

Structure of the ocean lithosphere reflected in the Geological-Geophysical Atlas of the Angola-Brazilian and Mascarene-Australian transocean geotransects

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Geological Survey of Russia realized regular geological-geophysical survey in the belt of the Angola-Brazilian and Mascarene-Australian transocean geotransects. These geotransects (total area more than 10 mln km²) are located in the southern subequatorial regions of the Atlantic and Indian Oceans between 8° and 20° S.

Obtained data serve as a base for the Geological-Geophysical Atlas of transects edited by I.F.Glumov.

The maps and the sections included in the Atlas provide information on: bottom topography and its transformations characterizing morphological features; thickness of the sedimentary cover; magnetic field and its transformations reflecting the structure of the magnetoactive layer; gravitational field, its reductions and transformations reflecting the structure of the Earth's crust; tectonics of the oceanic lithosphere, magmatism and metallogenic regionalization.

As a result of the obtained data analysis, some peculiar tectonic features have been revealed: an asymmetry in the Mid-Atlantic ridge deph structure; the presence of numerous diversely oriented intraplate fault systems, which generated regular net and caused fractality of the oceanic lithosphere structure; zones of post-spreading intraplate tectono-magmatic activity promising for discovering special type ore-forming hydrothermal activity, and other peculiarities of oceanic lithosphere tectonics in southern subequatorial regions of the Atlantic and Indian Oceans.