

Rip Current Event June 22-27, 1999

From June 22-27, 1999 a weak low pressure center well east northeast of the central Florida coastline sent long period (10 to 14 sec) swells into the beaches. Long period swells, only measuring around two feet at offshore buoys showed significant wave energy within the breaking wave process. This resulted in excessive water piling behind the surf zone sandbars and produced moderate to strong rip currents.

More than 700 people were rescued or assisted ashore along the Volusia county beaches during this event.

The [12z surface map on the 21st](#) showed a quasi-stationary front across the area. This boundary had helped to produce widespread showers and thunderstorms for several days but was beginning to weaken. The [12z surface map on the 22nd](#) showed that a weak low pressure center had formed along the front (in response to an approaching upper level shortwave trough). A high pressure ridge built down the eastern seaboard behind the developing low and allowed the weak front to progress slowly southeastward to across central Florida by [00z on the 23rd](#). A slight increase in easterly winds occurred over the coastal waters during the day, which resulted in about 43 people being rescued on the 22nd.

The low pressure center pushed east, and at [12z on the 23rd](#), was well offshore with its associated weak front extending across the southern half of the peninsula. Some drier air had worked across the north half of Florida and diminished the coverage of showers and storms. Early on the 23rd, after receiving information concerning the amount of rescues the day before, it looked like conditions would continue. NWS Melbourne therefore upgraded the Hazardous Weather Outlook on the 23rd to include a greater than normal chance of rip currents. Little did we know that there would be 194 people rescued on the 23rd! [Buoy data](#), showed that there was just a subtle increase in the swells.

[The 12z surface map on the 24th](#) showed that the low pressure center had moved much further offshore. The associated surface front was weak, but drier air (a few dew points below 70 degrees), was noted across the north half of the area with little coverage of showers. [Buoy data](#) indicated that the swells were small but still 2 to 3 feet. The improved weather conditions allowed more people to enter the water and it was reported that 140 were rescued.

On the [25th at 12z](#), the surface front and weak low were beginning to dissipate as a high pressure ridge built south of the area. Plenty of sunshine resulted in large crowds at the beaches and the number of people rescued in the ocean exceeded one hundred once again.

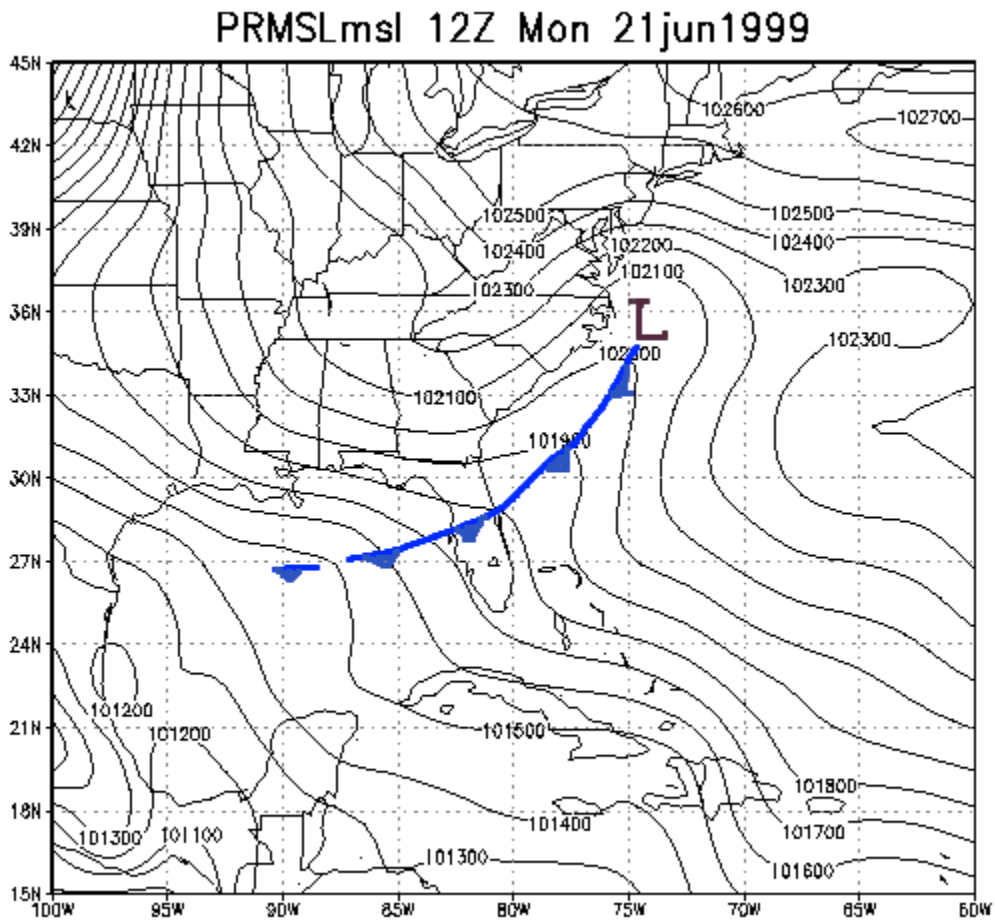
On the weekend of the 26th and 27th, [a large surface ridge](#) covered the western Atlantic with no evidence of the front and weak low pressure center. Incoming swells were expected to continue to weaken as the winds over the ocean surface became westerly. Still, the extremely large crowds at the beaches necessitated the rescue of around 100 people each day. One likely reason for the large number of rescues after the swells had diminished is that there were pre-existing cuts in the sandbars from the several previous days with strong rip currents. These acted as channels to remove the slight excess of water that was collecting behind the sandbars. Beach patrols reported that the rip currents were not pulling as strong, though numerous people in the water still required many rescues/assists to shore. An approaching full moon on the 28th and the associated slightly higher astronomical high tides may have also played a part by producing the slight excess of water piling onto the beach that is necessary for moderate or strong rip currents.

Summary/Comments

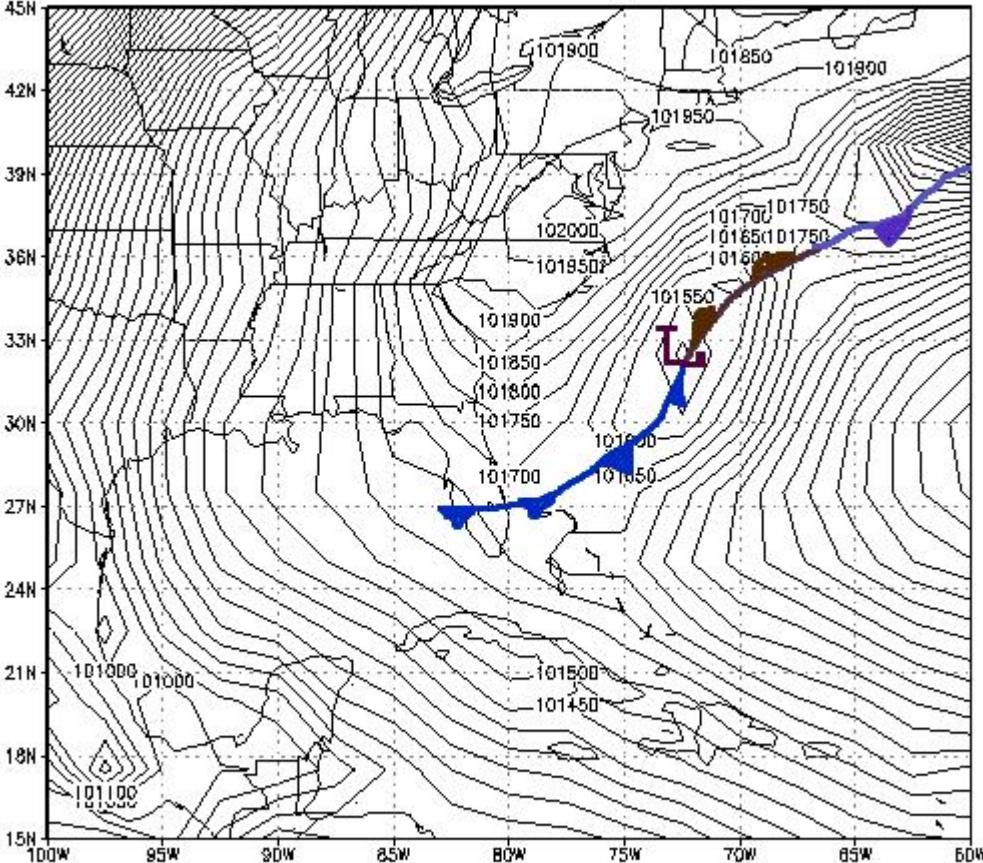
This was an interesting, subtle event, which *is* typical of the summer season. However, the 194 people rescued on 6/23 was *not* typical. The alert and well trained Volusia county lifeguards performed an exemplary job to prevent any serious injury. So, the main lesson for beachgoers is to always swim near a lifeguard!

Additional information concerning the east central Florida rip current program may be found [Here](#)

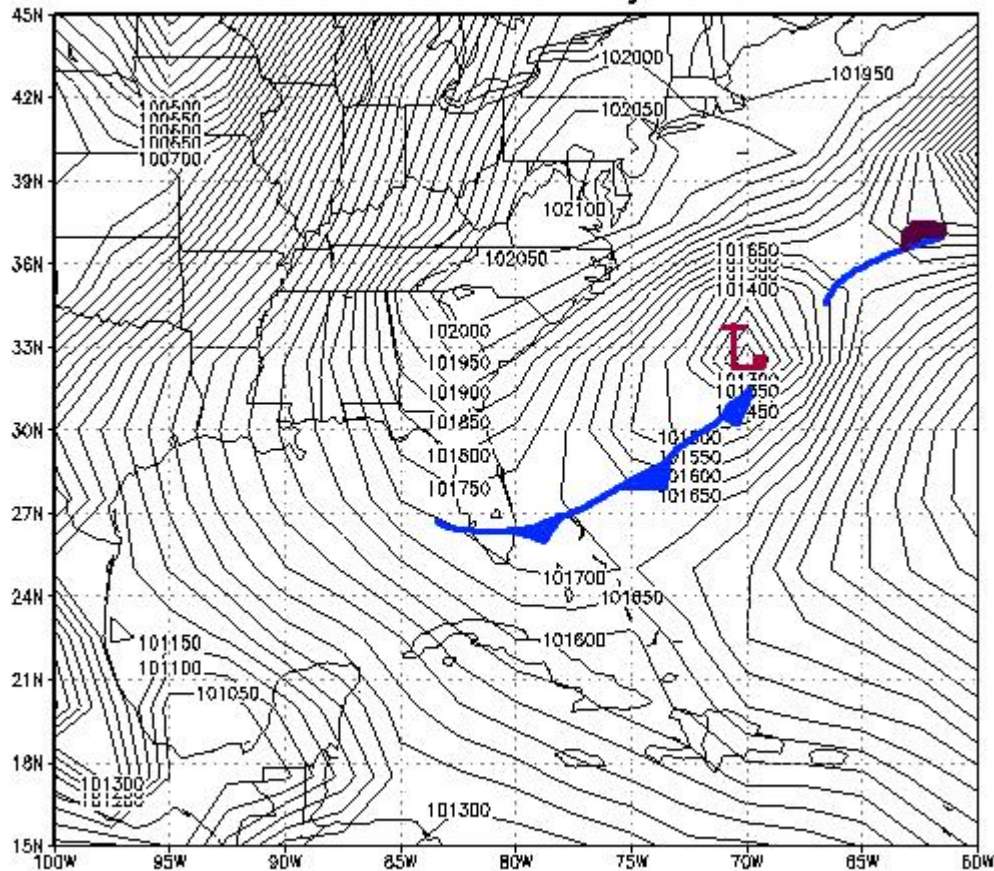
JP/RL



PRMSL 00Z Wed 23jun1999



PRMSL 12Z Wed 23jun1999

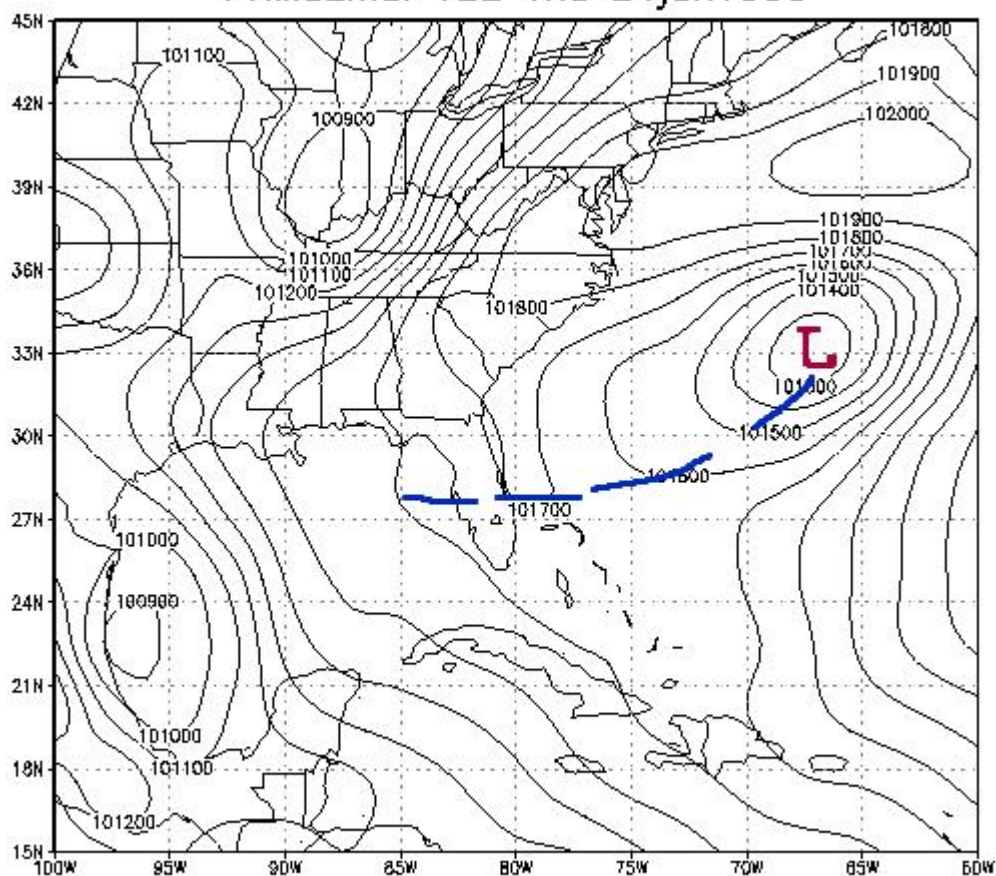


B41009 SA 2300 153/80/82/0808G12/ APP MMMM SWL 0803 10M 08 20M 09
 B41009 SA 2100 154/80/82/0710G12/ APP MMMM SWL 0703 10M 10 20M 10
 B41009 SA 1900 165/80/82/0708G10/ APP MMMM SWL 0703 10M 08 20M 08
 B41009 SA 1800 172/80/82/0506G06/ APP MMMM SWL 0803 10M 05 20M 05

B41010 SA 2300 159/80/82/3606G08/ APP 6007 SWL 0704 10M 07 20M 07
 B41010 SA 2200 158/80/82/3608G10/ APP 6012 SWL 0804 10M 08 20M 08
 B41010 SA 2100 160/80/83/3508G10/ APP 7016 SWL 0804 10M 08 20M 08
 B41010 SA 2000 166/80/83/3506G08/ APP 8013 SWL 0903 10M 06 20M 07
 B41010 SA 1900 170/80/83/3504G06/ APP 8012 SWL 0803 10M 04 20M 04

23 June 1999 buoy data. Basically there was a light northerly gradient wind which is depicted well by the data at Buoy 41010. The easterly winds at Buoy 41009 were exaggerated due to the effect of the sea breeze. Sea heights of 3-4 feet do not look very impressive, especially with a 7-9 second period, but most of this was likely swell as the local winds were very light. Also, inspection of detailed wave data from the National Data Buoy Center showed that there were occasional longer periods. This did not show up in the locally generated buoy data since the occasional 14 second periods had wave heights of only 1.0-1.5 feet. The reason for this is that the program shows the **dominant** wave period (the wave period associated with the **highest wave energy**), which in this case was the 7-9 second period associated with 2-3 ft seas.

PRMSLmsl 12Z Thu 24jun1999

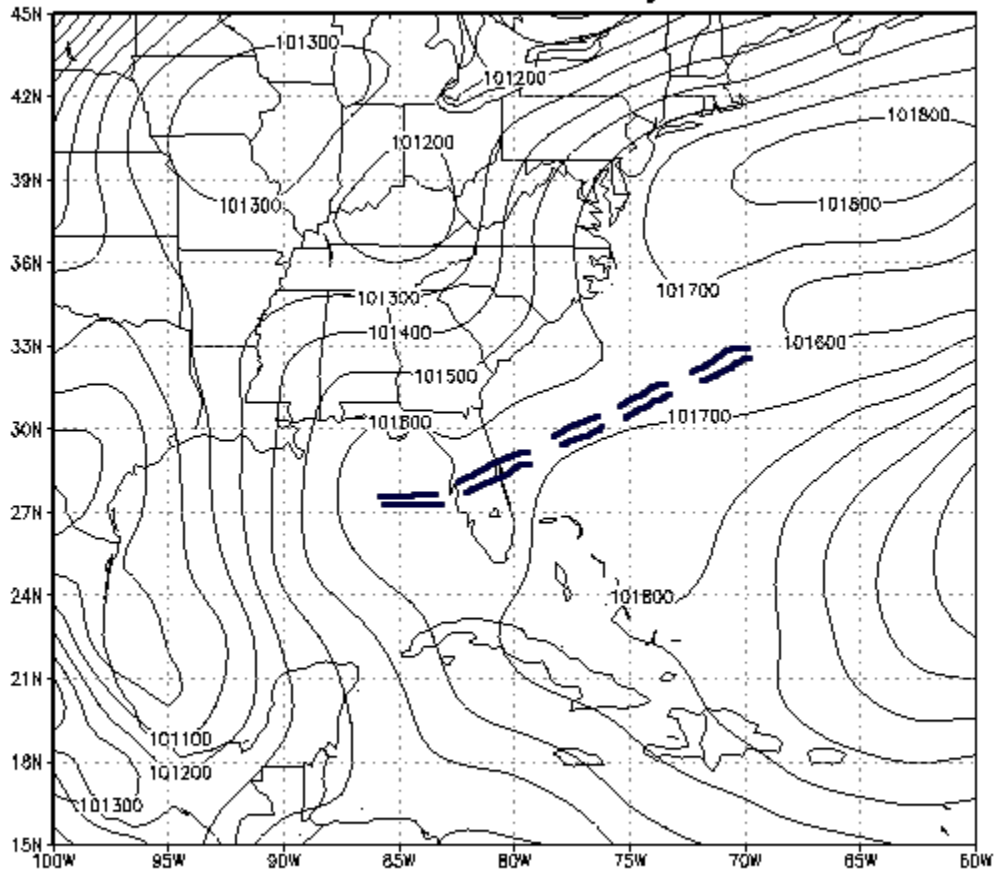


B41009 SA 2300 157/82/85/0604G04/ APP 5000 SWL 0802 10M 03 20M 03
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 B41009 SA 2100 155/83/83/0000G02/ APP 6017 SWL 0902 10M 01 20M 01

B41010 SA 2300 159/80/82/3506G08/ APP 6006 SWL 0903 10M 06 20M 06
 B41010 SA 2200 157/80/82/3306G08/ APP 6012 SWL 0903 10M 05 20M 06
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 B41010 SA 2000 165/80/83/3204G06/ APP 8010 SWL 0804 10M 03 20M 03
 B41010 SA 1900 169/80/83/3604G06/ APP 8006 SWL 0803 10M 05 20M 05

24 June 1999 buoy data. Little gradient wind was indicated with most all of the seas due to swell.

PRMSLmsl 12Z Fri 25jun1999



PRMSLmsl 12Z Sat 26jun1999

