

Coastal Processes on Long Island Rip Currents

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Rip currents are narrow channels of fast-moving seawater that pull swimmers away from the shore. They are a result of the water being concentrated in a specific area as it returns to the ocean after being pushed onto the beach by wave action. Rip currents move powerfully through the surf zone and only dissipate once beyond the breaking waves. Typically they can be found at low points or breaks in the sand bar; rip currents usually occur around hard structures placed perpendicular to the shoreline such as piers, jetties,

and groins. Additionally, during unpredictable wave conditions, rips can temporarily appear and then disappear just as suddenly. Rips are nearly impossible to predict, however they are more likely to occur during times of larger waves or when the wind is blowing onshore. Different conditions also affect the strength of these currents and the stronger a rip is, the more dangerous it becomes!

The best way to avoid being caught in a rip current is by understanding how to spot one before entering the

water. Sometimes rips are visible by a discoloration in the water or debris moving away from the shore. Their appearance can also be misleading when the current looks like an area of calm water in between areas of waves.

Threat to beachgoers

The United States Lifesaving Association (USLA) estimates that around 100 beachgoers are killed in rip currents each year and 80% of all lifeguard rescues at surf beaches are rip-related. These currents can reach speeds upward of 8 m/s, or 18

mph, meaning even the best Olympic swimmers cannot overcome their power! Rip currents are especially dangerous due to their unpredictable nature. These currents have a tendency to change their location along the beach, meaning they are not always in the same place. Additionally, even when they do occur, they might not last long; a rip current can start pulling at any time. Furthermore, they are very difficult to spot and even sometimes appear like an inviting place to enter the water.

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As seen in this picture between the red arrows, some rip currents can be identified as an area of calm water in between breaking waves. Although this looks inviting from the beachgoer's perspective, it could be deadly! Image credit: NYSG.

Safety and Awareness

Once caught in a rip current, typically the swimmer's response is to panic and try to fight against the current, in a desperate attempt to return to the shore. However, this immediate response will quickly exhaust a swimmer and increase their risk of drowning due to fatigue, the most common cause of rip-related fatalities. Most importantly, swimmers should remember to remain calm; rip currents are narrow and by swimming parallel to the shoreline, a victim can easily escape the grip and return to the beach safely. If the rip current pulls a beachgoer to deeper water, they can float and tread water, while drawing attention by calling or waving for help.

It is important when visiting the beach to always swim near the lifeguard or in the guarded area. If a beachgoer is not sure where it is safe to swim, they should approach the guard on duty and ask. Typically lifeguards will place flags on the beach to warn swimmers where it is dangerous to enter the water; however, beach flags have different

meanings and again, it is best to ask the guard on duty. If a beachgoer notices a swimmer caught in a rip current, they should not attempt to perform a rescue; many times the rescuer becomes another victim. Notify a lifeguard immediately, if no guards are present call 911 to alert emergency responders who will then be able to attempt the rescue. The beachgoer should try to communicate with the victim while still remaining safe. If the beachgoer has access to something that would float, they can throw it to the victim for them to hold on to.

Before heading to the beach, check the local National Weather Service surf forecast for any rip current warnings. For the latest surf forecast for NYC and Long Island ocean beaches, available Thursday before Memorial Day through the last week of September, visit the National Weather Service New York, NY Beach Forecast webpage at: <http://www.weather.gov/beach/okx>

More information about rip currents and beach safety is available from New York Sea Grant's Marine District Extension Office at (631) 632-8730.

Resources

www.nyseagrant.org/ripcurrents

www.ripcurrents.noaa.gov

www.usla.org/ripcurrents



Please read, obey and know the meaning behind warning flags, as they are there to protect you. Read the safety signs at the entrance to the beach. Once on the sand, look for beach warning flags, often posted on or near a lifeguard's stand. Warning flags aren't used in all areas and their meaning can vary from area to area. Image credit: NYSG.



www.nyseagrant.org

