

## PROGRAM INFORMATION

### EQIP, CSP, Etc.

**EQIP** – IF YOU HAVE LAND LOCATED IN THE CENTRAL PLATTE NRD, YOU CAN APPLY FOR FINANCIAL ASSISTANCE TO IMPROVE IRRIGATION EFFICIENCIES. **DEADLINE FOR SIGN-UP AT YOUR LOCAL NRCS OFFICE IS JUNE 19<sup>TH</sup>.**

**CSP** – NEW 2015 APPLICATIONS ARE CURRENTLY BEING APPROVED AND CONTRACTS WRITTEN ACCORDINGLY.

**NSWCP:** NEW COST-SHARE MONEY COMES JULY 1<sup>ST</sup>. APPLICATIONS CAN BE TAKEN AT YOUR LOCAL NRCS OFFICE.

**ENERGY EFFICIENCY GRANT:** APPLICATIONS FOR 2015 FUNDS CAN STILL BE TAKEN. DEADLINE IS JUNE 30<sup>TH</sup>. CONTACT RURAL DEVELOPMENT IN KEARNEY AT 308-237-3118, EXT. 4.

**WHEAT AND MILO PRODUCERS:** STOP BY YOUR LOCAL NRCS OFFICE TO PICK UP AN APPLICATION FOR THE CROP STUBBLE MGT PROGRAM. **APPLICATION DEADLINE IS JUNE 22<sup>ND</sup>.**

## CALENDAR OF EVENTS

**JUNE 8:** CNPPID 12 WEEK IRRIGATION RUN SCHEDULE STARTS

**JUNE 9:** TBNRD BOARD MEETING 7:30 PM

**JUNE 14:** FLAG DAY

NO-TILL ON THE PLAINS WHIRLWIND EXPOS. GOTO

[HTTP://WWW.NOTILL.ORG/](http://www.notill.org/) FOR MORE INFO AND TO REGISTER.

**JUNE 15:** STUART, NE

**JUNE 17:** VENANGO, NE

**JUNE 21:** FATHER'S DAY

## Tool to Determine Crop Water Use – Part 1

The **Nebraska Agricultural Water Management Network** (NAWMN) is underway for the 9<sup>th</sup> year across the Tri-Basin NRD. This network is a tool for participating and area producers to use when scheduling irrigations. The information gathered is used to determine how much soil moisture your crops are using. This information can be found on 2 websites listed on page 3 of this newsletter under the section "ET Information Sites". If you get this via email, just click the links.

There are only 6 weather stations within or neighboring the entire NRD where producers can get crop water use information. This network adds 17 additional locations. See map on page 3. Having this information more localized allows you to better determine what your crops are using for soil moisture. Also, you get to use your own crop stage of growth. Having these sites closer to your fields and being able to use your own crop stages, this network serves as an excellent tool in determining your own crop water usage.

On page three of each Tri-Basin Irrigator issue, information from the prior two weeks will be provided for all 17 sites. Because this newsletter is sent bi-weekly, **it's recommended to use the websites for the most accurate and current information.** The websites are updated by Tuesday of each week. In the next issue of this newsletter, an example of using this network will be provided.

Questions, call Curtis Scheele at 308-995-6121, Ext. 3.

## CURTIS'S COLUMN



### REMINDER Check-off List!!!

- Soil Moisture Sensors Need to be Installed:** Producers required to install sensors under an EQIP or CSP contract need to get these installed and keep records throughout the growing season in order to receive payment and remain in compliance with contract provisions.
- Renew SAM Registration:** SAM registrations are to be renewed annually. It's much easier renewing before it expires than re-registering for a new SAM. Check your expiration date and schedule it on your calendar. (Applications and Contracts with entities having a Tax ID number are required to be registered with SAM.)
- Program Sign-Up Deadlines:** See programs on the left side of this page. Program deadlines are fast approaching. Don't wait for the last minute as some applications require more than just signing your name.

### Early 2015 Soil Moisture Information:

The information given in the table below is an average of the NAWMN sensor readings at the end of the 2014 crop season and early in 2015. **Each individual field across the NRD will vary with higher, lower, or the same moisture levels as these readings. All readings are on Holdrege Silt Loam soils. It is all dependent upon various factors. Irrigated fields vary based upon the producer's irrigation water management.**

We ended 2014 with higher moisture levels than we would like. The 7.8 inches of average rain from these 12 sites from July 28<sup>th</sup> through Sept. 25<sup>th</sup> helped prevent the use of subsoil moisture. Irrigations could have also played a factor. Average corn use during this same time period at these same sites was 8.77 inches and soybeans was 9.21 inches. 2015 spring rains helped get the top three feet of dryland back to 100% moisture with the 4<sup>th</sup> foot not far behind.

Pivot Irrigation (12 sites across TBNRD)		
Soil Depth	Sept. 25, 2014	June 1, 2014
1 foot	95%	100%
2 foot	92%	100%
3 foot	90%	100%
4 foot	84%	100%
4 ft. avg.	90%	100%
Dryland (1 site near Holdrege)		
Soil Depth	Sept. 25, 2014	June 1, 2015
1 foot	75%	100%
2 foot	58%	100%
3 foot	44%	100%
4 foot	46%	84%
4 ft. avg.	56%	96%

**Improved Water Outlook:**

North and South Platte River surface water conditions have shifted substantially in the past few weeks. Spot readings late Wednesday show 7,372 cfs on the inflow side of Lake McConaughy where surface elevation is 8.8' below conservation pool and rising. It is possible the lake could fill prior to Platte basin irrigation demand picking up downstream. High inflow is the result of late snow and rain events in the Laramie River Basin. Central plans to hold McConaughy water while the South Platte River is running high or until the lake fills.

The South Platte River spot reading late Wednesday is 10,600 cfs at Rosco. Central is taking on as much of that water as possible. Some has been diverted as excess flow for recharge and some is filling the 425 miles of Central irrigation canals. The flow may sustain the first several weeks of the irrigation season before releases need to be made out of Lake McConaughy. The small canals between Lake McConaughy and the North/South Platte confluence at North Platte will likely begin taking water out of the system soon to irrigate crops.

A major driving force behind current atmospheric conditions is an El Nino event; warmer than normal sea surface temperatures in the Pacific equatorial zone. The event may hold through February although State Climatologist Al Dutcher cautions that a minor shift in the atmosphere could still bring a hot and dry summer.

**Check Chemigation Systems Before Using Them:**

Do you plan to apply fertilizer or ag chemicals to your fields through your center pivot system? If so, you will need a chemigation permit from Tri-Basin NRD for each system you plan to use. Call our office at 1-877-995-6688 for more information about the permitting process.

If you already have chemigation permits, it's a good idea to check your safety equipment over at least once a year to make sure all the equipment is in working order.

When NRD staff conduct a chemigation safety equipment inspection, the well and pivot system need to be started and operating at normal operating pressure for at least one minute. NRD staff will then check the following:

- Did some water discharge from the low pressure drain and then stop as the system's pressure increased? (Also, remember that you're supposed to have 20 feet of hose attached to your low-pressure drain to carry contaminated water away from the well.)
- Is the chemical injection line check valve free of water leaks?

During shutdown of the system, NRD staff check:

- Does the injection pump shut off when the system shuts off?
- Was air drawn into the pipeline through the vacuum relief valve?
- Is the irrigation pipeline check valve watertight?
- Did some water discharge from the low pressure drain and then stop (this will occur if the pipeline check valve is not leaking)?

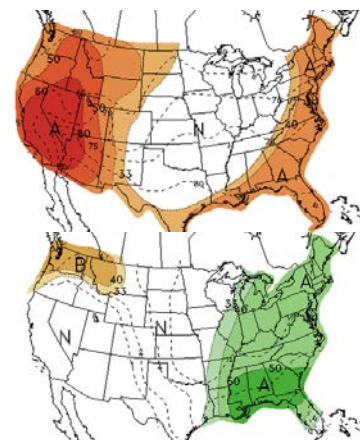
**Climate Outlook:**

It is officially summer in meteorology terms and the temperatures will actually start to feel like it. We have been cool the last 30 days with average temperatures 4-6°F below normal in the Tri Basin. The cool temperatures have slowed crop and pasture growth throughout the state. The precipitation in May was 1-2" below normal in parts of Phelps and Kearney Counties and slightly above normal in western Gosper County. The driest areas this past month were east of Holdrege and north of Highway 6 & 34. This dry corridor extended up through central Nebraska into the northeast, all while the southeast and the Panhandle saw much above precipitation.

**Table: Early season Growing Degree Day (GDD) accumulations compared to normal.**

Station	Start Date thru 6/2	GDD Accum.	+/- Normal
SMITHFIELD	Since 4/15	458	-45
	Since 5/1	336	-45
HOLDREGE	Since 4/15	500	-9
	Since 5/1	366	-19
HOLDREGE 4N	Since 4/15	471	-35
	Since 5/1	350	-34
MINDEN	Since 4/15	487	-28
	Since 5/1	366	-25

For the forecast, you can expect chances of precipitation through the weekend with a small window of dry weather next week. Southwest flow in the upper levels of the atmosphere has been dominating our weather due to the strong trough over the southwest U.S bringing in plenty of moisture. Next week, the pattern shifts to northwest flow, which will bring in some drier air. Scattered thunderstorms are possible on any day this time of year, but precipitation may return the end of next week/weekend, as we switch back to flow from the southwest. This will allow the moisture from the Gulf of Mexico and, believe it or not, from the wet soils in Texas and Oklahoma to increase moisture levels in the area. The location of the next system will determine if we can expect significant amounts of precipitation, but it is too far out to tell. We may actually ingest the remnants of hurricane Blanca next week, which is currently siting southwest of Mexico in the eastern Pacific. Right now, all of the signs are pointing to a wet June, but my best guess is that we may end the month with a drier pattern than we started.



**Figure: Temperature (top) and Precipitation (bottom) forecast for June 11-17 from the Climate Prediction Center.**

Temperatures will remain moderate to slightly below normal. Temperatures should warm up, when (or if) this unsettled pattern moves on and high pressure sets in. Signals for above normal temperatures are weak and the signs continue to point towards below normal temps for the summer.

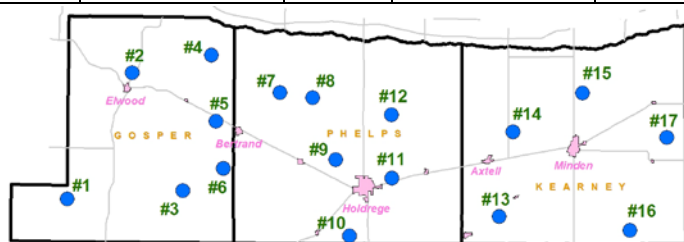
-Tyler Williams, Nebraska Extension

## NAWMN CROP ET INFORMATION

Additional Information and other ET resources can be found at websites listed under "ET Information Sites" below.

$$\text{Inches of Crop Water Use (ET)} = \text{Evaporation} \times K_c$$

Site	May 18 – May 24		May 25 – May 31	
	Evaporation	Rain	Evaporation	Rain
1	NA	NA	1.05	0.37
2	NA	NA	0.95	0.10
3	NA	NA	1.05	0.23
4	NA	NA	NA	NA
5	NA	NA	1.00	0.10
6	NA	NA	1.05	0.11
7	NA	NA	1.05	0.15
8	NA	NA	1.00	0.41
9	NA	NA	1.05	0.07
10	NA	NA	1.05	0.90
11	NA	NA	1.00	0.10
12	NA	NA	1.05	0.15
13	NA	NA	1.15	0.14
14	NA	NA	1.40	0.31
15	NA	NA	1.30	0.51
16	NA	NA	1.45	0.05
17	NA	NA	1.40	0.11



**2015 Map of NAWMN Sites Across the Tri-Basin NRD.**

Corn Stage		DESCRIPTION
V2	2 Leaves	Leaf stage is defined by number of leaves with visible collars. The collar is a discolored line where the leaf meets the stalk. This line circles the stalk. <b>TIP: Mark the 6th leaf or a higher leaf by cutting a notch in it or some other way so as to know that leaf number. Reason is the lower leaves will be lost as the plant develops. Flag or somehow mark the plant in the field as a reference plant when determining later leaf (vegetative) stages.</b>
V4	4 Leaves	
V6	6 Leaves	

Soybean Stage		DESCRIPTION
VC	Cotyledon	Shortly after emergence. Cotyledons and unifoliate leaves are unfolded. (1 node)
V1	First Node	One trifoliate leaf has 3 leaflets. V1 is the first trifoliate leaf with unrolled or unfolded leaflets. Leaflet edges are no longer touching. (2 nodes = 1 unifoliate + 1 trifoliate)
V3	Third Node	Three trifoliate leaves with unrolled or unfolded leaflets. (4 nodes: 1 unifoliate + 3 trifoliate)

### Crop Coefficients (Kc)

Corn		Soybeans	
Stage	Kc	Stage	Kc
2 leaf	0.10	Cotyledon (VC)	0.10
4 leaf	0.18	1st Node (V1)	0.20
6 leaf	0.35	2nd Node (V2)	0.40
8 leaf	0.51	3rd Node (V3)	0.60
10 leaf	0.69	Beg. Bloom (R1)	0.90
12 leaf	0.88	Full Bloom (R2)	1.00
14 leaf	1.01	Beg. Pod (R3)	1.10
16 leaf	1.10	Full Pod (R4)	1.10
Silk – Beg. Dent	1.10	Beg. Seed (R5)	1.10
¼ Milk Line	1.04	Full Seed (R6)	1.10
Full Dent (½ Milk)	0.98	Yellow Leaf (R6.5)	1.00
¾ Milk Line	0.79	Beg. Mat. (R7)	0.90
Black Layer	0.60	Full Mat. (R8)	0.20
Full Maturity	0.10	Mature	0.10

### CROP STAGE INFORMATION

**Corn (V2-2 Leaf to V7-7 Leaf stage):** At 6-leaf, the growing point and tassel are above the soil surface and the stalk is beginning a period of increased elongation.

Avg. daily water use from May 25 – May 31 was 0.02"-0.07".

**Soybeans (Planted to V1-First Node stage):** Nutrients and food reserves in the cotyledons supply the needs of the young plant up to V1. After V1, photosynthesis is adequate for the plant to sustain itself.

Avg. daily water use from May 25 – May 31 was 0.00"-0.03".

May 25-May 31 (16 of 17 NAWMN sites reporting): Average weekly rainfall was 0.24 (range 0.07 to 0.90). Average weekly ET for corn was 0.20 and for soybeans was 0.17.

### ET INFORMATION SITES

**NAWMN Sites:**

<http://www.cnppid.com/news-info/weatheret-data/nebraska-agricultural-water-management-network/>  
[http://elkhorn.unl.edu/ETGage/xml/NE\\_counties\\_2.jsp](http://elkhorn.unl.edu/ETGage/xml/NE_counties_2.jsp)

**CropWatch:** <http://cropwatch.unl.edu/gdd-etdata>

**CNPPID:** <http://www.cnppid.com/news-info/weatheret-data/>

**Water Use Hotline:** 1-800-993-2507

## LAKE AND RIVER LEVELS

CNPPID Reservoir Elevation and Platte River Flow data listed below and other locations can be found on CNPPID's website at <http://www.cnppid.com/news-info/reservoirriver-data/>.

	June 1, 2015, 7:00 AM	1 Year Ago
Capacity of Lake McConaughy	83.7%	62.7%
Inflows to Lake McConaughy	3255 cfs	3240 cfs
Flows on the South Platte River at Roscoe	11,000 cfs	3390 cfs

*Knowing what's right doesn't mean much unless you do what's right.*

- Franklin D. Roosevelt

## WEBSITES OF INTEREST

NRCS Nebraska [www.ne.nrcs.usda.gov](http://www.ne.nrcs.usda.gov)  
 Central Irrigation District [www.cnppid.com](http://www.cnppid.com)  
 TBNRD Home Page [tribasinprd.org](http://tribasinprd.org)  
 Farm Service Agency [www.fsa.usda.gov](http://www.fsa.usda.gov)  
 UNL Cropwatch [cropwatch.unl.edu](http://cropwatch.unl.edu)  
 UNL Extension [www.extension.unl.edu/home](http://www.extension.unl.edu/home)  
 K-State SDI Website [www.ksre.ksu.edu/sdi](http://www.ksre.ksu.edu/sdi)  
 No-till On The Plains [www.notill.org](http://www.notill.org)

## RAINFALL

Rainfall amounts listed below and other locations come from NeRAIN which can be found at website <http://nerain.dnr.ne.gov/NeRAIN/docs/report.asp>.

Location:	May 21 – June 3	May 1 – June 3
Arapahoe 6.9 NW:	0.96	3.43
Bertrand 6.1 mi. SE:	1.26	5.16
Funk 4.1 mi. NNE:	0.65	2.66
Minden 0.855 mi. W:	0.65	3.70
Minden 8.8 mi. ESE:	0.59	6.12

Average Rain for May in Holdrege = 4.06 Inches

\*\*\* If you wish to receive this **newsletter via e-mail**, or have any questions, comments or ideas, feel free to contact Curtis Scheele at the NRCS office in Holdrege or you can email him at [curtis.scheele@ne.usda.gov](mailto:curtis.scheele@ne.usda.gov). \*\*\*

## USDA - Natural Resources Conservation Service



1609 Burlington Street  
 PO Box 798  
 Holdrege, NE 68949-0798  
 308-995-6121, Ext. 3

309 Smith Street  
 PO Box 41  
 Elwood, NE 68937-0041  
 308-785-3307, Ext. 3

1005 South Brown Street  
 Minden, NE 68959-2601  
 308-832-1895, Ext. 3

## Central Nebraska Public Power & Irrigation District



415 Lincoln Street  
 PO Box 740  
 Holdrege, NE 68949  
 308-995-8601

## Tri-Basin Natural Resources District



1723 Burlington Street  
 Holdrege, NE 68949  
 308-955-6688

## Nebraska Extension



1308 2<sup>nd</sup> Street  
 Holdrege, NE 68949  
 308-995-4222

PO Box 146  
 Elwood, NE 68937  
 308-785-2390

424 North Colorado  
 PO Box 31  
 Minden, NE 68959  
 308-832-0645

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