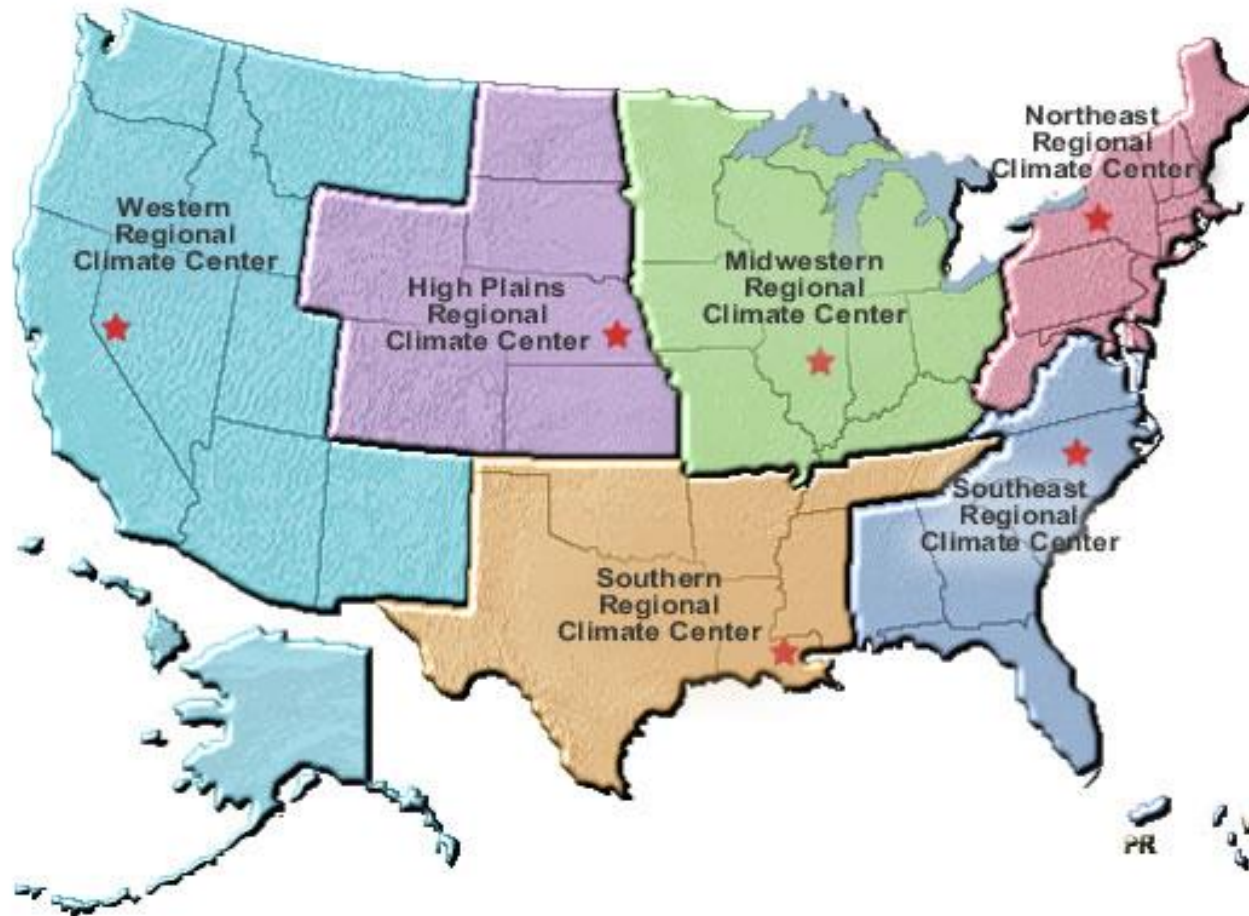


Midwestern Regional Climate Center (MRCC): Overview of Products and Services



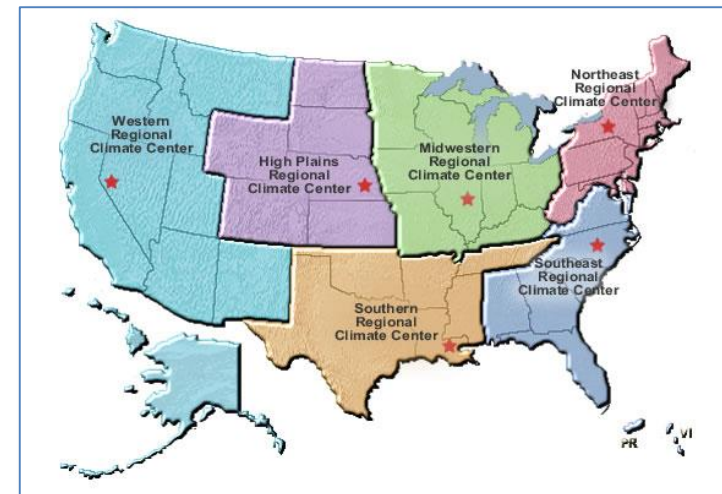
February 2015

Beth Hall and Olivia Kellner

- National Climate Program Act – 1978
- Stan Changnon – Regional Climate Center Visionary

Necessity of a regional, place-based approach if climate services were ever to reach their true potential. (Redmond 2004)

- First RCC Demonstration Projects awarded by NOAA in **1982**
 - *Illinois State Water Survey (IL)*
 - *Cornell University (NY)*
- Third center developed; focus on irrigation, climate impact on agriculture
 - *University of Nebraska-Lincoln*
- First formally designated RCC – **1986**
 - *Desert Research Institute (NV)*
- Southern and Southeastern RCCs established – **1990**
 - *Louisiana State University*
 - South Carolina Dept of Natural Resources
 - 2007 → *U. North Carolina – Chapel Hill*





- Provide high-quality climate data, derived information, and data summaries for the region
- Monitor and assess regional climate conditions and their impacts
- Prepare specialized historical climate data sets
- Coordinate and conduct applied research on climate-related issues and problems

Bonus Missions: Outreach and education

RCCs – *What makes them different?*

RCCs

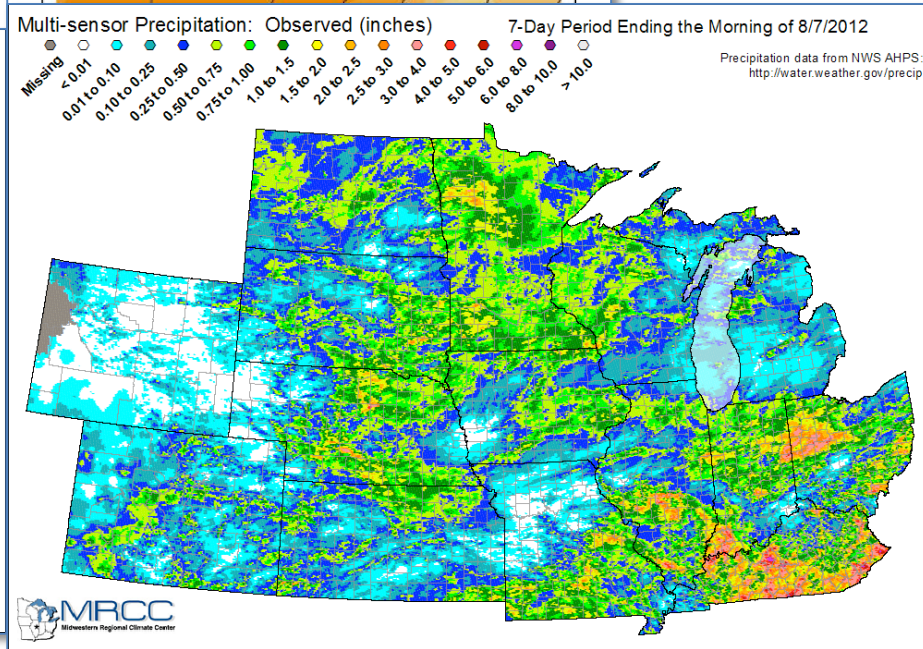
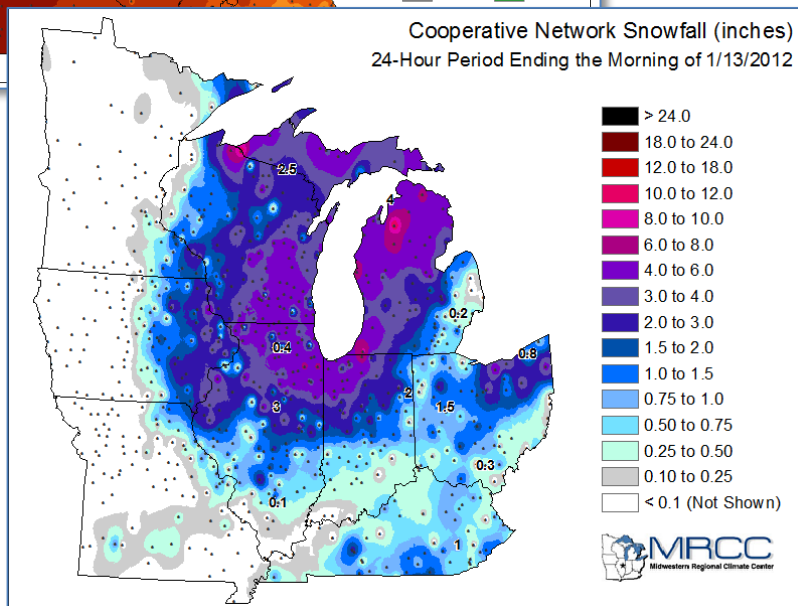
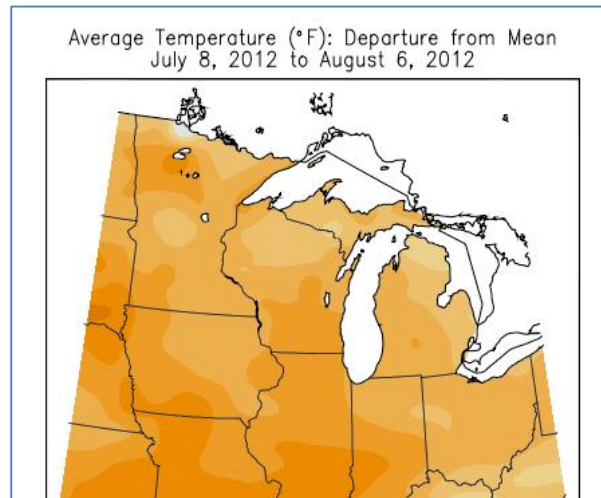
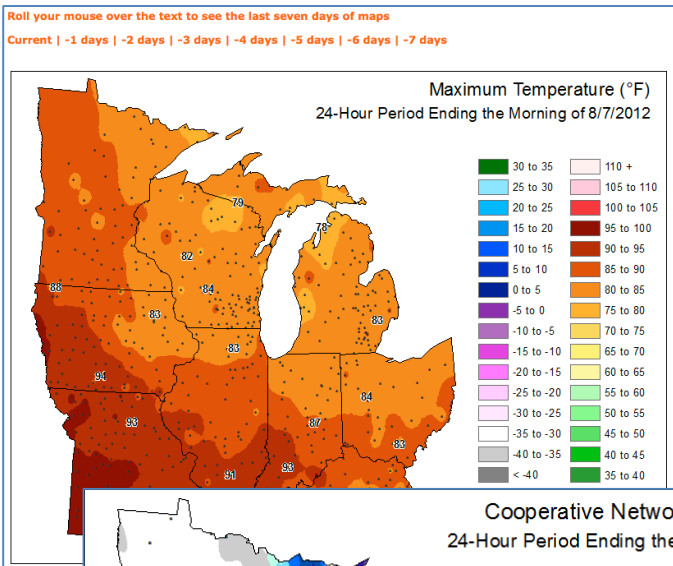
- Work directly with climate data
 - Observation data
- Accesses, organizes, stewards of historical climate data
- Develop decision-support tools
- Develop value-added climate tools and monitoring resources
- Any sector, stakeholder

Other CCs

- Identifying sector-specific climate impacts
- Establishing adaptation plans for impacts
- Social science analysis of incorporating plans, policies
- More agency-focused
- More future-planning



Temperature and Precipitation



cli-MATE

MRCC APPLICATION
TOOLS ENVIRONMENT

Ranking for Precipitation from Jul to Jul, 1928 to 2012

(111577) CHICAGO MIDWAY AP_IL

Rank Value Year

1	0.31	1936
2	0.36	1934
3	0.65	1940
4	0.80	2011
5	1.28	2002
6	1.33	1945
7	1.36	1991
8	1.40	1977
8	1.40	1930
9	1.46	1928
10	1.53	1975
11	1.55	1968
12	1.65	1935
13	1.66	1998
14	1.69	1984
15	1.71	2005
15	1.71	1941
16	1.76	1994
17	1.93	1944
18	1.97	1995
19	2.12	1929
20	2.26	1931
21	2.27	1952
22	2.36	1967
23	2.40	2009
24	2.47	1997
25	2.49	1956
25	2.49	1946
25	2.49	1939
26	2.58	1970
27	2.64	2012 *

Threshold Search for Precipitation

CHICAGO MIDWAY AP 3 SW (IL)

111577

Years: 2006 to 2015

Conditions are: Precipitation (in) greater than 2

Date	Precipitation (in)	Max Temp (°F)	Min Temp (°F)	Mean Temp (°F)	Snowfall (in)	Snow Depth (in)
2006-08-10	2.38	80	72	76.0	0.0	0
2006-10-02	3.80	83	61	72.0	0.0	0
2007-08-23	2.49	90	70	80.0	0.0	0
2008-09-04	3.05	68	63	65.5	0.0	0
2008-09-13	3.62	77	69	73.0	0.0	0
2008-09-14	2.09	72	58	65.0	0.0	0
2008-12-27	2.05	62	33	47.5	M	0
2009-03-08	2.02	55	35	45.0	0.0	0
2010-05-31	2.97	84	65	74.5	0.0	0
2010-07-24	4.77	87	69	78.0	0.0	0
2011-05-26	2.85	75	45	60.0	0.0	0
2011-07-23	2.70	90	70	80.0	M	M
2012-07-19	2.52	92	70	81.0	M	M
2013-04-17	2.73	52	42	47.0	0.0	0
2013-05-28	2.06	76	59	67.5	0.0	0
2014-05-09	2.07	76	57	66.5	0.0	0
2014-06-30	2.78	88	68	78.0	0.0	0
2014-07-12	3.92	81	70	75.5	0.0	0
2014-08-22	4.53	87	74	80.5	0.0	0

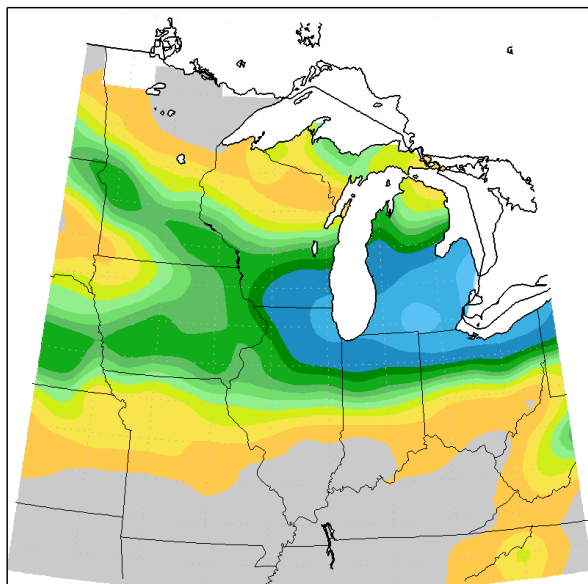
10-year Moving Average: Mean Number of Days per Year Precipitation \geq 2.0 inches, Chicago area 1871-2014



cli-MATE

MRCC APPLICATION
TOOLS ENVIRONMENT

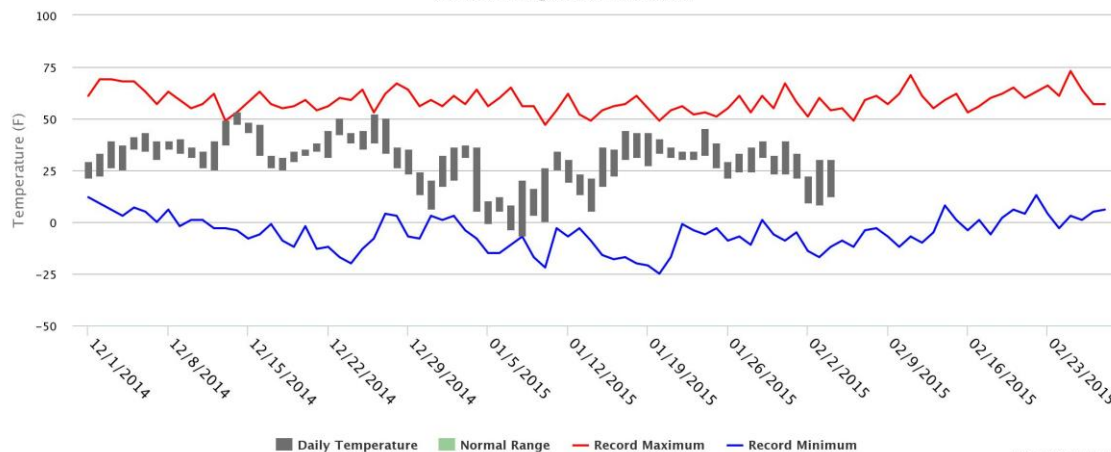
Accumulated Snowfall (in)
February 2, 2015 to February 4, 2015



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 2/5/2015 10:49:53 AM CST

Daily Temperature Normals and Extremes for CHICAGO MIDWAY AP 3 SW (IL)

Midwestern Regional Climate Center



Click and drag to zoom



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Climate Center

Climate Products and Services

Application Products

Growing Degree Data for a Station

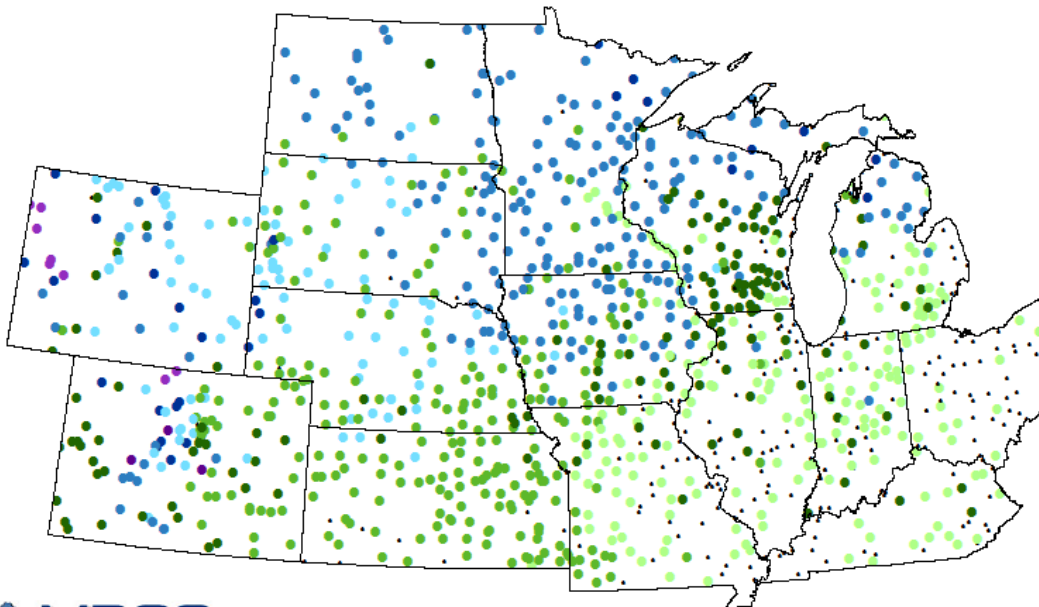
(111577) CHICAGO MIDWAY AP_IL

Accumulation EndDate	Std. GDD Accumulation		86/50 GDD Accumulation	
	Since Jan 1	Since April 1	Since Jan 1	Since April 1
2012-08-06	2655(m)	3815(m)	2615(m)	3775(m)

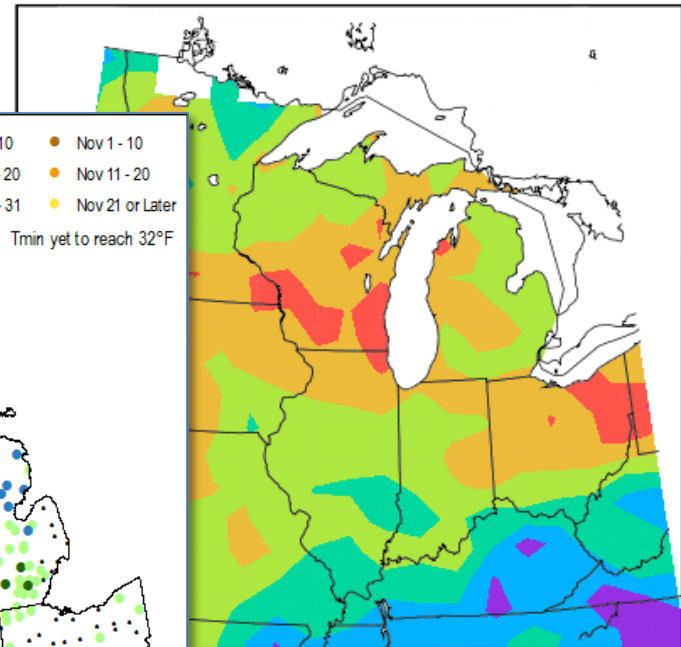
M = Missing, T = trace

Date Of First 32°F Freeze through 10/24/2011

- Aug 10 or Earlier
 - Aug 11 - 20
 - Aug 21 - 31
 - Sep 1 - 10
 - Sep 11 - 20
 - Sep 21 - 30
 - Oct 1 - 10
 - Oct 11 - 20
 - Oct 21 - 31
 - Nov 1 - 10
 - Nov 11 - 20
 - Nov 21 or Later
- Tmin yet to reach 32°F



MGDD Departure, 5/1/2012 to 8/6/2012



100 150 200 250 300 350

Midwestern Regional Climate Center
Illinois State Water Survey
University of Illinois at Urbana-Champaign





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Climate Products and Services

FILTER STATIONS:

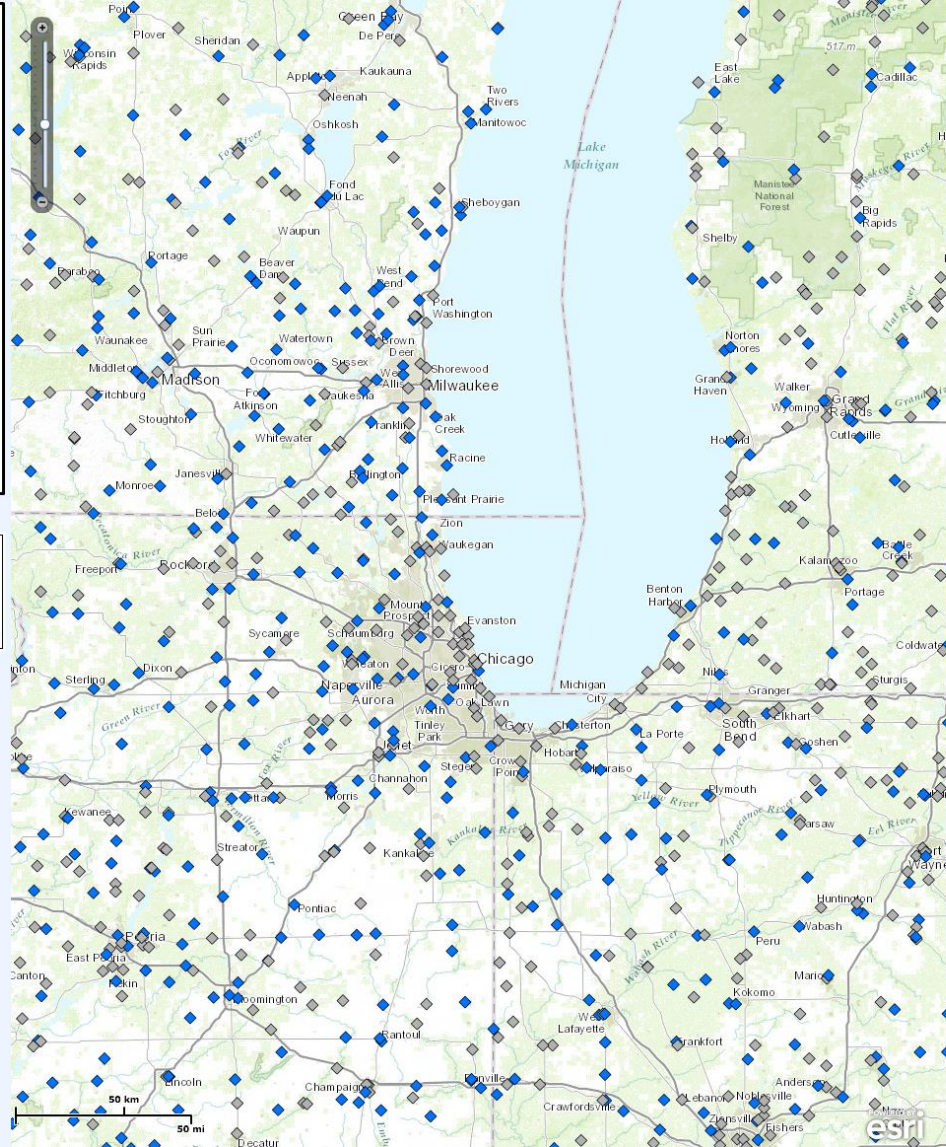
Daily Stations:

Only Active Stations

Network: ?

- GHCN
- CoCoRaHS
- COOP
- NWSLI
- WBAN
- FAA
- WMO
- ICAO

ThreadEx ?



Zoom in to see Station Points. Select a station by clicking on it on the map, or use the "Select by Extent" button below to select multiple stations.

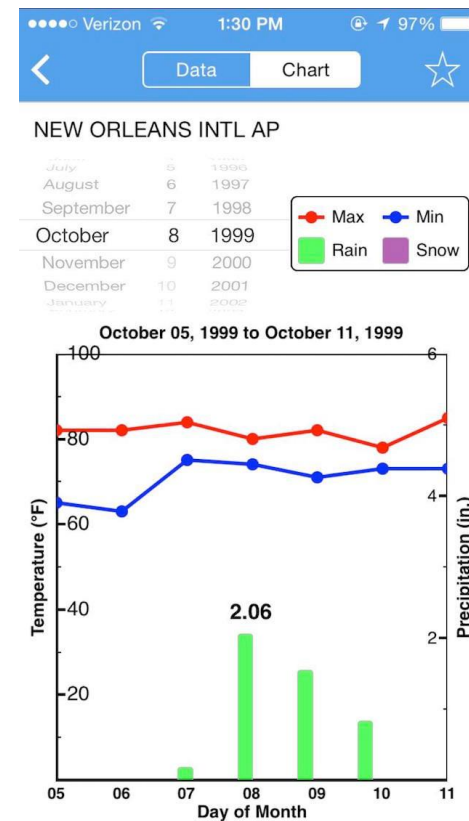
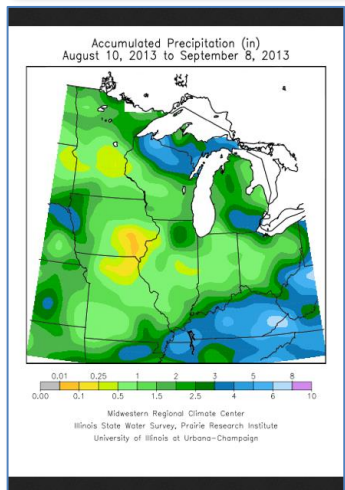
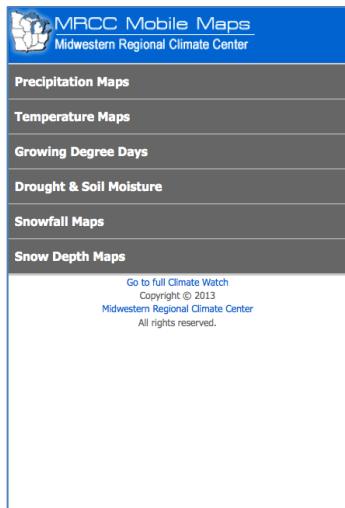
Select a station by clicking on it on the map, or use the "Select by Extent" button above to select multiple stations.

Locate an address, city or zip code



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Mobile Products



MRCC Mobile Maps
<http://mrcc.isws.illinois.edu/m/>

MRCC WxAlmanac
iOS and Android apps

Click on the text to see the regional median freeze maps | Click on a state to see state freeze maps
 Spring Freeze 32° | Spring Freeze 28° | Median Point 32° | Median Contour 32° | Median Contour 28°
 Earliest Last Spring Freeze 32° | Earliest Last Spring Freeze 28°

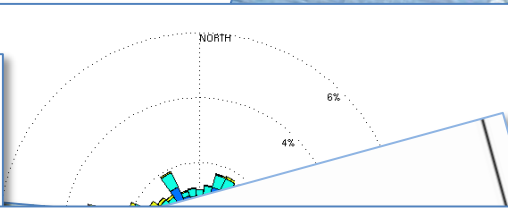
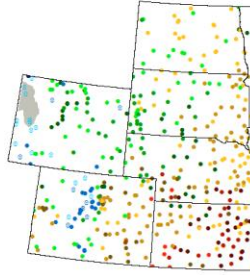
See info and examples [see window]

Date of Last 32°F Freeze through 6/30/2012

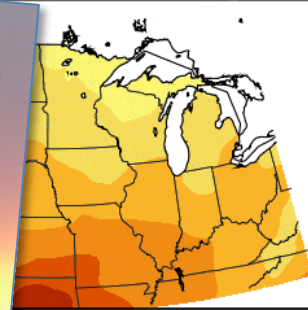
Shaded areas have accumulated (since Feb. 1st) less than 100 Growing Degree Days (Base 50°F)

- Mar-10 or Earlier
- Apr-1-10
- May-1-10
- Jun-1-10
- Mar-11-20
- Apr-11-20
- May-11-20
- Jun-11-20
- Mar-21-31
- Apr-21-30
- May-21-31
- Jun-21 or Later

- Too wet to reach 28°F
- Too dry < 32°F within 14 days
- Too dry > 32°F for past 14 days



Average Temperature (°F) 2012 to August 6, 2012



75 80 85 90 95

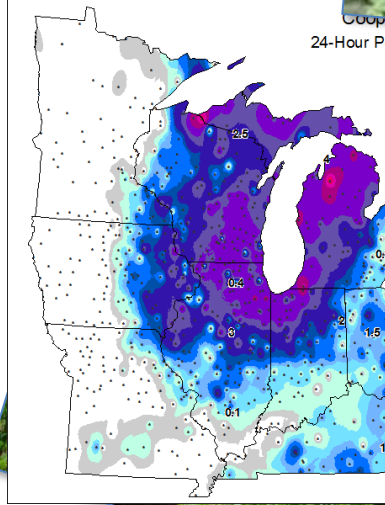
Regional Climate Center Survey, Prairie Research Institute Illinois at Urbana-Champaign

Click on the 'Station' button above to select a station.
 The station(s) listed in the blue box on top will reflect the current selection.

Locate an address, city or zip code

Locate

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 Midwestern Regional Climate Center



24-Hour Period Ending the Month

