

Neoproterozoic glaciation record on the central part of São Francisco Craton, north-east Brazil

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In Early Neoproterozoic the continents were joined giving rise to the Rodinia supercontinent. It is known that, at that time, ice sheets advanced and retracted on several parts of the Earth probably reaching all the current continents and composing a particular setting recorded by glacial and glacioclastic deposits, preserved in part in the geological record. In South America that glaciation is practically restricted to the Brazilian territory, with known occurrences in the west, east and northeast regions of the country.

The Bebedouro Formation, object of this paper, was generated during that Neoproterozoic glaciation. It occurs in central Bahia and exhibits thicknesses of up to 100m. It is interpreted as reworked and re-sedimented detritus during a still uncertain geological period, between 1,0 and 0,7Ga, upon a relatively stable shallow marine platform. The environment is glaciomarine proximal, with storm and waves influence.

Lying on that sequence, over an erosive unconformity, a package of marine carbonatic rocks, with more than 1000m thick, was deposited under hot climate conditions. This apparent paradox (association of sediments of hot and cold climate sediments) is explained by severe and relatively fast climatic changes, due to movements of the continents caused by global tectonic phenomena.

Data field suggest the possibility of the Bebedouro Formation having accumulated during a single depositional episode, involving variations of a moist base glacier, located east of the present occurrence area.