



**Weather
Observer**

March 13, 2014

BAE

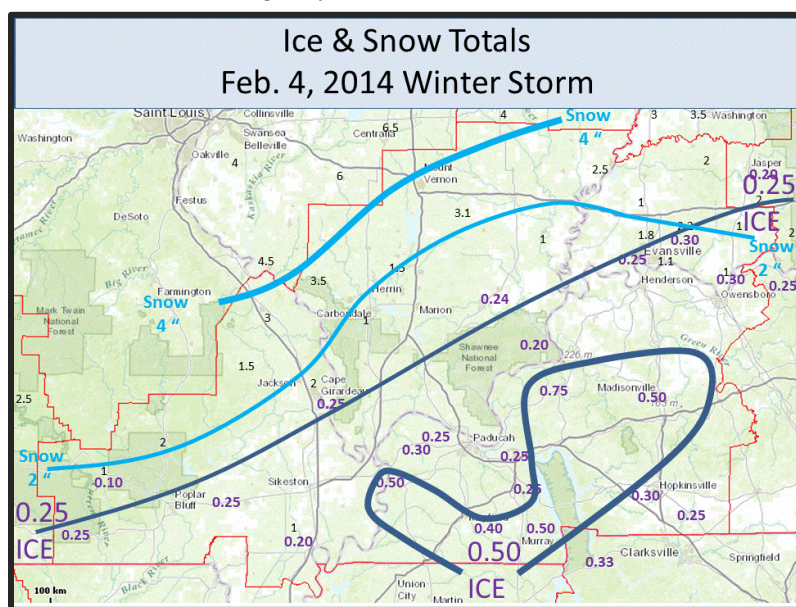
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February 2014 Monthly Summary

The Commonwealth just couldn't shake the cold temperatures from January, as the extremely cold winter of 2014 continued into February. Temperatures remained below normal for much of the month with an average statewide temperature of 34 degrees. The first week of February set the tone for the remainder of the period with highs generally staying in the upper 20s to low 30s. This was around 15 degrees below normal for that time of the year. Cold, Arctic high pressure then made another appearance over the month's mid- section. Lows pushed into the single digits once again, with some locations going subzero. The most significant was in Vanceburg, Kentucky when they got down to a low of -4. The final week then ended with highs generally in the 30s and 40s, but even these temperatures were well below normal. Normal highs at the end of February are supposed to be around 50 degrees. The cool temperatures pushed the state to a 4th straight month of near to below normal temperatures.

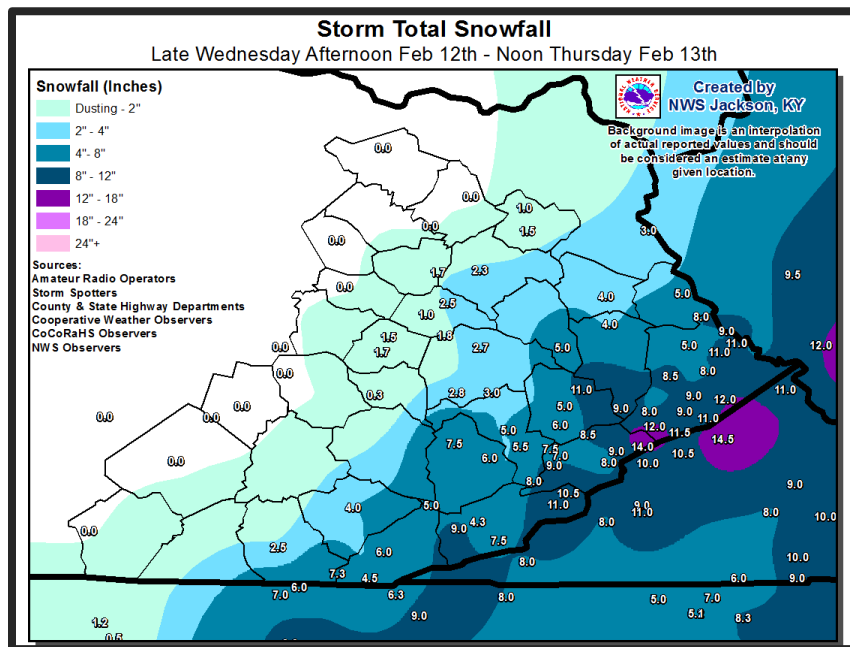
The only real relief to the cold weather was over the 3rd week of the month. A warming trend ensued ahead of a strong cold front. Breezy southwesterly flow eventually put highs all the way into the low 70s. While the Bluegrass State did finally see some warm temperatures, it was followed by the first major severe weather event of the year. A deepening surface low lifted out of the Southern Plains and into the Midwest, where it eventually dragged a very strong cold front through the region. Numerous severe thunderstorms were sparked ahead and along the boundary with damaging winds as the primary threat. A couple of weak tornadoes were also confirmed in Webster and Caldwell counties.

The active winter weather pattern also continued into the month of February. The most significant system occurred on Groundhog Day where much of the northern half of Kentucky was under a Winter Weather Advisory or Winter Storm Warning. Snow blanketed most of the region with the highest totals coming across Central Kentucky and into the Bluegrass, where some saw 5 to 7 inches. Louisville set a daily record with a total of 3.1 inches. This was followed by another ice event with accumulations around a quarter to half inch in western and the northern half of Kentucky (Picture to the left - NWS Paducah). A winter storm then passed south of the Bluegrass State on the 12th and 13th, which eventually brought accumulating snow to southeastern portions of the area. Some of the



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higher elevations received in excess of 10 inches. This is shown in the figure to the right, which was put together by the National Weather Service in Jackson. Over the course of the month, Lexington saw over 8 inches of snowfall, which was about 4 inches above normal. The state ended the month with an average liquid equivalent of 4.53 inches, which was 0.61 inches above normal. Listed below is a set of data taken from Kentucky Mesonet and National Weather Service Stations across the state that summarize the weather conditions over the course of February.



Summarized and averaged data for the period 20140201 to 20140228 (Last 30 Days)
(Not for Legal purposes. Departure from Norms based on climate divisional Averages)

STATION	AIR TEMPERATURE						PRECIPITATION			ExtremeTemp	
	MAX	DEV	MIN	DEV	AVR	DEV	TOTAL	DEV	%NORM	HI	LO
WEST (CD1)	42	-7	26	-3	34	-5	4.15	-0.21	95	72	0
CENTRAL (CD2)	43	-5	26	-2	34	-4	5.06	0.81	119	75	0
BLUEGRASS (CD3)	39	-7	24	-2	32	-4	4.36	0.96	128	70	-2
EAST (CD4)	45	-4	27	1	36	-1	4.55	0.86	123	74	-4
STATE	42	-6	26	-1	34	-4	4.53	0.61	115	75	-4

Data obtained from KY Mesonet and NWS Station

Two Week Forecast

After a dry first half of the weekend, conditions will taper Saturday night and into Sunday as low pressure pushes south of the area. Precipitation is anticipated to start out as rain, but then eventually transition to a wintry mix and snow later in the day as colder air filters into the region. Precipitation is then expected to taper off early Monday, before chances of rain are brought back into the forecast for Wednesday as a cold front moves through the area. Outlooks are then hinting at above normal precipitation through the end of the month and even out into the 3 month period of March through May. Precipitation generally averages around 4 to 5 inches statewide through the month of March.

3 Month Outlook (MAM)
Above Normal Precipitation and
Near Normal Temperatures

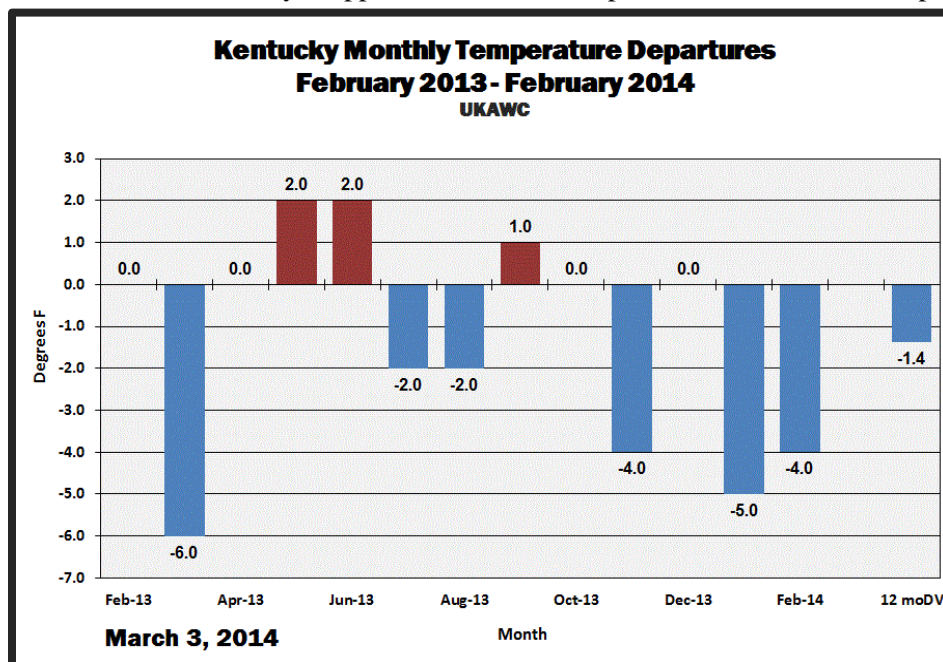
Temperatures-wise, the rollercoaster ride of up and down temperature swings looks to continue into the upcoming week. After 2 mild days today and tomorrow (3/14-3/15), temperatures will once again become below normal Sunday and Monday with highs in the 40s each day. The upward trend will then follow Tuesday and onward as warmer air returns temperatures into the 50s. Outlooks are still leaning toward below normal temperatures through the end of the month, but nothing extreme. This is opposed to the 3

month outlook, which is calling for temperatures around normal. High temperatures for the month of March tend to hover around the mid to upper 50s with lows dipping into the mid 30s.

Winter 2013-2014 Summary

Depending on whom you talk too, spring may or may not have officially started. Going by the astronomical calendar, the season begins on March 20th, but in the meteorological world, the 3 coldest months of the year are taken into account. In this aspect, winter came to a close on March 1st with December, January, and February making up the coldest 3 month period. As such, we'll go with March 1st and outline the cold and snowy winter of 2013-2014.

Looking back, this was definitely one of the coldest winter's the Commonwealth has experienced in quite some time. The mercury dropped below zero multiple times and over a widespread area. In fact, the city

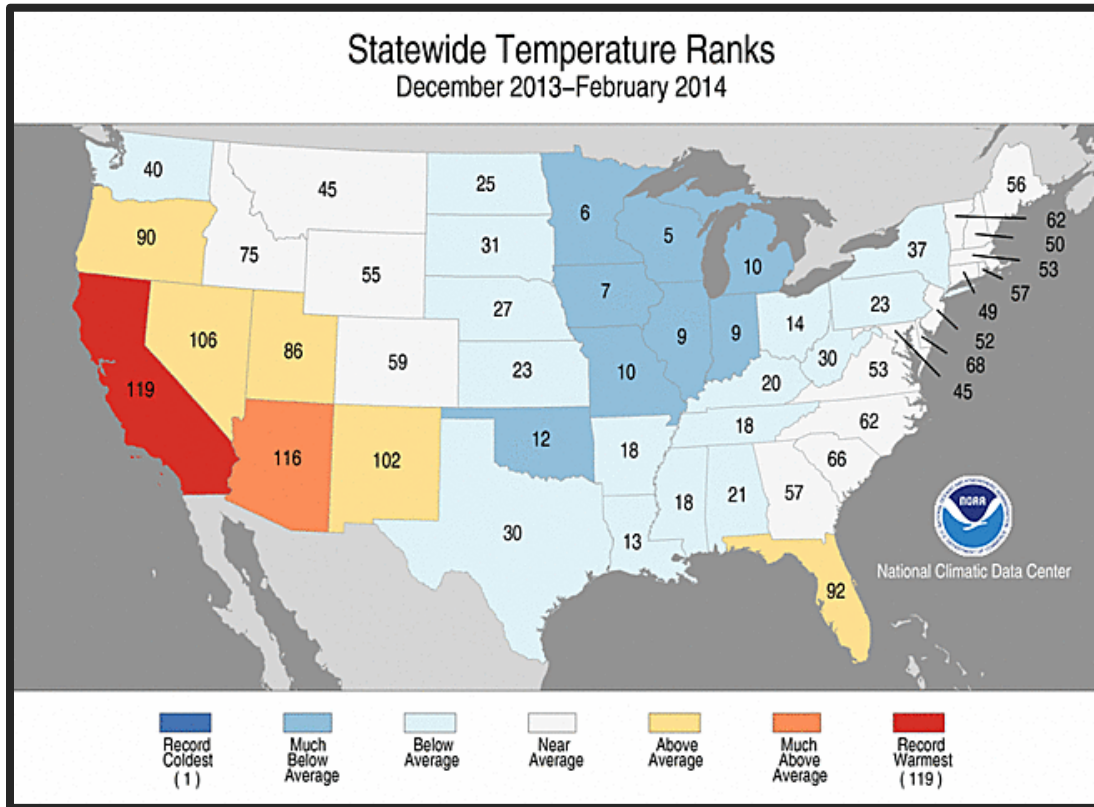


of Lexington saw low's drop below zero 4 times within the month of January. The coldest was on January 22nd, when a -6 was observed at Bluegrass Airport. After the month of December in which temperatures hovered around normal, January and February followed with temperatures below normal by 5 and 4 degrees, respectively. This can be seen in the monthly temperatures departures to the left.

While it was cold, the month of January ended as the 12th coldest on record with an average temperature of 27.1 degrees. It was still quite a ways off from 1977, where it was a cool 18.4 degrees, which was over 14 degrees below normal. On multiple occasions throughout the month, Arctic air was forced into the Bluegrass State through a break-down in a high-latitude area of low pressure. In the end, this was the coldest January since 2003. The most significant round of bitterly cold temperatures came on January 6th. Highs only got into the single digits with lows later that night dropping between 0 and -10 across much of the state. One exception was in Pikeville where a low of -13 was recorded. It didn't help matters that breezy northwesterly flow was forcing wind

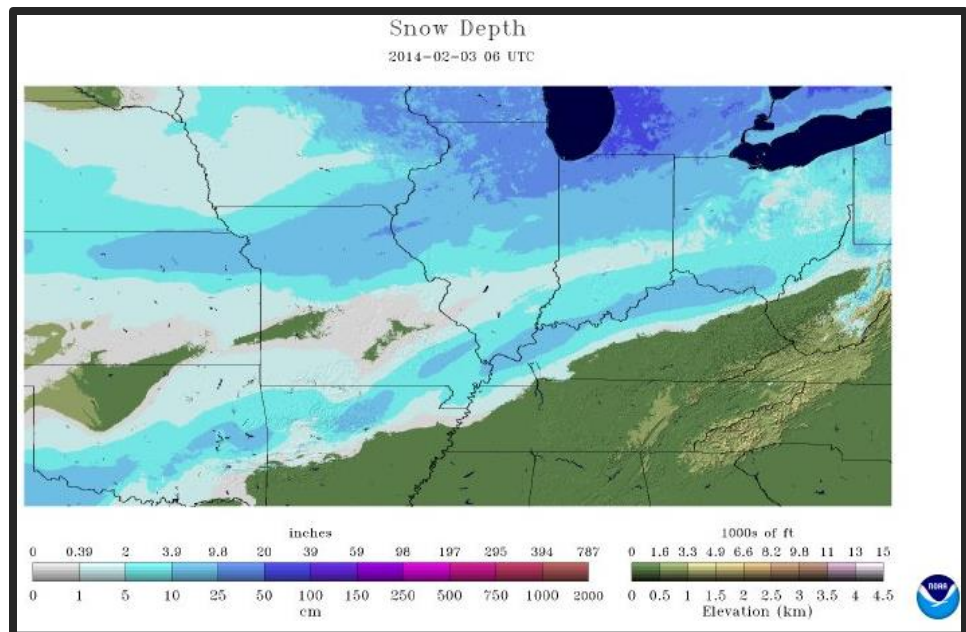
Rank	Year *	Avg.	Normal	Dep.
1	1977	18.4	32.9	-14.5
2	1918	19.5	32.9	-13.4
3	1940	20.0	32.9	-12.9
4	1978	23.0	32.9	-9.9
5	1912	24.8	32.9	-8.1
6	1985	25.5	32.9	-7.4
7	1979	25.7	32.9	-7.2
8	1948	26.1	32.9	-6.8
9	1905	26.4	32.9	-6.5
10	1970	26.9	32.9	-6.0
10	1963	26.9	32.9	-6.0
★ 12	2014	27.1	32.9	-5.8

chills below -20 at times. This pushed the livestock cold stress index into one of the many emergency situations seen across the season. When it was all said and done, the Bluegrass State experienced a cold winter, but nowhere near the coldest. As seen in the map below, developed by the National Climatic Data Center, the winter of 2013-2014 still only ranks as the 20th coolest season on the 119 year record.



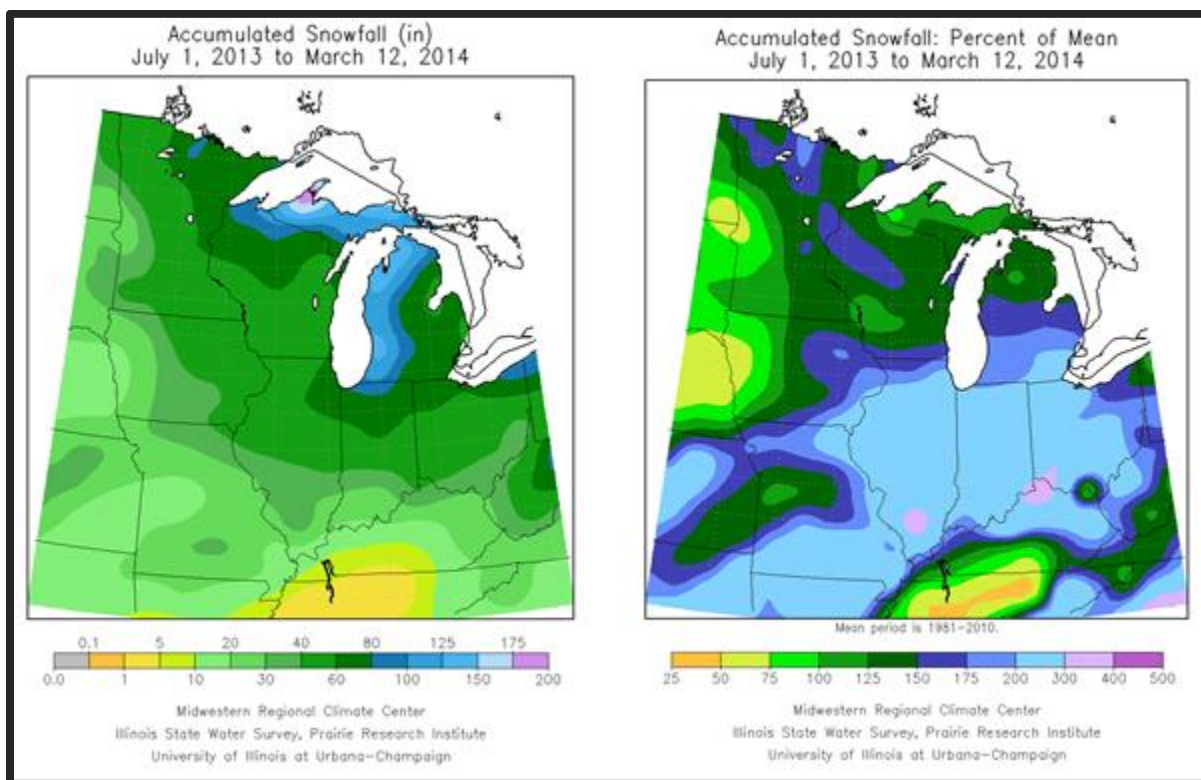
Now, let's move on to snow. Looking at some statistics provided by the National Weather Service in Louisville, the northern half of the state was the clear-cut winner's when it came to snowfall totals.

Lexington came in at a total of 17.9 inches of snow, which was nearly 7 inches above normal. Louisville even came in with a bit more at 21.3 inches, which was over 10 inches above normal. These totals then tapered greatly to the south. Most of the snow fell over the course of 3 events, which just so happened to occur once every month. The first came on the night of December 6th. Snowfall ranged from 3 to 5



inches through Western Kentucky, the Louisville metro and up into the northern Bluegrass. These amounts tapered farther southeast, but most areas still got some freezing rain. The most came in western portions of the state where more than a quarter inch of ice accumulated. Many upper level disturbances passed through the month of January, with each laying another 1 to 2 inches on the ground, but the brunt of snow came on the 21st. An Alberta Clipper laid 3 to 6 inches of fresh powder over the northern fringes of the state. The 3rd and last major system for the winter season came on Groundhog Day where Central Kentucky and the Bluegrass Region were blanketed with snow. Some areas saw 5 to 7 inches with this event. This event can be seen on the previous page. This image displays the snow depth, which was generated through the National Operational Hydrologic Remote Sensing Center of the National Weather Service.

When it was all said and done, snowfall was excessive, especially across the northern half of the state. The images below were taken from the Midwestern Climate Center and display how much snow the Commonwealth has actually seen over the winter season and beyond. It can be seen that some areas saw anywhere from 200 to 400% of average snowfall over the course of the period.



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March Garden Safe Planting Dates

	Earliest Safe Planting Date			Earliest Safe Planting Date	
	Date	Location		Date	Location
Asparagus (crowns)	March 10 th March 15 th March 20 th	Western Central Eastern Mt.	Onions (sets)	March 1 st March 10 th March 15 th	Western Central Eastern Mt.
Beets	March 10 th March 15 th March 20 th	Western Central Eastern Mt.	Onions (plants)	March 15 th March 25 th	Western Central
Broccoli (plants)	March 30 th	Western KY	Onions (seed)	March 10 th March 20 th	Western Central
Cabbage	March 15 th March 25 th	Western Central	Parsley	March 10 th March 20 th	Western Central
Carrots	March 10 th March 20 th	Western Central	Parsnips	March 10 th March 20 th	Western Central
Cauliflower (plants)	March 30 th	Western	Peas	March 1 st March 15 th	Central Eastern Mt.
Chard	March 15 th March 20 th	Western Central	Irish Potatoes	March 15 th March 15 th March 20 th	Western Central Eastern Mt.
Collards	March 1 st March 10 th March 15 th	Western Central Eastern Mt.	Radishes	March 1 st March 10 th March 15 th	Western Central Eastern Mt.
Kale	March 10 th March 20 th	Western Central	Rhubarb (crowns)	March 1 st March 10 th March 15 th	Western Central Eastern Mt.
Kohlrabi	March 15 th March 20 th March 25 th	Western Central Eastern Mt.	Rutabaga	March 1 st March 10 th March 15 th	Western Central Eastern Mt.
Lettuce (leaf)	March 15 th March 25 th	Western Central	Snow Peas	March 1 st March 15 th	Central Eastern Mt.
Lettuce (bibb plants)	March 15 th March 25 th	Western Central	Spinach	March 1 st March 10 th	Central Eastern Mt.
Lettuce (head plants)	March 15 th March 25 th	Western Central	Turnips	March 1 st March 10 th March 15 th	Western Central Eastern Mt.

March Vegetable Gardener's Calendar for Western KY

March 1st	Start seeds outdoors for SPINACH, MUSTARD, BEETS, PEAS, and EDIBLE PODDED PEAS
March 15th	<ul style="list-style-type: none"> - Start seeds indoors for PEPPERS, TOMATOES, EGGPLANT, and SWEET POTATO SLIPS - Start seeds outdoors for ASPARAGUS and RHUBARB (crowns), BEETS, CARROTS, COLLARDS, KALE, MUSTARD, SPINACH, PEAS, EARLY POTATO SEED PIECES, RADISHES, TURNIPS, GREEN ONIONS, ONION SETS, and ENDIVE - Move transplants to garden for CABBAGE and KOHLRABI - Dig and divide any 4-year-old RHUBARB PLANTS - Fertilize ASPARAGUS and RHUBARB with 1 lb. 5-10-10 per sq.ft.
NOTE: Add 10 days for Central KY and 15 for Eastern KY to these dates for spring and summer crops.	

March Crop Operations

	First Week	Second Week	Third Week	Fourth Week
Tobacco	-----	-----	-----	50% of beds seeded
General Farm Operations	-----	-----	-----	Fertilizer applied

March Beef Operations

Spring Calving Herd	<ul style="list-style-type: none"> • Spring calving continues • Continue grass tetany prevention.
Fall Calving Herd	<ul style="list-style-type: none"> • Pre-weaning period
All Cattle	<ul style="list-style-type: none"> • Repair fences, equipment, and handling facilities • Plan new working facilities, if needed.
Forages	<ul style="list-style-type: none"> • Continue renovation • Control competition from grasses with young clover plants by grazing or mowing as needed. • Prepare for spring seeding of alfalfa and begin grazing if growth permits • Plan and implement grazing system and rotation