

Summary of July 18th teleconference regarding meteo- or landslide-generated tsunamis occurring on the U.S. East Coast

Background: A teleconference was held on July 18, 2013 to discuss ideas and preliminary analysis of a June 13, 2013 tsunami event that impacted the coast of New England. A NOAA DART buoy was triggered by the event, which drew the attention of a diverse group of researchers who initiated efforts to identify what caused waves and currents that impacted a number of bays and estuaries. The event, which occurred during daylight hours attracted widespread attention. Several media reports (including coverage by NPR) were released focused on local impacts including several people being swept off a breakwater at Barnegat Light NJ, some damage to boat moorings, and minor inundation.

Non-seismically generated tsunami events pose a potential threat to areas subject to inundation. It is anticipated that the June 13 event may provide opportunities to better understand the origins of such events as well as to improve capabilities for forecasting and warning.

Call summary: Seven short talks were presented, each covering different aspects of the event, from ocean sensing, to atmospheric signatures, to identifying forcing regions. Presenters and topics included:

- Christopher Moore (NOAA PMEL): ray tracing to identify possible forcing regions, and associated landslide modeling. The forcing region is identified as a broad region between the 60m isobar and the shelf break near Hudson Canyon. Landslide modeling shows an event time of 16:45 UTC.
- Jason Chaytor (USGS): Initial results comparing high-resolution before and after bathymetric surveys conducted by the NOAA Ship *Okeanos Explorer*, have not revealed any obvious slope failure and/or sediment mass movement structures that might explain the event.
- Christina King (University of Rhode Island): correlations between atmospheric pressure time series and water level time series at tide gauge locations. They identify at least three similar events in this region over the last two years.
- Rich Signell (USGS Woods Hole): radar reflectivity and frontal acceleration. A derecho (strong squall) is identified in Delaware Bay and New Jersey, moving offshore and passing over the shelf break at 16:45 UTC as recorded by the Texas Tower met buoy.
- Rich Yablonski, Chris Kincaid (URI): June 29, 2012 event data from the Storm Prediction Center showing strong wind event with a similar path as the June

13, 2013 event. Radar reflectivity shows it, too, passed over the Hudson Canyon met buoy.

- Hank Lobe (Sonardyne): WaveGlider bottom pressure recorder “upstream” of the 44402 DART buoy shows the arrival of a wave before the DART time series.
- Paul Whitmore (WC/ATWC): Results of research from Pasquet and Vilibic suggests a reflection from the shelf break, analysis of forcing region suggests near shelf break surrounding Hudson Canyon, and ATFM modeling results using a forcing source moving east at 20m/s extending from 38N-40N. Initial results show shelf-edge reflection, but modest gauge comparisons. The RIFT model results show a similar pattern.
- Don Barrick (CODAR): HF Radar array shows orbital velocity vs distance offshore. Flow observed perpendicular to isobaths, and arrival time suggests acceleration as event unfolds. Two events seem to be present in the gauge data set, separated by about 4 hours.

Actions: (1) PMEL agreed to host a web site to share data and presentations (2) Chris Moore has contacted the AGU Fall meeting director to request a special session to address this event as well as meteotsunami events in this area in past years. A preliminary web page has been put together at:

<http://nctr.pmel.noaa.gov/eastcoast20130613>

Participants/Contributors

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