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## Keeping Up on Crop Weather

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# Keeping Up on Crop Weather

## **Abstract**

We expect a few new weather records to be set each year. This is only normal for weather. After all if a weather station is brand new, every day is a new record. If the station is a year old we would expect that almost no days would have the same temperature as last year so it would be, again, almost a new record every day. As the years go by the chance of setting a new record diminishes but does not disappear. All this describes a climate that is not significantly changing. With most of our records for stations more than 50 years old and many more than 100 years old, the likelihood of setting a new record is diminished but still very real.

## **Keywords**

Agronomy

## **Disciplines**

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## Keeping Up on Crop Weather

**Elwynn Taylor, Department of Agronomy**

We expect a few new weather records to be set each year. This is only normal for weather. After all if a weather station is brand new, every day is a new record. If the station is a year old we would expect that almost no days would have the same temperature as last year so it would be, again, almost a new record every day. As the years go by the chance of setting a new record diminishes but does not disappear. All this describes a climate that is not significantly changing. With most of our records for stations more than 50 years old and many more than 100 years old, the likelihood of setting a new record is diminished but still very real.

During the "Dust Bowl" years so many new records were set, that folks were suspecting a major climate change was well under way. Time has shown that those years were a part of the climate cycles that can be expected every 90 years or so. I remember the discussions about identifying climate change that were under way in the 1950s, "Because climate has many minor cycles we need 30-year records to establish the normal and a 60-year trend to establish a shift in climate." It is possible that good physical analysis could establish change in a shorter time and actually forecast a change before any measurable effect is observed. Still the problem remains that it takes a trend over more than 30-years to verify by observation that a theory is correct when it comes to climate.

### Frosty Morning

After an almost 50-year trend toward earlier springs in Iowa would a "hard freeze" on May 9 be unexpected? That 50-year trend would say there is a 10 percent to 15 percent chance. This is still a chance and the freeze did come. Putting ideas of "change" or "not a change" aside, it is still interesting to see what happened and if it set a record. The over-night low temperatures observed the morning of May 9 in Iowa can be displayed by inquiring of the [Iowa Mesonet](#), Figure 1. The freeze event may have set a new low temperature record for the date in some locations. The recorded low temperatures over Iowa's climate history for the May 9 are shown in Figure 2. As there are no clusters of new low temperature records the event is not considered to be extraordinary.

### 9 May 2010 Low Temperature

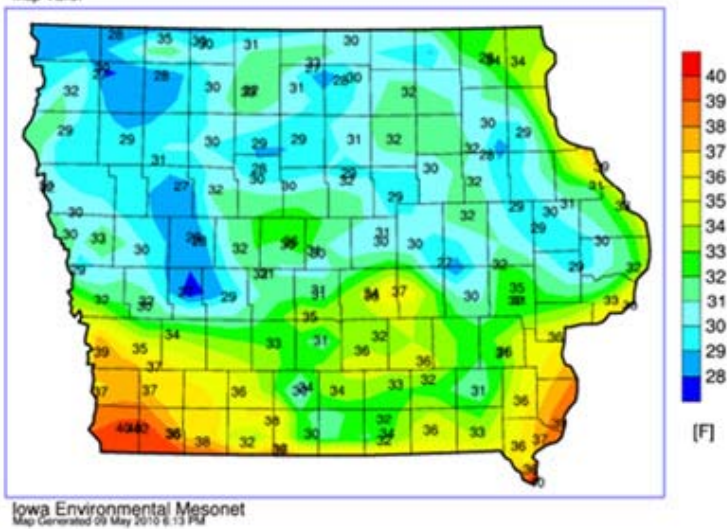


Figure 1. Low temperature observed the morning of 9 May 2010 at Iowa climate stations. Graphic by Daryl Herzmann, ISU Mesonet.

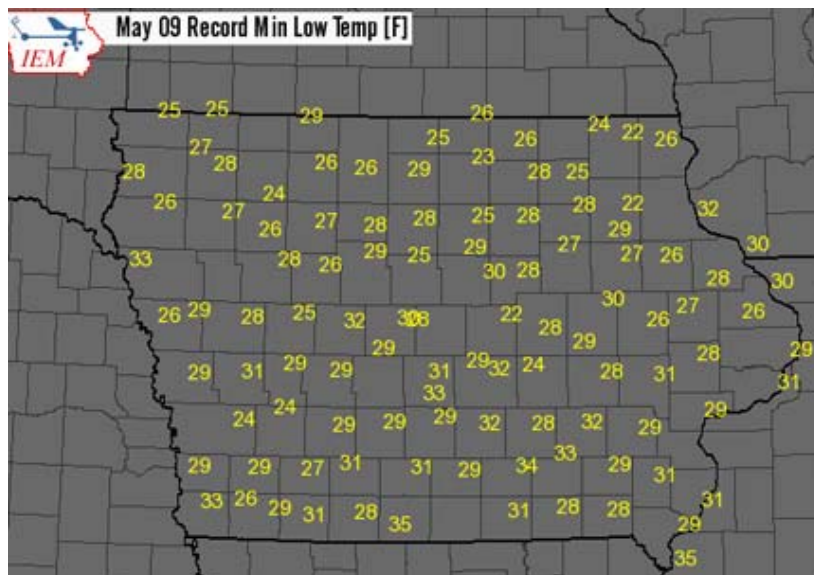


Figure 2. Historical low [temperatures for May 9th](#). A cold night setting a few scattered new low marks would not be considered as extraordinary.

We have noted over the years that corn in early stages of development usually recovers from freezing events of this nature. However, when several cool moist days follow the freeze event the chance of full recovery from freezing and the complications from freezing is somewhat reduced.

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