

Paper Number: 5416

The 1:5 Million Geological Map of South America (new edition)

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The Geological Map of South America at scale of 1:5M is a Project of the Subcommittee for South America of the Commission for the Geological Map of the World (CGMW). This project was carried out with the cooperation of the majority of the geological surveys and many universities of the continent under the general coordination of Carlos Schobbenhaus (South American Platform) and Jorge Gómez Tapias (Andes and Patagonia). During the General Assembly of the CGMW held in Oslo, in 2008, the execution of a new edition of the Geological Map of South America (GMSA) at a scale of 1:5 M was approved.

For its elaboration, from the 21st to 26th of July, 2014, a workshop was held in Villa de Leyva (Colombia), which was attended by 43 scientists from Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, France, Netherlands, Perú, Spain, Suriname, Uruguay and Venezuela.

This workshop marked great advances, such as the official presentation of the digital cartographic product of each country, the designation of national coordinators and a consensus agreement of the official map legend that has grouped the chronostratigraphic units in the following way: Sedimentary Rocks (Siliciclastic, Carbonatic and Undifferentiated), Volcanic Rocks (Andesitic and related rocks, Basaltic, Rhyolitic, Alkaline and Undifferentiated), Plutonic Rocks (Granitic and Gabbroic, Ultramafic, Alkaline and Undifferentiated) and Metamorphic Rocks (Low to Medium grade, Medium to High grade, High P/T and Undifferentiated).

For the purpose of grouping and generalization the national maps were printed at a scale of 1:3M and in freehand digitalized. Subsequently, this map was scanned and georeferenced in order to digitize the new geological map units as well as structural elements such as faults and folds, at a scale of 1:5M.

The geological map also includes the layers of Quaternary volcanoes, kimberlites and related rocks, carbonatites, ophiolites, high P/T, dikes and astroblemes. The map will also display the off-shore geology of adjacent oceans.

To finish the map is planned a workshop between the Brazilian and the Colombian team, the purpose of this meeting is harmonize the Andean and Patagonian geology with the South American Platform. Our aim is to present the first sketch of the GMSA in the General Assembly of CGMW in the 35th IGC.

The final product of the project will include the production of a printed geological map, a GIS data CD-ROM and the accompanying explanatory notes. The print version includes a marginal map containing the main tectonic units of South America. A print-out of the data will be sent to the project participants for evaluation and, at a later date, will be subjected to a peer review process following recommendations of the CGMW.

