Mapping Tropical Cyclone Hazard in the Philippines using R

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Keywords: Philippines, tropical cyclones, mapping, R

Tropical cyclones are considered the most frequent and destructive natural hazard in the Philippines. Annually, there are around 20 tropical cyclones that visit the country causing huge losses in terms of life and property. Based on the Centre for Research on the Epidemiology of Disasters data, on the average, a tropical cyclone event in the country affects 440 thousands individuals, takes 144 lives, and cause damage amounting to 28.7 million US dollar.

Using the historical cyclone data from the Regional Specialized Meteorological Center (RSMC) of Japan Meteorological Agency (JMA) in Tokyo, tropical cyclone tracks that entered the Philippine Area of Responsibility (PAR) from the year 1951-2013 were analysed and mapped thru *R* statistical and programming environment. The package **sp, raster, rgdal, maptools,** and **spatstat** were used in handling, analysing, and mapping while **ggplot2** and **RColorBewer** for graphing and visualization. Results from this study were aimed to help planners and policy makers in developing programs and policies to reduce the impact of tropical cyclones in the country.