

Mid-Atlantic and Northeast Winter Storm
March 21-22, 2018
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Meteorological Overview:

From March 21-22, a complex winter storm moved across the Ohio Valley and Mid-Atlantic states before exiting off the New England coast, delivering a swath of heavy snow along the way. A mid-level trough closed off and became negatively tilted over the southern Appalachians on the morning of the 21st. This gave way to a developing surface low over the Carolinas in the early hours of that day. Meanwhile, another surface low developed over the Ohio Valley at the same time. The Ohio Valley surface low pulled moisture from the Atlantic to develop a band of snow that fell across this region. As the primary surface low moved along the Mid-Atlantic coast, heavy, wet snow was reported across the central Appalachians with moderate to heavy rain falling across the Carolinas and the eastern Tennessee Valley. The Mid-Atlantic started off with mixed precipitation; however, by mid-morning, precipitation transitioned to heavy, wet snow. As the primary surface moved farther north toward New England that evening, snow increased along the coastal sections in the Northeast, while snow along the Mid-Atlantic tapered off.

During the 22nd, the primary surface low skirted along the New England coast—making it to the Canadian Maritimes by that evening. The heaviest band of snow fell along the Northeast coast with moderate snow confined to the New England coast. As the low pulled away toward Nova Scotia, snow tapered off from south to north. It finally ended in eastern Maine by the evening of the 22nd. High wind was also reported with this nor'easter stretching from the Florida Atlantic coast to Massachusetts. Topsfield, a city north of Boston, MA, reported a wind gust of 79 mph.

Impacts:

This was the fourth nor'easter that impacted the Mid-Atlantic and Northeast in the month of March. Because of the ice and heavy wet snow, down trees and power outages were reported from parts of the Ohio Valley to the Northeast. In fact, 100,000 people were without power in the Northeast because of this storm. Thousands of flights were grounded from Washington D.C. to New York. Coastal flooding was also an issue particularly for New England. The heaviest snowfall was reported in Patchogue, NY, part of Long Island, at 20.1". However, as far south as the Smoky Mountains received about 10 inches of snow.

National Snowfall Analysis: 72-hour accumulation ending 2018-03-23 12 UTC

Issued 2018-03-28 14:11:38 UTC

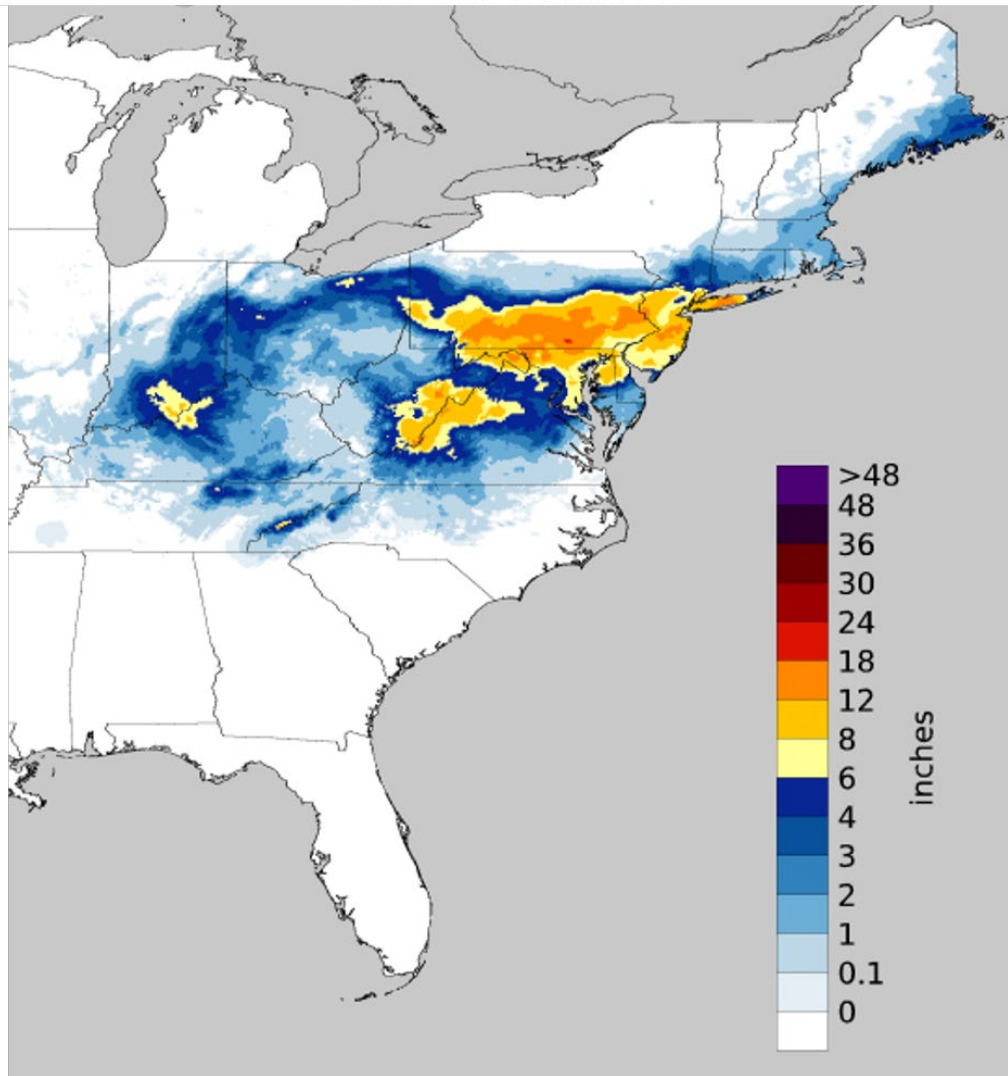


Figure 1: 72-hour observed snowfall analysis ending at 12 UTC March 23, 2018.

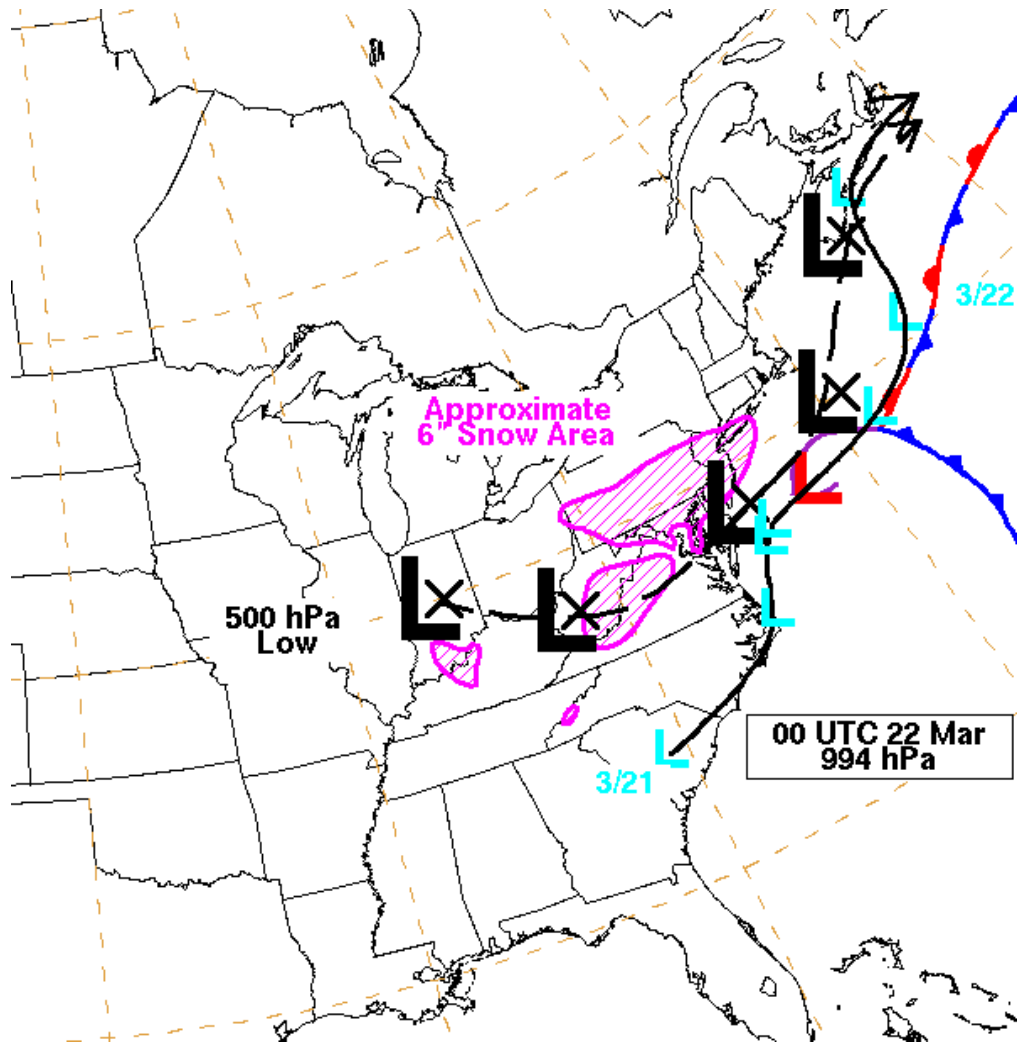


Figure 2: Surface low tracks (blue), 500 hPa low tracks (black), approximate areas receiving greater than 6 inches of snow (magenta), approximate areas receiving greater than 10 inches of snow (purple) are shown along with the WPC surface analysis from 00 UTC on 22 March, 2018.