

VECTORIZATION OF PUERTO RICO GEOLOGIC MAPPING UNITS INCLUDING DESCRIPTIONS USING EXISTENT USGS PUBLISHED MAPS, REPORTS AND THESES

*Iván Santiago*¹

¹Puerto Rico Office of Management and Budget
Information Technologies, San Juan, PR 00901
isantiago@ogp.pr.gov

This “labor-intensive” work aims to provide basic and more detailed geologic digital map unit data to earth scientists, planners, civil engineers, architects and GIS analysts. At the end, the resultant GIS data layer contains over 26,000 mapping units for the main island, and minor islands, such as Vieques, Culebra, Mona and Desecheo. Geologic units were digitized, organized by quadrangle, geologic unit code, unit name, geologic period, epoch, including the narrative or geologist’s interpretation of these mapping units.

Several years were needed to complete this task (since 2014); looking for the best sources available, existing digitized USGS Geologic maps, or maps completed as part requirements for master’s theses and most important: having the advice of an experimented geologist from UPRM. ArcGIS software was used for georeferencing scanned maps and for all the labor-intensive data entry, including geometric delineation of geologic units and their attributes.

Some problems need to be addressed, such as filling void areas with “non-official” data, outdated of geologic interpretations, different interpretations of geologic units over adjacent quadrangle maps... but most of them are out of the scope of this work

Now, the resulting geologic map unit GIS data layer is available for download from two public GIS data endpoints: <http://gis.pr.gov> and our *Geoserver* platform (<http://geoserver.gis.pr.gov/geoserver/wfs>) for interoperability . Our geodata layers are published using Free and Open Source tools such as Geoserver for geodata publishing and PostgreSQL/PostGIS as RDBMS storage.