

Significant Rip Current Event Associated With Low Wave Heights: An East Central Florida Case Study

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Over a three day period in June 2009, approximately 500 people were rescued from the seaward pull of rip currents along the gently sloping Volusia County beaches in east central Florida. Though infrequent, rescue events of this proportion are not that unusual given the large number of daily visitors during peak season. However, this event occurred in the presence of rather low wave heights, around 2 feet. Additionally, the wave period of the easterly swell was not particularly long, 9 to 10 seconds. Typically when such high rescue counts are realized in east central Florida, the swell period is 12 seconds or greater.

It is surmised that an approaching new moon played a critical part in causing the increased number of rip currents and rescues. During this period, the midday low tide was 0.1 to 0.5 feet below Mean Lower Low Water. Previous studies have shown that the number of rip current rescues is often greatest near the time of low tide. This is partially attributable to the fact that the beach is widest at this time, allowing for more people in attendance. More importantly, the surf zone becomes wider around low tide. This increases mass transport of water onto shore, which can lead to stronger rip currents.

During this event there were no drowning deaths, with only two people requiring additional medical attention. Had there been a longer period swell or slightly higher wave heights, the rip currents would likely have been much stronger and more dangerous.