Acoustic Backscatter, Offshore of Coal Oil Point Map Area, California

By

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Kilometers

Sample to sample variance was geometrically corrected for slant range on a line-by-line basis. The contrast and brightness of some sample areas merged into their own individual grids. These individual grids, which cover different areas, were displayed in TIFF images, imported into a GIS, and converted to GRIDs.

For more information about bathymetric data collection methods, see Dartnell et al. (2011).

This acoustic-backscatter map of the Offshore of Coal Oil Point map area in southern California was generated from acoustic surveys conducted in 2006, 2007, and 2008; by California State University, Monterey Bay, Acoustic-backscatter imagery collected by U.S. Geological Survey in 2007 and 2008; and by California State University, Monterey Bay, in 2007 and 2008; and by Fugro Pelagos, in 2007 and 2008. This data set is part of the California Seafloor Mapping Program.

The areas marked by gray shading on the map represent gaps in the data set where backscatter intensity could not be accurately assessed. These gaps were caused by radiometrically low backscatter values and by areas that were too steep to be recorded accurately.

The onshore-area image was generated by applying an illumination having an azimuth of 300° and from a distance of 80 km.

The absolute depth measurements by the U.S. Geological Survey in 2007, 2008, and 2009 were corrected for vessel motion using the AM SVPlus sound-velocity profile data, for variations in water-column sound velocity using the AM SVPlus data, and for real-time kinematic corrections using the Applanix POS MV data, for variations in water-column sound velocity using the AM SVPlus data, and for real-time kinematic corrections. In addition, sound-velocity profiles were collected with an Applied Microsystems (AM) SVPlus sound velocimeter. Soundings were corrected for vessel motion using the Applanix POS MV (Position and Orientation System for Marine Vessels) was used to accurately position the vessel during data collection, and it also accounted for vessel motion such as heave, pitch, and roll (position accuracy, ±2 m; roll accuracy, ±0.2°). Doppler data were collected with the Applanix PosMV using real-time kinematic corrections. In addition, sound-velocity profiles were collected with an Applied Microsystems (AM) SVPlus sound velocimeter. Soundings were corrected for vessel motion using the Applanix POS MV (Position and Orientation System for Marine Vessels) was used to accurately position the vessel during data collection, and it also accounted for vessel motion such as heave, pitch, and roll (position accuracy, ±2 m; roll accuracy, ±0.2°). Doppler data were collected with the Applanix PosMV using real-time kinematic corrections.