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## Influence of the Kuroshio velocities against coastal sea level in western most islands of Japan

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**K**uroshio also called Japan Current is the strong surface current of the North Pacific Ocean Gyre, flowing past Taiwan and Ryukyu Islands in Japan. The speed and kinetic energy (KE) of the Kuroshio are obtained from daily data of AVISO geostrophic velocity. The fluctuation of coastal sea level along Kuroshio track is very interesting to be observed, to know how far the influence of Kuroshio on sea level of coastal area. However, this research has not been previously studied in western most islands of Japan. Using geostrophic velocity and tide gauge data over 2001-2015, correlation between the speed and KE against coastal sea level in Okinawa and Ishigaki Island has been examined. KE indicates more influence than speed of Kuroshio on coastal sea level but different correlation values between Ishigaki and Okinawa Island have been shown in this research. The correlation value of Ishigaki for speed and KE are reached out 0.7 and 0.72, respectively which indicate the sea level are related with Kuroshio velocity, as coastal sea level decreases (increases) when Kuroshio velocity slower (faster). Whereas the Okinawa exhibit correlation value which is less than 0.4. All correlation values are corresponding with map of correlation between sea level anomalies and current velocity around Taiwan and Ryukyu Island, that shown if near of Ishigaki have higher correlation than Okinawa.

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