



Uncertainties in the South Atlantic Opening History

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There are four prime drivers in the uncertainty of the opening history of the South Atlantic. Two of these are limited to the rifting phase, namely the number of blocks that make up the South American and African plates, and the not unrelated problem of the tightest fit between the continents. The two other drivers are important for most of the opening: firstly, the interpretation of magnetic anomalies from the magnetic field data; and secondly the choice of timescale. We detail the magnitude of the uncertainties on the relative velocity between the continents through time. We develop a velocity curve of greatest likelihood to match the data. This curve shows a number of robust features including substantial slow-downs of spreading during the Late Cretaceous and Late Miocene as well as a rapid increase of velocity at the beginning of the Eocene. Finally, we discuss the implications for the geodynamics of mantle processes.