

The Amazon River is 11 million years old

July 7 2009



Sediment column at the mouth of the Amazon River - photo: NASA

The Amazon River originated as a transcontinental river around 11 million years ago and took its present shape approximately 2.4 million years ago. These are the most significant results of a study on two boreholes drilled in proximity of the mouth of the Amazon River by Petrobras, the national oil company of Brazil.

A team formed by the Institute for Biodiversity and Ecosystem Dynamics (IBED) of the University of Amsterdam, the University of Liverpool and Petrobras used this new oceanic record to reconstruct the history of the [Amazon River](#). The study was published in the scientific journal *Geology* in July 2009.

Until recently the Amazon Fan, a sediment column of around 10 kilometres in thickness, proved a hard nut to crack, and scientific drilling expeditions such as Ocean Drilling Program could only reach a fraction of it. Recent exploration efforts by Petrobras lifted the veil, and sedimentological and paleontological analysis on samples from two boreholes, one of which 4.5 kilometres below sea floor, now permit an insight into the history of both Amazon River and Fan. Prior to this publication the exact age of the Amazon River was unknown.

This research has large implications for our understanding of South American paleogeography and the evolution of aquatic organisms in Amazonia and the Atlantic coast. It is a defining moment as a new ecosystem originates which at the same time forms a geographic divisor.

Sediment aprons in the proximity of major rivers often hold continuous records of terrestrial material accumulated by the river over time. These records provide a unique insight into the historic climate and geography of the land. The information released from this 4.5 kilometre borehole is a scientific breakthrough and stresses the value of cooperation between academia and industry.

More information: J. Figueiredo, C. Hoorn, P. van der Ven and E. Soares. 'Late Miocene onset of the Amazon River and the Amazon deep-sea fan: Evidence from the Foz do Amazonas Basin'. *Geology*, 37, 619-622.

Source: University of Amsterdam

Citation: The Amazon River is 11 million years old (2009, July 7) retrieved 7 May 2024 from <https://phys.org/news/2009-07-amazon-river-million-years.html>

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