



Geoacoustic models of the Donghae-to-Gangneung region in the Korean continental margin of the East Sea

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Geoacoustic model is to provide a model of the real seafloor with measured, extrapolated, and predicted values of geoacoustic environmental parameters. It controls acoustic propagation in underwater acoustics. In the Korean continental margin of the East Sea, this study reconstructed geoacoustic models using geoacoustic and marine geologic data of the Donghae-to-Gangneung region (37.4° to 37.8° in latitude). The models were based on the data of the high-resolution subbottom and air-gun seismic profiles with sediment cores. The Donghae region comprised measured P-wave velocities and attenuations of the cores, whereas the Gangneung region comprised regression values using measured values of the adjacent areas. Geoacoustic data of the cores were extrapolated down to a depth of the geoacoustic models. For actual modeling, the P-wave speed of the models was compensated to in situ depth below the sea floor using the Hamilton method. These geoacoustic models of this region probably contribute for geoacoustic and underwater acoustic modelling reflecting vertical and lateral variability of acoustic properties in the Korean continental margin of the western East Sea.

Keywords: geoacoustic model, environmental parameter, East Sea, continental margin

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