Kevin Bodge, Ph.D., P.E. olsen associates, inc. jacksonville, florida



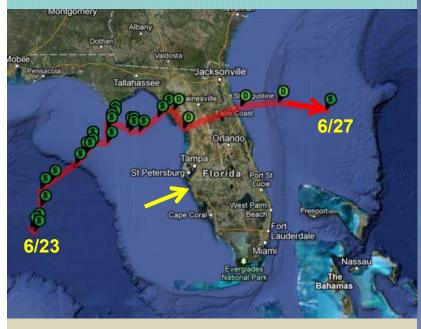


osen associates, inc. Coastal Engineering

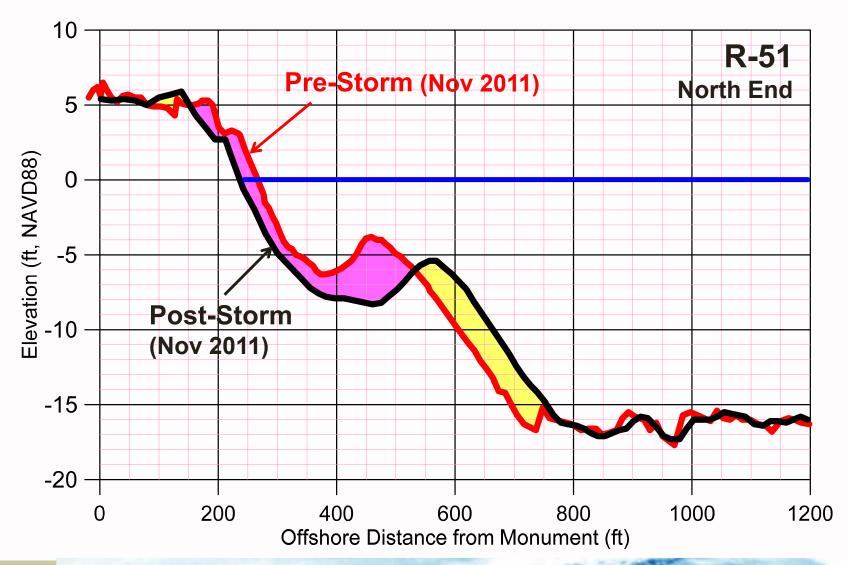


## **Longboat Key**

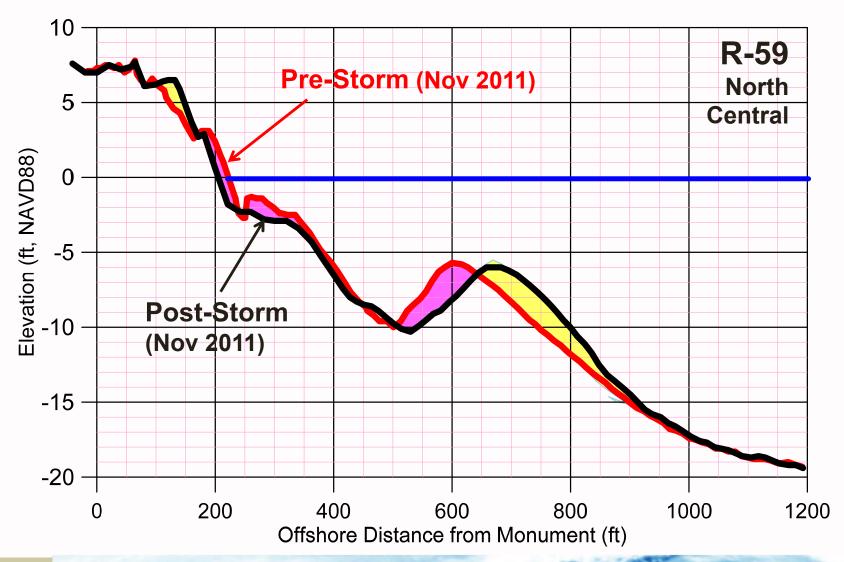
## Manatee & Sarasota Counties



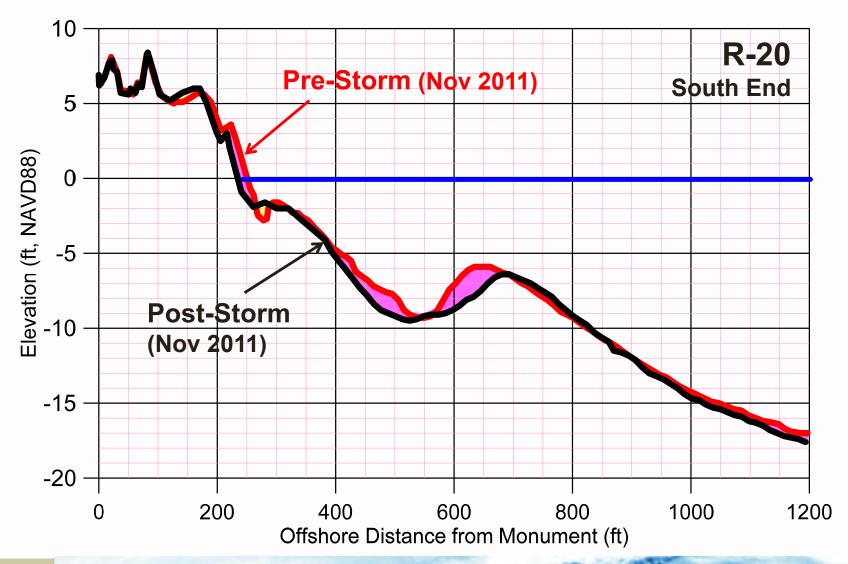












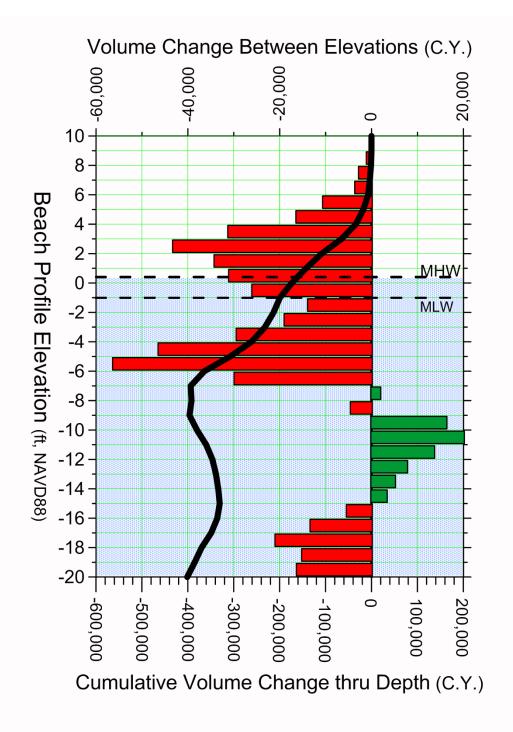


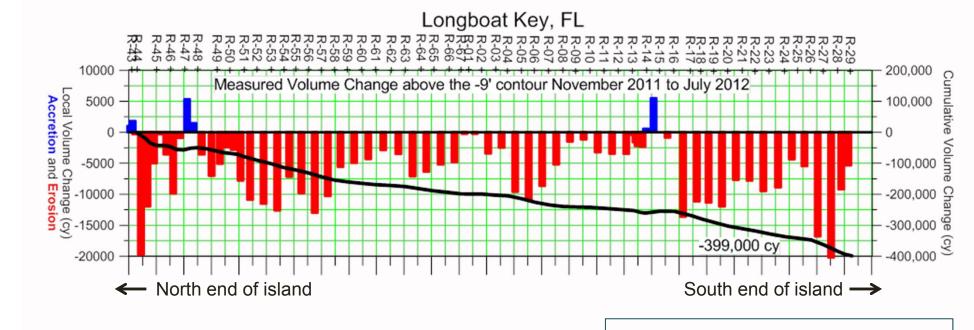
## Island-wide beach volume change by elevation.

Nov 2011 – July 2012.



T. S. Debby and Longboat Key



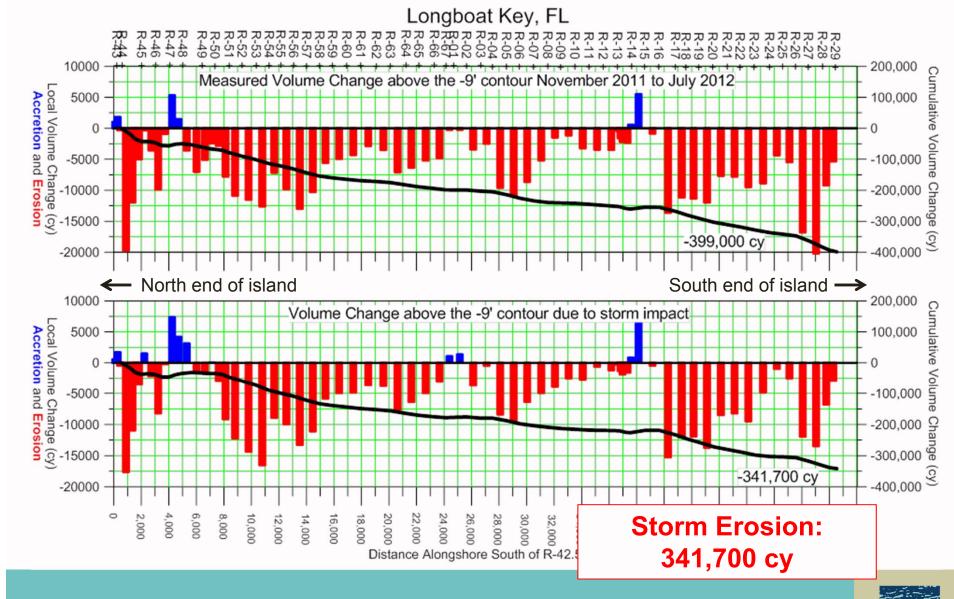


Measured Erosion: 399,000 cy

Measured change: November 2011 to July 2012 (before removal of average annual background changes)

Alongshore Beach Volume Change (cubic yards)





Alongshore Beach Volume Change (cubic yards)

