

A scenic photograph of a snowy mountain landscape. The foreground is covered in snow with several evergreen trees. In the background, more trees and a bright sun in a blue sky are visible. The sun is positioned in the upper right quadrant, creating a lens flare effect.

Colorado's **AMAZING** Climate

**Nolan Doesken, State Climatologist
Colorado Climate Center
Atmospheric Science Department
Colorado State University
Fort Collins, CO**

**Graphics assistance provided by Wendy Ryan,
Zach Schwalbe and Henry Reges**

**Denver Museum of Nature and Science
April 11, 2012**

First -- A short background

- In 1973 the federal government abolished the “State Climatologist” program nationwide leaving Colorado without
- Later that same year, Colorado re-established the State Climate program with support through the Colorado Agricultural Experiment Station at Colorado State University.

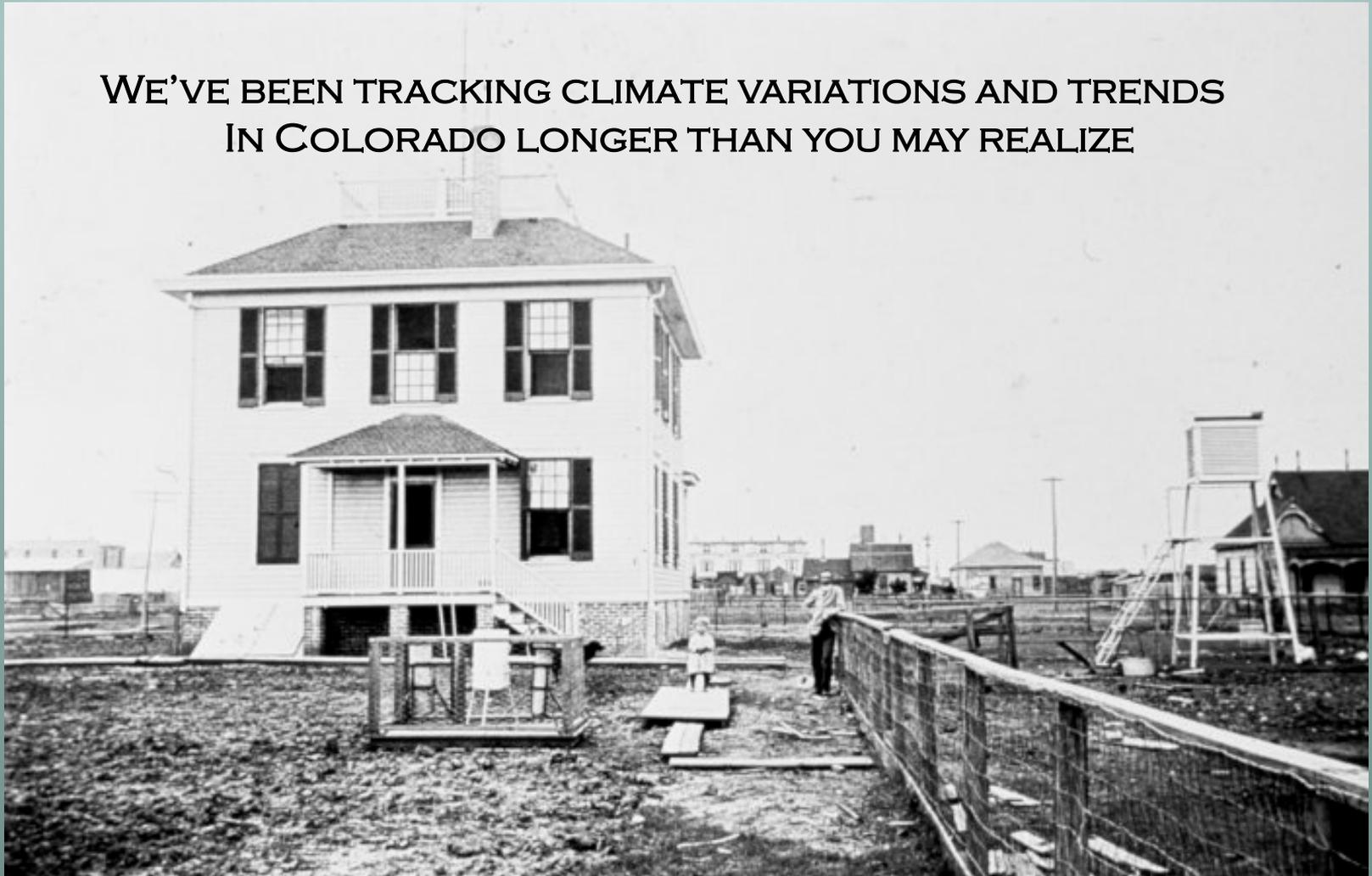


Our Mission

- The Colorado Climate Center at CSU provides valuable climate expertise to the residents of the state through its threefold program of:
 - 1) ***Climate Monitoring*** (data acquisition, analysis, and archiving),
 - 2) ***Climate Research***
 - 3) ***Climate Services***.(providing data, analysis, climate education and outreach)

ADDITIONAL BACKGROUND AND HISTORY

**WE'VE BEEN TRACKING CLIMATE VARIATIONS AND TRENDS
IN COLORADO LONGER THAN YOU MAY REALIZE**



Credit: NOAA Photo Library

SYSTEMATIC WEATHER DATA COLLECTION BEGAN IN COLORADO IN THE 1870S AND 1880S

(FORM 4.)

WAR DEPARTMENT. SIGNAL SERVICE, U. S. ARMY. DIVISION OF TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE.

METEOROLOGICAL RECORD for the *Week* ending *Nov. 25th 1871* at *Denver, Col. Ter.*

Date of Observation.	Time of Observation.	Height of Barometer.	Height of attached Thermometers		THERMOMETER (OPEN AIR) Apparatus		Direction of wind.	Velocity of wind in miles per hour.	Pressure of wind. Pounds per square foot.	Amount of cloud.	Direction in which upper clouds move.	Rain (or snow) commenced. (Time.)	Rain (or snow) ended. (Time.)	Amount of rain or melted snow.	Remarks.	
			Dry Bulb.	Wet Bulb.	Dry Bulb.	Wet Bulb.										
<i>1871</i>																
<i>Sunday Nov. 19</i>	<i>5:43 a.m.</i>	<i>25.00</i>	<i>51 22</i>	<i>30.07</i>	<i>22 21</i>	<i>46</i>	<i>S</i>	<i>0</i>	<i>0</i>	<i>4/4</i>		<i>8 a.m.</i>	<i>Blank</i>		<i>Light Snow</i>	
	<i>2:43 P.M.</i>	<i>25.09</i>	<i>63 36</i>	<i>24.97</i>	<i>36 30</i>	<i>46</i>	<i>S</i>	<i>2</i>	<i>.02</i>	<i>0</i>					<i>Clear</i>	
<i>Monday Nov. 20</i>	<i>5:43 a.m.</i>	<i>25.00</i>	<i>51 22</i>	<i>30.07</i>	<i>22 21</i>	<i>46</i>	<i>S</i>	<i>0</i>	<i>0</i>	<i>4/4</i>		<i>8 a.m.</i>	<i>Blank</i>		<i>Light Snow</i>	
	<i>2:43 P.M.</i>	<i>25.09</i>	<i>63 36</i>	<i>24.97</i>	<i>36 30</i>	<i>46</i>	<i>S</i>	<i>2</i>	<i>.02</i>	<i>0</i>	<i>7 1</i>				<i>Clear</i>	
<i>Tuesday Nov. 21</i>	<i>5:43 a.m.</i>	<i>25.12</i>	<i>51 14</i>	<i>30.22</i>	<i>14 12</i>	<i>64</i>	<i>S</i>	<i>11</i>	<i>.60</i>	<i>0</i>					<i>Stratus</i>	
	<i>2:43 P.M.</i>	<i>24.99</i>	<i>50 21</i>	<i>30.07</i>	<i>21 19</i>	<i>78</i>	<i>S</i>	<i>13</i>	<i>.84</i>	<i>1/4</i>	<i>24</i>				<i>Stratus</i>	
<i>Wednesday Nov. 22</i>	<i>2:43 P.M.</i>	<i>24.88</i>	<i>56 43</i>	<i>24.67</i>	<i>43 34</i>	<i>28</i>	<i>NW</i>	<i>18</i>	<i>1.62</i>	<i>4/4</i>	<i>10 3</i>				<i>Stratus</i>	
	<i>9:43 P.M.</i>	<i>24.80</i>	<i>58 39</i>	<i>24.70</i>	<i>39 34</i>	<i>53</i>	<i>NW</i>	<i>2</i>	<i>.02</i>	<i>4/4</i>	<i>34 3</i>				<i>Stratus</i>	
<i>Thursday Nov. 23</i>	<i>5:43 a.m.</i>	<i>24.70</i>	<i>55 31</i>	<i>24.59</i>	<i>31 29</i>	<i>79</i>	<i>S.W.</i>	<i>4</i>	<i>.08</i>	<i>4/4</i>	<i>9 7</i>				<i>Stratus</i>	
	<i>2:43 P.M.</i>	<i>24.57</i>	<i>62 35</i>	<i>24.30</i>	<i>35 32</i>	<i>70</i>	<i>W</i>	<i>2</i>	<i>.02</i>	<i>4/4</i>	<i>9 7</i>				<i>"</i>	
<i>Friday Nov. 24</i>	<i>4:43 P.M.</i>	<i>24.71</i>	<i>61 31</i>	<i>24.59</i>	<i>31 30</i>	<i>89</i>	<i>S</i>	<i>10</i>	<i>.50</i>	<i>4/4</i>	<i>32 3</i>	<i>3 P.M.</i>	<i>11 P.M.</i>	<i>.26</i>	<i>Light Snow</i>	
	<i>5:43 a.m.</i>	<i>24.54</i>	<i>55 25</i>	<i>24.47</i>	<i>25 24</i>	<i>87</i>	<i>S</i>	<i>6</i>	<i>.18</i>	<i>4/4</i>	<i>9 0</i>	<i>10.30 a.m.</i>			<i>Stratus</i>	
<i>Saturday Nov. 25</i>	<i>2:43 P.M.</i>	<i>24.31</i>	<i>63 34</i>	<i>24.06</i>	<i>34 33</i>	<i>89</i>	<i>NW</i>	<i>5</i>	<i>.12</i>	<i>4/4</i>	<i>30</i>				<i>Light Snow</i>	
	<i>9:43 P.M.</i>	<i>24.20</i>	<i>60 31</i>	<i>24.97</i>	<i>31 30</i>	<i>89</i>	<i>S</i>	<i>9</i>	<i>.40</i>	<i>3/4</i>	<i>S.E.</i>				<i>"</i>	
<i>Sunday Nov. 26</i>	<i>5:43 a.m.</i>	<i>24.36</i>	<i>56 32</i>	<i>24.17</i>	<i>32 32</i>	<i>100</i>	<i>S.W.</i>	<i>4</i>	<i>.08</i>	<i>4/4</i>	<i>10 1</i>		<i>8 a.m.</i>	<i>.24</i>	<i>Cloudy</i>	
	<i>2:43 P.M.</i>	<i>24.37</i>	<i>70 42</i>	<i>24.04</i>	<i>42 37</i>	<i>58</i>	<i>S.E.</i>	<i>2</i>	<i>.02</i>	<i>2/4</i>	<i>33 7</i>				<i>Light Snow</i>	
<i>Monday Nov. 27</i>	<i>9:43 P.M.</i>	<i>24.38</i>	<i>65 27</i>	<i>24.23</i>	<i>27 27</i>	<i>100</i>	<i>N.W.</i>	<i>2</i>	<i>.02</i>	<i>4/4</i>	<i>33 7</i>				<i>Fog</i>	
	<i>5:43 a.m.</i>	<i>24.37</i>	<i>58 32</i>	<i>24.17</i>	<i>32 28</i>	<i>64</i>	<i>N.W.</i>	<i>7</i>	<i>.24</i>	<i>1/4</i>	<i>9 8</i>				<i>Stratus</i>	
<i>Tuesday Nov. 28</i>	<i>2:43 P.M.</i>	<i>24.42</i>	<i>70 49</i>	<i>24.03</i>	<i>49 39</i>	<i>31</i>	<i>S.E.</i>	<i>2</i>	<i>.02</i>	<i>2/4</i>	<i>32 7</i>				<i>Stratus</i>	
	<i>9:43 P.M.</i>	<i>24.60</i>	<i>68 17</i>	<i>24.60</i>	<i>17 15</i>	<i>75</i>	<i>N.E.</i>	<i>18</i>	<i>1.62</i>	<i>3/4</i>					<i>Light snow</i>	

2381

Denver November 19-25, 1871

(Observer)

WEATHER REPORTS BEGAN ON PIKES PEAK IN 1873



Credit: NOAA Photo Library

REPORTS WERE SENT BY TELEGRAPH EVERY FEW HOURS

STORIES ABOUNDED IN THE NATIONAL MEDIA OF THE RIGORS OF COLORADO

CLIMATE

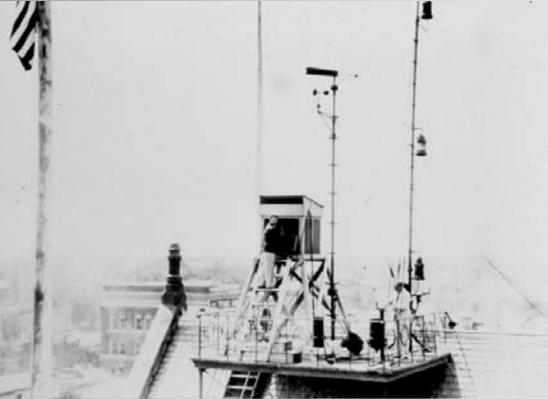
300 DAYS OF SUNSHINE!



PRIOR TO THE ABOUT 1859 COLORADO WAS CONSIDERED TO BE A USELESS PART OF THE “GREAT AMERICAN DESERT”

BY THE LATE 1860S RAILROAD PUBLICIST BEGAN PROMOTING COLORADO’S DELIGHTFUL CLIMATE — BRIGHT SUNSHINE, FRESH WATER AND LUSH VEGETATION — EVEN BEFORE THE FIRST OFFICIAL WEATHER STATIONS WERE INSTALLED.

BY 1885 INITIAL "CLIMATOLOGY" OF COLORADO WAS TAKING SHAPE



The semiarid and highly variable nature of Colorado was identified.

Denver Monthly Precipitation (1872 - 1885)

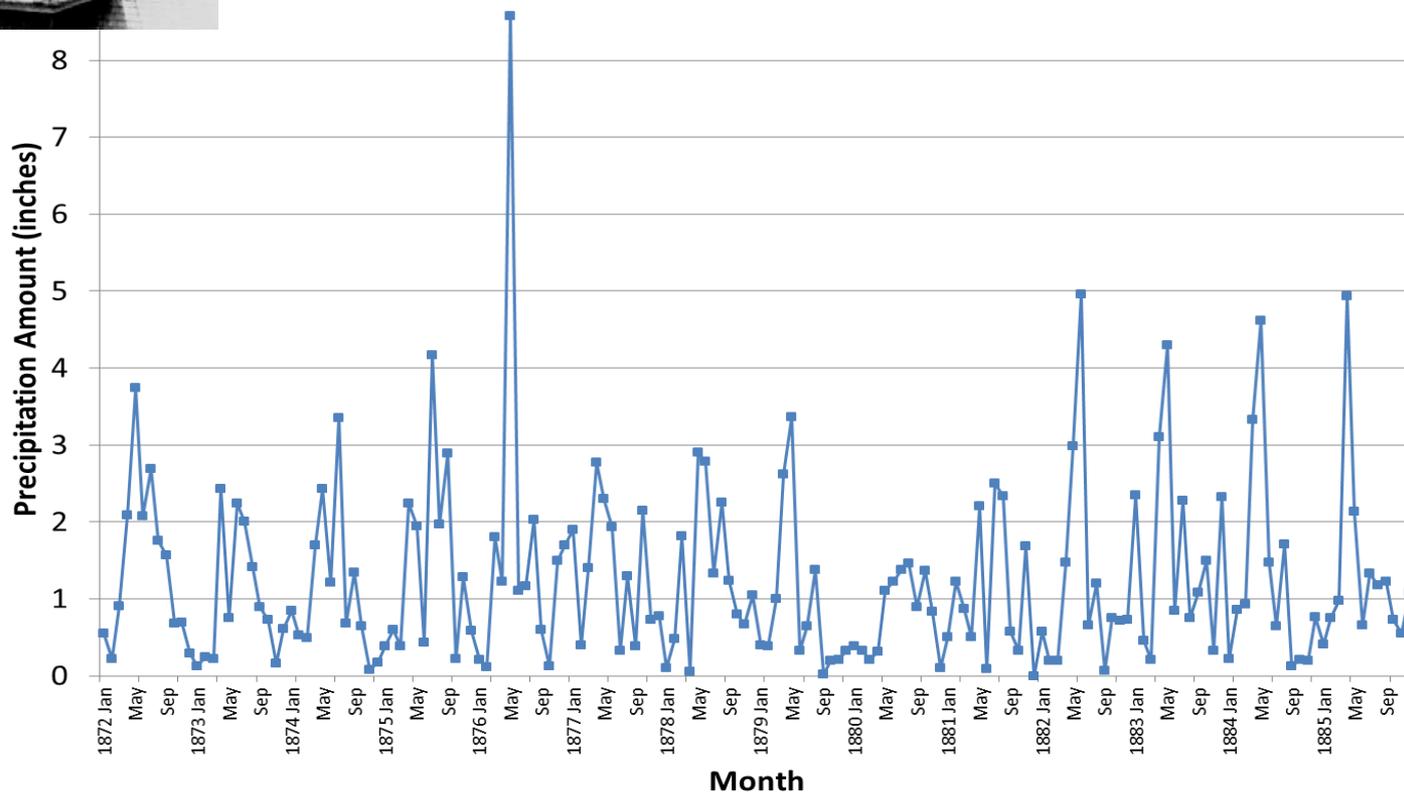


Photo Credit:
NOAA Photo
Library

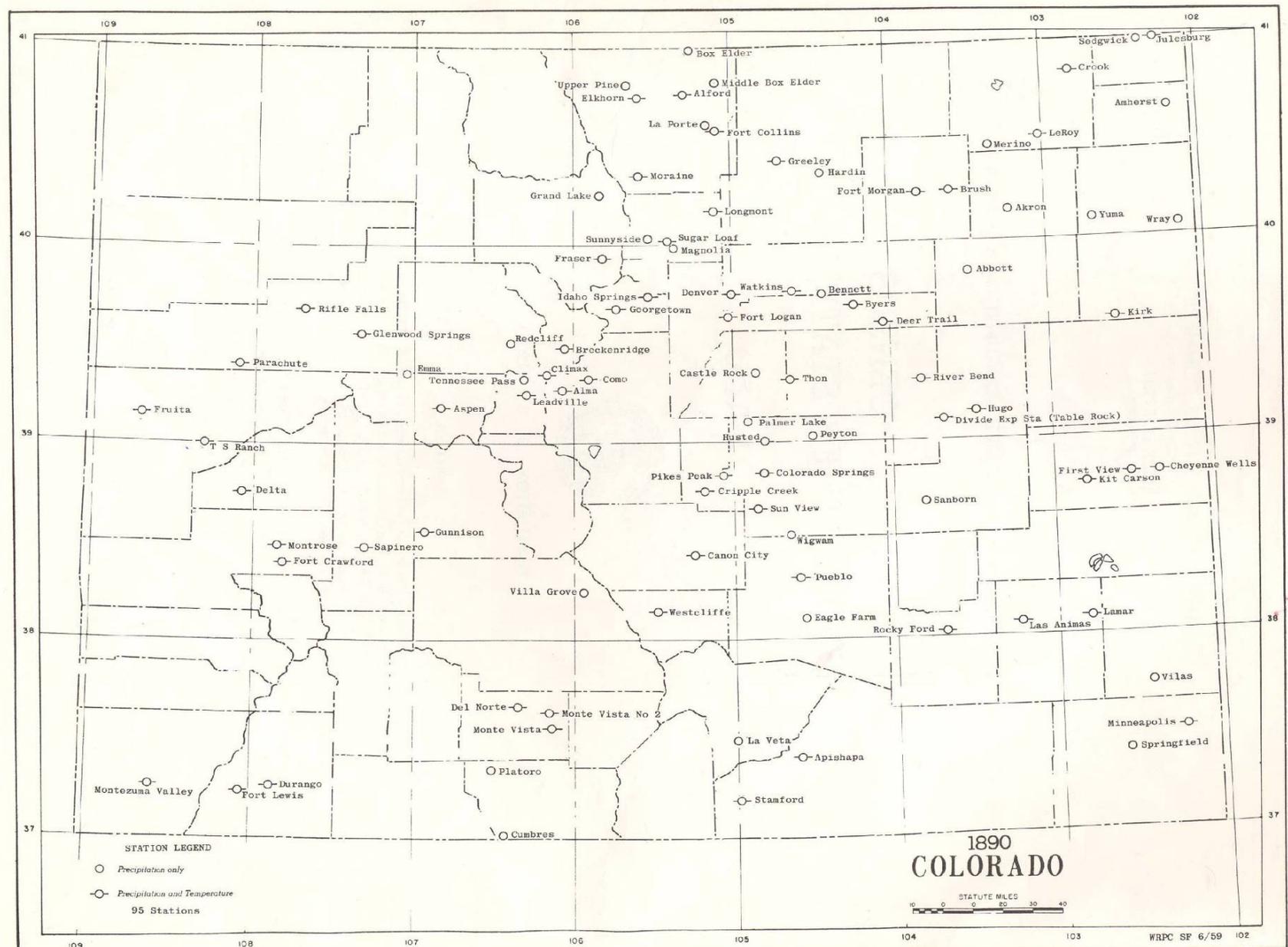
COLORADO STATE WEATHER SERVICE

- IN THE LATE 1880S THE COLORADO STATE LEGISLATURE PASSED LEGISLATION CREATING THE “COLORADO STATE WEATHER SERVICE”.
- \$2,000 WAS APPROPRIATED, AND AN EFFORT WAS STARTED IMMEDIATELY TO ESTABLISH IMPROVED MONITORING

THIS “WEATHER SERVICE” WAS SHORT LIVED. IN 1890, THE U.S. DEPARTMENT OF AGRICULTURE TOOK OVER “CLIMATE MONITORING AND REPORTING RESPONSIBILITIES”.

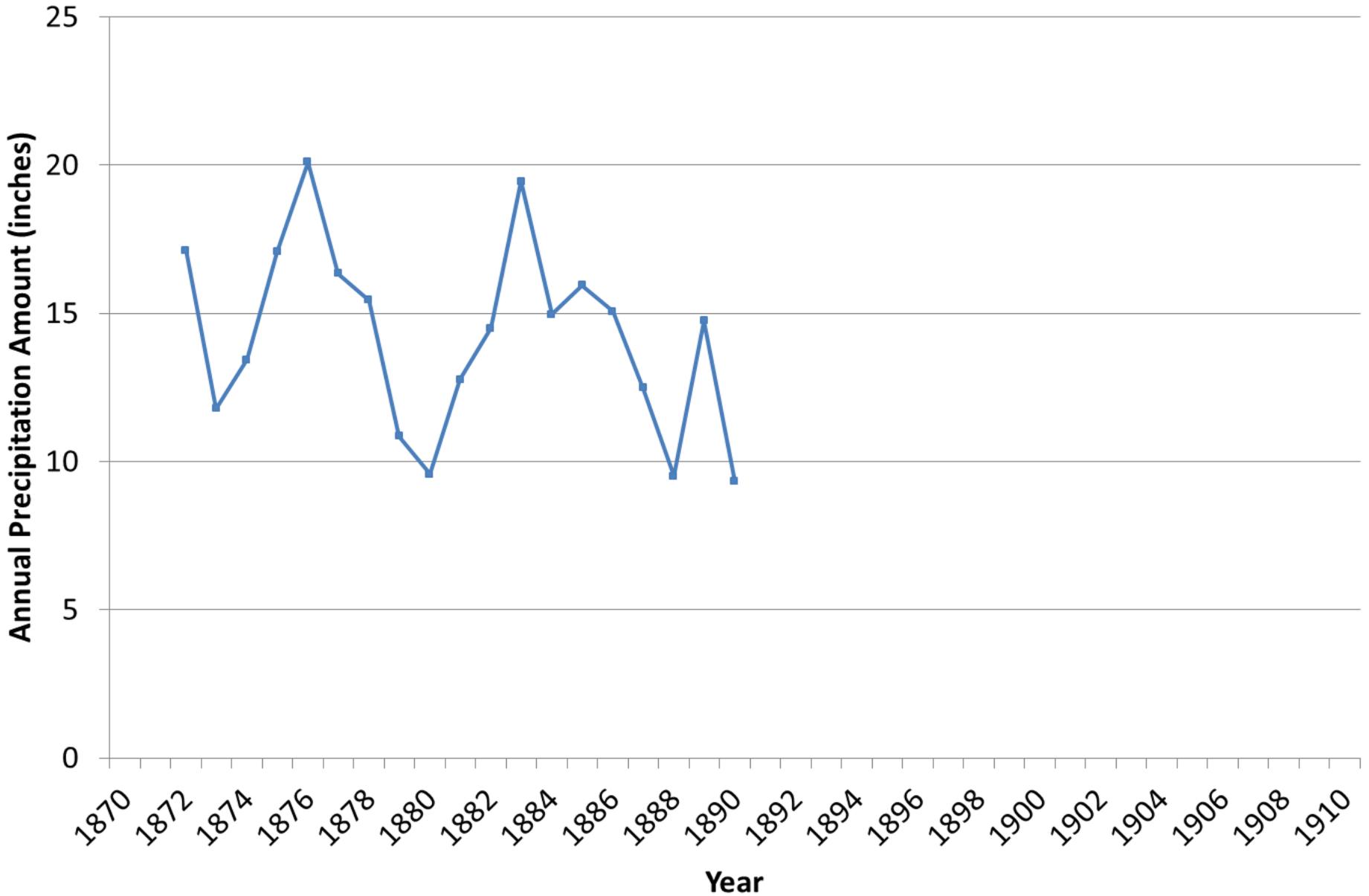


BY 1890 A ROBUST STATEWIDE WEATHER REPORTING NETWORK WAS IN PLACE

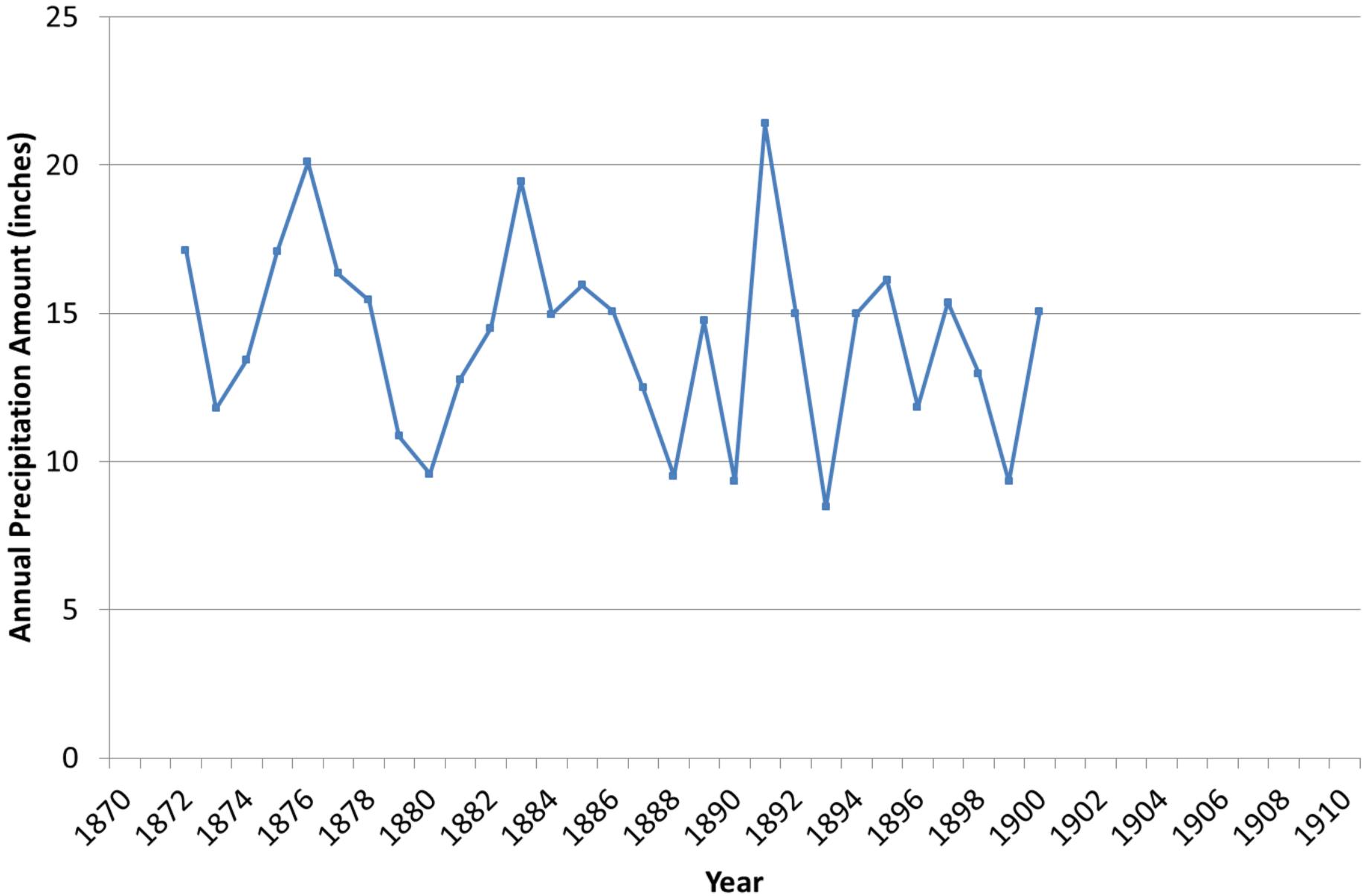


EACH PASSING YEAR REVEALED MORE ABOUT THE CLIMATE OF OUR STATE – DROUGHT IN THE 1890S, EXTREME DROUGHT IN SOUTHWEST COLORADO AROUND 1900, HARSH WINTER IN 1899.

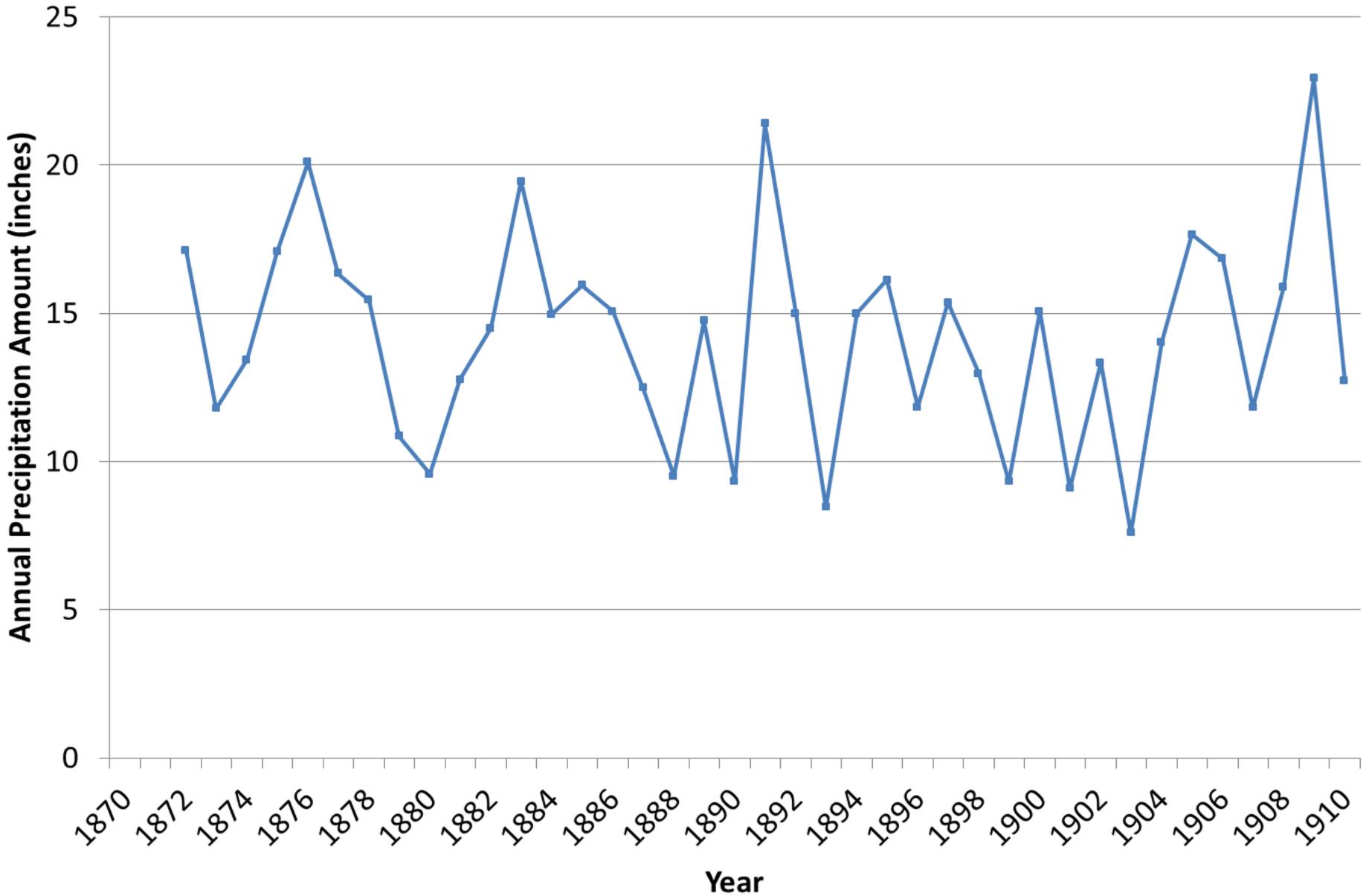
Denver Annual Precipitation (1872-1890)



Denver Annual Precipitation (1872-1900)



Denver Annual Precipitation (1872-1910)



Bulletin 245

June, 1918

The Agricultural Experiment Station

OF THE

Colorado Agricultural College

COLORADO CLIMATOLOGY

By ROBERT E. TRIMBLE

the mean temperature of any section of the country. Colorado being an arid state, the amount of precipitation is at all times a vital question. Liability to a marked deficiency in rainfall in any region is a matter of grave concern to those engaged in agriculture and other interests. We often hear it stated that the rainfall is changing, that the settling up of the country and the planting of trees and building of reservoirs, forming lakes and wet places throughout the country, is causing an increase in the amount of our precipitation, but long series of observations taken at different places over the world, do not bear out that claim.



YEARS OF STUDY SHOWS CLIMATE NOT CHANGING

We often hear the statement made that the climate is changing, and the popular belief that such is the case can only be explained by the generally short and defective memories of people who through exposure to a few severe storms in the past, or inconvenience, or perhaps loss from a few of them, unintentionally exaggerate the severity and frequency of their occurrence. Although large fluctuations occur in different years with some indication of periodical terms, especially in Colorado, where the range of temperature is great, there seems to be no progressive change. These fluctuations are large and often in the same direction for several successive years.

In the meteorological data for the last one hundred years, the record of some places extending still further back there

PUBLISHED BY THE EXPERIMENT STATION
FORT COLLINS, COLORADO
1918

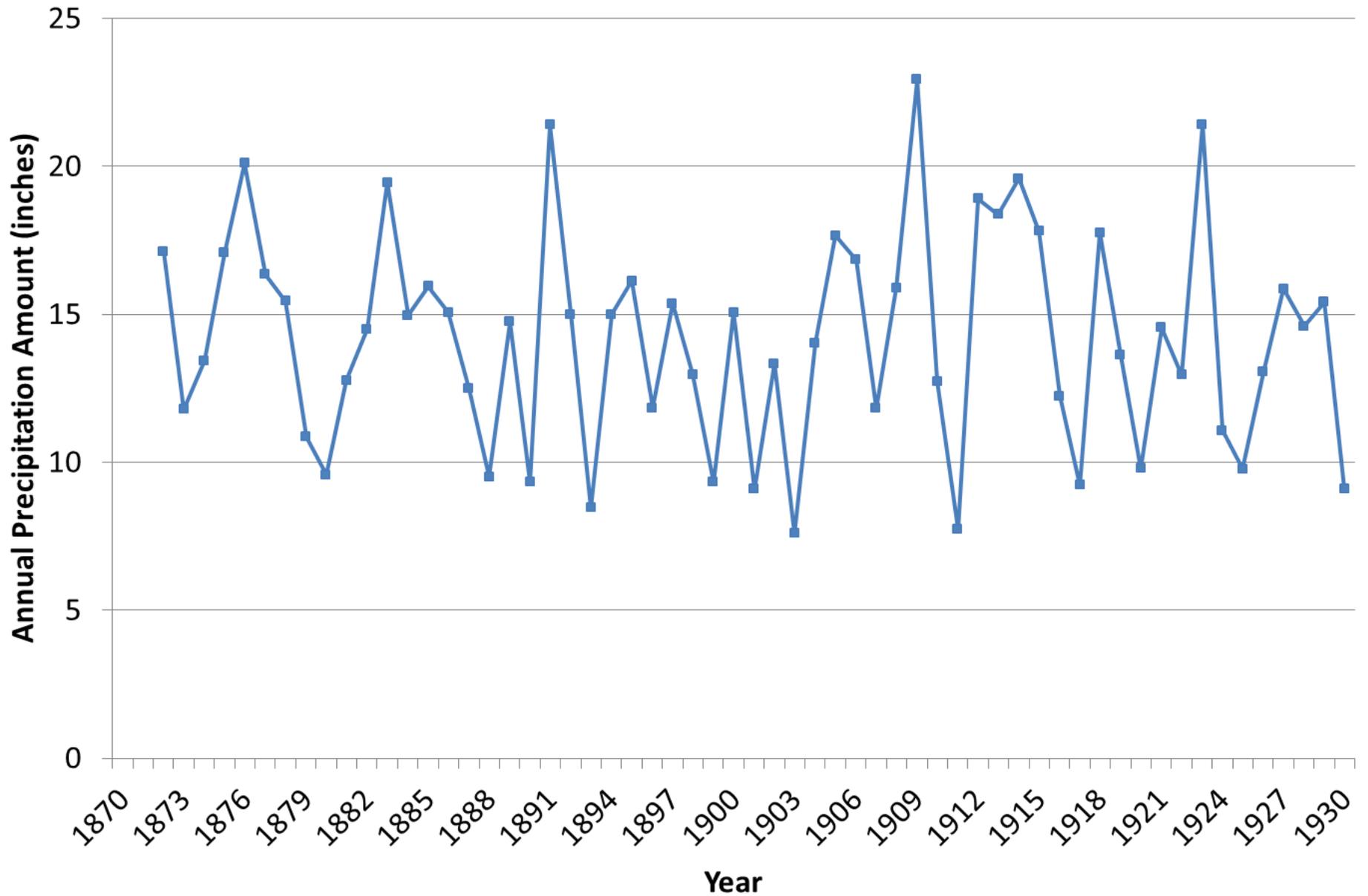
BY 1920, 30 YEARS OF CONSISTENT CLIMATE DATA WERE AVAILABLE FOR WEATHER STATIONS ACROSS THE STATE



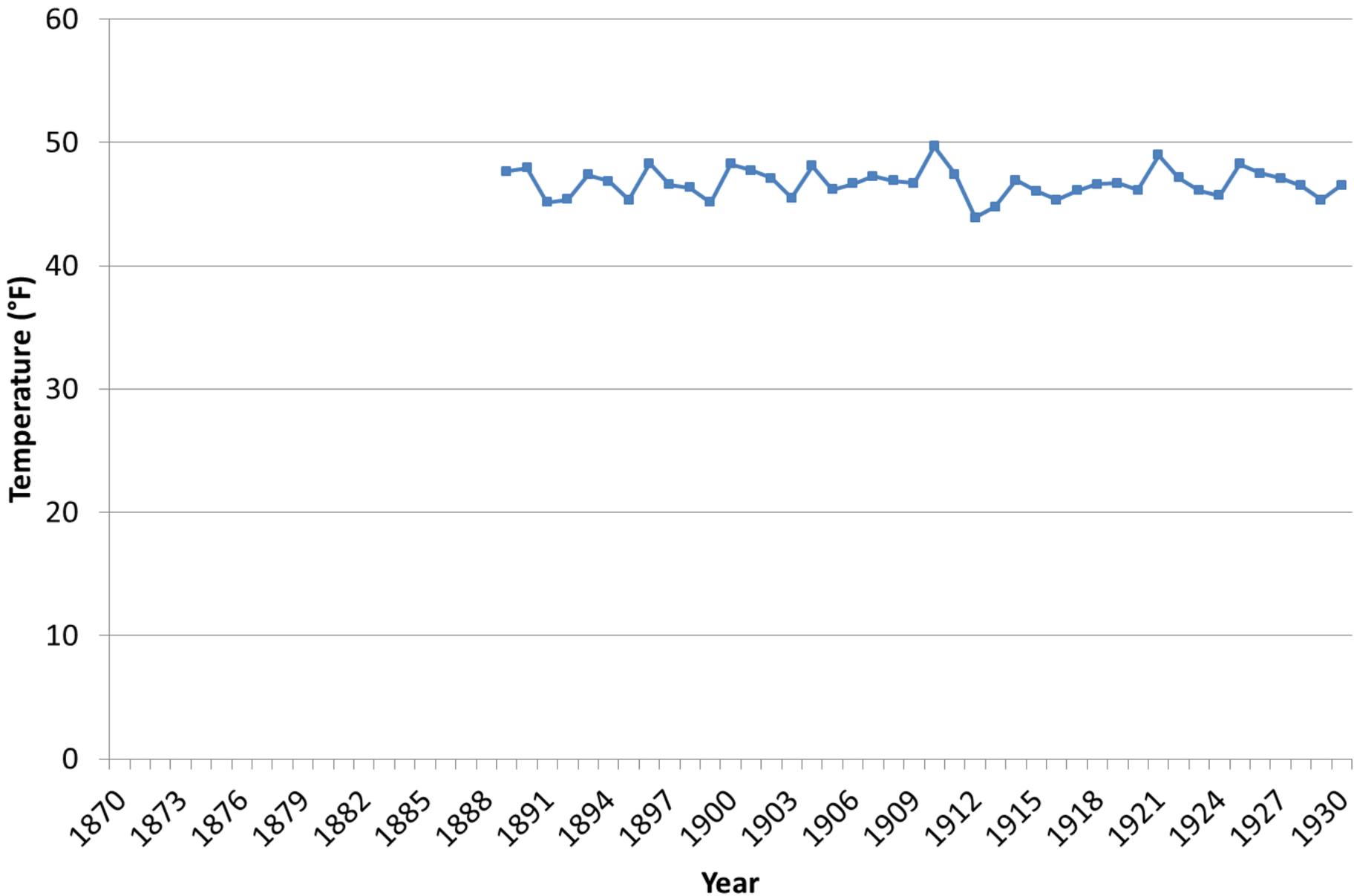
THROUGH THE 1920s, AGRICULTURE THRIVED. SOD
BUSTING ACCELERATED. HORSES GAVE WAY TO
TRACTORS — DENVER GREW, AND COLORADO ENJOYED
FAVORABLE CLIMATE CONDITIONS



Denver Annual Precipitation 1872-1930

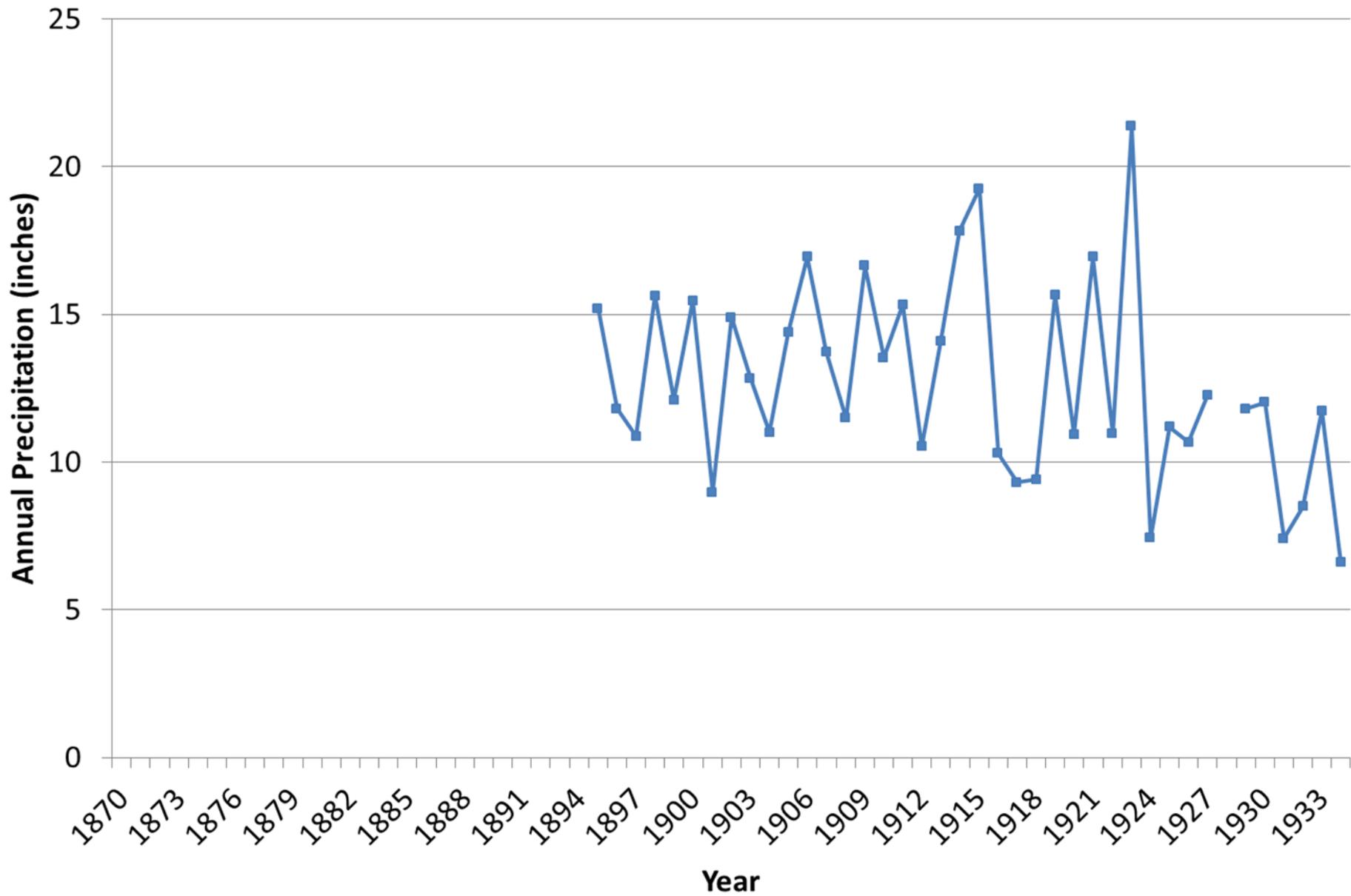


Fort Collins Average Annual Temperature 1889 - 1930

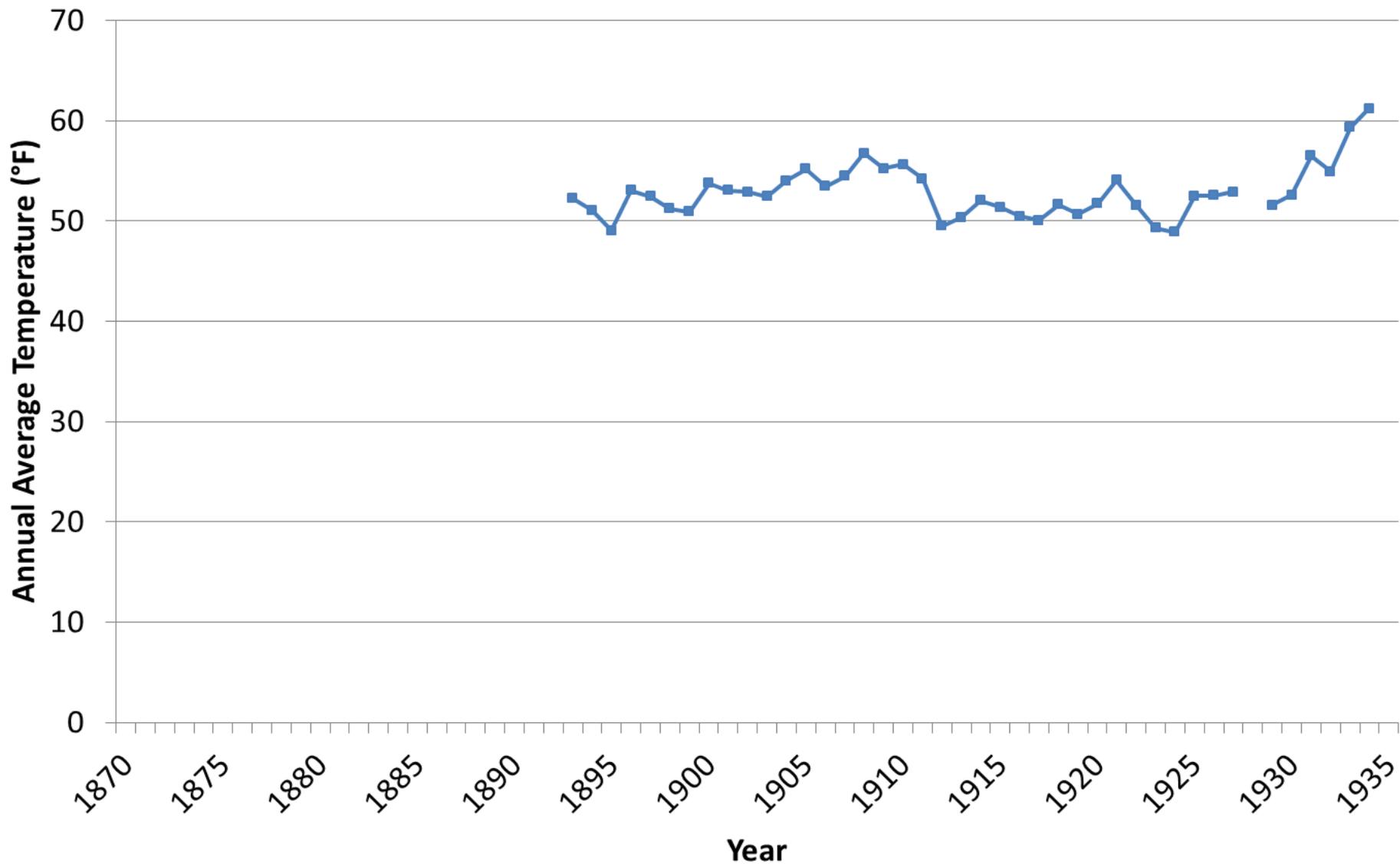


THEN CAME THE 1930S – A
DECADE OF TRULY WILD
WEATHER!

Las Animas, CO Annual Precipitation (1895-1934)



Las Animas, CO Annual Average Temperature (1893 - 1934)



REMAINDER OF 1930S WERE CHAOTIC — HEAT,
COLD DROUGHT, MORE DUST AND FLOODS.



Republican River Flood, May 30, 1935

CRISIS LEAD TO PROGRESS

Colorado State Planning Commission
Water Conservation Board
State Engineer

WATER RESOURCES OF COLORADO

Appendix No. 1

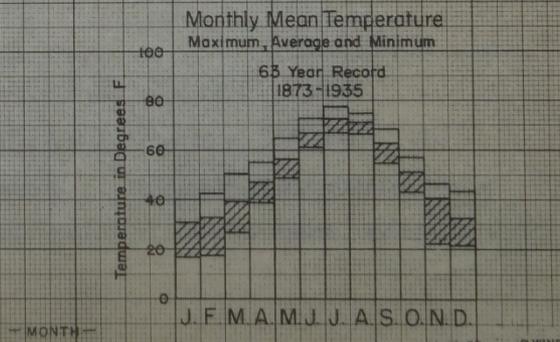
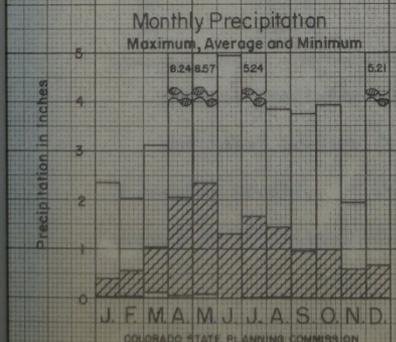
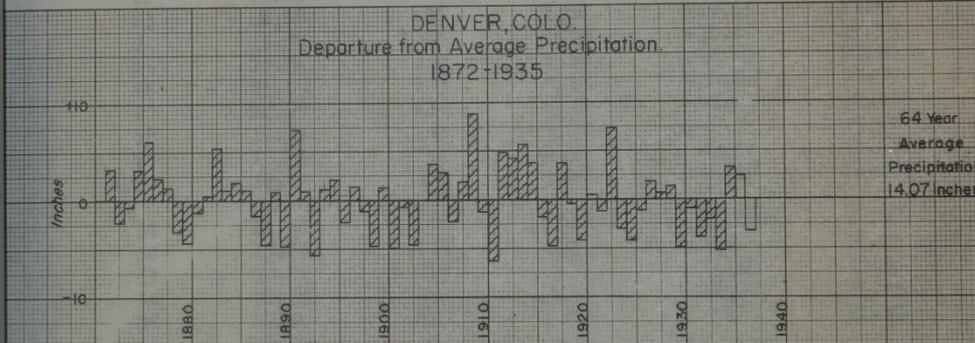
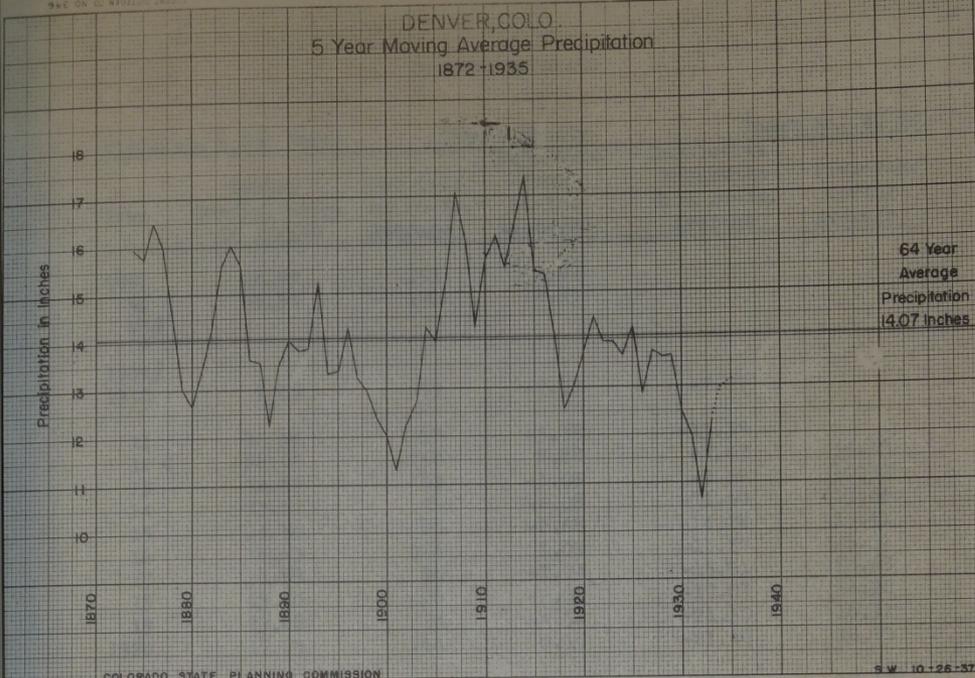
CLIMATOLOGICAL DATA OF COLORADO

Volume I

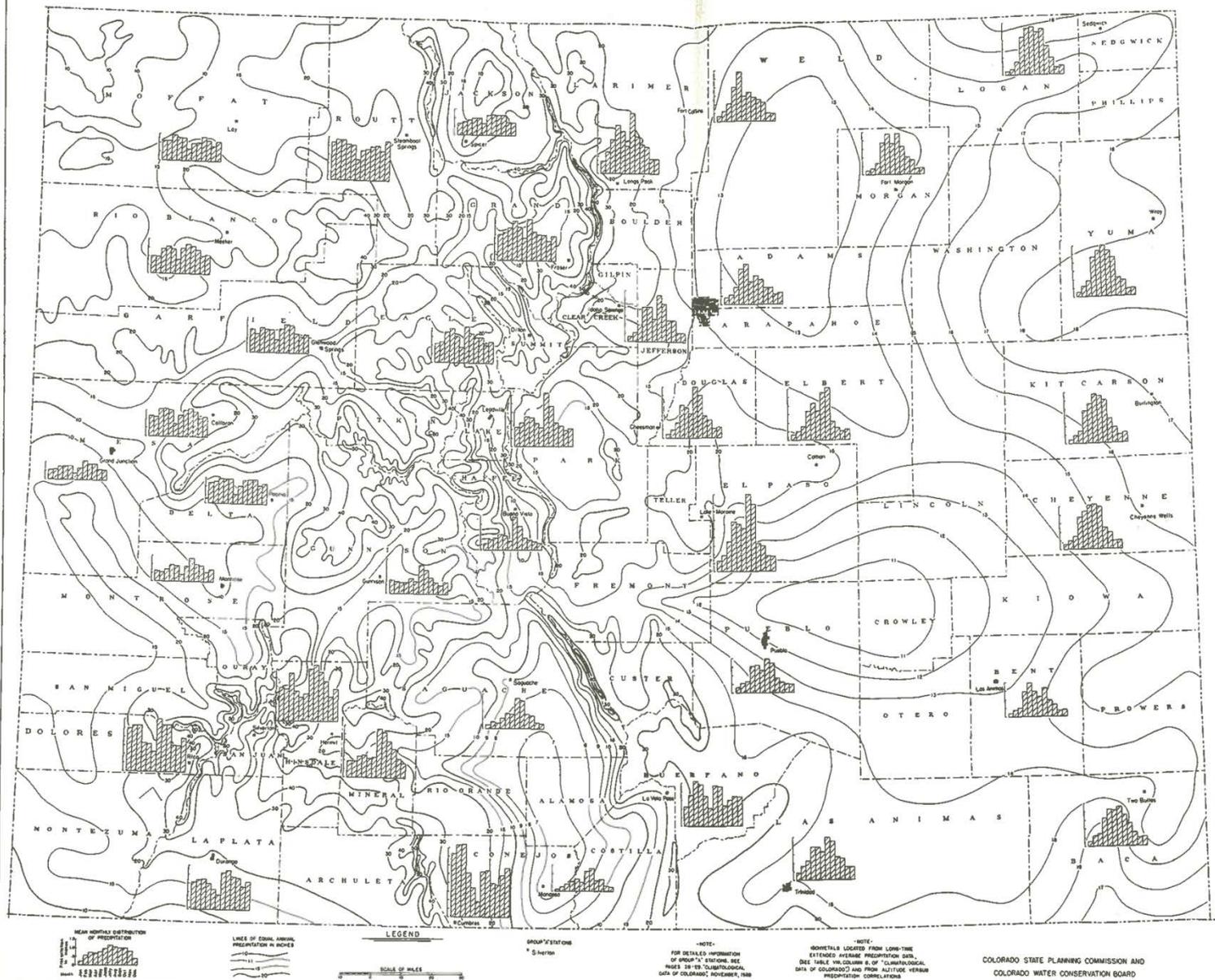
Prepared and published by the Colorado State
Planning Commission, Water Conservation Board
and State Engineer as a report on Official
Project Number 665-84-3-42, conducted under
the auspices of the Works Progress Administration.

DENVER, COLORADO
JUNE, 1939

DENVER, CO



DISTRIBUTION OF PRECIPITATION IN COLORADO



LOTS OF STUFF THEN HAPPENED IN
THE LATE 1930S

COLORADO WATER CONSERVATION BOARD
FOUNDED

COLORADO RIVER DISTRICT AND NORTHERN
COLORADO WATER CONSERVANCY
DISTRICT ORGANIZED

PLANNING FOR LARGE WATER STORAGE
PROJECTS UNDERWAY

SNOW SURVEYS BEGAN IN THE 1930s



Credit: NOAA Photo Library

An aerial photograph of a vast mountain range. The foreground shows dark, forested slopes. The middle ground features a wide valley with green fields and small settlements. In the background, multiple layers of mountain ridges are visible, fading into a hazy blue distance. The sky is filled with heavy, grey clouds, with a bright patch of light breaking through near the horizon.

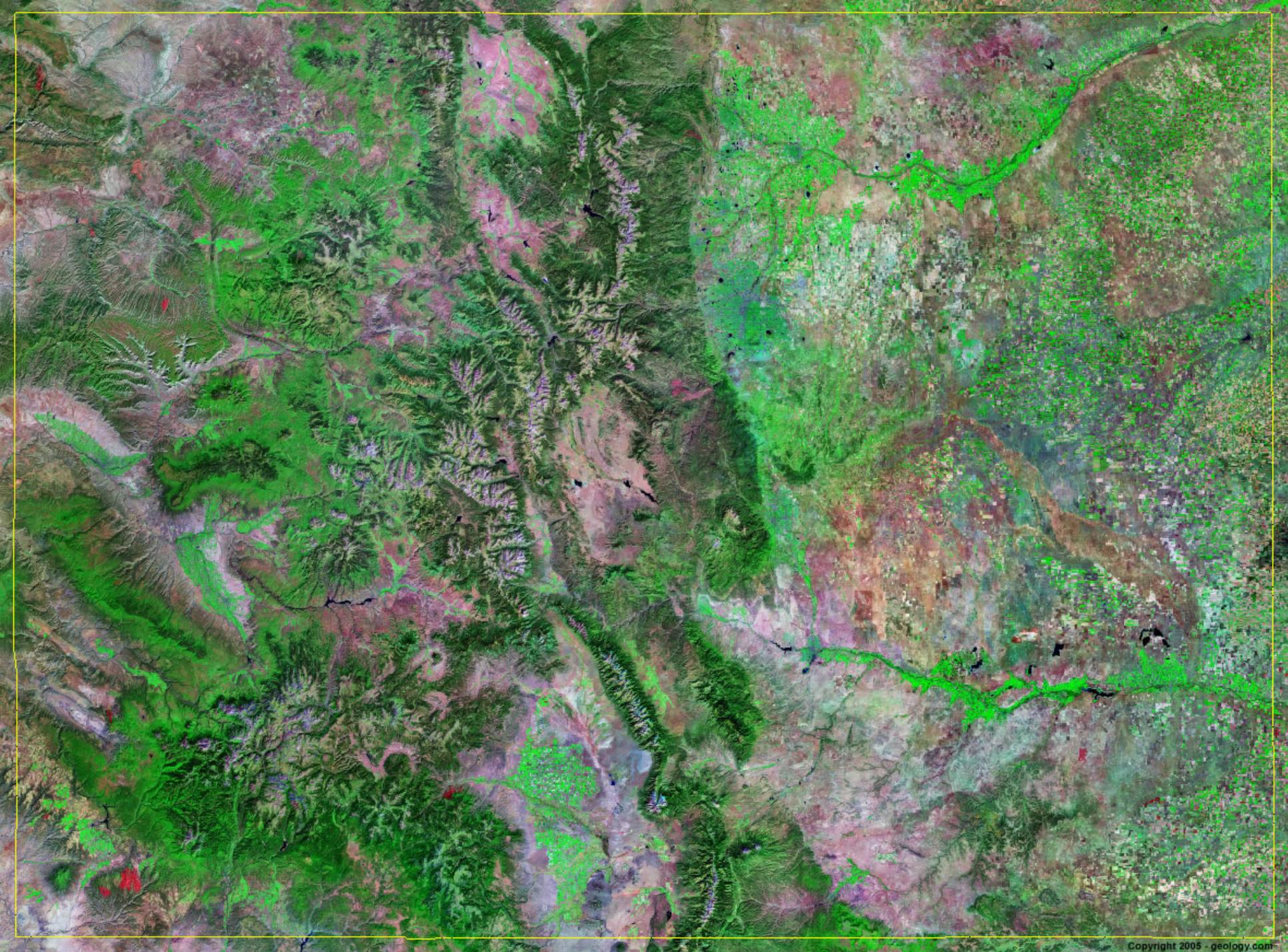
WE CONTINUE TO OBSERVE
AND LEARN!!

**What have we learned
from over 125 years of
continuous climate
monitoring?**



We Have a Fascinating Climate

- High elevation (highest state in the Union – by far)
- Mid-Latitude location (lively seasonal changes)
- Interior Continental Location far from atmospheric moisture sources
- Complex Mountain topography

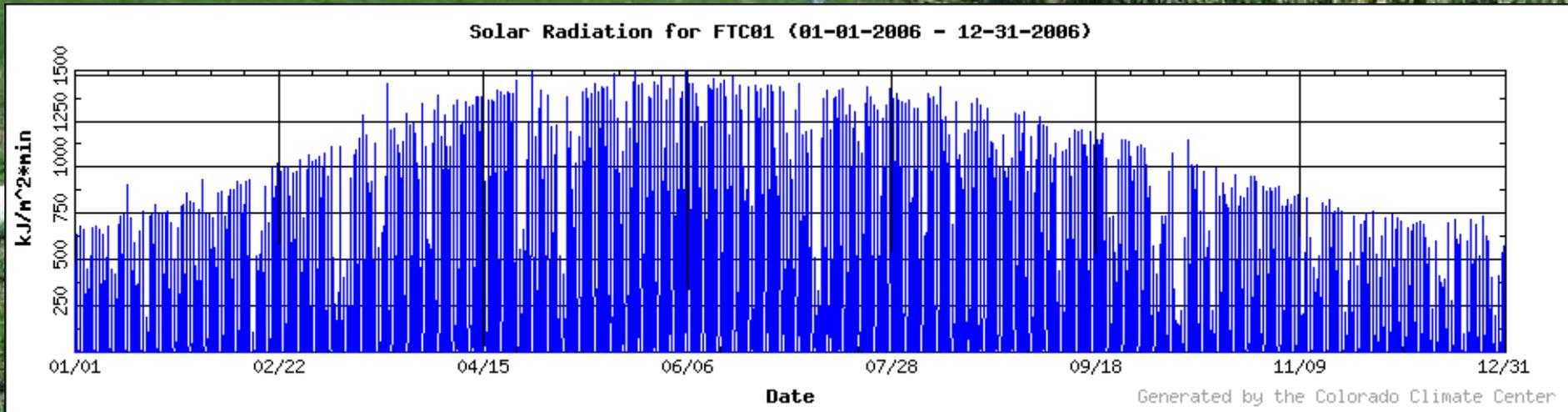


The Result?



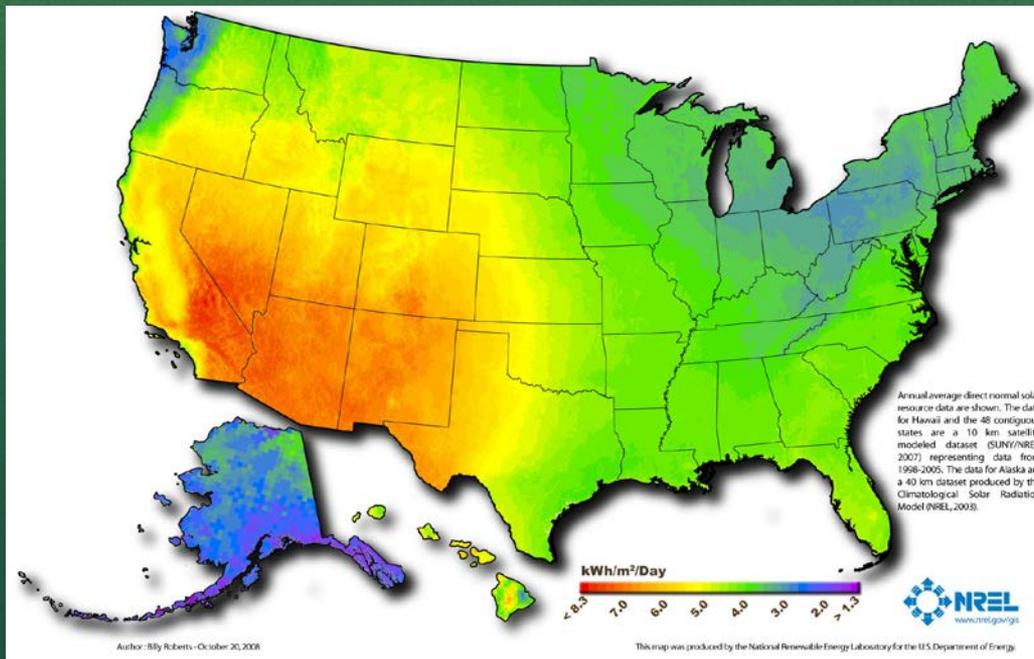
Generous sunshine and low humidity much of the time

People like it here
(the 1870 railroad publicists weren't lying)



Annual Average Solar Radiation

Colorado is a part of the Southwest “Sunbelt” ---- especially southern Colorado

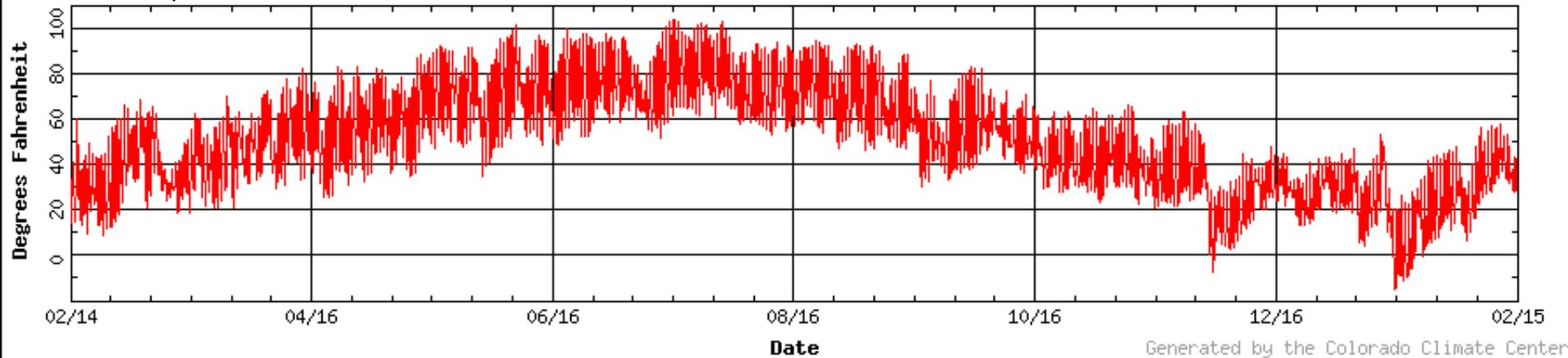


National Renewal Energy Laboratory: www.nrel.gov

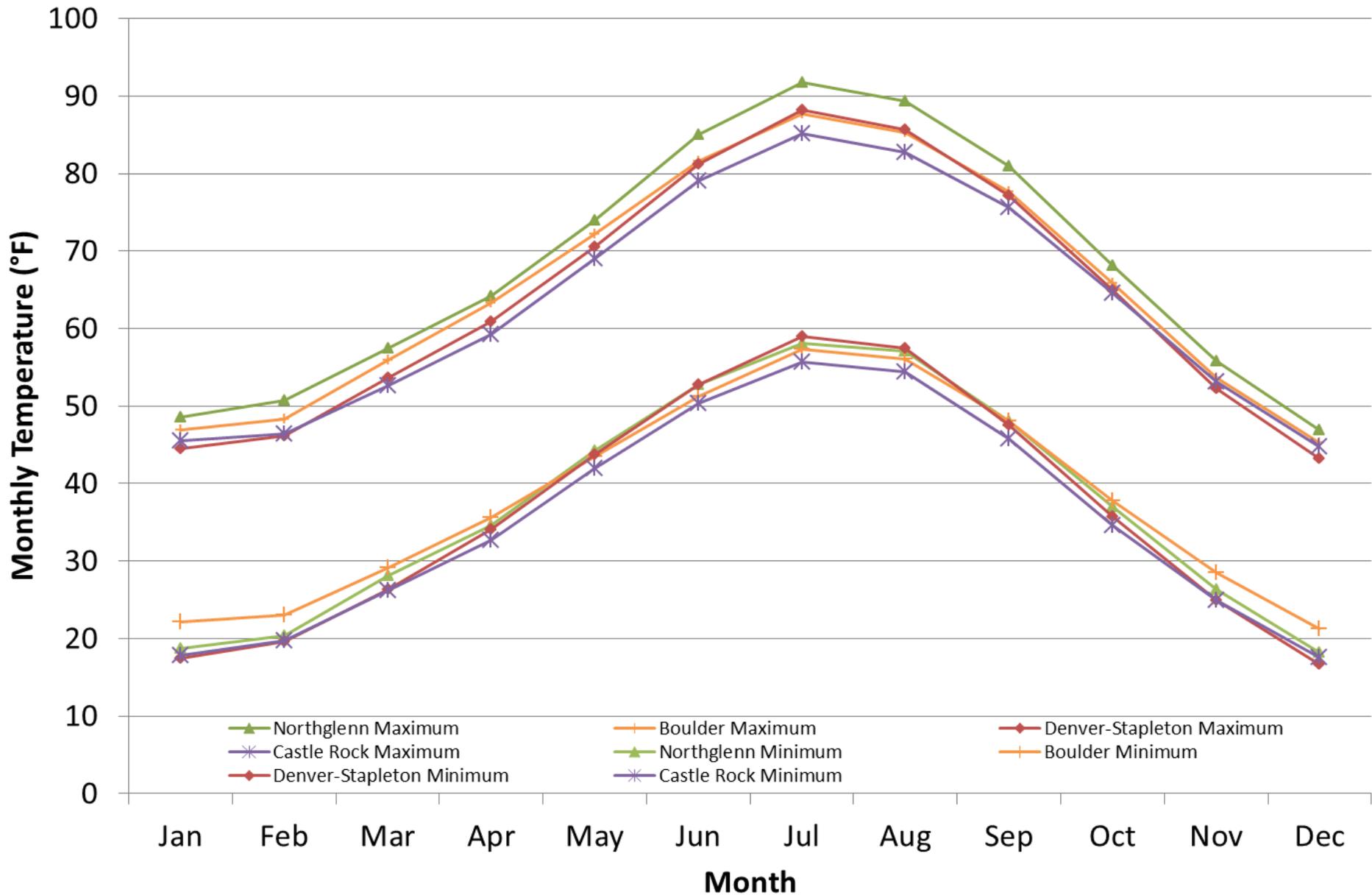
Large Seasonal Temperature Variations

Fruita, Colo.

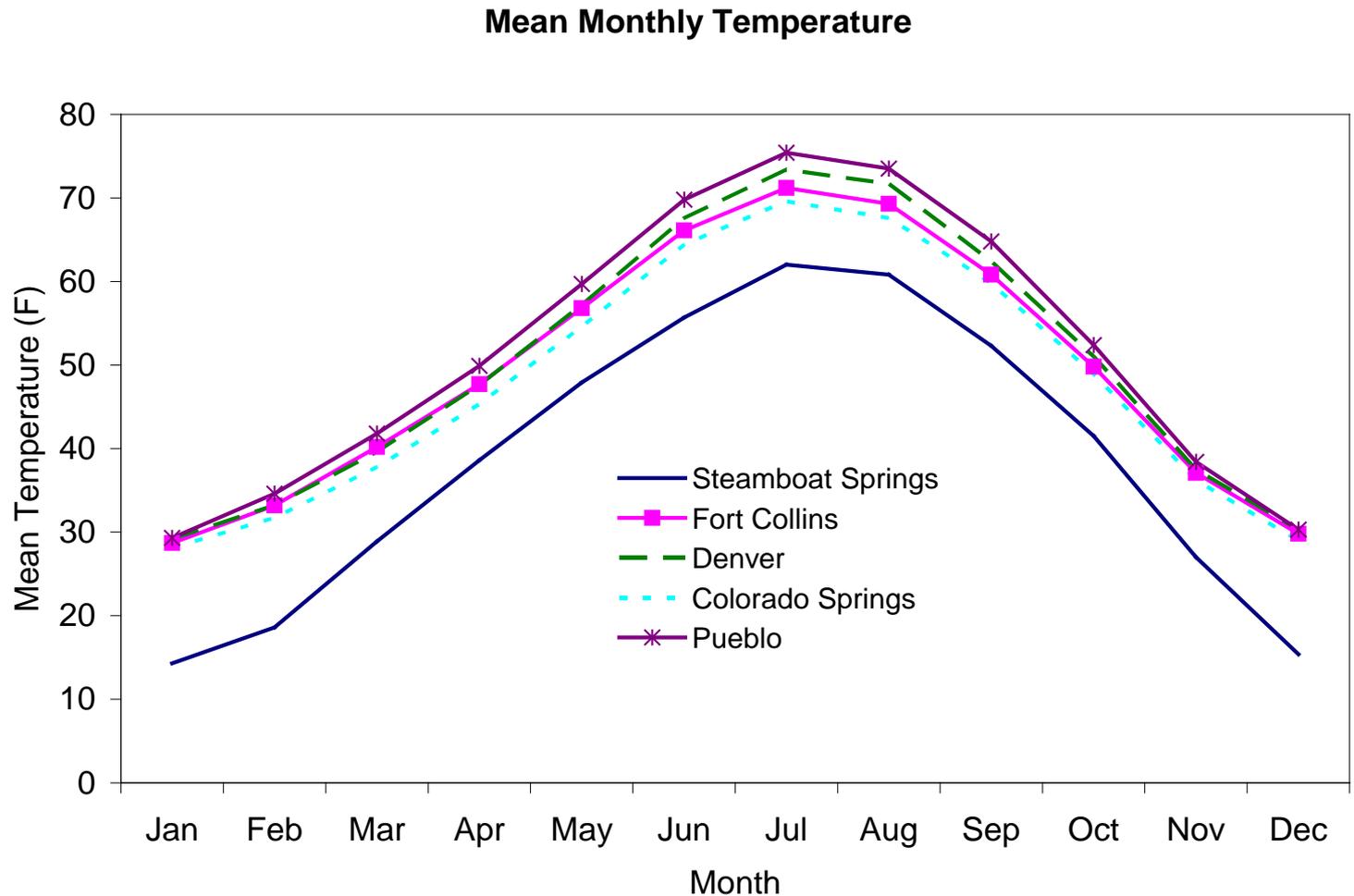
Temperature for FRT02 (02-14-2006 - 02-15-2007)



Average Monthly Temperatures (1981 - 2010)

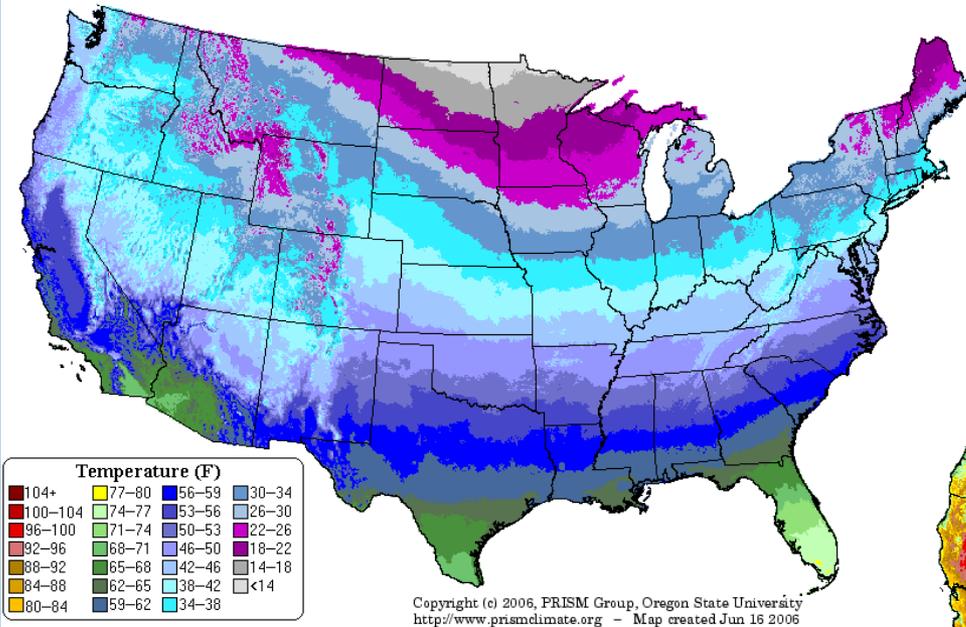


Mountain Community Temperatures compared to Front Range cities of Colorado

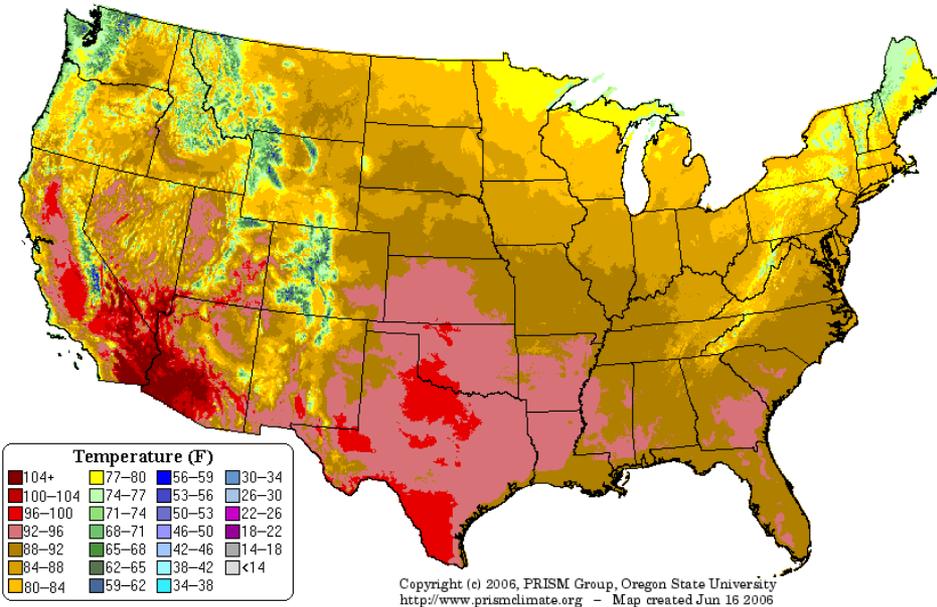


Complex local variations due to elevation and topography

Maximum Temperature: January Climatology (1971-2000)



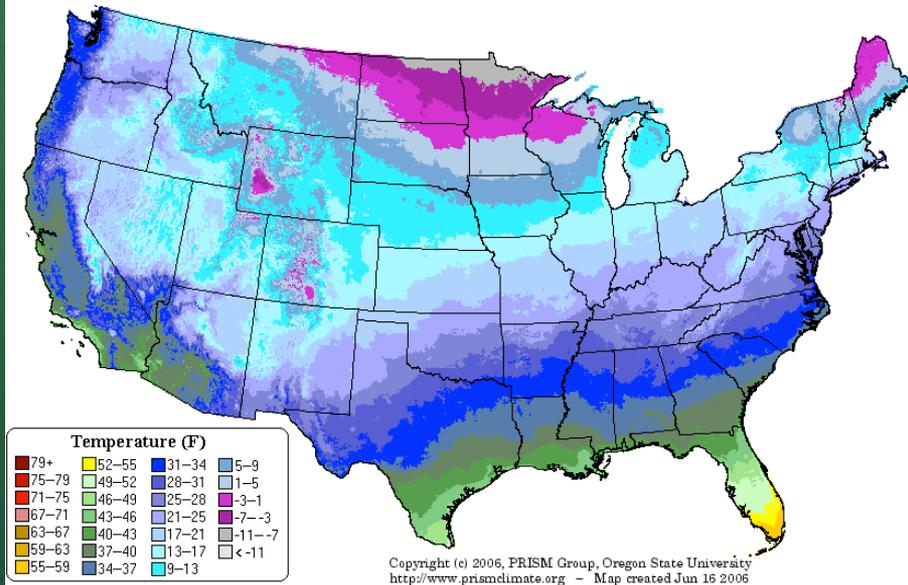
Maximum Temperature: July Climatology (1971-2000)



Usually colder in the mountains!

Average Winter Temperatures

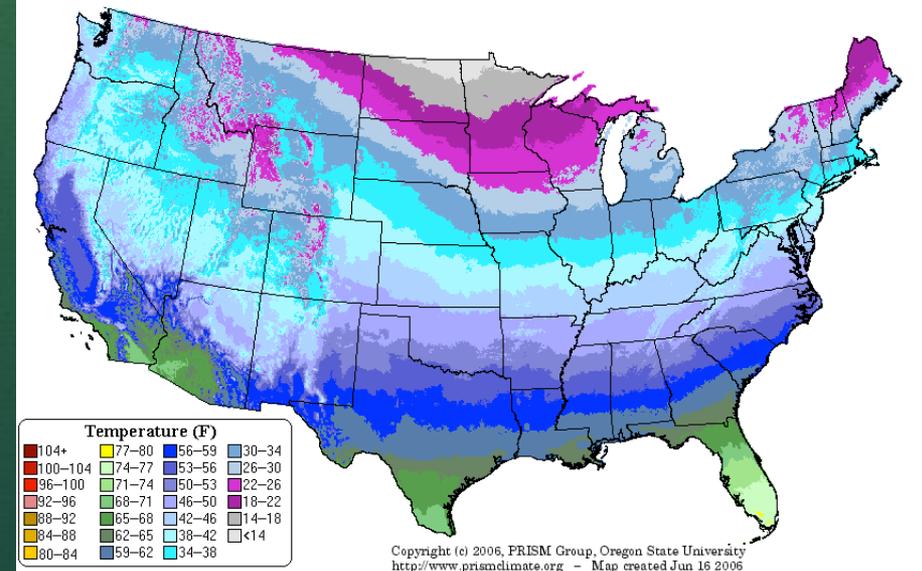
Minimum Temperature: January Climatology (1971-2000)



January Average Min.

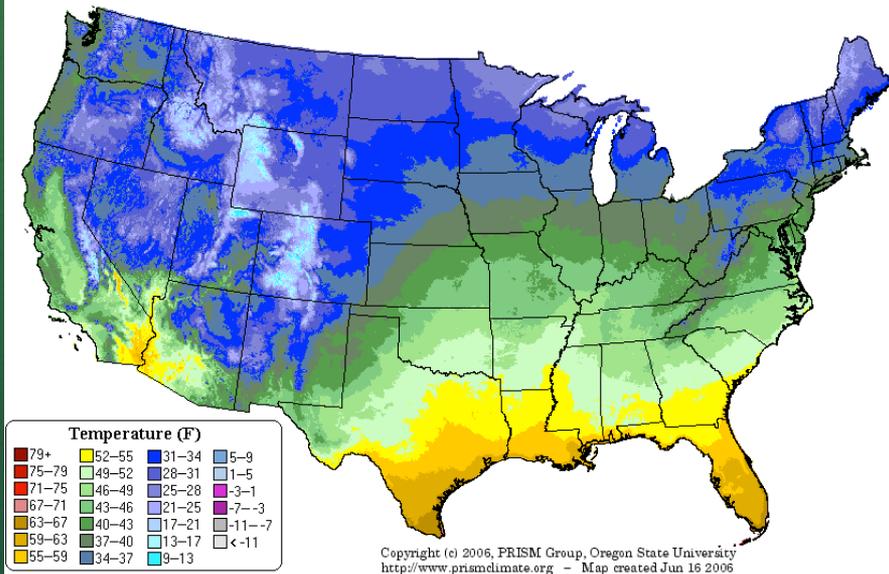
January Average Max.

Maximum Temperature: January Climatology (1971-2000)



Average Spring Temperatures

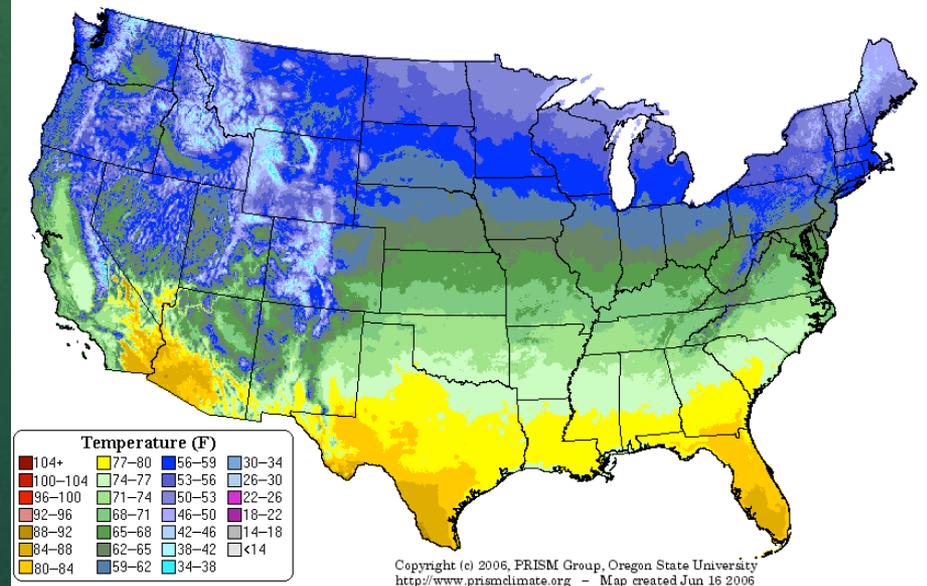
Minimum Temperature: April Climatology (1971-2000)



April Average Min.

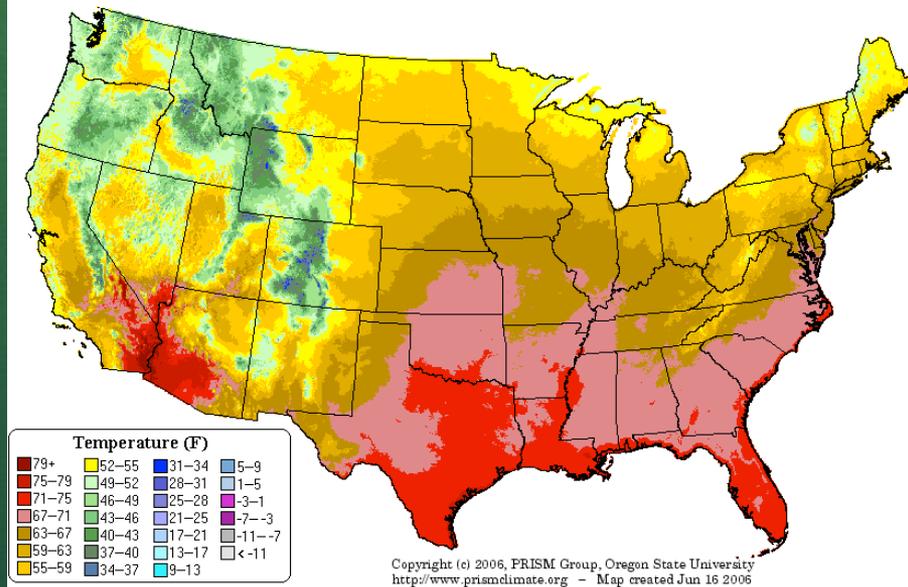
April Average Max.

Maximum Temperature: April Climatology (1971-2000)



Average Summer Temperatures

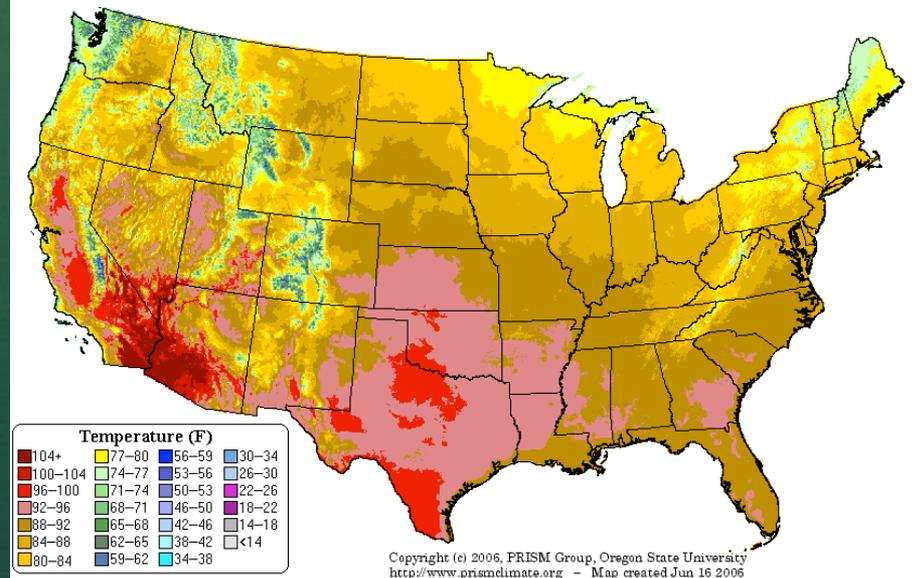
Minimum Temperature: July Climatology (1971-2000)



July Average Min.

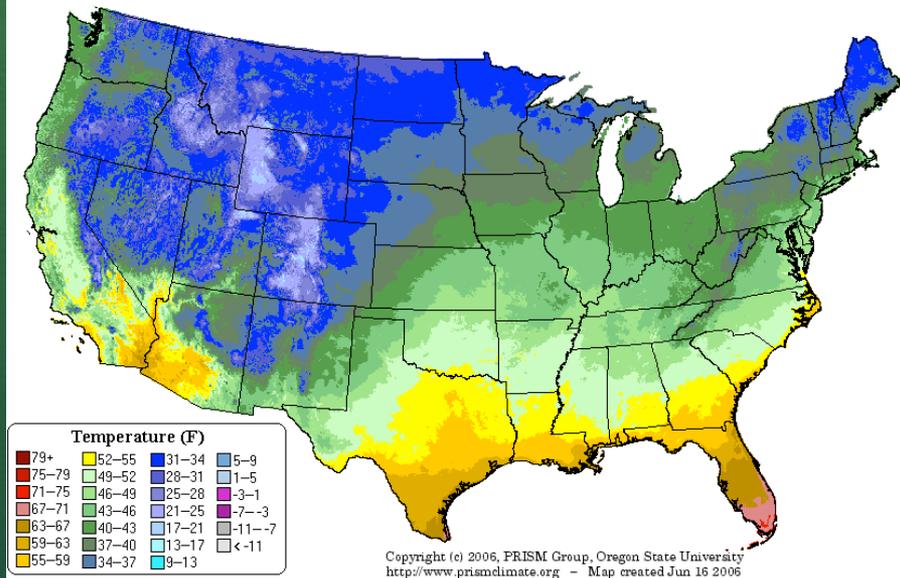
July Average Max.

Maximum Temperature: July Climatology (1971-2000)



Average Autumn Temperatures

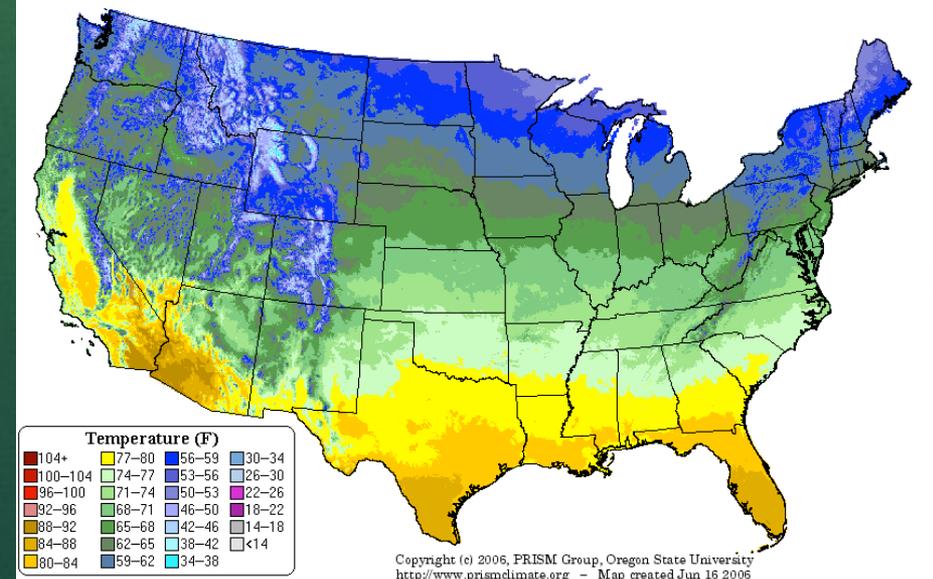
Minimum Temperature: October Climatology (1971-2000)



October Average Min.

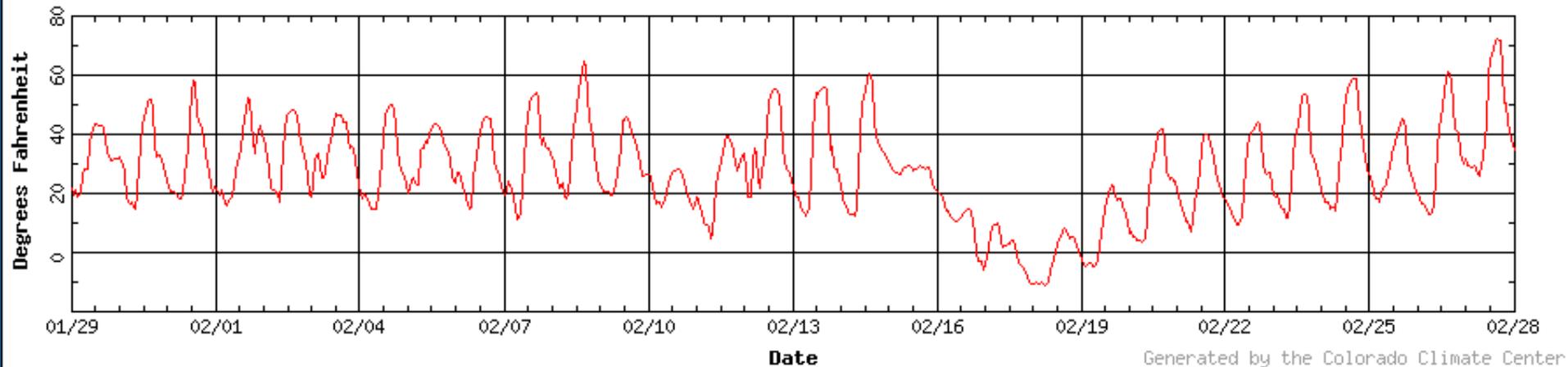
October Average Max.

Maximum Temperature: October Climatology (1971-2000)

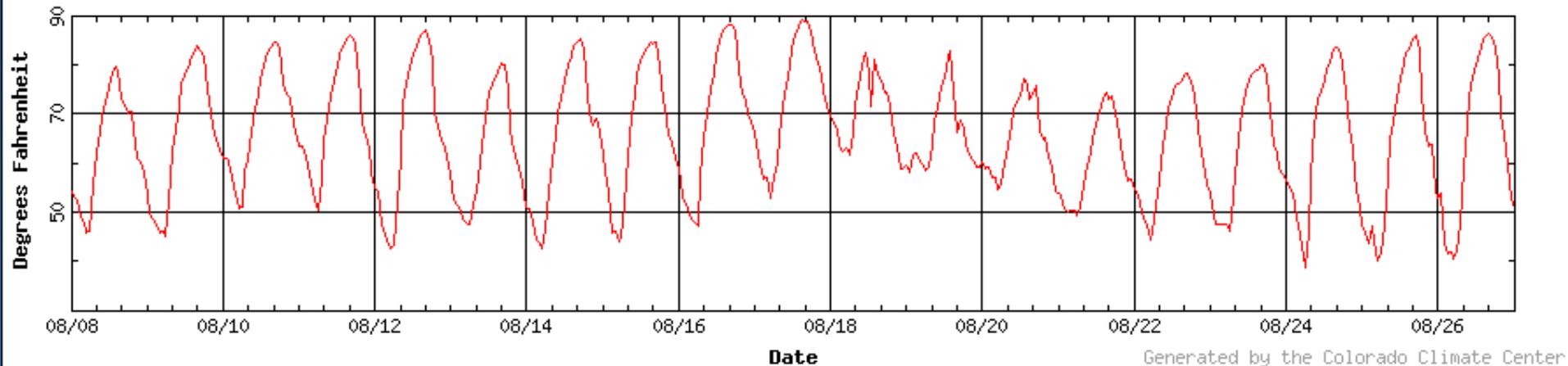


Large diurnal temperature ranges and rapid changes

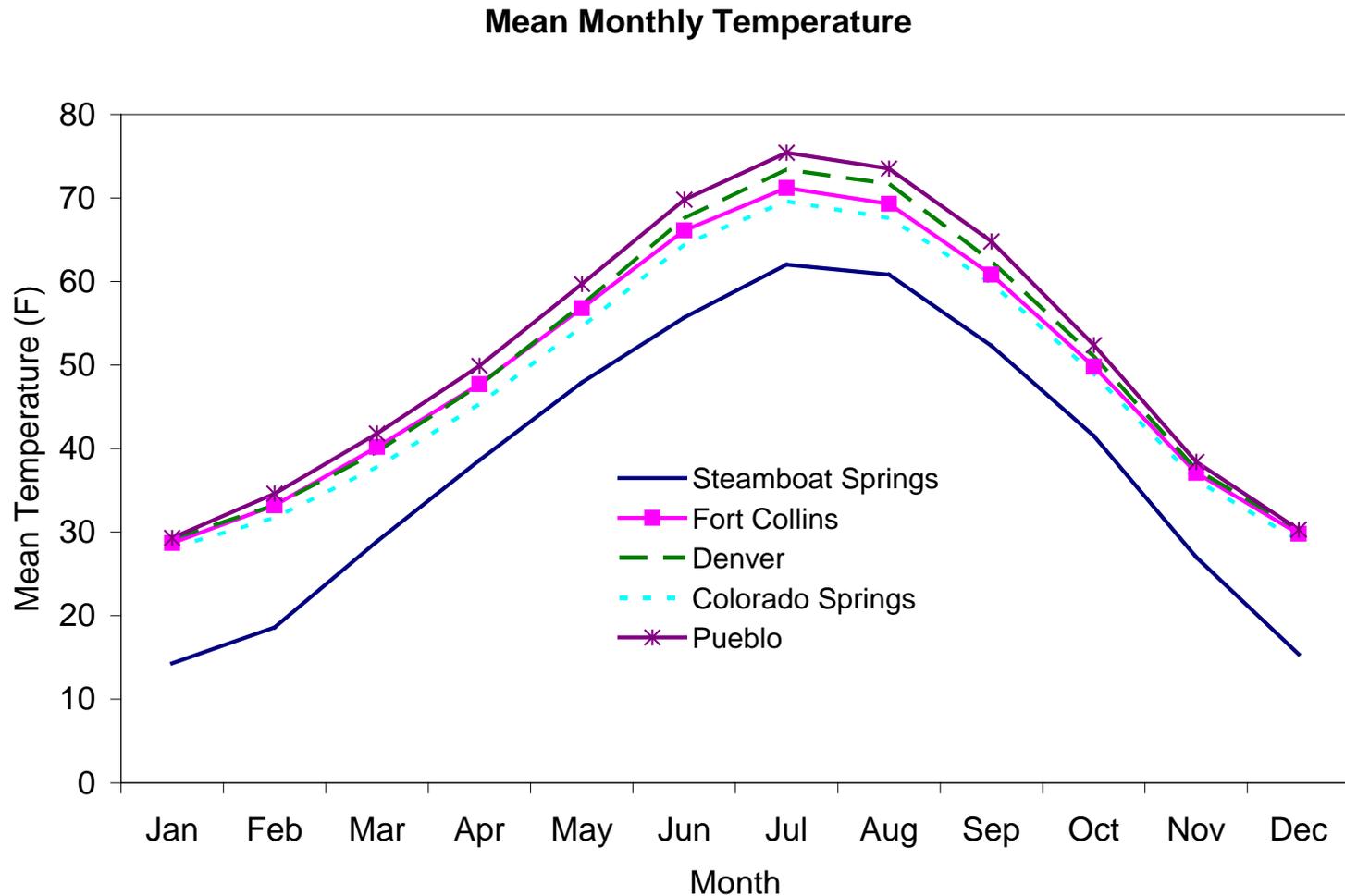
Temperature for KSY01 (01-29-2006 - 02-28-2006)



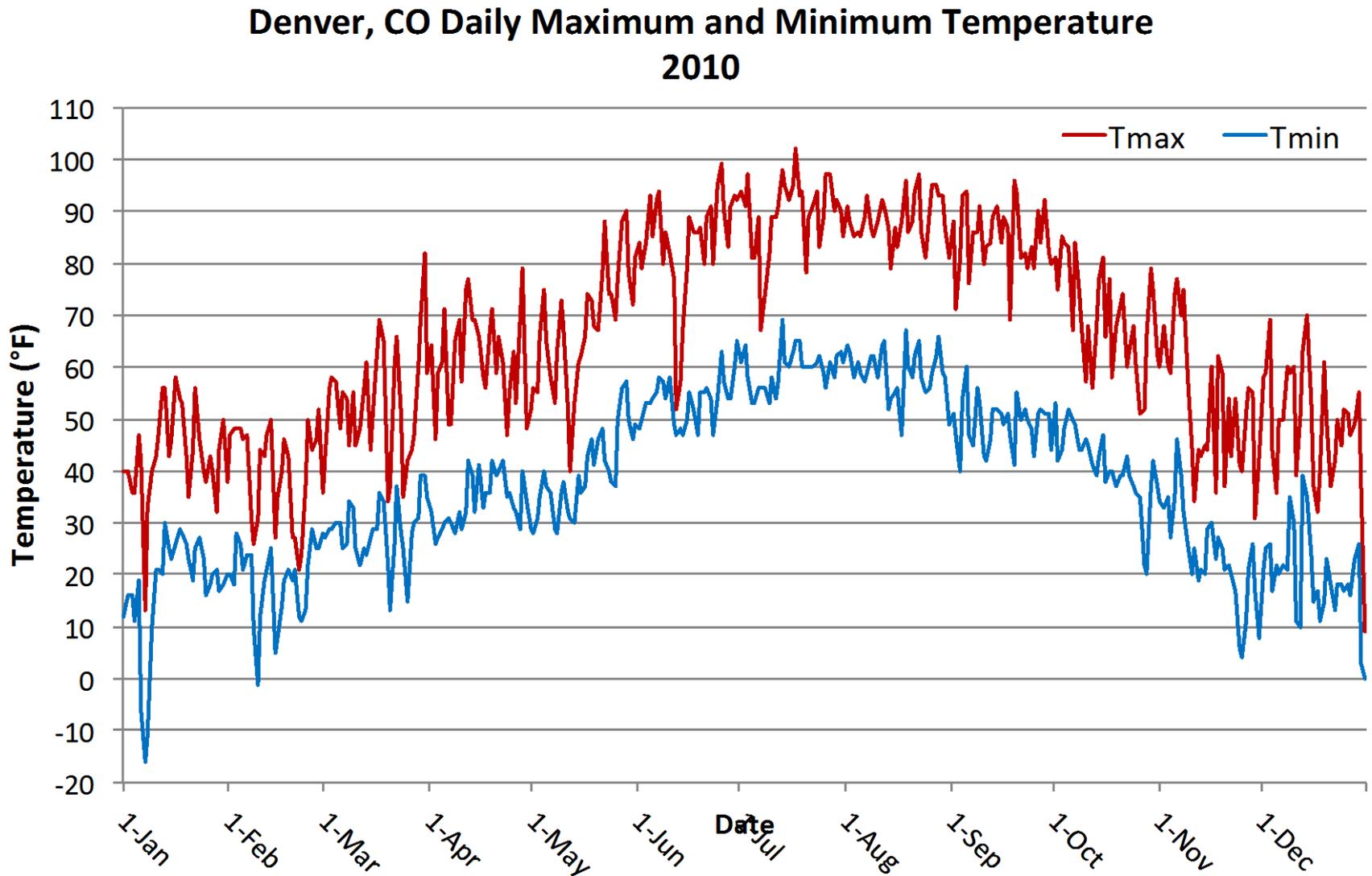
Temperature for BLA01 (08-08-2002 - 08-27-2002)



Nice smooth graphs like this of average monthly temperatures – this is a way of looking at CLIMATE

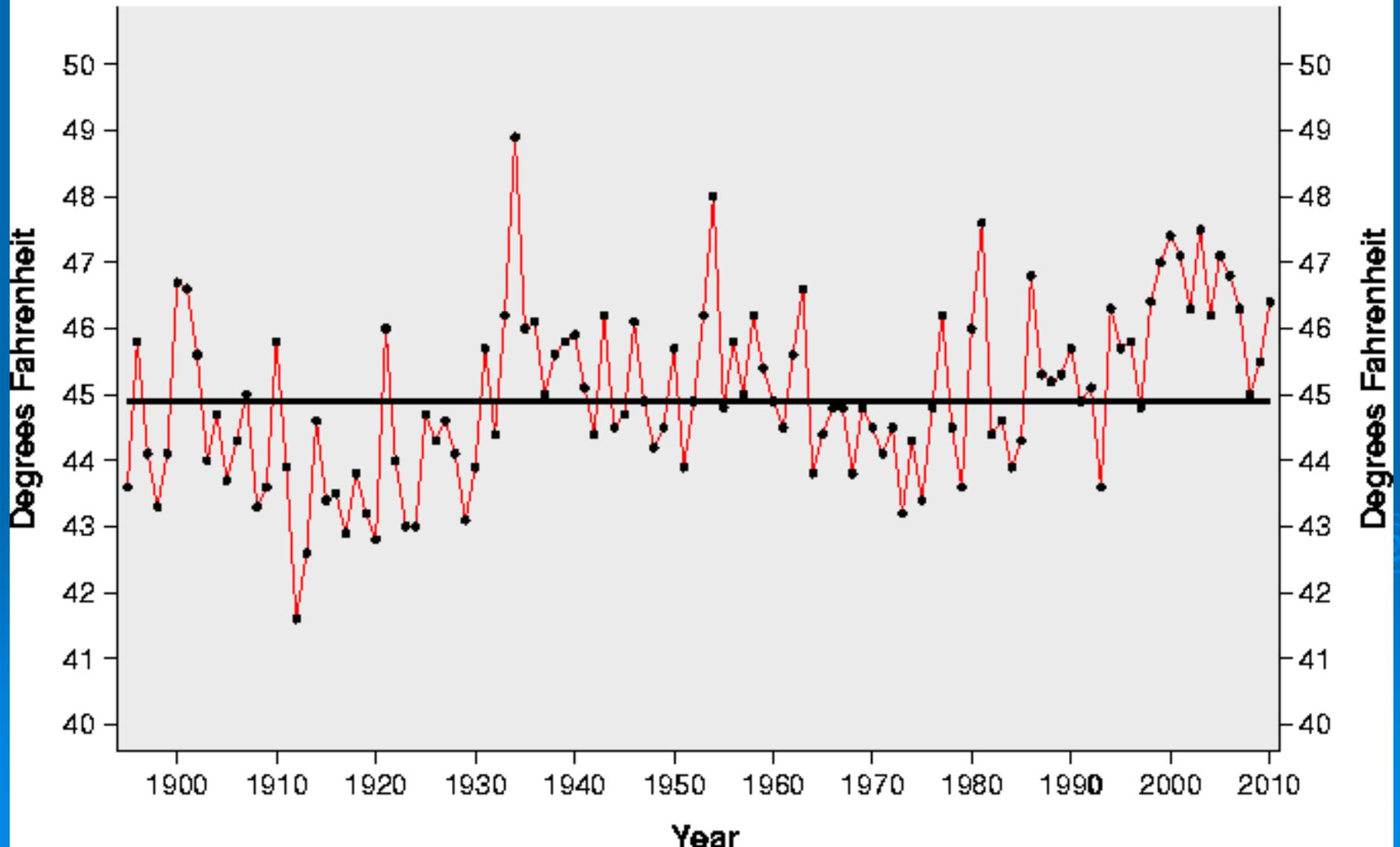


And this is how daily weather, over time, defines our climate



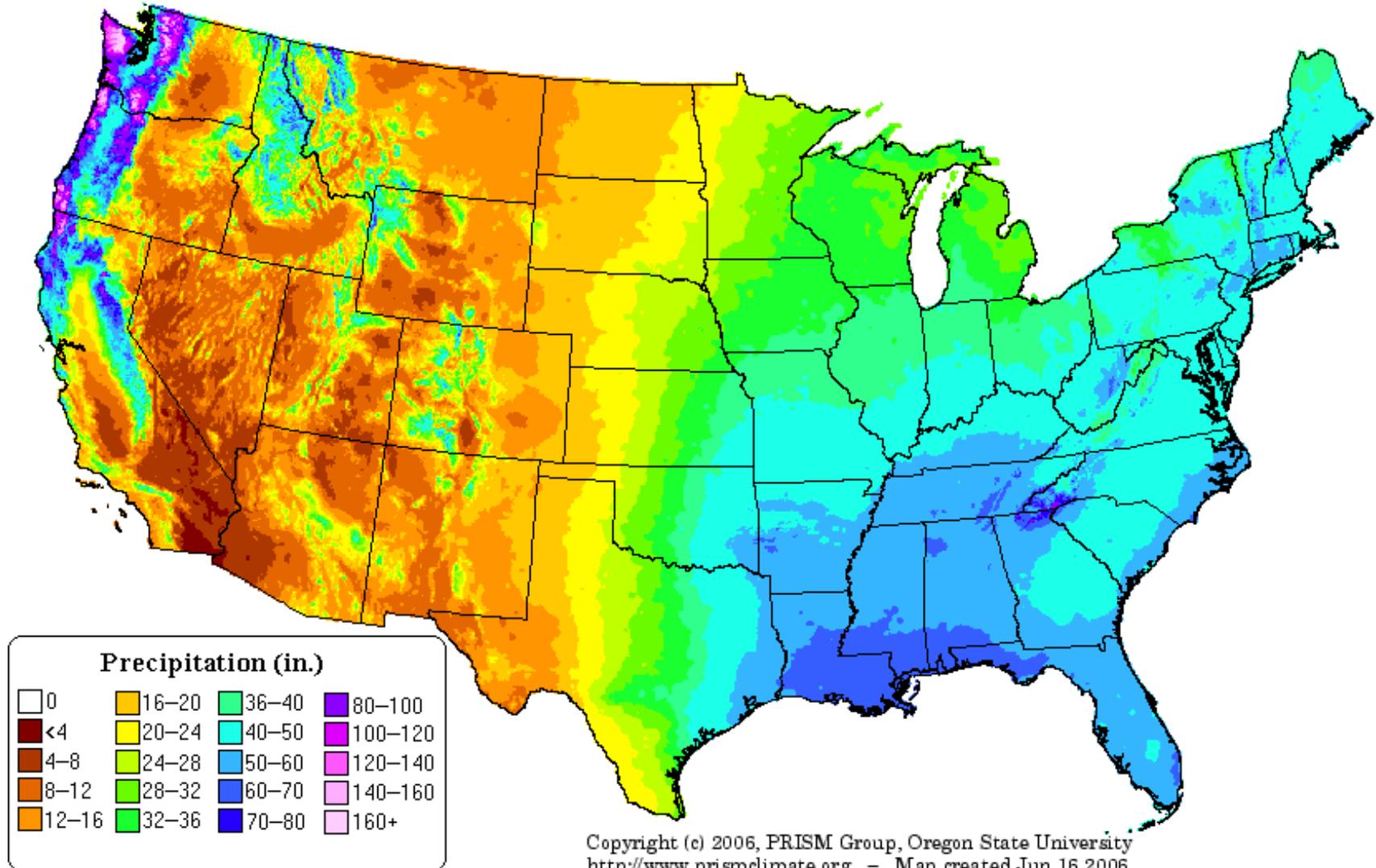
Relatively Large Year to Year Variations (“Interannual Variability”)

Colorado Statewide Mean Annual Temperature (1895-2010)



Where we fit in the national picture

Precipitation: Annual Climatology (1971–2000)

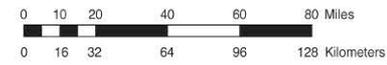
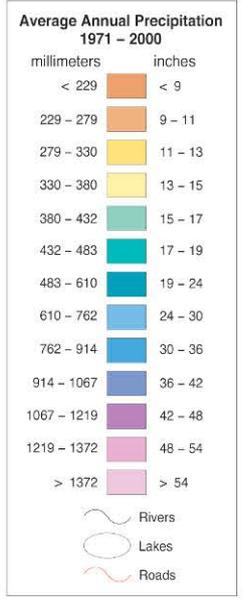
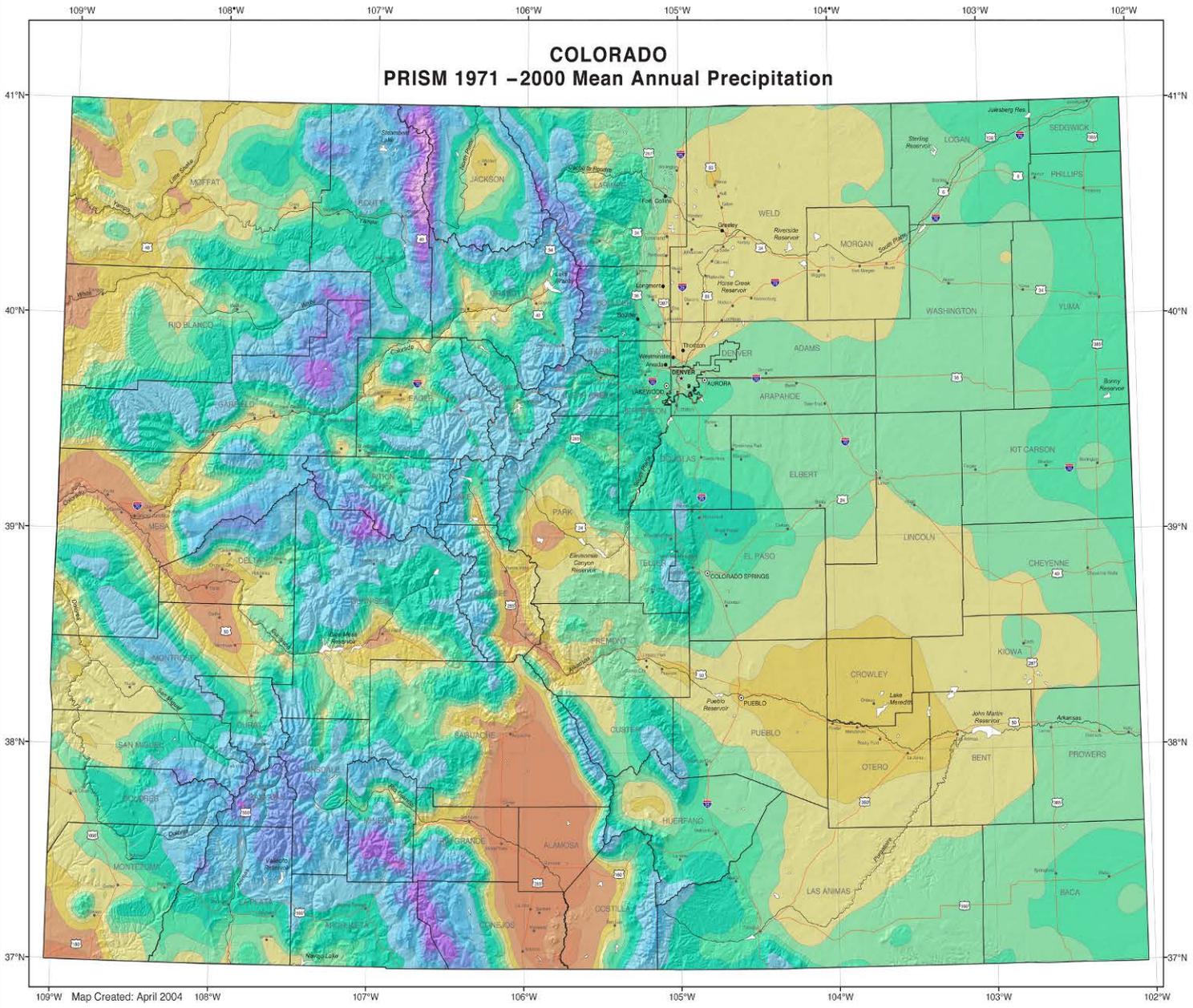


Thanks to our high elevation and interesting topography, precipitation occurs fairly often. But we're a long way from primary moisture sources so precipitation is limited and highly variable.

Photo by Wendy Ryan

COLORADO

PRISM 1971 – 2000 Mean Annual Precipitation

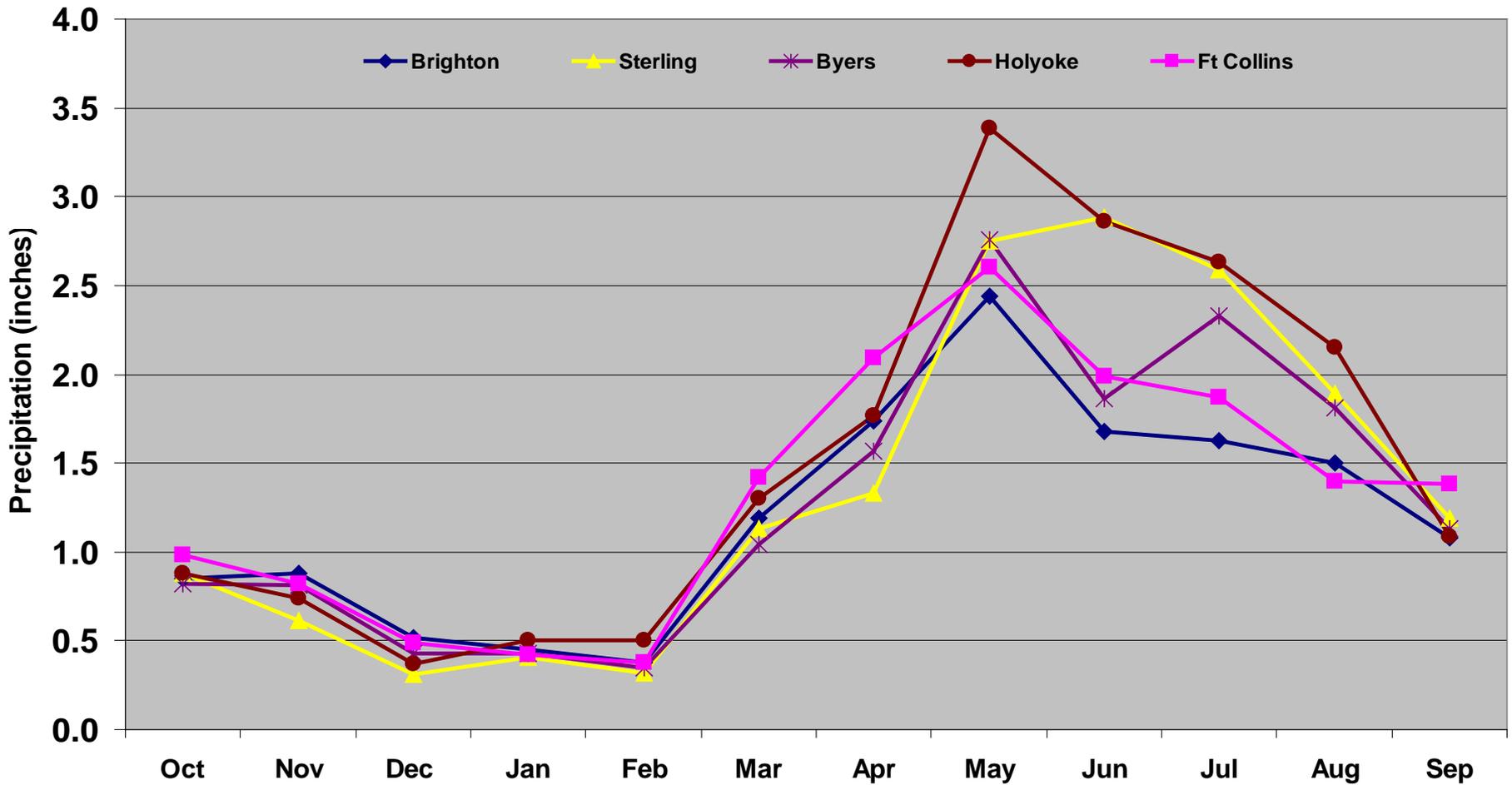


Map prepared with the PRISM climate modeling system by the Spatial Climate Analysis Service, Oregon State University.
<http://www.ocs.orst.edu/prism> Copyright (c) 2004, OSU SCAS

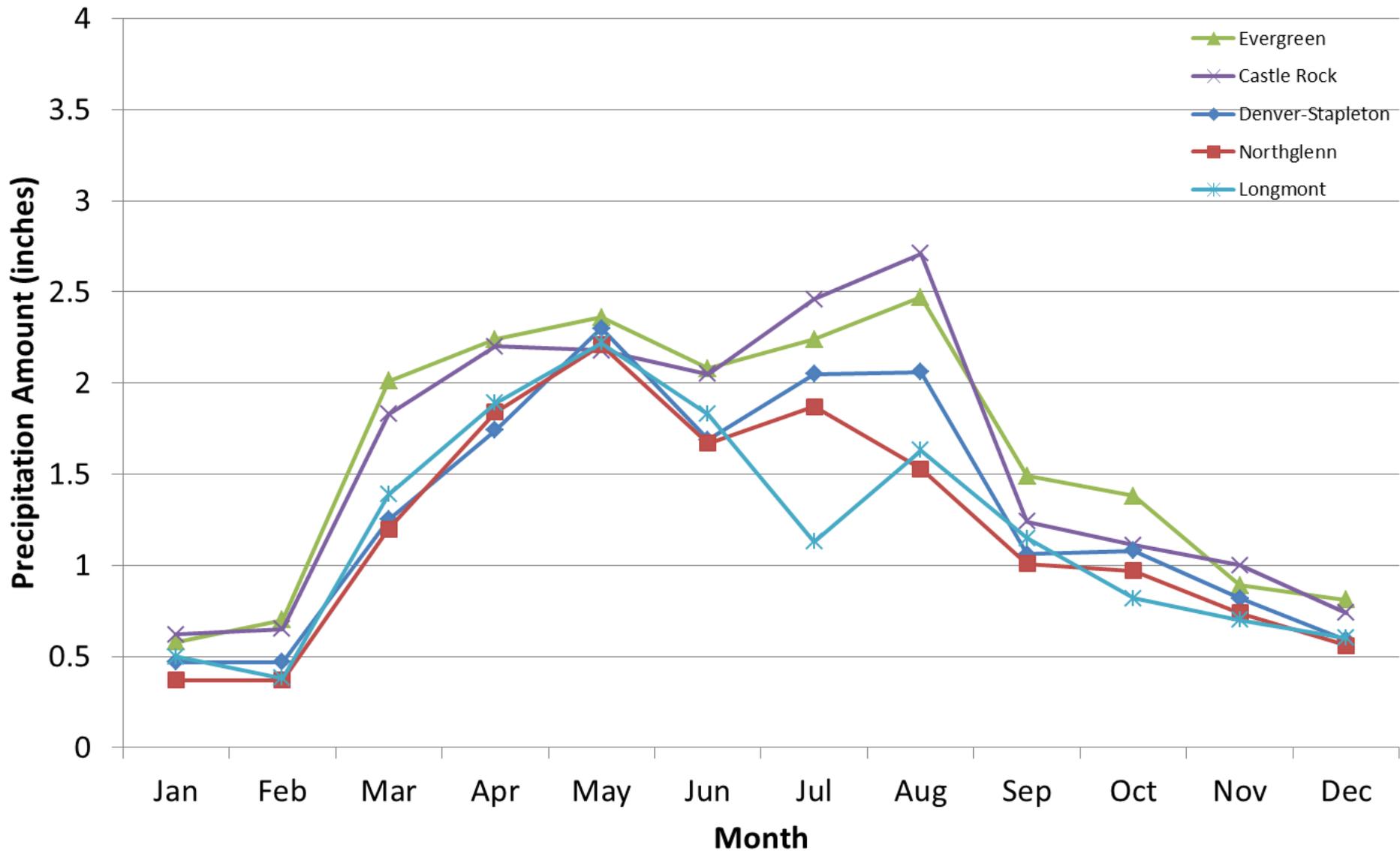


The mountains block and harvest winter moisture (most years) leaving eastern Colorado dry

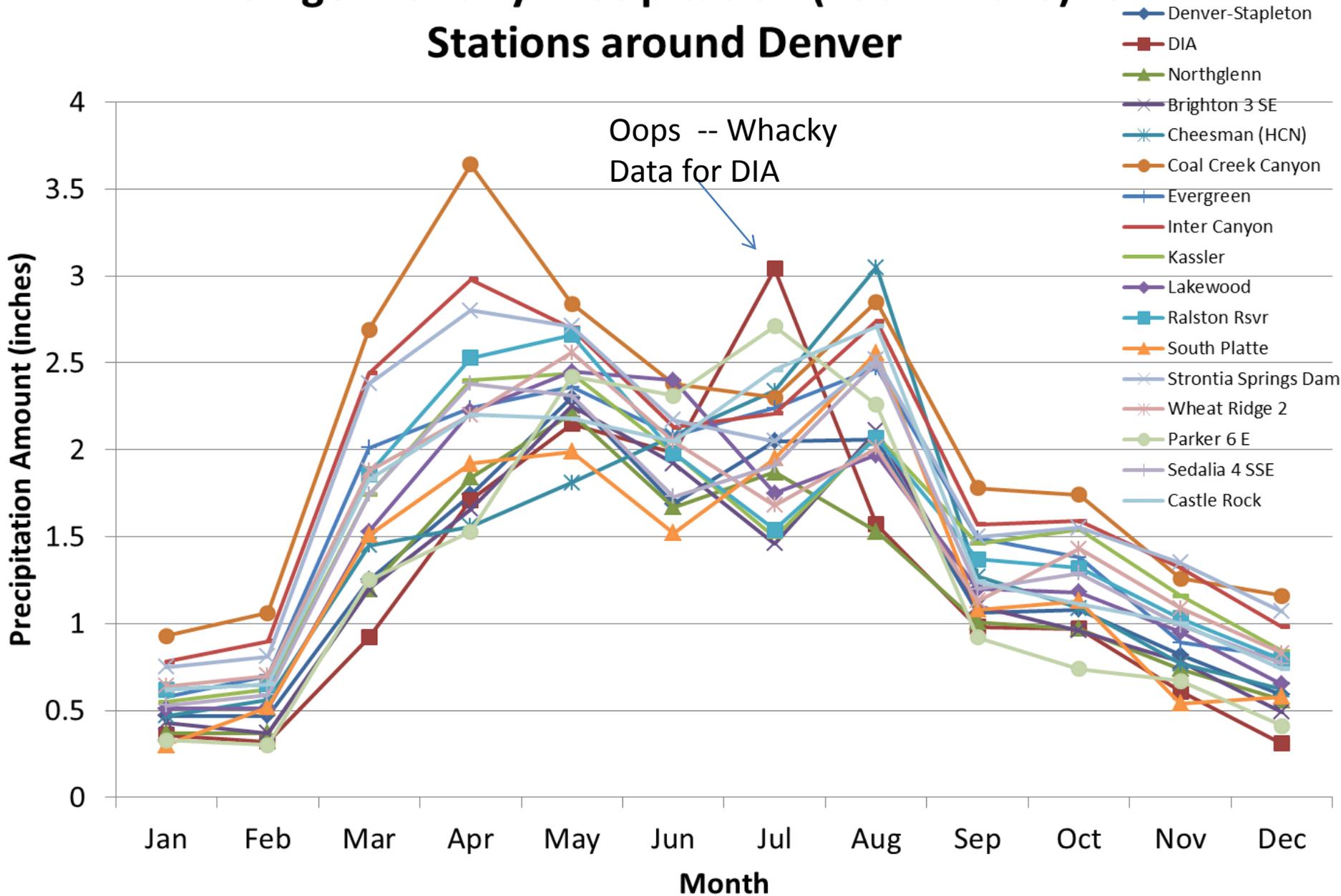
Average Precipitation Selected NE Colorado Locations



Average Monthly Precipitation (1981 - 2010) for Stations around Denver

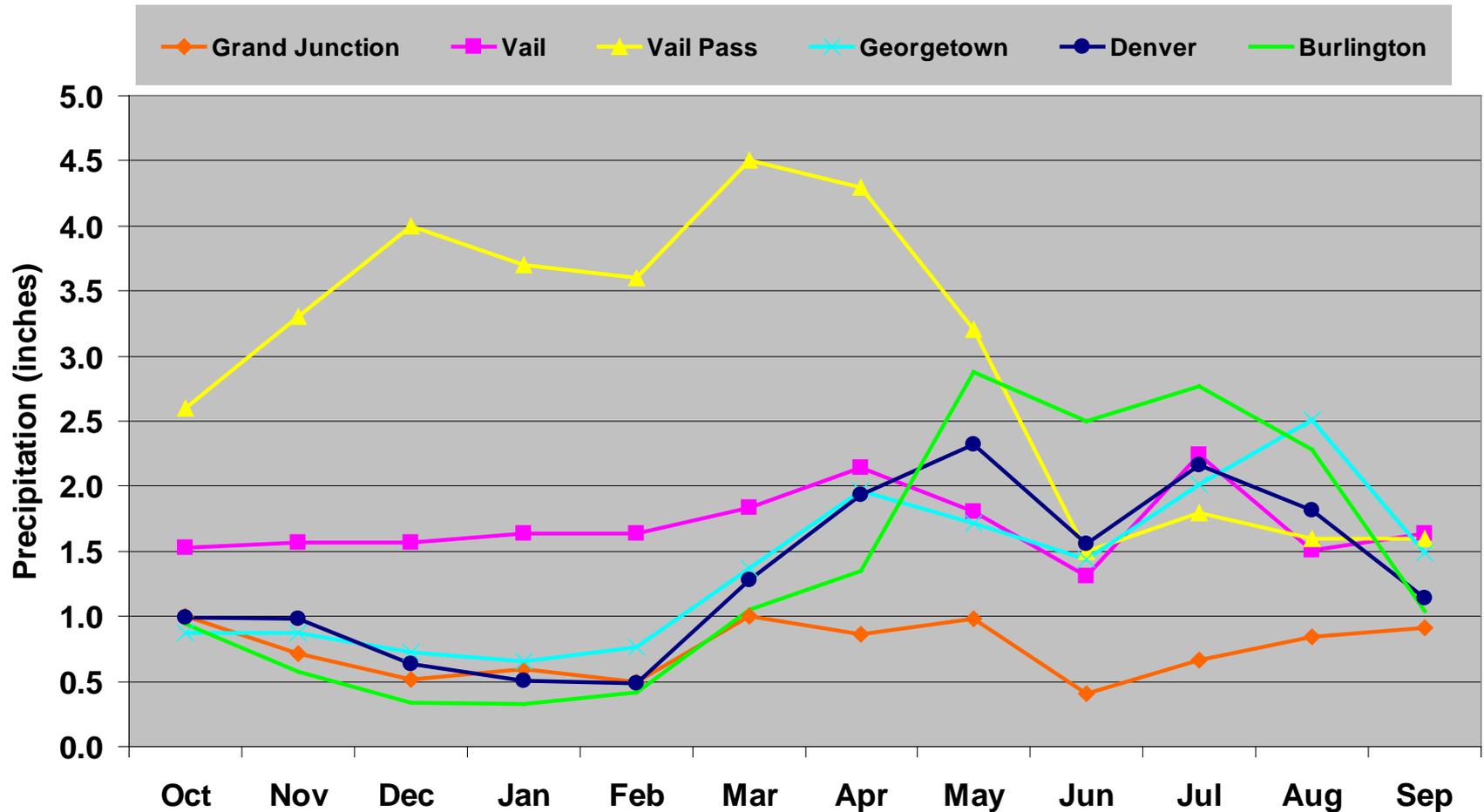


Average Monthly Precipitation (1981 - 2010) for Stations around Denver



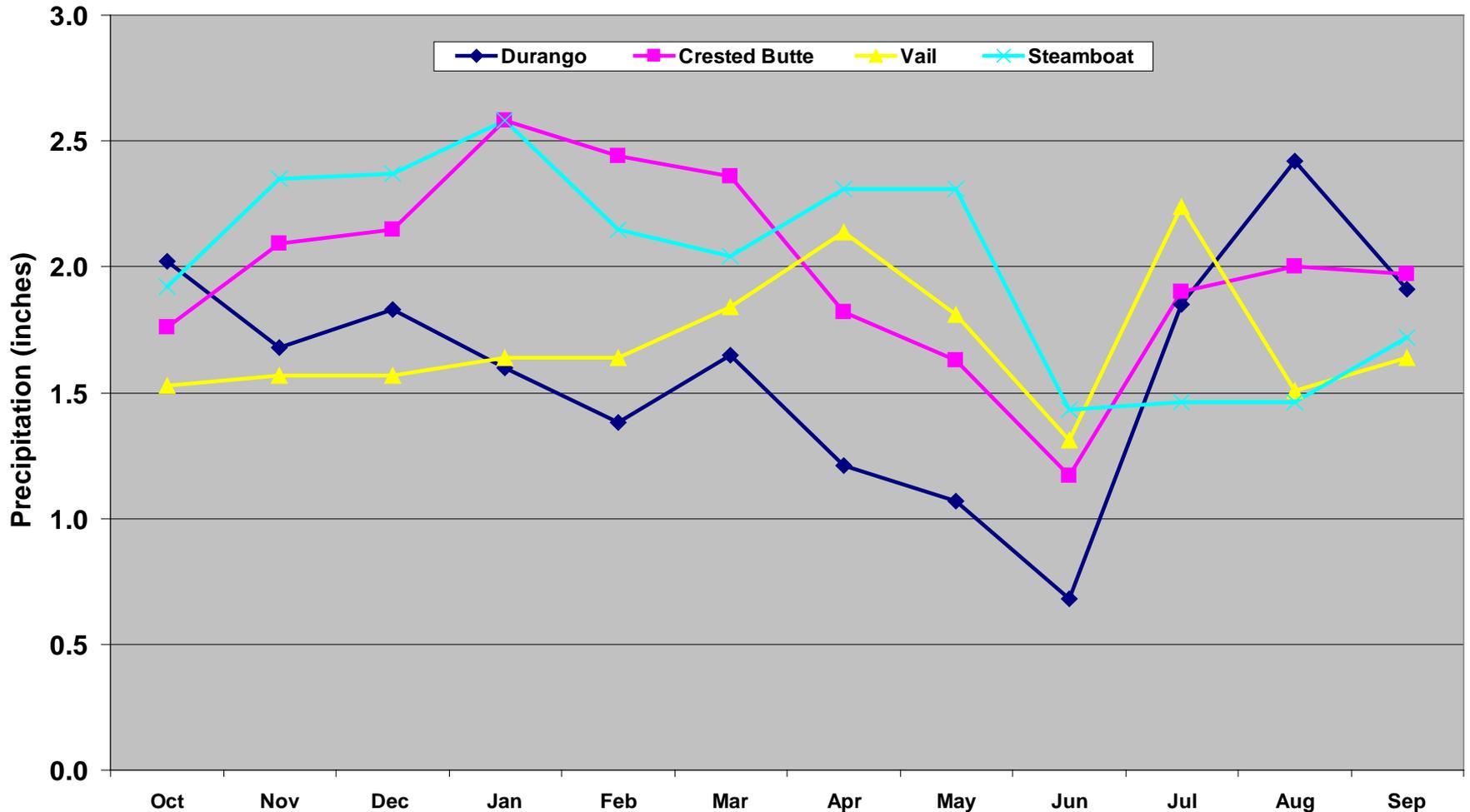
Precipitation patterns in Colorado along I-70

Water Year Average Precipitation for Selected Stations



Seasonal Precipitation Averages North-South Transect

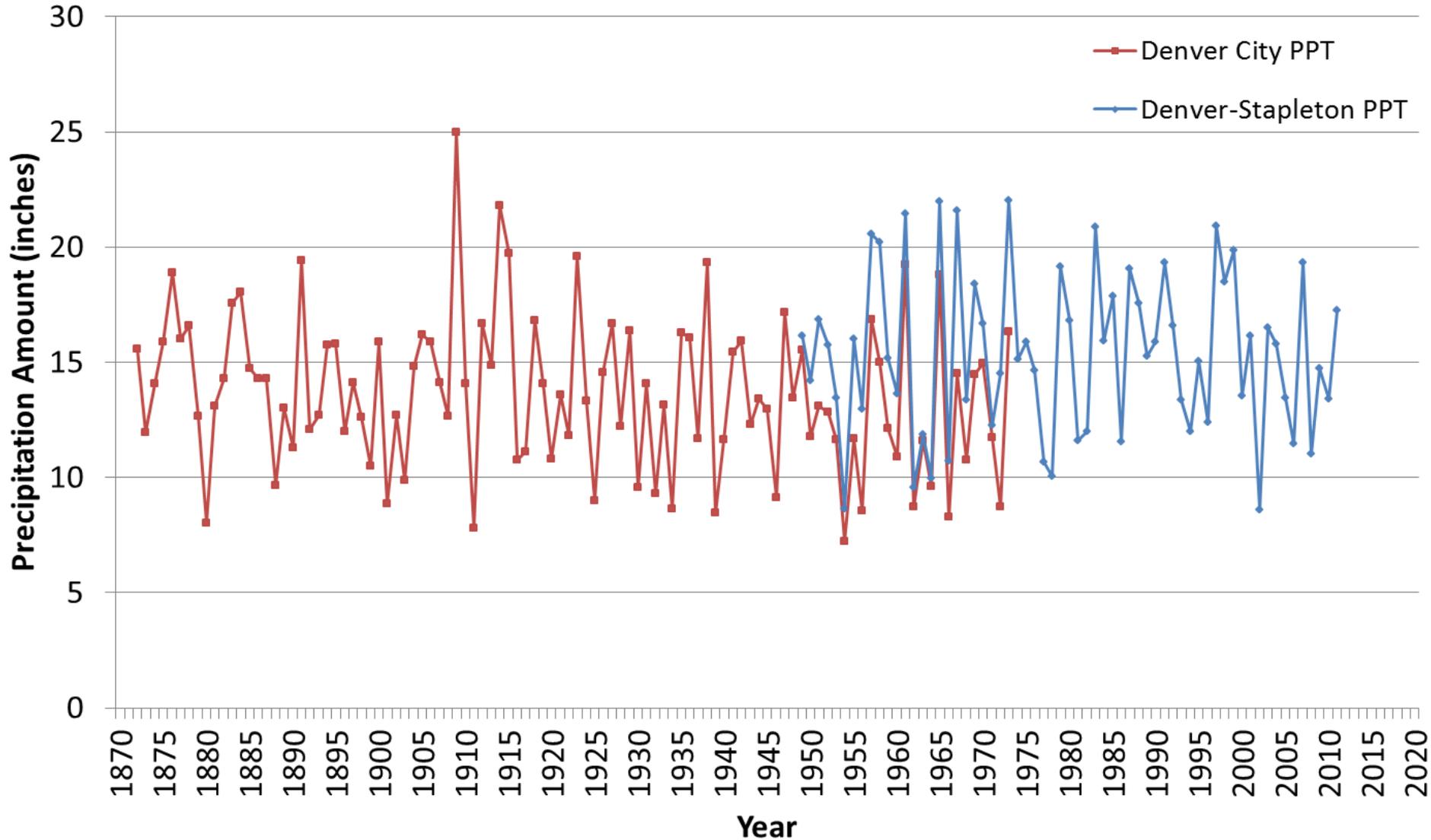
North-South Transect Water Year Precipitation Averages



Large Year-to-Year Variations in Precipitation

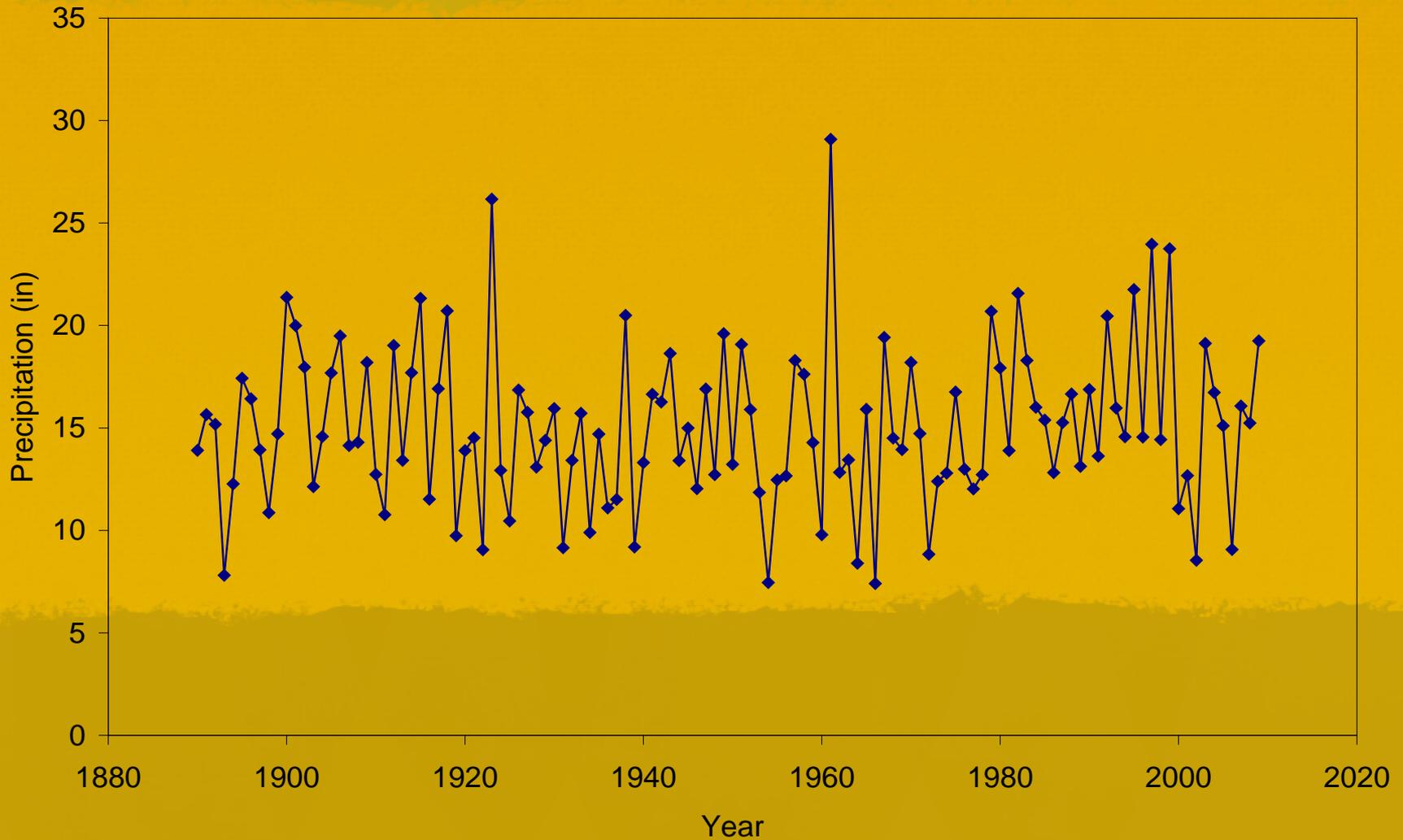


Denver Water Year Precipitation (1872 - 2011)



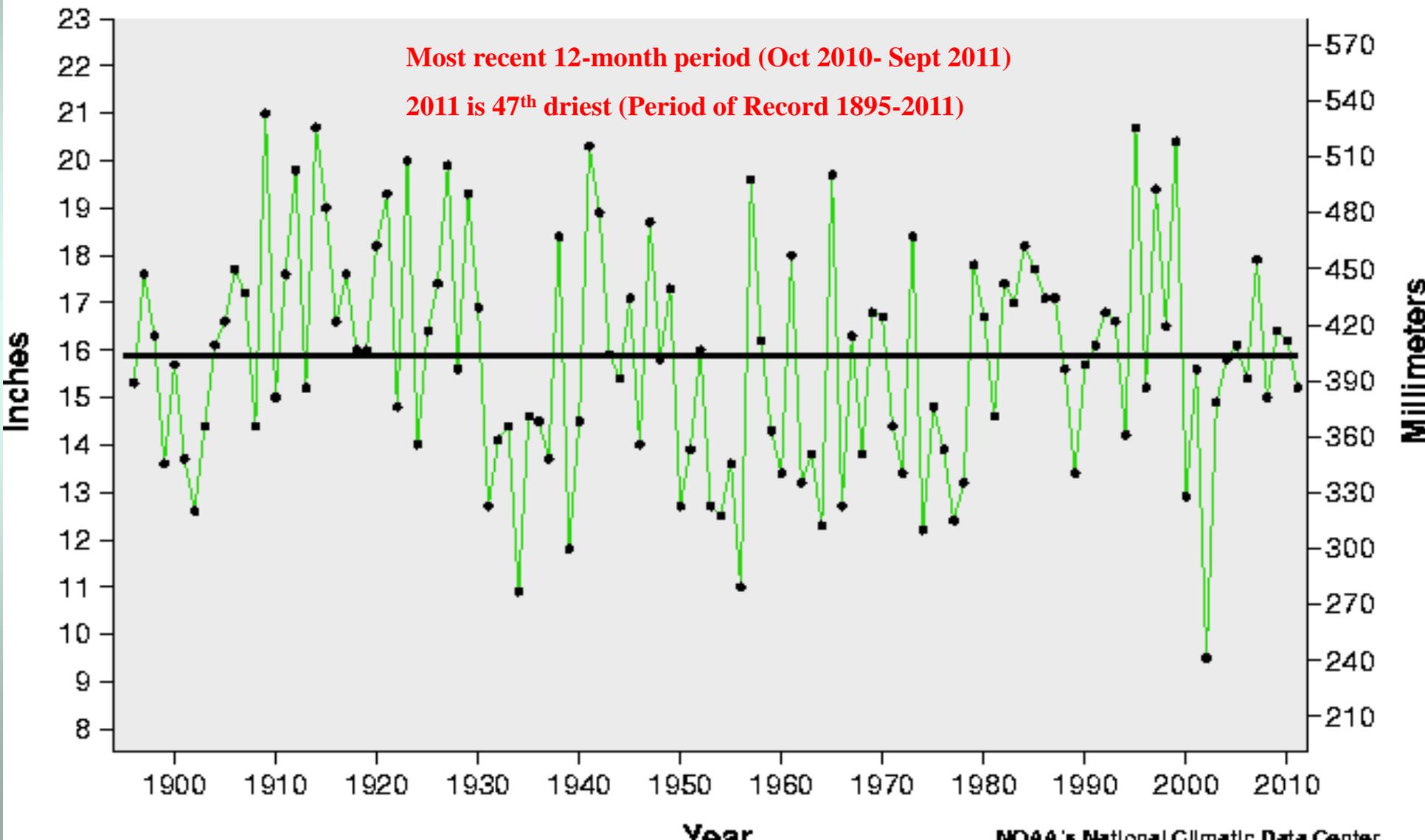
In semi-arid parts of the U.S. precipitation may vary by more than 100% from one year to the next.

Fort Collins Water Year Precipitation



Colorado Precipitation in Historic Perspective

Actual Precipitation
Average Precipitation



And like it or not

Colorado
State
University®
Knowledge to Go Places



COLORADO
CLIMATE
CENTER

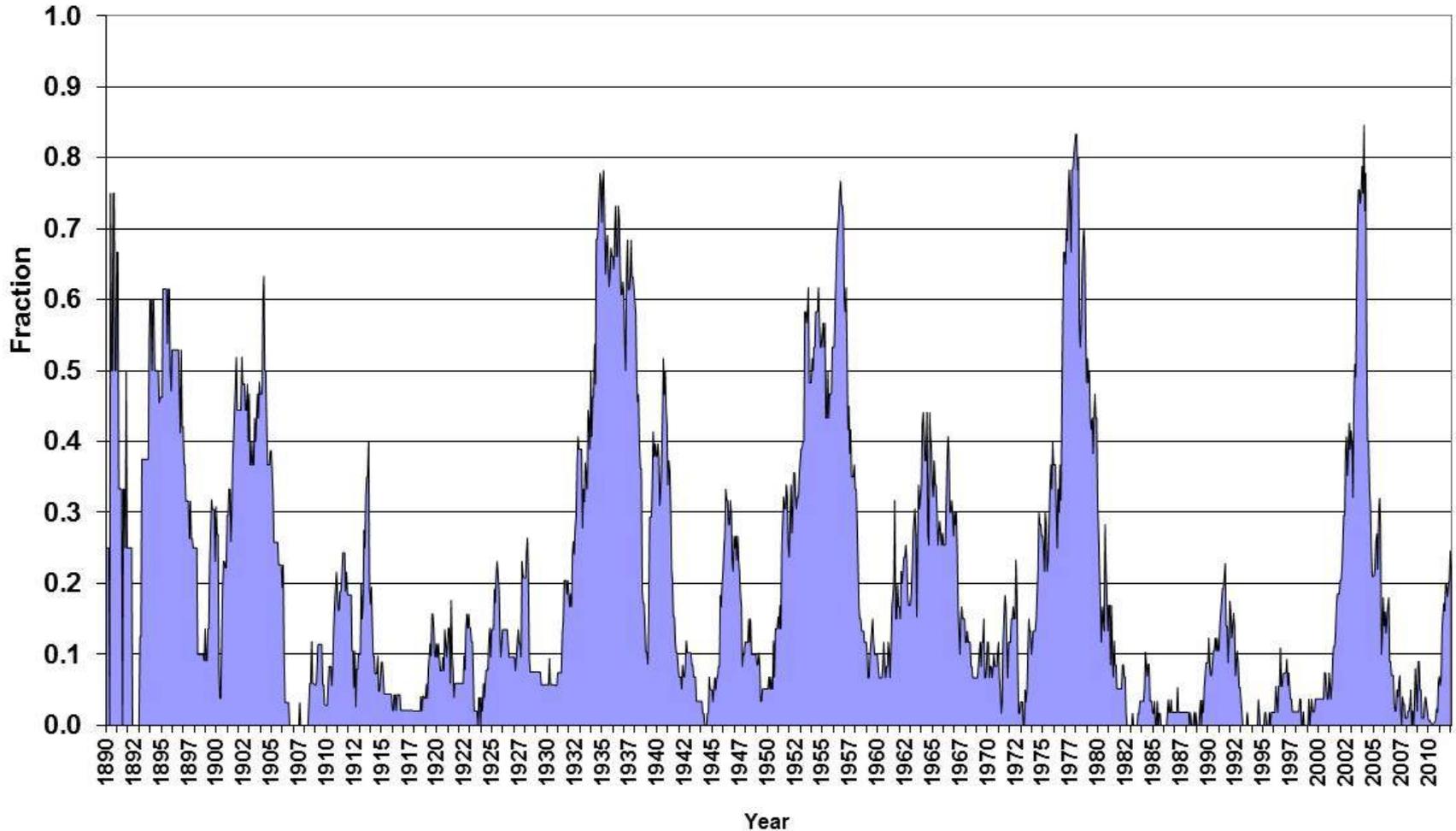
Drought Visits Our Area Regularly



Photo by NRCS

Multi-year droughts are infrequent (every 10-30 yrs) but have broad and diverse impacts

Fraction of Colorado in Drought Based on 48 month SPI (SPI <-1) (1890 - February 2012)



***What are our climate data
telling us about changes
in climate in Colorado?***

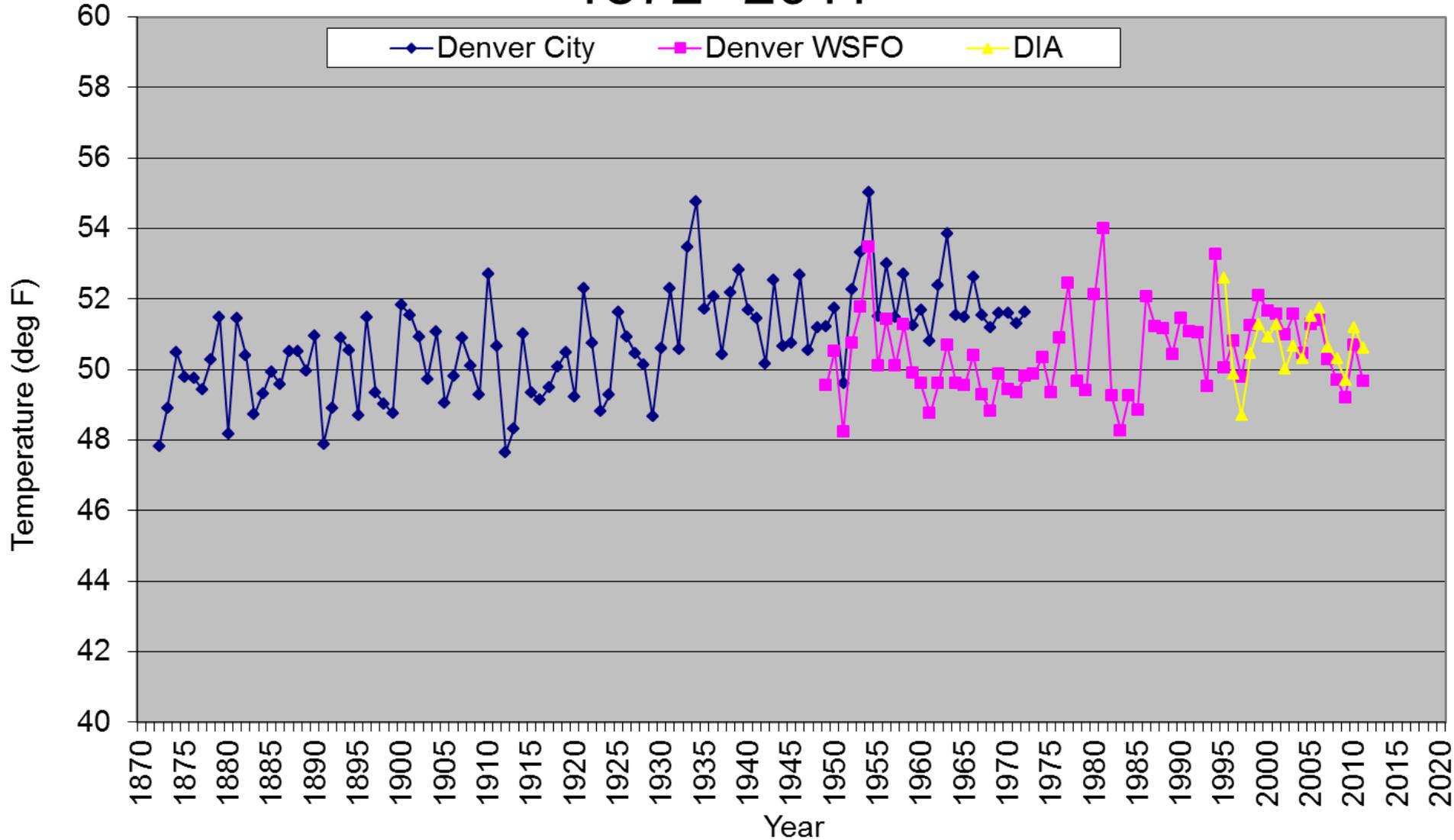


Confidently detecting climatic trends is much more challenging and difficult than determining spatial patterns, seasonal cycles, or year-to-year variations

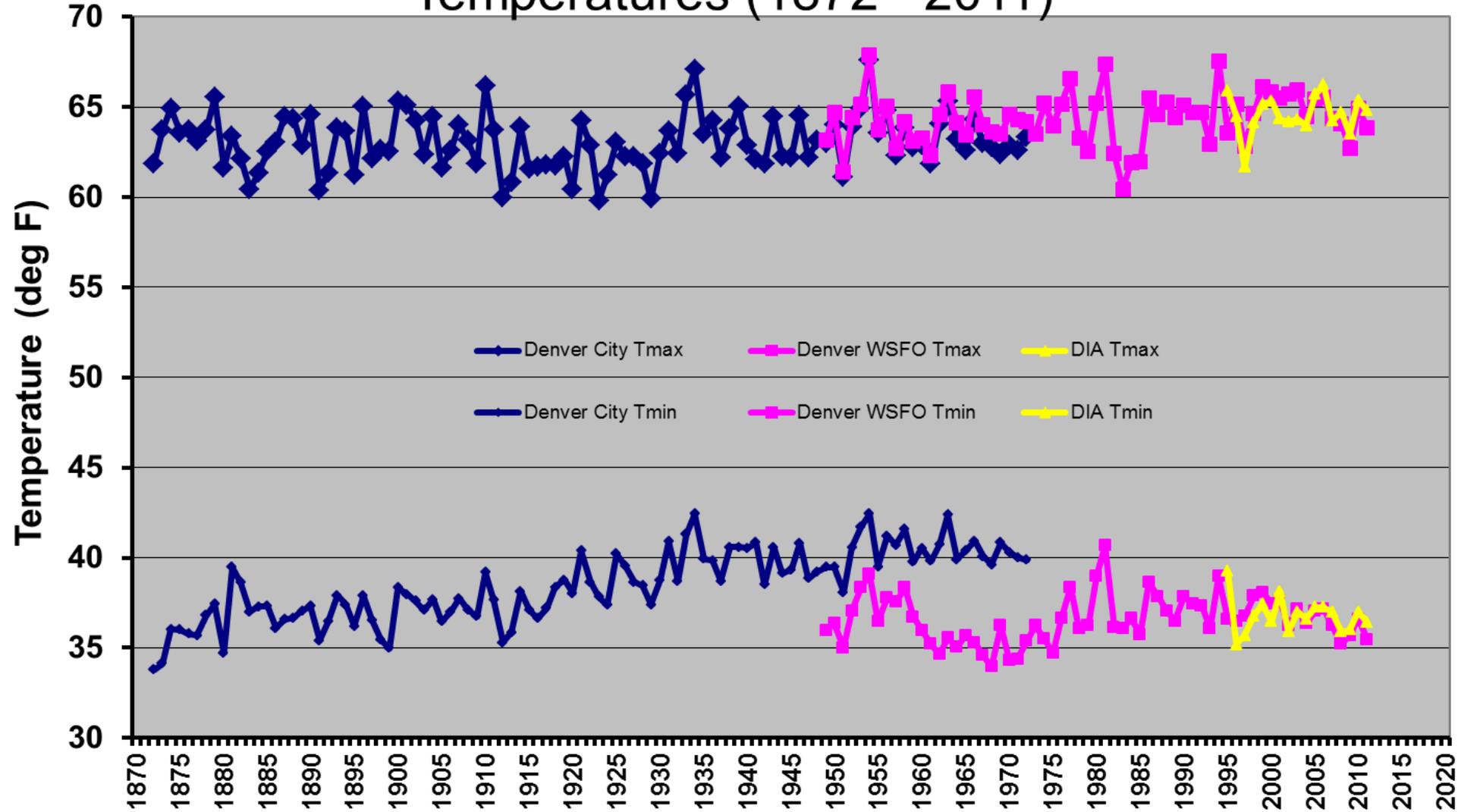


Lack of historically consistent long-term climate data make it difficult to draw confident conclusions on climate trends in the immediate Denver area

Denver Average Annual Temperature 1872 -2011

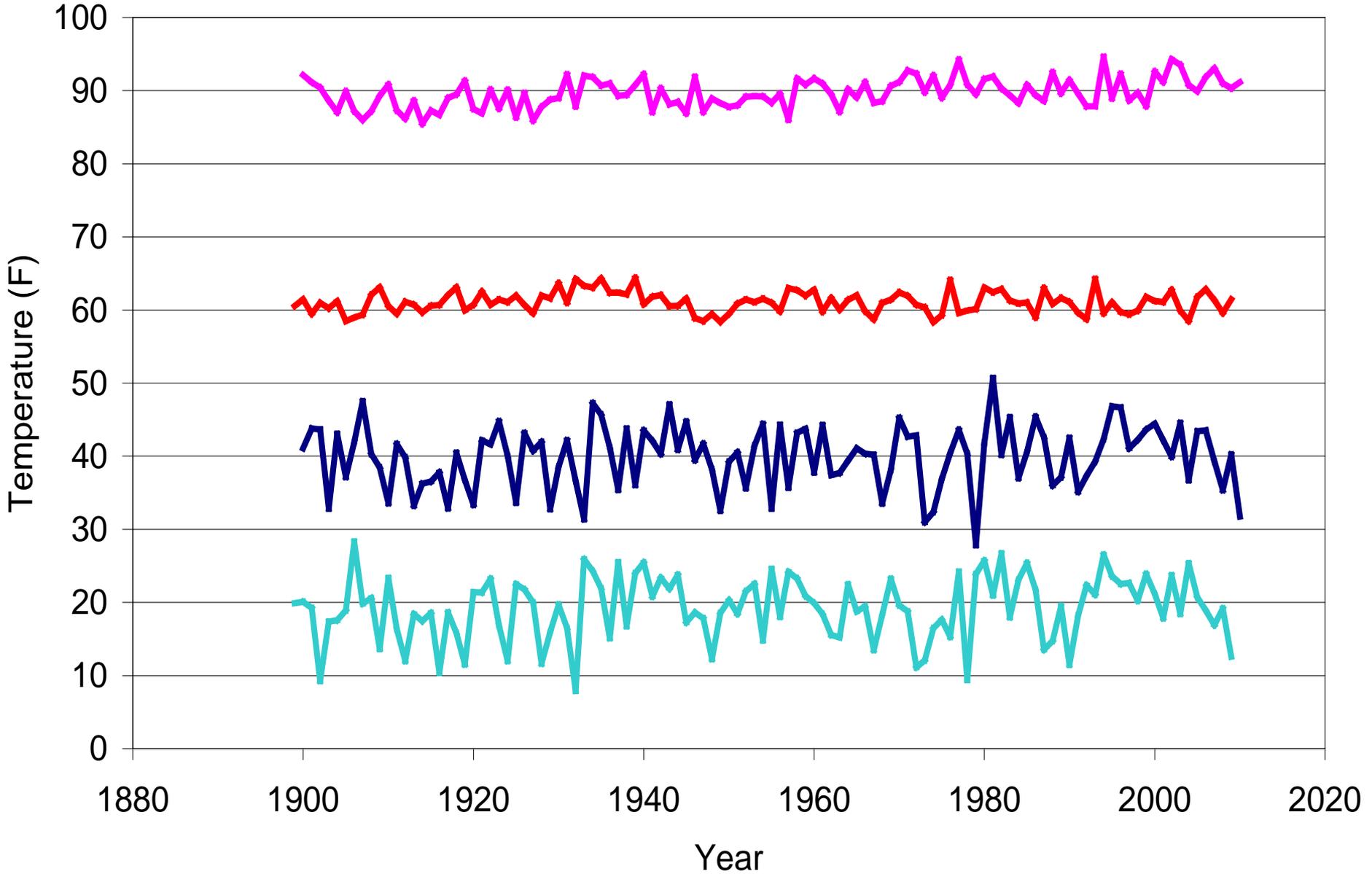


Denver Annual Average Maximum and Minimum Temperatures (1872 - 2011)



Grand Junction Seasonal Maximum and Minimum Temperatures

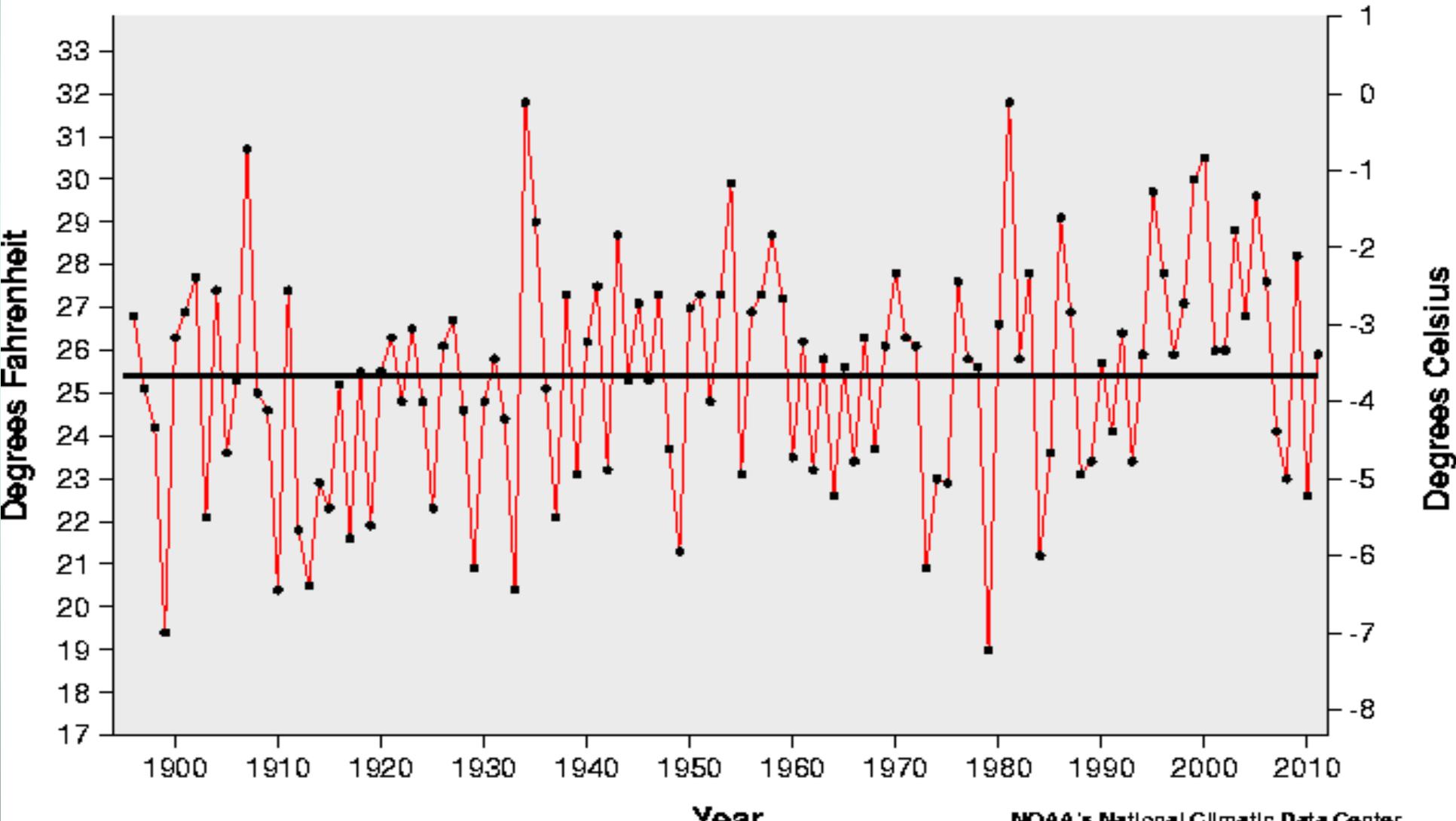
Winter Maximum Summer Maximum Winter Minimum Summer Minimum



Colorado Mean Winter (DJF) Temperatures

— Actual Temperature
— Average Temperature

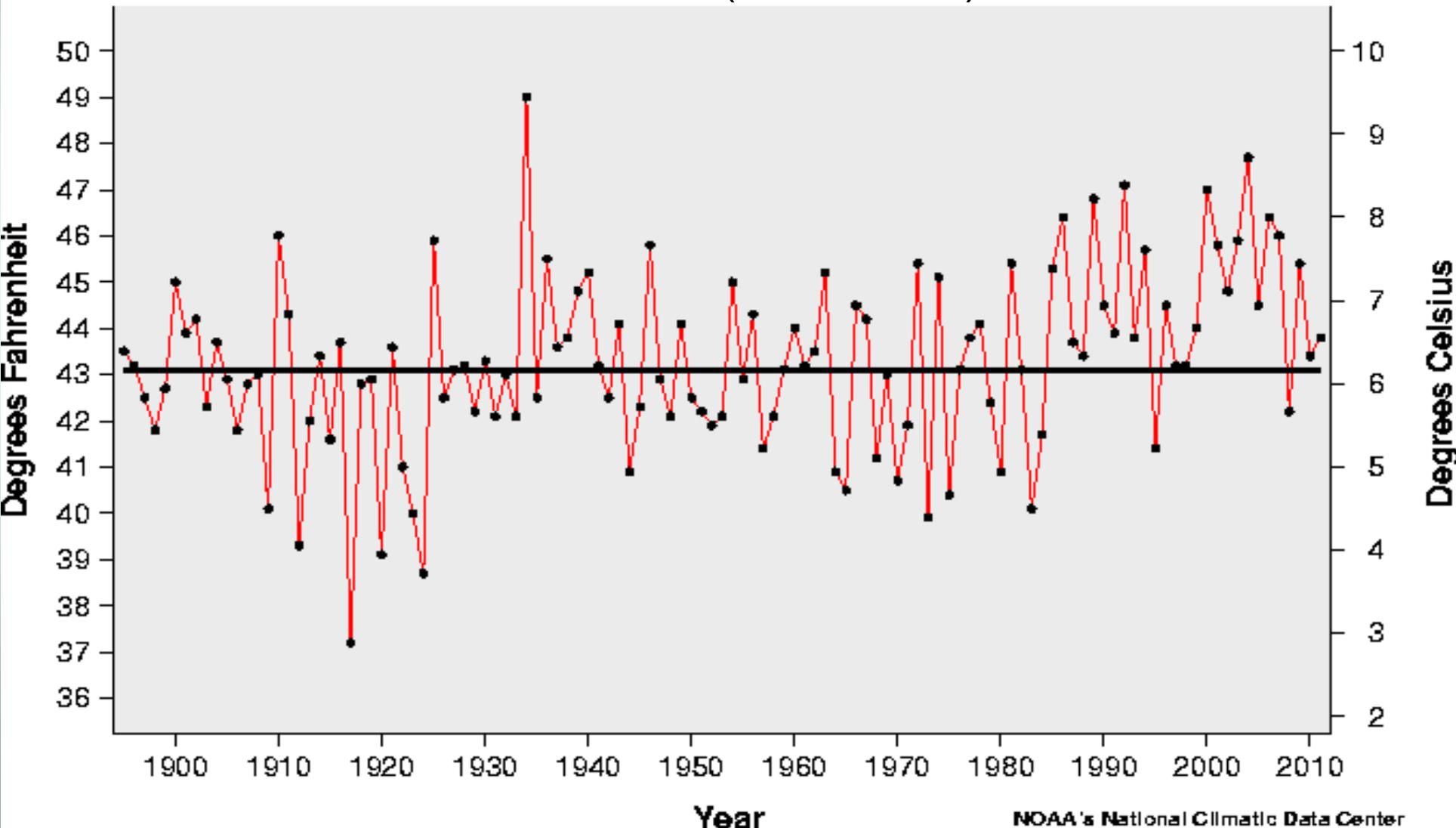
64th Coldest Winter
(1895-2011)



Colorado Mean Spring (MAM) Temperatures

— **Actual Temperature**
— **Average Temperature**

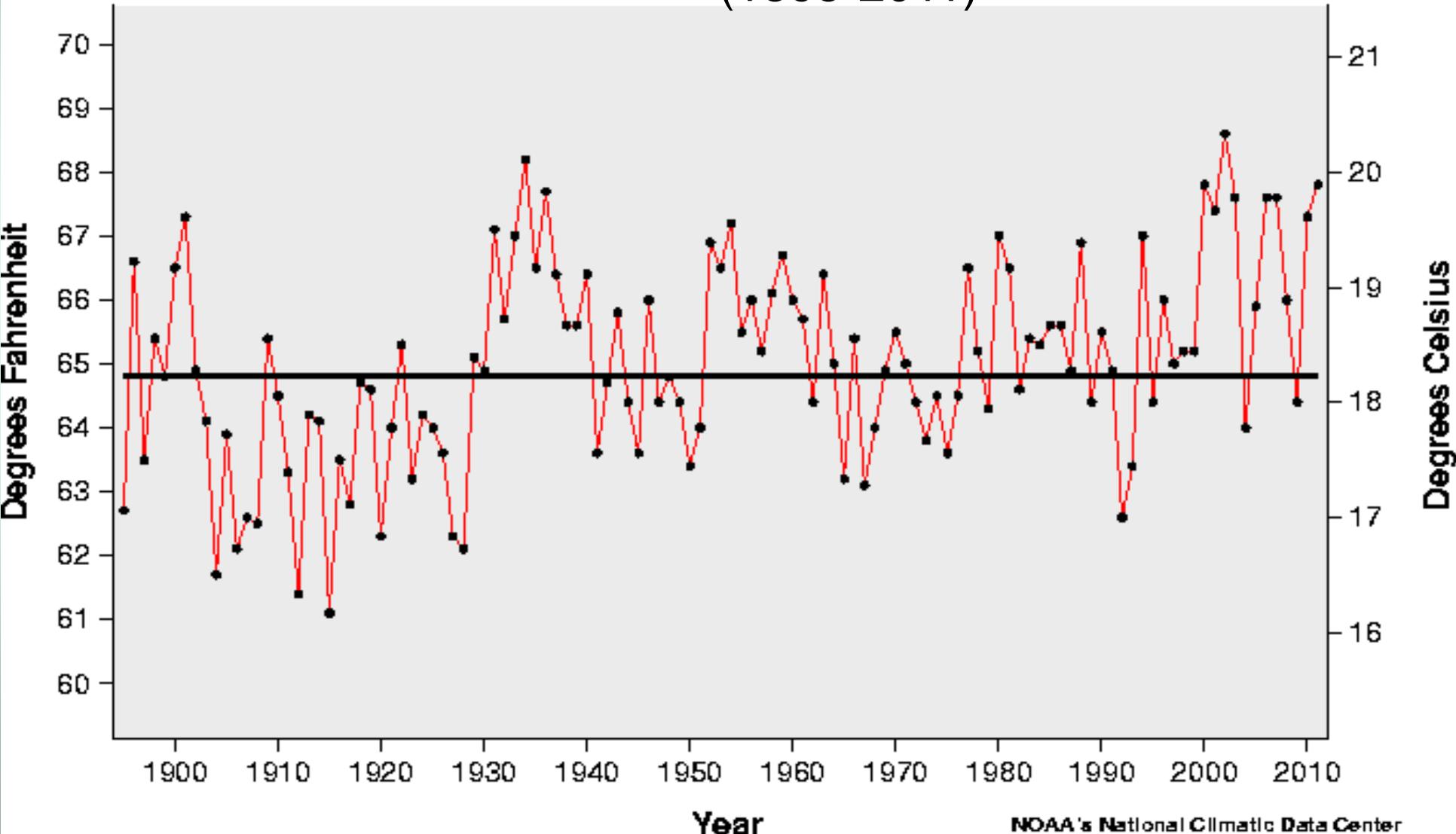
41st Warmest Spring
(1895-2011)



Colorado Mean Summer (JJA) Temperatures

— **Actual Temperature**
— **Average Temperature**

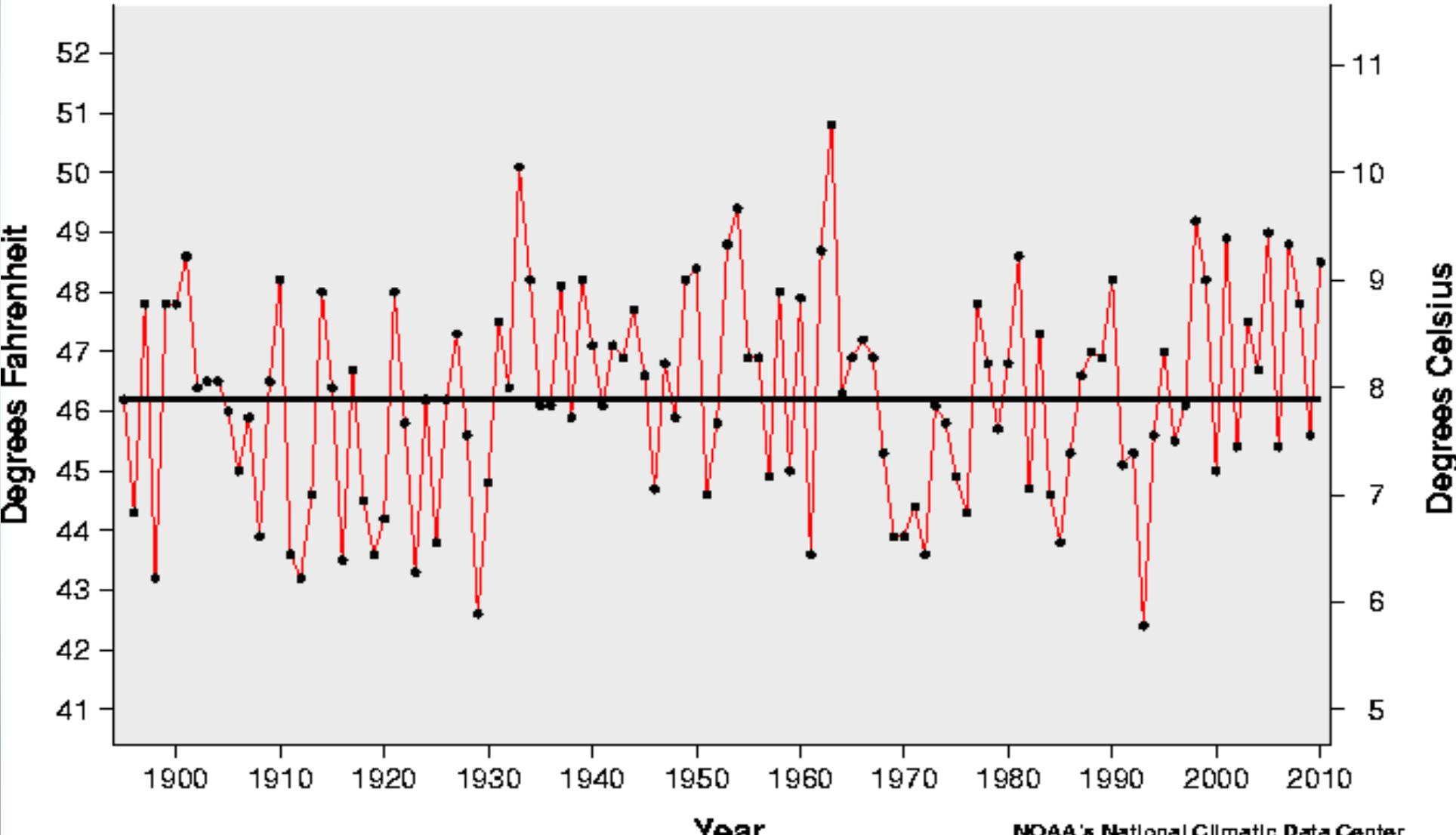
**3rd Warmest Summer!!!
(1895-2011)**



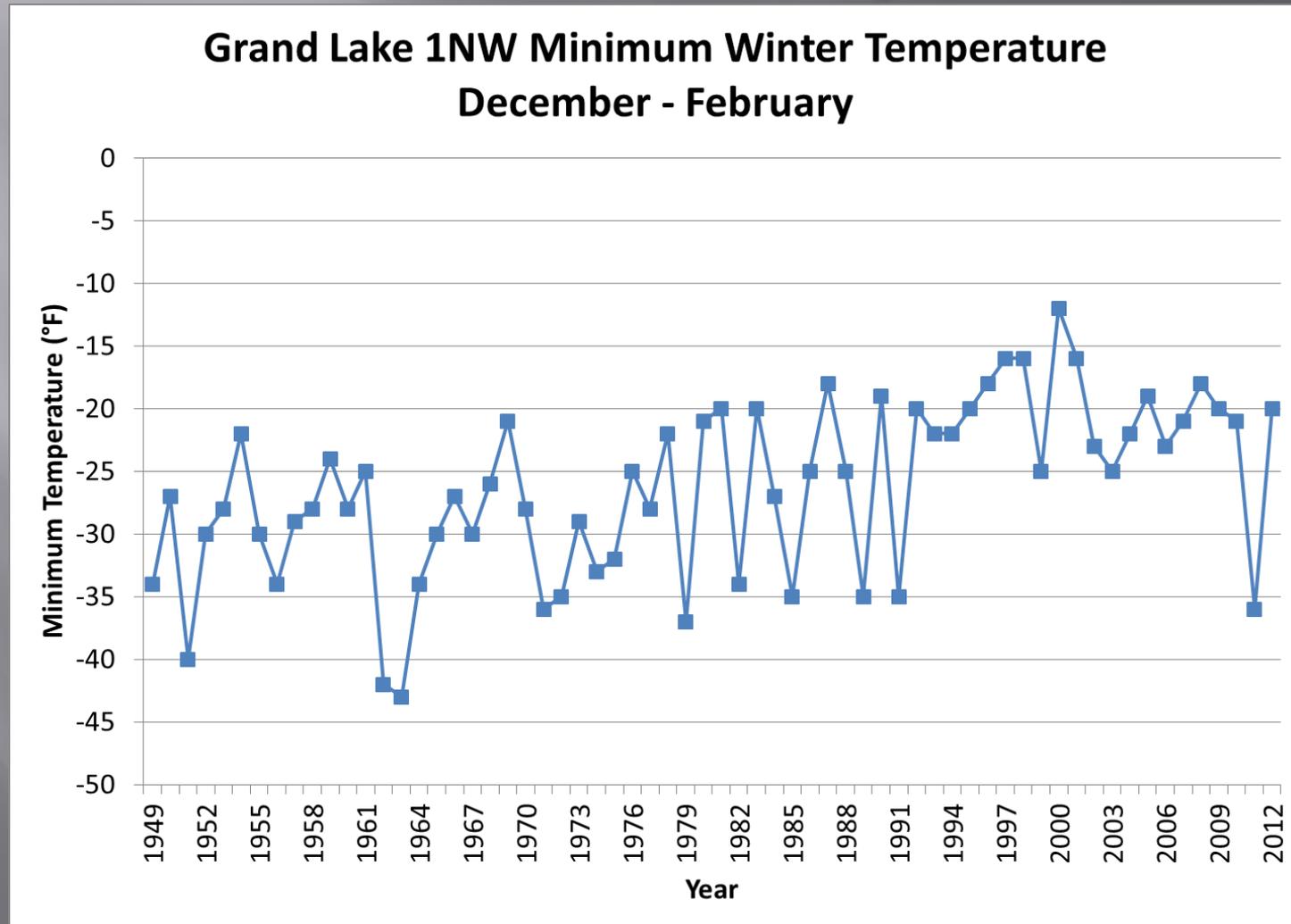
Colorado Mean Autumn (SON) Temperatures

— **Actual Temperature**
— **Average Temperature**

11th Warmest Autumn
(1895-2010)



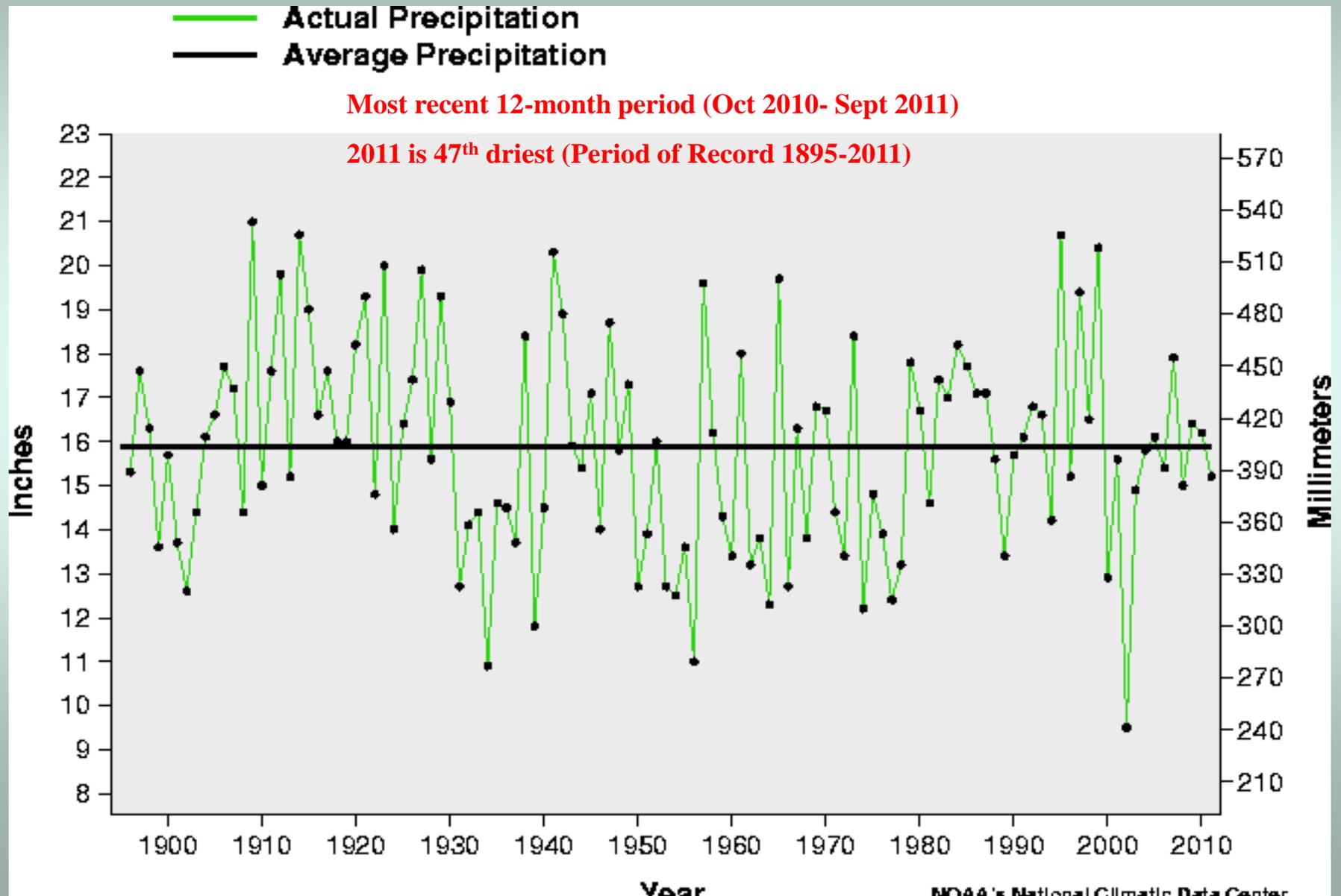
A key feature of the past 20 years has been a general lack of extreme cold temperatures



Most locations in Colorado
show a small to modest
upward trend in temperatures

Colorado Statewide Precipitation History

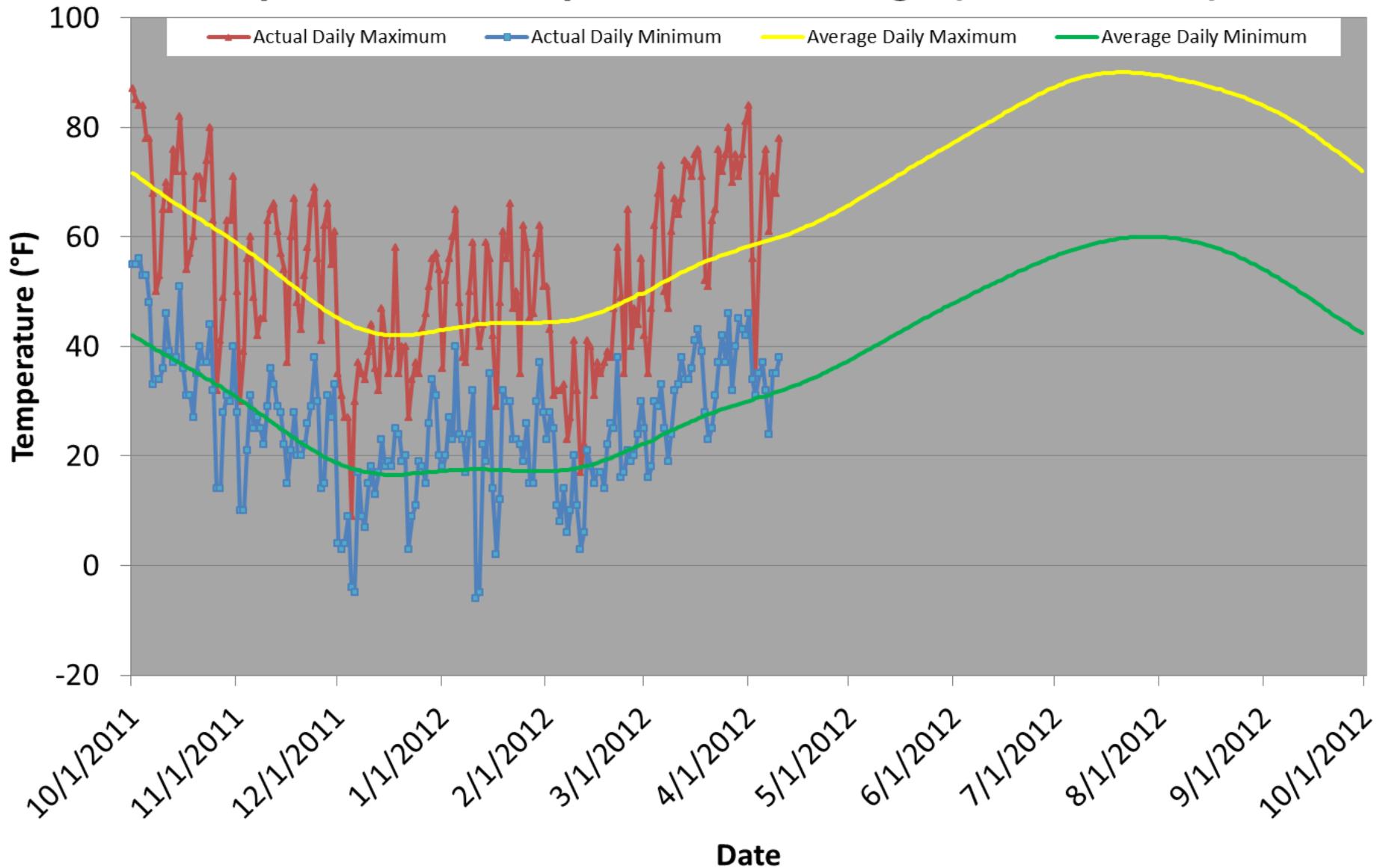
Large Variations but no particular trends



So, what about this year?



Denver- DIA Daily Maximum and Minimum Temperatures compared to Average (1981 - 2010)



U.S. Drought Monitor

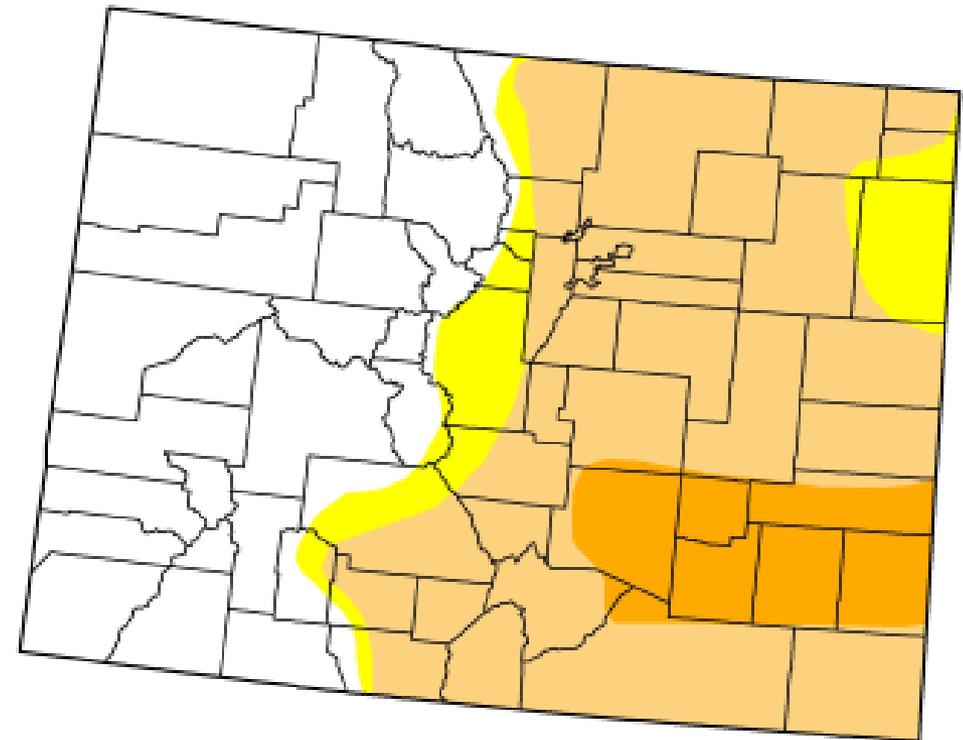
February 22, 2011

Valid 7 a.m. EST

Colorado

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	41.65	58.35	50.64	8.93	0.00	0.00
Last Week (02/15/2011 map)	41.65	58.35	49.57	8.93	0.00	0.00
3 Months Ago (11/23/2010 map)	40.03	59.97	38.63	0.00	0.00	0.00
Start of Calendar Year (12/28/2010 map)	40.40	59.60	49.57	10.13	0.00	0.00
Start of Water Year (09/28/2010 map)	28.86	71.14	10.70	0.00	0.00	0.00
One Year Ago (02/16/2010 map)	68.21	31.79	0.00	0.00	0.00	0.00



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>



Released Thursday, February 24, 2011
B. Rippey, U.S. Dept of Agriculture

U.S. Drought Monitor

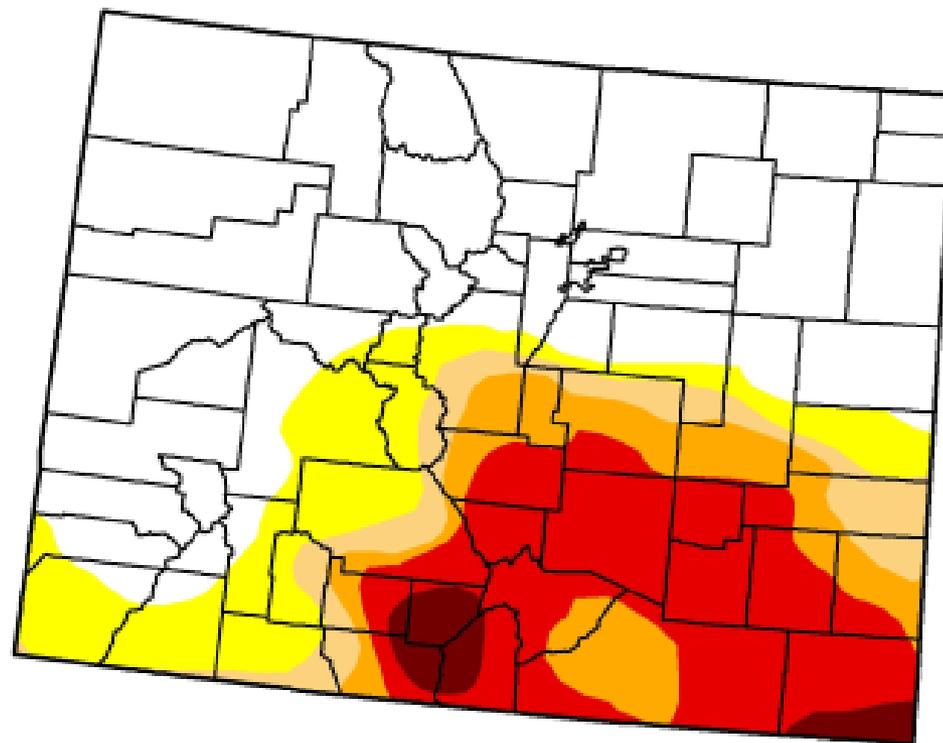
July 26, 2011

Valid 7 a.m. EST

Colorado

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	55.80	44.20	32.29	26.55	18.53	2.17
Last Week (07/19/2011 map)	55.80	44.20	32.29	27.21	17.81	2.23
3 Months Ago (04/26/2011 map)	39.57	60.43	52.55	40.61	3.03	0.00
Start of Calendar Year (12/28/2010 map)	40.40	59.60	49.57	10.13	0.00	0.00
Start of Water Year (09/28/2010 map)	28.86	71.14	10.70	0.00	0.00	0.00
One Year Ago (07/20/2010 map)	77.25	22.75	0.00	0.00	0.00	0.00



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>



Released Thursday, July 28, 2011
Brad Rippey, U.S. Department of Agriculture

U.S. Drought Monitor

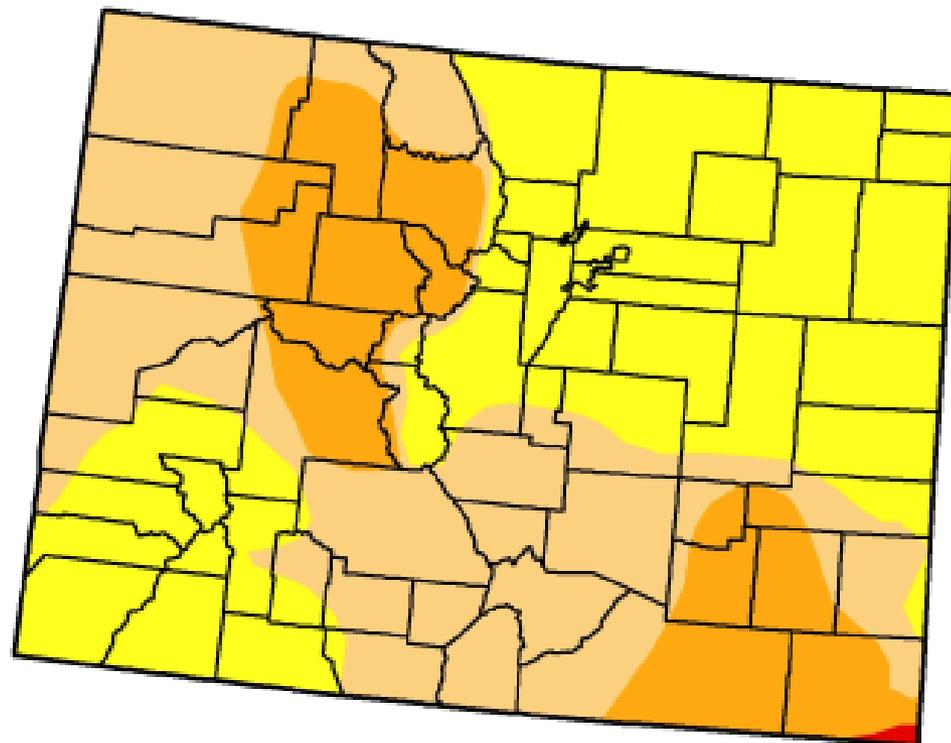
April 3, 2012

Valid 7 a.m. EST

Colorado

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	55.48	18.50	0.15	0.00
Last Week (03/27/2012 map)	2.25	97.75	50.97	9.26	0.15	0.00
3 Months Ago (01/03/2012 map)	65.37	34.63	24.98	10.60	0.04	0.00
Start of Calendar Year (12/27/2011 map)	67.79	32.21	24.98	14.94	0.04	0.00
Start of Water Year (09/27/2011 map)	60.62	39.38	27.69	19.99	7.88	0.56
One Year Ago (03/29/2011 map)	40.99	59.01	53.08	39.67	0.00	0.00



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu>



Released Thursday, April 5, 2012
Brian Fuchs, National Drought Mitigation Center

Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal

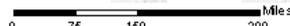
Apr 11, 2012

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1971-2000 Normal

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- ≥ 150%

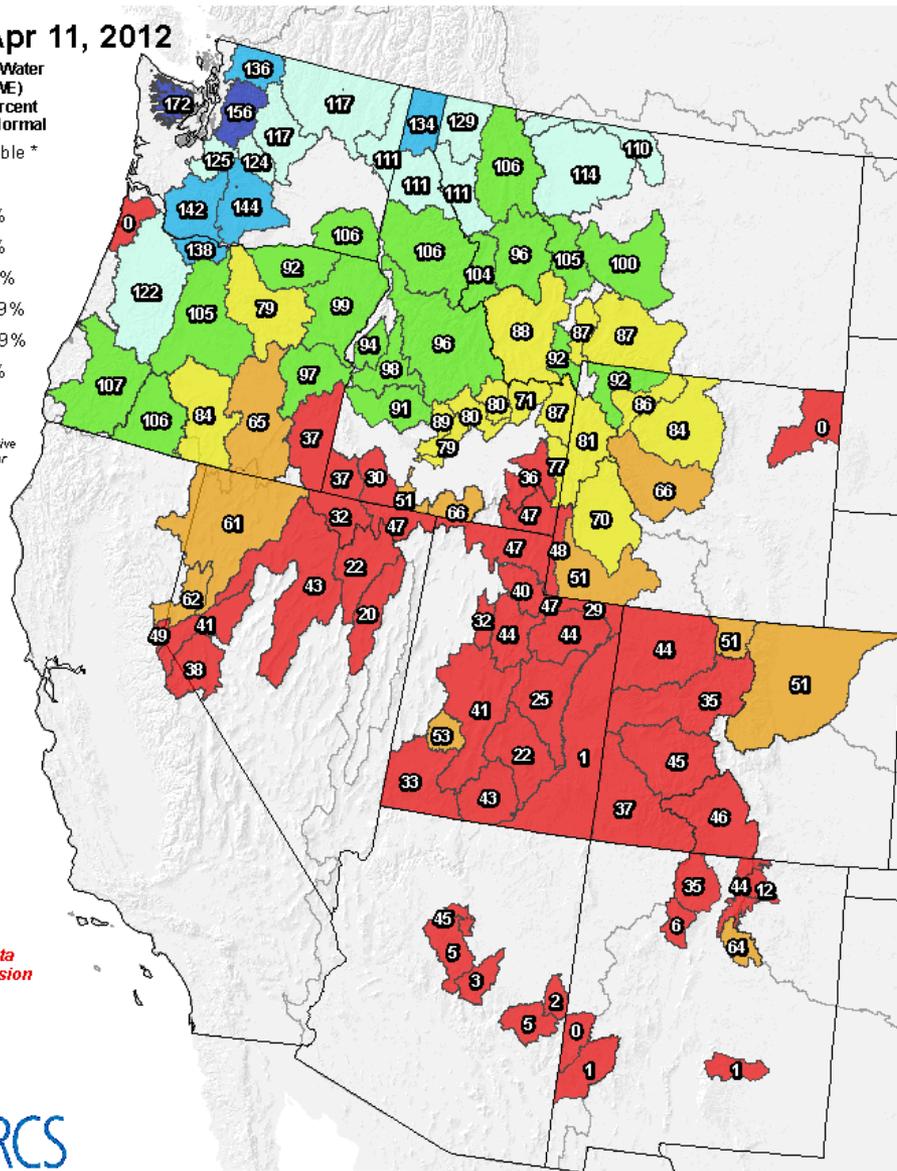
* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional data subject to revision



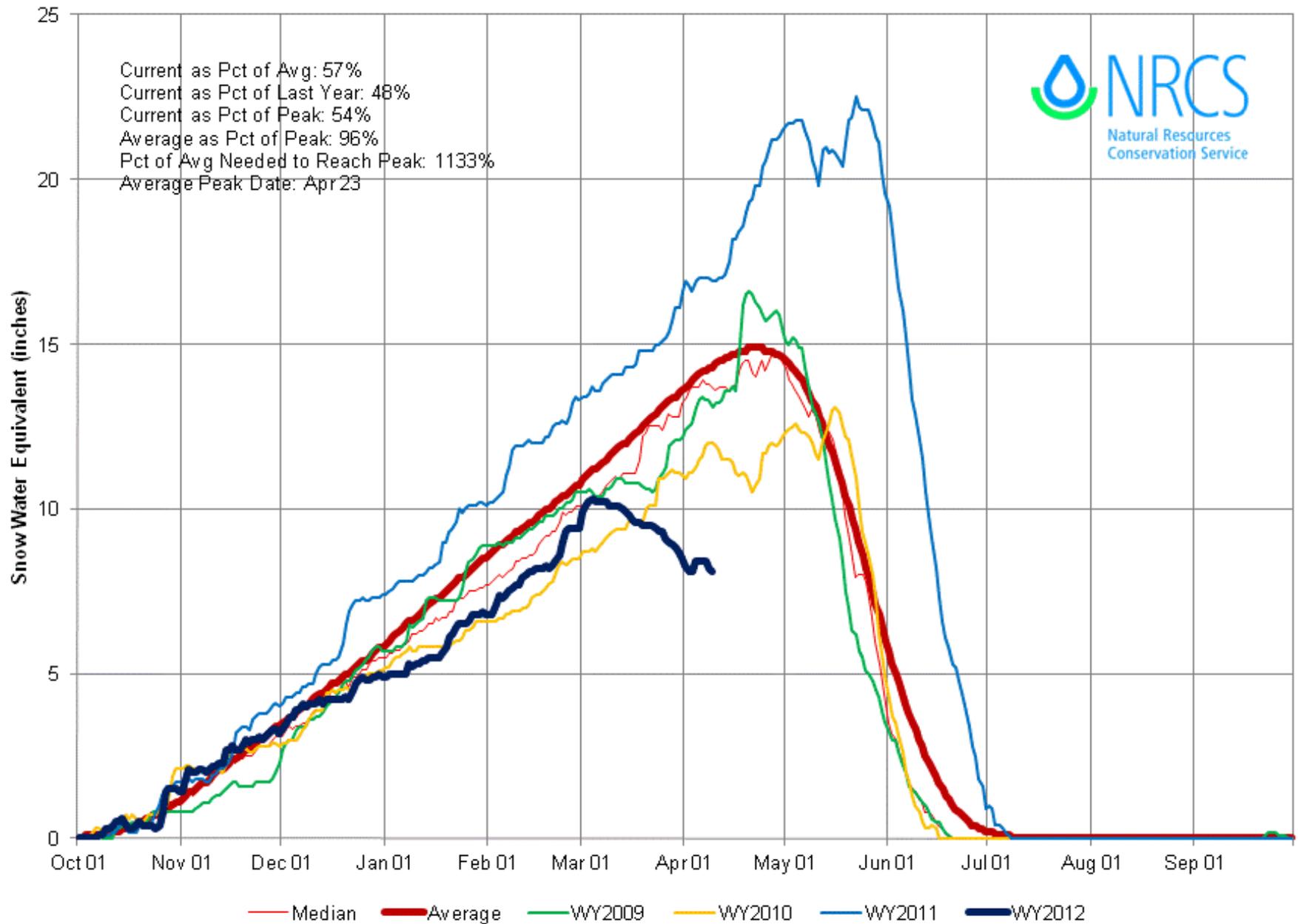
The snow water equivalent percent of normal represents the current snowwater equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by the USDA/NRCS National Water and Climate Center
 Portland, Oregon <http://www.wcc.nrcs.usda.gov/gis/>
 Based on data from <http://www.wcc.nrcs.usda.gov/reports/>
 Science contact: Jim.Marron@por.usda.gov 503 414 3047



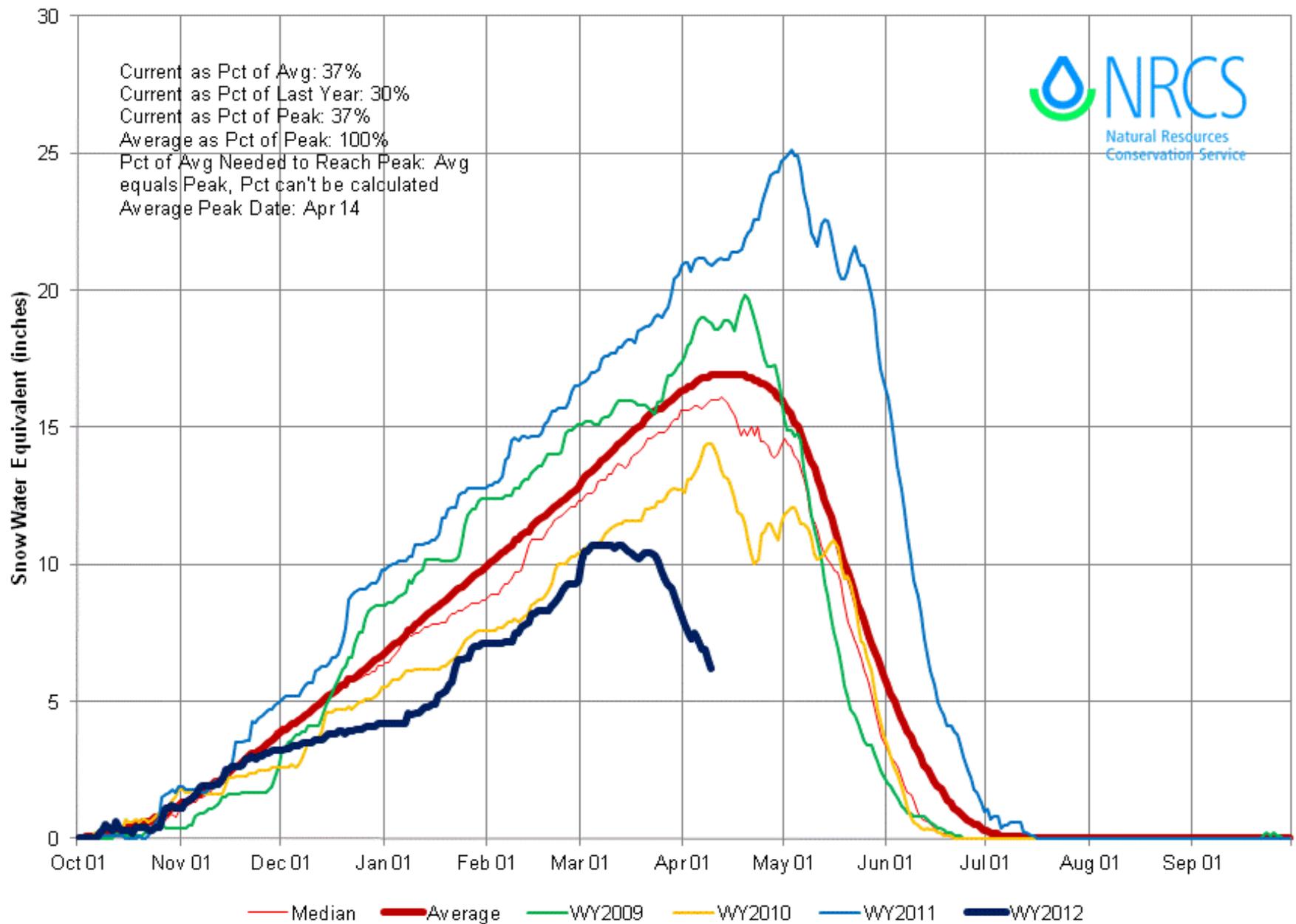
South Platte River Basin Time Series Snowpack Summary

Based on Provisional SNOTEL data as of Apr 09, 2012



Upper Colorado River Basin Time Series Snowpack Summary

Based on Provisional SNOTEL data as of Apr 09, 2012





2012

www.water2012.org

Background

The year 2012 is a milestone for Colorado water and gives a unique opportunity for water-related entities to celebrate their commonalities.

- **75th Anniversaries...**

- Colorado Water Conservation Board
- Northern Colorado Water District
- Colorado River Water Conservation District

- **50th Anniversary...**

- Southeastern Colorado Water Conservation District

- **10th Anniversary...**

- Colorado Foundation for Water Education

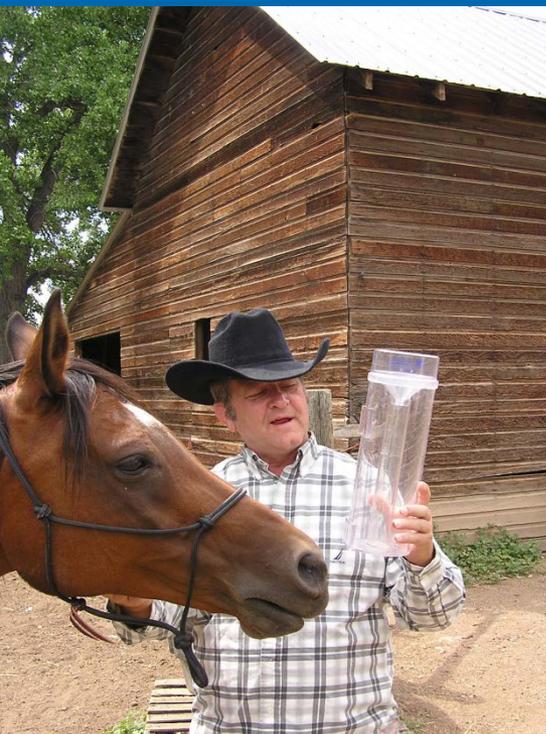
What is Colorado Water 2012?

- The mission of Water 2012 is to engage all Coloradans in a statewide celebration of water: past, present, and future.
- It is an opportunity to elevate awareness for all Coloradans from the average water user to active members of the water community
- It will weave together existing and create new local and statewide opportunities that celebrate Colorado's water, it's uses, and it's value.

2012 Water Celebration

- Please participate in Water 2012 Activities!
- As a part of this statewide “2012 -- Year of Water” celebration, we are encouraging schools, families, individuals – **and people like you** in Colorado to help us measure and track precipitation. Because “the weather is our source of water”

We are encouraging citizens across the State and Nation to help us measure local precipitation



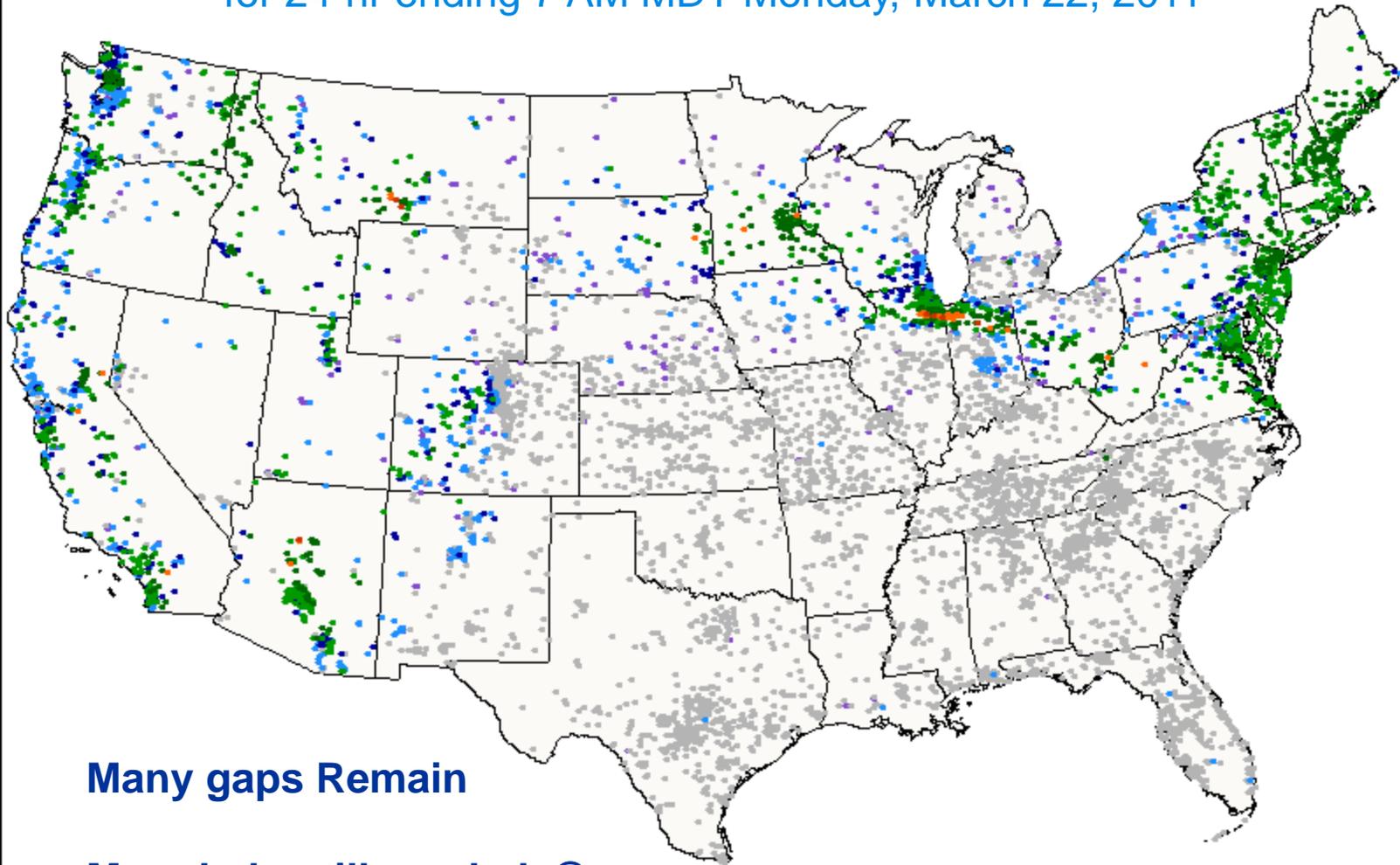
Photos by H. Reges

Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am

USA 3/22/2011

0.0 Trace 0.01 - 0.07 0.08 - 0.14 0.15 - 0.36 0.37 - 0.88 0.89 - 1.32 1.33 - 1.48

CoCoRaHS Daily Precipitation for 24-hr ending 7 AM MDT Monday, March 22, 2011



Many gaps Remain

More help still needed ☺

COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK

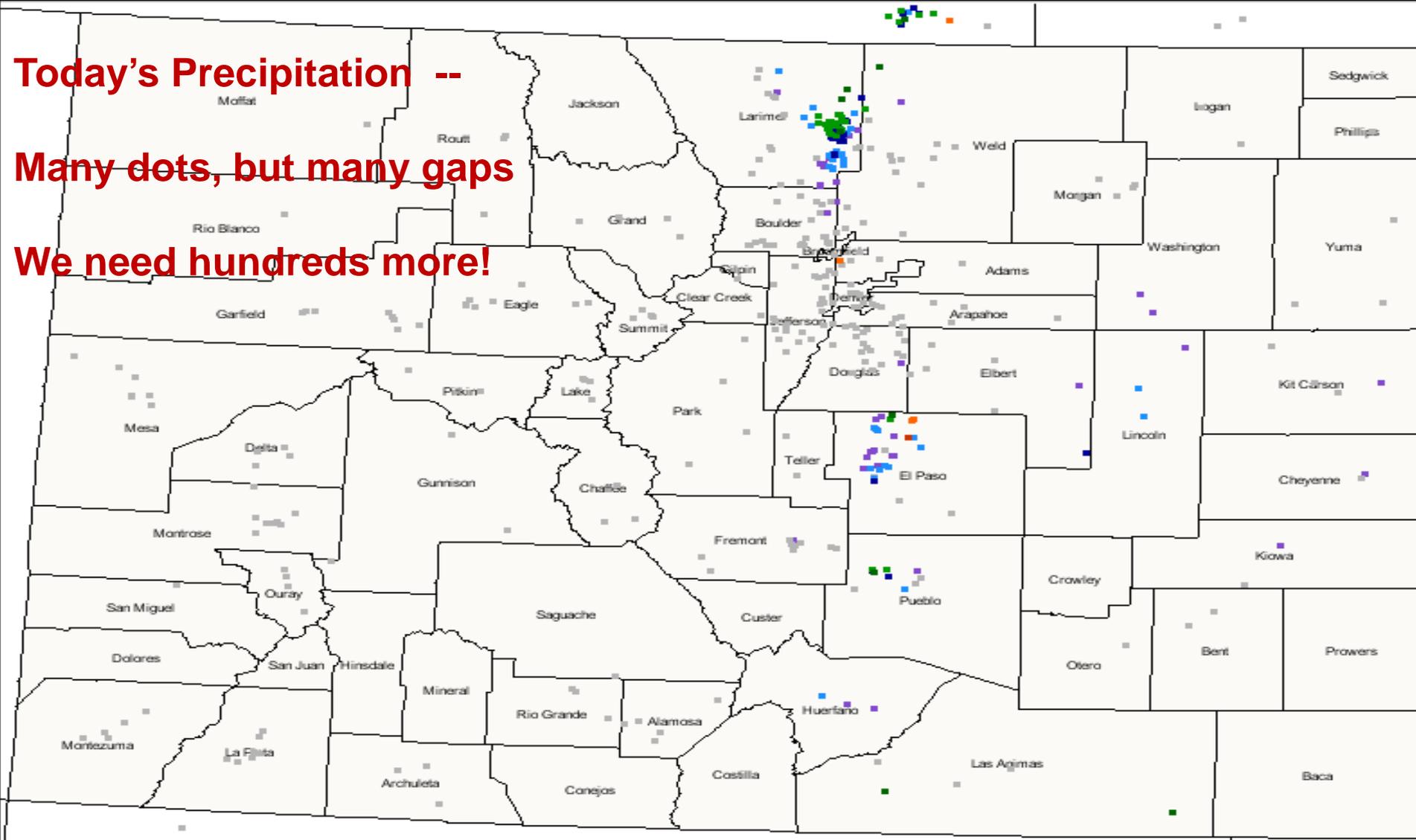
"Because every drop counts"

Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am

Colorado 4/11/2012



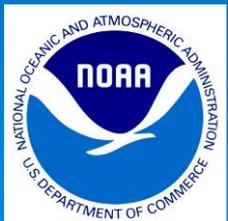
Today's Precipitation --
Many dots, but many gaps
We need hundreds more!



For information and to volunteer, visit the CoCoRaHS Web Site



<http://www.cocorahs.org>



Support for this project provided by
NSF Informal Science Education Program,
NOAA Environmental Literacy Program
and
many local charter sponsors.

A large, rounded mound of snow dominates the frame. The acronym 'COCORAHHS' is carved into the snow in a simple, blocky font. The letters are slightly recessed, creating a shadow effect. The background shows some bare, snow-dusted branches of trees or shrubs under a pale sky.

COCORAHHS

If you are interested in weather and the variations in precipitation, please join the Community Collaborative Rain, Hail and Snow Network

<http://www.cocorahs.org>

or see me today

“A Rain Gauge at Every School”

Seeking:

- **Sponsors** to purchase gauges
- **Mentors** to assist/train teachers
- **Teachers** to participate with students



Contact: Noah Newman: noah@cocorahs.org

Or Nolan Doesken nolan.doesken@colostate.edu

Colorado Climate Center

Data and Power Point Presentations available for downloading

<http://ccc.atmos.colostate.edu>

Nolan.Doesken@Colostate.edu

Colorado
State
University
Knowledge to Go Places



Colorado: It's a great place



Photo by Lynn Kral, Loveland, January 2006