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The Sunda-Banda Arc Transition - First results from recent marine geophysical investigations offshore eastern Indonesia (Part 2)

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The great Sumatra earthquake and the following Tsumani of 2004 triggered intense attention to the region around Sumatra from the point of view of subduction processes and tectonics of the region together with the earthquake hazards prediction questions. However the regions to the east, around Java and Sunda islands are believed to be also capable of producing "mega" earthquakes and tsunami, are still not well studied.

In October - December 2006 within the project RV SONNE cruise SO190 was conducted. The main goal of this project is to investigate the modifications of the lower plate (variability in the plate roughness, transition from oceanic to continental lower plate) and there effects on the tectonics of the upper plate (development of an outer high and forearc basin, accretionary and erosive processes) in the changing subduction style: from an continental - island arc collision along the Banda margin to oceanic - island arc style along the eastern Sunda margin. This region is especially interesting for the study as the subducting Indo-Australian Plate is characterized by rough topography. The subduction regime to be studied should be varying from the area where the Roo Rise is subducting off eastern Java, to the area where the smooth oceanic crust of the Argo-Abyssal Plain is subducting off Bali, Lombok, and Sumbawa further to the east.

The cruise was subdivided into two legs. During the first leg high-resolution multi-

channel reflection seismic and potential field data have been acquired, while on the second leg mainly wide-angle OBH-OBS dataset for the deeper structures was collected. In this work we present the first results from the data set collected during the second leg of the cruise. The dataset includes wide-angle OBH-OBS data, magnetic measurements together with high resolution bathymetric data. The data on 10 seismic profiles have been collected with a total length of almost 2000 km. Here we present first preliminary results of seismic wide-angle data interpretations of those profiles.

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