

**WINTER STORM SUMMARY FOR  
FEBRUARY 22, 2008 TO FEBRUARY 23, 2008 EVENT**

**Synopsis**

An area of low pressure organized across the southern Plains on the 21st, which then tracked into the Ohio Valley that night. As that occurred, a secondary area of low pressure developed off the Middle Atlantic coast on the 22nd. In association with both of these low pressure systems, especially the first, an abundance of moisture surged northeastward into our area. The initial surge arrived in the form of snow during the early morning hours of the 22nd and was associated with somewhat milder air well above the surface. Moisture was maintained across a good part of our area throughout the day of the 22nd, however as the secondary low pressure system developed, enough warming was brought inland to cause the snow to change to a brief mix and then to intermittent rain from about Interstate 95 on south and east. Gradually this storm moved away early on the 23rd with just some lingering light precipitation, mostly in the form of drizzle or flurries.

**Watches/Warnings/Advisories**

A Winter Storm Watch was issued at 9:58 AM EST on the 21st, and was effective from 4:00 AM EST on the 22nd until 10:00 AM EST on the 23rd. This watch was for Carbon, Monroe, Berks, Lehigh, Northampton, Chester, Montgomery, Bucks, Delaware and Philadelphia counties in Pennsylvania; Sussex, Warren, Morris, Hunterdon, Somerset, Middlesex, Western Monmouth, Mercer, Salem, Gloucester, Camden and Northwestern Burlington counties in New Jersey; New Castle county in Delaware; and Cecil county in Maryland. At 3:59 PM EST on the 21st, the Winter Storm Watch was upgraded to a Winter Storm Warning from 1:00 AM EST on the 22nd until 1:00 AM EST on the 23rd for most with some exceptions. The Watch was replaced with a Winter Weather Advisory for Delaware and Philadelphia counties in Pennsylvania; Middlesex, all of Monmouth, Salem, Gloucester, Camden and Northwestern Burlington counties in New Jersey; New Castle county in Delaware; and Cecil and Kent counties in Maryland. This advisory was effective from 1:00 AM EST on the 22nd until 1:00 AM EST on the 23rd. In addition, at 3:59 AM EST on the 21st, a Winter Weather Advisory was issued for all of Ocean, Cumberland and Southeastern Burlington counties in New Jersey; Kent county in Delaware; and Queen Anne's, Talbot and Caroline counties in Maryland, which was effective from 1:00 AM EST until 4:00 PM EST on the 22nd. Also, A Winter Weather Advisory was issued for all of Cape May and Coastal Atlantic counties in New Jersey; all of Sussex county in Delaware, and was effective from 1:00 AM EST until 1:00 PM EST on the 22nd. At 9:17 PM EST on the 21st, the winter weather message product was updated, however no headline changes were made. At 4:38 AM EST on the 22nd, the winter weather message product was issued with no headline changes made, however some adjustments were made to snow and ice accumulations. A corrected product was issued at 6:08 AM EST on the 22nd to adjust a few expected amounts so they matched other products.

At 8:05 AM EST on the 22nd, the Winter Weather Advisory was upgraded to a Winter Storm Warning for Delaware and Philadelphia counties in Pennsylvania; all of Monmouth, Middlesex, Gloucester, Camden, and Northwestern Burlington counties in New Jersey, and was effective until 1:00 AM EST on the 23rd. All other warnings and advisories remained as is. An update was issued at 12:39 PM EST on the 22nd to cancel the Winter Weather Advisory for all of Atlantic and Cape May, and Cumberland counties in New Jersey; all of Sussex and Kent counties in Delaware; and Queen Anne's, Talbot and Caroline counties in Maryland. All other headlines remained the same. At 3:36 PM EST on the 22nd, the Winter Storm Warning was downgraded to a Winter Weather Advisory for Western Monmouth, Gloucester, Camden, and Northwestern Burlington counties in New Jersey; and Delaware and Philadelphia counties in Pennsylvania, which was in

effect until 5:00 AM EST on the 23rd. In addition, the Winter Storm Warning was cancelled for Eastern Monmouth county. The other counties under a Winter Storm Warning and Winter Weather Advisory were continued, however the end time was extended until 5:00 AM EST on the 23rd, except Ocean county which was in effect until 4:00 PM EST on the 22nd. An updated winter weather message was sent at 3:58 PM EST on the 22nd just to allow the Winter Weather Advisory for Ocean county to expire at the top of the hour. Another update was issued at 8:37 PM EST on the 22nd to cancel the Winter Weather Advisory for Western Monmouth, Salem, Gloucester, Camden and Northwestern Burlington counties in New Jersey; Delaware and Philadelphia counties in Pennsylvania; New Castle county in Delaware; and Cecil and Kent counties in Maryland. All other headlines remained in effect. The Winter Storm Warning for all the counties north and west of Philadelphia were then downgraded to a Winter Weather Advisory at 11:38 PM EST on the 22nd. This advisory was in effect until 5:00 AM EST on the 23rd. This advisory, however, was then cancelled at 3:00 AM EST on the 23rd. A Special Weather Statement was issued at 3:01 AM EST on the 23rd to highlight the potential for some slippery roads that morning.

### **Precipitation/Temperatures/Winds**

The precipitation associated with this storm arrived pretty much on schedule, which was during the early morning hours of the 22nd. This precipitation, in the form of snow, spread across the region from west to east and it did not take long for the snow to accumulate on all surfaces. Despite many highway departments pre-treating the main roadways, the cold air in place (temperatures dropped several degrees once the snow started) and the arrival of the snow prior to sunrise, allowed the snow to stick quickly. The snow was steady through the bulk of the morning, then became more intermittent and lighter in the afternoon. As milder air arrived from the south and east, the snow changed to a brief period of sleet and/or freezing rain from about Interstate 95 on south and east, but then changed to light rain and drizzle. This storm was sort of front-end loaded as the initial surge of moisture came in strong, however there was a lull that occurred from about midday and lasted into the early evening hours. The secondary storm was weak and really did not produce a lot of additional precipitation. Some light precipitation however did redevelop during the evening, especially from the Interstate 95 corridor on north and westward. This precipitation was mostly in the form of light freezing rain or freezing drizzle as temperatures were hovering right around the freezing mark at most locations. Temperatures were more of a factor during the first portion of the storm for many, as plenty of cold air was in place which allowed the snow to accumulate rather quickly. The temperatures were then more of a problem for northern and western areas as the low-level cold air pretty much remained in place, which lead to some light freezing rain and freezing drizzle. The winds overall were a non-factor with this storm as they were generally 10 mph or less across the entire area during the duration of the storm.

Some selected snowfall totals from this storm include:

In Delaware: 3.0 inches at the Dover Air Force Base and 1.2 inches at the New Castle County Airport in Wilmington.

In Maryland: 2.0 inches in Conowingo, 0.8 of an inch in Millington, 0.6 of an inch in Denton, and 0.4 of an inch in Easton.

In New Jersey: 8.7 inches in Vernon, 8.0 inches in Hopatcong Hills, 7.5 inches in Blairstown and Milton, 7.0 inches in Marcella and Tewksbury, 6.5 inches in Bridgewater, Morris Plains and Carteret, 6.1 inches in Somerville, 6.0 inches in Hackettstown, Whitehouse and New Brunswick, 5.5 inches in Hillsborough and Trenton, 5.0 inches in Morganville, Sea Bright and Florence, 4.8 inches in Ewing, 3.8 inches in Atco and Somerdale, 3.7 inches in Mount Holly, 3.5 inches in Williamstown, 3.2 inches in National Park, 2.7 inches in Estell Manor, 2.4 inches in Pittsgrove, 2.3 inches in Bridgeton and North Vineland, 1.8 inches in Seaville and Villas, 1.6 inches at the Atlantic City International Airport and Pleasantville, and 1.0 inch in North Cape May.

In Pennsylvania: 7.5 inches in Delaware Water Gap, 6.3 inches in Marshalls Creek, 6.0 inches in Bangor and Walnutport, 5.5 inches in Albrightsville and Quakertown, 5.2 inches in the Pine Valley section of Philadelphia and also in South Allentown, 5.0 inches in Levittown, 4.8 inches in Willow Grove, 4.5 inches in Hatboro and at the Lehigh Valley International Airport, 4.0 inches in Perkasio and Bechtelsville, 3.5 inches in Tredyffrin and Drexel Hill, 3.4 inches in Royersford, 3.2 inches at the Philadelphia International Airport and in Reading, 3.0 inches in Center City Philadelphia and in Fleetwood, 2.8 inches in Exton and Jim Thorpe, 2.7 inches in Hamburg, 2.5 inches in Havertown, and 2.0 inches in New Garden and Glenmoore.

A couple of ice reports were received which include: 0.10 of an inch in Mount Holly and Lake Hopatcong in New Jersey; and 0.10 of an inch at the Dover Air Force Base in Delaware.

### **Significant Impacts/Aspects**

The main impact this storm had was the morning commute on the 22nd. The snow came in quick starting between 3:00 AM and 5:00 AM EST. This snow quickly coated up the roads and even many roads that were pre-treated saw a coating of snow quickly on them. In anticipation of this storm, and since it was advertised that it would greatly impact the morning commute, numerous schools closed for the day. Interestingly enough, the ice portion of the storm did not pan out as originally thought. The main precipitation surge occurred during the morning when the entire atmospheric column was cold enough for all snow to fall. When the warming that took place became sufficient enough to allow the snow to change to a brief mix then some rain (for at least a portion of the area), the steadiest precipitation was in the process of existing our area. This greatly reduced the potential for significant icing to occur for areas north and west of Interstate 95. Even though the wind was a non-factor, the accumulated snow on trees that were then topped with a little ice had some added weight. This caused some tree limbs to be downed, especially with the pine/evergreen trees. The evening commute was not the best for many, however it was improved from the morning commute especially for areas farther south and east since temperatures climbed above freezing with just some drizzle and light rain. This allowed the road surfaces to greatly improve to just be mainly wet. Further north and west though, some slush remained a concern. With all the wet surfaces around and the abundance of low-level moisture lingering through the night and into the morning of the 23rd, there was a concern of refreezing (black ice) as temperatures hovered around 32 degrees or dropped a little below. There was some refreezing that took place, however luckily the 23rd was a Saturday so there was less traffic in the morning.

### **Notes**

Information contained in this summary is preliminary. More complete and/or detailed information may be contained in subsequent monthly NOAA storm data publications.