

Southern and Eastern U.S. Snowfall

January 16-18, 2018

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Meteorological Overview:

From January 17-18, 2018, an impactful winter storm brought snow and ice across areas from Texas to Maine, including regions along the central and eastern Gulf Coast. A closed upper low centered over the upper Mississippi Valley on January 16th evolved into a longwave trough later that day. This drove an arctic cold front across southern Plains, middle and lower Mississippi Valley, and the Southeast. Light snow occurred along and behind the front late in the day on January 15 in portions of the Ohio, western Tennessee, and middle Mississippi Valley. By January 16, widespread rain was reported across central, southeast and Deep South Texas as the arctic cold front moved across the state. Rain quickly changed to snow by late morning and early afternoon with snow even being reported along the Rio Grande in South Texas.

Meanwhile, snow continued to fall across the middle Mississippi Valley and western portions of the Tennessee Valley. Farther south, as precipitation shifted to the lower Mississippi Valley and central Gulf Coast by the afternoon of the 16th, a mix of snow, rain and freezing rain were being reported and was particularly widespread in southwest Louisiana. Precipitation from Mobile, Alabama to Panama City and Destin, FL was initially falling as freezing rain in the early hours of the 17th but changed over to light to moderate snow after a few hours. In fact, this part of the Gulf Coast received a dusting of snow from this event.

On January 17, the positively tilted longwave trough shifted to the east coast where a split in the westerlies developed. The southern stream developed into a closed mid-level low. An associated surface low developed by that morning and moved offshore into the Atlantic Ocean. This led to heavy snow falling across North and South Carolina in addition to southeast Virginia. The heaviest axis of snow transpired in north-central North Carolina, particularly in Raleigh, in addition to southern Virginia. The Outer Banks also received heavy snow as the surface low lifted north and east toward this area. As the mid-level closed low and surface low moved off the Carolina coastline, snow tapered off and ended by the morning of the 18th. Meanwhile, the northern stream also had a surface low develop off the Mid-Atlantic coast previous night moved north along the New England coast and reached the Nova Scotia coast by the 17th. Snow fell across the Mid-Atlantic and into southern New England during the early hours of this day. By the end of the day, most of the snow concentrated in northern Maine as the surface low moved toward Nova Scotia and tapered off by the early morning hours of the 18th.

Impacts:

This storm impacted areas from the southern Plains to New England over a few days. Major highways across Texas, Louisiana, and Mississippi were shut down from ice accumulations, including portions of I-10 between Baton Rouge and Lafayette, LA. Nearly 1,000 flights in the two major Houston airports were cancelled. Unfortunately, one homeless person in Texas died from the harsh winter conditions. Additionally, this winter storm marked the third time the

western Florida Panhandle received snow and sleet this winter—with this event being the second winter weather event in a two week time frame. Mobile, Alabama, received measurable snow from this event which was the second time in recorded history that two measurable snowfall events happened in the same winter season. North Carolina received the most amount of snow from this event—with Schley, north of Raleigh, received 12.5 inches. Portions of the Northeast and New England, including cities in Massachusetts and Maine, received 11 inches.

National Snowfall Analysis: 72-hour accumulation ending 2018-01-18 12 UTC

Issued 2018-01-22 15:37:28 UTC

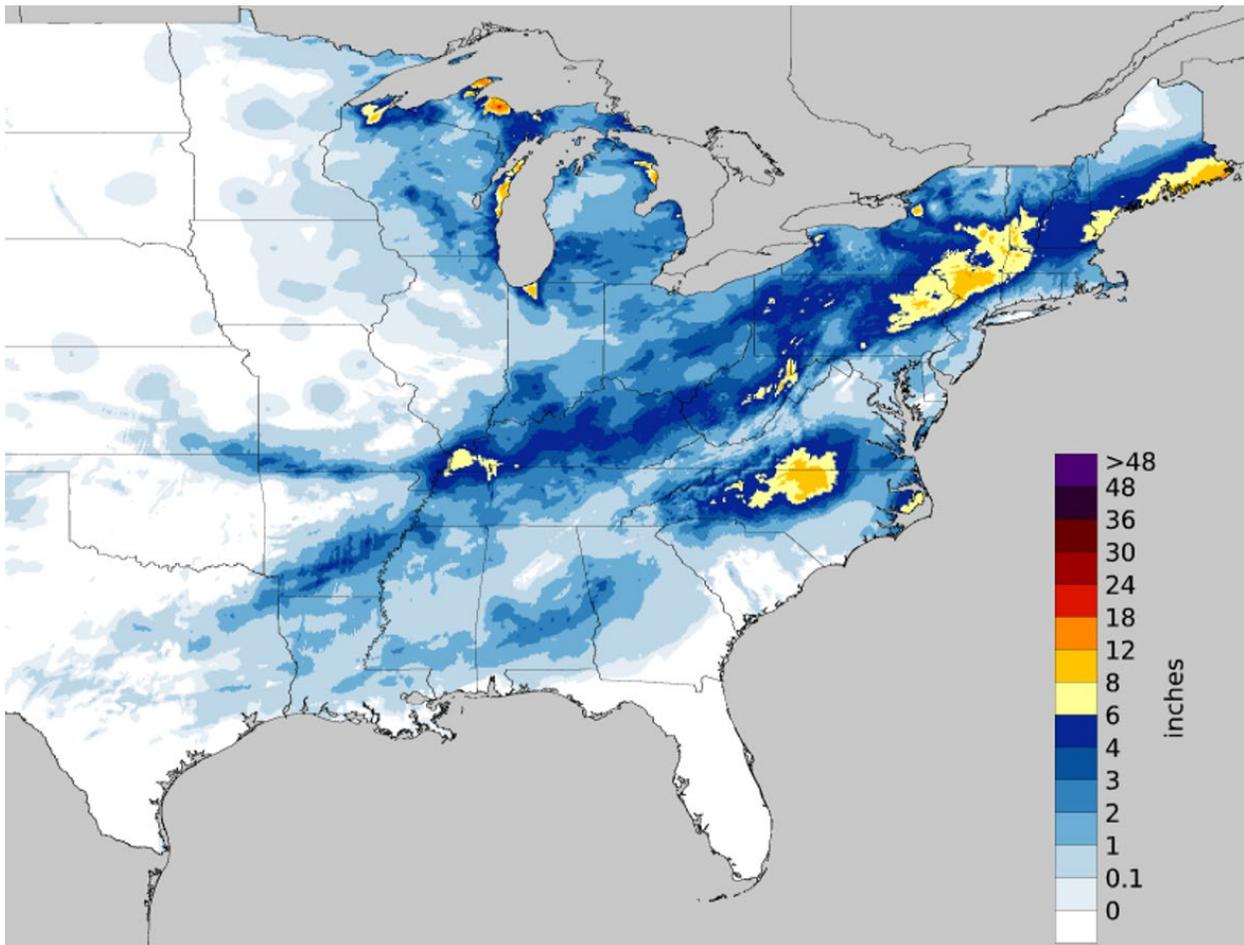


Figure 1: 72-hour observed snowfall analysis ending at 12 UTC January 18, 2018.

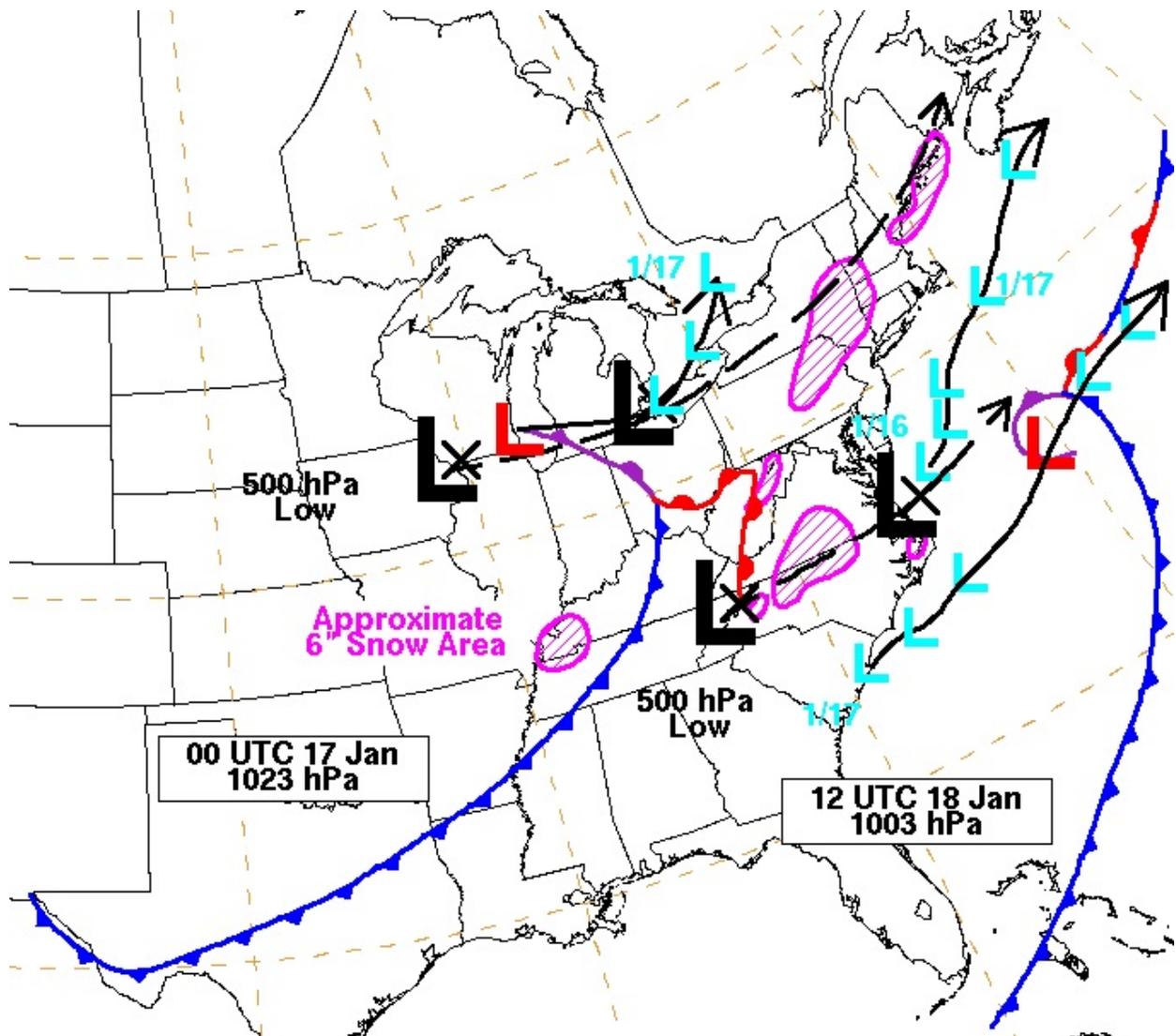


Figure 2: Surface low tracks (blue), 500 hPa low tracks (black), approximate areas receiving greater than 6 inches of snow (magenta), approximate areas receiving greater than 10 inches of snow (purple) are shown along with the WPC surface analysis from 00 UTC on 17 January, 2018 along with 12 UTC 18 January, 2018.