



Crustal structure north of Falkland Plateau offshore Argentina

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The passive continental margin offshore Argentina has been investigated by numerous geophysical surveys conducted by the Federal Institute for Geoscience and Natural Resources. In this study we focus on the area located north of Falkland Plateau. There, the passive margin forms the transition between the sheared margin of the Falkland Plateau and the volcanic passive margin of southern Argentina. This study aims at achieving a more detailed image of the crustal structure along the continent-ocean transition. Also we want to decipher the influence of the plume (Tristan da Cunha) on the evolution of the continental margin. The seismic data were acquired during a marine geophysical survey in 2004 and edited with an improved processing sequence.

The imaging involves the application of Prestack Depth Migration, which gives information about depth and interval velocities of the reflectors. In addition we combine our seismic section with information from magnetic and gravimetric measurements. In this study we present preliminary results. A first section gives insight in the structure of the crust along the continent ocean boundary.

Landwards there is no clear evidence of extension, which can be inferred from graben structures. In the transition zone the breakup unconformity is tilted seawards. In this part it is covered by a sedimentary drift body, which reaches a maximum thickness of 4km. The drift body can be divided into several units. In the east the oceanic basement is highly dissected by faults. The sedimentary succession overlying the oceanic basement reaches a maximum thickness of 4km. Further processing will reveal more details about the upper crustal structure along the margin. In the future we want to investigate the structure of the lower crust based on refraction seismic measurements.