



# WEATHERWORKS

## THE WEATHER TRACKER

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### % of Seasonal Snow Falling in February

The second month of the year tends to be the snowiest of the winter. The selected cities below indicate the average percentage of yearly snowfall that takes place in February.

Newark, NJ	32 %
Atlantic City, NJ	41 %
Allentown, PA	29 %
Philadelphia, PA	34 %
Baltimore, MD	35 %
Washington, DC	34 %

## What happened to the Snow? January 13-14, 2008 NJ-PA-DE



The lack of precipitation intensity was one of the main reasons most locations saw the picture on the right instead of the left

Although Jan 2008, saw many coastal lows develop, none were able to produce a major widespread snowfall. One event in particular on Jan 13-14th had a significant impact on snow & ice removers, not because of the snow it produced, but the lack thereof. Below are thoughts on why the anticipated storm failed to evolve in NJ and PA, as well as how the [WeatherWorks](#) staff handled the situation.

Five days before the Jan 13-14 storm arrived, the consensus of weather data kept the projected

storm and associated precip, well off the coast. As the 13-14th approached, the weather data began to favor a stronger coastal storm, closer to the coast with a greater tendency for snow. Since computer models so far this winter have had a bias to keep storms too far south and east the meteorologists at [Weather Works](#) concurred with the new trend and began alerting clients for the anticipated snow and rain.

Forecasting precip type and quantity remained very difficult

a day or two before the storm since temps at the ground surface were expected to remain border-line. [Weather Works](#) highlighted this uncertainty in forecasts as the storm day approached. After one last round of analysis it appeared that despite marginal and even above freezing ground temps, heavy precipitation at the onset of the storm would be sufficient to cool the atmosphere and produce snow.

Except for a few of the coldest areas in the NW Jersey, the snow never came. The predominately "all rain" storm lacked one significant factor that caused the snow forecast to bust. The precip lacked **intensity**. (article on page 2 offers in depth technical info) As the storm evolved, it became evident rain would prevail, prompting [Weather-Works](#) to quickly diminish the snow threat to clients .

## Tackling Winter's Challenges: "Refreeze" & Black Ice Events



### Black Ice-Goshen, MA 11-26-06

No matter what kind of weather pattern Mother Nature provides during the winter months, undoubtedly refreeze and black ice is always a concern. Even a winter with little snow can produce several salting events because of ice.

By definition, black ice occurs whenever any liquid on a ground surface freezes. It is irrelevant how the moisture got there, be

it from fallen rain, melted or even chemically treated snow. Generally, the term universally used is refreeze, even if sometimes that is not technically correct.

The most obvious refreeze situation is following a snow storm when some snow melts thanks to de-icers, sun or warmer temperatures and then freezes up at night causing some ice to form. But refreeze can also occur when plain rain falls with temperatures above freezing and temperatures drop before water can evaporate.

The latter scenario can be

particularly problematic because there are so many factors that determine weather temperatures remain at 35 or briefly drop. (CAUTION: ice can form on pavements when air temps are above 32 degrees!) Here are some basic weather parameters that often indicate a greater threat of cooling temperatures & refreeze:

- Light Winds
- Clear Skies (even breaks in the clouds is enough)
- Recently Cold Ground Temps
- Snow Cover
- Low Humidity
- Long Winter Nights

## Website of the Month



<http://www.ncdc.noaa.gov/oa/climate/extremes/2004/groundhog/groundhog.html>

The above website is a nice overview of Groundhog's Day and also includes a simple statistical analysis on the accuracy of Punxsutawney Phil

### FEBRUARY AVERAGES (30 year averages: 1971-2000)

	Sussex, NJ		Philadelphia, PA		Baltimore, MD (BWI)	
	Feb 1	Feb 29	Feb 1	Feb 29	Feb 1	Feb 29
High Temp	35	42	39	46	42	48
Low Temp	14	20	25	30	24	29
Precip (Mo. Total)	2.94"		2.74"		3.02"	
Snowfall (Mo. Total)	8.0"		6.9"		6.4"	
Sunrise	7:10 AM	6:34 AM	7:10 AM	6:35 AM	7:14 AM	6:40 AM
Sunset	5:14 PM	5:49 PM	5:19 PM	5:52 PM	5:26 PM	5:58 PM

#### February 2008 Temperature Outlook

Look for a mild start to the month. However, pockets of colder air will move through the region during the month. Averaged out, temperatures end up near or just above normal levels.

#### February 2008 Precipitation Outlook

There are no strong signals suggesting any particular precip trend. However, the active pattern will likely continue providing at least 1 or 2 precip threats per week. Expect near normal conditions.

### Receiving Forecast Alerts by E-Mail

As more clients elect to receive their forecast and alert products by e-mail, [WeatherWorks](#) has been testing and implementing a new forecast delivery tool. The only real difference for clients will be quicker delivery of e-mails, which could prove invaluable during storm situations.

However, some e-mail servers and Internet Service Providers have been blocking some (but not all) of our e-mails, which get bounced back to us and we can try resending them. In other

cases, our forecasts get sent directly to your spam folder and neither the recipient nor [WeatherWorks](#) knows there is a problem.

The WeatherWorks IT department has successfully worked with several e-mail administrators and Internet Providers directly to resolve some of these issues. There is one last step that all of our clients can take: add the e-mail accounts to the right to your address book. This particularly

helps reduce the chance of our e-mails being filtered out as spam.

#### WeatherWorks e-mails:

(all addresses are followed by @weatherworksinc.com unless otherwise noted)

franklombardo  
tommyelse  
kevinhopler  
seanrowland  
kenelliott  
jvlwx@optonline.net  
weatherworksinc@gmail.com

### Certified Snow Totals Update

Users that have been using the Certified Snow Total program may be bypassing the summary of the event that is listed above the snow totals. To see the summary, simple click one of your locations and the summary is displayed. Both summary and totals automatically display when printed.



### A meteorological discussion on Jan 13-14 (cont. from front page)

As we eluded to on the front page, the most significant reason why the rain did not change to snow was the **lack of intensity**. The atmospheric process involved is known as **dynamic cooling** and is associated with heavy precipitation cooling a column of air all the way down to the surface. Strong vertical velocities or lift is needed for this process to take place and up until the morning of the 13th computer model data confirmed it existed in this area. The problem is that model data has a difficult time determining where the strongest lift will occur in coastal



**A classic example of banding storms** because it is a mesoscale (small-scale) feature. This is one of the main reasons why heavy snow accumulations are sometimes underestimated during powerful Nor'easters as it is impossible to pinpoint exact locations where **banding** (heavy areas

of snowfall associated with strong lift) form .

With heavy precip remaining mostly off shore, the other issue leading to a lack of snow was under-forecasted temps on the 13th. **The boundary layer** (the lower atmosphere above the ground surface) became warmer than anticipated. These few degrees offset the cooling of the air column enough to prevent snow from reaching the ground except for elevations of 850 feet and higher where 2 or more inches of wet snow did fall.

### UPCOMING EVENTS

- Feb. 14-17 NJ Flower & Garden Show Edison, NJ
- Mar. 19 3:00 PM SIMA Web seminar "A Practical Approach to Liquids for Snow & Ice"