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955: Long-Term Trends and Variability of Eddy Activities in the South China Sea

📅 ✏️ **Wednesday, 10 January 2018**
03:45 PM - 05:30 PM
📍 *Austin Convention Center and Hilton - Exhibit Hall 3 (ACC)*

For constructing empirical downscaling models and projecting possible future states of eddy activities in the South China Sea (SCS), long-term statistical characteristics of the SCS eddy are needed. We use a daily global eddy-resolving model product named STORM covering the period of 1950-2010. This simulation has employed the MPI-OM model with a mean horizontal resolution of 10km and been driven by the NCEP reanalysis-1 data set.

An eddy detection and tracking algorithm operating on the gridded sea surface height anomaly (SSHA) fields was developed. A set of parameters for the criteria in the SCS are determined through sensitivity tests. Our method detected more than 6000 eddy tracks in the South China Sea. For all of them, eddy diameters, track length, eddy intensity, eddy lifetime and eddy frequency were determined. The long-term trends and variability of those properties also has been derived.

Most of the eddies propagate westward. Nearly 100 eddies travel longer than 1000km, and over 800 eddies have a lifespan of more than 2 months. Furthermore, for building the statistical empirical model, the relationship between the SCS eddy statistics and the large-scale atmospheric and oceanic phenomena has been investigated.

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