

Analyze Long-Term Shoreline Change at Yi-Lan Coast, Taiwan Using Multiple Sources

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Abstract : A shoreline is a line where a body of water and the shore meet. It provides economic and social security to coastal habitations. However, shorelines face multiple threats due to both natural processes and man-made effects because of disasters, rapid urbanization, industrialization, and sand deposition and erosion, etc. In this study, we analyzed multi-temporal satellite images of the Yilan coast, Taiwan from 1978 to 2016, using the United States Geological Survey (USGS) Digital Shoreline Analysis System (DSAS), weather information (as rainfall records and typhoon routes), and man-made construction project data to explore the causes of shoreline changes. The results showed that the shoreline at Yilan coast is greatly influenced by typhoons and anthropogenic interventions.

Keywords : shoreline change, multi-temporal satellite, digital shoreline analysis system, DSAS, Yi-Lan coast

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