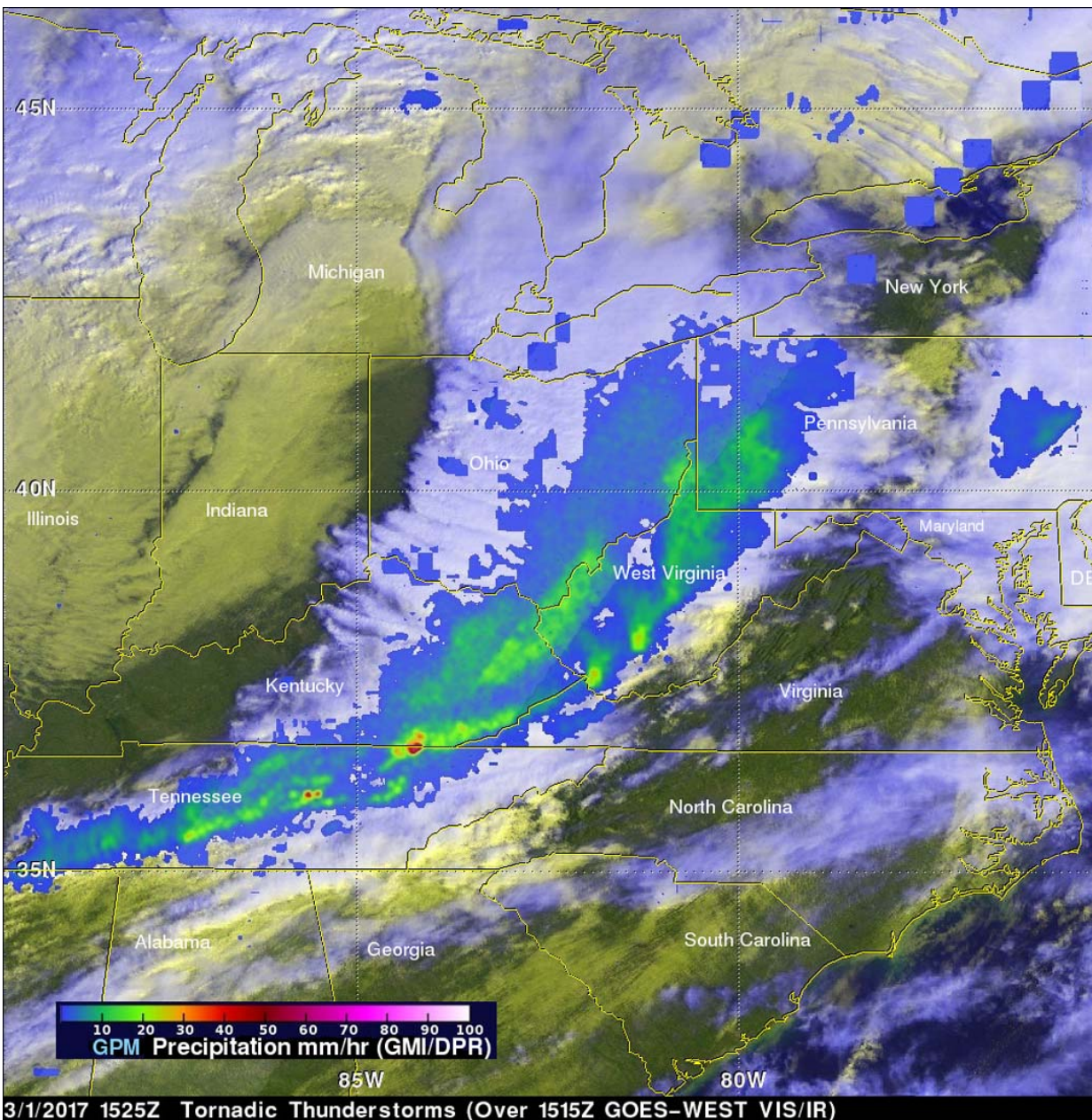


# NASA examines deadly spring-like weather with GPM satellite

March 3 2017



This GPM rainfall image combined with infrared cloud data from NOAA's GOES-West satellite shows the line of storms that stretched from Pennsylvania to Alabama on March 1, 2017. Red areas indicate rainfall up to 50 mm per hour. Credit: NASA/JAXA, Hal Pierce

Rainfall from spring-like downpours in the U.S. from February 25 to March 1 were analyzed at NASA using data from the Global Precipitation Measurement mission or GPM satellite.

Record breaking warm temperatures this winter have caused plants to bloom early in the eastern United States. Unfortunately this has also resulted in the formation of spring-like severe thunderstorms and deadly tornadoes. Multiple tornado sightings were made in three of the last seven days. On Saturday February 25, 2017 destructive tornadoes were reported in Maryland, Pennsylvania and Massachusetts.

On February 28, twisters were reported in the states of Arkansas, Iowa, Illinois and Michigan. Three people were killed in Illinois and four others were injured in Arkansas with this tornado outbreak. Severe weather on March 1, 2017 also included reports of tornado sightings in Ohio, Tennessee, West Virginia, Kentucky and Georgia.

Integrated Multi-satellite Retrievals for GPM or IMERG data were used to show the rainfall that occurred during the past week. The analysis was done at NASA's Goddard Space Flight Center in Greenbelt, Maryland. Intense downpours from storms over this period resulted in flash floods in several states.

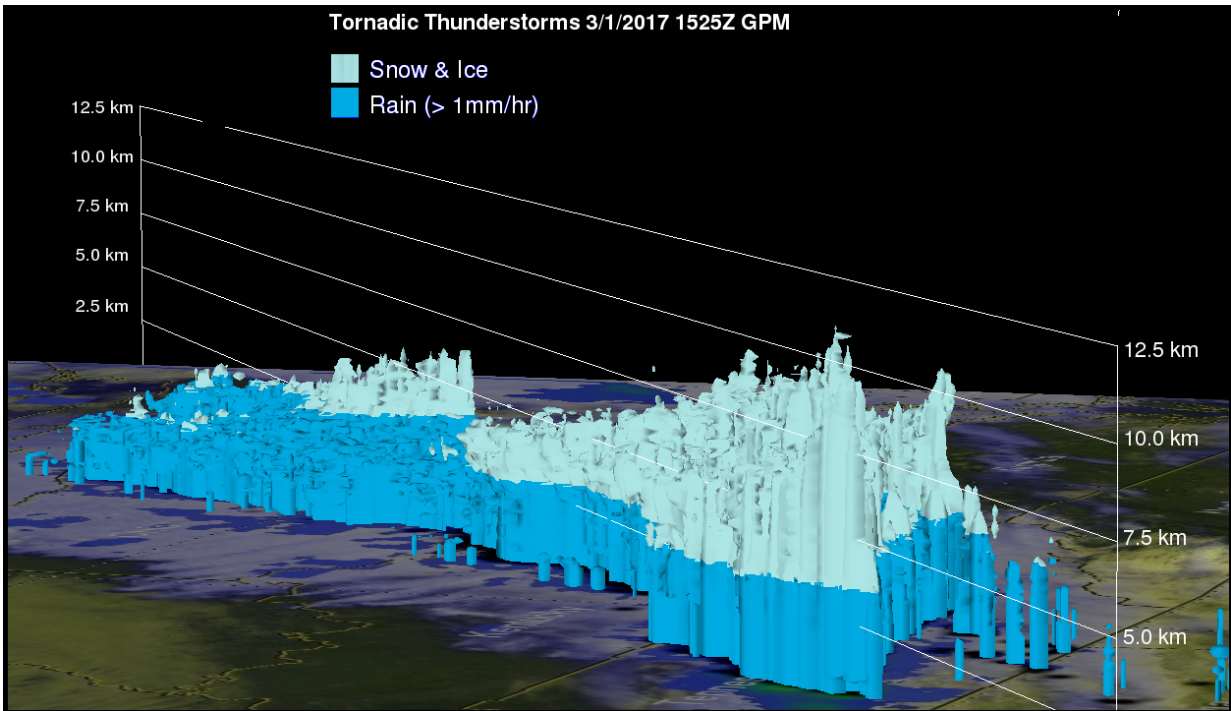
The GPM core observatory satellite had a good view of [severe weather](#) as it moved into the Appalachian Mountains on March 1, 2017 at 1525

UTC (10:25 a.m. EST). The GPM satellite measures rain and snow using the GPM Microwave Imager (GMI) and Dual-Frequency Precipitation Radar (DPR) instruments. GPM's DPR measured rain falling at a rate of over 6.3 inches (159 mm) per hour as powerful storms moved through Tennessee and Kentucky. Storm top heights of over 32,800 feet (9.8 km) were found by GPM's radar as it sliced through those intense thunderstorms.

Due to above average temperatures, frozen precipitation, other than hail, was unusual over the eastern United States in the GPM analysis. GPM's radar data (DPR) showed that the average height of the freezing level was above 9,800 feet (3 kilometers). In Alabama, the freezing level was much higher up. It was shown by GPM's data to be higher than 13,123 feet (4 kilometers).

GPM is a joint mission between NASA and the Japanese space agency JAXA. For more information about GPM, visit: <http://www.nasa.gov/gpm>.

For forecasts, visit the National Weather Service's Weather Prediction Center website: <http://www.wpc.ncep.noaa.gov>



This 3-D image shows the rain and frozen precipitation areas in severe thunderstorms that generated tornadoes on March 1. Credit: NASA/JAXA, Hal Pierce

Provided by NASA's Goddard Space Flight Center

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