The new Gondwana Geological Map – first draft

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We present here the first draft based on the results of *"The Gondwana Map Project– the geological map and the tectonic evolution of Gondwana" (IGCP-628)*, which aims to update the 1988 Gondwana Geological Map of Maarten de Wit. The most recent geological data from all the Gondwana continental pieces were compiled in the scale of 1:5,000,000 in a GIS database. These were then compiled in one big map with a common legend. In the proposed legend, the colours indicate the age of formation of each geological unit, according to the IUGS geological time scale. The patterns within the polygons refer to the nature of the rocks (classification and chemistry). Only the major continental fragments were rotated and fitted in this first draft. Other continental Gondwana-derived fragments are also being updated (European, North American, Asia terranes), but are not shown in this draft. Configuration of the large plates followed the methodology of *GPlates*, both rotation and fit were taken at 150 Ma. The polyconic projection was chosen in ArcGis, because the other tested projections generated a lot of deformation on the original files. In this Gondwana 15 Symposium, the draft is presented in order for it to be evaluated and criticized by the scientific community. Structures are not yet represented and will constitute an important layer on the map, since interpreted major sutures will be shown. In some continental fragments, tectonic reactivation is shown by the colour of the patterns. For example, all lithological units that underwent pre-Neoproterozoic tectonic events are displayed with a black pattern. Using these criteria, the major pre-Gondwana cratons can be recognized more easily. One of the main aims is to trace better the continent-ocean boundary (COB) along the actual continental margins. In the present work, the location of the COB identified by previous studies was based on several different datasets and the criteria applied to define this boundary relies, in general, on the identification of the first crust with oceanic affinities. The prolongation of onshore geology in continental margins to offshore platforms will improve the fit between the present continents in order to restore the Gondwana paleocontinent. Another ongoing action is to reconstitute the paleogeology of Gondwana. For the South American map, we tested the elimination of the post-Cretaceous layers, to produce a paleogeological map and evaluate the possibility of inferring the geology in the white areas. This project started in 2011 from a cooperation between UFRJ and PETROBRAS, and in 2013 was approved as IGCP-628 (UNESCO-IUGS-project), continuing until 2017. The leaders of IGCP-628 are: Renata Schmitt (UFRJ, Brasil), Maarten De Wit (Nelson Mandela Metropolitan University, South Africa), Edison Milani (PETROBRAS, Brazil), Umberto Cordani (USP, Brasil), Alan Collins (University of Adelaide, Australia), Colin Reeves (Earthworks, The Netherlands), and Phillipe Rossi (CCGM - CGMW, France).