

# THE ATMOSPHERIC RESERVOIR

*Examining the Atmosphere and Atmospheric Resource Management*

## *North Dakota's Harvest Time Freeze*

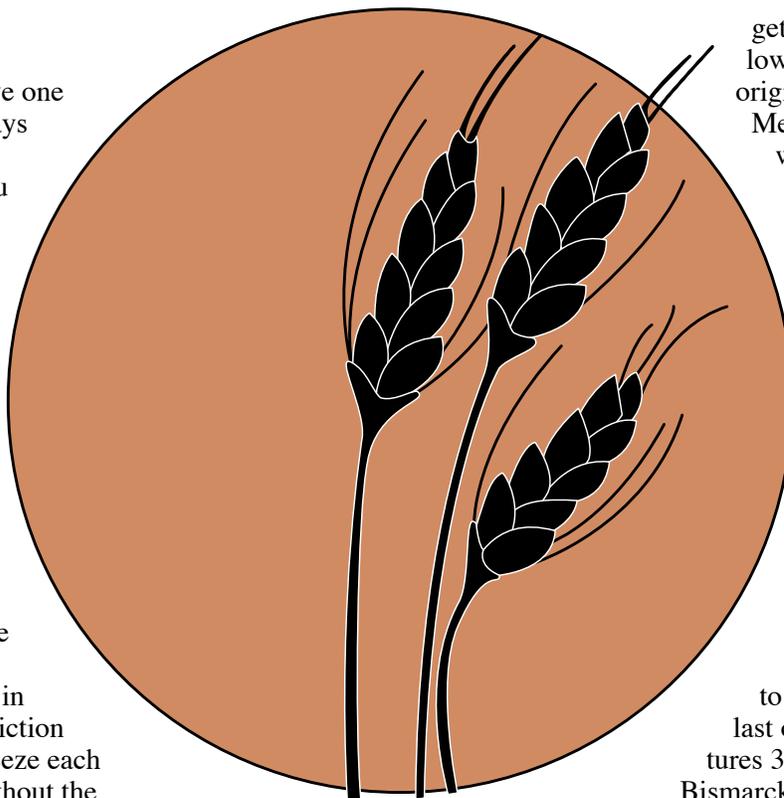
By Mark D. Schneider

The next time you drive one of North Dakota's highways take a look around at the checkerboard of crops you see. Our state is one of the most bountiful in the Union, but not because we're growing apples, oranges and bananas. Those require growing seasons that our climate can't provide, so instead you see wheat, potatoes and sunflowers (to name a few!).

What defines the growing season is the time between the last freeze in spring and the first freeze in autumn. An accurate prediction of North Dakota's first freeze each year couldn't be made without the help of climatology. Weather models usually hint at freezing temperatures within one to two weeks of their occurrence, but for overall growing season and planning purposes an average has to be used.

Mark your calendars for Sept. 16 if you live in Minot, Sept. 20 for Bismarck, and Sept. 26 for Fargo, because that's the average first date in the fall when the temperature drops to 32 degrees Fahrenheit or lower.

Because those dates are averages, there is an equal chance that the temperature could fall below 32 degrees a few days sooner, or later than that date. It's easier to think of



Minot's first freeze occurring before Bismarck's, because Minot is located further north. What's usually surprising to people, however, is that Fargo holds out an average of six days longer in autumn than Bismarck for its first freezing temperatures.

In fact, would you believe that southeastern North Dakota actually has a longer growing season than anywhere else in the state? This is true because southeastern North Dakota receives more influence from the Gulf of Mexico than the rest of our state does.

Though located only 200 miles further east than Bismarck, Fargo

gets the benefit of more lower level moisture which originates in the Gulf of Mexico and travels northward through the central plains until reaching North Dakota. The increased moisture that Fargo receives regulates diurnal temperatures, meaning the daily variation between high and low temperatures is less. The result is slightly warmer nighttime temperatures in autumn for Fargoans.

When looking ahead to next spring, the average last occurrence of temperatures 32 degrees or lower for Bismarck and Fargo is May 15, while Minot holds out until May 20. Thus, there is a longer mean length of freeze-free period for Fargo at 130 days than Minot's 120 days.

Reports around the state are that crops look pretty good and prices are up. Here's to a successful harvest!

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