## Precipitation:

The North Dakota Agricultural Weather Network (NDAWN) September precipitation ranged from 0.72 to 9.33 inches. NDAWN's percent of normal precipitation ranged from about $50 \%$ to 400\% (Figure 1. North Dakota State Climate Office). The lower rainfall totals fell in Williams and Mckenzie Counties which had $50 \%$ to $100 \%$ of normal rainfall. Bottineau, Renville, and northern McHenry and Pierce Counties along with parts of Foster County had approximately $100 \%$ to $140 \%$ of normal rainfall. The greatest majority of the remaining parts of the state had greater than $200 \%$ of normal. The eastern part of the state, especially the Red River Valley (RRV) had the greatest amounts of rainfall resulting in $200 \%$ to $300 \%$ of normal. The late September rains saturated soils in the RRV which could contribute to spring flooding. The NDAWN Oakes station recorded a total of 9.33 inches of rain which is $413 \%$ of normal. Most of the first 10 days of September had showers for many parts of the state followed by a relatively dry stretch with scattered light showers from the $12^{\text {th }}$ through the $21^{\text {st }}$. Rain fell state wide on the $23^{\text {rd }}$ with the greatest amounts falling in the eastern half of the state. The September $23^{\text {rd }}$ storm system hit parts of southern Minnesota with greater than 10 inches of rain in 24 hours. The heavy rain flooded the towns of Truman, Pine Island and Owatonna causing flooded roads and many home evacuations.

## Temperature:

NDAWN's September average air temperatures ranged from $51^{\circ} \mathrm{F}$ to $57^{\circ} \mathrm{F}$. NDAWN departure from normal temperatures ranged from $1^{\circ} \mathrm{F}$ to $-3^{\circ} \mathrm{F}$ (Figure 2. North Dakota State Climate Office). The eastern central and eastern part of the state had departures from normal of $-2{ }^{\circ} \mathrm{F}$ to $-3^{\circ} \mathrm{F}$ with 1 to $-1^{\circ} \mathrm{F}$ elsewhere. The first half of the month, the daily average air temperatures held steady at below normal with a few slightly above normal days with a rough range of $10{ }^{\circ} \mathrm{F}$ to $-10^{\circ} \mathrm{F}$, depending on location. Morning temperatures dipped below the killing


Figure 2. Temperature Departure from Normal in September 2010 for North Dakota (North Dakota State Climate Office) freeze of $28^{\circ} \mathrm{F}$ on the $18^{\text {th }}$ in the northwestern parts of the state. From the $21^{\text {st }}$ through the $24^{\text {th }}$ temperatures continued to be below normal but then rebounded state wide to above normal for the rest of the month.

