211

RIGOROUS REVISION OF GONDWANA BREAK-UP FOR INTERNATIONAL POLAR YEAR

M E Ghidella, I Dalziel, M König, L Lawver, D Macdonald, S Marenssi, R Pankhurst, V Ramos, A Rapalini, R Somoza, B Storey, G Taylor, H Vizán

[1]Instituto Antártico Argentino, Buenos Aires, Argentina, [2]University of Texas at Austin, Austin, Texas, United States, [3]Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany, [4]University of Texas at Austin, Austin, Texas, United States, [5]University of Aberdeen, Aberdeen, United Kingdom, [6]Instituto Antártico Argentino, Buenos Aires, Argentina, [7]British Geological Survey, Keyworth, Nottingham, United Kingdom, [8]Universidad de Buenos Aires, Buenos Aires, Argentina, [9]Universidad de Buenos Aires, Buenos Aires, Argentina, [10]Universidad de Buenos Aires, Buenos Aires, Argentina, [11]University of Canterbury, Christchurch, New Zealand, [12]University of Plymouth, Plymouth, Devon, United Kingdom, [13]Universidad de Buenos Aires, Buenos Aires, Argentina

We have proposed an International Polar Year 2007–2008 (IPY) initiative to critically revise the Gondwana break-up scenario. The project was submitted to the International Council of Science Planning Group for IPY and is now a subproject of the bipolar *Plate Tectonics and Polar Gateways in Earth History* project.

How exactly Gondwana broke up continues to be controversial, with a range of rigid plate models invoked. The different models include a variety of proposed segmentations for the South American continent to accommodate various subplates. The timing of final Gondwanide break-up is constrained by seafloor magnetic anomalies and the rotation poles derived from them. Any proposed paleographical reconstructions also need to be constrained by geological and paleontological data, but most kinematic modelers do not have the requisite integrative knowledge. On the other hand, researchers with a geological background detect and recognize phenomena by studying rocks and the fossil record, but often infer geologically compelling scenarios that do not accurately fit with the large-scale kinematics. Gondwana GGPP will bring together specialists in Geology, Geophysics, Paleontology, and Paleomagnetism [GGPP] to study the diverse tectonic models. Collectively they can fill the knowledge gaps that heretofore have precluded the formulation of a single comprehensive model for the break-up of Gondwana.

The opening of the SW Weddell Sea and the southern South Atlantic will be the main focus of the project. Presently, there is conflicting evidence and at least 4 competing tectonic models. The paleontology from wells drilled on the Falkland/Malvinas Plateau and off the coast of Argentina need to be incorporated into the tectonic analysis. In addition, information from the Austral and Malvinas Basins and the ages of the Colorado, Salado and San Jorge Basins in Argentina as well as those of the Bredefort Basins off South Africa will provide important information regarding the break-up history of Gondwana and the early formation of the Weddell Sea.

More information at http://ggt.conae.gov.ar/iaa/Ipyg/index.html.