



Distribution characteristic of physical property and texture of surface sediments in the East Sea, Korea

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To understand sedimentary environment and distribution characteristic of sediments in the East Sea, Korea, total 410 cores were obtained in this area and analyzed for sediment texture and physical property. From these analysis data, we made distribution maps of physical property and texture of surface sediments in the East Sea. The sediment texture data show that the continental shelf in the southern part of the East Sea is distributed with fine-grained recent sediments deposited at present sea-level. The Ulleung Basin is mainly composed of hemipelagic sediments dominated by fine sediments. The middle continental shelf in the western part of the East Sea is a mixture of fine sediments and coarse relict sediments, and the outer continental shelf consists of coarse relict sediments deposited during the glacial period when sea-level is lower than present. In the western slope of the Ulleung Basin and some parts of the Korea Plateau, sandy sediments and hemipelagic sediments are mixed due to slides/slumps and mass flow sediments. The physical properties of surface sediments shows similar pattern to the distribution of sediment texture. The sound velocity and wet bulk density of the sediments were highest at the maximum of about 1,800 m/s and 2.16 g/cm³ in the outer continental shelf of the East Sea and around the Ulleung Island. In the Ulleung Basin, the sound velocity and the wet bulk density of the sediments are lowest at about 1,450 m/s and 1.2 g/cm³. The sound velocity of the sediment is about 1,500 m/s and the wet bulk density is 1.7 g/cm³ in the continental shelf mud of the southwestern East Sea. This distribution characteristic of sediment texture and physical property reflect well the sedimentary environment of the East Sea, Korea.