Magnetic and gravity signatures and structural history of the Tasmantid Seamounts

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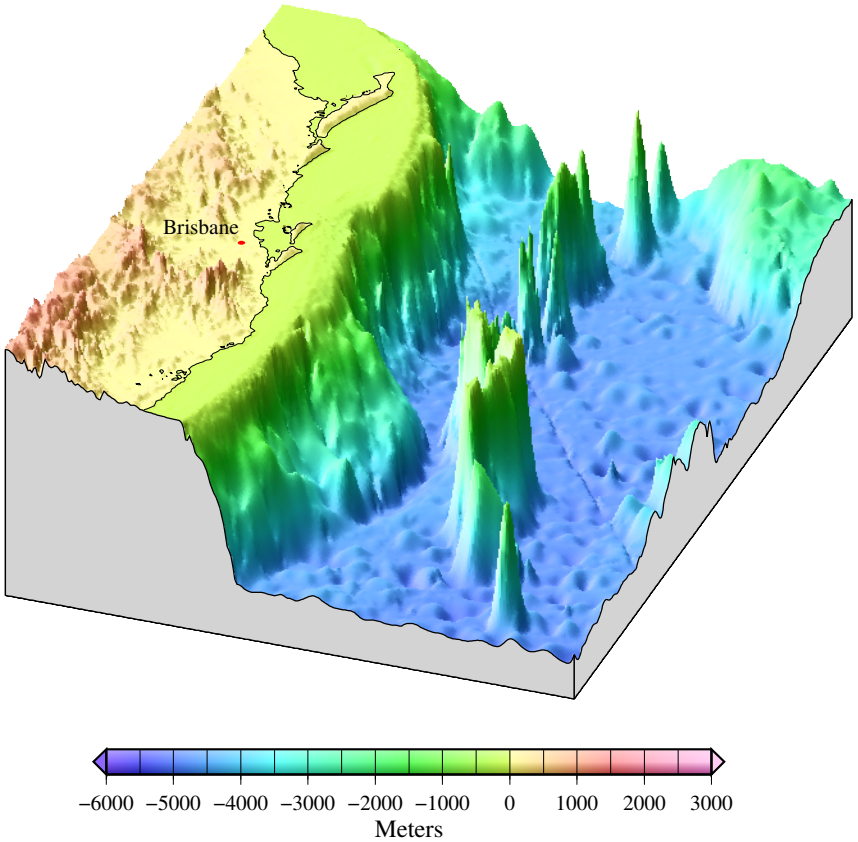
The Tasmantid Seamounts are one of three hotspot tracks near the eastern Australian margin. The chain extends for over 2000 km, and despite their location just a few hundred kilometers off the Australian coast, they have been almost completely unsurveyed. Samples from four dredges in the 1980s have dated the middle of the chain to the Late Oligocene and Miocene, a time of significant plate reorganisation in the region. During November-December 2012, the Australian R/V *Southern Surveyor* undertook an interdisciplinary expedition combining swath bathymetry, dredging for volcanic and carbonate material, gravity, magnetics, sub-bottom profiling, and water sampling over the central and northern section of the chain. The focus of this project will be on processing and interpreting the magnetic and gravity data, together with data from earlier regional surveys, and combining those with the bathymetric data and selected sub-bottom profile data to interpret the structure of the seamounts. Of particular interest is the relationship between the seamounts and the nearby extinct spreading centre, and any observable differences between those seamounts formed on oceanic lithosphere versus those formed on continental material. This project offers the opportunity to work with a variety of types of geophysical data in a relatively unexplored area.



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