



The lithospheric structure of west-central Mongolia from electrical resistivity models

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We present broadband and long period magnetotelluric data collected in 2016 and 2017 across west-central Mongolia. This data set consists of a large array ($\sim 600 \times \sim 500$ km), with a nominal site spacing of 50 km, and several long profiles, with 5 - 10 km site spacing, totaling 294 sites.

The survey area crosses the uplifted Hangai Dome, the Valley of the Lakes, and the Gobi-Altai Mountains. It also extends across the bounding faults of the Hangai block, the Bulnay fault to the north and the Bogd fault to south, and across the South Hangai fault zone. In addition, the survey covers the Bayankhongor Ophiolite belt, an important region of mineralization, and the young intra-plate volcanic zones of Tariat and Chuluut.

The magnetotelluric data are used to generate electrical resistivity models of the crust and the upper mantle. Past geophysical and petrological studies indicate a thick crust and thin lithosphere below the Hangai region, but the lithospheric structure is poorly understood. By combining our electrical resistivity results with other data we attempt to gain insights into this region.