Analysis of long-term linear trends of the sea surface height around the Korean marginal seas based on quantile regression

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This study analyzed the long-term linear trends of the sea surface height around the Korean coasts for the period of 1993˜2016 by using quantile regression. In the Yellow seas, there found significant difference about 2˜3 mm/year for the linear trend between OLS (ordinary least square) and median(50%) quantile regression, which is affected by extreme event. Each area shows different trend for each quantile. Most areas of the Yellow sea show increasing trend in both low and upper quantile, but significant upward divergence tendency. This implied that increasing trend of upper qunatile is higher than that of lower quantile in this area. However, South sea generally shows upward convergence tendency representing that increasing trend of upper qunatile is lower than that of lower quantile.

Keywords: Korean marginal seas, sea surface height, quantile regression