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No Speak, No Hear, No See: Improving Warning Systems for Rip Currents on the Great Lakes

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By Hannah Burdett

A rip current is a natural hazard that has received little attention within the Great Lakes. Without proper education and warning systems, unsuspecting beach users may enter the surf zone and place themselves in a dangerous situation. Understanding the danger that rip currents pose on the Great Lakes as well as where and when rip currents tend to develop is critical for limiting drownings and rescues. The purpose of this study is to determine whether existing warning systems in the United States and Canada provide an effective forecast. Specifically, an analysis was completed on the currently established rip current warning system presented by the National Weather Service and Environment Canada. The analysis focused on the amount of information that was provided to the public, the geographic extent of the warnings and whether the warnings were heeded by beach users. A survey, that was developed by University of Windsor student researchers, was completed by the public to determine how many people have seen a rip current warning before going to a beach on the Great Lakes, and how well they comprehended the warning. Respondents were also asked about their understanding of the warning systems and questioned about their knowledge of how to avoid or escape the hazard. GIS was also used to determine if there was a spatial correlation between drowning locations in the Great Lakes and the warnings provided by the National Weather Service and Environment Canada. Preliminary results suggest that the warning systems used in the United States and Canada lacks in both efficiency and effectiveness. Specifically, it is argued that the National Weather Service rip current warning system is not easily accessible to the public and provides inconsistent information in both space and time. Results will be used to improve the rip warning system used for the Great Lakes so that it is easily accessible as well as easy to comprehend. The aim of this study is to reduce the number of deaths that occur each year in the Great Lakes.