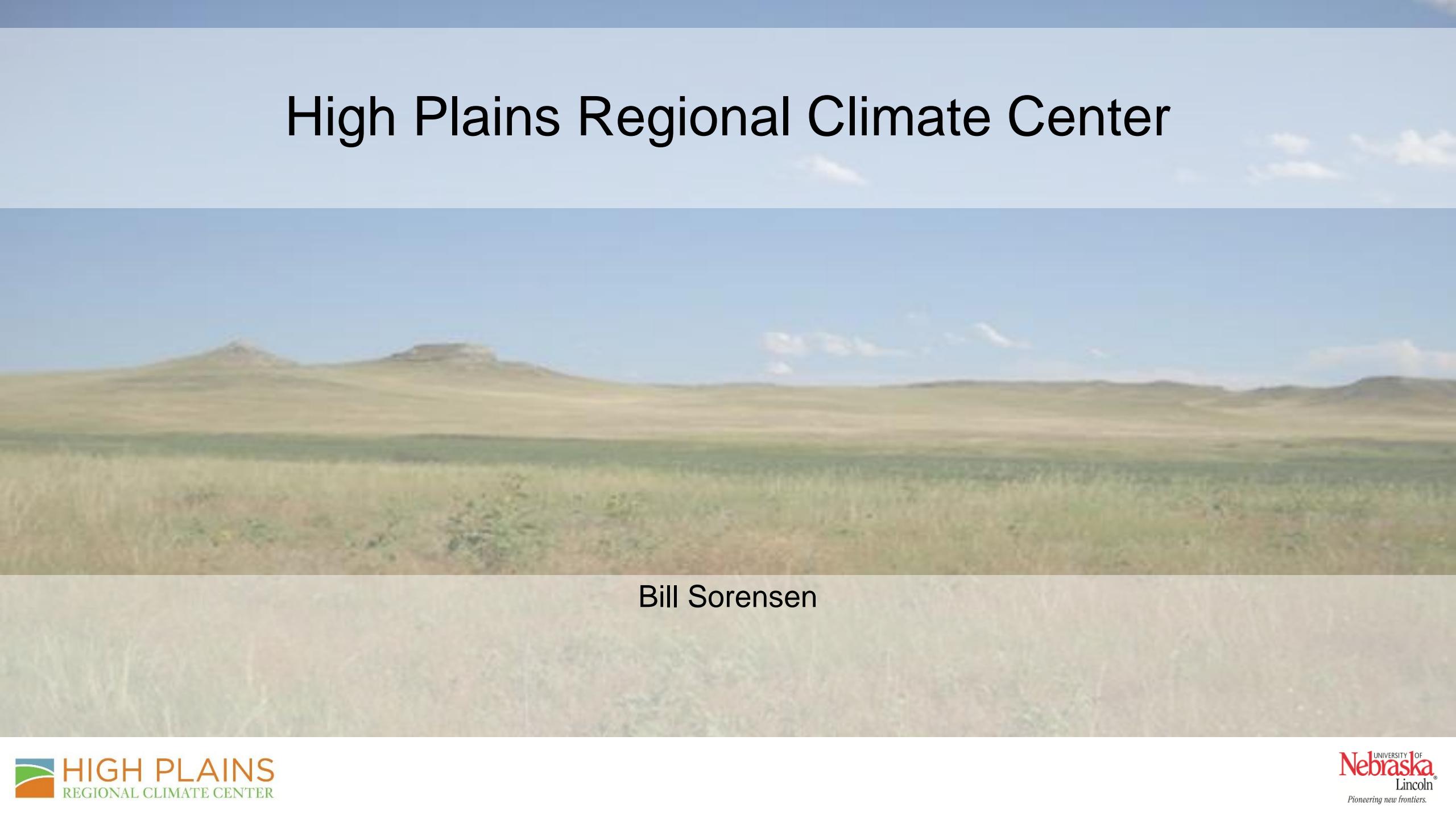


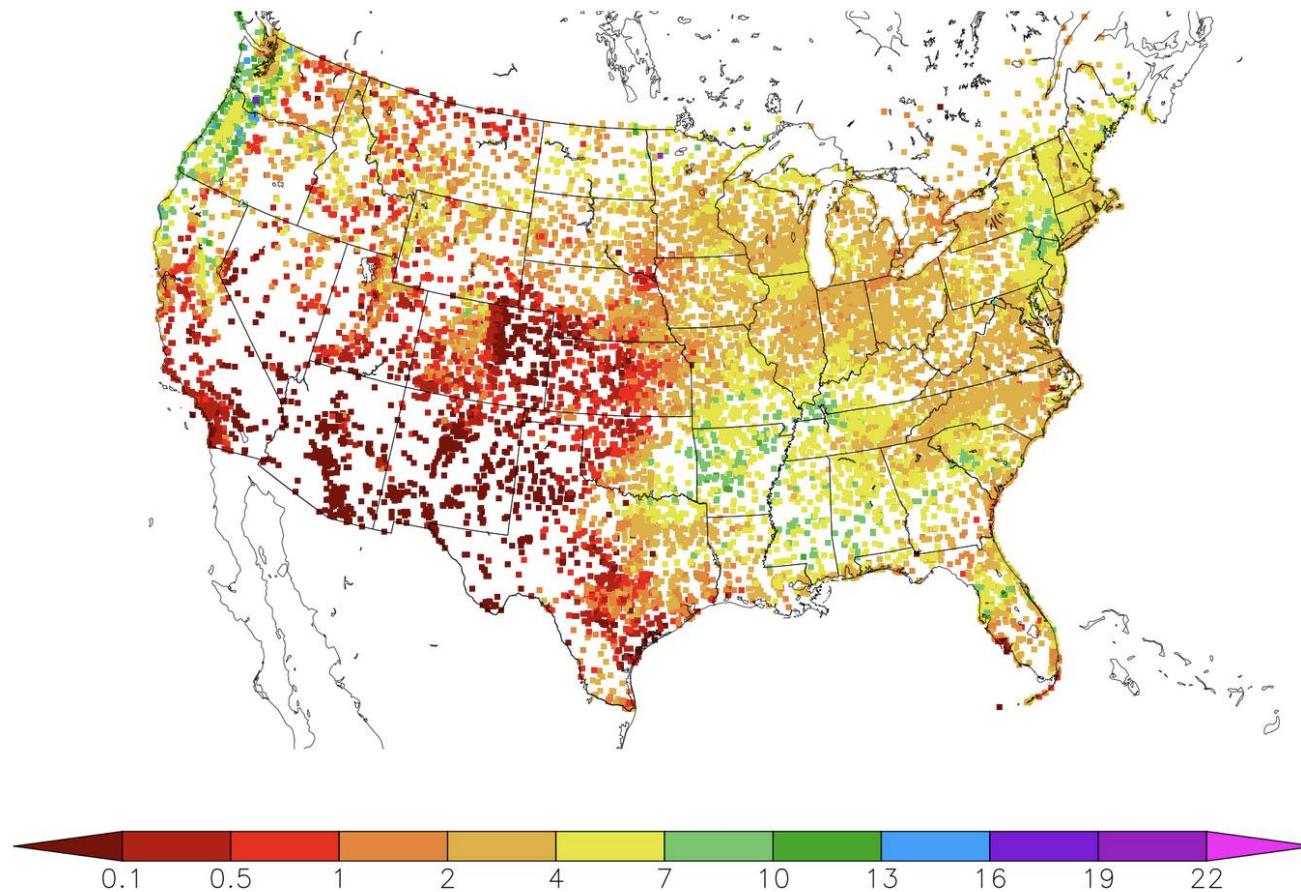
# High Plains Regional Climate Center



Bill Sorensen

# Precipitation (in)

4/1/2022 – 4/30/2022



Generated 5/10/2022 at HPRCC using provisional data.

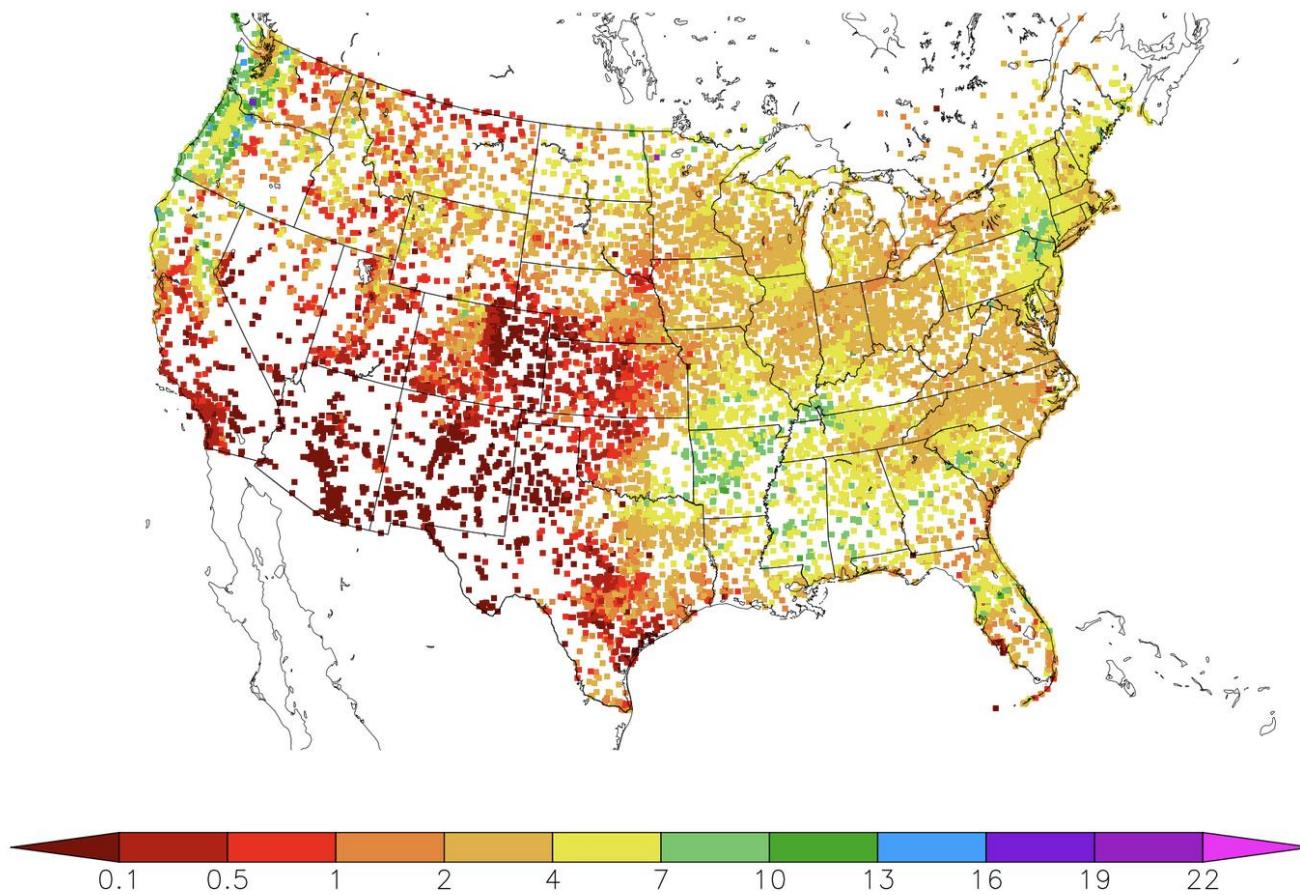
NOAA Regional Climate Centers

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# Precipitation (in)

4/1/2022 – 4/30/2022



Generated 5/10/2022 at HPRCC using provisional data.

NOAA Regional Climate Centers

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# Data Update Lag – 2 to 4 days

**SC ACIS**

- ▶ Product selection
- ▶ Options selection
- ▼ Station/Area selection

**ID** **Search**

ID: **US1NELA0019** Type: **GHCN** ▾

**Go**

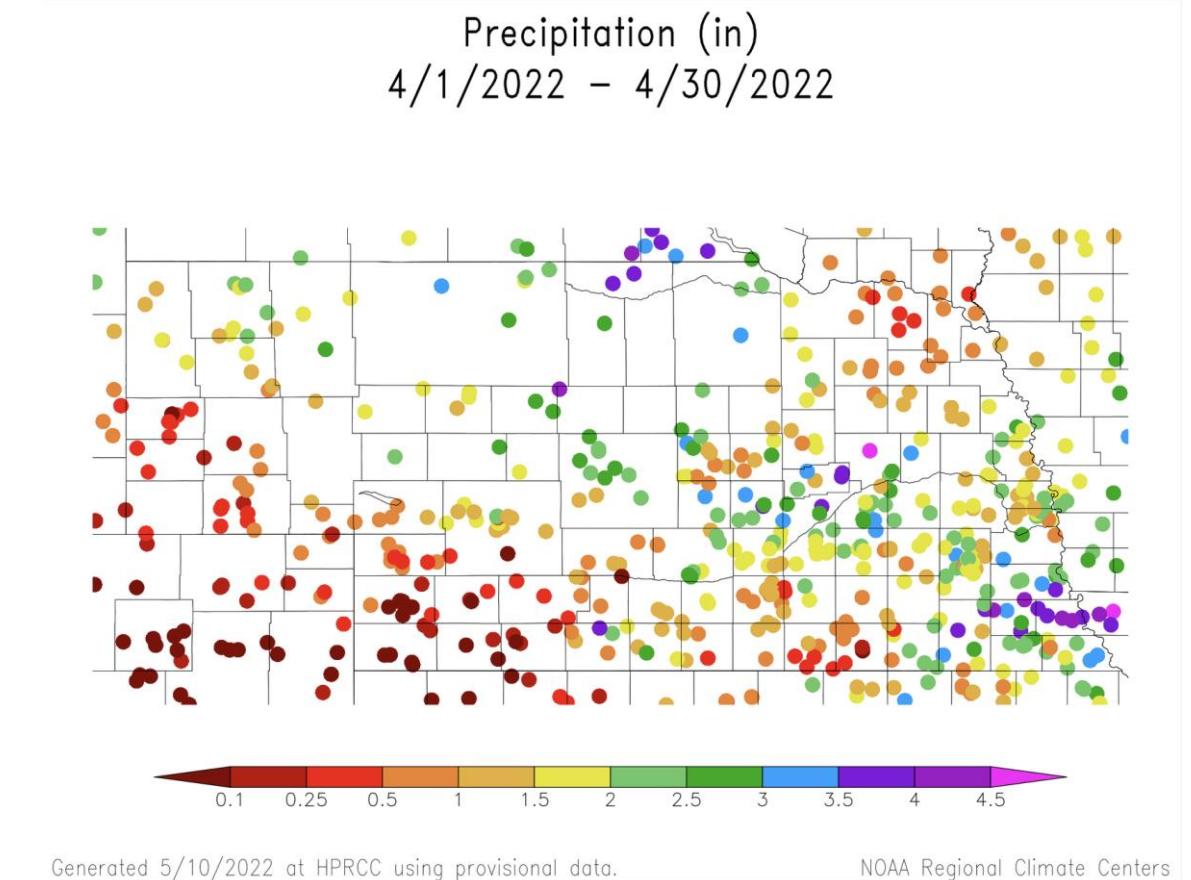
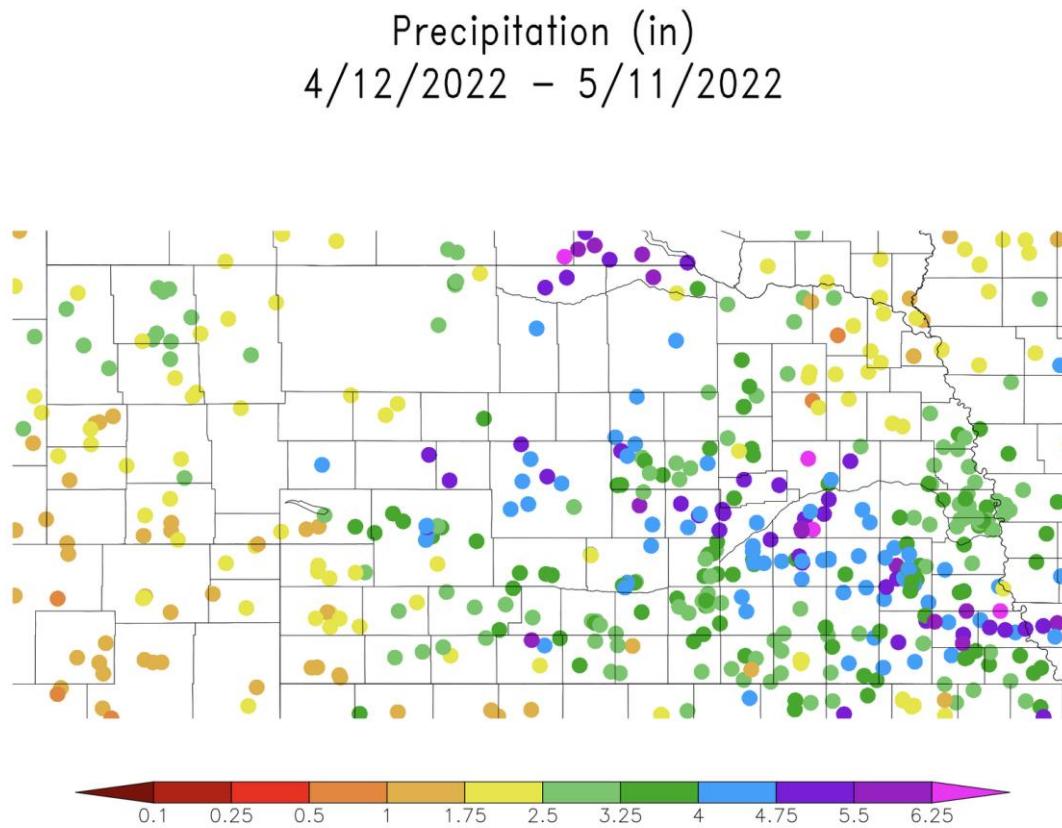
☰ ⚙ ?

**Data for LINCOLN 6.8 SE, NE (CoCoRaHS)**

Click column heading to sort ascending, click again to sort descending.

Date	Precipitation	Snowfall	Snow Depth
2022-05-01	0.11	M	M
2022-05-02	0.00	0.0	M
2022-05-03	1.13	M	M
2022-05-04	0.00	0.0	M
2022-05-05	0.03	M	M
2022-05-06	0.79	M	M
2022-05-07	0.01	M	M
2022-05-08	0.01	M	M
2022-05-09	0.11	M	M
2022-05-10	M	M	M
2022-05-11	M	M	M
2022-05-12	M	M	M

# Data Update Lag – 2 to 4 days



Generated 5/12/2022 at HPRCC using provisional data.

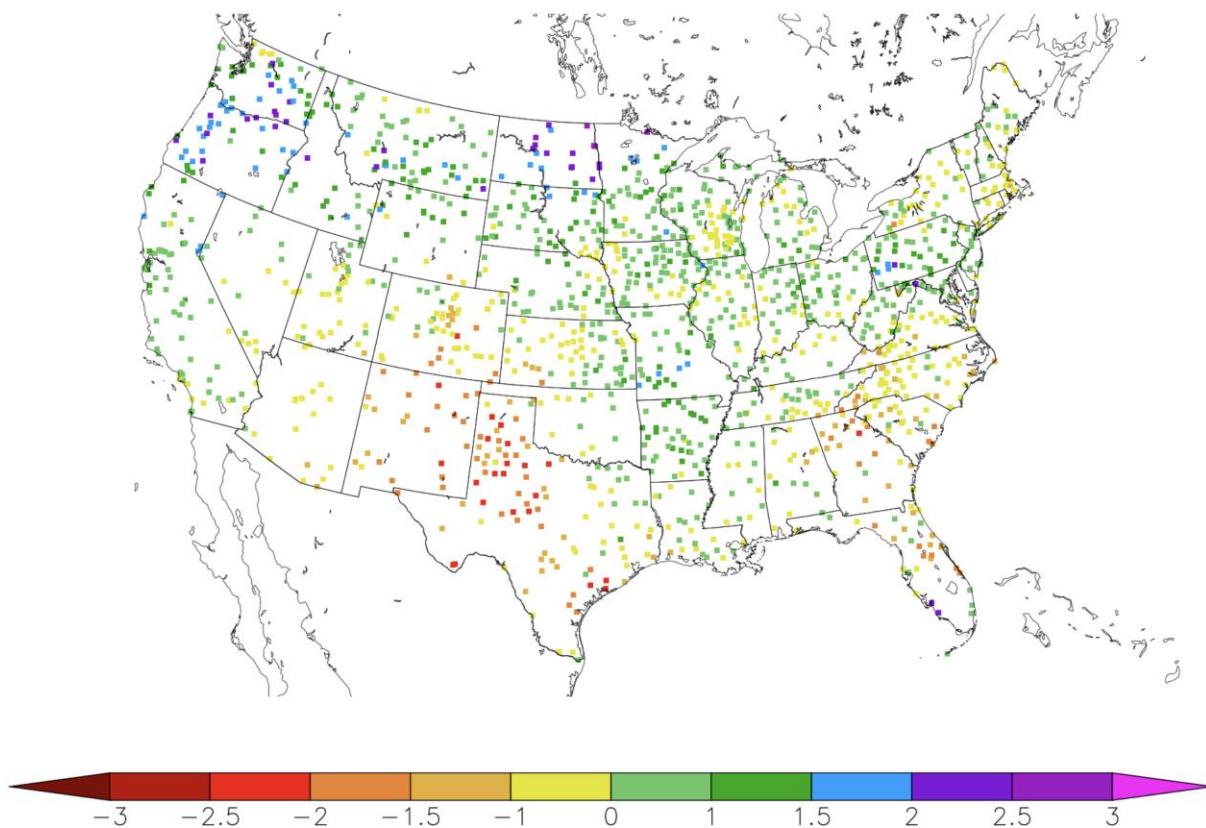
NOAA Regional Climate Centers

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30 Day SPEI  
4/11/2022 – 5/10/2022

ACIS Maps  
New product



Generated 5/11/2022 at HPRCC using provisional data.

NOAA Regional Climate Centers

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# ACIS GIS Products

<https://hprcc.unl.edu/gis/>

## Available ACIS GIS products

The entire suite of ACIS Climate Maps products is available in GIS formats. These files are produced on a daily basis for a range of time periods, including an archive for monthly, seasonal, and annual time scales. Choose from:

- Precipitation, Departure from Normal Precipitation, Percent of Normal Precipitation
- Standardized Precipitation Index (SPI)
- Temperature, Departure from Normal Temperature
- Maximum/Minimum Temperature
- Cooling Degree Days, Departure from Normal CDD
- Heating Degree Days, Departure from Normal HDD

## Access to ACIS GIS products

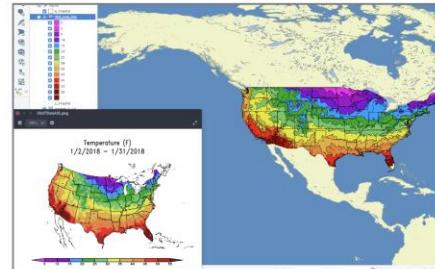
- Direct Downloads: Download individual shapefiles for over 500 different map options.
- GeoServer Access: Connect directly to shapefile data without the hassle of manually downloading the latest datasets!
- Data Archive: Download shapefiles for archived monthly, seasonal, and annual map options. (2018–present)

## Uses for ACIS GIS products

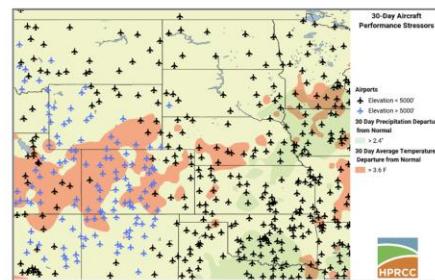
- Enhance climate and drought monitoring by overlaying multiple datasets, or adding new ones:
  - Overlay current fires with precipitation totals to assess fire risk.
  - Overlay range conditions with temperature and precipitation data to monitor for emerging drought.
  - Overlay streamflow data with percent of normal precipitation to monitor for potential flooding.

**Tutorials Available!**

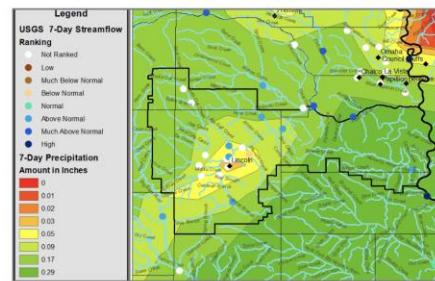
## Select Your Region



## Customize Colors



## Combine Datasets



# ACIS Maps

<https://hprcc.unl.edu/gis/index.php>

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## ACIS Web Services

### Introduction

The [Applied Climate Information System](#) (ACIS) Web Services consists of five types of calls - StnMeta, StnData, MultiStnData, GridData and General. Each of these calls is documented below. Each call has certain parameters that are required and optional parameters that let you further refine your request.

Web service calls can be made in several ways. Basic calls can be made via http requests from a web browser with the complete call specified in the url. More advanced calls require a [JSON](#) object to adequately specify the request. Such requests can be submitted to the ACIS server from most programming languages by specifying the server address and a [JSON](#) "params" object. In this document, some of the examples will take the form of a simple url, while others will provide just the "params" object. For each example, a link to a jsFiddle is provided to submit the request and display the results. jsFiddle allows you to experiment with changing the parameters and seeing how this affects the results.

The [ACIS Query Builder](#) is a useful tool for learning how the ACIS Web Services calls are constructed and how the returned results are formatted.

### I. StnMeta

The StnMeta web services call returns metadata for a station or stations meeting the specified criteria.

#### 1. Required parameters

One or more of the following keys must be specified:

Key	Description
sids	Station identifier(s) and optional id types codes. Can be any of the id types in Table 1. <b>Ambiguous identifiers require the station id type be appended to the identifier</b> , separated by a space (e.g. BUFthr 9 or BUFthr thrdx). The value associated with this key can be either a single id or an array of ids. This key cannot be combined with any of the other keys in this table.
county	County (FIPS) id. Made up of a 2-digit state and 3-digit county id. <a href="#">List of FIPS codes</a> .
climdiv	NCDC Climate Division. Consists of a 2-letter state abbreviation and 2-digit climate division id (e.g. FL01). <a href="#">Map of climate divisions</a> .
cwa	NWS County Warning Area. Three-letter <a href="#">forecast office identifiers</a> .
basin	River basin id. Eight-digit (subbasin) <a href="#">USGS Hydrologic Unit Codes</a> .
state	State postal abbreviation. Two-letter abbreviations. A <a href="#">Wikipedia map or list</a> is available for reference. The 50 states plus territories (AS, GU, MP, PR, VI), freely associated states (FM, MH, PW), and federal district (DC) are available. Note that using DC may be somewhat unreliable because many stations are listed as either MD or VA, rather than DC, in their metadata.
bbox	Bounding box. A latitude/longitude bounding box defined in decimal degrees (West, South, East, North) with negative values indicating west longitude and south latitude (e.g. -90.7, 40.5, -88.9, 41.5).

The above keys can be specified with a single value or an array of values (see Example 1.4 below). A combination of any of the keys listed above (except `sids`) can be provided to further refine your request (see Example 1.5).

Table 1. Station Id Type Codes

Code	Type	Description	Example
1	wban	5-digit WBAN id	14742

Datasets	Type Codes
Metadata	
Gridded Data	
Data Synchronization	
Web Services	<ul style="list-style-type: none"> <li>▪ Table 3. Element Codes</li> <li>◦ Results</li> <li>◦ Examples</li> </ul>
	<ul style="list-style-type: none"> <li>• II. StnData</li> <li>◦ Required parameters</li> <li>◦ Elms objects <ul style="list-style-type: none"> <li>▪ Table 4. Duration Codes</li> <li>▪ Table 5. Reduce Codes</li> <li>▪ Table 6. Reduce/Smyr Add Codes</li> <li>▪ Table 7. Add Codes</li> <li>▪ Table 8. Smyr Codes</li> </ul> </li> <li>◦ Optional parameters</li> <li>◦ Results</li> <li>◦ Examples</li> </ul>
	<ul style="list-style-type: none"> <li>• III. MultiStnData</li> <li>◦ Required parameters</li> <li>◦ Optional parameters</li> <li>◦ Results</li> <li>◦ Examples</li> </ul>
	<ul style="list-style-type: none"> <li>• IV. GridData</li> <li>◦ Required parameters</li> <li>◦ Elms objects <ul style="list-style-type: none"> <li>▪ Table 9. Grid Codes</li> <li>▪ Table 10. Area Reduction Codes</li> <li>▪ Table 11. Element Codes for Monthly/Yearly PRISM Data</li> </ul> </li> <li>◦ Optional parameters</li> <li>◦ Image object</li> <li>◦ Results</li> <li>◦ Examples</li> </ul>
	<ul style="list-style-type: none"> <li>• V. General</li> <li>◦ Required parameters <ul style="list-style-type: none"> <li>▪ Table 11. Area Information</li> </ul> </li> <li>◦ Optional parameters</li> <li>◦ Results</li> <li>◦ Examples</li> </ul>
	<ul style="list-style-type: none"> <li>• VI. Programming Examples</li> <li>◦ StnMeta Example (JavaScript)</li> <li>◦ StnData Example (JavaScript)</li> <li>◦ MultiStnData Example (Python)</li> <li>◦ GridData Examples (Python) <ul style="list-style-type: none"> <li>▪ Spatial Summary of Gridded Data</li> <li>▪ Temporal Summary of Gridded Data</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>• Updates</li> </ul>

[https://www.rcc-acis.org/docs\\_webservices.html](https://www.rcc-acis.org/docs_webservices.html)

▶ Product selection

▶ Options selection

▼ Station/Area selection

ID: **US1NELA0019** Type: **GHCN** ▾

**Go**

## Climatological Data for LINCOLN 6.8 SE, NE (CoCoRaHS) - April 2022

Click column heading to sort ascending, click again to sort descending.

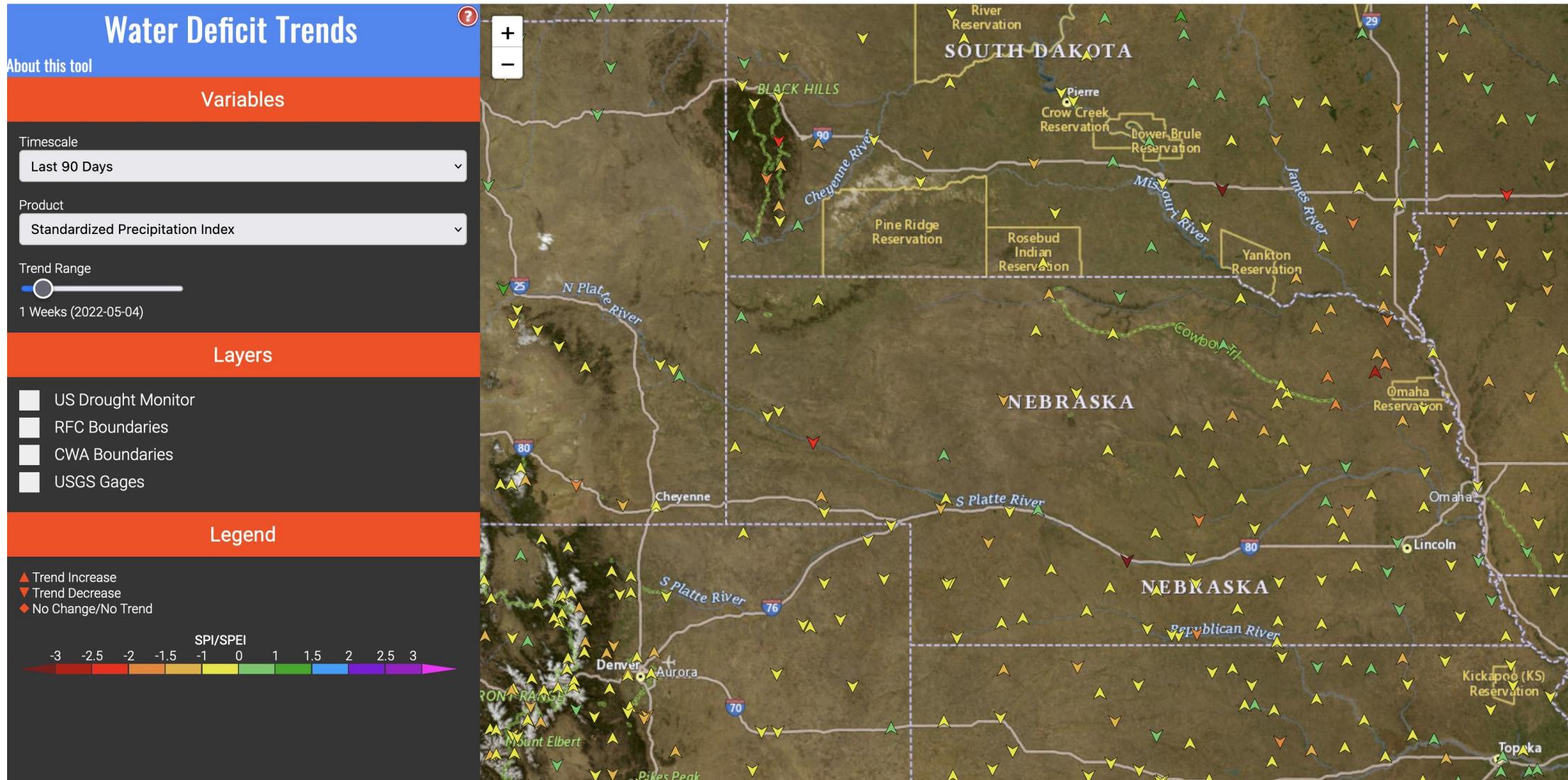
Date	Precipitation	Snowfall	Snow Depth
2022-04-01	0.00	0.0	0
2022-04-02	0.03	0.0	0
2022-04-03	0.00	0.0	0
2022-04-04	T	0.0	0
2022-04-05	0.00	0.0	0
2022-04-06	0.14	0.0	0
2022-04-07	0.01	0.0	0
2022-04-08	0.02	T	0
2022-04-09	0.00	0.0	0
2022-04-10	0.00	0.0	0
2022-04-11	0.00	0.0	0
2022-04-12	0.00	0.0	0
2022-04-13	0.34	0.0	0
2022-04-14	0.00	0.0	0
2022-04-15	0.00	0.0	0
2022-04-16	0.00	0.0	0
2022-04-17	0.00	0.0	0
2022-04-18	T	T	0
2022-04-19	0.00	0.0	0
2022-04-20	0.00	0.0	0
2022-04-21	0.10	0.0	0
2022-04-22	0.02	0.0	0
2022-04-23	0.00	0.0	0
2022-04-24	0.00	0.0	0
2022-04-25	0.00	0.0	0
2022-04-26	0.00	0.0	0
2022-04-27	0.00	0.0	0
2022-04-28	0.00	0.0	M
2022-04-29	0.56	M	M
2022-04-30	0.23	M	M
<b>Sum</b>	1.45	T	-
<b>Average</b>	-	-	0.0
<b>Normal</b>	2.76	M	-

Observations for each day cover the 24 hours ending  
at the time given below (Local Standard Time).

Precipitation : 7am

Snowfall : 7am

Snow Depth : 7am



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# Water Deficit Trends

About this tool

## Variables

Timescale

Last 90 Days

Product

Standardized Precipitation Evapotranspiration Index

Trend Range

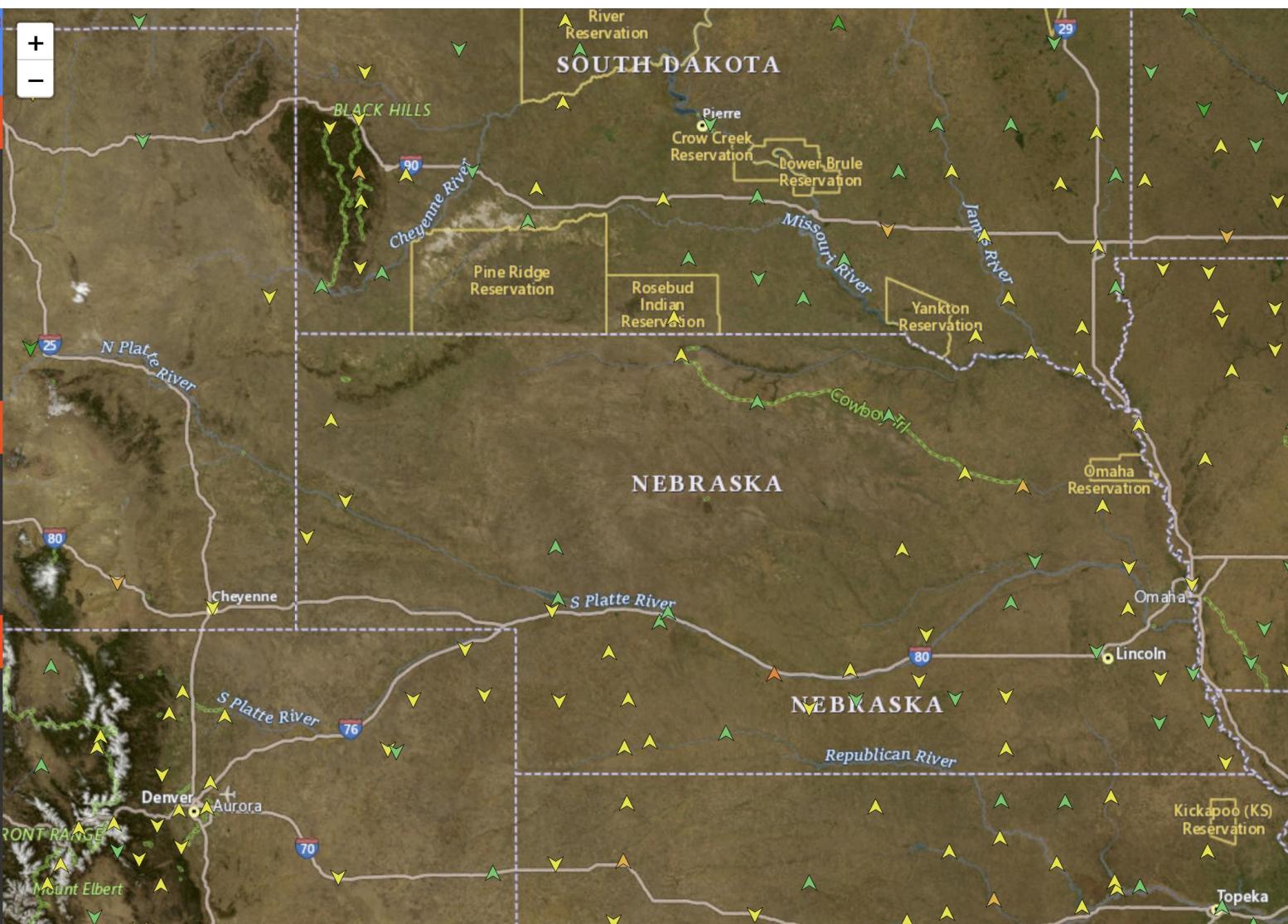
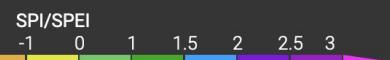
1 Weeks (2022-05-04)

## Layers

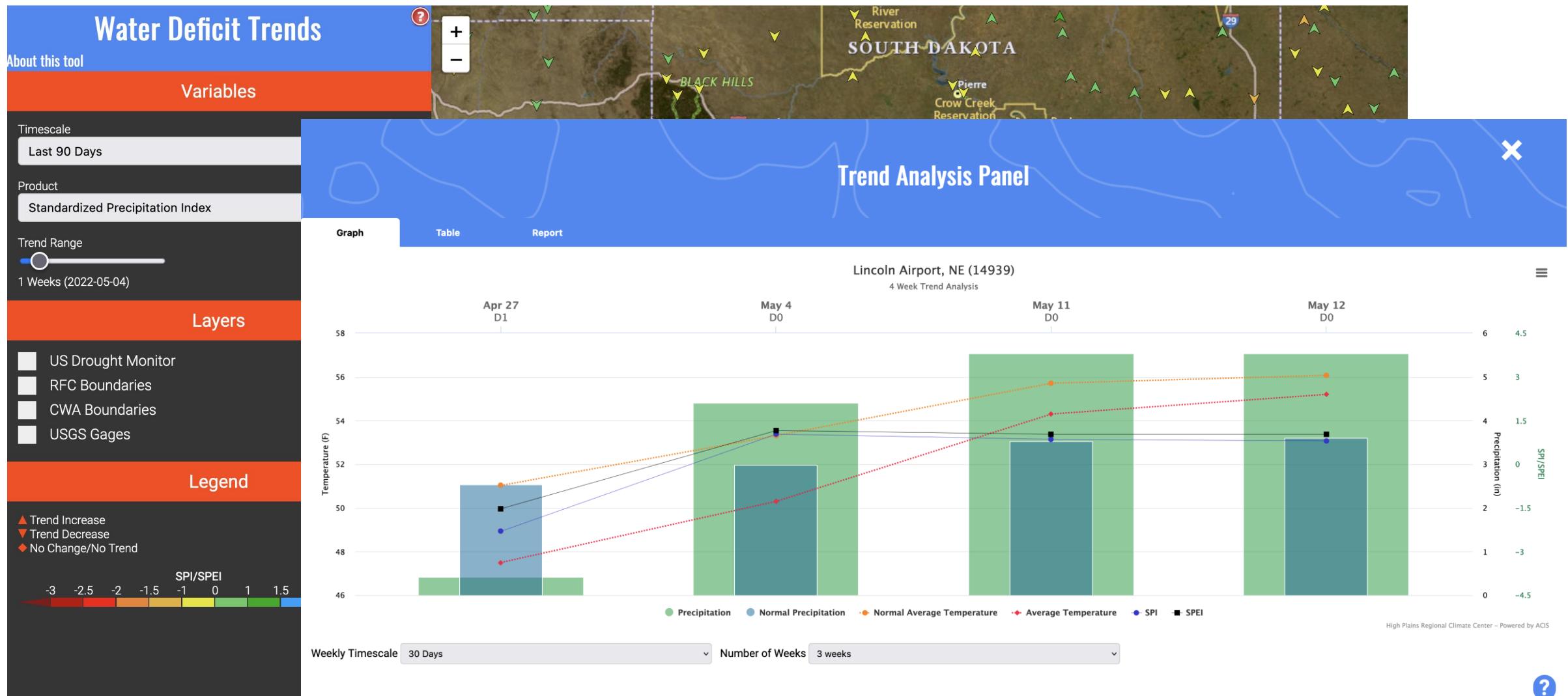
- US Drought Monitor
- RFC Boundaries
- CWA Boundaries
- USGS Gages

## Legend

- ▲ Trend Increase
- ▼ Trend Decrease
- ◆ No Change/No Trend



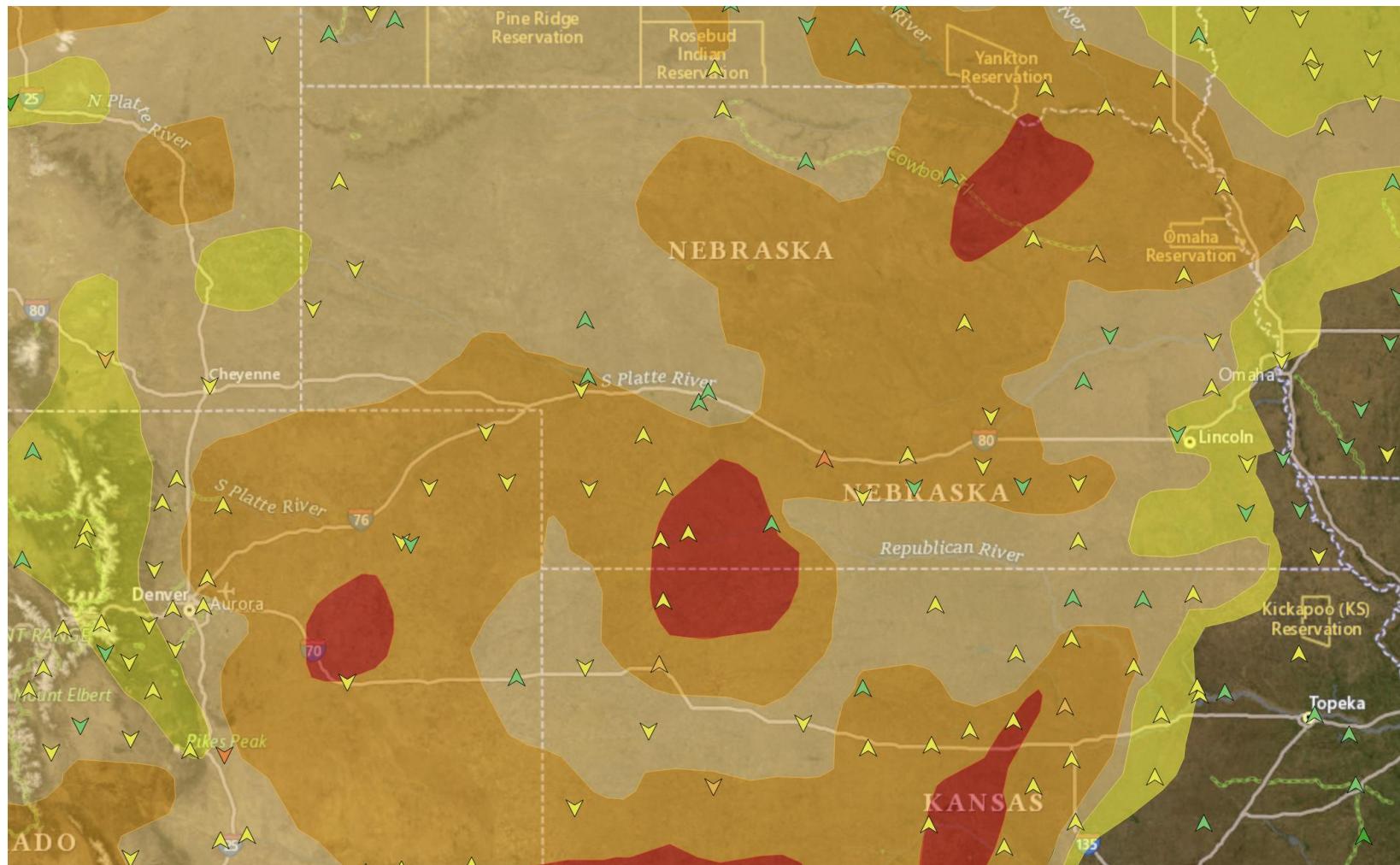
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Providing timely climate data and information to the public for cost effective decision making since 1987



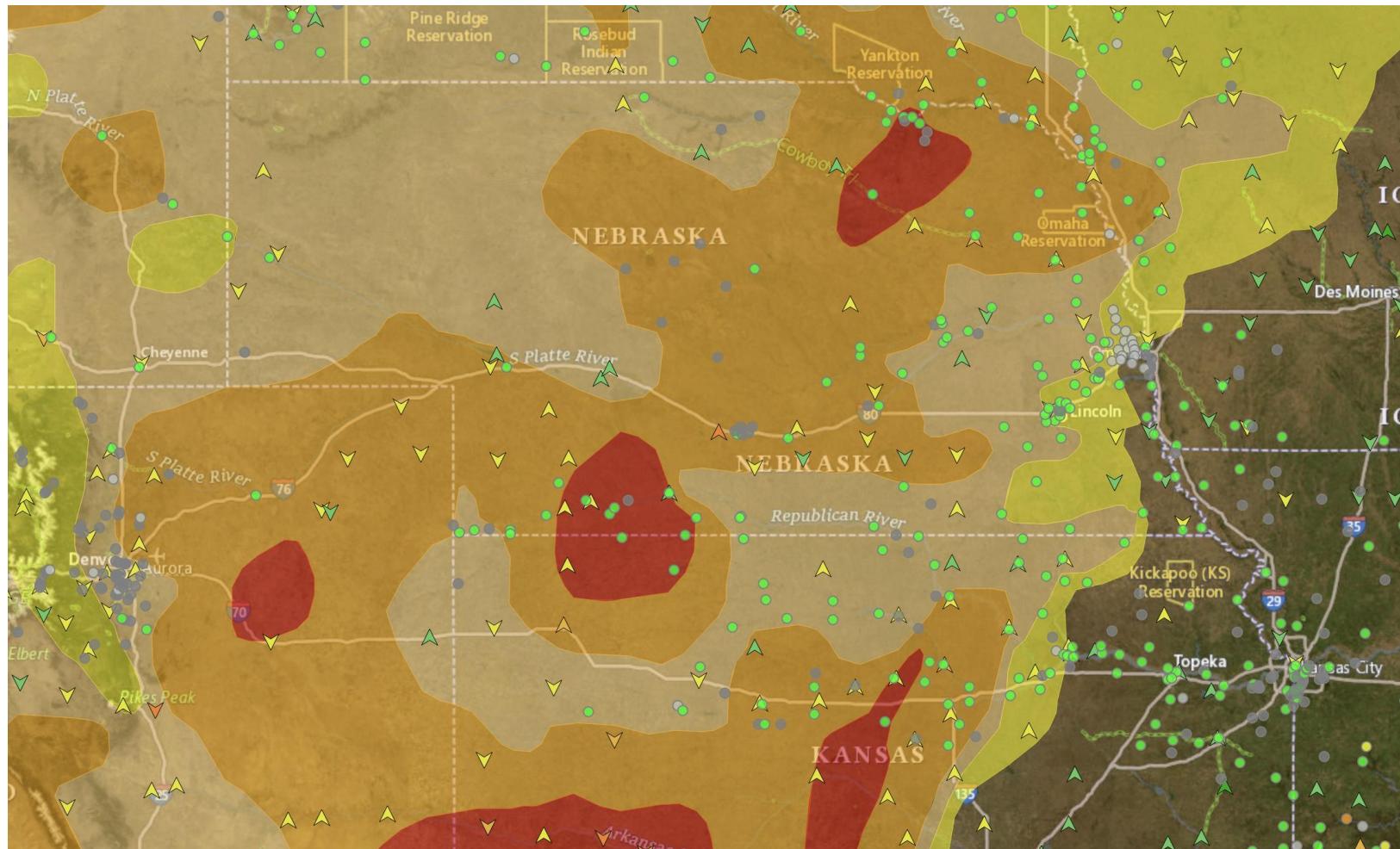
# Drought Monitor Overlay



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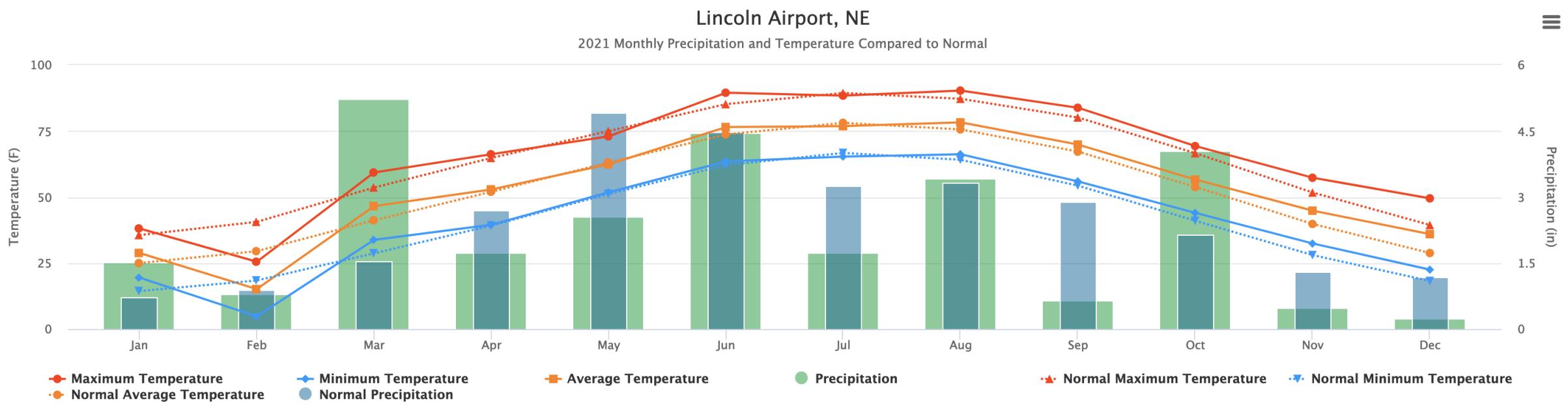
# USGS Stream flow gages



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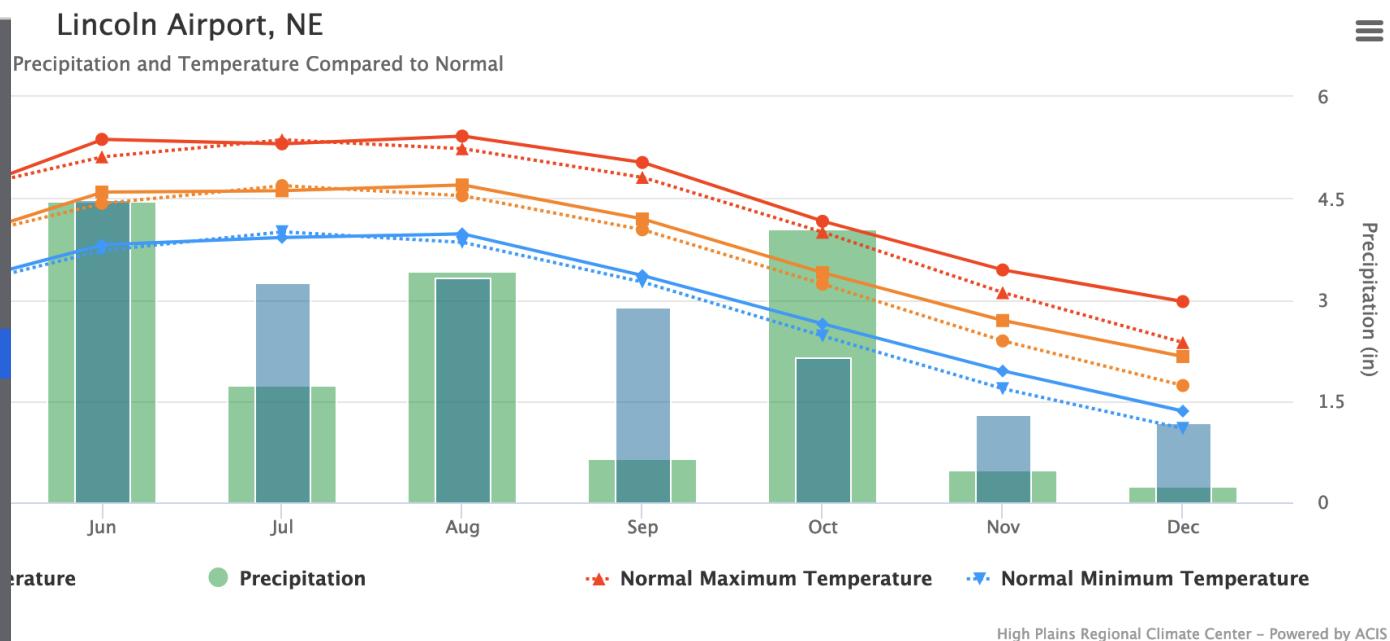
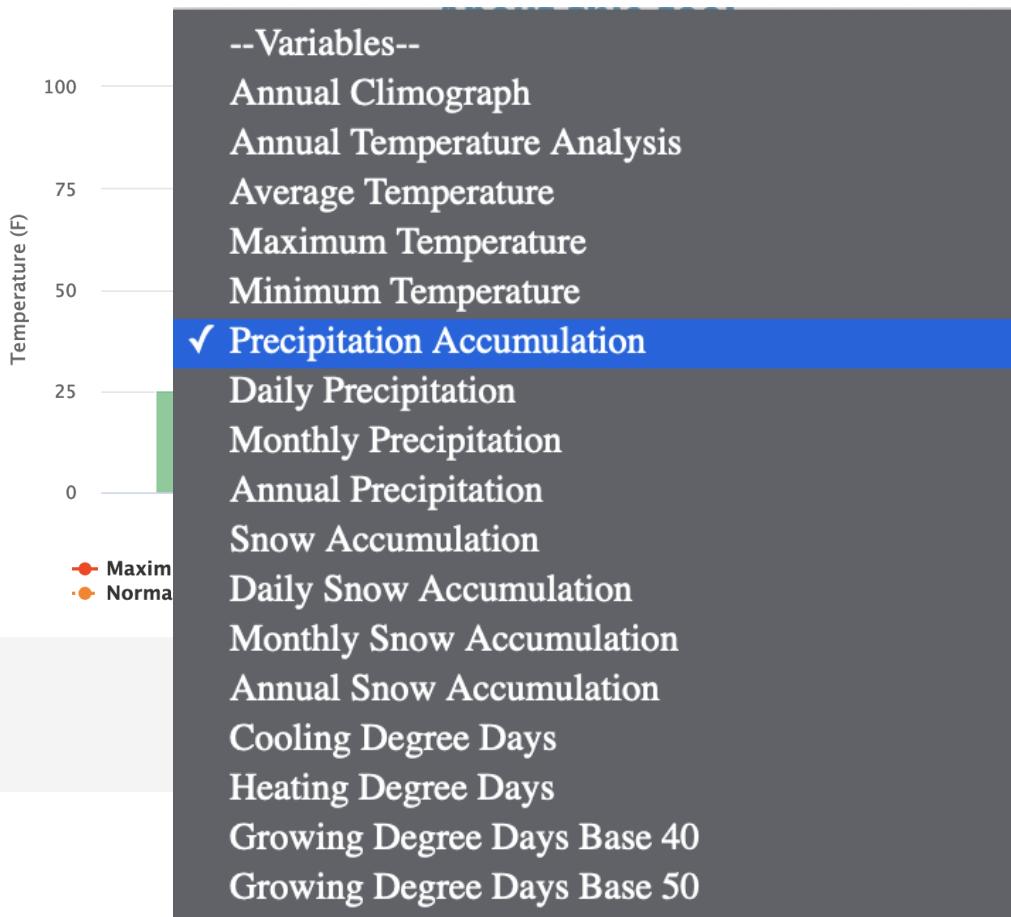
# Station Data Explorer



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# Station Data Explorer



# Station Data Explorer

## About this tool

Station ID: [\(Find a station...\)](#)

US1NELA0019

Select Variable:

Precipitation Accumulation

Enter Date Range:

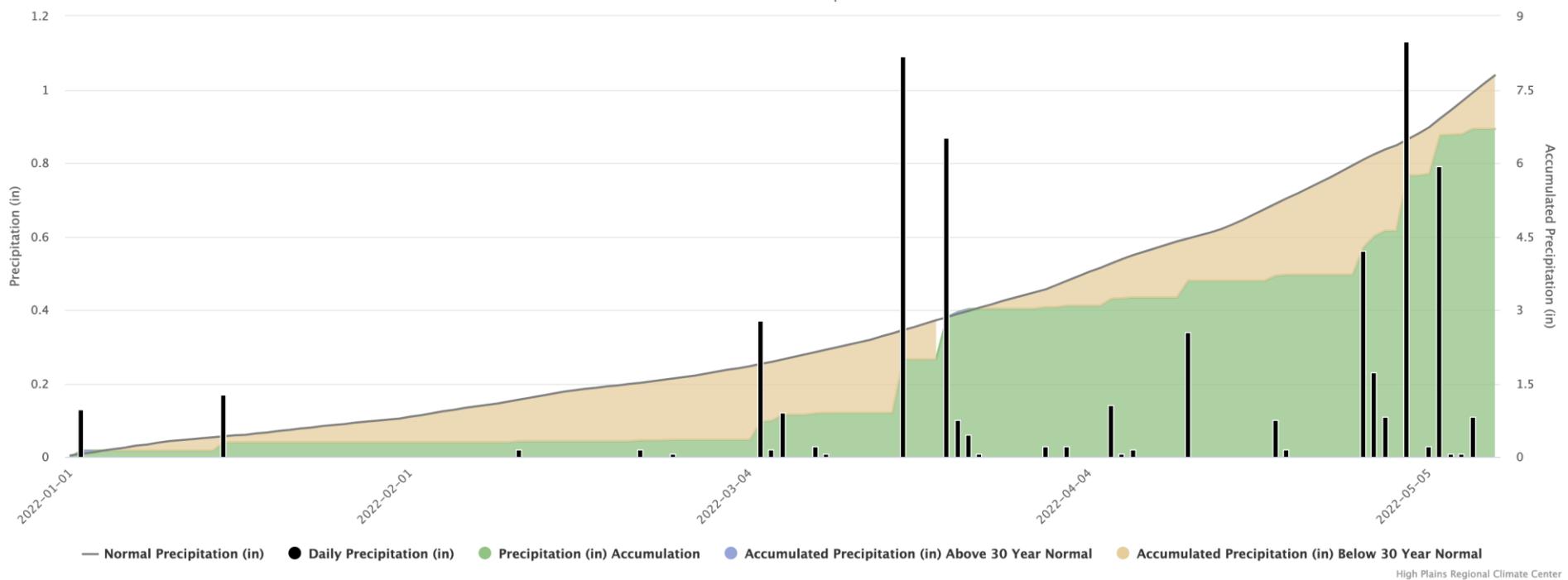
01 / 01 / 2022 to 05 / 11 / 2022

[Create Graph](#)

[Link to this graph](#)

Lincoln 6.8 Se, NE

2022 Accumulated Precipitation



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# Station Report



## Almanac for Lincoln Airport, NE on May 11, 2022

Daily Data	Observed	Normal	Record Highest	Record Lowest
Max Temperature	93.0	73.0	94.0 in 2000	52.0 in 2020
Min Temperature	63.0	49.1	66.0 in 2004	31.0 in 1981
Avg Temperature	78.0	61.1	78.0 in 2022	44.0 in 2020
Precipitation	0.00	0.16	2.96 in 2014	0.00 in 2022
Snowfall	0.0	0.0	0.0 in 2022	0.0 in 2022
Snow Depth	0.0	-	0.0 in 2022	0.0 in 2022
HDD (base 65)	0	6	21 in 2020	0 in 2022
CDD (base 65)	13	2	13 in 2022	0 in 2021
Month-to-Date Summary	Observed	Normal	Record Highest	Record Lowest
Max Temperature	68.9	71.2	80.4 in 2018	55.9 in 1954
Min Temperature	52.5	47.0	54.5 in 2007	35.5 in 1954
Avg Temperature	60.7	59.1	66.4 in 2012	45.7 in 1954
Precipitation	0.00	1.61	0.02 in 1949	0.02 in 1949
Snowfall	0.0	0.1	2.7 in 2013	0.0 in 2022
Snow Depth	0.0	-	1.2 in 2013	0.0 in 2022
HDD (base 65)	81	79	209 in 1954	11 in 1977
CDD (base 65)	37	14	56 in 2004	0 in 2013
Year-to-Date Summary	Observed	Normal	Record Highest	Record Lowest
Max Temperature	52.2	50.6	58.1 in 2012	39.7 in 1978
Min Temperature	24.2	27.1	31.8 in 2012	18.8 in 1978
Avg Temperature	38.2	38.8	44.9 in 2012	29.2 in 1978
Precipitation	7.85	7.47	13.34 in 1973	2.75 in 1989
Snowfall	4.3	18.3	47.2 in 1948	3.9 in 1954
Snow Depth	2.0	-	18.0 in 2010	1.0 in 1954
HDD (base 65)	3534	3455	4661 in 1978	999 in
CDD (base 65)	59	27	101 in 2012	0 in 1995



## Almanac for Lincoln 6.8 Se, NE on May 6, 2022

Daily Data	Observed	Normal	Record Highest	Record Lowest
Max Temperature	M	M	-999.0 in	999.0 in
Min Temperature	M	M	-999.0 in	999.0 in
Avg Temperature	M	M	-999.0 in	999.0 in
Precipitation	0.79	0.18	1.38 in 2019	0.00 in 2017
Snowfall	M	M	0.0 in 2016	0.0 in 2016
Snow Depth	M	-	0.0 in 2015	0.0 in 2015
HDD (base 65)	M	M	-999 in	999 in
CDD (base 65)	M	M	-999 in	999 in
Month-to-Date Summary	Observed	Normal	Record Highest	Record Lowest
Max Temperature	M	M	-999.0 in	999.0 in
Min Temperature	M	M	-999.0 in	999.0 in
Avg Temperature	M	M	-999.0 in	999.0 in
Precipitation	0.11	0.73	0.00 in 2015	0.00 in 2015
Snowfall	0.0	M	0.0 in 2022	0.0 in 2022
Snow Depth	M	-	0.0 in 2016	0.0 in 2016
HDD (base 65)	M	M	-999 in	999 in
CDD (base 65)	M	M	-999 in	999 in
Year-to-Date Summary	Observed	Normal	Record Highest	Record Lowest
Max Temperature	M	M	-999.0 in	999.0 in
Min Temperature	M	M	-999.0 in	999.0 in
Avg Temperature	M	M	-999.0 in	999.0 in
Precipitation	6.57	6.91	10.71 in 2021	4.30 in 2018
Snowfall	6.0	M	38.0 in 2019	6.0 in 2022
Snow Depth	2.0	-	15.0 in 2021	2.0 in 2022
HDD (base 65)	M	M	-999 in	999 in
CDD (base 65)	M	M	-999 in	999 in

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# Station Report

## About this tool

Station ID: (Find a station...)

254795

Select Report Type:

Growing Degree Day Report

Select Crop (GDD Threshold):

- Alfalfa 40/77 F
- Corn 50/86 F
- Dry Beans 50/86 F
- Grass 40/77 F
- Potatoes 45/97 F
- Sorghum 50/86 F
- Soybeans 50/86 F
- Sugarbeets 50/86 F
- Sunflower 50/99 F
- Wheat 40/77 F

[Link to this report](#)



## Growing Degree Day Report for Lincoln Airport, NE

Start Date: April 1, 2022  
Upper/Lower Temperature Limits: 77/40 F  
Crop: Alfalfa

Last Freeze Date: Apr 25, 2022

Week	GDD	Est Growth Stage*
2022-04-01	67	Stage 1
2022-04-07	154	Stage 2
2022-04-14	215.5	
2022-04-21	354	Stage 4
2022-04-28	437	Maturity
2022-05-05	595.5	

First Freeze Date:

Generated by the High Plains Regional Climate Center on 12-May-2022 using data from the Applied Climate Information System. The data in this report is preliminary in nature, and is subject to change as described in the High Plains Regional Climate Center's disclaimer for online services.

\* Estimated growth stages are based on the GDD accumulations presented. They are an estimate and should not be interpreted as an accurate indication of growth

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REGIONAL CLIMATE CENTER

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## County Level Data

[Copy](#) [CSV](#) [Excel](#) [PDF](#) [Print](#)

Search:

### Select State

Colorado

### Select Product

- Average Temperature
- Maximum Temperature
- Minimum Temperature
- Precipitation

County	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Yuma County	29.23	31.47	40.84	48.35	58.64	69.89	75.53	73.22	64.67
Weld County	28.10	29.97	38.84	45.76	55.29	65.89	72.41	70.17	61.60
Washington County	28.51	30.71	40.03	47.11	57.09	68.19	74.36	72.16	63.75
Teller County	24.84	26.21	33.37	39.03	48.00	57.86	62.72	60.71	53.99
Summit County	16.98	19.48	27.02	34.04	42.84	52.00	57.52	55.58	48.82
Sedgwick County	27.78	30.21	39.48	47.42	57.54	68.68	74.85	72.65	63.72
San Miguel County	25.42	29.43	37.07	43.66	52.66	62.48	68.15	66.08	58.63
San Juan County	19.38	21.65	28.70	35.57	44.64	53.53	58.93	56.80	50.46
Saguache County	19.26	23.58	32.80	40.17	48.79	58.01	62.98	60.95	54.16
Routt County	18.29	21.75	30.84	38.76	47.70	56.71	63.43	61.64	53.71

Showing 1 to 10 of 64 entries

Previous 1 2 3 4 

# City Data Explorer - Historical Climate Data and Trends

Explore historical climate thresholds for a city.

Select State:

-- Select State --

Select Location:

-- Select Location --

Select Variable:

--Variables--

Select Timeframe:

Spring (Mar, Apr, May)

Enter Year Range ?  
[ ] to [ ]

Trend Line

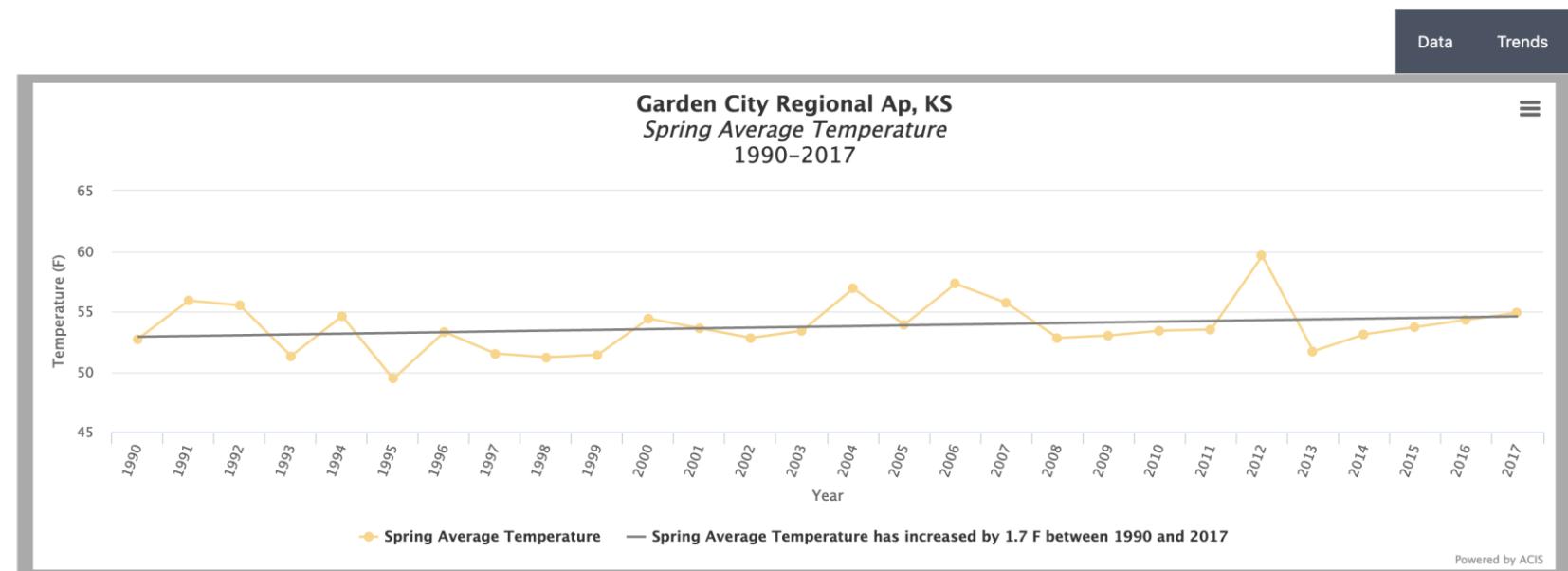
Compare to another location

**Get Data and Trends!**

Powered by   
NOAA Regional Climate Centers

Climate Thresholds ?  
--Category--

How do I use this tool?



<https://hprcc.unl.edu/climate4cities/>

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View climate projections for a city.

Select State:

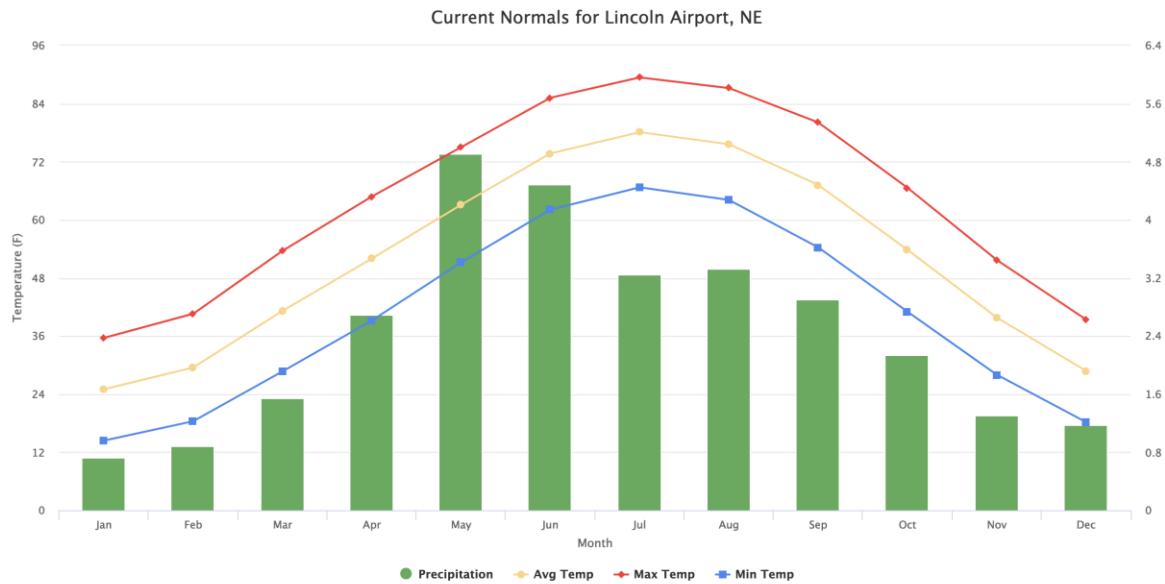
Select Location:

Projection Scenarios:

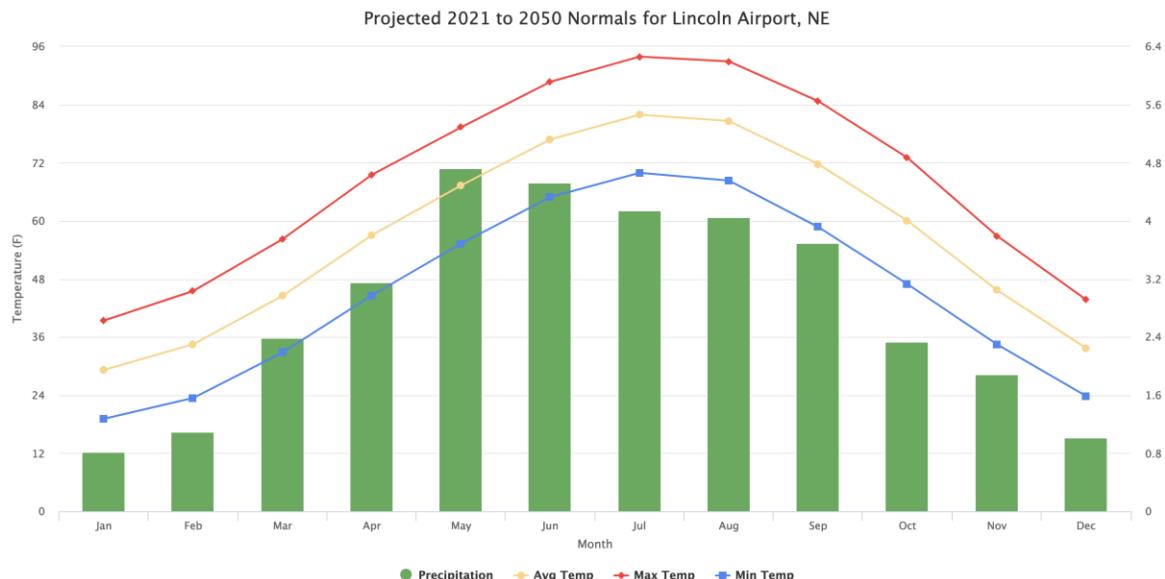
30-Year Interval:

Powered by   
NOAA Regional Climate Centers

[How do I use this tool?](#)



Generated by the High Plains Regional Climate Center



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# City Data Explorer - Sister City Tool

Find a "sister city" with current normals similar to your projected normals.

Select State:

-- Select State --

Select Location:

-- Select Location --

Select Variable:

--Variables--

Select Timeframe:

Spring

Projection Scenarios:

Lower Emissions (RCP 4.5)  
 Higher Emissions (RCP 8.5)

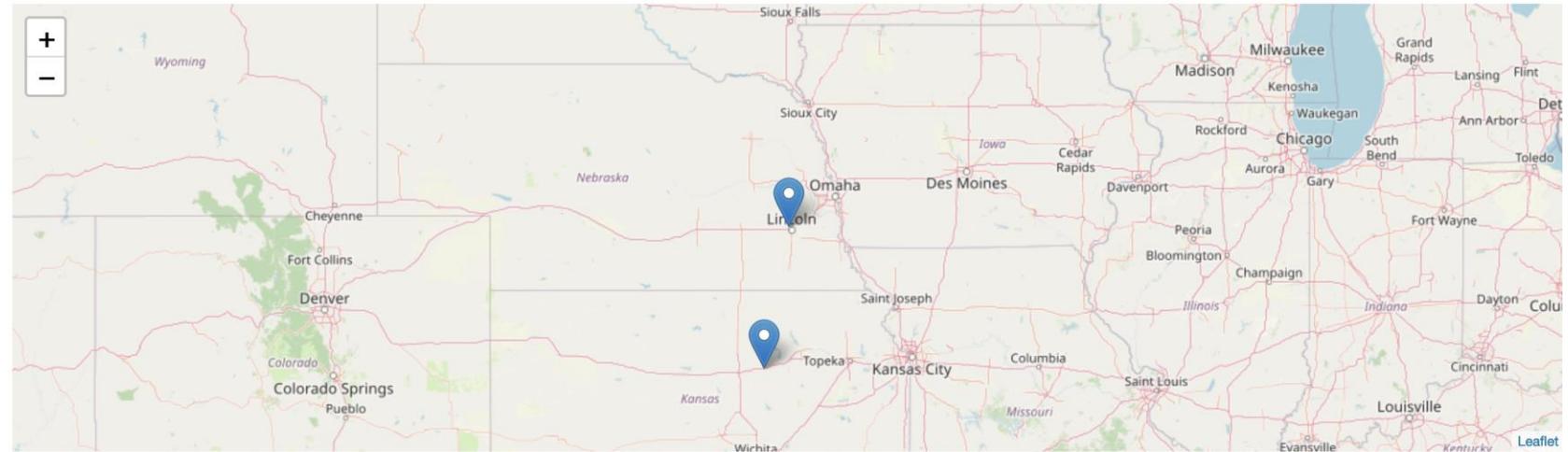
2021-2050

**Find Sister City!**

Powered by   
NOAA Regional Climate Centers

[How do I use this tool?](#)

By 2050 Lincoln Airport's spring average temperature will be similar to Abilene, KS



[Lincoln Airport, NE](#)

Current Normal: 52.1F

Projected Normal (2021-2050) : 56.3F

[Abilene, KS](#)

Current Normal: 56.1F

<https://hprcc.unl.edu/climate4cities/>

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# NELA0019



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PUBLIC INFORMATION STATEMENT  
NATIONAL WEATHER SERVICE OMAHA/VALLEY NE  
121 PM CDT WED MAY 11 2016...UPDATED

...NWS DAMAGE SURVEY FOR MAY 09, 2016 TORNADO EVENT...

...LINCOLN TORNADO #1 IN LANCASTER COUNTY...

EF SCALE RATING: EF-1  
ESTIMATED PEAK WIND: 100 MPH  
PATH LENGTH /STATUTE/: 0.59 MILES  
PATH WIDTH /MAXIMUM/: 100 YARDS  
FATALITIES: 0  
INJURIES: 0

START DATE: MAY 9, 2016  
START TIME: TO BE DETERMINED  
START LOCATION: 40.7365, -96.6106

END DATE: MAY 9, 2016  
END TIME: TO BE DETERMINED  
END LOCATION: 40.7364, -96.6208

MOST OF THE DAMAGE WAS LOCATED SOUTH OF PINE LAKE.



## Expensive hail pad

Penetrated asphalt shingles and  $\frac{3}{4}$ " particle board  
Did not penetrate insulation and ceiling drywall



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Questions?

Thanks!

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