<Poster presentation>

Review on the relative sea-level changes in the Yellow Sea during the late Holocene

*Choi, Sung-ja
*Korea Institute of Geoscience and Mineral Resources
124 Gwahak-ro, Yuseong-gu, Daejeon, 34132, Korea
+82-42-868-3034
sjchoi@kigam.re.kr

In this paper, we review previous studies on the relative sea-level changes in the Yellow Sea during the Holocene to better understand the various research results. Currently, two theories are predominant: 1) the Holocene sea-level was always below the present-day level; and 2) there was a sea-level highstand during the mid-Holocene that caused the sea-level to rise several meters before slowly falling to that of the present-day. The first theory yields a curve that is similar to a climate-change-related eustatic sea-level curve. However, in reality, most of the relative sea-level fluctuation resulted from land uplift or subsidence. The second theory yields a curve that is fairly coincident with a relative sea-level curve indicative of continental margins being located away from the ice sheets (i.e., far-field), and is considered as an effect of GIA and gravitational attraction. When we reviewed the data used in the studies that posited these theories, we realized that they sourced the same papers, but obtained different results because they selectively chose and added the data. The data used to derive the second theory pertain to the northern Kunsan region, which is located within the western area of the Chugaryeong fault. Thus, we believe that the sea-level curve for the second theory is only representative of the area north of Kunsan, which is subject to GIA and tectonic deformation. Although the relative sea-level curve for the west coastal area is comparable to that for the far-field continental margin region, it is necessary to evaluate the more than 400 faults currently existing in on the Korean Peninsula, and the active seismic activity in the west coastal area.