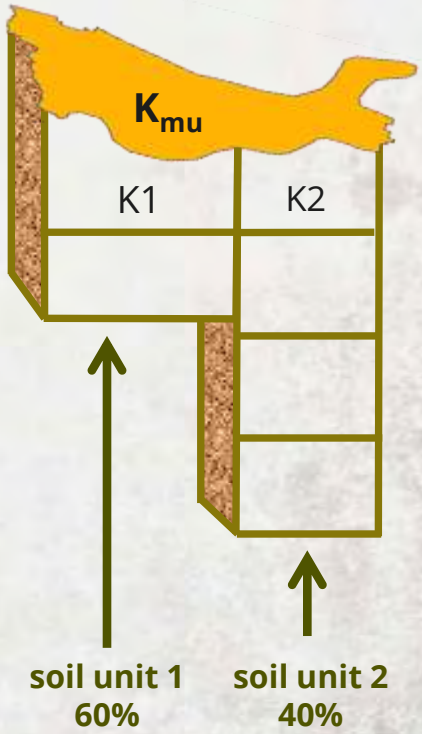
Textural Class	Spanish Texture Class	Soil composition			Mean K (based on % organic material)		
		Sand	Silt	Clay	unknown	< 2%	≥ 2 %
Clay	*Arcilloso*	0-45	0-40	40-100	0.22	0.24	0.21
Sandy Clay	*Arcilloso arenoso*	45-65	0-20	35-55	0.2	0.2	0.2
Silty Clay	*Arcilloso limoso*	0-20	40-60	40-60	0.26	0.27	0.26
Sand	*Arenoso*	86-100	0-14	0-10	0.02	0.03	0.01



SOILS

If working with other soil databases (FAO, SOTER…)

- Erodibility (Kfact):
  - %sand/silt/clay/carbon in top horizon
  - use Roose table to convert to K values
- Mapping unit value
  = weighted average across soil units



$$K_{mu} = (K1*.6) + (K2*.4)$$

CLIMATE

Precipitation can be used to derive rainfall erosivity:

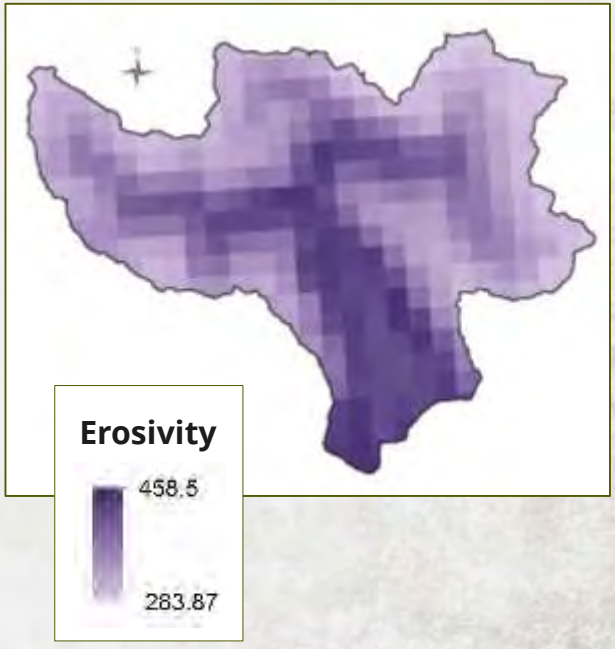
- Singh et al: equation for all India

$$79 + .363 * Annual\ precip$$

- Also global estimate of

$$.5 * Annual\ precip$$

- Other, more data-intensive methods in the InVEST User Guide

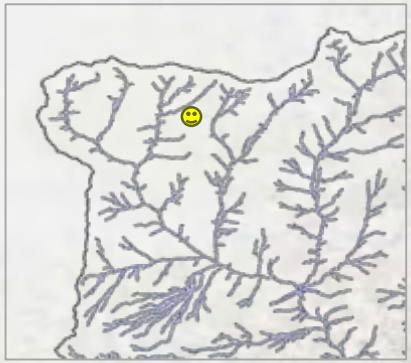


TOPOGRAPHY/HYDROLOGY

- Sources: NASA, USGS, SRTM (90m)…
- Preparing the DEM: Mosaic, fill holes, fill sinks, burn streams
- Verify watersheds and sub-watersheds and/or create with ArcHydro/ArcSWAT/AGWA/BASINS…
- Determine threshold flow accumulation

Threshold = 10,000

Threshold = 100



MODEL COEFFICIENTS

USLE C, USLE P, sediment retention efficiency

- Given per land use/land cover class
- Literature search for area-specific vegetation, practices and conditions (look for USLE studies)
- Local/national agriculture department
- InVEST User Guide for general values
- InVEST parameter database for a compilation of global values

NatCap SUPPORT

User Guide: Installed with InVEST or online:

http://ncp-dev.stanford.edu/~dataportal/invest-releases/documentation/current_release/

User Forums:

http://ncp-yamato.stanford.edu/natcapforums/

Data Sources – Spatial and Sediment/Nutrient coefficients:

http://naturalcapitalproject.org/database.html