

# NWS Melbourne Marine Web Letter

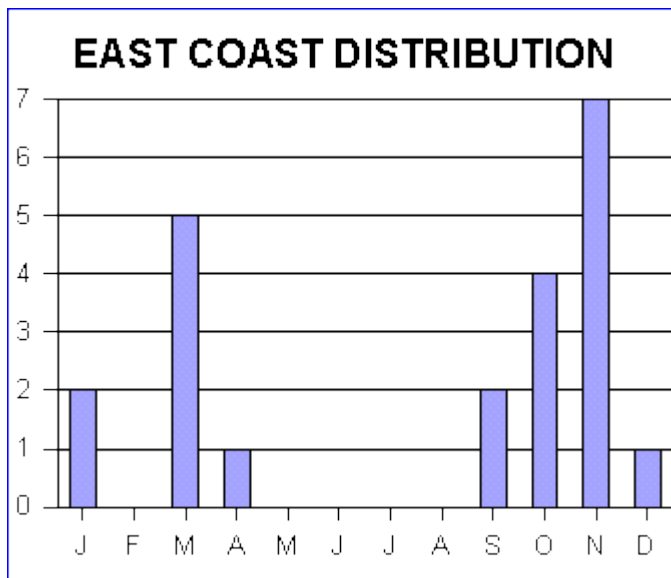
## November 2007

### Change in the Coastal Water Zones

I have been advertising for the past few web letters about the planned change of the east central Florida marine zones boundaries. Date of change, Dec. 4, 2007. The notice of change can be found [here](#). A map of the old and new zones can be found [here](#). We hope that these changes lead to more accurate forecasts.

### Beach Erosion

There was significant erosion from two events that occurred between late September and early November. The erosion seemed to be quite severe, but climatologically, coastal flooding has a peak in the Fall (Fig.1). Hence, erosion events would be expected to be most common during that time too.



**Fig. 1. Limited climatology for coastal flooding events along Florida's east coast in mid-late 20th century (does not include tropical systems)**

Winds and seas in past events were generally highest during hurricanes that moved close to east central Florida, so the worst coastal flooding/erosion would be expected to occur then. However, the duration of coastal flooding/erosion is shorter, unless the hurricane is slow moving or nearly stationary. Therefore, some non-hurricane events could actually result in just as much, or more, coastal flooding/erosion due to persistent (several days) pounding surf.

One of the greatest erosion events (non tropical) was the Thanksgiving storm in 1984. A low pressure system formed over the northern Bahamas and remained nearly stationary for 3-4 days. The combination of the low pressure center and strong high pressure to the north resulted in 30-40 mph winds (occasionally higher) buffeting the coast for up to 4 days. Damage estimates, converted to 2007 dollars, would total approximately \$175 million, though with the explosion of growth along the east coast of Florida, this total would undoubtedly be much higher if a similar event occurred again. This dollar figure seems paltry after the 2004-05 hurricane seasons, but the damage from the Thanksgiving 1984 storm was mainly right along the beachfront.

Seas were 3-4 feet lower during the Fall 2007 events, so from a historical perspective, this year's erosion paled in comparison.

Table 1. Some Notable High Seas Events Offshore East Central Florida

<b>Event Name, Date</b>	<b>Buoy #</b>	<b>peak wave height (feet)</b>	<b>peak wave period (seconds)</b>
Thanksgiving 1984	41006	21	11
Christmas 1989	41009 , 41010	16 , 20	13-17
"Perfect Storm" 10/31/91	41009 , 41010	18 , 17	20
Hurricane Erin, 8/2/95	41009 , 41010	26 , 25	12-14
Hurricane Luis 9/8/95	41009 , 41010	16 , 14	17
Offshore Gale 3/11/96	41009 , 41010	23 , 33	13-14
Hurricane Fran 9/4/96	41009 , 41010	14 , 24	14
Hurricane Dennis 8/29/99	41009 , 41010	16 , 19	10-13
Hurricane Floyd 9/15/99	41009 , 41010	32 , (41010 data missing)	17
Hurricane Irene 10/16/99	41009 , 41010	23 , (41010 data missing)	11
Hurricane Michelle 11/6/01	41009 , 41010	18 , 24	11-13
Hurricane Frances 9/14/04	41009 , 41010	26 , 31	12-14
Hurricane Jeanne 9/26/04	41009 , 41010	( 41009 data missing ), 29	12-13
Hurricane Wilma 10/24/05	41009 , 41010	20 , 33	9-12
Oct-Nov. 2007	41009 , 41010	15 , 17	10-11

### **Some things we are working on:**

- Work is progressing on developing a coupled atmosphere/ocean model for the near shore waters. Hardware has been obtained (computers), the principle investigators have met and they are configuring the atmospheric model. We hope that this work will result in improvements to both wind and wave forecasts. Expect more information in future web letters, including expected improvements to products/services and an approximate timeline.

- I would like to place Gulf Stream sea surface temperature maps that NWS Melbourne uses to estimate west wall positions onto our web site.

### **Get text forecasts and maps in your email**

This National Weather Service (NWS) FTPMAIL server is intended to allow users to receive text and maps if they have email access but not Internet access. The service is free and no signup is required. Using FTPMAIL, users can request files from the NWS and have them automatically emailed back to them.

Click [here](#) for detailed instructions.

If you have any questions, feel free to [email](#) me. The next Marine Web Letter can be expected in February-March 2008.

**Randy Lascody**