

## STORM MECHANICS

# Reverse-storm surge

**H**urricanes are known for their fierce winds, dangers of flooding and the ability to hover over an area, wreaking havoc for long periods of time.

Storm surge is another substantial contributing to the destruction.

The National Oceanic and Atmospheric Administration defines storm surge as an abnormal rise of water generated by a storm over and above the predicted astronomical tide. This sudden rush of water is common during hurricanes and can create dangerous flooding conditions to coastal communities. Hurricane Irma showcased the unique damage these natural disasters are capable of producing.

While not an unprecedented event, a reverse storm surge is achieved when a mighty storm moves at a certain path, temporarily reshaping the ocean.

## What Causes Water to Recede

Experts from the National Hurricane Center says Hurricane Irma drained parts of the Florida coast because the shore is on a parallel track. Typically, winds will push a storm surge toward the shore. During this powerful 2017 storm, winds were blowing offshore pushing the water away from land.

While a reverse storm surge was witnessed in superstorm Sandy in 2012, it was the vast area affected by Irma that made it such a national spectacle.

## Remain Safe

### During a Reverse Storm Surge

If you live near a coastal area where this phenomenon occurs, it can be tempting to witness the event for yourself. Keep in mind, it is inevitable that the



© EASTERN IMT/WIKIMEDIA COMMONS

Storm surge can penetrate well inland from the coastline. During Hurricane Ike, the surge moved inland nearly 30 miles in some locations in southeastern Texas and southwestern Louisiana.

water will return once a storm has passed. Don't find yourself on the ocean floor when the storm surge comes back unexpectedly and with a fury.

There are many dangerous risks associated with hurricanes and surges should be taken just as seriously as wind damage. Listen to local officials when they call for a mandatory evacuation or when to remain indoors as the storm approaches. It's not worth risking your life to experience the features these natural wonders sometimes create.

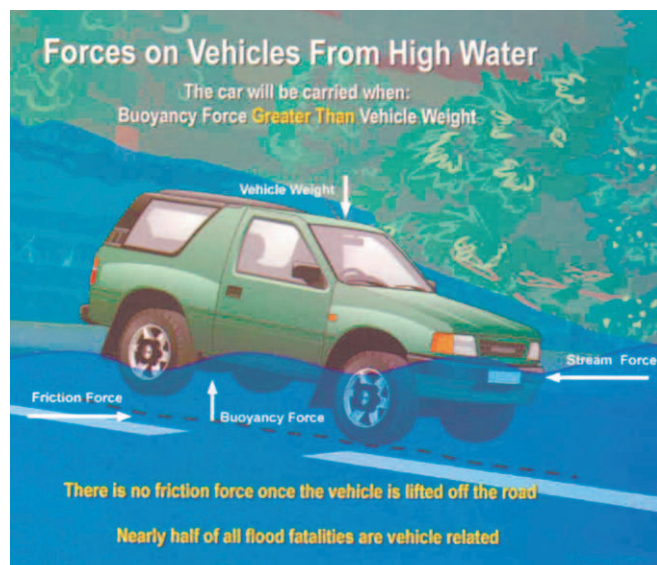
NWS forecasters rely on a network of almost 10,000 streamgages to monitor the height of rivers and streams across the Nation. This information provides present river conditions and is the initial information needed to develop a river forecast. Most of the streamgages are maintained by the U.S. Geological Survey, the U.S. Army Corps of Engineers, and the Department of Agriculture. Some streamgages are

read manually by dedicated volunteer observers. If you would like to volunteer as a cooperative observer, visit the website at: [www.nws.noaa.gov/om/coop/become.htm](http://www.nws.noaa.gov/om/coop/become.htm)



National Weather Service

Bolivar Peninsula in Texas after Hurricane Ike, 2008.



When you approach a flooded road, TURN AROUND, DON'T DROWN!