



Pangea: getting back to where it once belonged

Daniel Pastor-Galán

University of Utrecht, ISES, Utrecht, Netherlands (d.pastorgalan@uu.nl)

The supercontinent Pangea, which formed about 300 million years ago and broke up after 100 m.y. of existence is cornerstone to understand global plate tectonics, including the processes of assembly and fragmentation of microcontinents, continent-continent collisions and long-term subduction dynamics. Additionally, Pangea is our best reference in the supercontinent enigma.

Pangea is the latest in a series of supercontinents that formed repeatedly since the Archean, only to break up and reform again. Although the mechanisms responsible are controversial, many geoscientists agree that repeated cycles of supercontinent amalgamation and dispersal have had a profound effect on the evolution of Earth's crust, atmosphere, climate, and life.

The geological record involve in the formation of Pangea (the past 700 m.y.) is well documented and it is easy to find reliable data of almost every single spot on Earth. The quality of some of the key orogens formed during its amalgamation and break-up is excellent (European Variscides, Appalachian, Alleghenian, Urals...) However, the profusion of tectonic reconstructions, geodynamic models, mechanisms of formation, collisions, involved subduction zones makes that it exist, at least!, an interpretation per author.

I will critically review some of the most popular tectonic and geodynamic models for the formation of Pangea and will give my own perspective (one more!)