

## Splitting continents: Lessons from Afar

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From 2005-2010, the Afar Triple Junction experienced an intense period of tectonic and magmatic activity. During this rifting episode, the Dabbahu-Manda-Hararo segment of the Nubia-Arabia plate boundary opened by up to 10 m in a sequence of 14 dyke intrusions. This activity provided the focus for an equally intense period of scientific investigation of the region. The Afar Consortium, a collaboration between scientists in Ethiopia, the UK, the US and France, carried out a series of integrated geophysical, geological, and geochemical studies in Afar, with the aim of understanding continental breakup and the processes that lead to the formation of new crust at spreading centres. In this presentation, I will show some of the key findings from this work. I will focus on the role of melt in the breakup of continents, tracking that melt from its generation in the mantle through to its intrusion in the crust, or eruption at the surface, via a complex magma plumbing system.