10 ITWCVP

GIS Training

Day 4

Map Making

1. OBJECTIVE 1: Make production level maps with real-time forecasts
2. TASKS: Replicate seasonal precipitation forecast maps over your region
   1. Reference forecast map and preparations
      1. Go to the NOAA CPC International Desk’s NMME probabilistic forecast page

<http://www.cpc.ncep.noaa.gov/products/international/nmme/probabilistic_seasonal/nmme_precip_probabilistic.shtml#GLOBAL>

* + 1. Consider and select the first upcoming season for your region of interest. Notice the domain size and corresponding coordinates.
    2. Identify how many above-normal, near-normal, and below-normal polygons you would need to draw to make the forecast map.
    3. Identify approximate spatial location of each future polygon
  1. Analysis
     1. Add *ne*\_10m\_admin0\_countries boundary map
     2. Add ne\_*10m*\_ocean data and drag ocean data underneath the boundary map
     3. Zoom in over your region
     4. Make sure of the following. *Settings >> Snapping Options*. *Snapping mode* is set to *Current layer*, and *Snap to* is set to *To vertex and segment*
     5. Recall how to create polygon (vector layer) from Lab1 Day1. *Layer >> Create Layer >> New Shapefile Layer*. Make sure to select *Polygon*
     6. Click id in *Field lists* then click *Remove field*. For *field/attribute* use *cat* (category), *text*, 80 and *prob* (probability), *whole number*, 10. Save as *forecasts.shp*
     7. Style *forecasts.shp* as transparent
     8. Activate editing mode by clicking *Toggle Editing* toolbar then click *Add Feature*. Draw your polygons. Start with polygon with smallest (larger areas) prob. **Artifice: Do not try to follow boundary map with your vertices. We are going to use geoprocessing-intersection instead later on. You can draw polygon beyond the base map.** To draw polygon that is contiguous to an existing one, try to snap vertices to those of the existing polygon.
     9. Save edits by clicking *Toggle Editing* then save
     10. Perform intersection between *forecasts* and *ne\_10m\_admin0\_countries*
  2. Styling
     1. Boundary map to #e3dada (light grey-pink), ocean to *water*
     2. Style intersection layer as *Rule-based.* Edit current rule as below. Choose appropriate color. Use *No Pen* for *Outline style*
* Label: 50-60 Above, Rule: “cat” = ‘Above’ AND “prob” = ‘50’
* Label: 40-50 Above, Rule: “cat” = ‘Above’ AND “prob” = ‘40’
* Label: 33-40 Above, Rule: “cat” = ‘Above’ AND “prob” = ‘33’
* Label: 40-50 Above, Rule: “cat” = ‘Normal’ AND “prob” = ‘40’
* Label: 33-40 Above, Rule: “cat” = ‘Normal’ AND “prob” = ‘33’
* Etc.
  + 1. Duplicate boundary map layer, style to transparent, and drag it up as top layer
  1. Mapmaking
     1. Add and adjust key components to your map as needed
     2. Export map as PDF and PNG when you are satisfied