

Let's Talk About Our Colorado Climate!

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Colorado State University

Routt County Master Gardeners

March 17, 2010

What's so Amazing about Colorado?

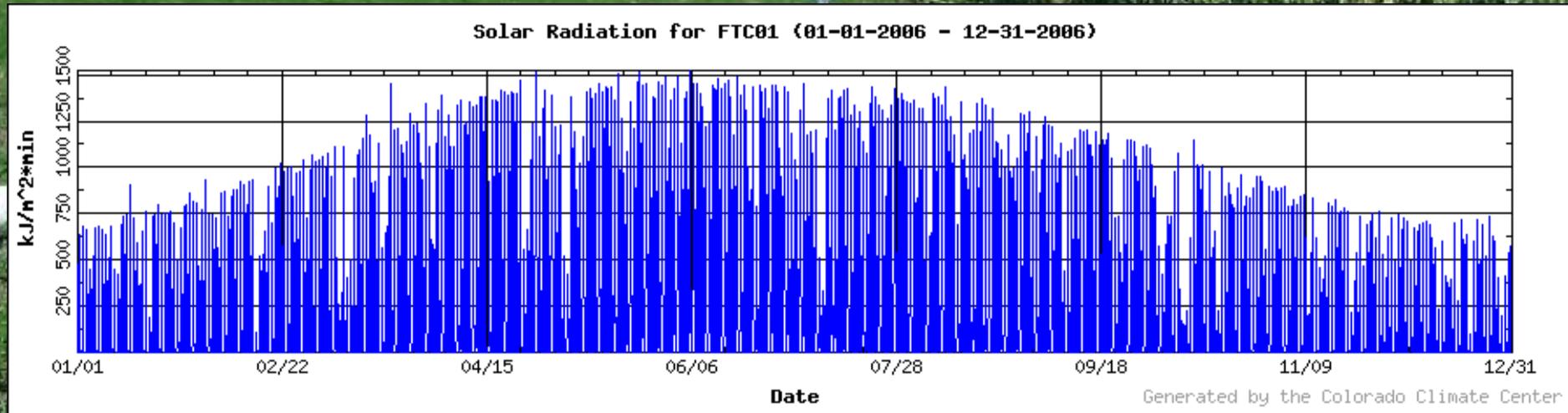
Four “Climate Controls”

- High elevation (Colorado is the 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?



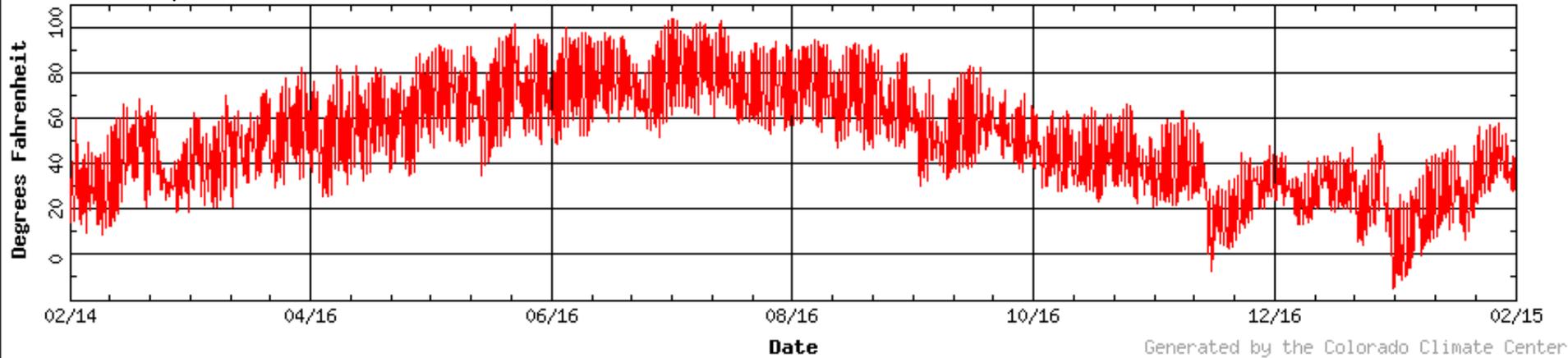
Generous sunshine and low humidity, i.e. people like it here



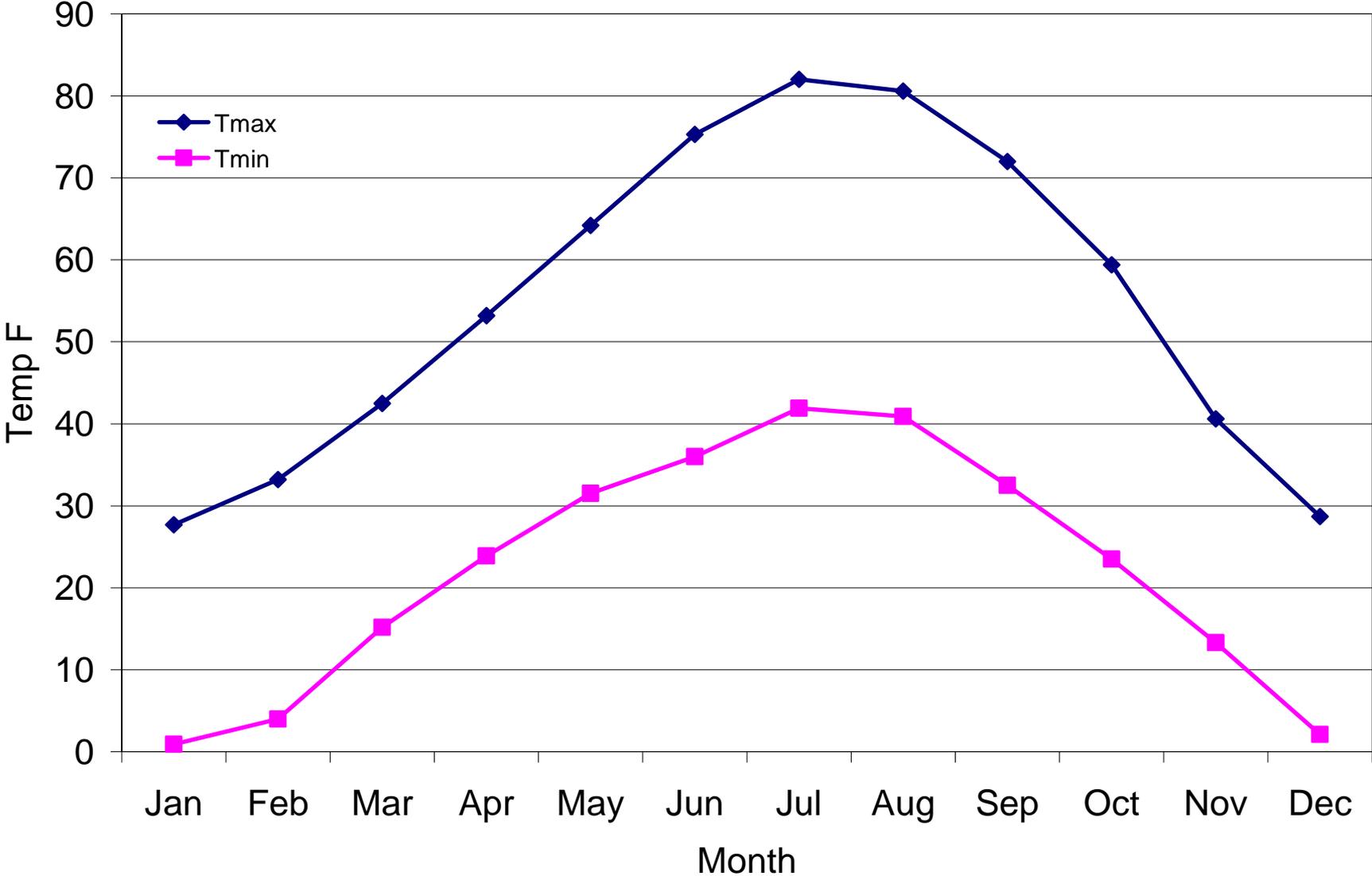
Large Seasonal Temperature Variations

Fruita, Colo.

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



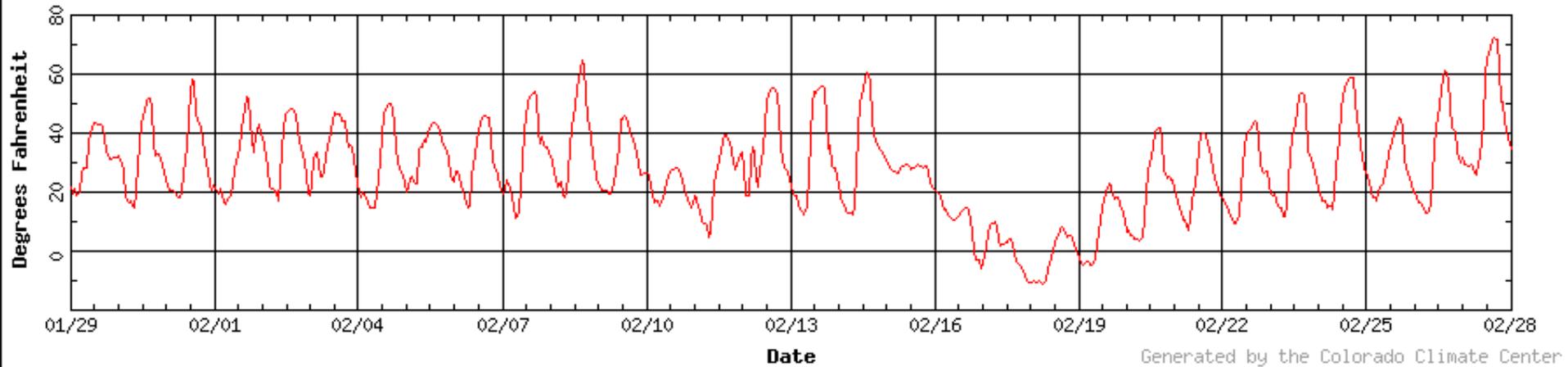
Steamboat Springs, CO Monthly Mean Maximum and Minimum Temperatures



Large diurnal temperature ranges and rapid changes

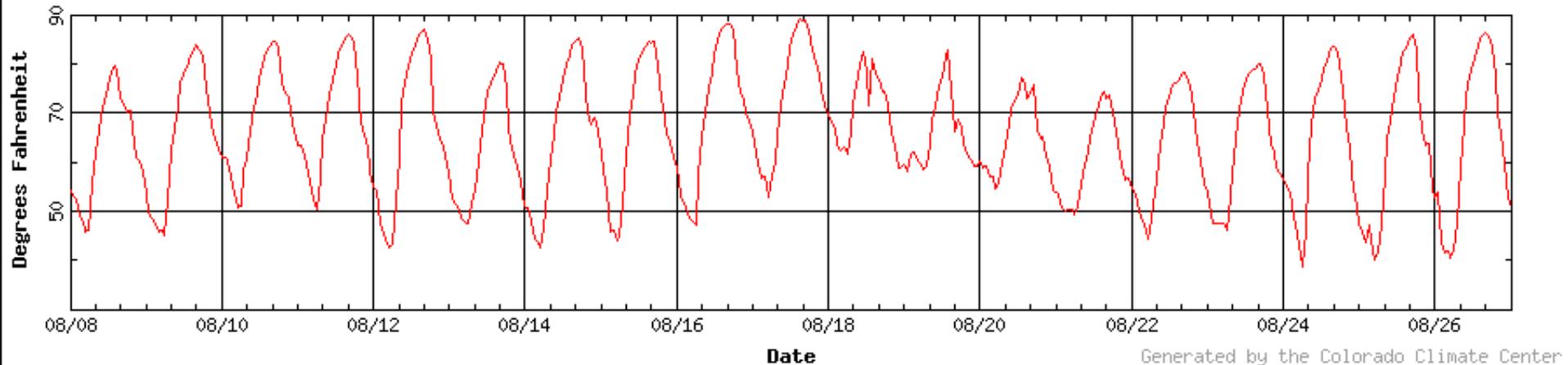
Kersey, Colo.

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

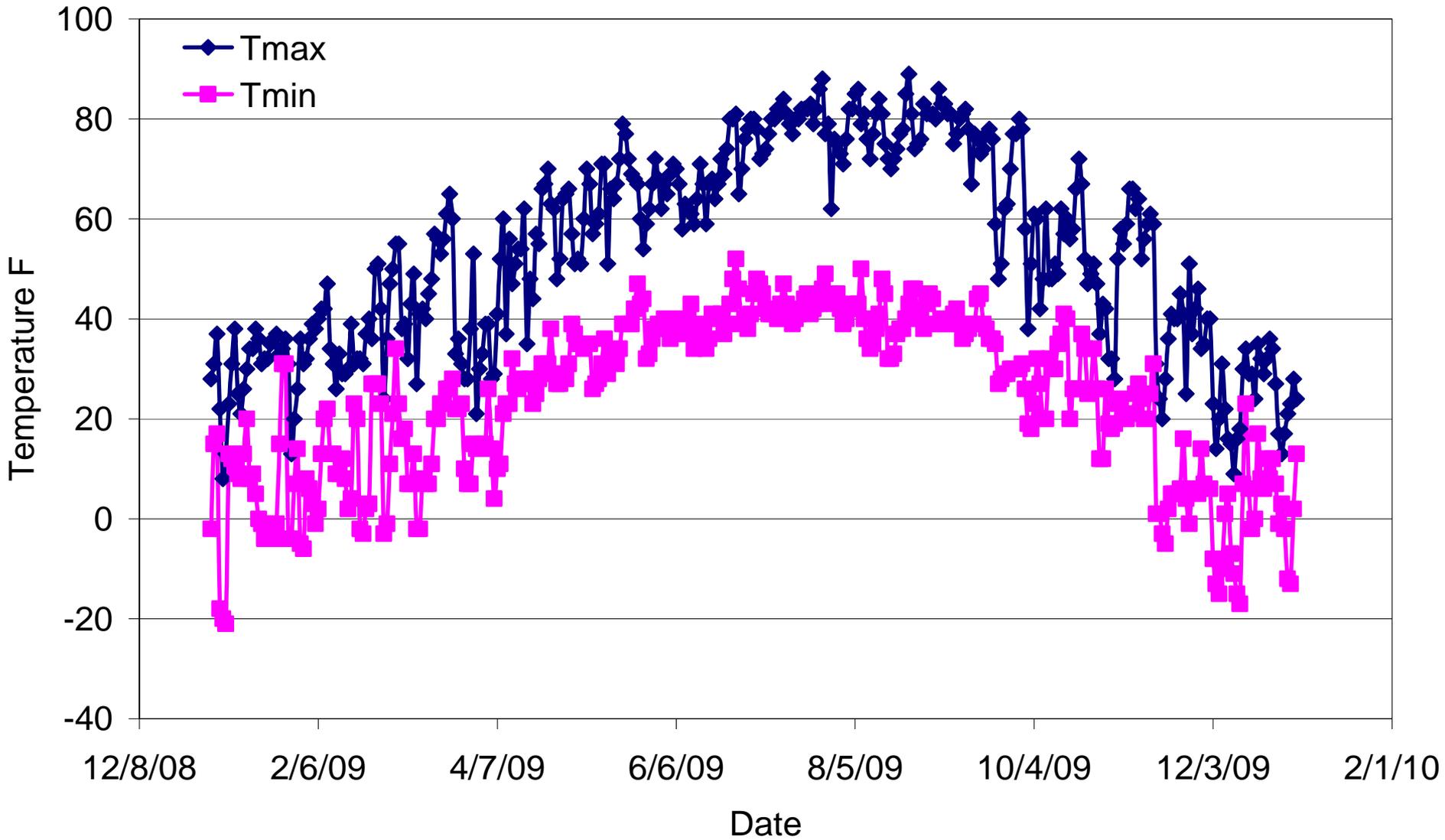


Blanca, Colo.

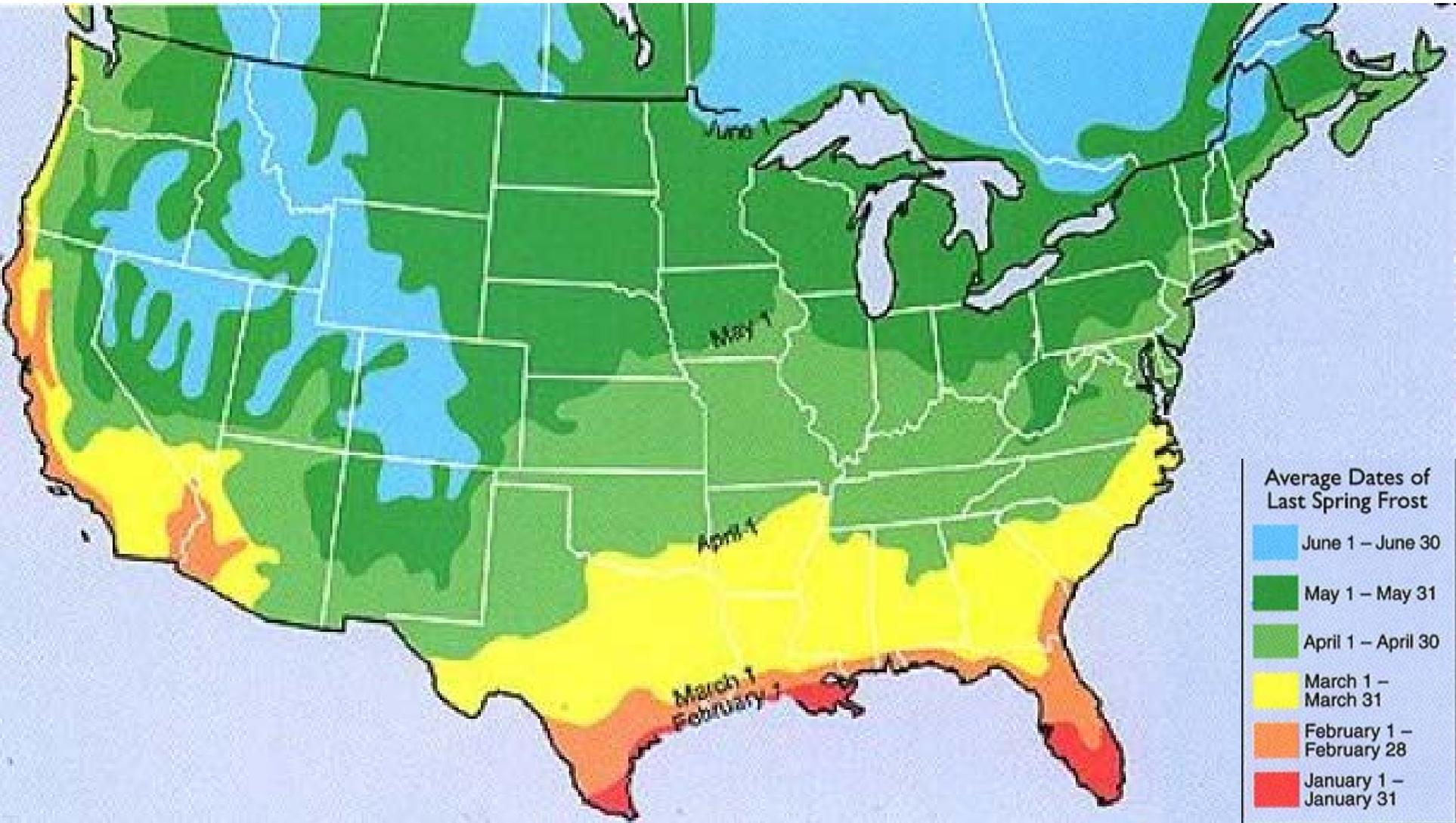
Temperature for BLA01 (08-08-2002 - 08-27-2002)



Steamboat Springs, CO Daily Tmax and Tmin for 2009



Routt County – a cool place to live



**Frequent but highly variable
precipitation
(for every “upslope,”
there’s a “downslope”)**

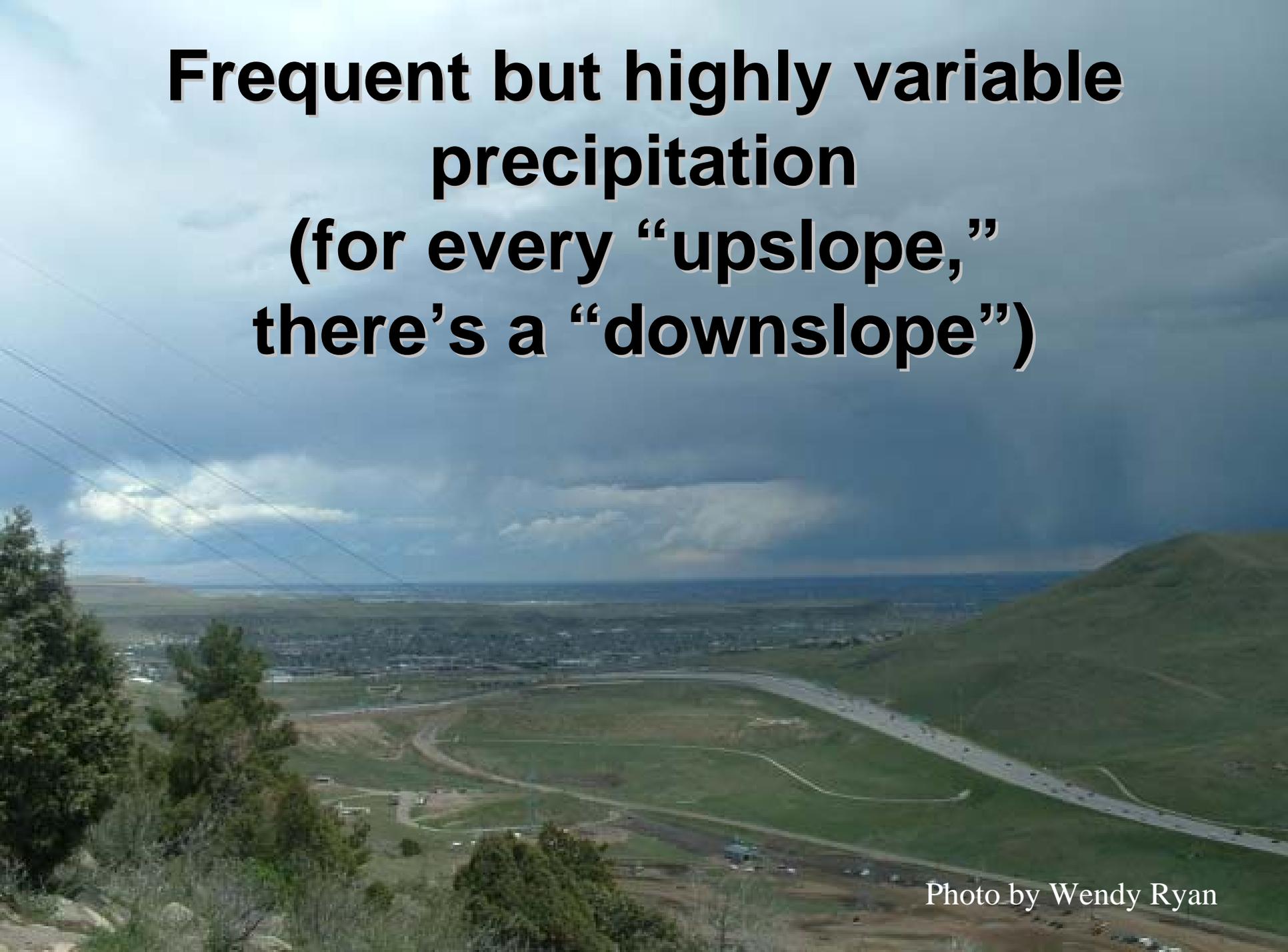
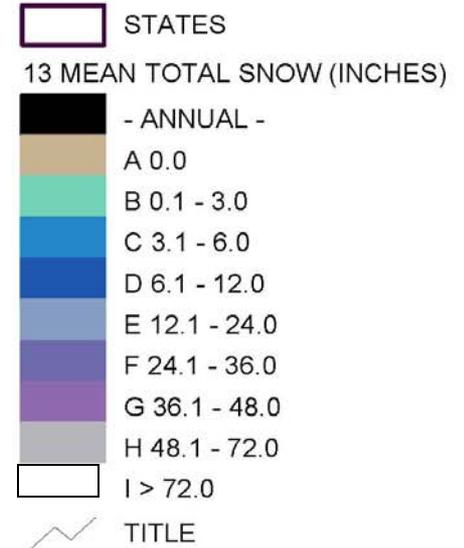
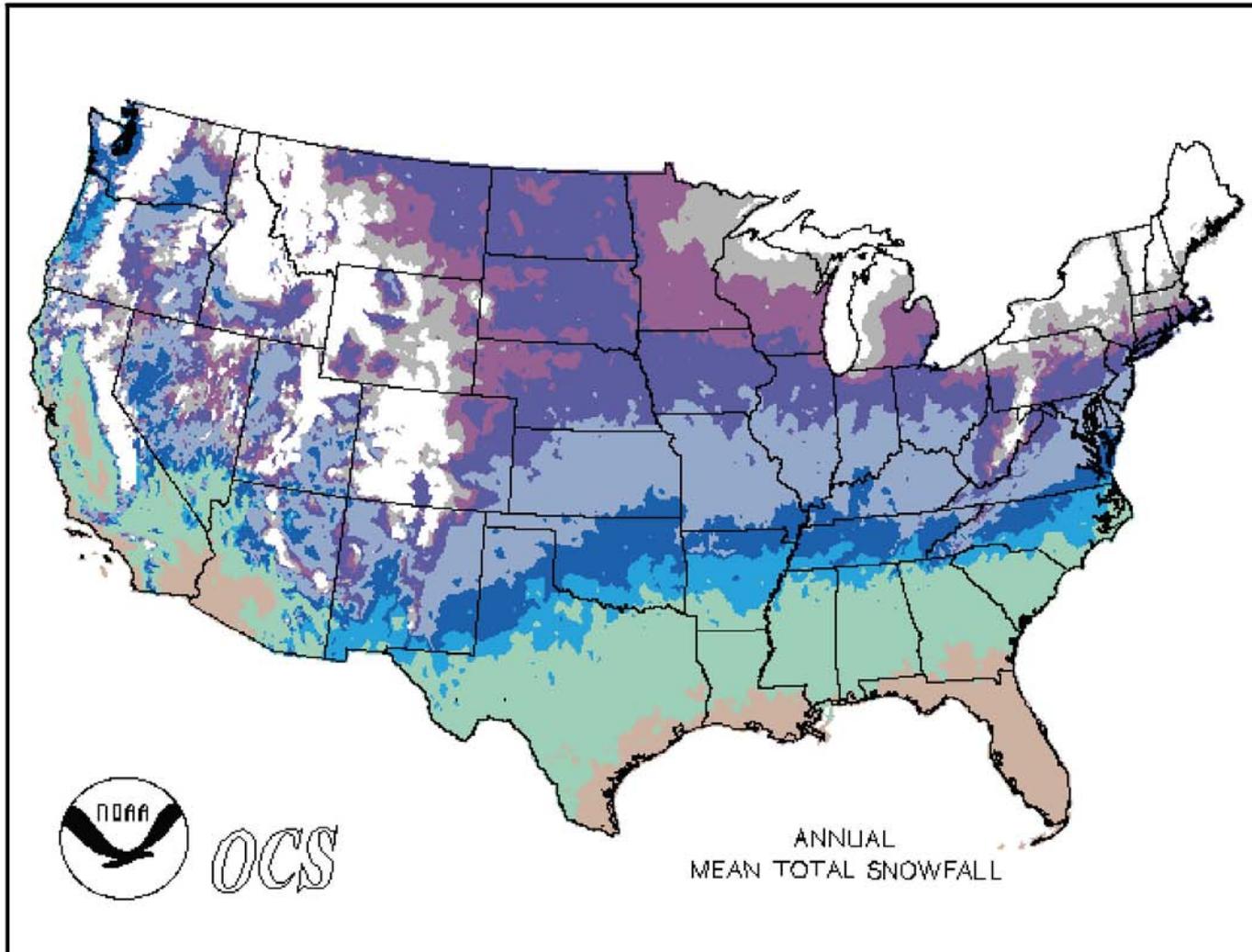


Photo by Wendy Ryan

**Lots of Snow,
sometimes and some places**



National Annual Average Snowfall

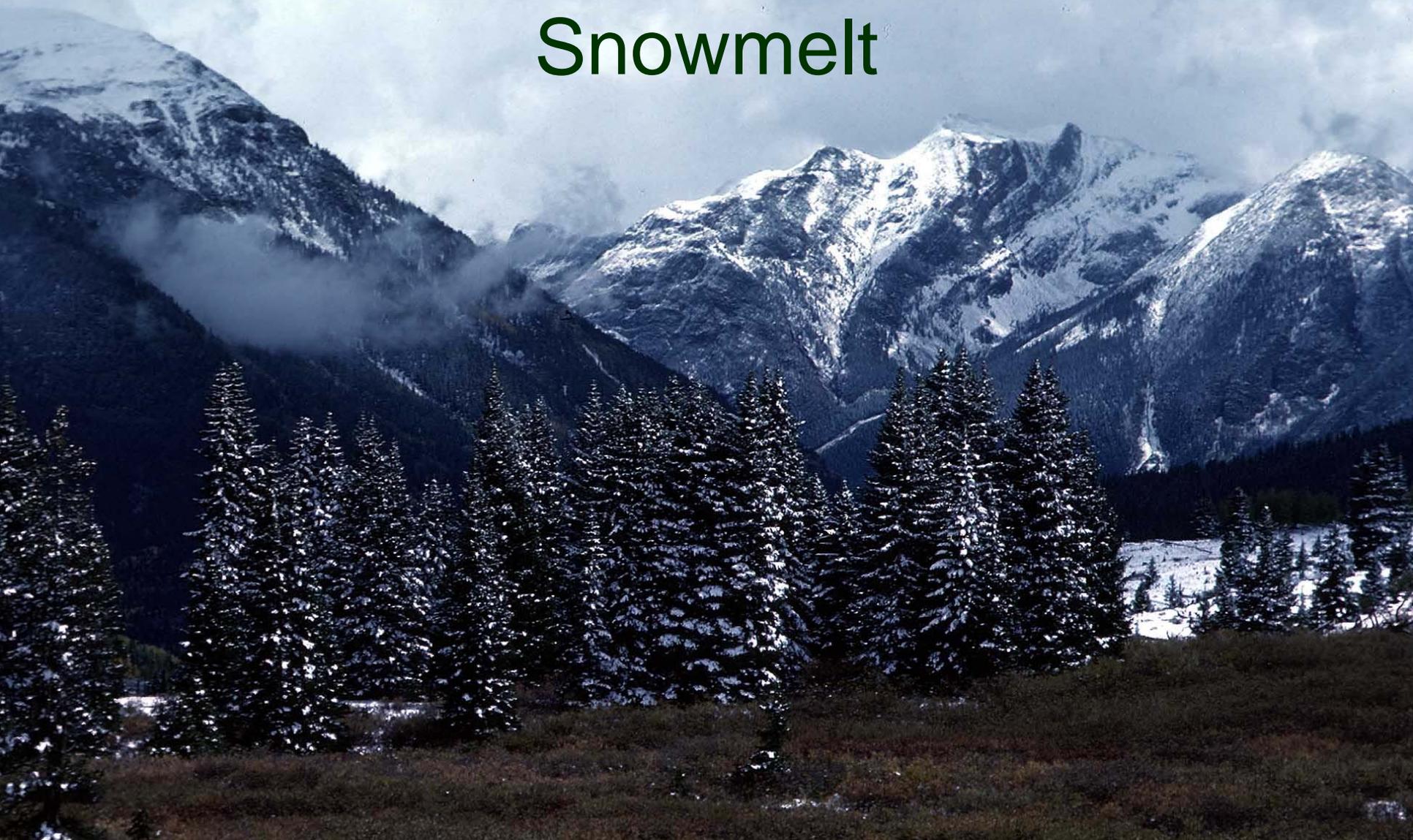


OCS



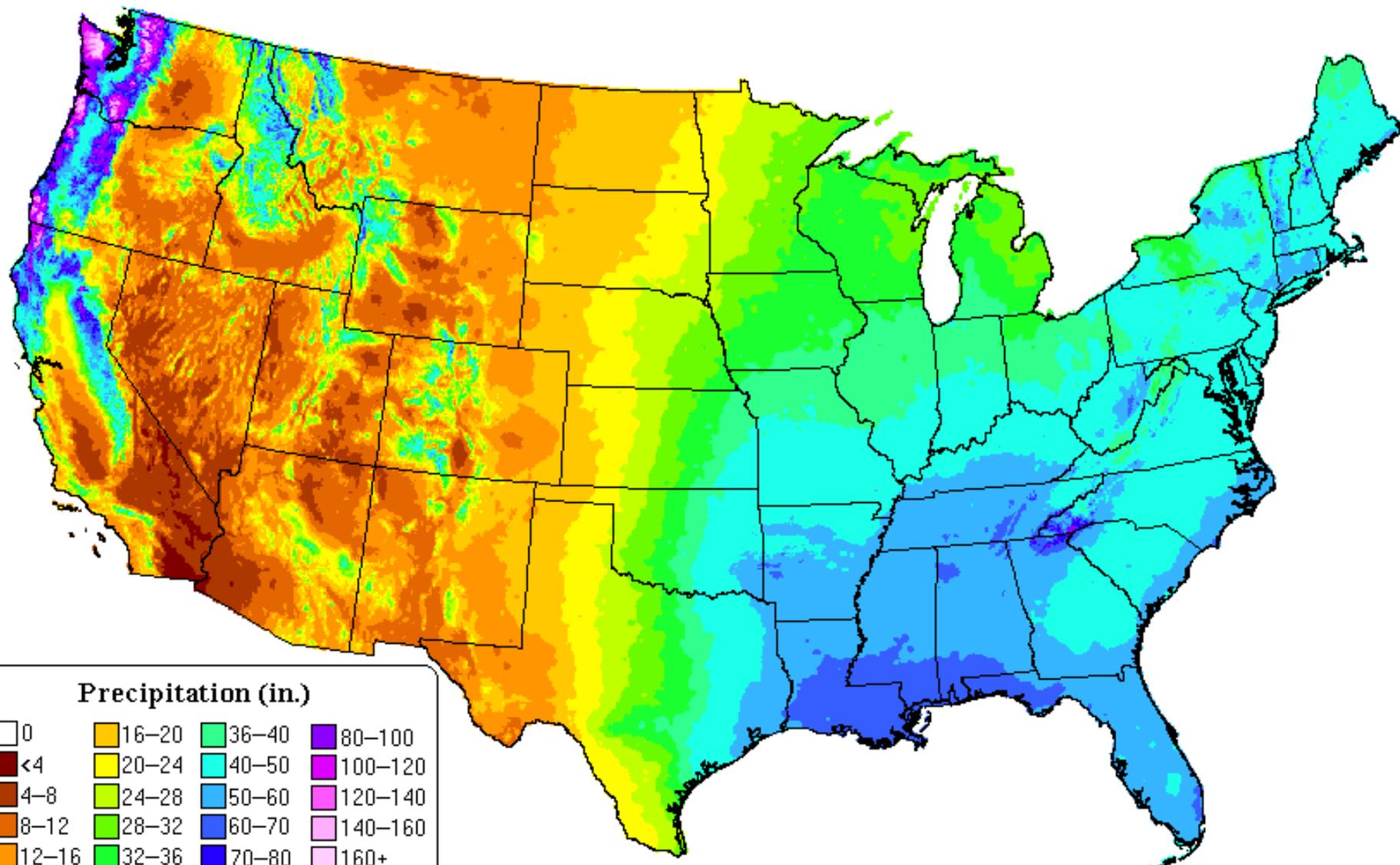
Routt County is normally
Colorado's most consistently
snowy region of the state –
considering the modest mountains
and elevation

Most Surface Water Supplies in Colorado Come From Mountain Snowmelt



How Does Colorado's
Precipitation Compare to other
parts of the U.S.?

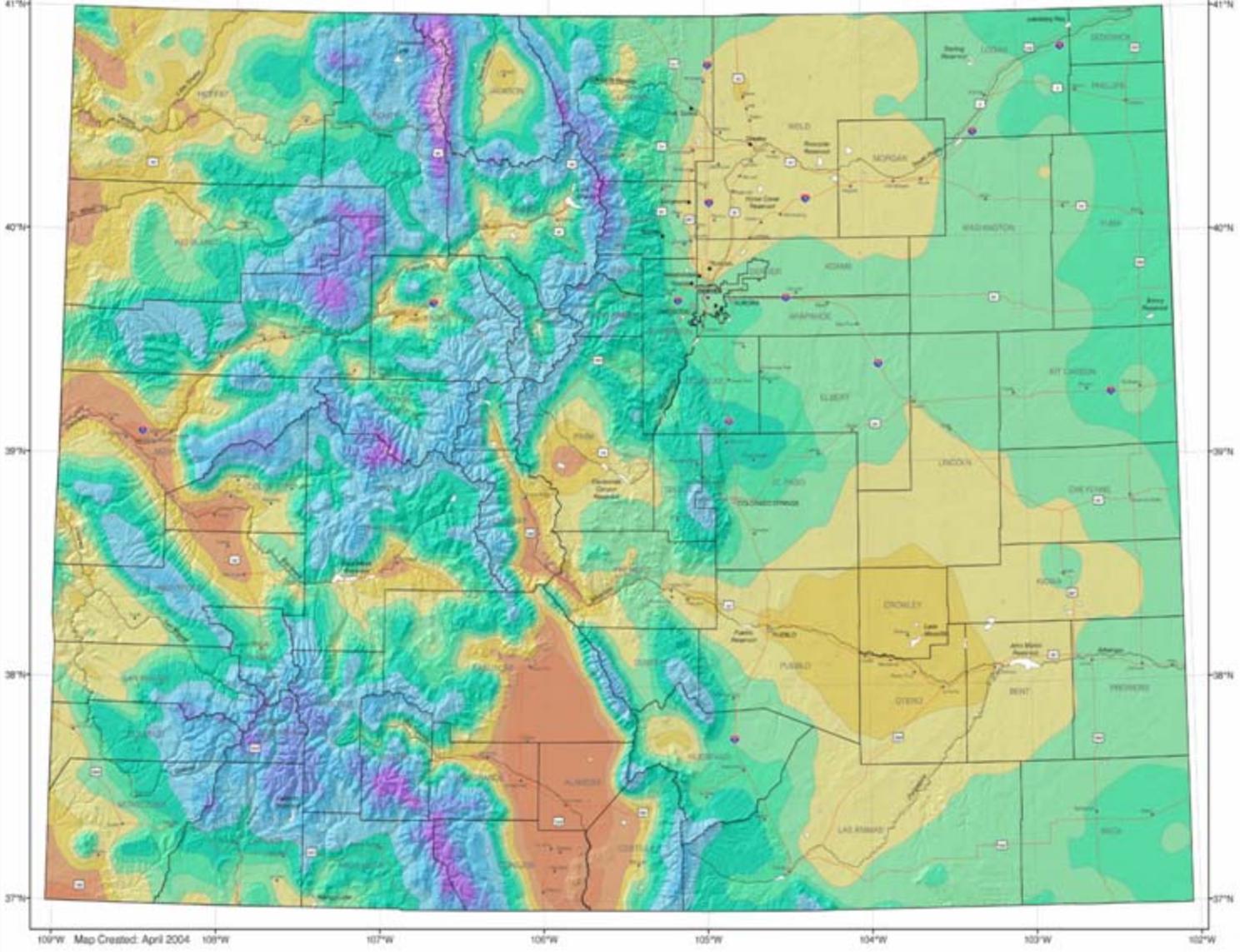
Precipitation: Annual Climatology (1971–2000)



Copyright (c) 2006, PRISM Group, Oregon State University
<http://www.prismclimate.org> - Map created Jun 16 2006

COLORADO

PRISM 1971 - 2000 Mean Annual Precipitation



**Average Annual Precipitation
1971 - 2000**

millimeters	inches
< 229	< 9
229 - 279	9 - 11
279 - 330	11 - 13
330 - 380	13 - 15
380 - 432	15 - 17
432 - 483	17 - 19
483 - 610	19 - 24
610 - 762	24 - 30
762 - 914	30 - 36
914 - 1067	36 - 42
1067 - 1219	42 - 48
1219 - 1372	48 - 54
> 1372	> 54

Rivers
 Lakes
 Roads

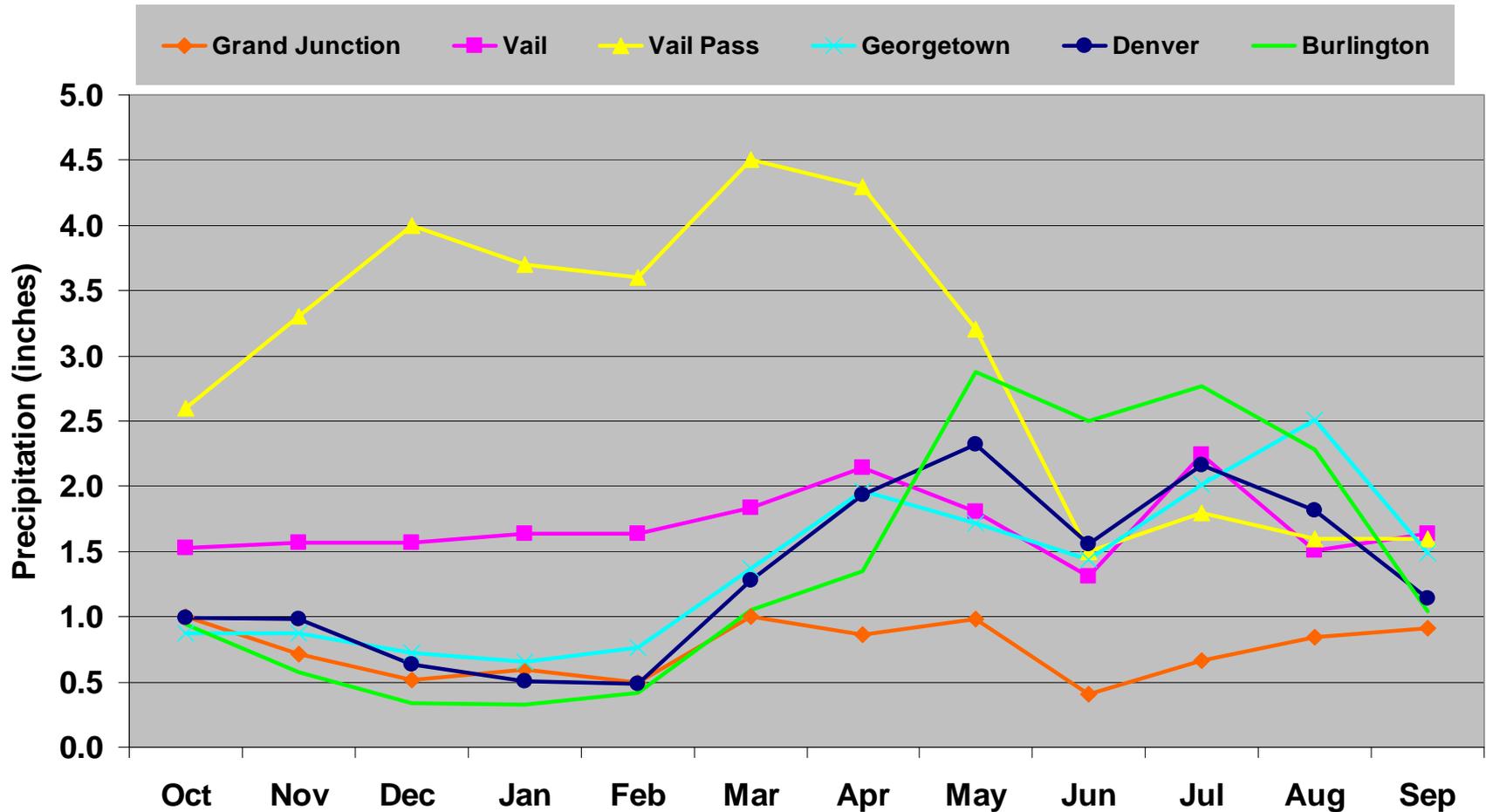


Map prepared with the PRISM climate modeling system by the Spatial Climate Analysis Service, Oregon State University.
<http://www.ocs.orst.edu/prism> Copyright (c) 2004, OSU SCAS



Precipitation in Colorado varies a greatly from place to place with changing seasons

Water Year Average Precipitation for Selected Stations

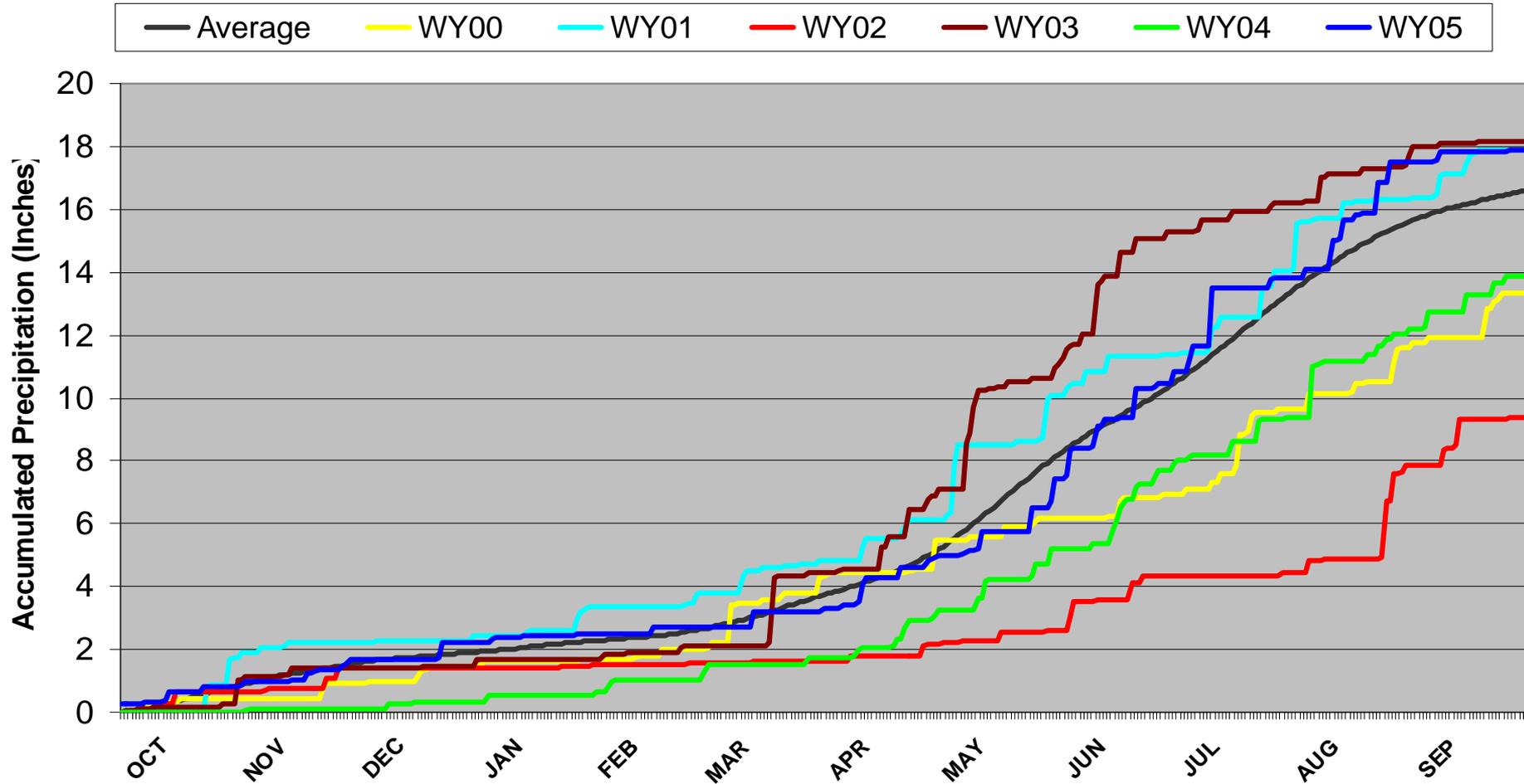


Colorado Experiences Large Year-to-Year Variations in Precipitation

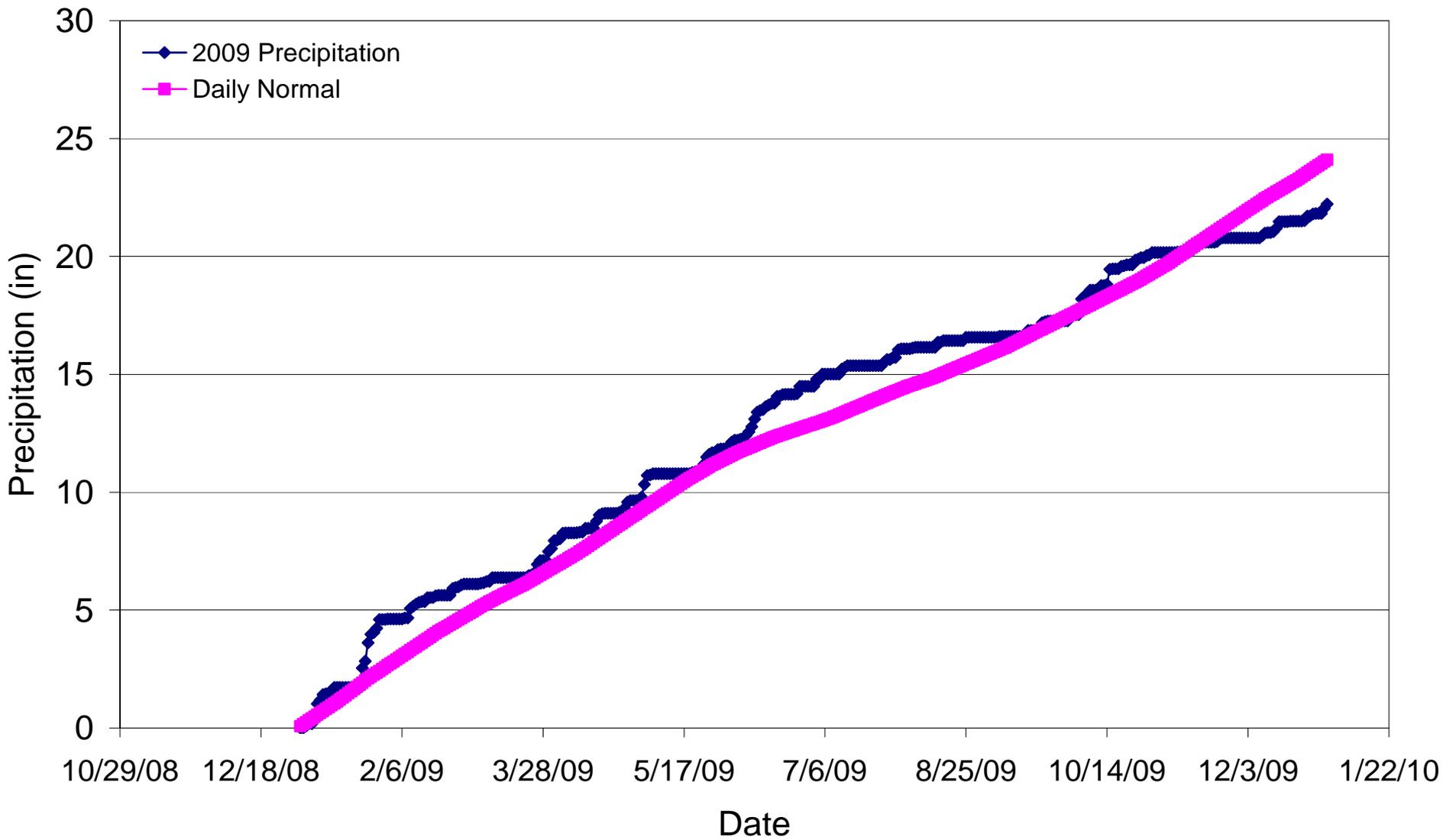


No two years are ever the

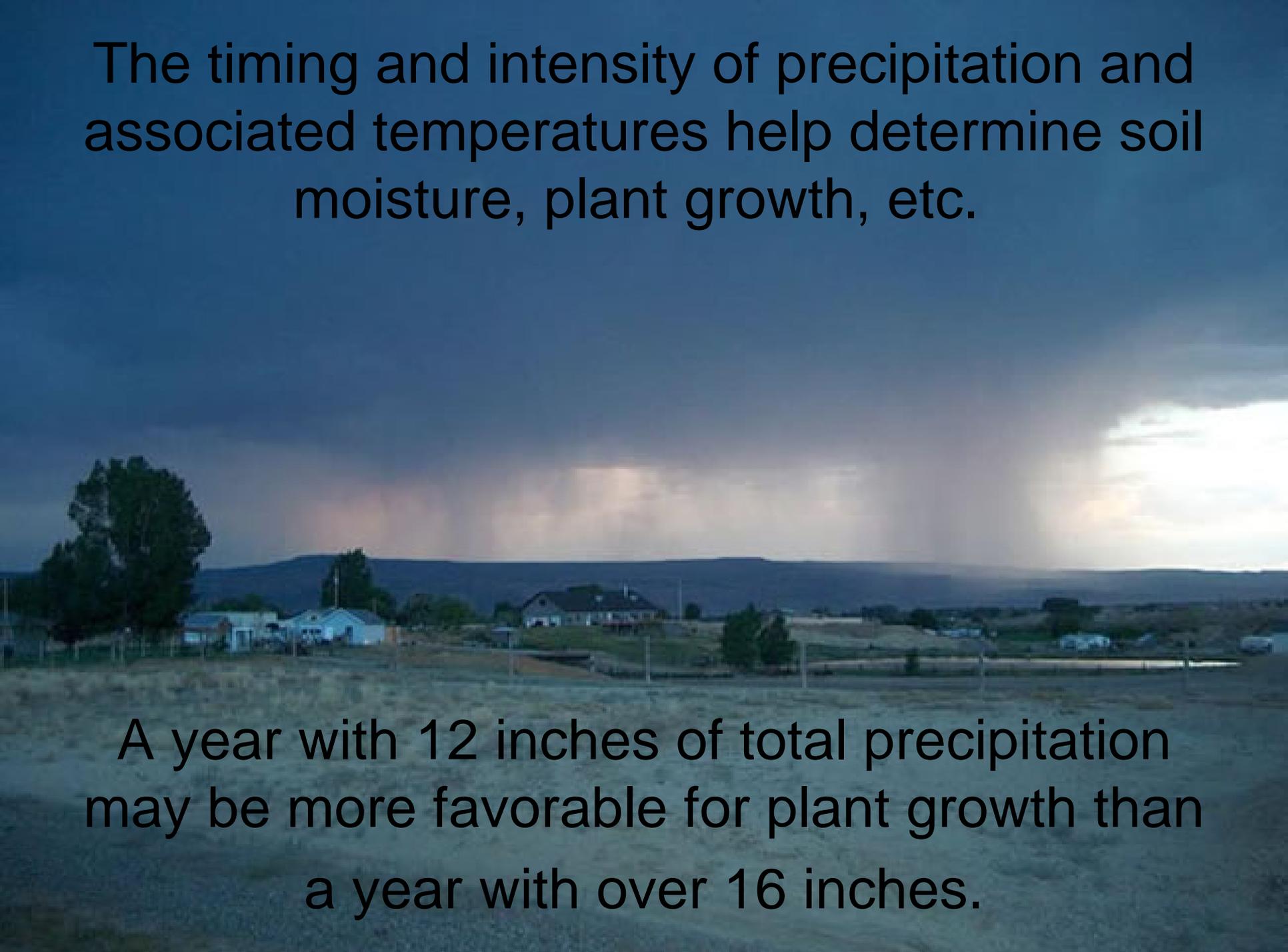
Akron 4E



Steamboat Springs Accumulated Daily Precipitation



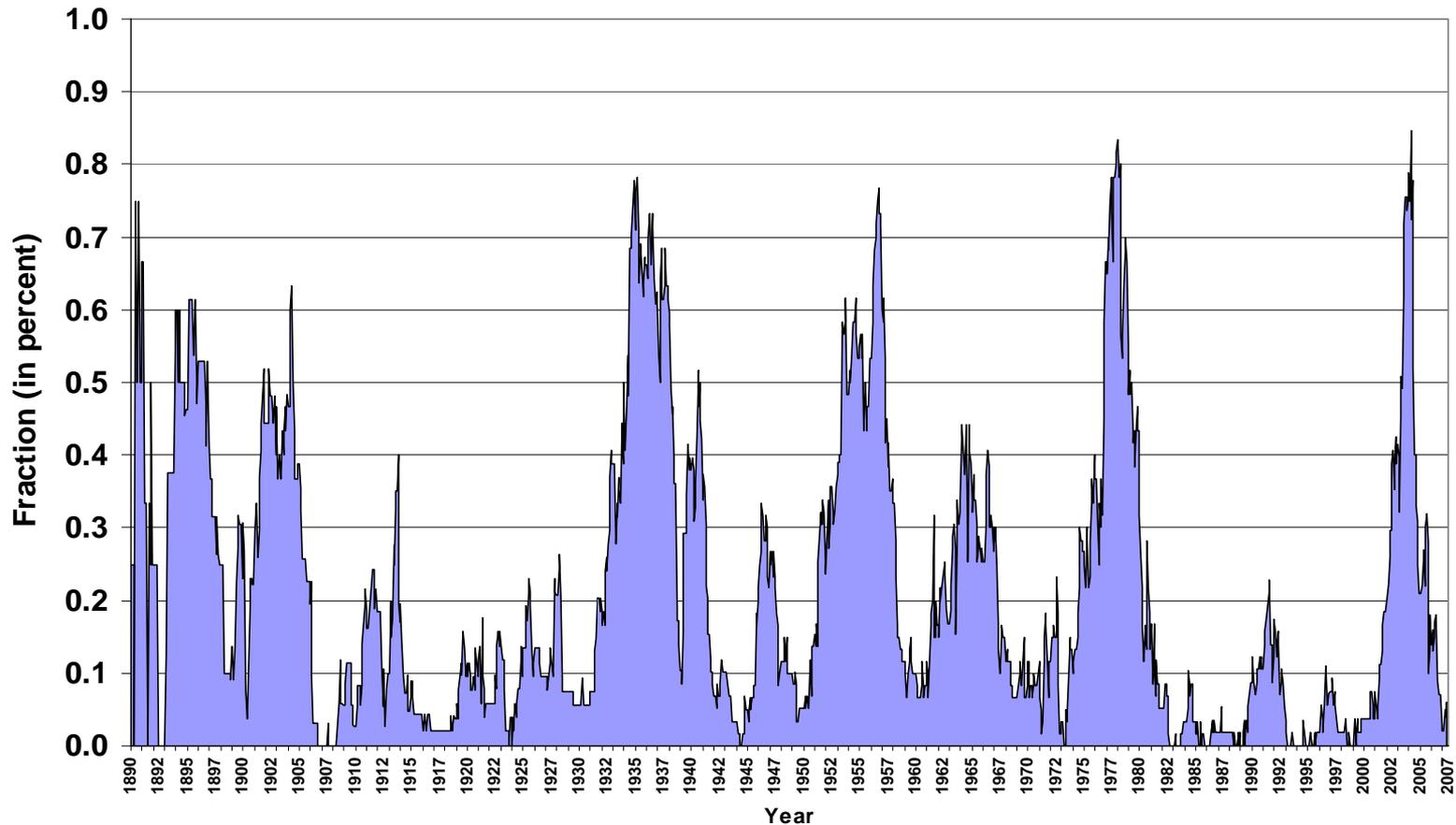
The timing and intensity of precipitation and associated temperatures help determine soil moisture, plant growth, etc.



A year with 12 inches of total precipitation may be more favorable for plant growth than a year with over 16 inches.

Drought – a regular visitor to Colorado

Fraction of Colorado in Drought
Based on 48 month SPI
(1890 - May 2007)

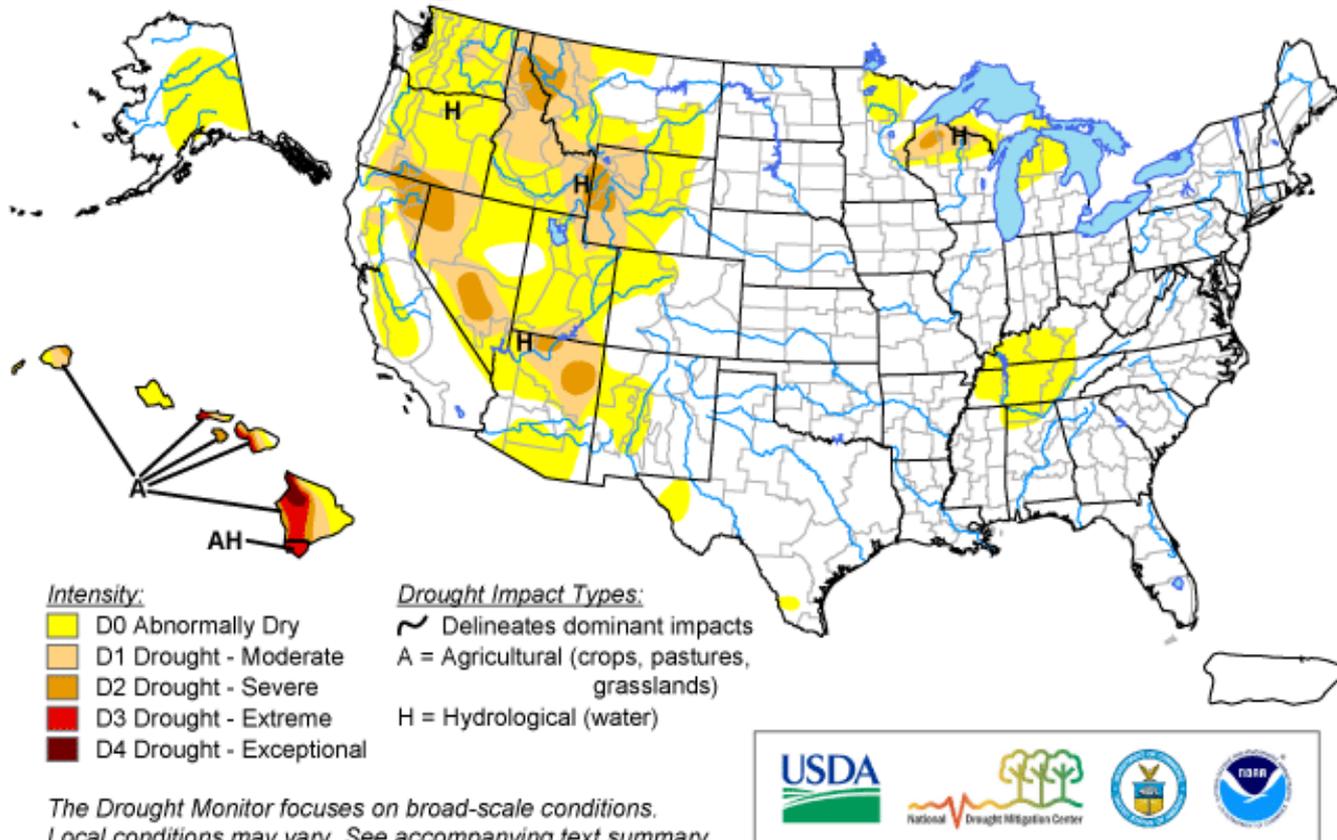


Recent U.S. Drought Status

U.S. Drought Monitor

March 9, 2010

Valid 7 a.m. EST



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, March 11, 2010

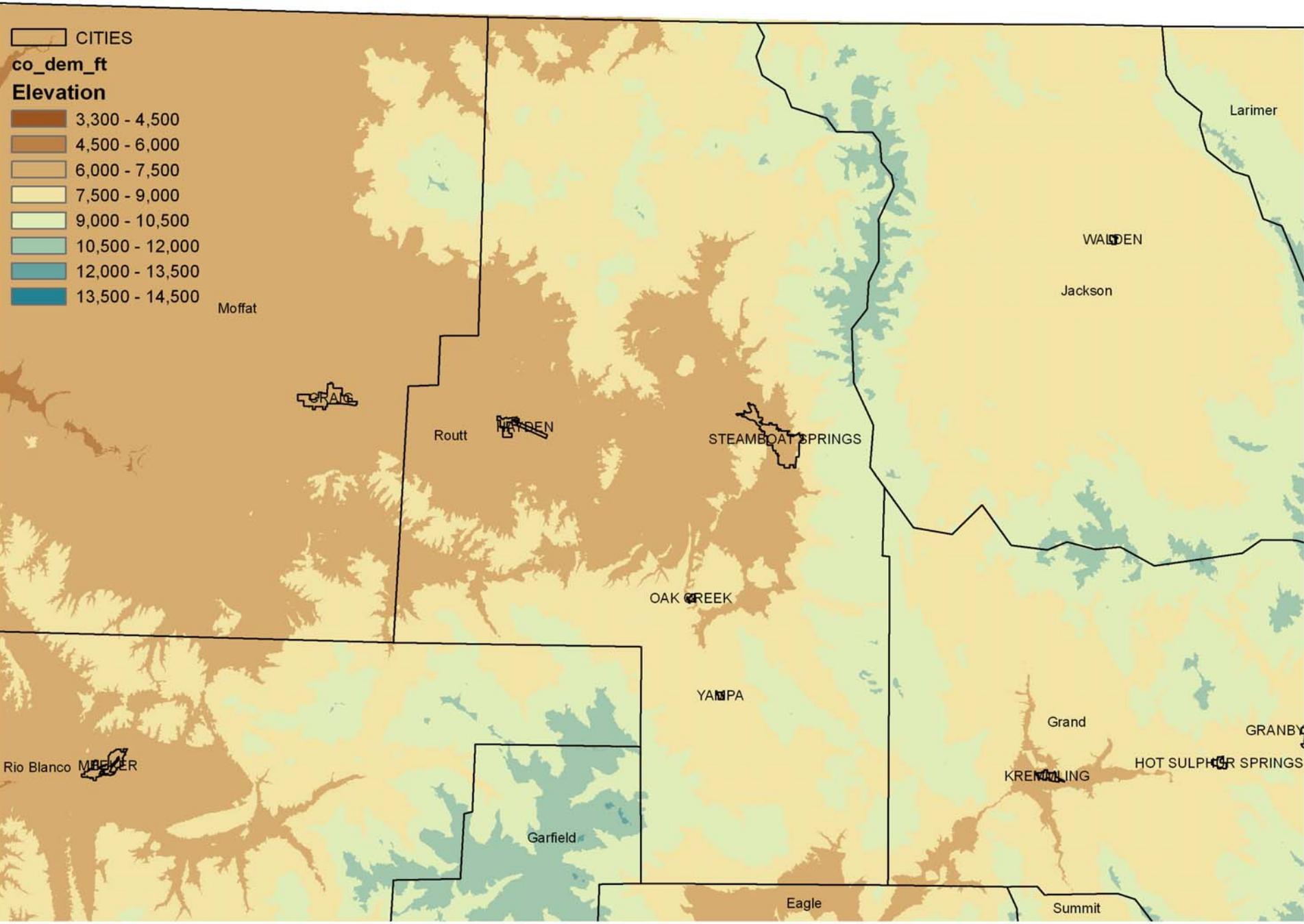
Author: Rich Tinker, NOAA/NWS/NCEP/CPC

How does the climate
of Routt County and
Steamboat Springs,
compare to other
areas?

CITIES

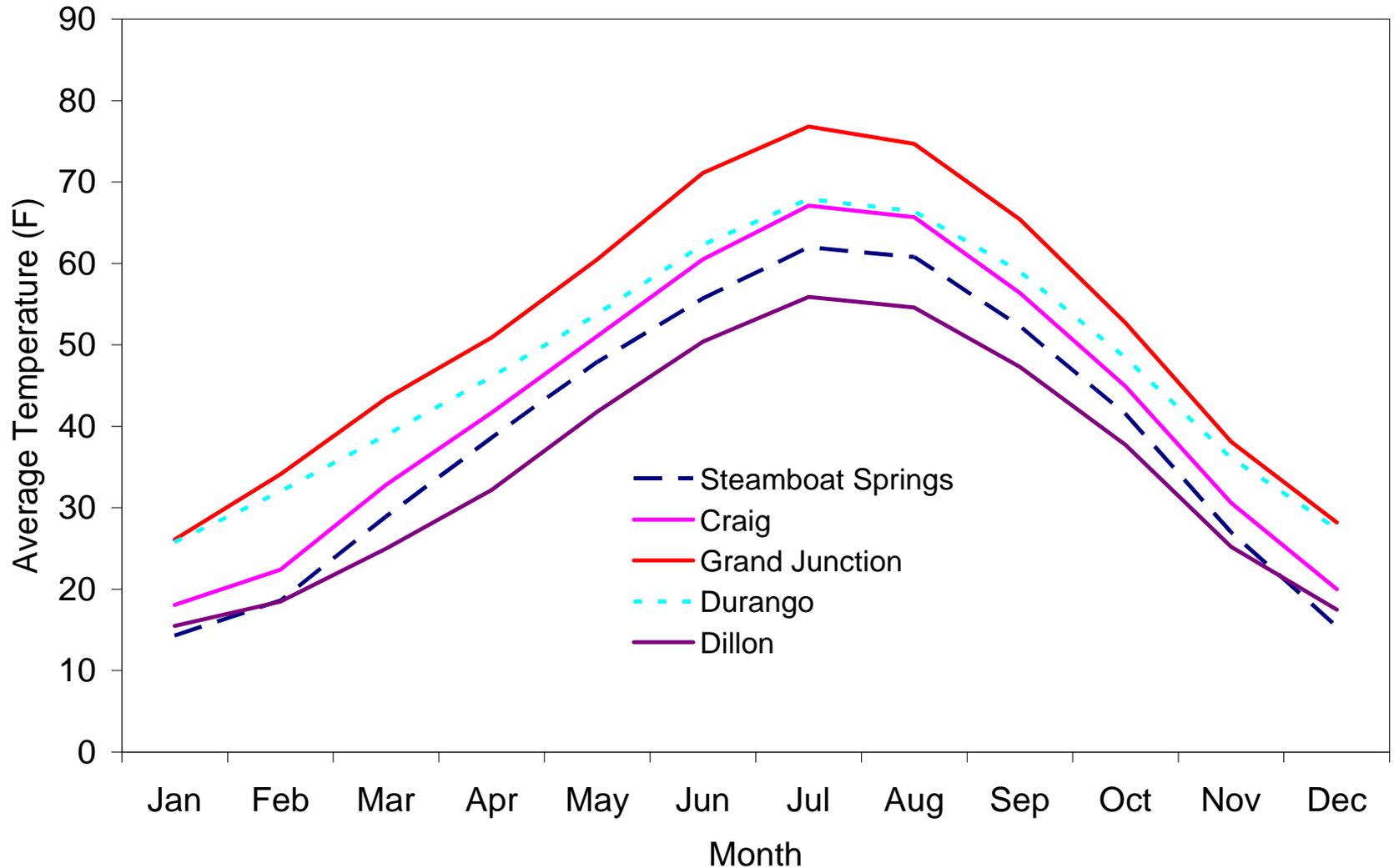
co_dem_ft

Elevation



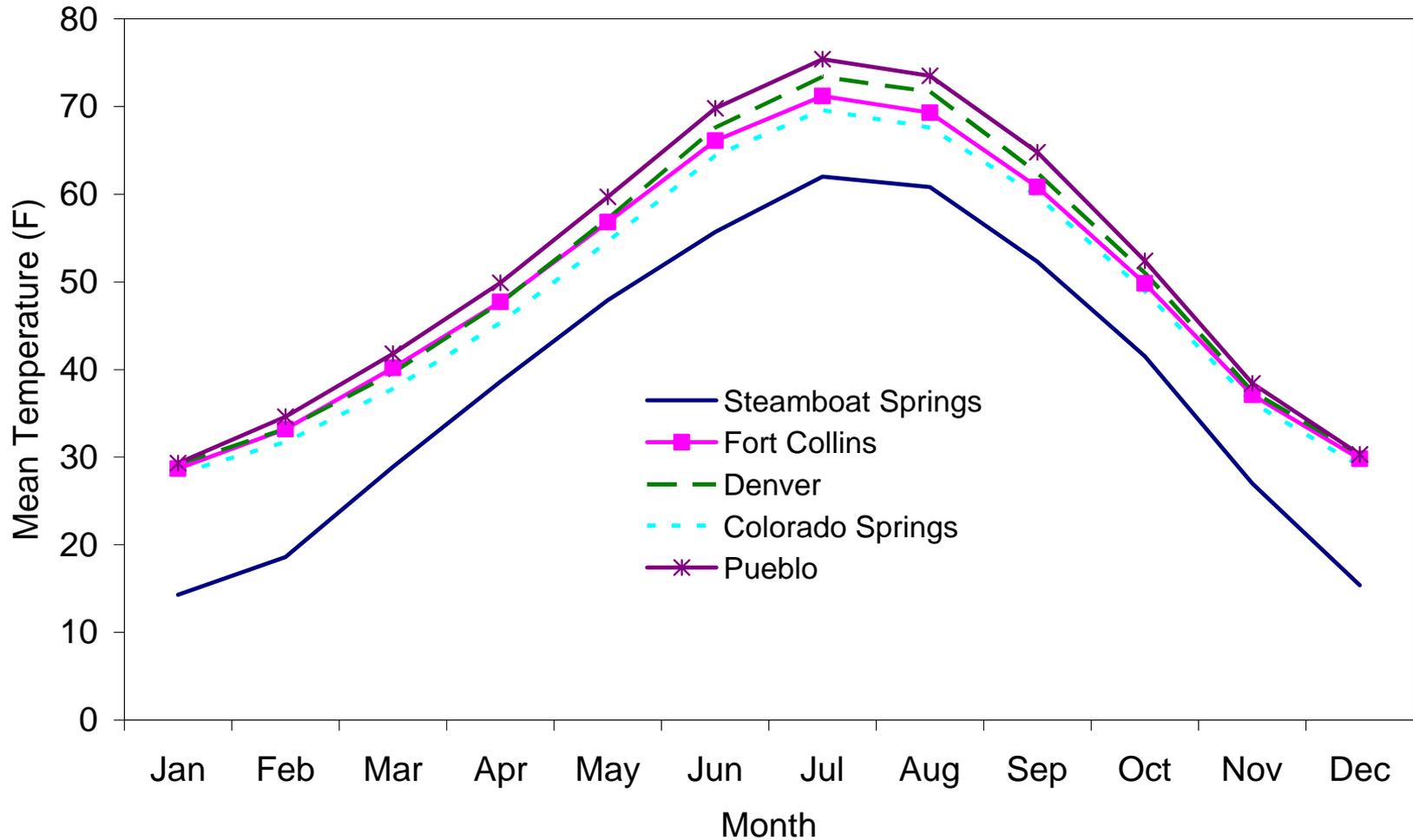
Temperatures compared to other parts of western Colorado

Mean Monthly Temperature



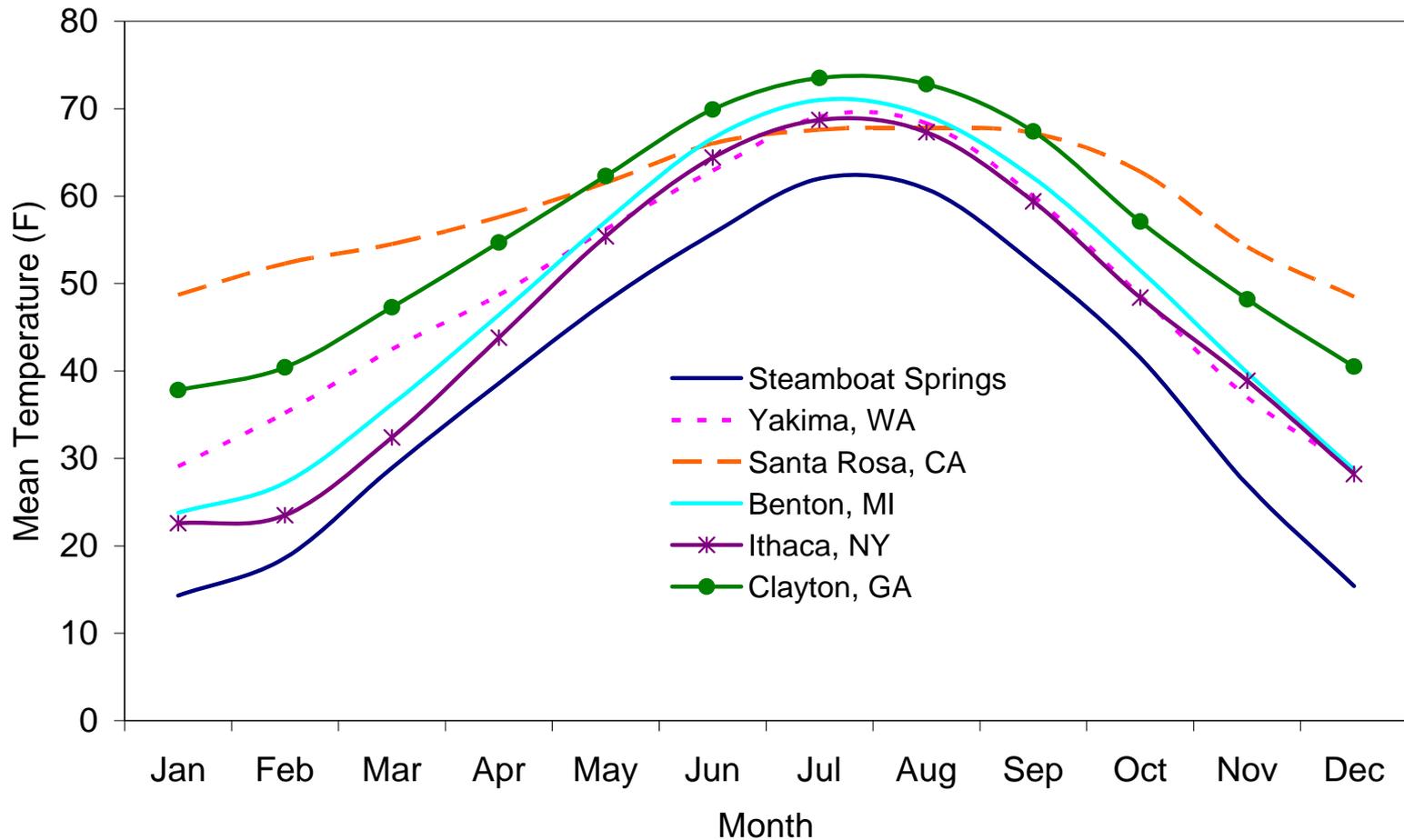
Temperatures compared to the Front Range cities of Colorado

Mean Monthly Temperature



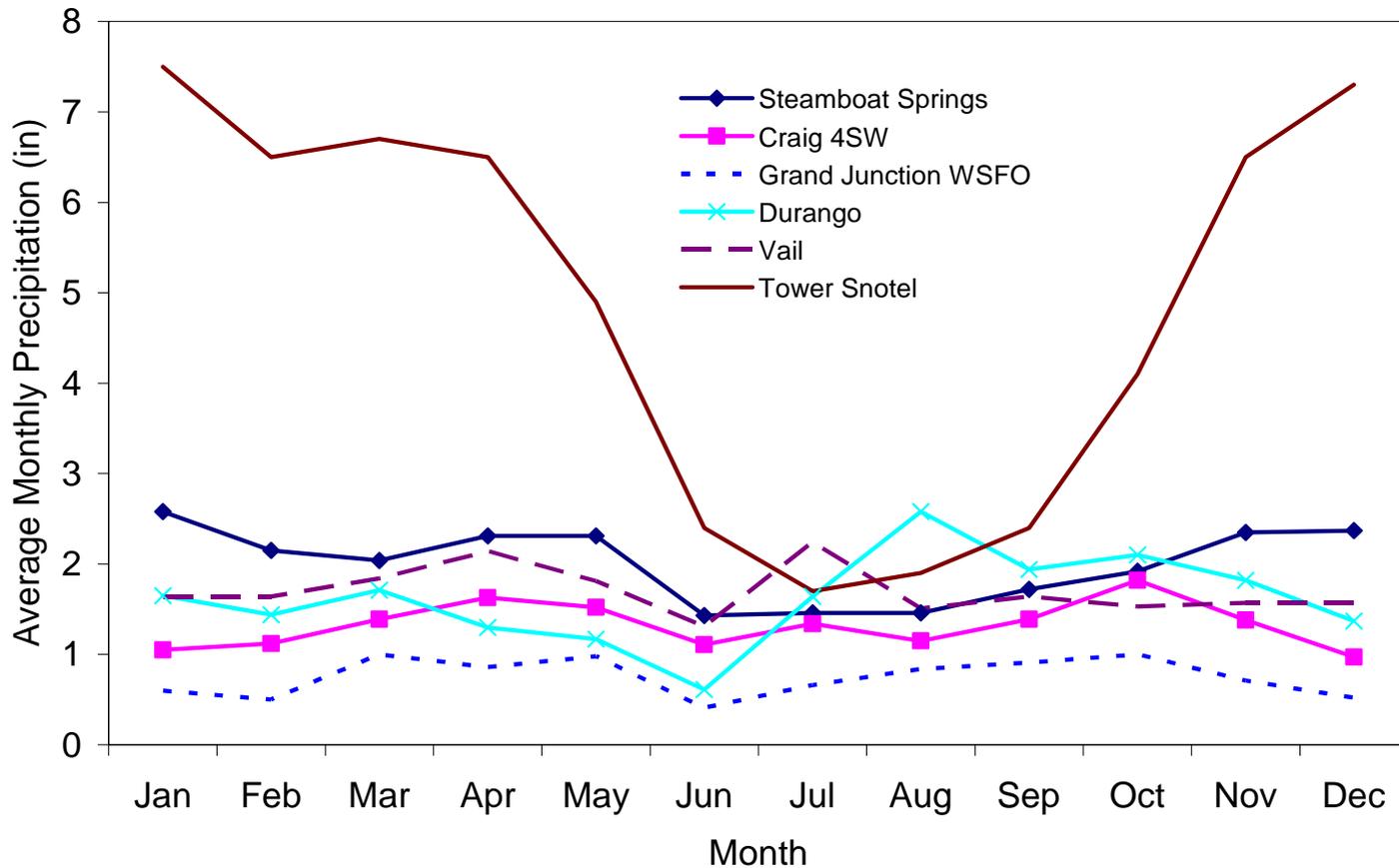
Temperatures compared to other parts of the United States

Mean Monthly Temperature



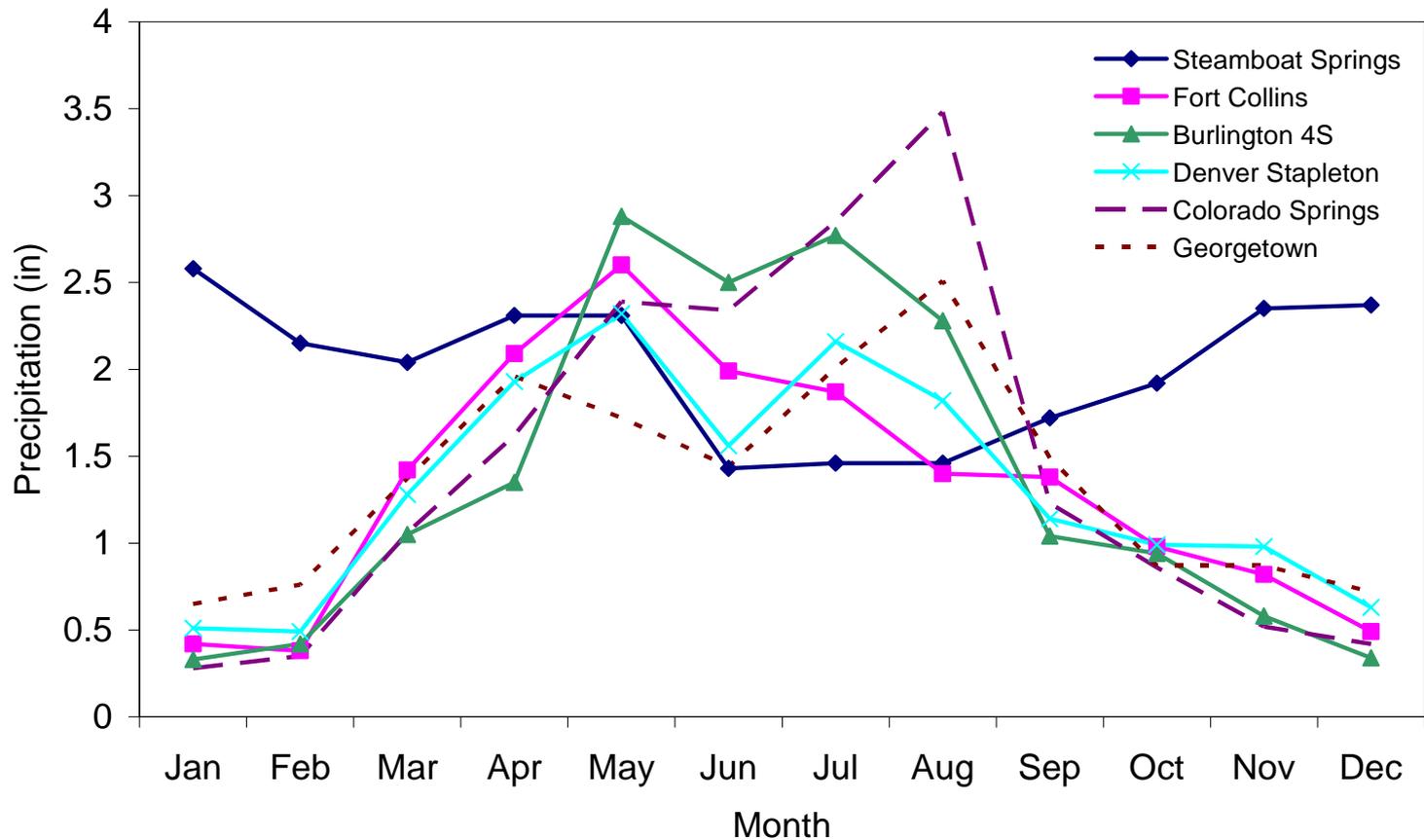
Precipitation compared to other parts of western Colorado

Average Monthly Precipitation



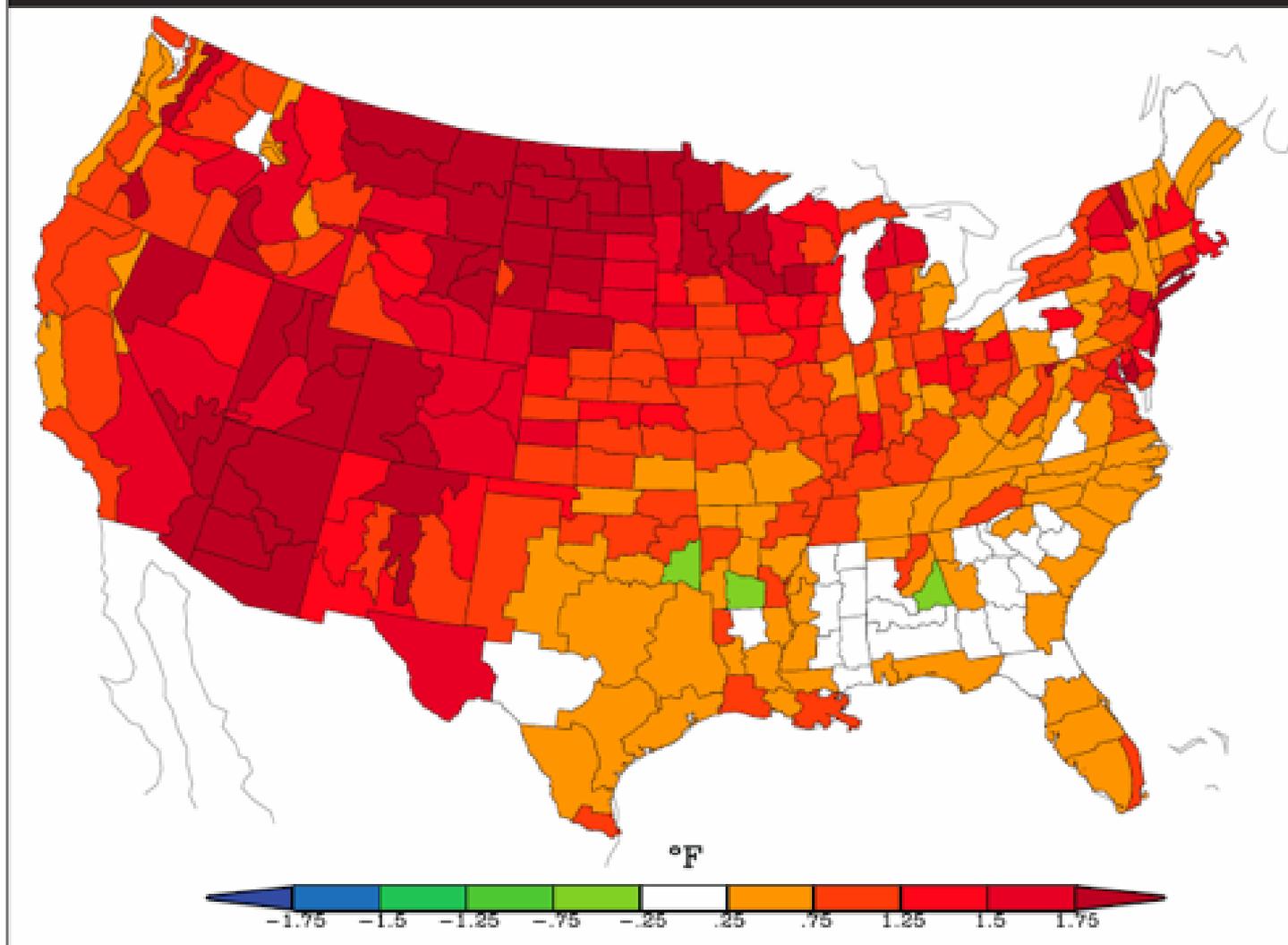
Precipitation compared to the Front Range and eastern Colorado

Average Monthly Precipitation



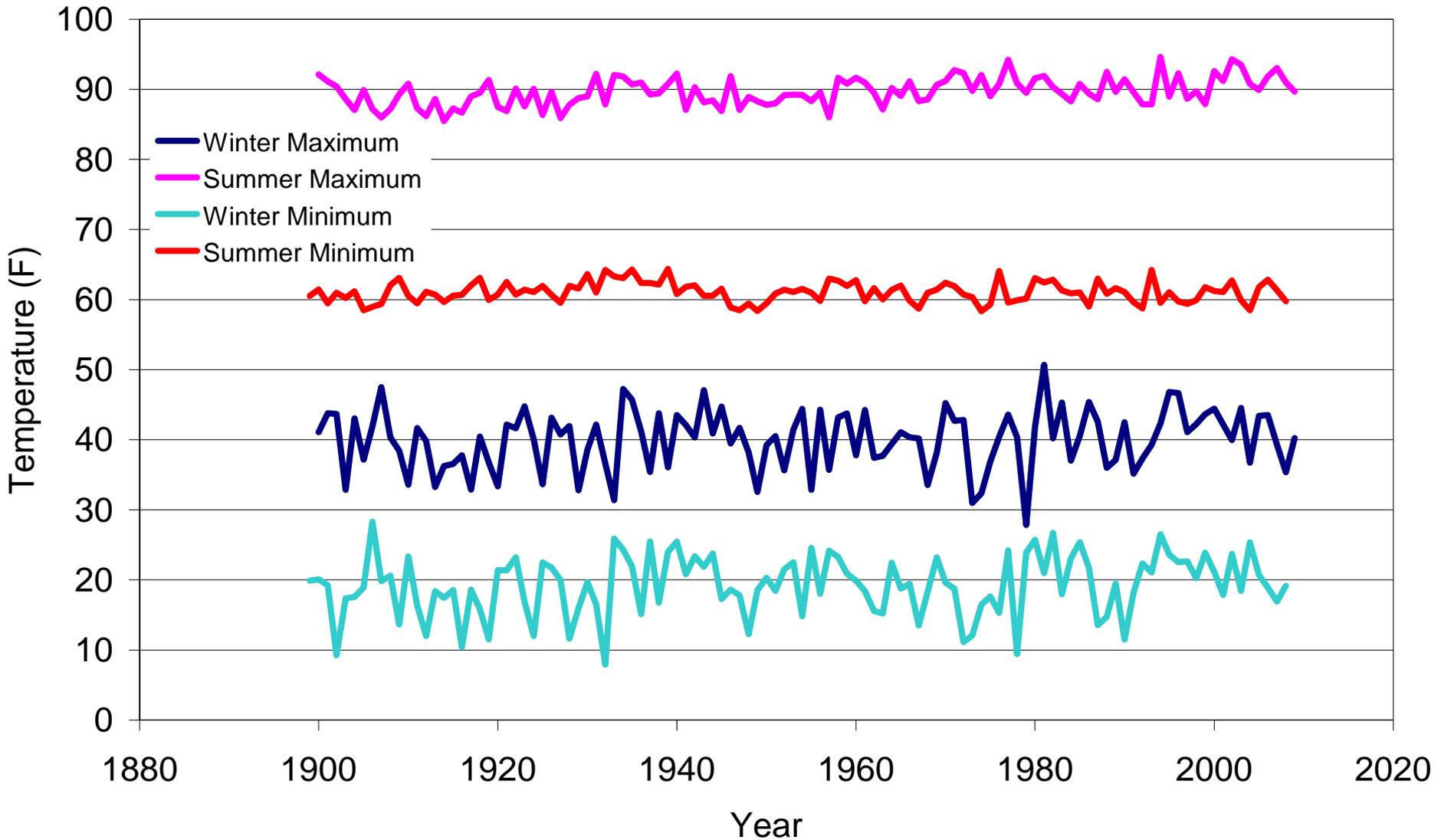
Are we seeing any long term
changes here in Western
Colorado?

Figure 3. The Interior West: Epicenter of Warming in the Contiguous U.S. (2000 - 2007 Average Temperatures Compared to 20th Century Averages)

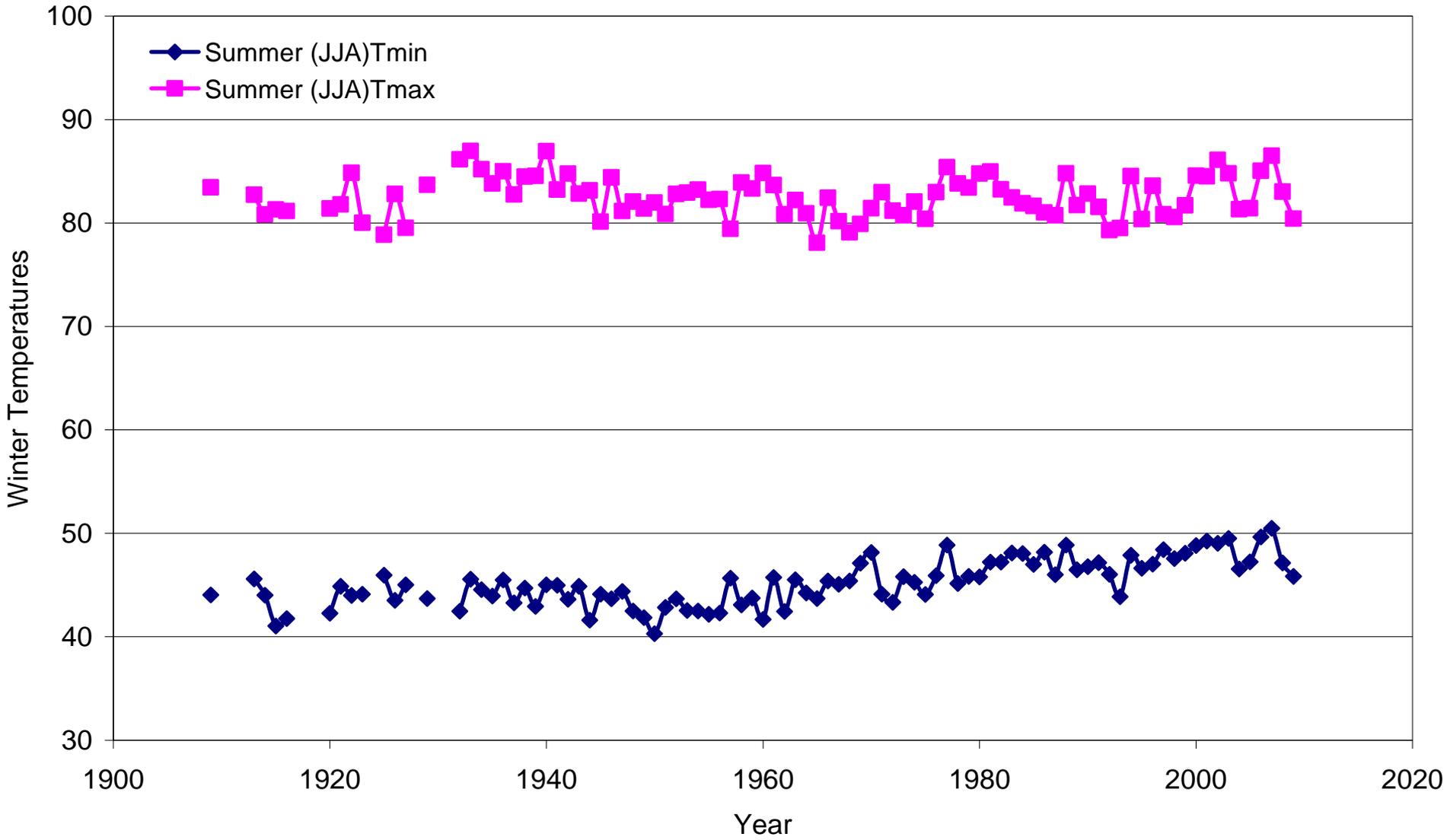


Average temperatures in 2000 - 2007 compared to averages for 1901 - 2000. Source: Dr. Martin Hoerling, National Oceanic and Atmospheric Administration.

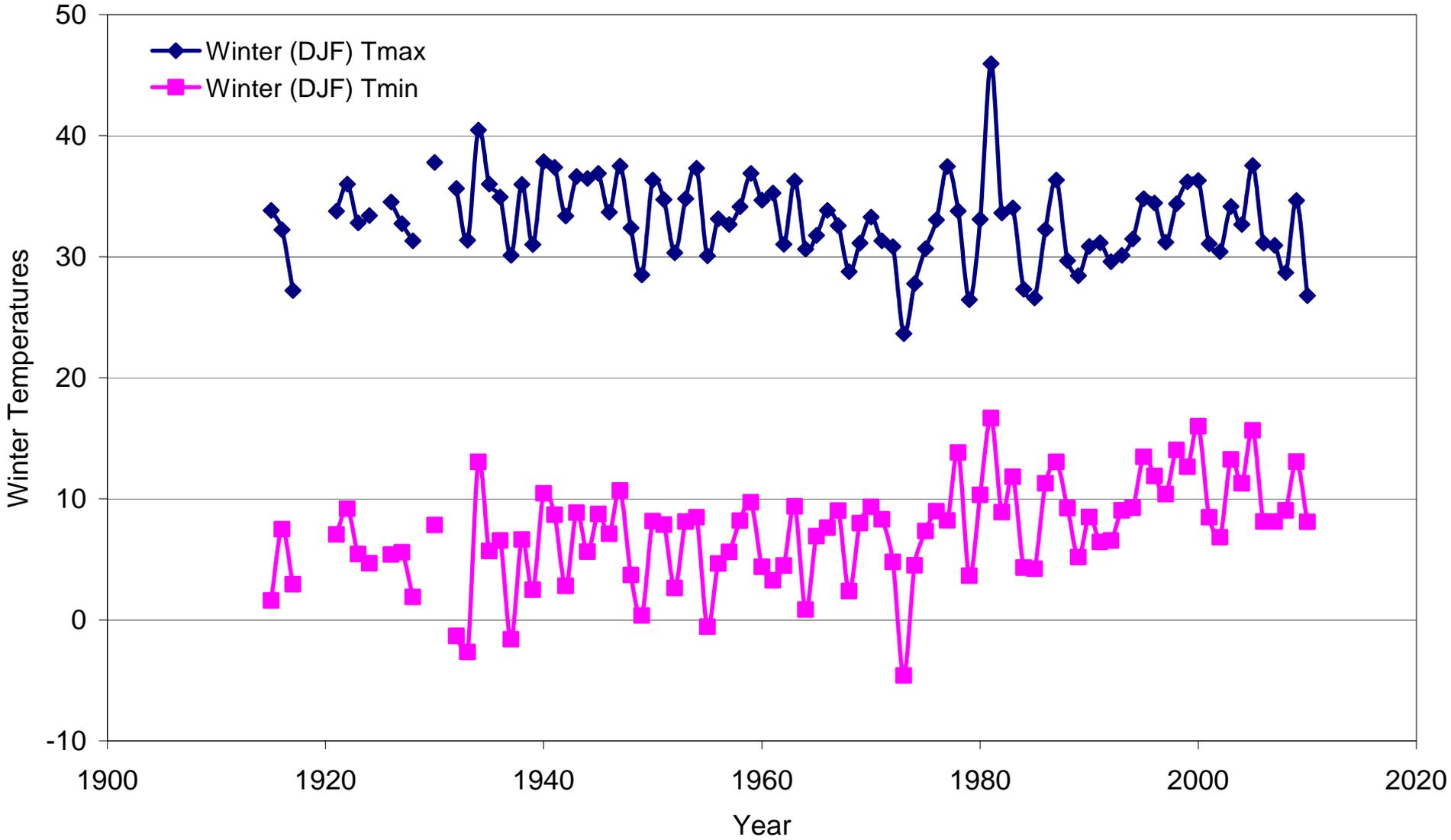
Grand Junction Seasonal Maximum and Minimum Temperatures



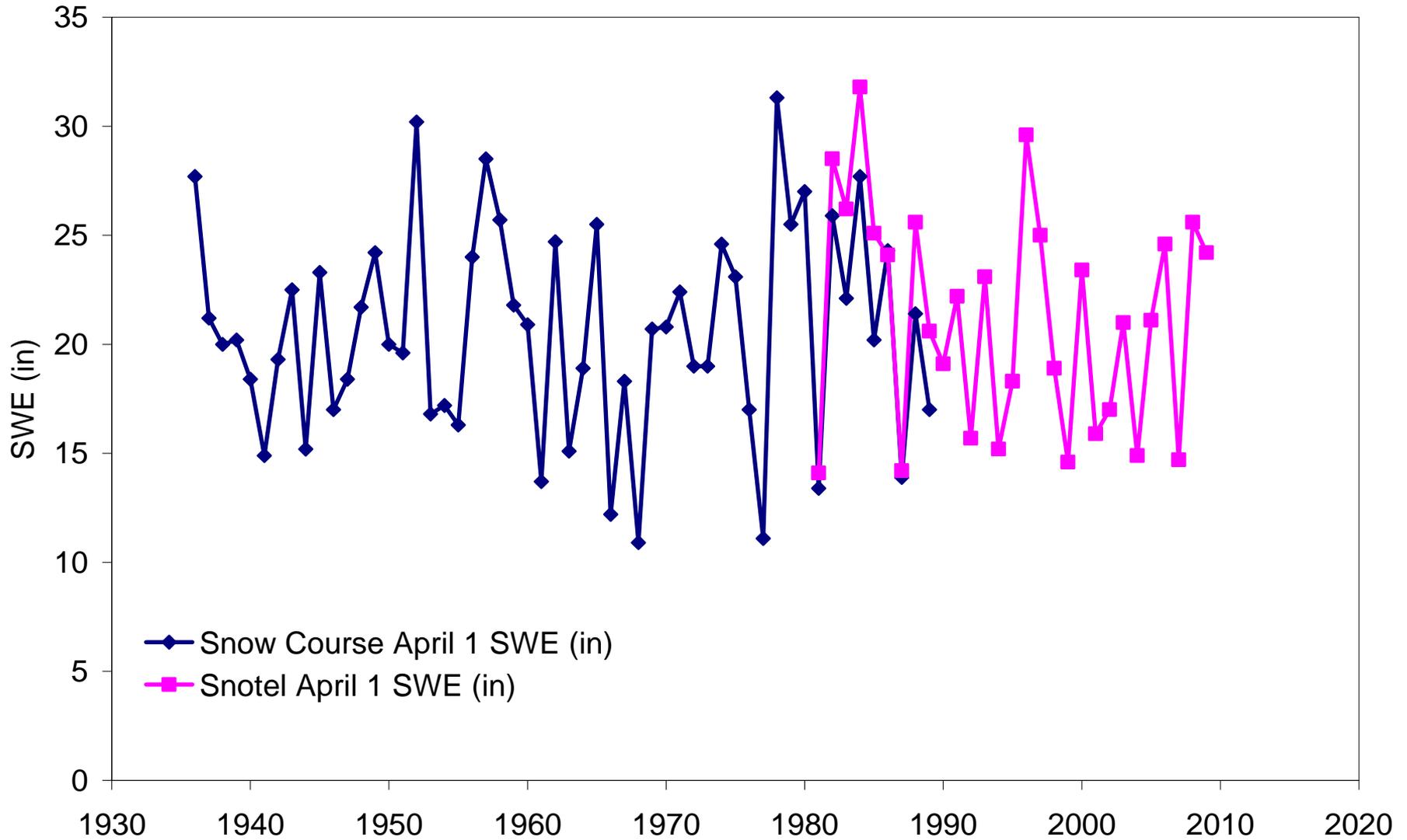
Hayden, CO Summer Maximum and Minimum Temperatures 1909 - present



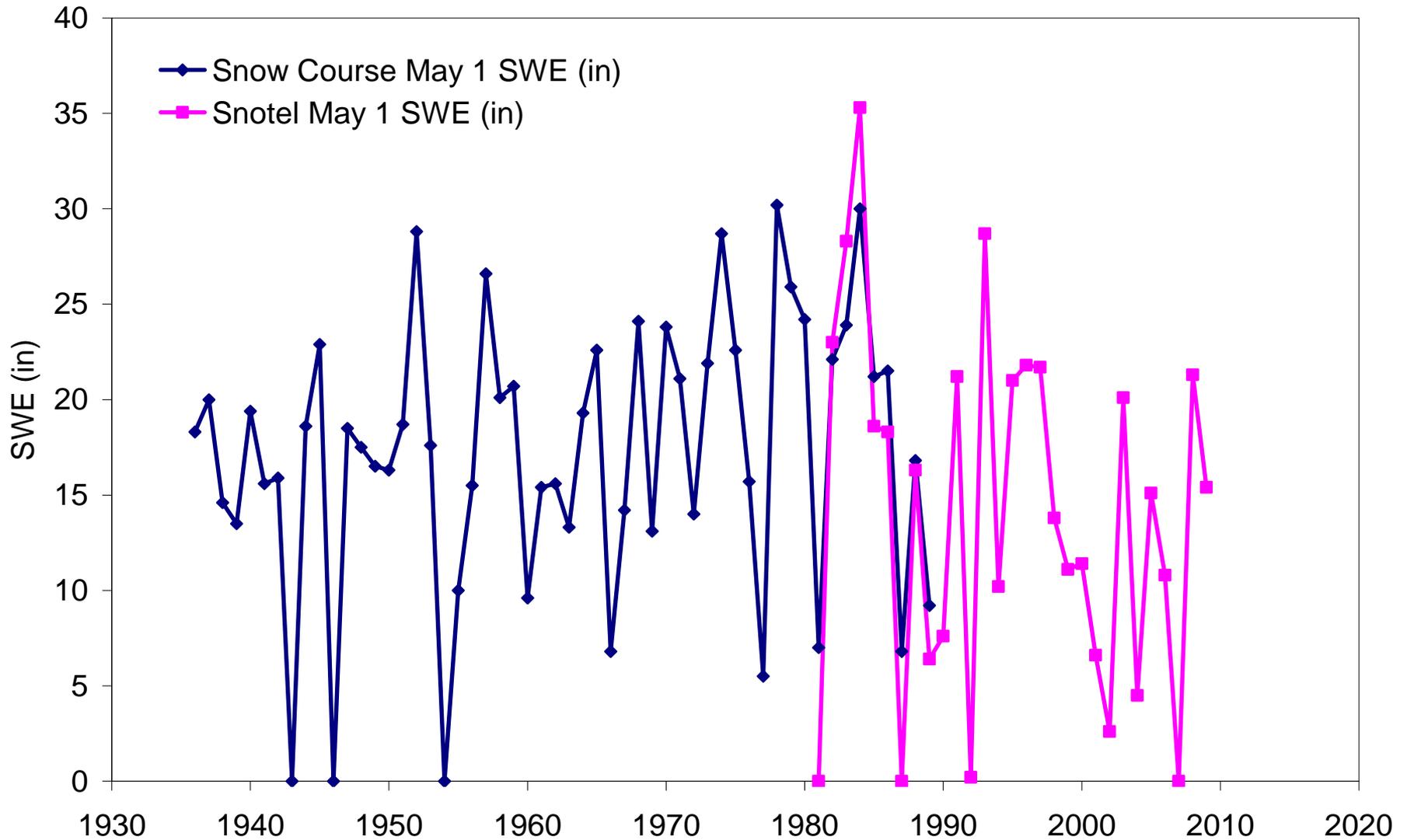
Hayden, CO Winter Maximum and Minimum Temperatures 1909 - present



Dry Lake, CO (Elevation 8,400') April 1 Snow Water Equivalent



Dry Lake, CO (Elevation 8,400') May 1 Snow Water Equivalent

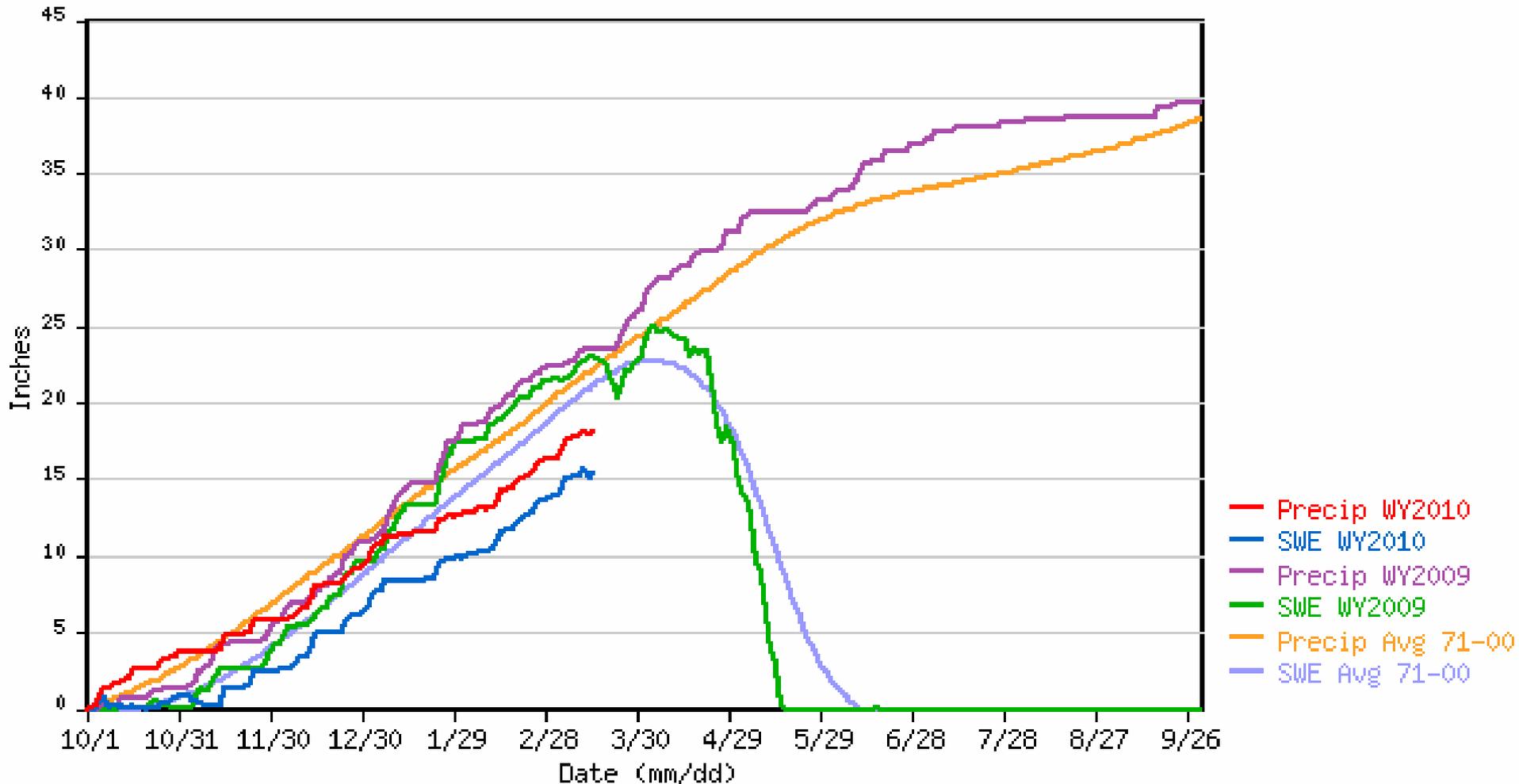


How are things looking Now?

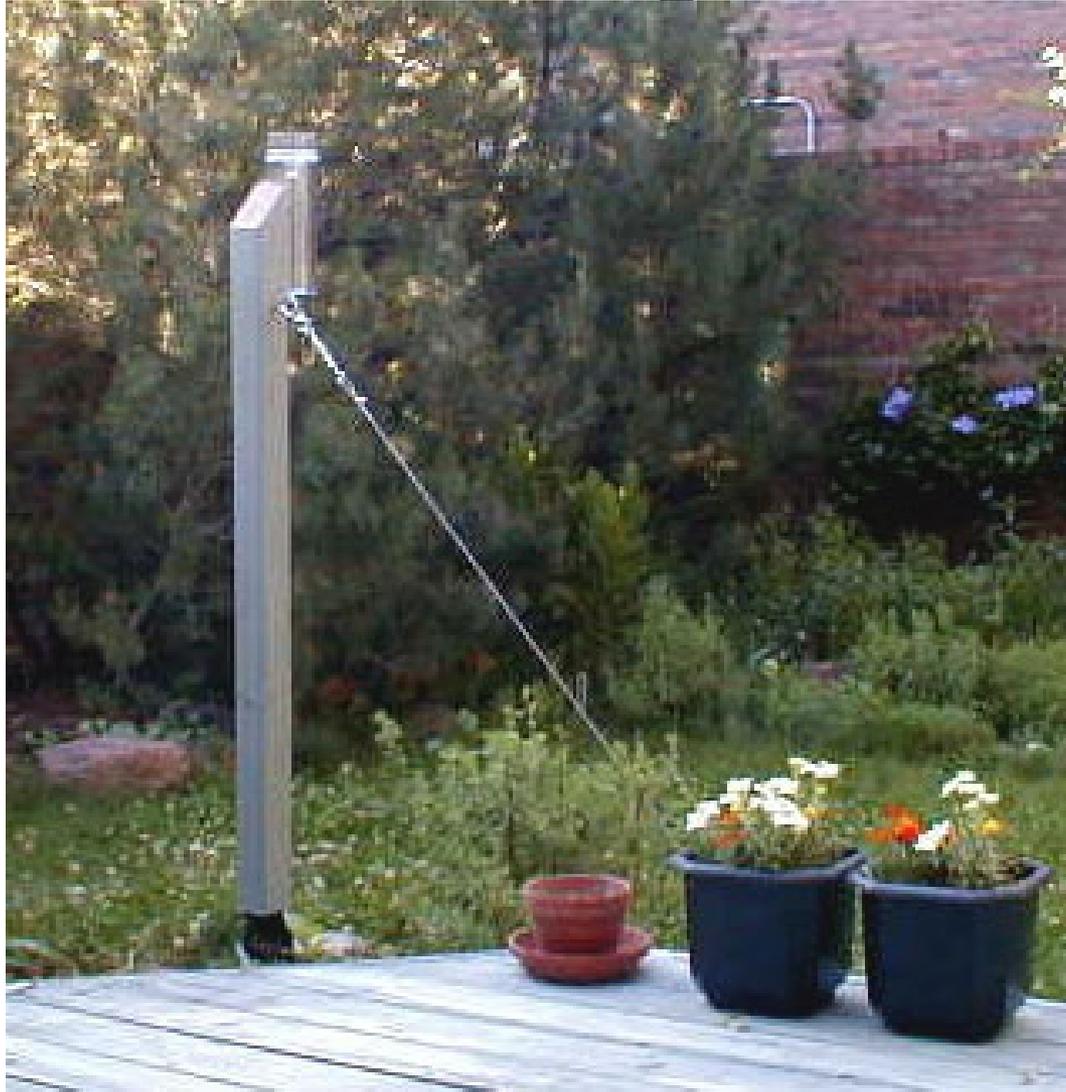
Dry Lake Snotel WY 2009 and 2010

DRY LAKE SNOTEL as of 03/15/2010

*** Provisional Data, Subject to Change ***



Master Gardeners Can Also Assist Climatologists





CoCoRaHS (Community Collaborative Rain, Hail and Snow) – A simple but effective way to help scientists track Colorado Climate



<http://www.cocorahs.org>



Join Us! Visit the CoCoRaHS Web Site <http://www.cocorahs.org>



**Colorado: It's a great place
but we have to be ready for anything**



Photo by Lynn Kral, Loveland, January 2006

Colorado Climate Center

Data and Power Point Presentations available for downloading

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

<http://www.cocorahs.org>

