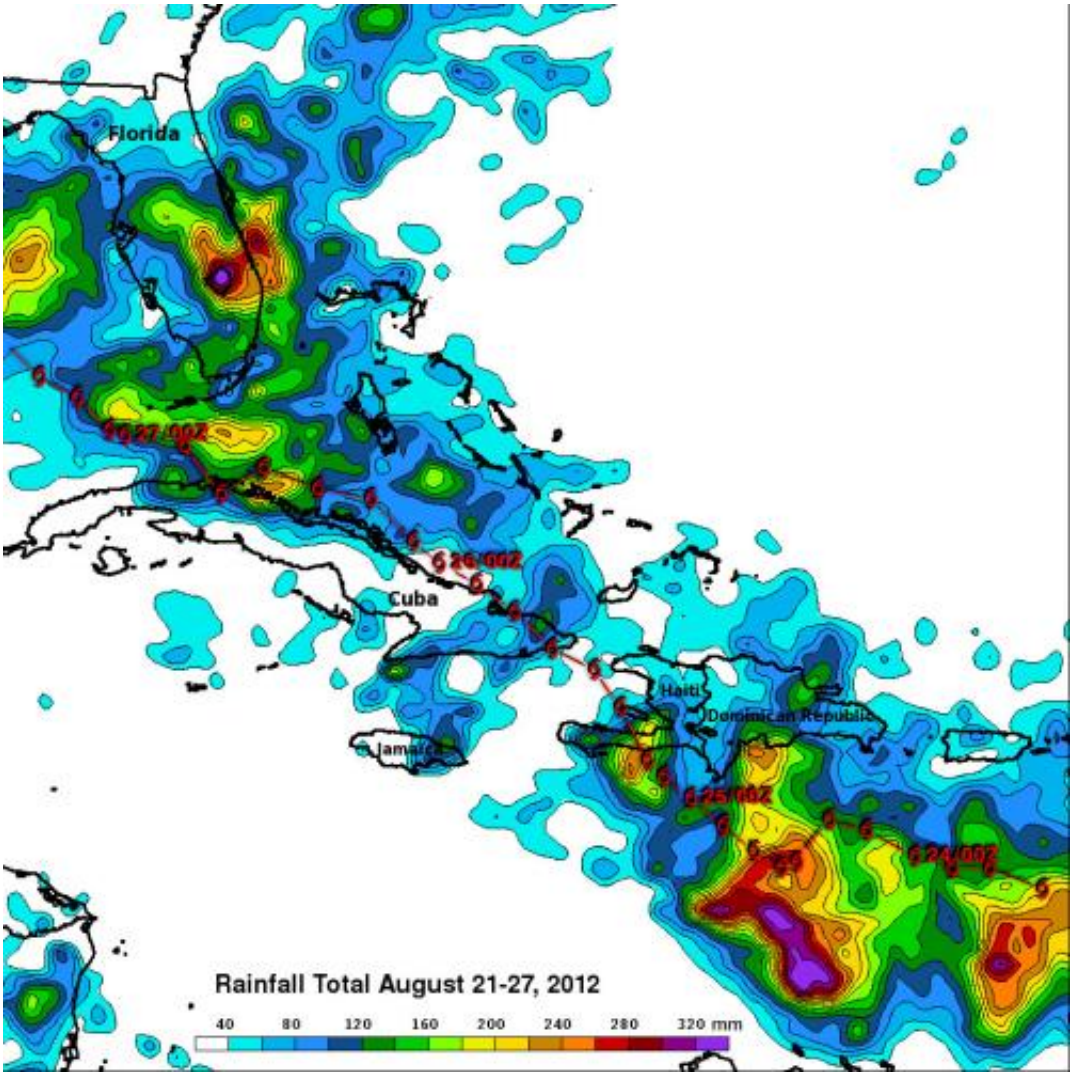
NASA analyzes Isaac's rainfall: Drought relief and flooding

September 6 2012

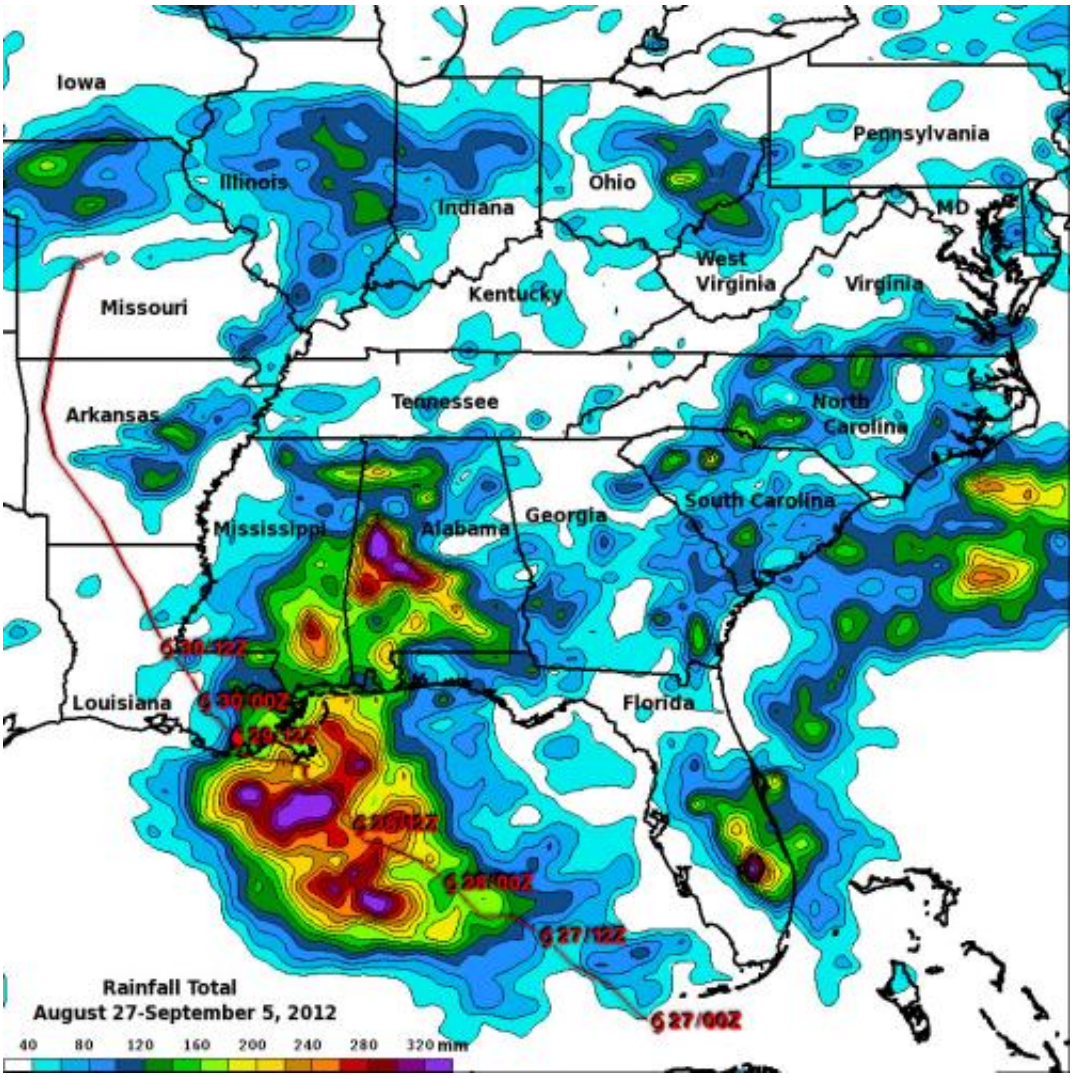


This image shows rainfall totals for the period Aug. 21 to 27, 2012, when Isaac formed and tracked through the northern Caribbean and past south Fla. The most significant rainfall over land in the northeast Caribbean occurred over southwest Haiti and the southern coast of the Dominican Republic where between 120 to

around 200 mm (~5 to 8 inches, shown in green and yellow) fell. Prior to Isaac, an upper-level low brought heavy rains over southeastern Florida. The combination of the two resulted in totals over 160 mm (~6 inches, shown in bright green) in central Fla. to as much as 320 mm (~13 inches, shown in purple) over Lake Okeechobee. Credit: NASA/SSAI, Hal Pierce

As it passed through the northern Caribbean, around south Florida, and into Louisiana and the Middle Mississippi Valley, Hurricane Isaac brought lots of rain, some of it beneficial, and some of it not. Using data from the TRMM satellite, NASA created images of rainfall totals generated along Hurricane Isaac's path.

In addition to capturing detailed images of tropical storms, the Tropical Rainfall Measuring Mission (TRMM) satellite is ideally suited to measure rainfall from space. TRMM is managed by NASA and the Japanese Space Agency, JAXA. For increased coverage, TRMM is used to calibrate rainfall estimates from other satellites. The TRMM-based, near-real time Multi-satellite Precipitation Analysis (TMPA) at the NASA Goddard Space Flight Center in Greenbelt, Md. is used to estimate rainfall over a wide portion of the globe.



This image shows rainfall totals from Aug. 27 to Sept. 5, 2012 when Isaac came ashore in southeast Louisiana and moved up into Missouri. Southeast Louisiana, southeast Mississippi, western Alabama, and southeast Florida saw rainfall totals anywhere from 120 mm to upwards of 320 mm. Rainfall totals on the order of 40 to as much as 120 mm (~2 to 5 inches, shown in blue and green) spread across northern Missouri, Illinois, Indiana and Ohio. Credit: NASA/SSAI, Hal Pierce

TMPA rainfall totals for the period August 21 to 27, 2012 were compiled. During the time, that Isaac formed and made its way through the northern Caribbean and past south Florida. The highest totals for the

period are over the waters of the northeast Caribbean and parts of the central and eastern portion of the Florida peninsula in and around Lake Okeechobee. The most significant rainfall over land in the northeast Caribbean occurred over southwest Haiti and the southern coast of the Dominican Republic where between 120 to around 200 mm (~5 to 8 inches) fell.

Unfortunately, the storm caused extensive flooding in Haiti and was blamed for 24 fatalities, while the neighboring Dominican Republic reported 5 fatalities. Rainfall totals were also on the order of 120 to 200 mm along the coast of northern Cuba, but over Florida, the totals were much higher. Prior to the rain from Isaac, an upper-level low spawned numerous showers and thundershowers over southeastern Florida. The combination of the two resulted in totals over 160 mm (~6 inches) in central Florida to as much as 320 mm (~13 inches) over Lake Okeechobee.

Another image was created that showed TMPA rainfall totals from Aug. 27 to Sept. 5, 2012 when Isaac came ashore in southeast Louisiana and moved up into Missouri. The highest totals over land for this period were in southeast Louisiana, southeast Mississippi, western Alabama, and southeast Florida with totals anywhere from 120 mm to upwards of 320 mm (~5 to 12.6 inches).

Locally, New Orleans reported up to 508 mm (20 inches) of rain. Isaac was blamed for five fatalities in Louisiana and two in Mississippi. Farther north, however, Isaac did help to bring some beneficial rains to parts of the drought-stricken Midwest with rainfall totals on the order of 40 to as much as 120 mm (~2 to 5 inches) spread across northern Missouri, Illinois, Indiana and Ohio where the remnants of Isaac merged with a stationary front draped across the region.

Provided by NASA's Goddard Space Flight Center