



Variation of surface sediments in the Dongho beach before and after the typhoon Kompasu in 2010, southwestern coast of Korea

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The Dongho beach, located on the southwestern coast of Korea, is macro-tide, open-coast, and pocket-type. In the Dongho beach, this study has focused on the typhoon effects of topography, surface sediment, and sedimentary environment, appeared before and after the typhoon Kompasu in 2010. The typhoon Kompasu moved along the southwestern coasts and across midlands of the Korean Peninsula from 1 to 2 September in 2010. Coastal effect of the moving typhoon was investigated in terms of the surface variations of surface sediment facies and sedimentary environment. Surface topography and sediments before and after the typhoon (August - September 2010) were measured and sampled along the Dongho survey line of 23 sites, respectively.

The surface topography in the mid-to-low tidal zone became low after the typhoon rather than that before the typhoon. The lower topographic change is indicative of surface sediment erosion caused by the typhoon wave. The pocket-type Dongho beach is mainly composed of fine to coarse sands, and the ratio of fine sand is the largest. The spatial distribution of surface sediments shows a coast-parallel band of fine and medium sands during three seasons of spring, fall, and winter, whereas medium sands dominated in the northern part of the study area during the summer. Before the typhoon, spatial distribution pattern of sedimentary facies showed a trend of coast-parallel bands of fine sand facies and medium sand facies, whereas that after the typhoon was partly different.

Keywords: coastal effect, Typhoon Kompasu in 2010, surface sediment, macro-tide, beach

Acknowledgements: This research was supported by the Korea Institute of Marine Science and Technology Promotion (KIMST) through the project grant of Tracking and Prediction on Impacts of Ancient Extreme Climatic Events in the West and South Coastal Zone of Korea and by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (2010-0025733).