



# THE ATMOSPHERIC RESERVOIR

*Examining the Atmosphere and Atmospheric Resource Management*

## "The Growing Season"

By Mark D. Schneider

North Dakota's growing season is sometimes defined as the number of days between the last killing frost/hard freeze in spring and the first one in autumn. As you know, it's possible to have freezing temperatures in the summertime, so spring and autumn aren't bookends for the growing season. When we think of freezing temperatures, 32°F immediately comes to mind. A hard freeze is defined as temperatures of 28°F or below and a frost can occur at temperatures as warm as 38°F if clear skies and light winds are present. It may now be apparent that there are numerous definitions of the "growing season."

One of the more general definitions of the growing season is the period of each year during which the temperature of cultivated vegetation remains high enough to allow for plant growth. This definition takes into consideration the different varieties of plants and crops grown here in our state and the lengths of their individual growing seasons, which can vary by weeks or sometimes months. From a meteorological standpoint the growing season is defined as the period between freezes. This definition does not consider individual plant hardiness.

With the 2011-12 winter season being so mild, many farmers and gardeners may have been tempted



to plant their seeds early this spring. Meteorologist Michael Mathews with the National Weather Service (NWS) in Bismarck researched western and central North Dakota climate data to see if there was a link between Bismarck, Dickinson, Jamestown, Minot, and Williston's top ten warmest winters on record and early last freezes in spring. "There aren't any definite links between our warmest winters and early last freeze dates", said Mathews. "However, Bismarck's average last freeze date following its ten warmest winters was later, by a week, compared to the overall average since records began in 1874."

Meteorologist Technician Mark Ewens with the Fargo-Grand Forks NWS performed a similar study for eastern North Dakota. Of particular interest were his findings that there is a statistically enhanced risk of later than normal cold snaps (for eastern N.Dak.) following a warm winter season. "This enhanced risk appears due, in part, to the atmosphere making a major readjustment during

the transition from very warm 'winter' into 'spring'. During the adjustment period, late season cold snaps appear more likely", said Ewens.

In addition to looking at our recent mild winter across western and central North Dakota, Mathews compared the average temperatures for this March with historic data at each of the five previously mentioned observing sites.

March 2012 is officially the warmest on record for Dickinson and Jamestown, Bismarck tied 1910 for warmest, and it was Minot and Williston's second warmest March. Looking at preliminary March 2012 temperature data for Fargo and Grand Forks, Ewens observed that both cities had their warmest March on record as well! Under these anomalous conditions across the entire state, it's no surprise that some of the earliest planting in North Dakota's history has occurred.

But don't worry if you didn't get an early start to your garden this season. You were more than likely remembering the years with late freezes and wondering if this could be one of them.

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