

Kansas Weather and Climate

Crop Insurance Conference

October 21, 2020

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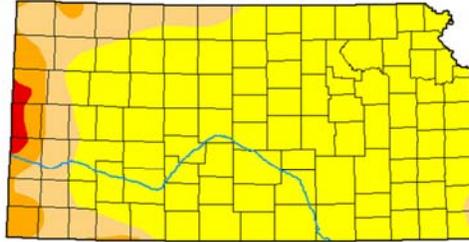
Weather vs. Climate

- Climate is the weather trend over long periods of time
 - Decades
 - Centuries
- Weather is the day to day state of the atmosphere
 - Short term
 - Immediate impact

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**U.S. Drought Monitor
Kansas**

October 13, 2020
(Released Thursday, Oct. 15, 2020)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	0.00	80.28	13.91	4.85	0.96	0.00
Last Week 10-06-2020	22.08	60.71	12.73	3.52	0.96	0.00
3 Months Ago 07-14-2020	35.49	31.54	21.97	8.10	2.90	0.00
Start of Calendar Year 12-31-2019	67.13	22.98	5.67	4.22	0.00	0.00
Start of Water Year 09-29-2020	22.82	60.25	12.50	3.74	0.68	0.00
One Year Ago 10-15-2019	70.40	21.12	6.91	1.57	0.00	0.00

Author:
Curtis Riganti
National Drought Mitigation Center



droughtmonitor.unl.edu

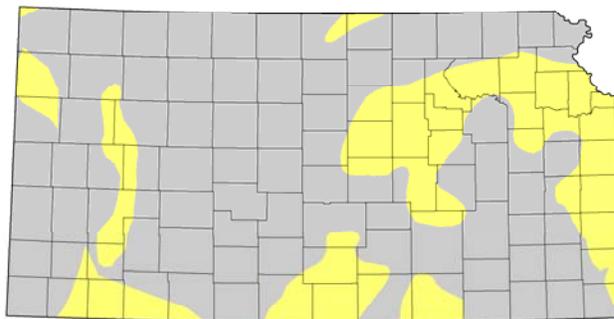
Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

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U.S. Drought Monitor Class Change - Kansas
1 Week



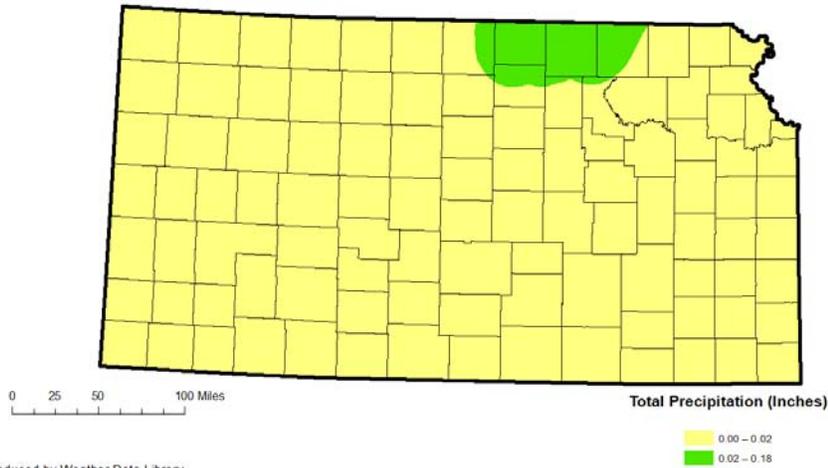
Dark Brown	5 Class Degradation
Brown	4 Class Degradation
Orange	3 Class Degradation
Light Orange	2 Class Degradation
Yellow	1 Class Degradation
Grey	No Change
Light Green	1 Class Improvement
Green	2 Class Improvement
Dark Green	3 Class Improvement
Teal	4 Class Improvement
Dark Teal	5 Class Improvement

October 13, 2020
compared to
October 6, 2020

droughtmonitor.unl.edu

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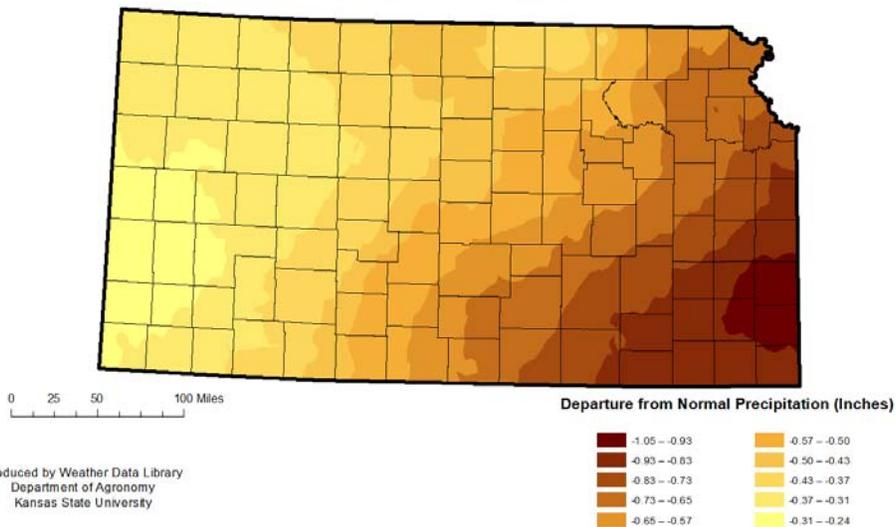
Weekly Precipitation Summary
October 7 - October 13, 2020



Produced by Weather Data Library
Department of Agronomy
Kansas State University

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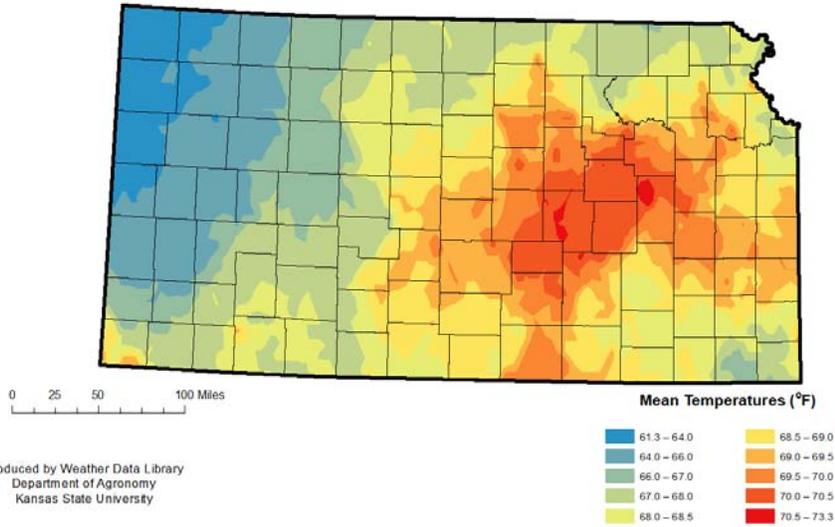
Departure from Normal Weekly Precipitation
October 7 - October 13, 2020



Produced by Weather Data Library
Department of Agronomy
Kansas State University

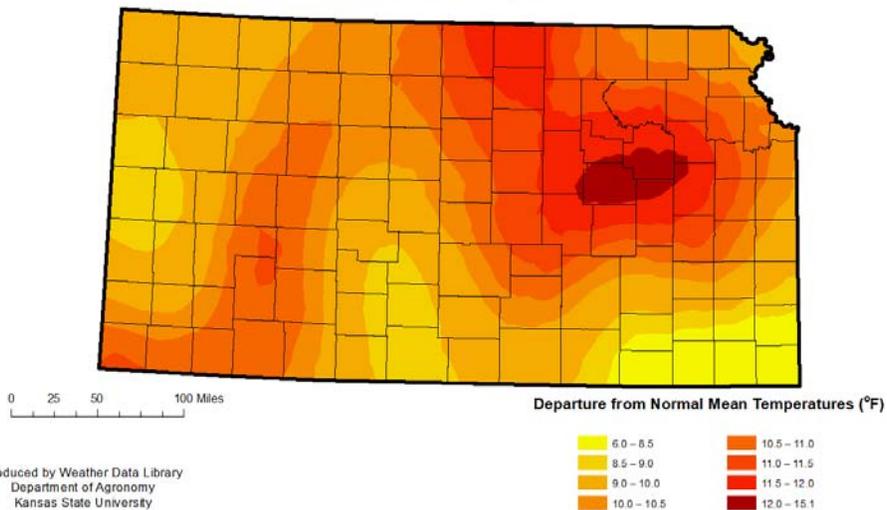
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Weekly Mean Temperatures
October 7 - October 13, 2020

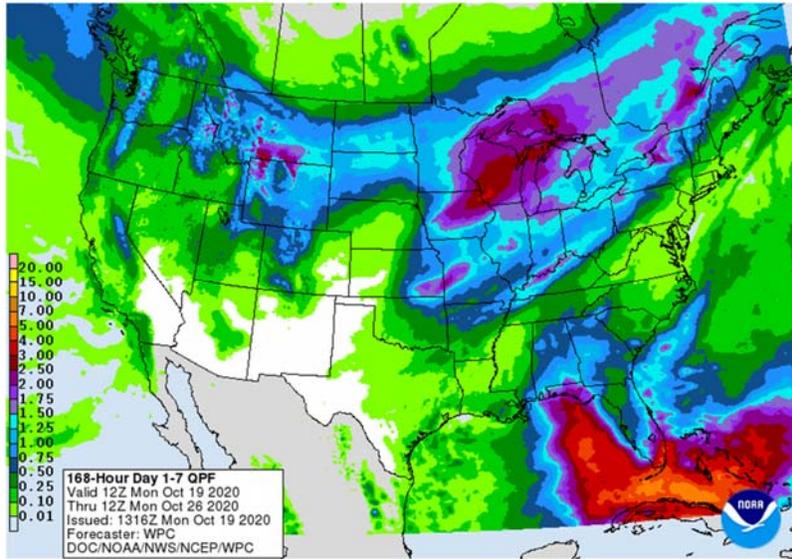


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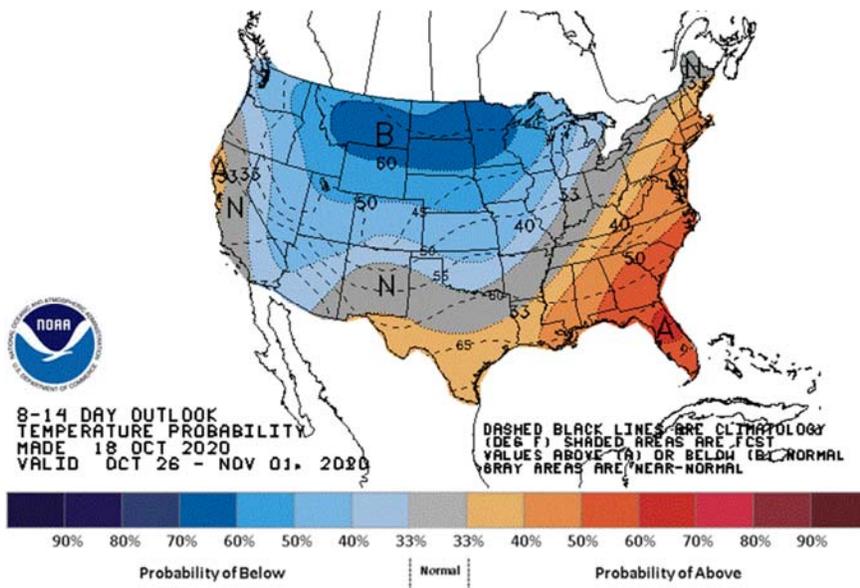
Departure from Normal Weekly Mean Temperatures
October 7 - October 13, 2020



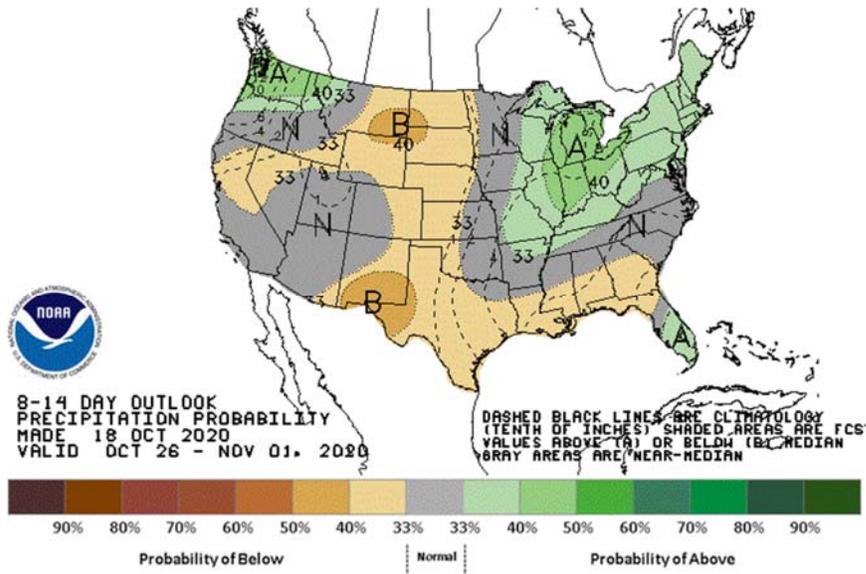
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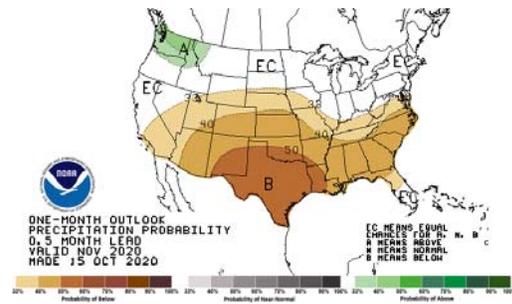
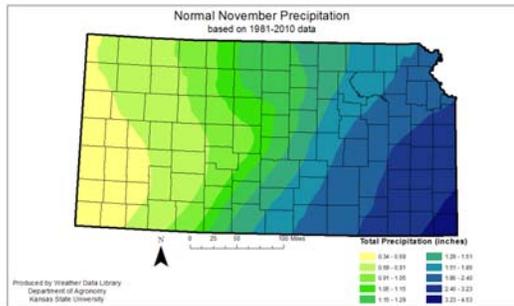
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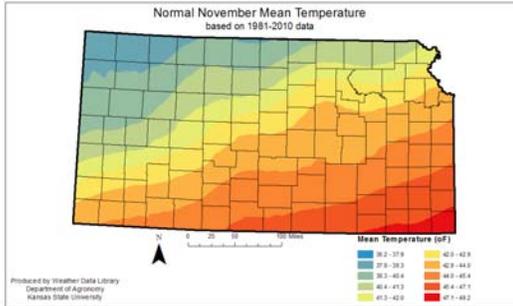
Normal

Outlook

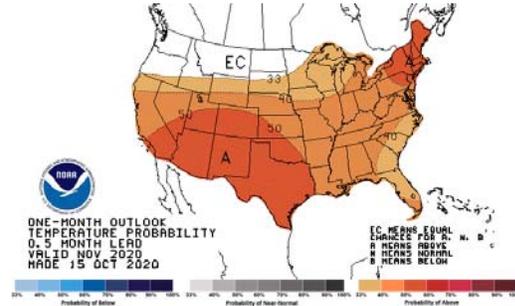


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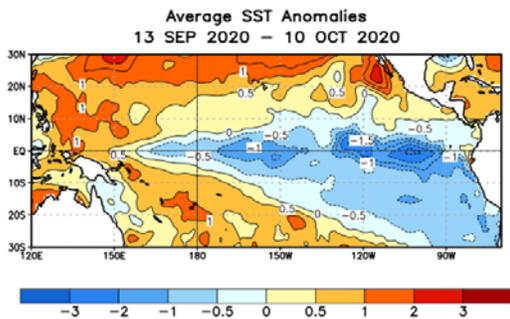
Normal



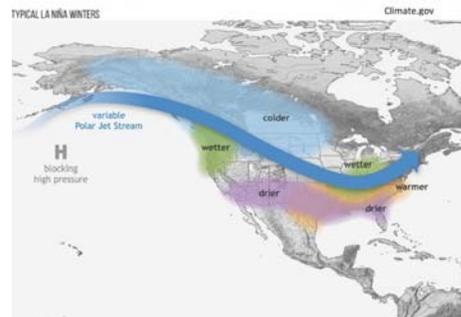
Outlook



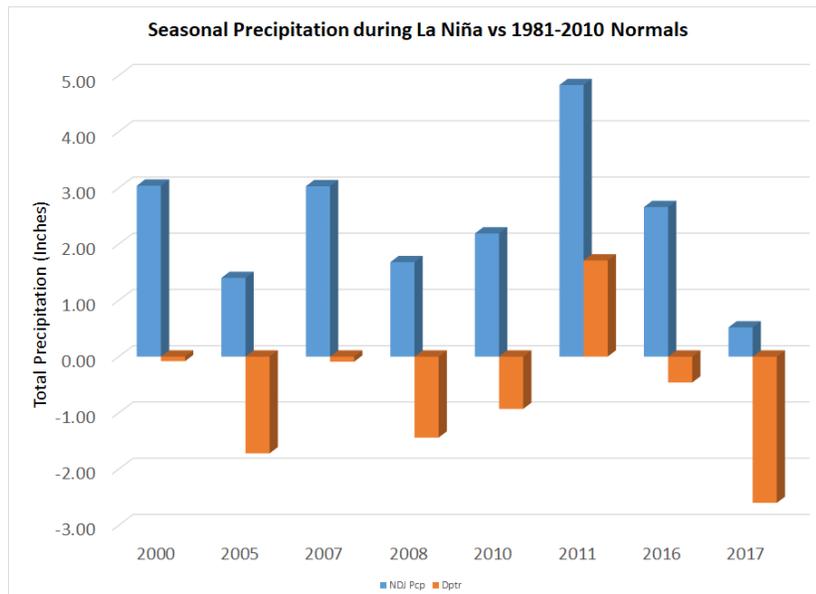
Current Conditions



Typical Impacts

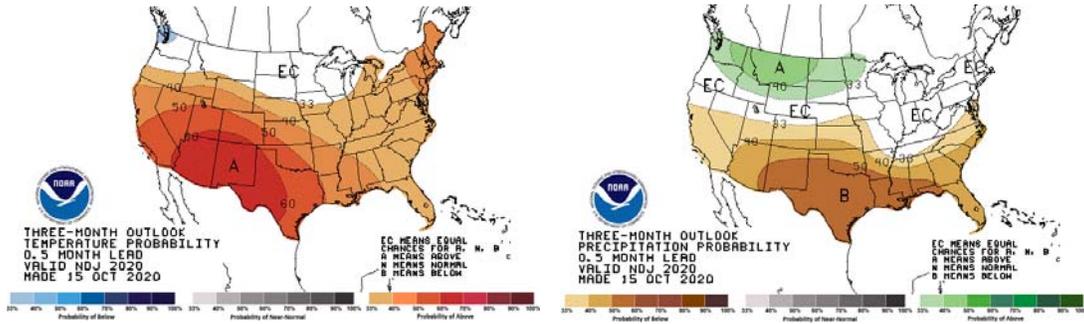


Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2000	-1.7	-1.4	-1.1	-0.8	-0.7	-0.6	-0.6	-0.5	-0.5	-0.6	-0.7	-0.7
2001	-0.7	-0.5	-0.4	-0.3	-0.3	-0.1	-0.1	-0.1	-0.2	-0.3	-0.3	-0.3
2002	-0.1	0.0	0.1	0.2	0.4	0.7	0.8	0.9	1.0	1.2	1.3	1.1
2003	0.9	0.6	0.4	0.0	-0.3	-0.2	0.1	0.2	0.3	0.3	0.4	0.4
2004	0.4	0.3	0.2	0.2	0.2	0.3	0.5	0.6	0.7	0.7	0.7	0.7
2005	0.6	0.6	0.4	0.4	0.3	0.1	-0.1	-0.1	-0.1	-0.3	-0.6	-0.8
2006	-0.8	-0.7	-0.5	-0.3	0.0	0.0	0.1	0.3	0.5	0.7	0.9	0.9
2007	0.7	0.3	0.0	-0.2	-0.3	-0.4	-0.5	-0.8	-1.1	-1.4	-1.5	-1.6
2008	-1.6	-1.4	-1.2	-0.9	-0.8	-0.5	-0.4	-0.3	-0.3	-0.4	-0.6	-0.7
2009	-0.8	-0.7	-0.5	-0.2	0.1	0.4	0.5	0.5	0.7	1.0	1.3	1.6
2010	1.5	1.3	0.9	0.4	-0.1	-0.6	-1.0	-1.4	-1.6	-1.7	-1.7	-1.6
2011	-1.4	-1.1	-0.8	-0.6	-0.5	-0.4	-0.5	-0.7	-0.9	-1.1	-1.1	-1.0
2012	-0.8	-0.6	-0.5	-0.4	-0.2	0.1	0.3	0.3	0.3	0.2	0.0	-0.2
2013	-0.4	-0.3	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.3	-0.2	-0.2	-0.3
2014	-0.4	-0.4	-0.2	0.1	0.3	0.2	0.1	0.0	0.2	0.4	0.6	0.7
2015	0.6	0.6	0.6	0.8	1.0	1.2	1.5	1.8	2.1	2.4	2.5	2.6
2016	2.5	2.2	1.7	1.0	0.5	0.0	-0.3	-0.6	-0.7	-0.7	-0.7	-0.6
2017	-0.3	-0.1	0.1	0.3	0.4	0.4	0.2	-0.1	-0.4	-0.7	-0.9	-1.0
2018	-0.9	-0.8	-0.6	-0.4	-0.1	0.1	0.1	0.2	0.4	0.7	0.9	0.8
2019	0.8	0.8	0.8	0.7	0.6	0.5	0.3	0.1	0.1	0.3	0.5	0.5
2020	0.5	0.6	0.5	0.3	0.0	-0.2	-0.4	-0.6				



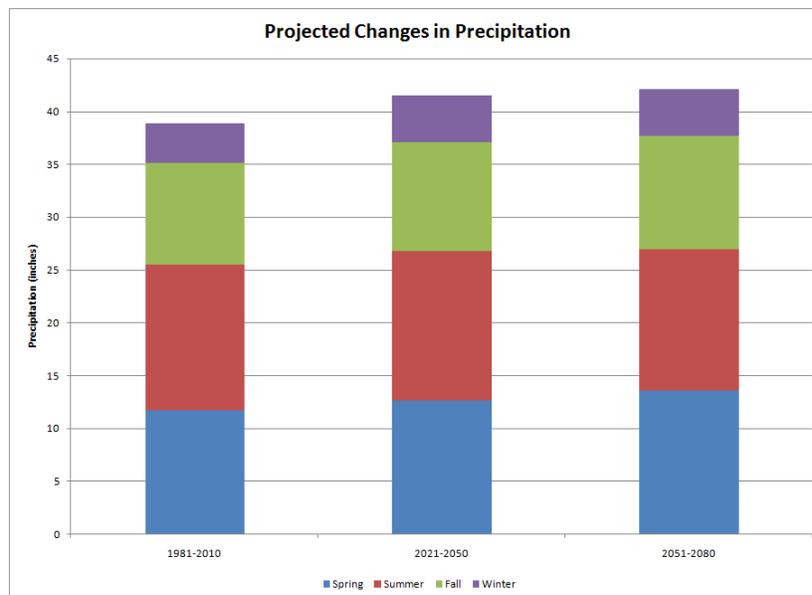
Temperature

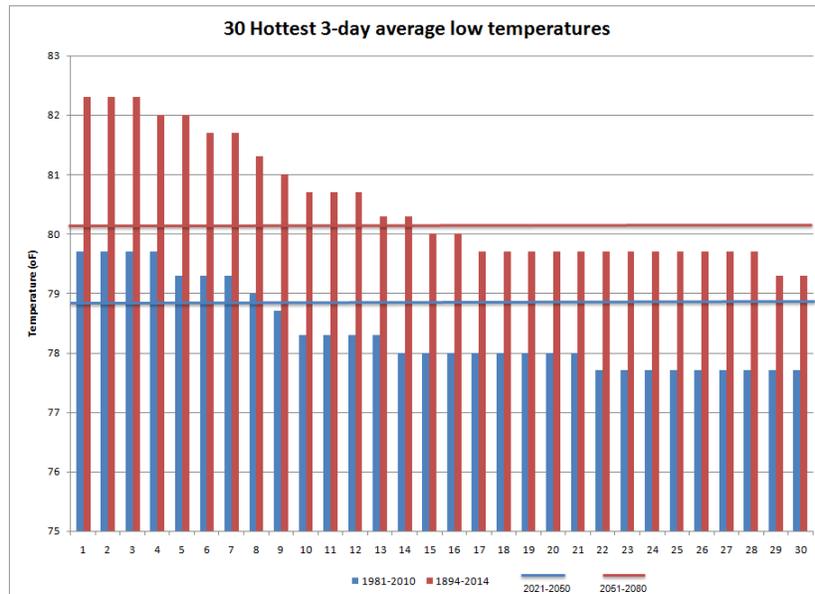
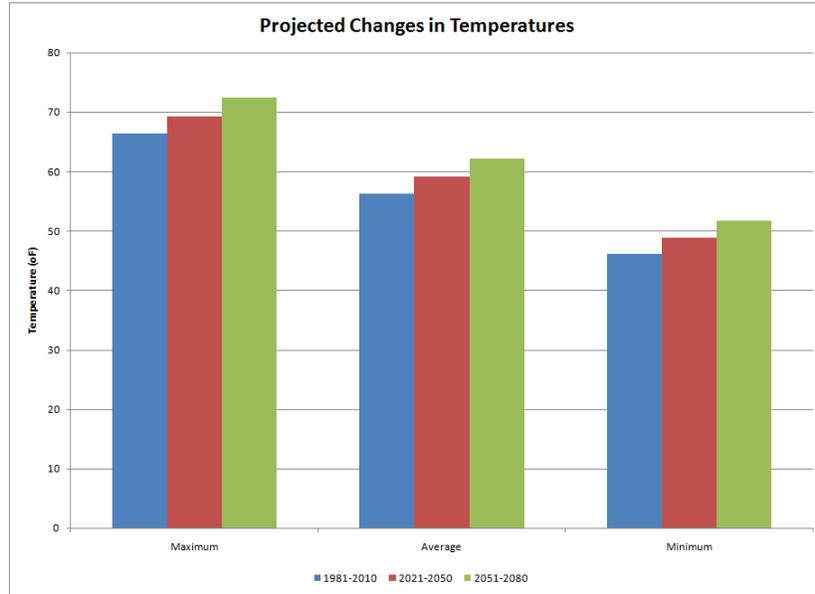
Precipitation

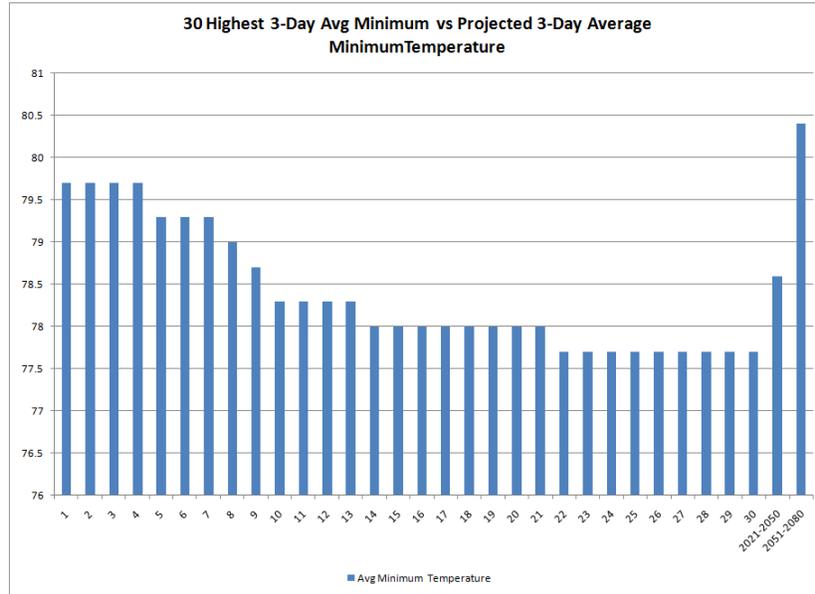


Seasonal Precipitation

- Computer models can be used to reconstruct past climates, project future climate scenarios, and guide decisions.

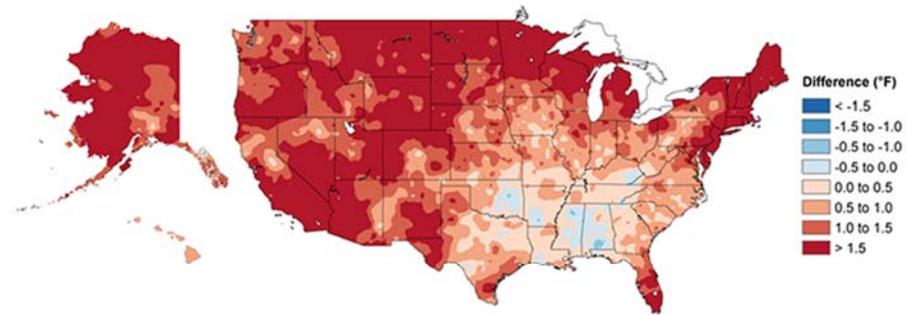




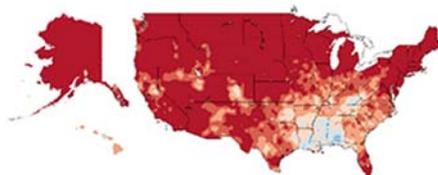


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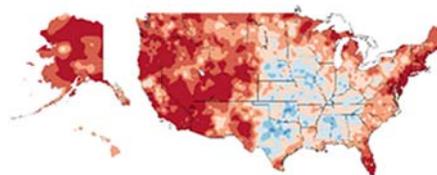
Annual Temperature



Winter Temperature



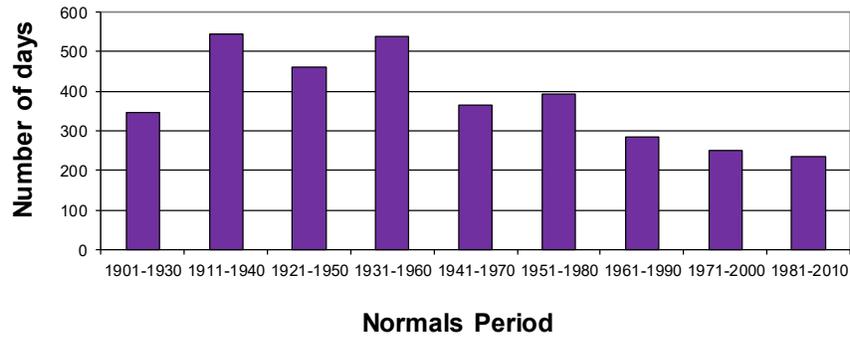
Summer Temperature



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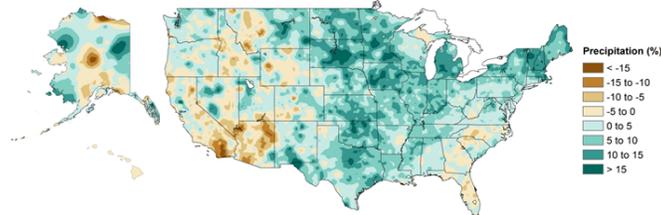
Fourth National Climate Assessment, 2018

McPherson Days > 100 oF



Change 1986-2016 from 1901-1960

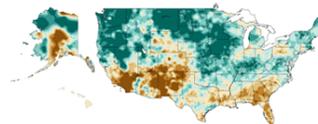
Annual Precipitation



Winter Precipitation



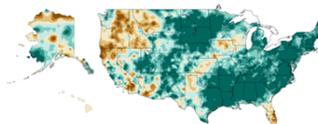
Spring Precipitation

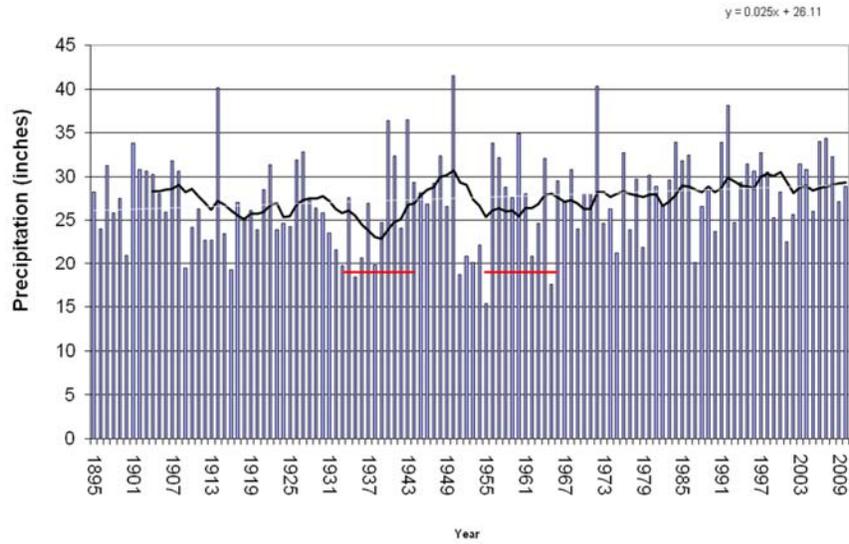


Summer Precipitation

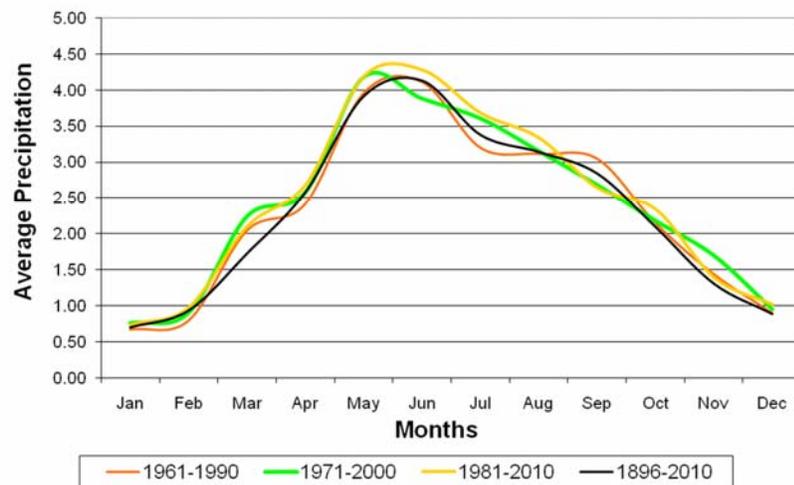


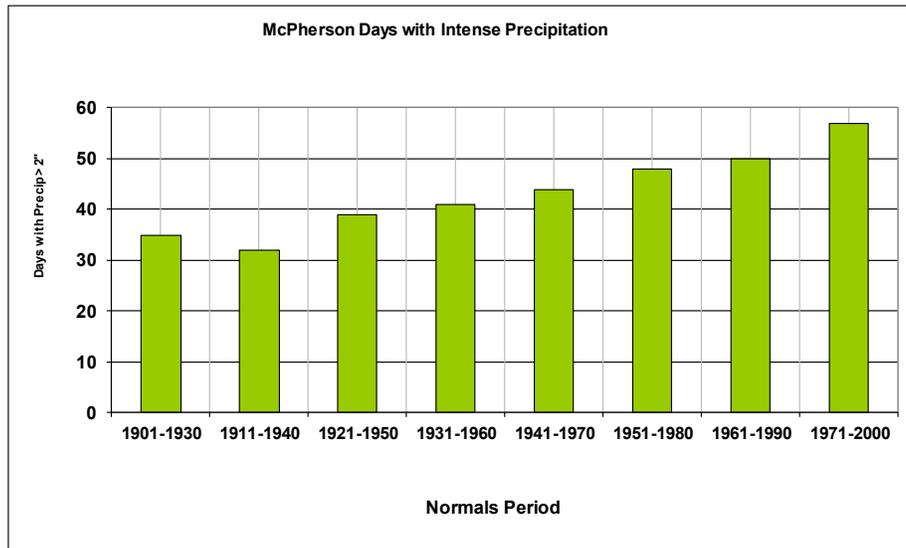
Fall Precipitation





Kansas 30 Year Rainfall Pattern





- Change will happen
 - Variability is part of Great Plains Climate
- Human Activities influence Environment
 - Greenhouse Gas Emissions
 - Resource utilization
 - Land use changes
- Risks are two-fold
 - Form that change takes
 - Ability to adapt to change

Cooperative Observer



Noaa.gov

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CoCoRaHS



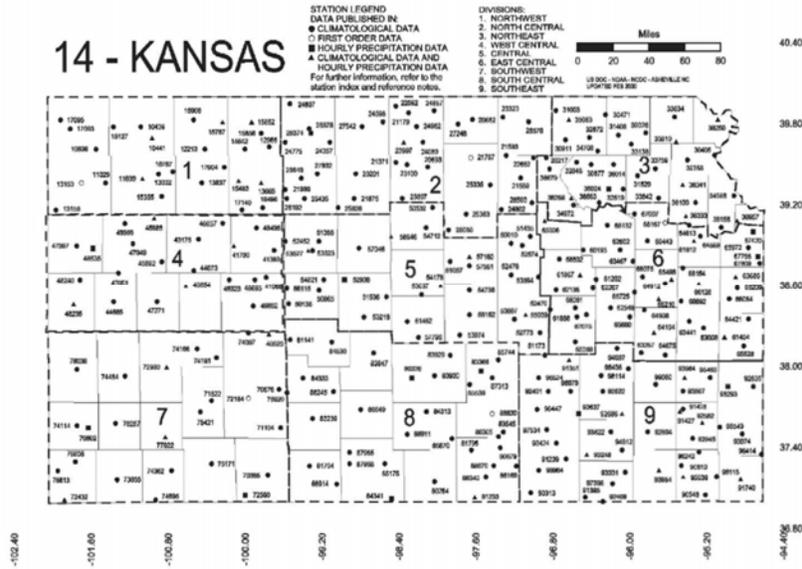
Cocorahs.org

Automated Weather Stations

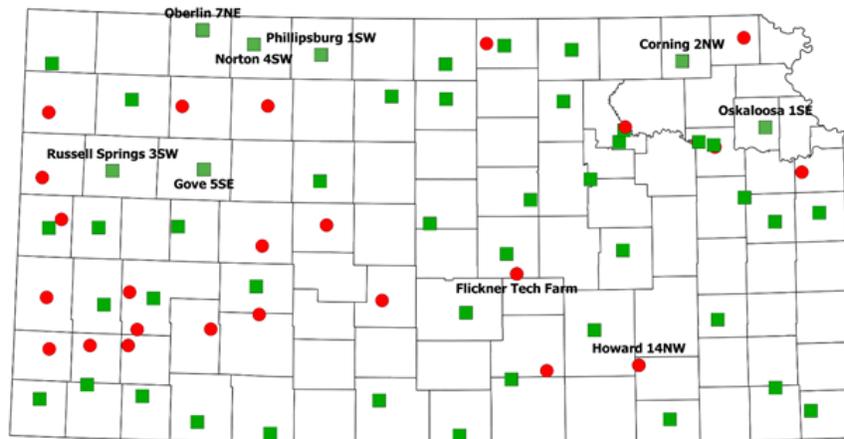


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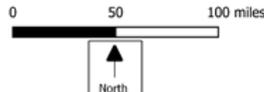
14 - KANSAS



2020 K-State Kansas Mesonet Additions (10/15/20)

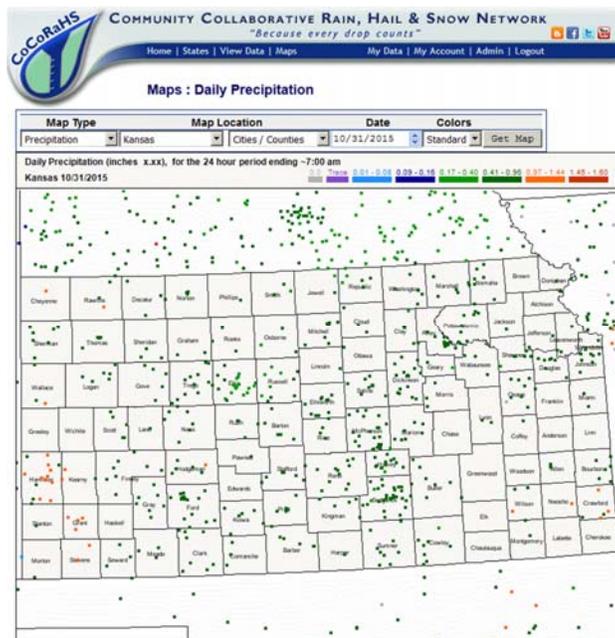


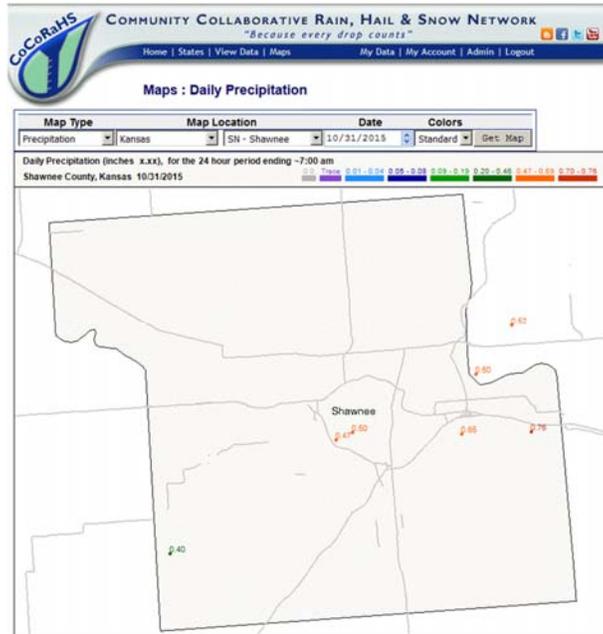
Station Type
 ● 10 ft. Tripod
 ■ 30 ft. Tower



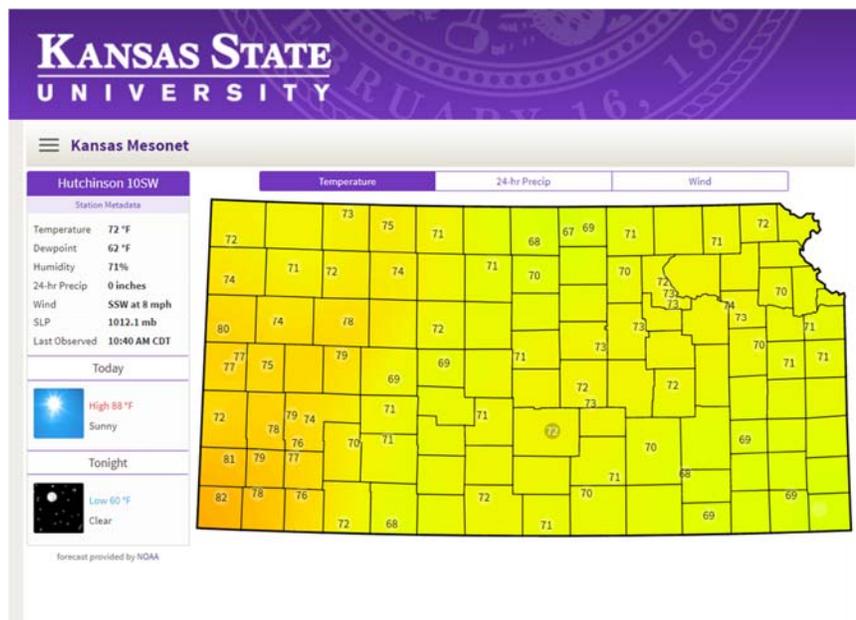
Kansas State University Weather Data Library (WDL) Weather Station Mesonet
 As of: 10/15/2020
 Created by: Christopher Redmond - WDL Manager
 christopherredmond@k-state.edu
 785-477-6204
 mesonet.k-state.edu

Precipitation can vary from neighborhood to neighborhood.





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NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOME FORECAST PAST WEATHER SAFETY INFORMATION EDUCATION NEWS SEARCH ABOUT

Local forecast by City, ST or ZIP code
 [Location Help](#)

Heavy rainfall and severe weather threat diminishes over the Southeast overnight, winter storm to impact the West Tuesday
 The heavy rainfall and severe weather threat over the Southeast U.S will diminish. A strong cold front will impact the Western U.S overnight through Tuesday. Winter Storm Warnings, Watches, and Advisories are in effect. Portions of the Sierra's and Rockies could see one foot of snow and travel impacts. [Read More...](#)

ACTIVE ALERTS FORECAST MAPS RADAR RIVERS, LAKES, RAINFALL AIR QUALITY SATELLITE PAST WEATHER

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Created: 11/03/15 at 14:06 UTC

Click on the map above for detailed alerts or [Public Alerts in XML/CAP v1.1 and ATOM Formats](#)

- Winter Storm Warning
- High Wind Warning
- Storm Warning
- Red Flag Warning
- Winter Weather Advisory
- Small Craft Advisory
- Small Craft Advisory
- Winter Storm Watch
- Flood Watch
- Iceberg Watch

National Weather Service
Climate Prediction Center

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NCEP Quarterly Newsletter

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Monitoring and Data
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 • NOAA's 40th Climate Diagnostics and Prediction Workshop
 • El Niño Advisory Issued
 • New CPC Web Page Design

Click on product title to go to product page. Move cursor over product parameter name to display the graphic or click to enlarge. Links to these same products are also available below.

0-10 Day Outlook (Interactive Display)		One Month Outlook	
Temperature	Precipitation	Temperature	Precipitation
0-14 Day Outlook (Interactive Display)		Three Month Outlook	
Temperature	Precipitation	Temperature	Precipitation
Experimental Week 3-4		U.S. Hazards Outlook	
Temperature	Precipitation	3-7 Day	8-14 Day 8-14 Day Temps

U.S. Drought Information
 Monitor Monthly Outlook Seasonal Outlook

U.S. Drought Information
 Monitor Monthly Outlook Seasonal Outlook

- National Weather Service
 - <http://weather.gov>
- Climate Prediction Center
 - <http://www.cpc.ncep.noaa.gov/>
- Community Collaborative Rain Hail Snow (CoCoRaHS)
 - <http://cocorahs.org/>
- Kansas Mesonet
 - <http://mesonet.k-state.edu/>

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Contact Information

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- URL: mesonet.k-state.edu
- URL: climate.k-state.edu

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