

Possibility of Creating Polygon Layers from Raster Layers Obtained by using Classic Image Processing Software: Case of Geological Map of Rwanda

Authors : Louis Nahimana

Abstract : Most maps are in a raster or pdf format and it is not easy to get vector layers of published maps. Faced to the production of geological simplified map of the northern Lake Tanganyika countries without geological information in vector format, I tried a method of obtaining vector layers from raster layers created from geological maps of Rwanda and DR Congo in pdf and jpg format. The procedure was as follows: The original raster maps were georeferenced using ArcGIS10.2. Under Adobe Photoshop, map areas with the same color corresponding to a lithostratigraphic unit were selected all over the map and saved in a specific raster layer. Using the same image processing software Adobe Photoshop, each RGB raster layer was converted in grayscale type and improved before importation in ArcGIS10. After georeferencing, each lithostratigraphic raster layer was transformed into a multitude of polygons with the tool "Raster to Polygon (Conversion)". Thereafter, tool "Aggregate Polygons (Cartography)" allowed obtaining a single polygon layer. Repeating the same steps for each color corresponding to a homogeneous rock unit, it was possible to reconstruct the simplified geological constitution of Rwanda and the Democratic Republic of Congo in vector format. By using the tool «Append (Management)», vector layers obtained were combined with those from Burundi to achieve vector layers of the geology of the « Northern Lake Tanganyika countries ».

Keywords : creating raster layer under image processing software, raster to polygon, aggregate polygons, adobe photoshop

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