

## **TECTONIC STRUCTURE IDENTIFICATION AT PIDIE ACEH SEA WITH GEO-MARINE SURVEY**

As part of Indonesia PRIMA 2017 cruise, a geophysical research was conducted research vessel Baruna Jaya VIII at leg # 1 from Jakarta to Sabang via Indian Ocean, and at Leg # 2 from Sabang to Jakarta via Malacca Strait. The objective of this research is to observe the tectonic structure of Malacca Strait in the north of Pidie. The method used in this research includes observation of seabed topographic with Single beam echo sounder, seabed geological condition with Sub bottom profiler (SBP) tool, and modelling of gravity anomaly from topex satellite data. In the gravity modelling, second vertical derivative (SVD) analysis was used to find out the type of fault and grav3D inversion modelling is implemented to measure the density distribution. From this research, the research area has at least four different slope, i.e. flat relative, somewhat steep, sloping, and slightly sloping. While for the geological condition the seabed there are hard rocks and sediments that reach 30 meters thick, the normal fault. The SVD modelling confirms also a normal fault. And grav3D inversion modelling shows a basin structure with soft rocks on the top layer and hard rocks in the lower layers with oblique structure.

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