

Posted at 11:38 AM ET, 10/25/2012

Oct 25, 2012 03:38 PM EDT

TheWashingtonPost

Hurricane Sandy becomes stronger and larger than expected

By Brian McNoldy



Satellite view of the enormous cloud field associated with Hurricane Sandy on Thursday morning. (NASA)

Overnight, Hurricane Sandy experienced a stunning increase in size and intensity. Sandy is presently heading for the western and central Bahamas and will brush southeast Florida. Then comes the likely encounter with the Mid-Atlantic and/or Northeast U.S. Sunday-Wednesday.



5-day track forecast and active watches and warnings (National Hurricane Center) The latest National Hurricane Center indicates the maximum sustained winds are 105 mph, and tropical storm force winds extend 140 miles out from the center. Sandy is a strong category 2 hurricane.

While Sandy was forecast to strengthen to a hurricane prior to making landfall on Jamaica, it was not expected to rapidly intensify in the 125 miles of ocean between Jamaica and eastern Cuba.

Despite going over fairly high mountains in Jamaica and being so close to fairly high mountains in Cuba, Sandy's central pressure plummeted 14 mb in 3 hours and winds increased by 30 mph in about 7 hours after it left the Jamaican coast.

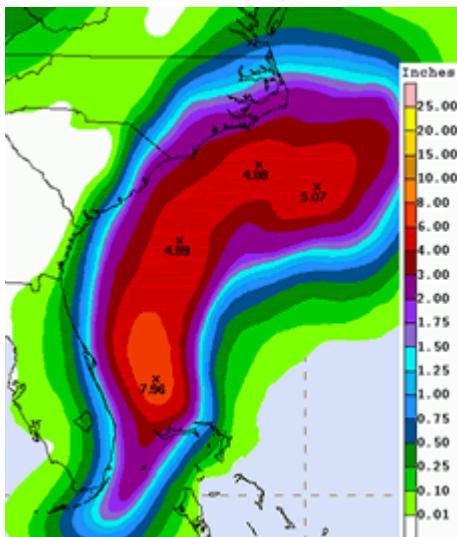
Although the size and intensity of hurricanes aren't well correlated, not only has Sandy intensified over the past day, it has also grown and is now an enormous circulation with a diameter of about 1500 miles. In other words, locations as far as 700-800 miles away from the center are measuring Sandy-related pressure drops, seeing Sandy-related clouds, and feeling Sandy-related winds.

The storm has already claimed two lives: one in Haiti and one in Jamaica, both related to flash flooding.

In Guantanamo, Cuba, a 76 mph wind gust was recorded earlier today. A [long radar loop from Pilon, Cuba](#) captured the Jamaican and Cuban landfalls, and a [loop from Miami shows the storm presently](#) (sites further north will be available as the storm comes within range).

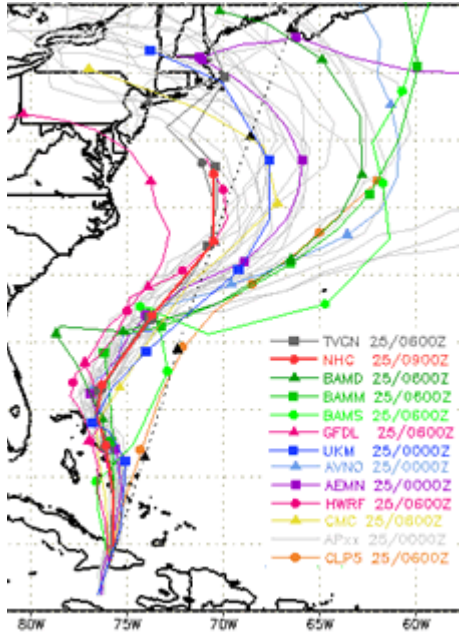
Hurricane warnings are in effect for parts of the southeast Bahamas and central and western Bahamas. Tropical storm warnings cover much of the central and southeast Florida coast on the Atlantic side. [Wind gusts to 40-45 mph, 1-3 inches of rain and 7-11 foot waves are possible in southeast Florida](#) through late Friday.

The forecast for the near future calls for gradual weakening as the storm begins to get sheared by the winds from a deep mid-latitude trough (dip in the jet stream) to its west. This is the same weather system that will likely beginning interacting with it near the East Coast late in the weekend or early next week.



Rainfall forecast into Sunday from Sandy (NOAA) Through much of the weekend, most of the strong winds and heavy rainfall associated with Sandy will remain off the U.S. coast, except for the coastal Carolinas. This graphic (to the right) from the Hydrometeorological Prediction Center (HPC) shows the forecast rainfall totals from Thursday morning through Sunday morning. The largest amounts over land are in coastal areas of the Carolinas.

The next phase of the forecast (Sunday-Monday) encompasses the timeframe where the deep mid-latitude trough that's currently centered over the High Plains interacts with and energizes Sandy's circulation. This is the critical period that will determine the impact on the entire Mid-Atlantic and Northeast U.S.

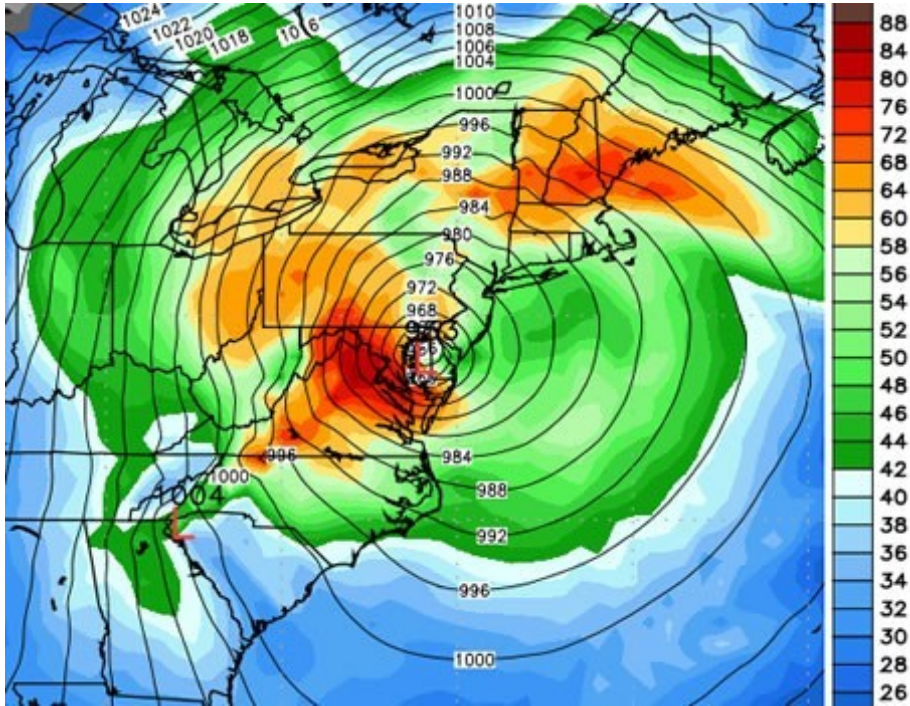


Model track forecasts for Sandy through next week. Deterministic runs are colored, while the GFS ensemble members are gray. Note that the ECMWF model is not included on this map, but is similar to GFDL. (SFWMD) Models and their ensembles continue to show a mid-level ridge building north of Sandy by late in the weekend which would steer it west to northwest back into the U.S. As Capital Weather Gang's [Wes Junker mentioned earlier today](#), very few model scenarios now send Sandy out to sea, building confidence in forecasts in a major hit in the Mid-Atlantic and/or Northeast U.S. next week.

In the model tracks graphic shown to the right, keep in mind that these are only center lines of the storm and that the storm itself extends many hundreds of miles out from the center.

All models agree that Sandy (or some form of Sandy) will be a very intense and large cyclone with far-reaching impacts from the mid-Atlantic to the Northeast. If they verify, Sandy could be a dangerous storm for a few, if not many of the metro areas from Norfolk to Portland, including Washington, D.C., New York City, and Boston.

A representative and ominous realization from one model (below) shows an intense landfall on the Delmarva peninsula on Monday evening, with strong wind, heavy rain (high elevation snow), and storm surge extending very far from the landfall location.



Forecast surface pressure and 850mb (5,000') winds valid on Monday evening from last night's ECMWF deterministic model run. (weatherbellmodels.com)

Although it's not possible to pinpoint exactly where, high rainfall amounts (6-12"+) will be possible from North Carolina to Maine, including inland states such as West Virginia, Pennsylvania, Vermont, New Hampshire, etc. Heavy snow may fall at the high elevations. Strong winds could also extend far inland and cause damage and power outages.

Coastal impacts will be terrible, regardless of exactly what the track of the low is. Such a large and strong circulation will result in several days of beach erosion and coastal flooding. Add to that the effect of a full moon on Monday (and near-full on surrounding days) and you get even higher high tides to aggravate the storm surge threat.

We've received several questions and concerns regarding risk at individual locations. We will provide answers when the exact track of the storm comes into better focus. Coastal and inland flooding may well be the primary threat with damaging winds a secondary threat.