

Winter Outlook

2023 - 2024

Winter's Key Points



Highest risk of persistent cold in the Northeast & Midwest later in winter, February is likely coldest



Much of the snowfall in the Mid-Atlantic & Northeast is favored to occur in a small number of large storms



Lighter snow events outnumber larger ones in the Upper Plains east into Northern New England

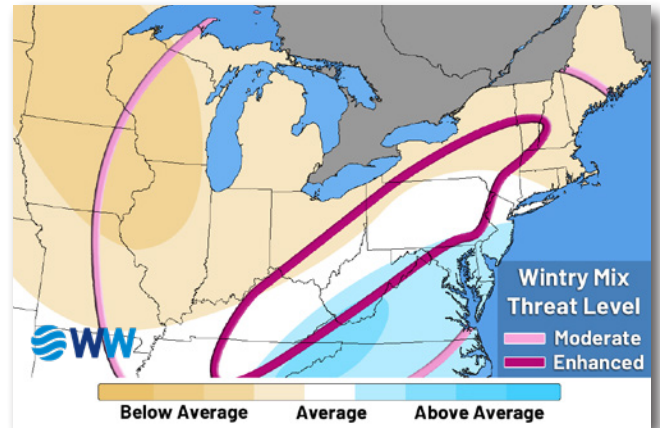


Clashing air masses support mixed events from Tenn. into the interior Northeast, especially early season

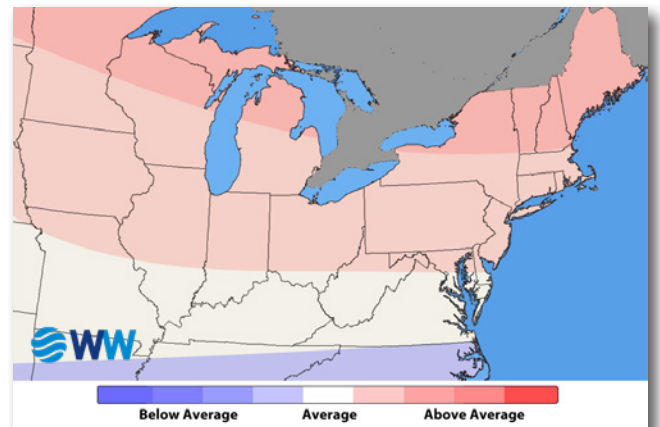


Warmer Great Lakes keep lake effect snow going all season long, helps boost totals in snow belts

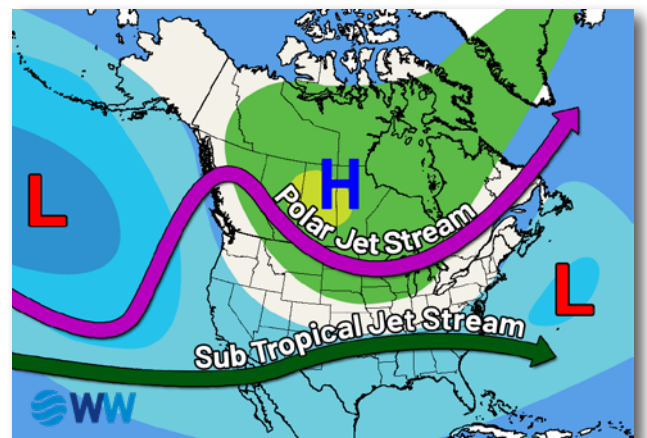
Seasonal Snowfall



Seasonal Temperature



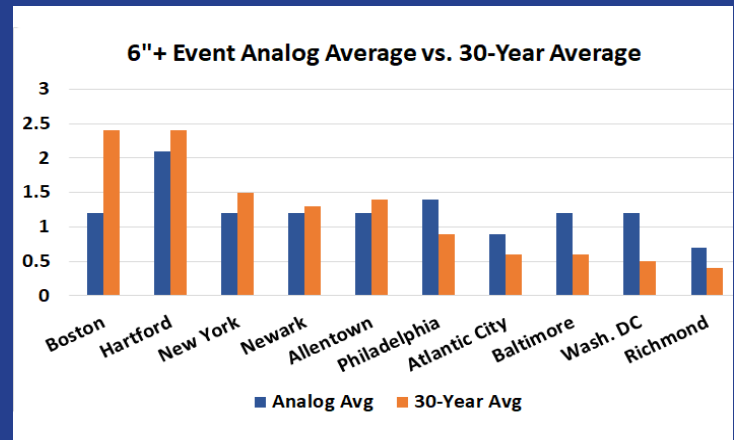
Overall Pattern Map



Looking More Closely at Similar Seasons (Analog)

6" or More Snowfall Event Analysis

- Areas from Philadelphia on south have a considerably higher than normal occurrence of 6"+ events, in some instances greater than twice the 30 year average!
- This increase is due in part to the active southern or sub-tropical jet stream shifting north at times from the southern US.
- Farther north, the incidence of 6"+ snowstorms gradually decreases, and is replaced with lighter and mixed events.



Temperature Trends by City

- A consistent theme in our series of Winter Previews has been for a decidedly cold February surrounded by seasonable to above normal periods.
- This latest series of data (which includes updated and refreshed analogs from Winter Previews 1 & 2), continues that trend.
- Note that "above normal" temperatures during the winter are still fairly cold, and also supportive of wintry weather in favorable storm tracks.

Boston

	30-yr Avg	Analog Avg	Diff.
Dec	35.7	37.7	+2.0
Jan	29.9	31.5	+1.6
Feb	31.8	30.9	-0.9
Mar	38.3	40.1	+1.8

New York City

	30-yr Avg	Analog Avg	Diff.
Dec	39.1	41.5	+2.4
Jan	33.7	35.0	+1.3
Feb	35.9	33.6	-2.3
Mar	42.8	45.0	+2.2

Philadelphia

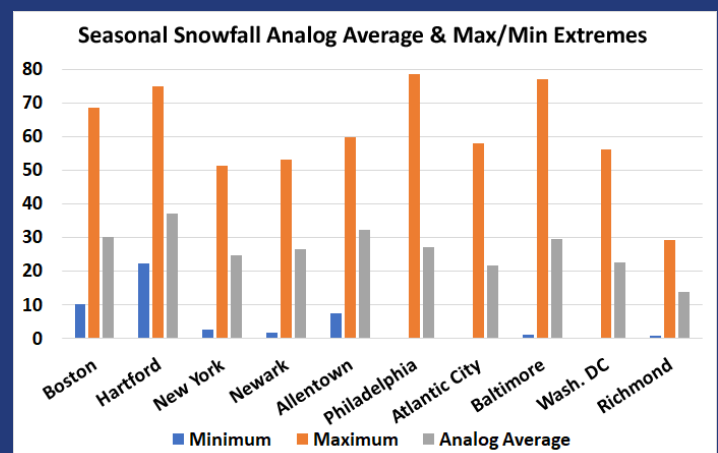
	30-yr Avg	Analog Avg	Diff.
Dec	38.6	41.3	+2.7
Jan	33.7	35.0	+1.3
Feb	35.9	33.4	-2.5
Mar	43.6	45.9	+2.3

Washington, DC

	30-yr Avg	Analog Avg	Diff.
Dec	41.7	43.6	+1.9
Jan	37.5	37.4	-0.1
Feb	40.0	36.7	-3.3
Mar	47.6	49.3	+1.7

Analog Average Seasonal Snowfall, Maximum and Minimum Extremes

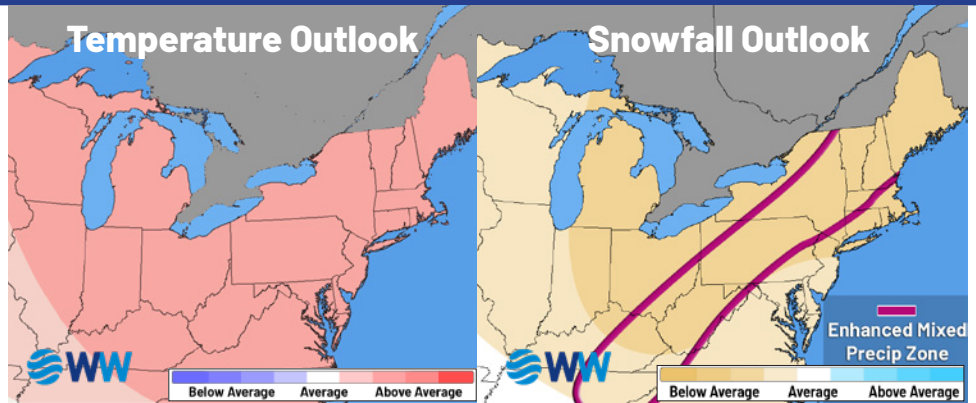
- There's considerable variability due to a mix of lean and prolific winters. Since this year's El Niño is weaker than some of the analogs, the upside potential is more favored than the downside, especially south of New York City.
- Note the maximums are more than double the averages. In fact, Boston, Hartford, Philadelphia, and Baltimore all have comparable maximums!



2023 - 2024 Winter Trends

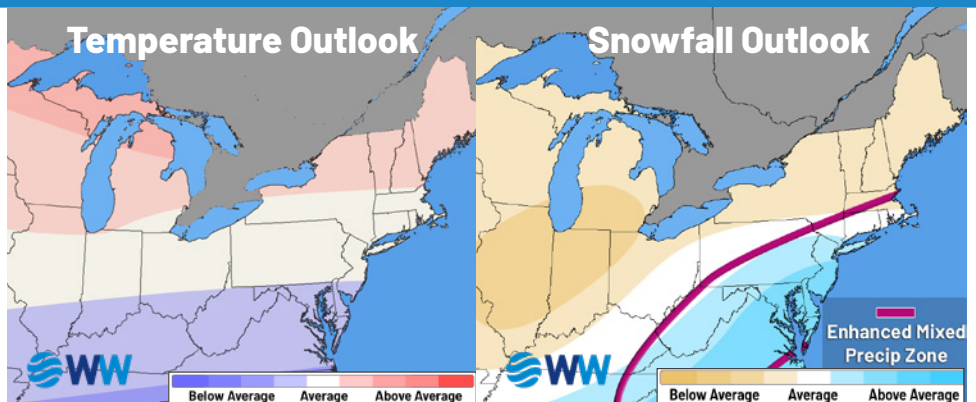
November - December 2023

- El Niños are often snowier than La Niñas, but any early cold shots tend to be brief. However, these can start up lake effect snow.
- An active pattern continues, as most mixed events occur over the interior. Mostly rain near the coast, but watch for refreezes.
- While below normal snowfall is favored, 3 of 9 similar winters did record near to above normal snowfall along I-95 (2009 was quite significant). With only 15-20% of seasonal snowfall occurring in Nov/Dec, it only takes one perfectly timed storm for near average snowfall in this period.



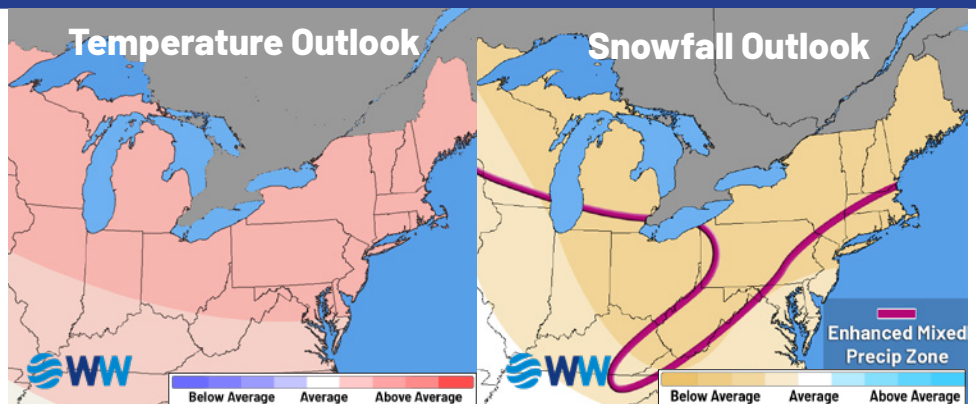
January - February 2024

- As El Niño's influence peaks, January is expected to gradually transition into a cold February.
- Above normal snowfall is likely for the Mid-Atlantic, with an increased risk for significant snowfalls, especially into Feb.
- New England's snowfall (and big storm potential) increases as well, but high pressure to the north (Greenland Blocking) can create sharp cut-offs and may deflect some storms a bit farther south.



March - April 2024

- An active storm track remains and meaningful snow is still possible in early March. However, the risk diminishes quickly mid to late month.
- After March 15th, any impactful snow will require the Polar Vortex to disrupt the pattern, which looks less likely than most years.
- Otherwise, a pattern similar to late fall/early winter will be most favored for the last six weeks of the season, leading to above normal readings.



Snowfall Projections By City

The charts below indicate the level of confidence our long range team has for above, near, & below normal seasonal snowfall for each city. 30 year median totals (in light blue) have been included for comparison, along with last season's totals for reference underneath each chart.

Boston, MA

30 Yr Median Total: 39.1"	
Annual Snowfall Range (in)	Confidence
< 32.0"	45%
32.0 - 46.0"	35%
> 46.0"	20%

2022-23 Season: 12.4"

Hartford, CT

30 Yr Median Total: 45.5"	
Annual Snowfall Range (in)	Confidence
< 36.0"	40%
36.0 - 54.0"	35%
> 54.0"	25%

2022-23 Season: 24.2"

New York City, NY

30 Yr Median Total: 26.9"	
Annual Snowfall Range (in)	Confidence
< 21.0"	30%
21.0 - 32.0"	40%
> 32.0"	30%

2022-23 Season: 2.3"

Albany, NY

30 Yr Median Total: 53.0"	
Annual Snowfall Range (in)	Confidence
< 43.0"	50%
43.0 - 63.0"	30%
> 63.0"	20%

2022-23 Season: 55.0"

Allentown, PA

30 Yr Median Total: 30.0"	
Annual Snowfall Range (in)	Confidence
< 24.0"	30%
24.0 - 36.0"	35%
> 36.0"	35%

2022-23 Season: 6.3"

Philadelphia, PA

30 Yr Median Total: 18.6"	
Annual Snowfall Range (in)	Confidence
< 15.0"	35%
15.0 - 23.0"	25%
> 23.0"	40%

2022-23 Season: 0.3"

Baltimore, MD

30 Yr Median Total: 15.3"	
Annual Snowfall Range (in)	Confidence
< 12.0"	25%
12.0 - 18.0"	30%
> 18.0"	45%

2022-23 Season: 0.2"

Washington, DC

30 Yr Median Total: 10.1"	
Annual Snowfall Range (in)	Confidence
< 7.0"	25%
7.0 - 13.0"	25%
> 13.0"	50%

2022-23 Season: 0.4"

Richmond, VA

30 Yr Median Total: 7.8"	
Annual Snowfall Range (in)	Confidence
< 6.0"	25%
6.0 - 10.0"	20%
> 10.0"	55%

2022-23 Season: Trace

FREE Winter Outlook Webinar October 24th!

Want more in-depth details about the 2023 - 2024 Winter Outlook? Our meteorologists will do just that at **11:30 AM EDT on Tuesday, October 24th in a FREE webinar!** We'll even provide more insight as to when to expect winter's worst. Also, **feel free to submit a question** as part of the registration process, we'll answer several at the end of the webinar.

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FREE WEBINAR

PRESENTING THE 2023-24 WINTER OUTLOOK

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TUESDAY, OCTOBER 24TH | JOIN US 11:30 AM EDT