

Why much of Northeast US experiences 'snow drought'

January 31 2023



Credit: Pixabay

Winter is more than halfway over and many large cities in the Northeast have yet to see their first snow. New York has gone 300 days without substantial snowfall accumulation. Philadelphia, which usually has its first measurable snow in mid-December, is nearing its latest snow date to

record—February 3, 1995.

There's been plenty of moisture, but a lack of cold air has resulted in a "[snow drought](#)" in many East Coast cities, says Andrew Ellis, a hydroclimate scientist at Virginia Tech.

"Aside from the unusually cold spell in mid-December, there has not been an episode of persistent cold air," said Ellis. He explains that the [polar jet stream](#), which reflects the southern extent of polar air, has consistently remained far across the far northern United States and Canada. "A general position of the jet farther to the north is typical of a La Nina year, but atypical is the lack of periodic migrations southward."

While the term, "snow drought" is not an often-used term, Ellis said the lack of snowfall through two-thirds of meteorological winter (December–February) certainly qualifies for its use. Drought is not typically differentiated by precipitation type.

Ellis said [global warming](#) isn't necessarily to blame for the lack of snow. "In this region [the Northeast], warming has generally had a more profound effect on melting snow that is on the ground than causing precipitation to fall as rain rather than snow."

Looking ahead to February and March, Ellis reviewed models and said they do not suggest much of a pattern change. He expects it to be warmer than normal in the eastern United States with a very slight lean toward wetter than normal conditions. "While the news is not great for snow lovers, there is always hope that the atmosphere will briefly align to produce a jackpot snow," said Ellis.

Provided by Virginia Tech

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