

GIS 4

Geomorphology

Geomorphometry of Mountain Landscapes &
Upland Watersheds...a little Wildlife, too

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Landforms II: MORAP

This landform model builds directly on a previous post (Hammond Landforms). Use the .mxd and files created for that lesson.

MORAP RELIEF INPUT PARAMETER

1.) "Map38" = Reclassify, input = Map11, 7 classes, BVs = 15, 30, 90, 150, 300, 900, max value, New Values = 2, 3, 4, 5, 6, 7.

MORAP SLOPE INPUT PARAMETER

2.) "Map39" = Reclassify, input = Map7, 2 classes BVs = 50, 100, New Values = 20, 10.

MORAP LANDFORMS

3.) "Map40" = Raster Calculator "Map39"+"Map38"

4.) "Map41" = Smooth and remove noise via Focal Stats, input = Map40, 8x8 cells, rectangle, majority.

5.) "FinalMORAP" = Clip to boundary used for Hammond Landform map.

6.) Add labels to attribute table:

11-Flat plains

12-Smooth plains

13-Irregular plains

14-Plains with low hills

15-Plains with hills

16-Plains low mountains

17-Plains with mountains

21-Rough plains

22-Rugged plains

23-Breaks

24-Low hills

25-Hills

26-Low Hills

27-Mountains

7.) "FinalMORAPPolys" = Convert FinalMap to vector (polygons) with ArcToolbox > Conversion Tools > Raster to Polygon.

8.) Change symbology/color scheme.

9.) Create a hillshade raster, drag it to top of stack, change transparency to ~60%.

Refs:

Dikau (1989), Dikau et al. (1991), Hammond (1954), Hammond (1964a,b), Morgan et al. (2005), True et al. (2000), True (2002)