



SPRING 2017 SEMINAR SERIES

DEPARTMENT OF OCEAN, EARTH, AND ATMOSPHERIC SCIENCES
3:00PM – ROOM 200 IN THE OCEANOGRAPHY/PHYSICS BUILDING
THURSDAY March 16th, 2017

“Observational Evidence of Seasonality in the Timing of Loop Current Eddy Separation.”

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ABSTRACT

Observational datasets, reports and analyses over the time period from 1978 through 1992 are reviewed to derive pre-altimetry Loop Current (LC) eddy separation dates. The reanalysis identified 20 separation events in the 15-year record. Separation dates are estimated to be accurate to approximately ± 1.5 months and sufficient to detect statistically significant LC eddy separation seasonality, which was not the case for previously published records because of the misidentification of separation events and their timing. The reanalysis indicates that previously reported LC eddy separation dates, determined for the time period before the advent of continuous satellite altimetry monitoring in the early 1990s, are inaccurate because of extensive reliance on satellite sea surface temperature (SST) imagery. Automated LC tracking techniques are used to derive LC eddy separation dates in three different altimetry-based sea surface height (SSH) datasets over the time period from 1993 through 2012. A total of 28 to 30 LC eddy separation events were identified in the 20-year record. Variations in the number and dates of eddy separation events are attributed to the different mean sea surfaces and objective-analysis smoothing procedures used to produce the SSH datasets. Significance tests on various altimetry and pre-altimetry/altimetry combined date lists consistently show that the seasonal distribution of separation events is not uniform at the 95% confidence level. Randomization tests further show that the seasonal peak in LC eddy separation events during August and September is highly unlikely to have occurred by chance.

AFTER THE SEMINAR, PLEASE JOIN US IN ROOM 404, THE ZANEVELD CONFERENCE ROOM, FOR COFFEE AND COOKIES, AND TO MEET WITH THE SEMINAR SPEAKER.