



# THE ATMOSPHERIC RESERVOIR

*Examining the Atmosphere and Atmospheric Resource Management*

## Who is Jack Frost?

By Mark D. Schneider

“Chestnuts roasting on an open fire, Jack Frost nipping at your nose,” are some of the lyrics to the “Christmas Song” that we’re familiar with, but do we really know who or what Jack Frost is? According to English folklore, Jack Frost is an elf-like creature that leaves frost on windows during cold nights. So hypothetically we could just as easily have Edward or Frank Frost in our vocabulary as Jack Frost. Window frost, also commonly called fern frost, occurs when cold air on the outside of a window condenses relatively moist air on the inside of the window and the water freezes in ice-crystalline patterns on the glass. Apparently Jack Frost’s effects extend beyond our windowpanes to the winter air, where our noses and extremities feel his expression of cold.

There are many other bits of commonly used folklore and weather lore that are worth mentioning. One of them is the statement that, “It’s too cold to snow.” As North Dakotans know, this statement doesn’t hold much water. Cold air is typically dry and stable and less conducive to the development of precipitation processes; however, snow can occur at very cold temperatures (20 or more degrees



below zero Fahrenheit) if instability is present in the atmosphere.

With pertinence to this coming winter, let’s investigate these two pieces of weather lore, “a warm October, a cold February,” and “a warm November, a bad winter.” Last November was unusually warm and North Dakota witnessed a cold, snowy winter. Was that just a coincidence? Meteorologically, it would be impossible to predict either scenario with any certainty. Often-times a long period of weather called a weather regime sets up and can remain in place for weeks or months at a time. A ridge of high pressure set up over the western U.S. last November, but then transitioned to a trough pattern in December owing to colder, snowier conditions. While writing this article in early October, 70 and 80 degree temperatures were widespread across North Dakota. We were warmer than average, so does that mean anything for the winter

ahead? It doesn’t; however, the moderate to strong La Nina occurring in the Pacific Ocean right now increases the likelihood of experiencing below normal temperatures and above normal precipitation this winter.

Let’s look at some bits of weather lore that are tried and true: “The moon and the weather; may change together; but change of the moon; does not change the weather.”

Or how about the famous “Ode to the Weatherman” which bears an unusual amount of truth: “And in the dying embers; these are my main regrets: when I’m right no one remembers; when I’m wrong no one forgets.” This saying is also true about the weather in general. Many of us have short memories when it comes to the weather, so a particular weather event usually has to occur quite often or in the recent past for us to give it full recognition.

Whatever the tale or story, each piece of weather lore is derived from some truthful observation, even if it’s only for the weather at one particular date and time.

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