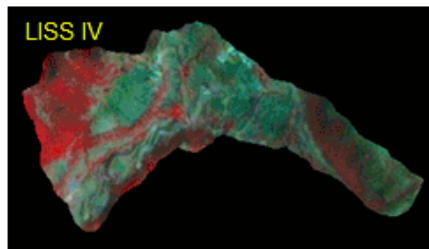
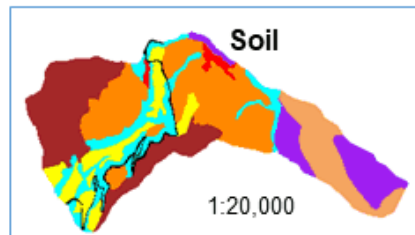


# SWAT-VSA model : Spatially distributed Surface Runoff

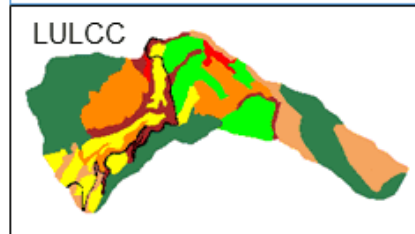
- SWAT-VSA model serves as useful tool for predicting spatial surface runoff.
- SWAT-VSA consider both infiltration and saturation excess process.
- Model was calibrated and validated using surface runoff measurements.
- Sensitive parameters: HSG, Curve Number (soil types & LULC)



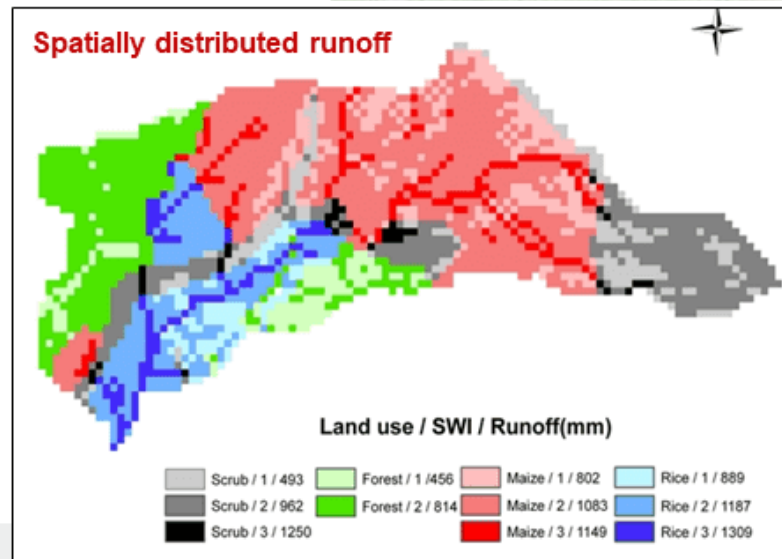
• SWAT-VSA used **CartoDEM** to prepare Soil Wetness Index (SWI) map that predicted **spatially distributed** surface runoff.



- HT
- HS11
- HS12
- HS21
- HS22
- HS23
- HS311
- HS312
- Settlement
- Unmettled Road



- Crop land (Mainly maize)
- Crop land (mainly paddy)
- Crop land (Maize+tree)
- Dense Scrub
- Mod. Dense Forest
- Open Scrub
- Road (Unmettled)
- Settlement



**Runoff** predicted very well for all rain events ( $R^2 = 0.89$ ) and ( $R^2 = 0.97$ ) for low to medium rain events.