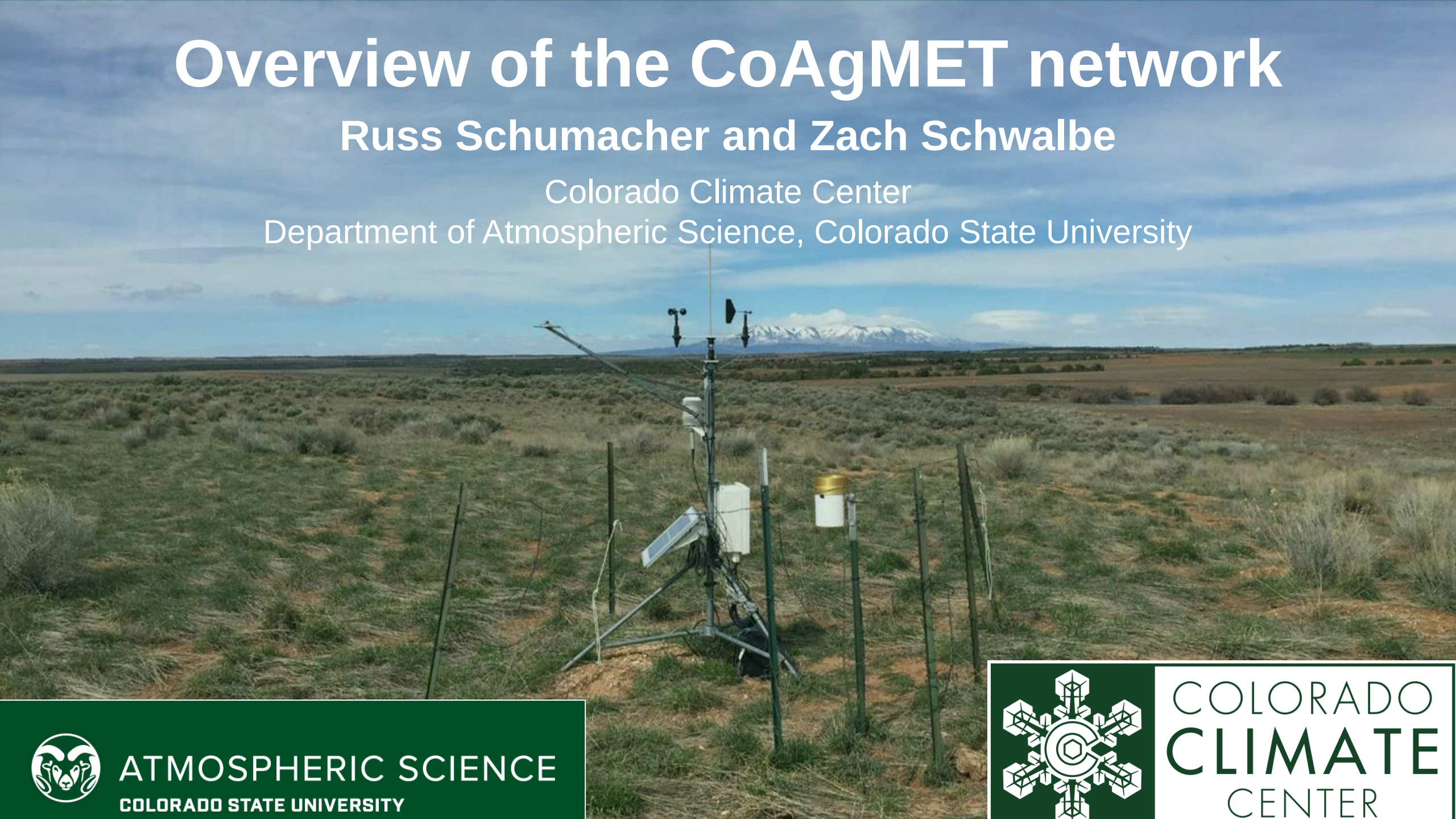
Overview of the CoAgMET network

Russ Schumacher and Zach Schwalbe

Colorado Climate Center

Department of Atmospheric Science, Colorado State University



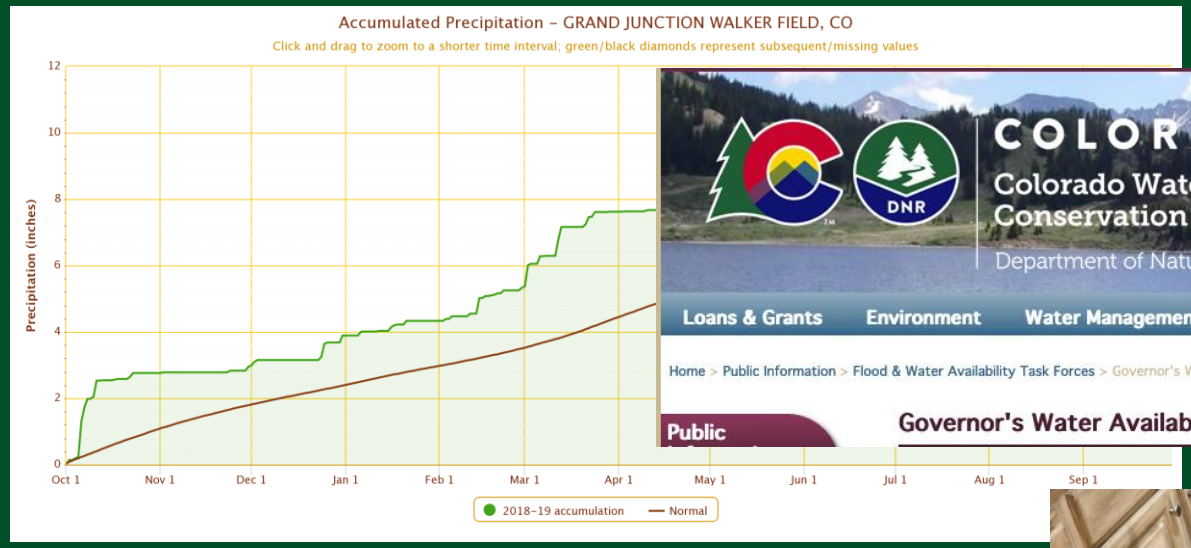
ATMOSPHERIC SCIENCE
COLORADO STATE UNIVERSITY

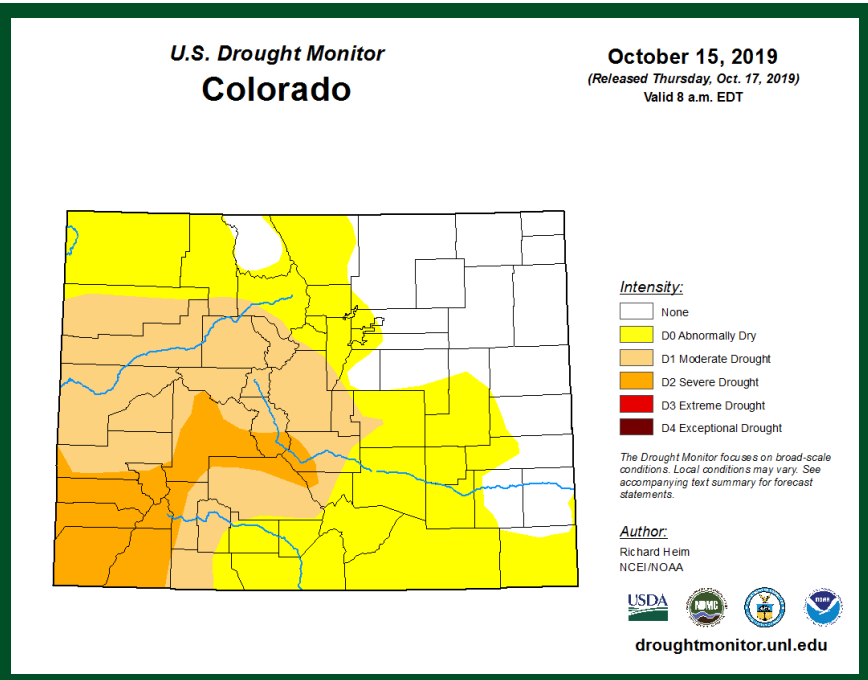
COLORADO CLIMATE CENTER

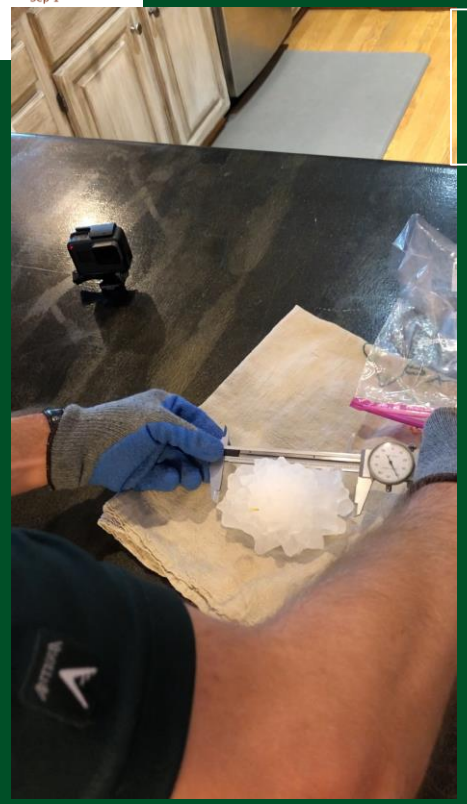
Brief history of the CCC

- Until 1973, the federal government operated a “state climatologist” program – but in in 1973 this was abolished
- Later that same year, Colorado established the Colorado Climate Center at CSU with support through the Colorado Agricultural Experiment Station

Some of our activities...

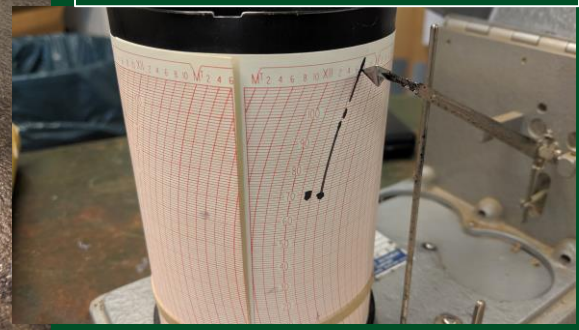






New state record hailstone, August 13, 2019, near Bethune

New state record high temperature, 115°F, July 20, 2019 at John Martin Dam



COLO

Previous state climatologists

Tom McKee, 1974-2000

Nolan Doesken, 2006-2017
(Assistant State Climatologist, 1977-2006)

https://www.atmos.colostate.edu/wp-content/uploads/2017/08/8.9.17_Nolan_retirement.jpg

Roger Pielke, Sr, 2000-2006

CoAgMET =

Colorado Agricultural Meteorological Network

also known as “Colorado’s Mesonet”

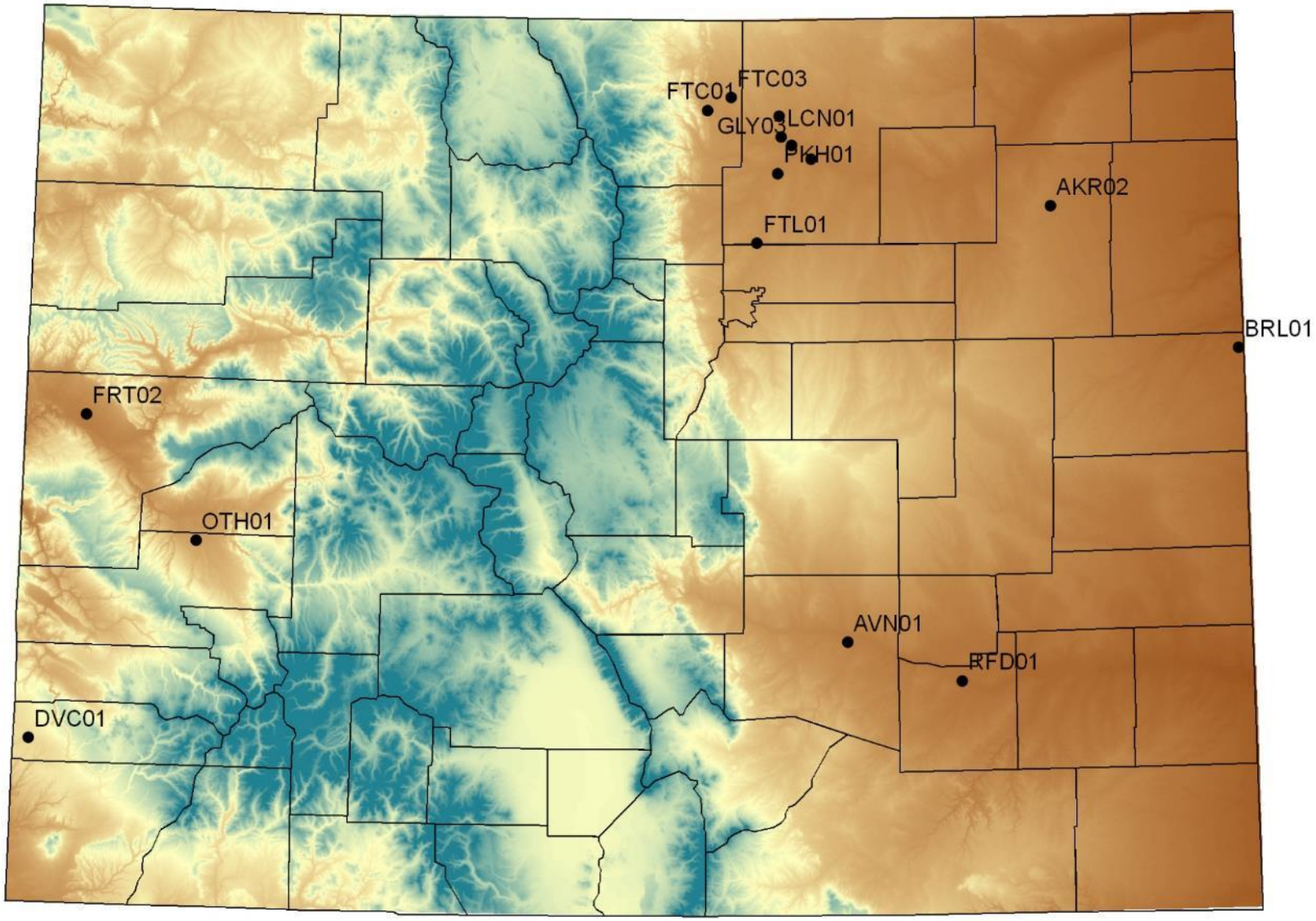
History

- In the early 1990's, CSU extension plant pathologists and ARS scientists decided to collaborate efforts to collect detailed agricultural weather data.
- Standard instruments and data collection platform were selected and a small network of stations were deployed in fully irrigated agriculture.
- As the network grew, the Colorado Climate Center became increasingly interested in using the data, began daily data collection, quality control and built a web interface to distribute data and products to users across the state.

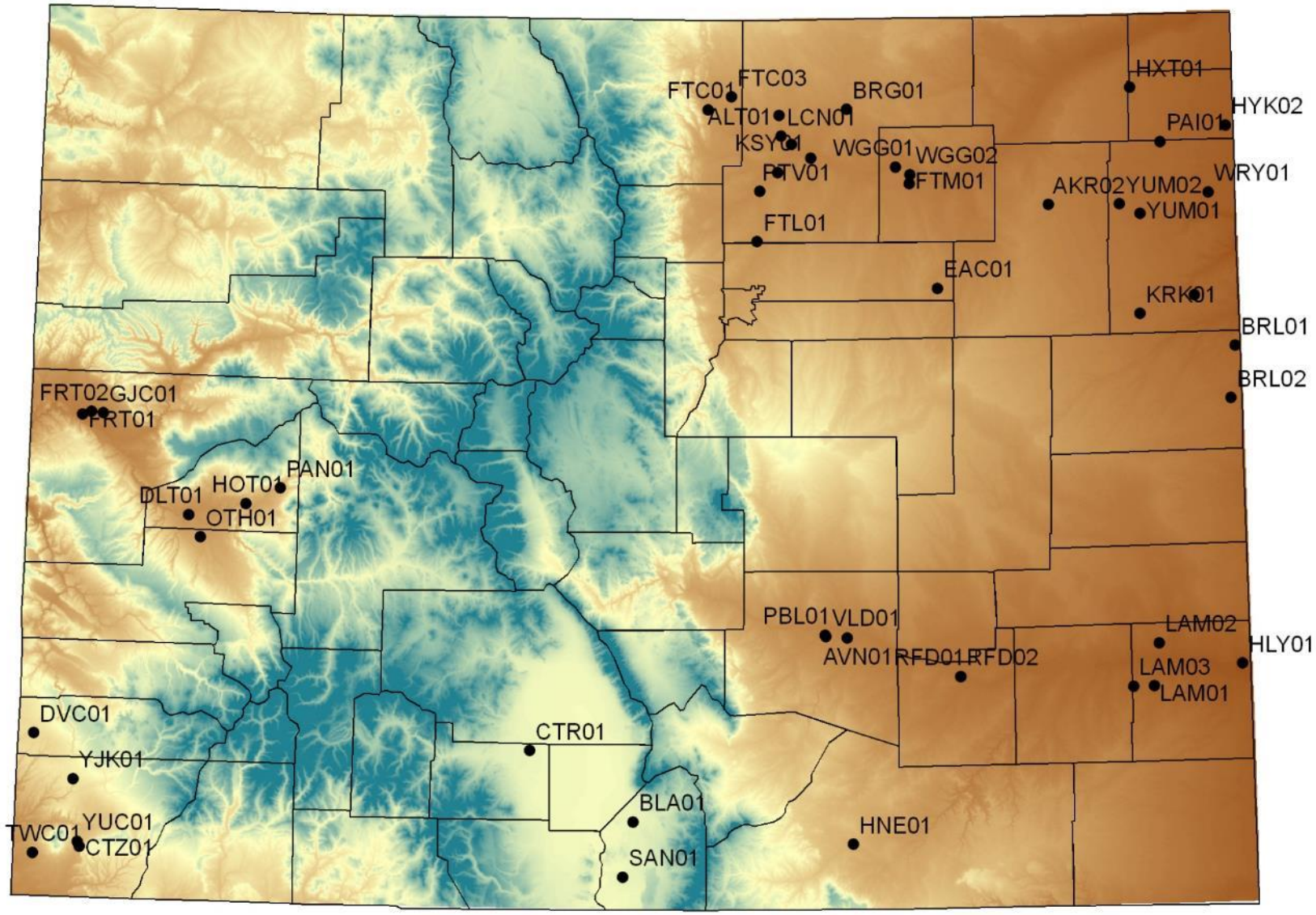
Colorado Climate Center's role

- Coordination, data management, web support
- We host (roughly) annual meetings of key partners and data users – set priorities, secure commitments, prepare proposals
  - 2019 meeting had 25 attendees from state and local government, water conservancy districts, research groups, etc.
- We now run the network including station maintenance, product development, funding, etc.

CoAgMET 1992

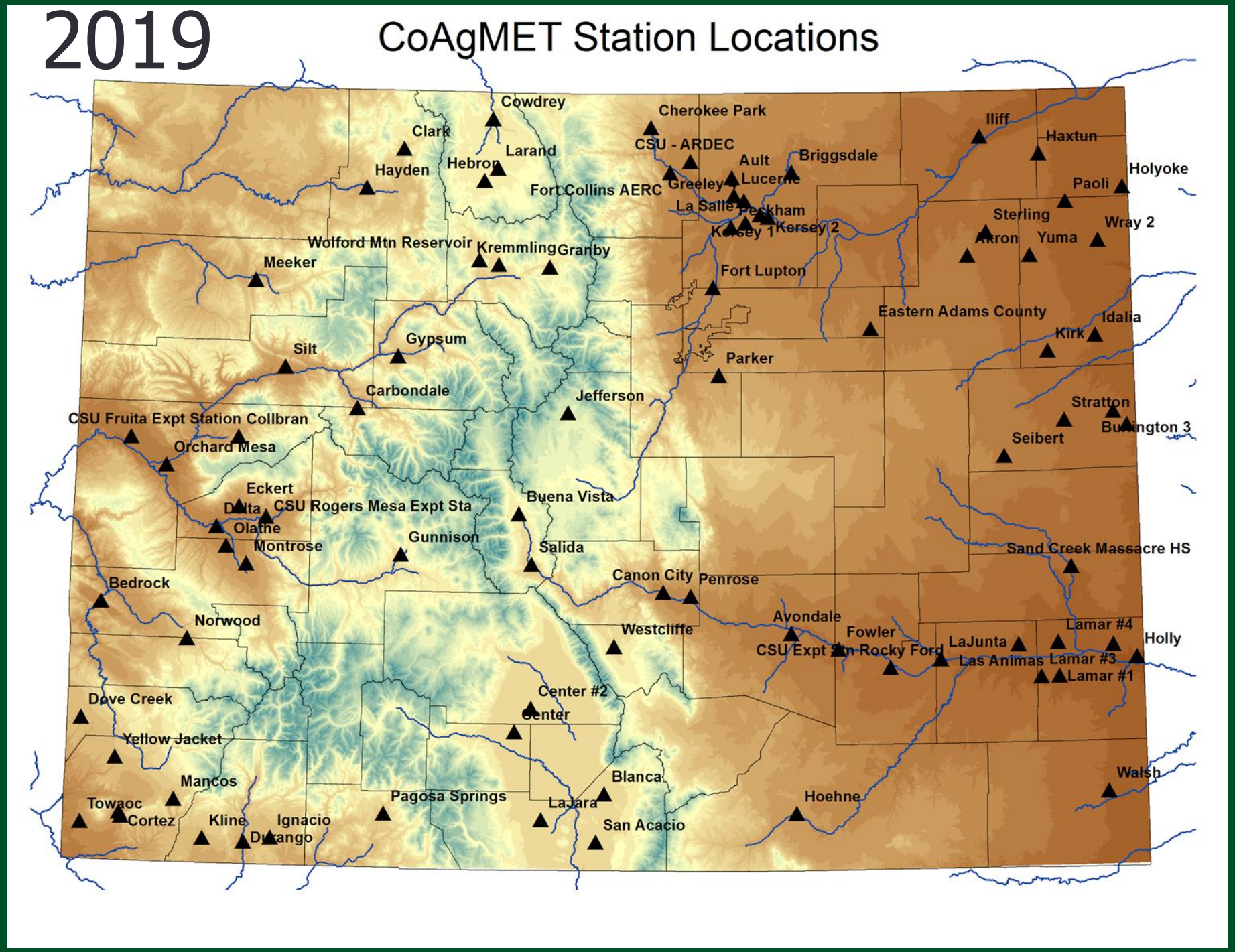


CoAgMET 2002

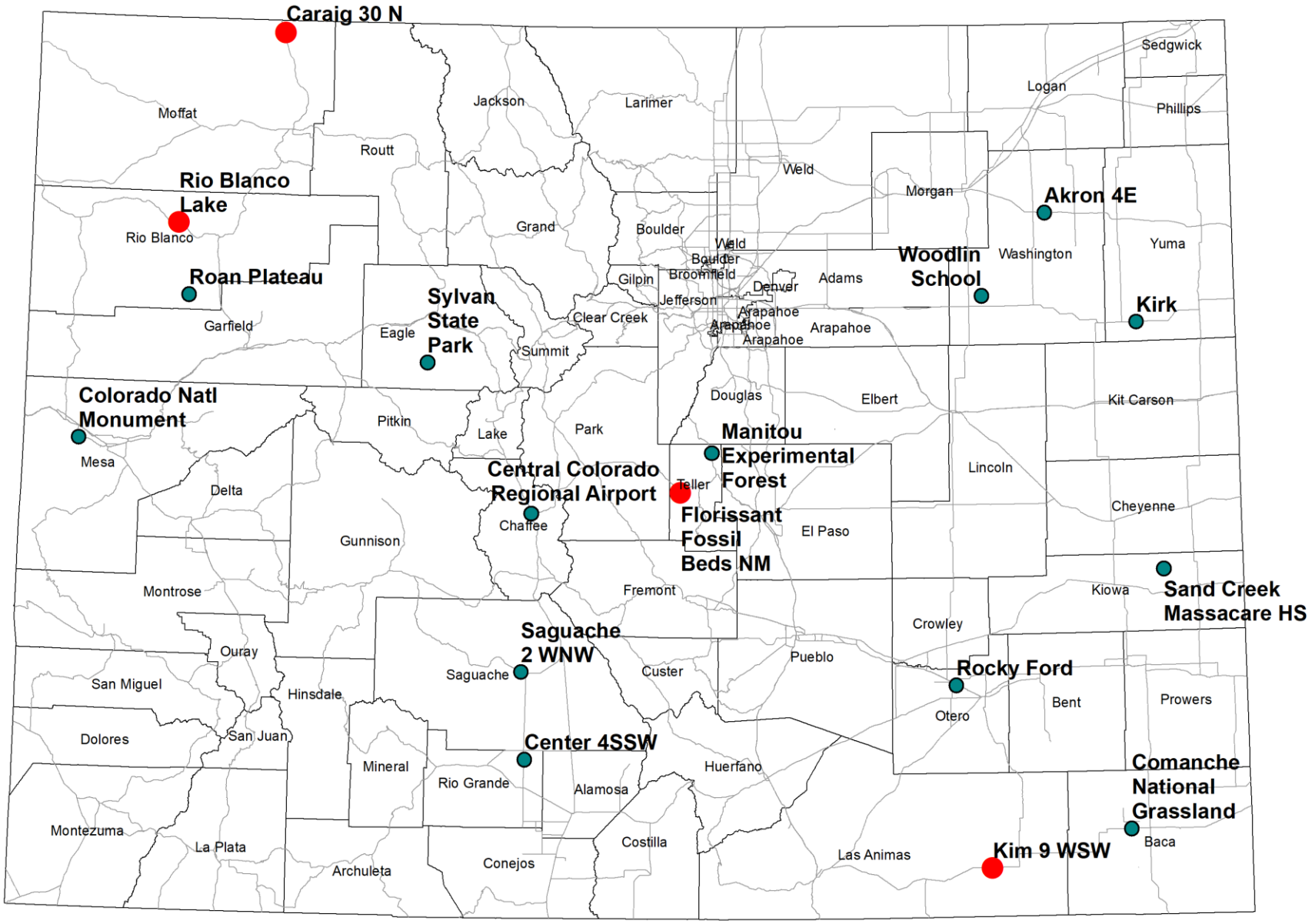


Currently 85 stations

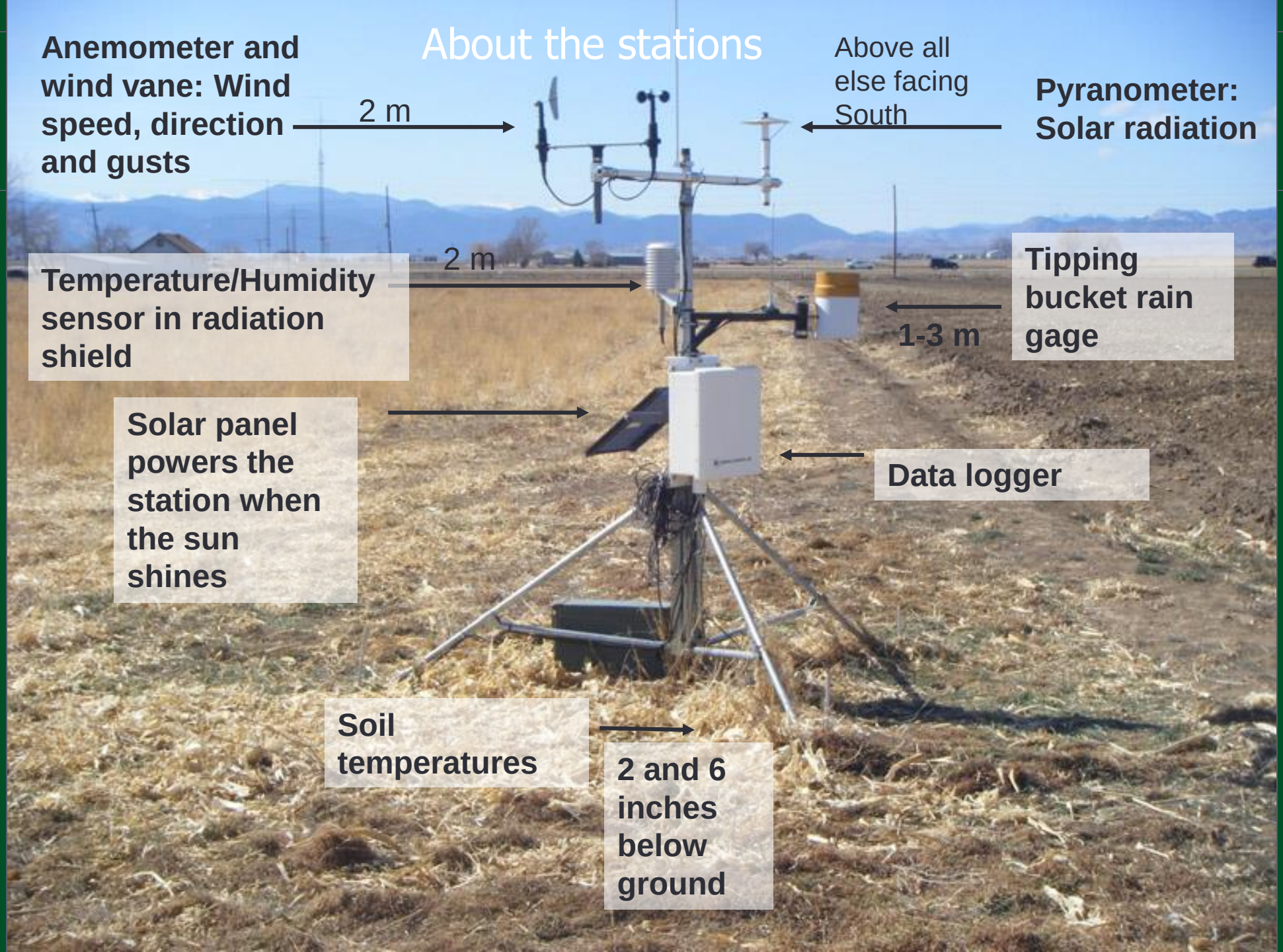
60 are reporting every 5 minutes



Colorado Regional Climate Reference Network Stations



About the stations



Why these measurements?

- The main goal of CoAgMET is to calculate evapotranspiration (ET) from meteorological measurements.
- The standard CoAgMET station collects the elements needed to calculate evapotranspiration.
- These are also very important data for real-time weather monitoring.
- CoAgMET data are used by farmers and ranchers, state and federal agencies, researchers in many fields, for water supply and drought monitoring efforts, National Weather Service, and much more.

Maintaining the data

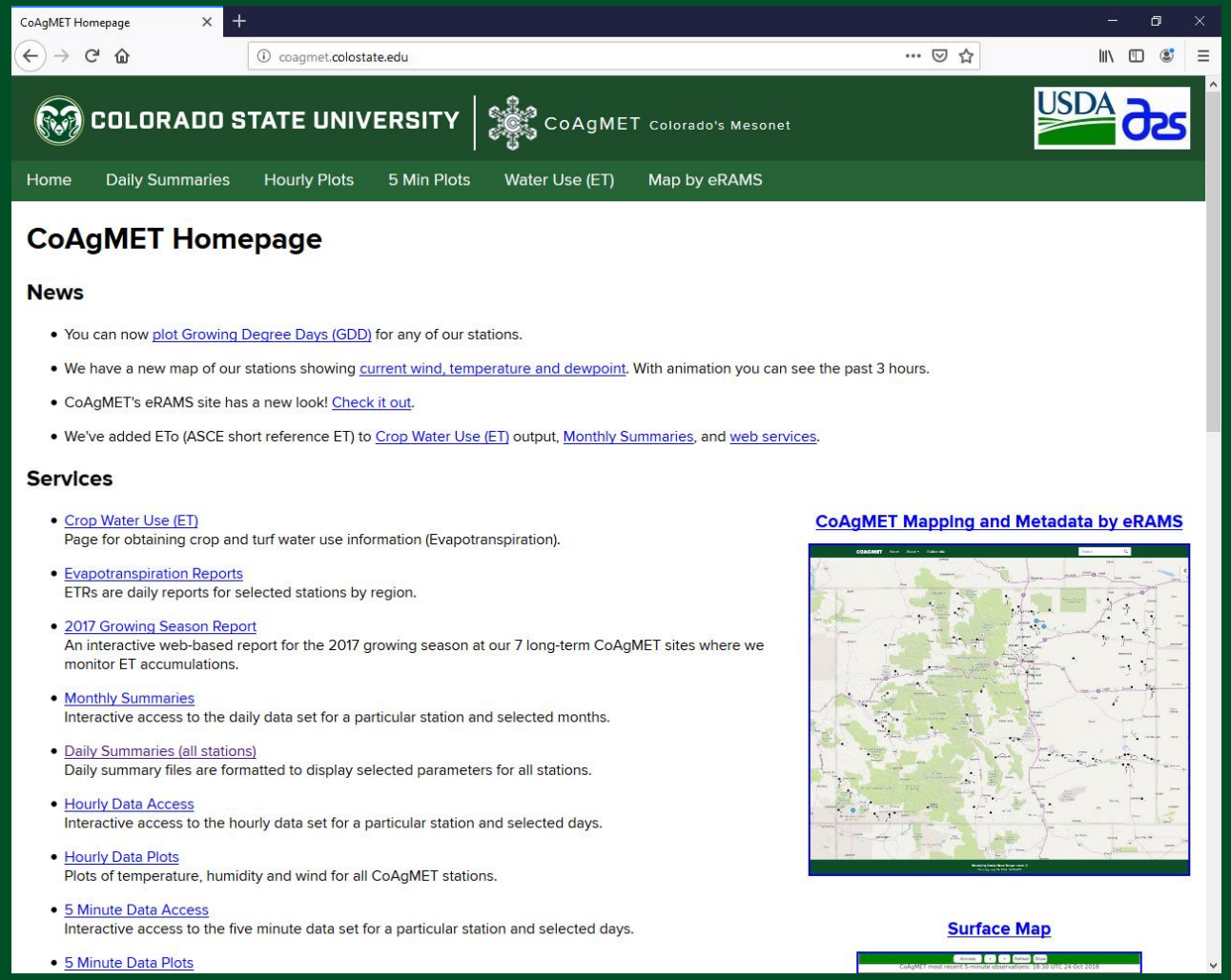
- Our goal is to visit each station at least once a year to make sure the station is operating properly.
  - Sensors are swapped out once every 2 years.
  - Emergency visits to stations when there is a problem with the station causing bad data or an interruption of data.

- Data are quality controlled daily to catch data errors and identify issues with stations before they become a problem.

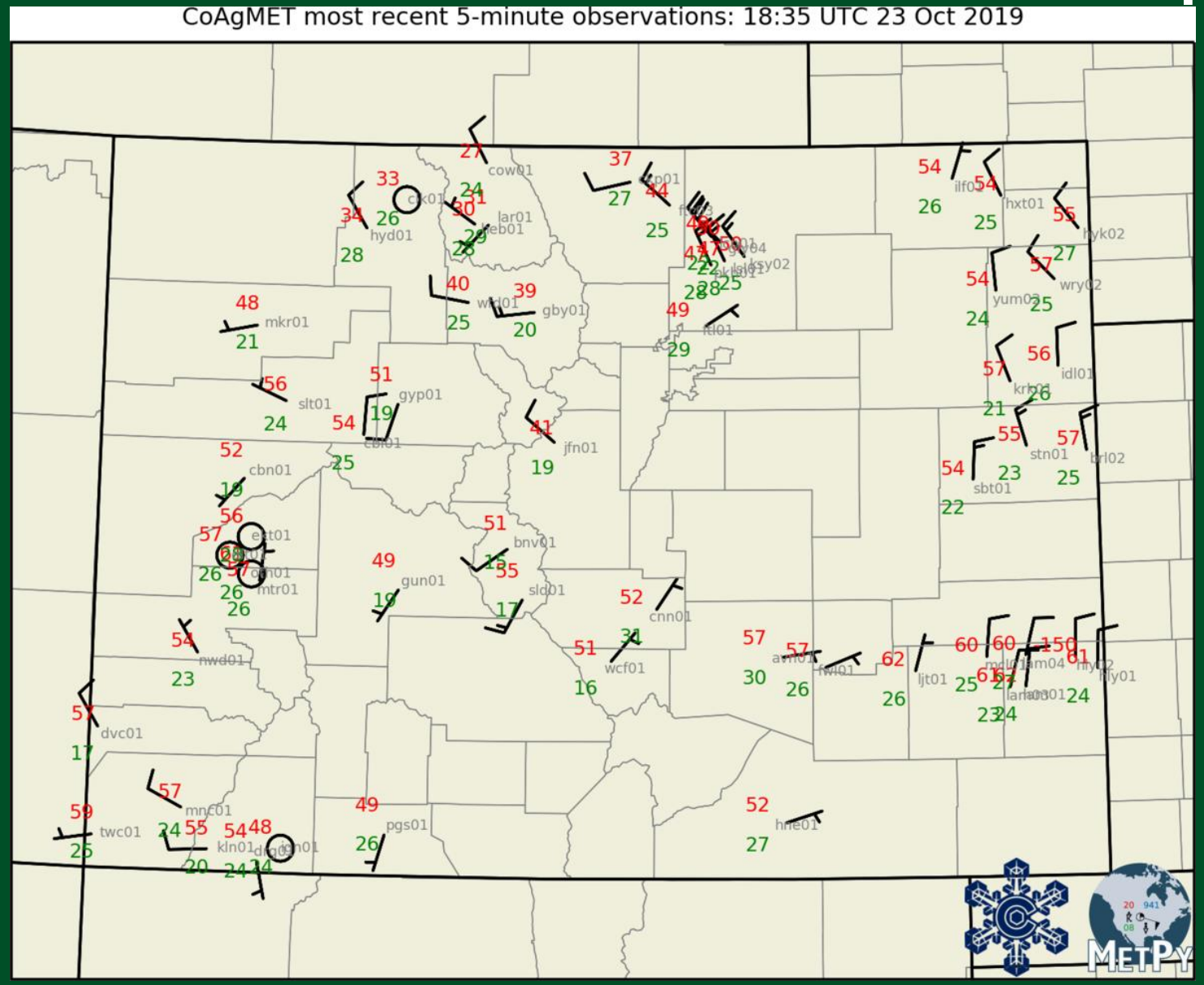
CoAgMET web access:

http://coagmet.colostate.edu/

Data are free and available to the public



Real-time data: weather maps



https://coagmet.colostate.edu/coagmet_sfc_map/

Funding situation for CoAgMET

- For the past ~5 years, the legislature has approved funding for CoAgMET via the Colorado Water Conservation Board construction fund: $150K/year
  - Has been instrumental in the expansion of the network and many new advances – thanks!
- In the last 3 years, we have also received funds from the National Mesonet Program: last year about $90K (in line for an increase next year, but depends on Congressional allocation)
  - This program requires leveraging state (or private) support
- Sponsors support nearly half of the stations (Reclamation, Arkansas River Compact Administration; water districts; etc.)
- Some in-kind support of station maintenance in specific regions (e.g., Arkansas Valley)
- Total annual budget of approx. $300K/year

Funding needs

- The highest priority now is operation and maintenance of the network
  - We do hope to continue expanding, but it will be much slower than in the last 5 years
  - 85 stations is too many for a single network manager to maintain!
- Is the CWCB construction fund the right venue going forward?
  - State support is critical to the network, because it also enables the National Mesonet program funding

Thank you!

- We welcome collaboration ideas and opportunities – please don't hesitate to get in touch!

http://climate.colostate.edu/

Follow us on Facebook and Twitter!
@ColoradoClimate

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Extra slides

Overview of CoAgMET Network

- Currently there are 85 stations
- Data are collected hourly, daily and 60 stations with 5-minute data
- Data include: temperature, humidity, solar radiation, wind speed and direction, and soil temperatures.

Daily Data

CoAgMet Daily Summary - 07/01/2016

Daily Summary

Sta	Mon	Day	Tmax Temp degF	Tmin Temp degF	Vapor Press mb	Solar Rad Lngly	Prec in.	Wind Gust mph	Wind Run mi.	Soil Temp degF	Min RH Pct	Grow DgDy F.	P-Kim ET in.	ASCE HLY ET in.
akr02	7	1	73.1	59.7	17.75	248	0.64	***	229	***	66.2	1270	0.161	0.123
alt01	7	1	78.5	60.4	17.62	391	0.04	27.9	127	70.0	49.0	1157	0.193	0.162
avn01	7	1	81.8	62.6	19.95	345	0.06	18.3	51	70.6	51.5	1510	0.163	0.132
bla01	7	1	74.4	53.5	12.93	373	0.00	30.4	117	62.1	36.3	957	0.190	0.168
bnv01	7	1	69.4	52.1	13.14	264	0.05	17.3	66	56.0	44.4	882	0.120	0.107
brg01	7	1	80.6	58.2	18.03	336	0.14	22.7	162	68.0	52.1	1243	0.200	0.140
brk01	7	1	72.8	62.3	16.63	224	0.05	13.5	58	74.2	50.9	1486	0.140	0.106
brl02	7	1	72.9	61.5	20.64	298	0.07	16.2	149	65.2	77.1	1342	0.131	0.103
brl03	7	1	72.2	61.5	20.18	325	0.31	15.8	153	67.7	78.6	1035	0.135	0.109
cbl01	7	1	68.5	57.8	17.07	251	0.01	9.7	38	59.8	68.1	1044	0.102	0.091
ckp01	7	1	76.9	56.4	15.70	370	0.76	17.2	72	64.8	49.2	997	0.166	0.140
cnn01	7	1	80.5	61.6	17.69	384	0.56	24.4	68	66.9	45.0	1420	0.185	0.161
cow01	7	1	69.5	50.0	12.71	415	0.00	17.2	49	60.5	43.0	589	0.148	0.149
ctr01	7	1	71.1	52.5	13.83	326	0.36	14.7	55	60.7	50.7	887	0.135	0.114
ctr02	7	1	73.9	53.4	13.60	378	0.12	21.0	94	67.1	43.2	943	0.171	0.145
ctz01	7	1	68.3	59.3	15.91	198	0.09	10.1	50	65.7	59.9	1261	0.111	0.081
dlt01	7	1	72.4	60.5	17.68	262	0.09	10.1	55	64.1	59.3	1400	0.132	0.106
dvc01	7	1	67.9	55.9	14.93	226	0.09	13.3	79	66.7	60.8	981	0.126	0.093
eac01	7	1	75.5	57.6	17.92	351	1.08	32.7	237	64.1	61.7	1250	0.198	0.138
ekt01	7	1	71.2	60.0	16.75	243	0.08	10.5	35	63.0	56.0	1241	0.121	0.097
frt02	7	1	72.6	61.3	18.92	223	0.07	11.7	78	67.1	63.3	812	0.094	0.090
ftc01	7	1	76.4	58.9	17.84	294	0.02	12.2	42	66.0	58.7	1087	0.130	0.112
ftc03	7	1	76.7	59.3	17.54	247	0.02	15.1	102	68.7	57.4	1126	0.138	0.111
ftl01	7	1	79.6	60.9	17.27	411	0.02	23.5	92	70.6	41.0	1176	0.198	0.176
fwl01	7	1	82.3	63.9	18.78	341	0.09	25.2	95	76.1	47.0	1526	0.191	0.156
gly04	7	1	80.6	60.5	18.19	415	0.20	17.8	111	69.2	47.6	1191	0.201	0.167

Daily data for a month

Station:Kersey 2

Location:4 mi SE Kersey

Elevation:4563

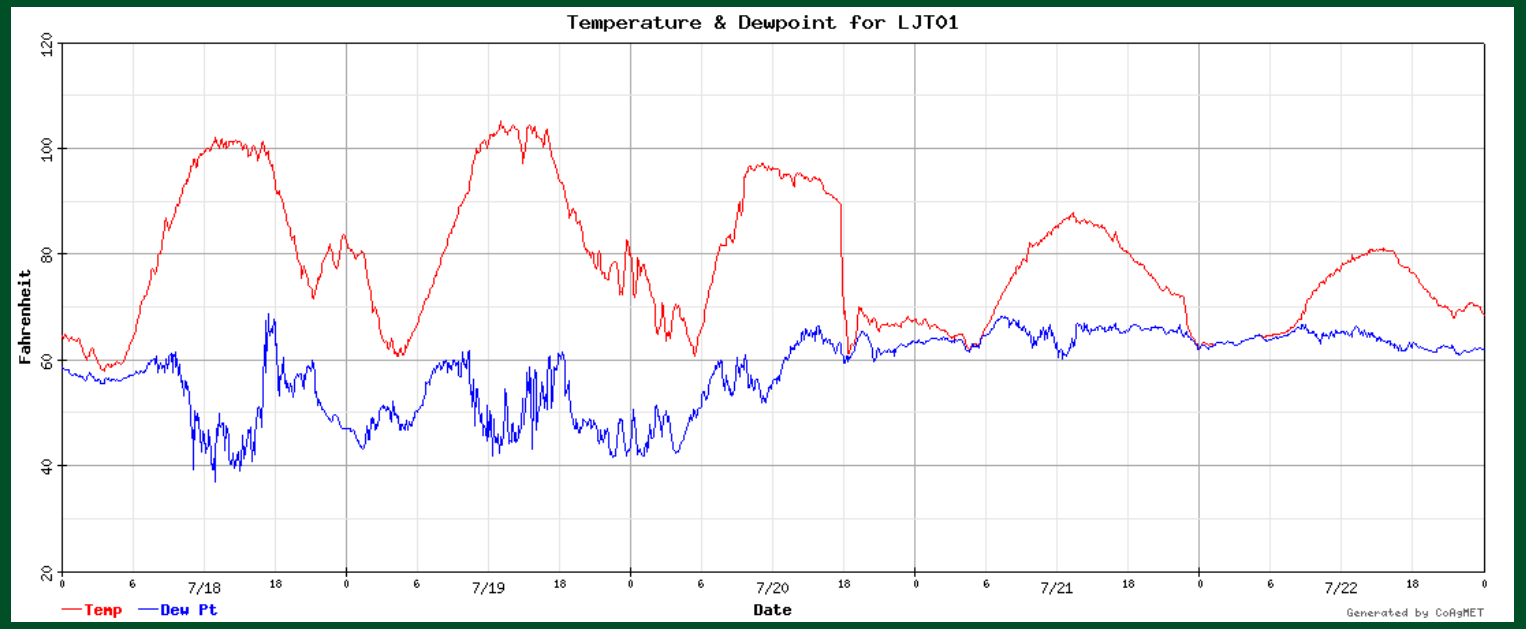
Longitude:104.478

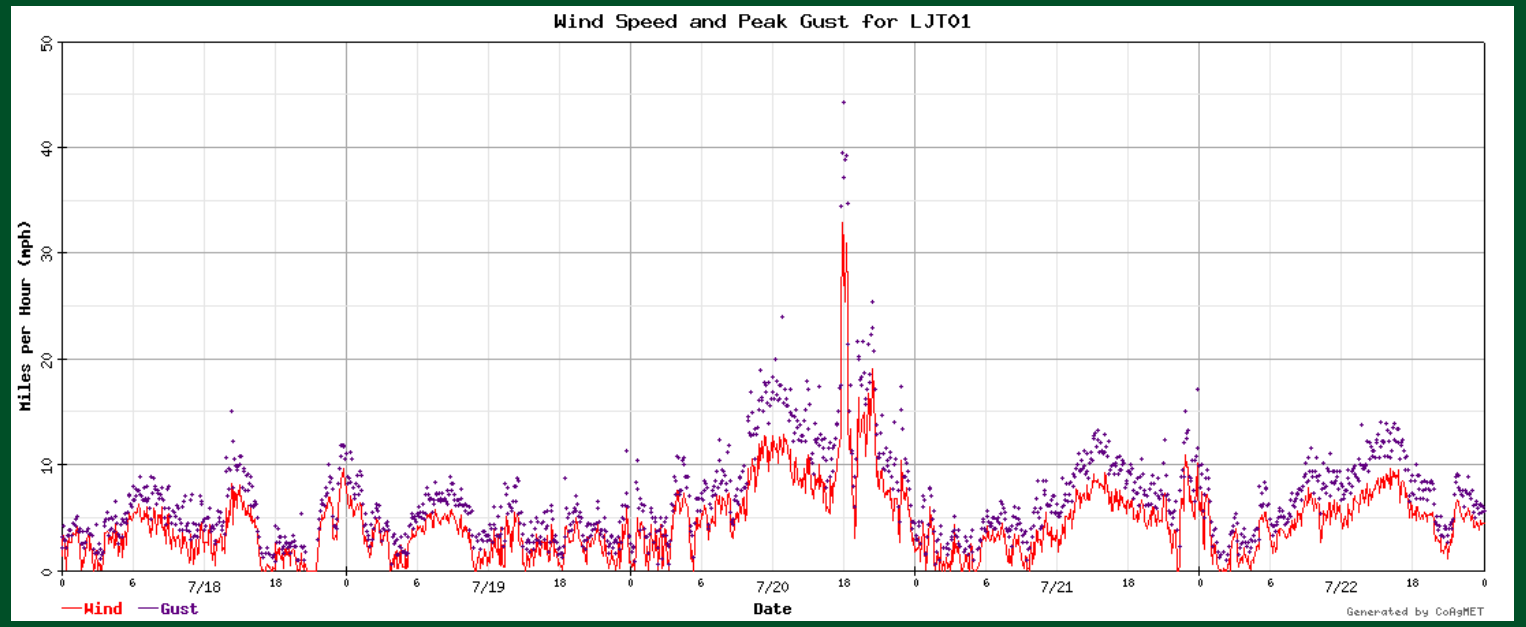
Latitude:40.3629

Summary for Kersey 2 - 06/2017

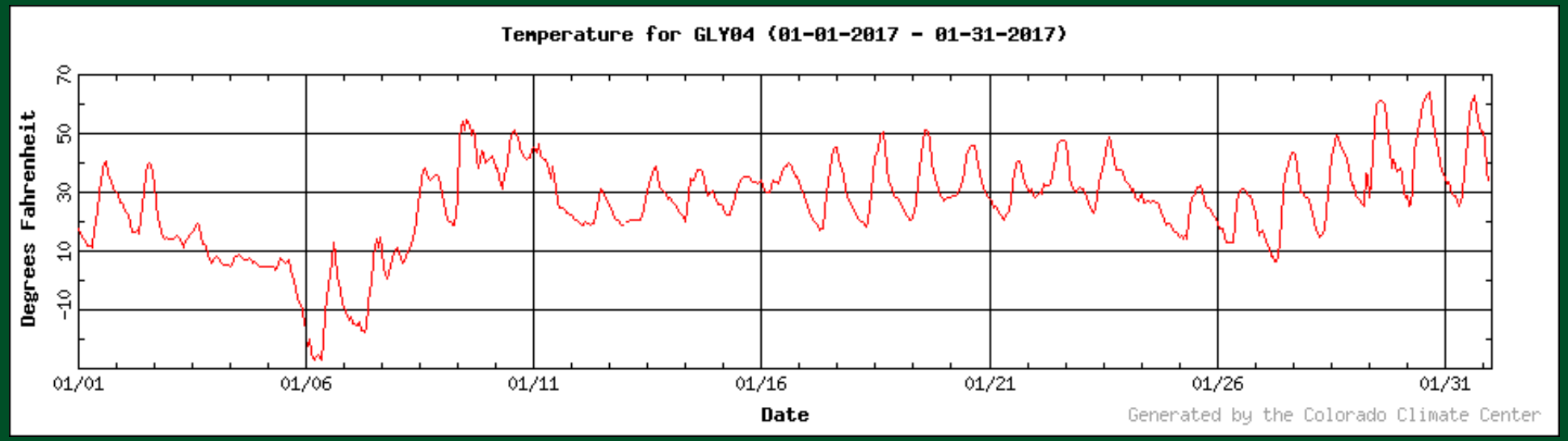
Station	Mon	Day	Tmax Temp degF	Tmin Temp degF	Vapor Press mb	Solar Rad Lngly	Prec in.	Wind Gust mph	Wind Run mi.	Soil Temp degF	Min RH Pct	Grow DgDy F.	P-Kim ET in.	ASCE HLY ET in.
ksy02	6	1	86.6	48.8	11.60	581	0.00	18.0	93	58.6	18.3	856	0.267	0.289
ksy02	6	2	83.9	47.1	11.40	554	0.00	25.0	139	58.7	22.4	873	0.286	0.333
ksy02	6	3	84.2	51.5	10.69	648	0.00	20.0	98	60.0	15.1	891	0.293	0.312
ksy02	6	4	86.8	46.2	10.06	721	0.00	14.0	82	59.7	16.4	909	0.317	0.317
ksy02	6	5	89.7	50.5	11.21	592	0.00	21.7	94	61.5	18.5	927	0.296	0.317
ksy02	6	6	82.8	58.3	13.15	587	0.00	15.5	94	63.2	33.1	947	0.264	0.276
ksy02	6	7	88.6	55.1	14.76	587	0.00	24.9	168	64.3	24.7	968	0.318	0.297
ksy02	6	8	90.2	49.6	13.83	664	0.00	16.0	103	63.5	22.0	986	0.318	0.326
ksy02	6	9	97.8	51.7	9.87	689	0.00	16.7	123	64.8	5.6	1005	0.395	0.406
ksy02	6	10	92.9	54.3	11.35	636	0.00	23.9	213	66.2	19.1	1025	0.424	0.488
ksy02	6	11	85.1	51.2	13.65	627	0.00	22.5	139	66.4	30.7	1043	0.314	0.317
ksy02	6	12	97.3	59.9	14.58	608	0.00	35.6	253	68.4	7.8	1066	0.445	0.487
ksy02	6	13	81.6	49.5	6.23	615	0.00	16.0	90	66.2	9.7	1082	0.324	0.292
ksy02	6	14	88.9	45.6	7.02	635	0.00	14.0	86	63.9	11.1	1100	0.342	0.321
ksy02	6	15	91.3	47.8	7.57	606	0.00	14.2	63	65.0	9.1	1118	0.317	0.286
ksy02	6	16	94.4	49.7	9.52	569	0.00	17.8	103	65.6	11.5	1136	0.336	0.352
ksy02	6	17	82.5	54.4	11.41	380	0.00	25.4	131	67.2	31.5	1154	0.258	0.237
ksy02	6	18	87.4	53.5	9.71	654	0.00	17.7	83	66.0	17.9	1174	0.318	0.290
ksy02	6	19	87.6	52.2	10.37	625	0.00	14.5	94	66.8	19.8	1193	0.318	0.302
ksy02	6	20	99.6	55.1	10.79	635	0.00	29.4	97	68.0	10.2	1214	0.360	0.321
ksy02	6	21	100.9	60.9	10.55	650	0.00	22.2	121	71.1	8.2	1237	0.393	0.424
ksy02	6	22	88.4	57.5	12.09	425	0.00	23.7	156	71.0	22.6	1259	0.323	0.335
ksy02	6	23	68.7	50.7	11.44	485	0.25	22.9	105	66.3	41.3	1269	0.237	0.175
ksy02	6	24	79.8	48.8	10.92	637	0.00	21.2	110	63.3	30.3	1284	0.301	0.278
ksy02	6	25	75.1	53.2	13.38	379	0.00	12.0	104	64.3	46.3	1298	0.191	0.152
ksy02	6	26	90.3	50.9	13.25	689	0.00	20.5	128	63.3	18.7	1316	0.333	0.327
ksy02	6	27	99.7	55.7	12.05	602	0.00	27.0	126	66.6	9.0	1337	0.367	0.338
ksy02	6	28	91.8	51.2	9.97	633	0.02	33.4	112	66.6	14.1	1356	0.357	0.353
ksy02	6	29	86.8	52.3	11.26	561	0.26	19.7	127	67.2	18.0	1375	0.326	0.302
ksy02	6	30	77.0	53.8	12.45	633	0.06	11.5	60	64.8	32.1	1390	0.260	0.220

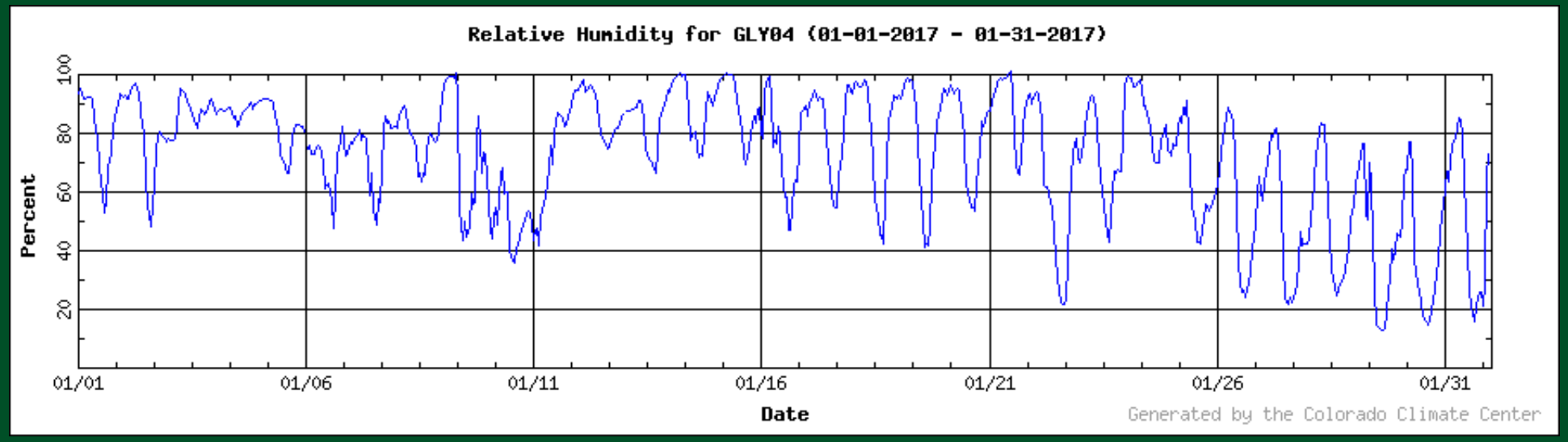
Five minute data



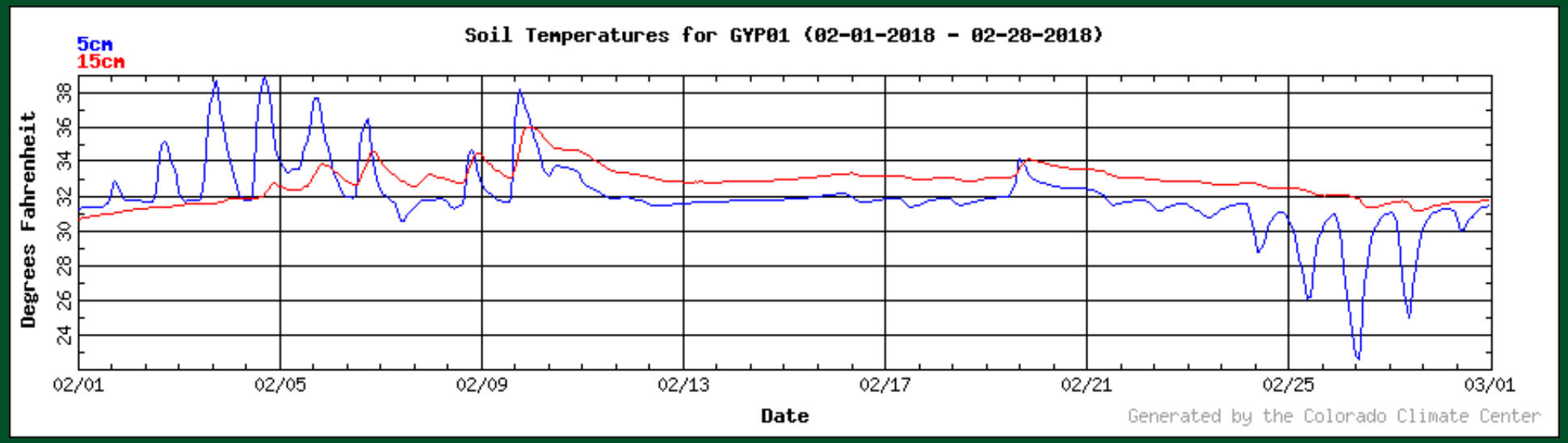


Hourly Data


Temperature for GLY04 (01-01-2017 - 01-31-2017)
Degrees Fahrenheit
70
50
30
10
-10
01/01
01/06
01/11
01/16
01/21
01/26
01/31
Date
Generated by the Colorado Climate Center

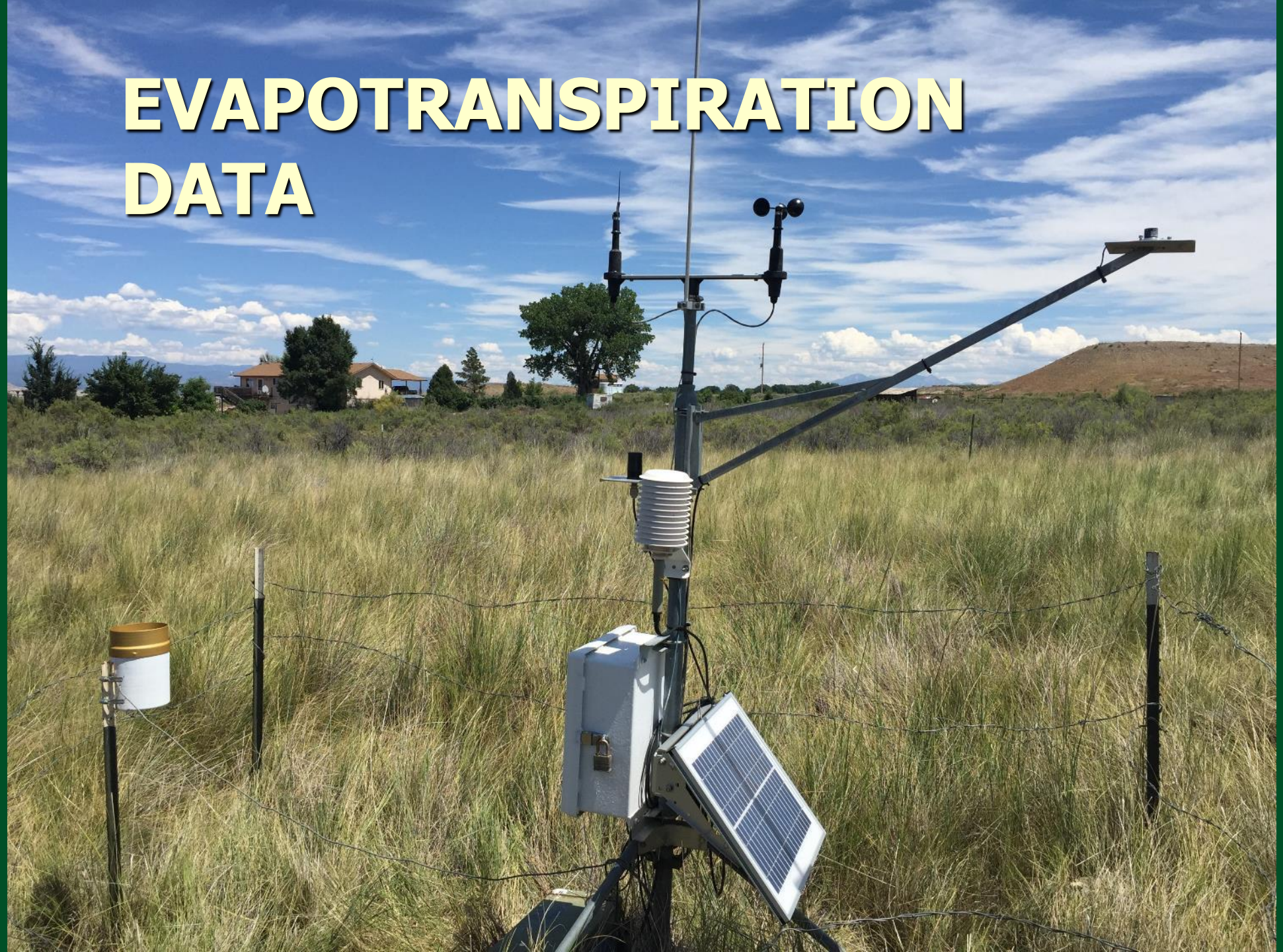

Relative Humidity for GLY04 (01-01-2017 - 01-31-2017)
Percent
100
80
60
40
20
01/01
01/06
01/11
01/16
01/21
01/26
01/31
Date
Generated by the Colorado Climate Center

Soil Temperatures



Can you see the difference between when the ground was snow covered and when it was free of snow?

EVAPOTRANSPIRATION DATA



CoAgMET Homepage

coagmet.colostate.edu

COLORADO STATE UNIVERSITY | CoAgMET Colorado's Mesonet

USDA ars

Home | Daily Summaries | Hourly Plots | 5 Min Plots | Water Use (ET) | Map by eRAMS

CoAgMET Homepage

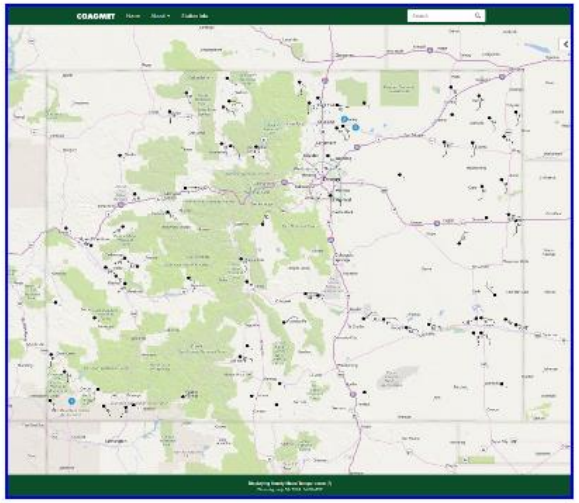
News

- You can now plot Growing Degree Days (GDD) for any of our stations.
- We have a new map of our stations showing current wind, temperature and dewpoint. With animation you can see the past 3 hours.
- CoAgMET's eRAMS site has a new look! Check it out.
- We've added ~~ETo (ASCE short reference~~ ET) to Crop Water Use (ET) output, Monthly Summaries, and web services.

Services

- Crop Water Use (ET)
  Page for obtaining crop and turf water use information (Evapotranspiration).
- Evapotranspiration Reports
  ETRs are daily reports for selected stations by region.
- 2017 Growing Season Report
  An interactive web-based report for the 2017 growing season at our 7 long-term CoAgMET sites where we monitor ET accumulations.
- Monthly Summaries
  Interactive access to the daily data set for a particular station and selected months.
- Daily Summaries (all stations)
  Daily summary files are formatted to display selected parameters for all stations.
- Hourly Data Access
  Interactive access to the hourly data set for a particular station and selected days.
- Hourly Data Plots
  Plots of temperature, humidity and wind for all CoAgMET stations.
- 5 Minute Data Access
  Interactive access to the five minute data set for a particular station and selected days.
- 5 Minute Data Plots

CoAgMET Mapping and Metadata by eRAMS



Surface Map

Year	Month	Day	# to do	Station ftc03
2017	January	18	01	cnn01 - Canon City
2016	February	19	02	cow01 - Cowdrey
2015	March	20	03	ctr01 - Center
2014	April	21	04	ctr02 - Center #2
2013	May	22	05	ctz01 - Cortez
2012	June	23	06	dlt01 - Delta
2011	July	24	07	dvc01 - Dove Creek
2010	August	25	08	eac01 - Eastern Adams County (landfill)
2009	September	26	09	ekt01 - Eckert
2008	October	27	10	frt02 - CSU Fruita Expt Station
2007	November	28	11	ftc01 - Fort Collins AERC
2006	December	29	12	ftc03 - CSU - ARDEC

Irrigation Status Key*

- Fully Irrigated
- Partially Irrigated
- Dryland
- Unknown

Key gives irrigation status by color

Select Crops and Planting Date:

Check All None

☑ Alfalfa *(Green Up Date)*	m 04	d 24
☑ Corn *(Plant Date)*	m 04	d 20
☑ Drybeans *(Plant Date)*	m 05	d 31
☑ GrassHay *(Green Up Date)*	m 03	d 15
☑ Smallgrn *(Plant Date)*	m 03	d 23
☑ Sgrbeets *(Plant Date)*	m 04	d 08
☑ Potatoes *(Plant Date)*	m 06	d 03
☑ Onion/sd *(Plant Date)*	m 03	d 22
☑ WntrWheat *(Green Up Date)*	m 03	d 01
☑ Cool Season Turf		

Select from a number of crop types.

Reference ET Model

- ○ Penman-Kimberly
- ○ ASCE Standardized (daily data)
- ◉ ASCE Standardized (hourly data)

The crop coefficients used to generate crop ET reports were developed for the Penman-Kimberly model. Selection of another model is only appropriate to obtain reference ET.

Submit Reset

Select Ref ET Model

** Some stations are located in areas that are predominately non-irrigated (dryland) or partially irrigated. Users should be aware that ET values from these sites will typically be higher than values from sites in fully irrigated areas. More site information can be found on the Station Index page.*

CoAgMET Extended Crop Evapotranspiration

Station: Fort Collins AERC
Location: Fort Collins AERC
Elevation: 5120
Longitude: 105.1370
Latitude: 40.5947

Crop Evapotranspiration in Inches

Date	Alfalfa	Corn	Drybeans	GrassHay	Smallgrn	Sgrbeets	Potatoes	Onion/sd	WntrWheat	Turf	ETr	ETo	Precip
09/06/2018	0.15	0.13	0.15	0.13	0.03	0.15	0.13	0.12	0.03	0.10	0.15	0.13	0.00
09/07/2018	0.18	0.16	0.18	0.15	0.04	0.18	0.16	0.14	0.04	0.12	0.18	0.15	0.00
09/08/2018	0.17	0.15	0.17	0.15	0.04	0.17	0.16	0.14	0.04	0.12	0.17	0.15	0.00
09/09/2018	0.18	0.16	0.18	0.16	0.04	0.18	0.17	0.15	0.04	0.12	0.18	0.16	0.00
09/10/2018	0.20	0.17	0.20	0.17	0.04	0.19	0.18	0.16	0.04	0.13	0.20	0.18	0.00
09/11/2018	0.16	0.13	0.16	0.14	0.03	0.15	0.14	0.13	0.03	0.11	0.16	0.14	0.00
09/12/2018	0.23	0.19	0.23	0.20	0.05	0.23	0.21	0.18	0.05	0.16	0.23	0.19	0.00
09/13/2018	0.25	0.20	0.25	0.22	0.05	0.24	0.22	0.19	0.05	0.17	0.25	0.21	0.00
09/14/2018	0.24	0.20	0.24	0.21	0.05	0.24	0.22	0.18	0.05	0.16	0.24	0.19	0.00
09/15/2018	0.22	0.17	0.22	0.19	0.05	0.21	0.20	0.16	0.05	0.15	0.22	0.18	0.00
09/16/2018	0.20	0.16	0.20	0.17	0.04	0.19	0.18	0.14	0.04	0.13	0.20	0.17	0.00
09/17/2018	0.18	0.14	0.18	0.16	0.04	0.18	0.16	0.13	0.04	0.12	0.18	0.17	0.00
09/18/2018	0.19	0.14	0.19	0.16	0.04	0.18	0.17	0.13	0.04	0.12	0.19	0.16	0.00
09/19/2018	0.16	0.12	0.16	0.14	0.04	0.16	0.15	0.11	0.04	0.11	0.16	0.14	0.44
09/20/2018	0.20	0.15	0.20	0.17	0.04	0.19	0.18	0.13	0.04	0.13	0.20	0.17	0.00
09/21/2018	0.17	0.12	0.17	0.15	0.04	0.16	0.15	0.11	0.04	0.11	0.17	0.13	0.00
09/22/2018	0.19	0.13	0.19	0.16	0.04	0.18	0.17	0.11	0.04	0.12	0.19	0.15	0.00
09/23/2018	0.15	0.10	0.15	0.13	0.03	0.14	0.13	0.08	0.03	0.09	0.15	0.12	0.00
09/24/2018	0.18	0.12	0.18	0.15	0.04	0.17	0.16	0.10	0.04	0.11	0.18	0.15	0.00
09/25/2018	0.18	0.12	0.18	0.15	0.04	0.17	0.16	0.09	0.04	0.11	0.18	0.13	0.00
Sum	3.77	2.97	3.77	3.28	0.83	3.64	3.39	2.67	0.83	2.49	3.77	3.16	0.44
Average	0.19	0.15	0.19	0.16	0.04	0.18	0.17	0.13	0.04	0.12	0.19	0.16	0.02

ET reports by region

CoAgMet/NCWCD Meteorological Data for 8/29/2017

North Front Range

	FtColl	ARDEC	HortFm	Lovlnd	Cherpk	Lngmnt	Parker	
HiTemp	91	89	89	91	88	91	94	degF
LoTemp	52	53	50	54	56	51	62	degF
Precip	0.00	0.00	0.00	0.00	0.00	0.00	0.00	in
P/Month	2.16	2.14	3.26	2.00	2.17	1.11	1.66	in
P/Year	10.17	4.02i	11.42	11.44	9.68	9.00	3.41i	in
WindGst	12.5	16.8	19.2	13.5	18.8	19.1	25.0	mph
Ref ET	0.20	0.26	0.25	0.20	0.26	0.23	0.32	in
GrowDD	2347	1191	2357	2594	2109	2331	1635	degF
5cm Soil	62.6	68.3	m	m	66.1	m	71.6	degF
Crop Evapotranspiration								
Alfalfa	0.21	0.26	0.25	0.20	0.26	0.23	0.32	in
Corn	0.20	0.24	0.15	0.19	0.20	0.18	0.11	in
Drybeans	0.21	0.26	0.25	0.20	0.26	0.23	0.32	in
GrassHay	0.18	0.22	0.22	0.17	0.22	0.20	0.28	in
Smallgrn	0.05	0.06	0.05	0.04	0.06	0.05	0.07	in
Sgrbeets	0.21	0.26	0.22	0.20	0.25	0.23	0.26	in
Potatoes	0.18	0.23	0.22	0.18	0.23	0.21	0.29	in
Onion/sd	0.16	0.21	0.11	0.16	0.18	0.17	0.14	in
WntrWheat	0.05	0.06	0.15	0.04	0.06	0.05	0.32	in

CoAgMet/NCWCD Meteorological Data for 8/29/2017

North Central

	Peckhm	Kersey	Kersey	Lucern	Greely	Gilcrs	FtLptn	Ault	Brigsd	
HiTemp	93	94	96	92	m	92	95	91	95	degF
LoTemp	52	50	52	50	m	50	58	51	47	degF
Precip	0.00	0.00	0.00	0.00	m	0.00	0.00	0.00	0.45	in
P/Month	2.11	1.58	1.85	0.63	1.84i	1.72	1.04	3.40	2.11	in
P/Year	2.28i	12.78i	8.75i	15.53i	11.37i	11.06	8.74i	13.08	8.85i	in
WindGst	14.3	19.3	18.2	14.8	m	17.0	19.2	14.2	25.9	mph
Ref ET	0.23	0.25	0.25	0.23	m	0.22	0.28	0.27	0.26	in
GrowDD	665	2363	2576	2442	m	2347	2701	2358	2392	degF
5cm Soil	70.0	67.4	70.1	71.3	m	m	72.4	66.1	65.8	degF
Crop Evapotranspiration										
Alfalfa	0.23	0.25	0.25	0.23	m	0.22	0.28	0.27	0.26	in
Corn	0.10	0.22	0.15	0.18	m	0.20	0.16	0.19	0.18	in
Drybeans	0.23	0.25	0.25	0.23	m	0.22	0.28	0.27	0.26	in
GrassHay	0.20	0.22	0.22	0.20	m	0.19	0.24	0.23	0.23	in
Smallgrn	0.05	0.05	0.06	0.05	m	0.05	0.06	0.06	0.06	in
Sgrbeets	0.19	0.24	0.23	0.22	m	0.22	0.25	0.25	0.25	in
Potatoes	0.21	0.22	0.23	0.20	m	0.20	0.25	0.24	0.24	in
Onion/sd	0.10	0.20	0.11	0.16	m	0.17	0.12	0.17	0.12	in
WntrWheat	0.23	0.05	0.08	0.05	m	0.05	0.24	0.06	0.08	in

CoAgMet/NCWCD Meteorological Data for 8/29/2017

Lower South Platte

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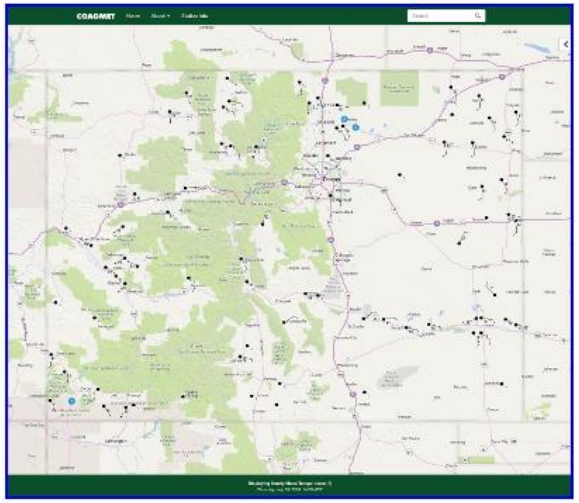
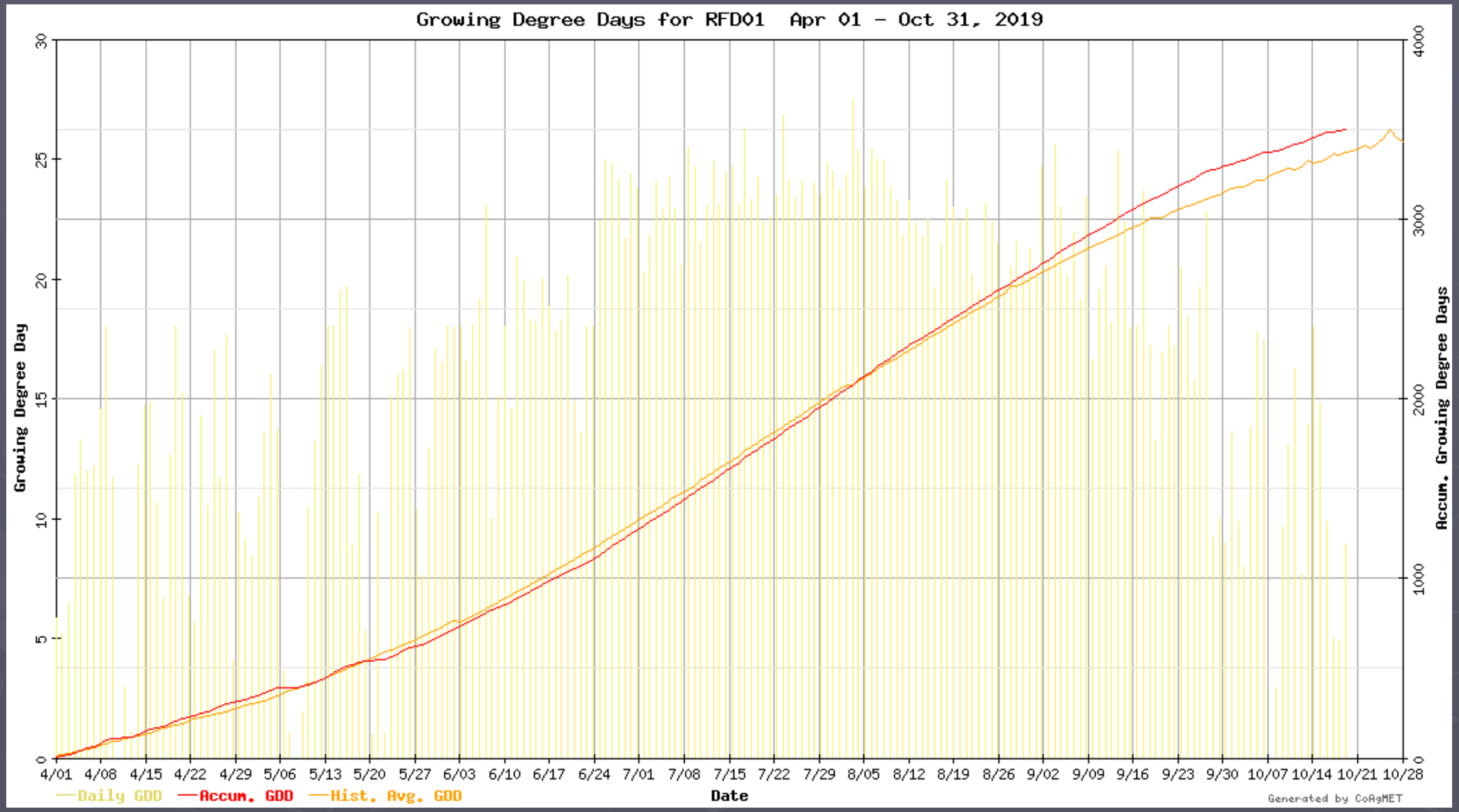
CoAgMET Mapping and Metadata by eRAMS



Surface Map


Growing Degree Days for RFD01 Apr 01 - Oct 31, 2019
Growing Degree Day
Accum. Growing Degree Days
0
5
10
15
20
25
30
0
1000
2000
3000
4000
4/01 4/08 4/15 4/22 4/29 5/06 5/13 5/20 5/27 6/03 6/10 6/17 6/24 7/01 7/08 7/15 7/22 7/29 8/05 8/12 8/19 8/26 9/02 9/09 9/16 9/23 9/30 10/07 10/14 10/21 10/28
Daily GDD
Accum. GDD
Hist. Avg. GDD
Date
Generated by CoAgMET

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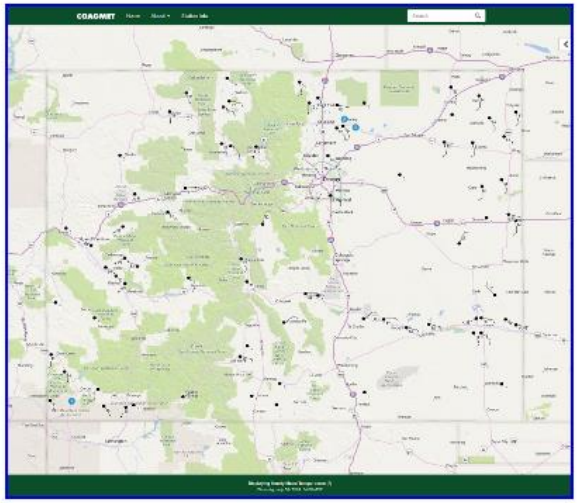

Surface Map

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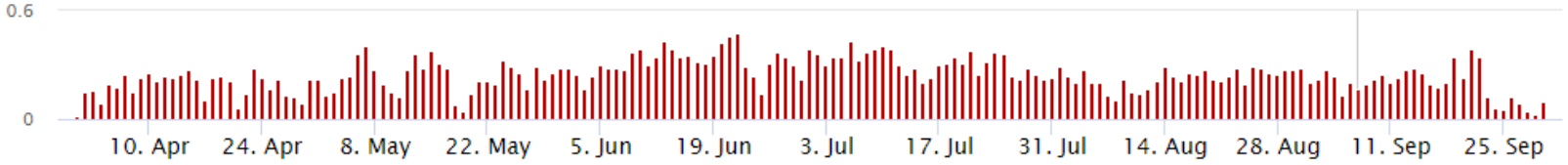
Idalia

View Magnitudes | View Anomalies | Change station...

Daily Evapotranspiration

0.17 in.

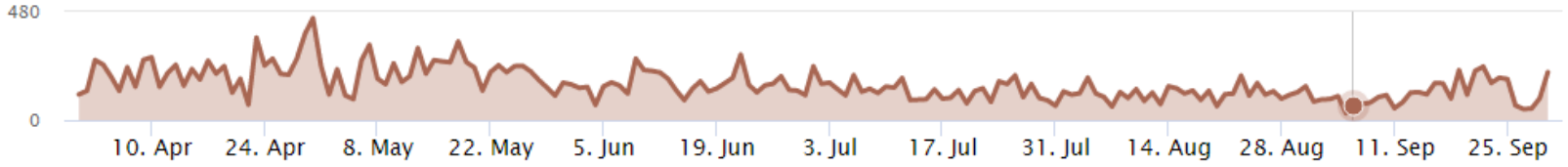


Daily Temperature Range

● : 46.5°F – 84.2°F

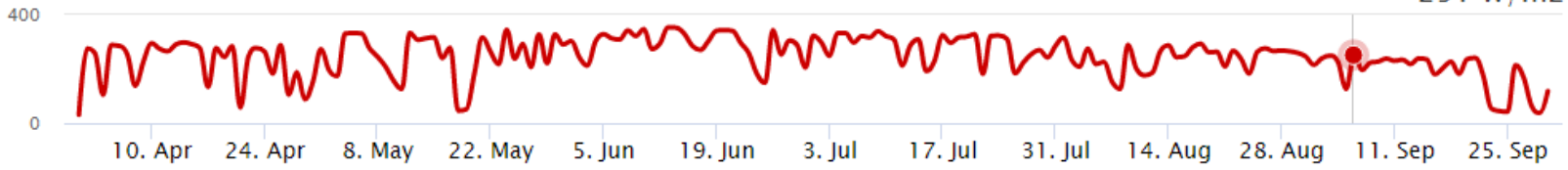
Daily Wind Run

63 mi.



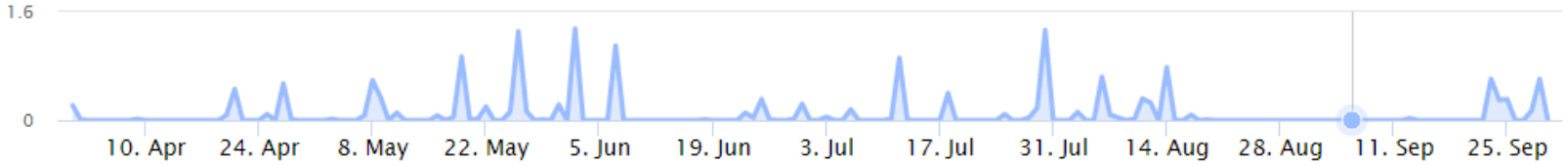
Solar Radiation

251 W/m2



Daily Precipitation

0.00 in.



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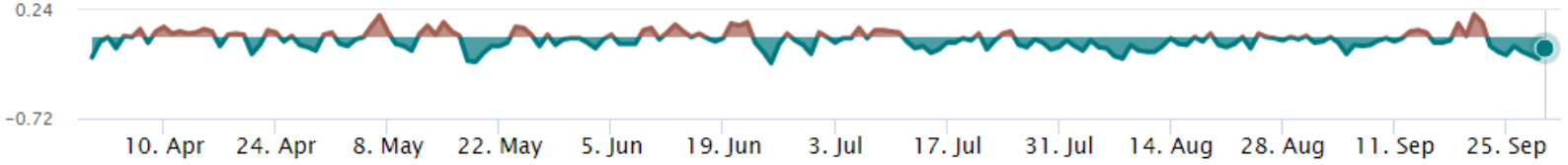
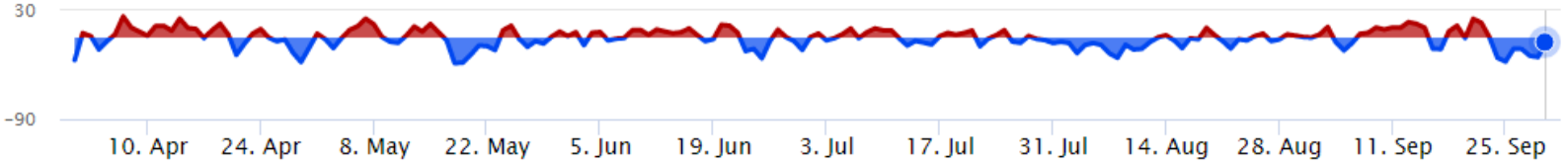
Daily ET Anomalies

-0.10 in.



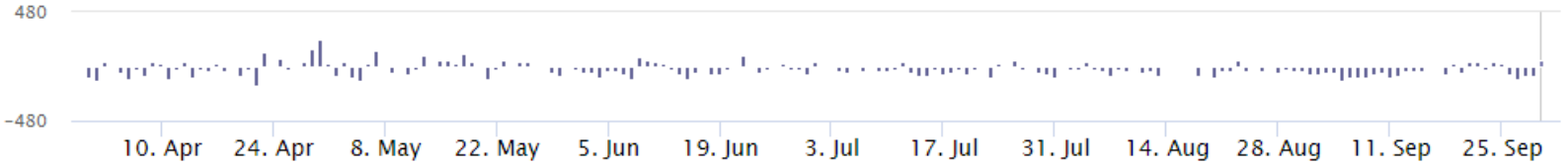
Daily Max Temperature Anomalies

● : -5.0°F



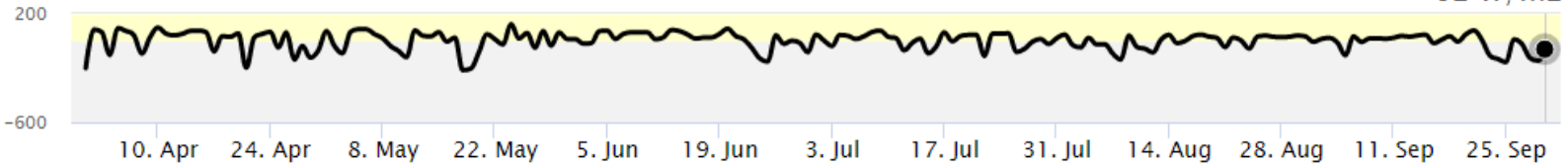
Wind Run Anomalies

58 mi.



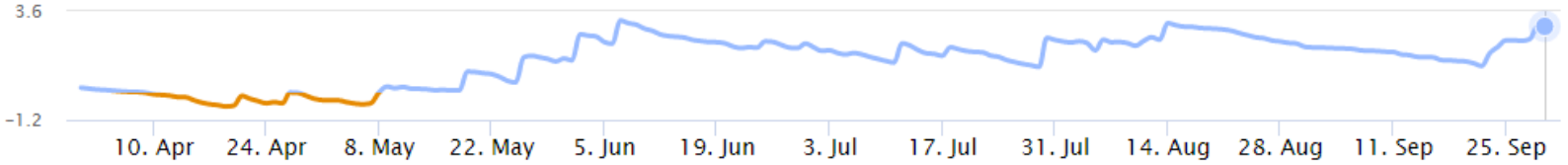
Solar Radiation Anomalies

-62 W/m2



Cumulative Precipitation Anomaly

2.93 in.



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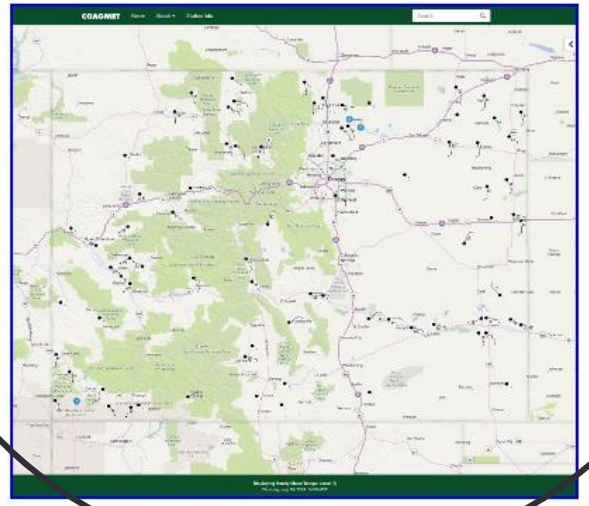
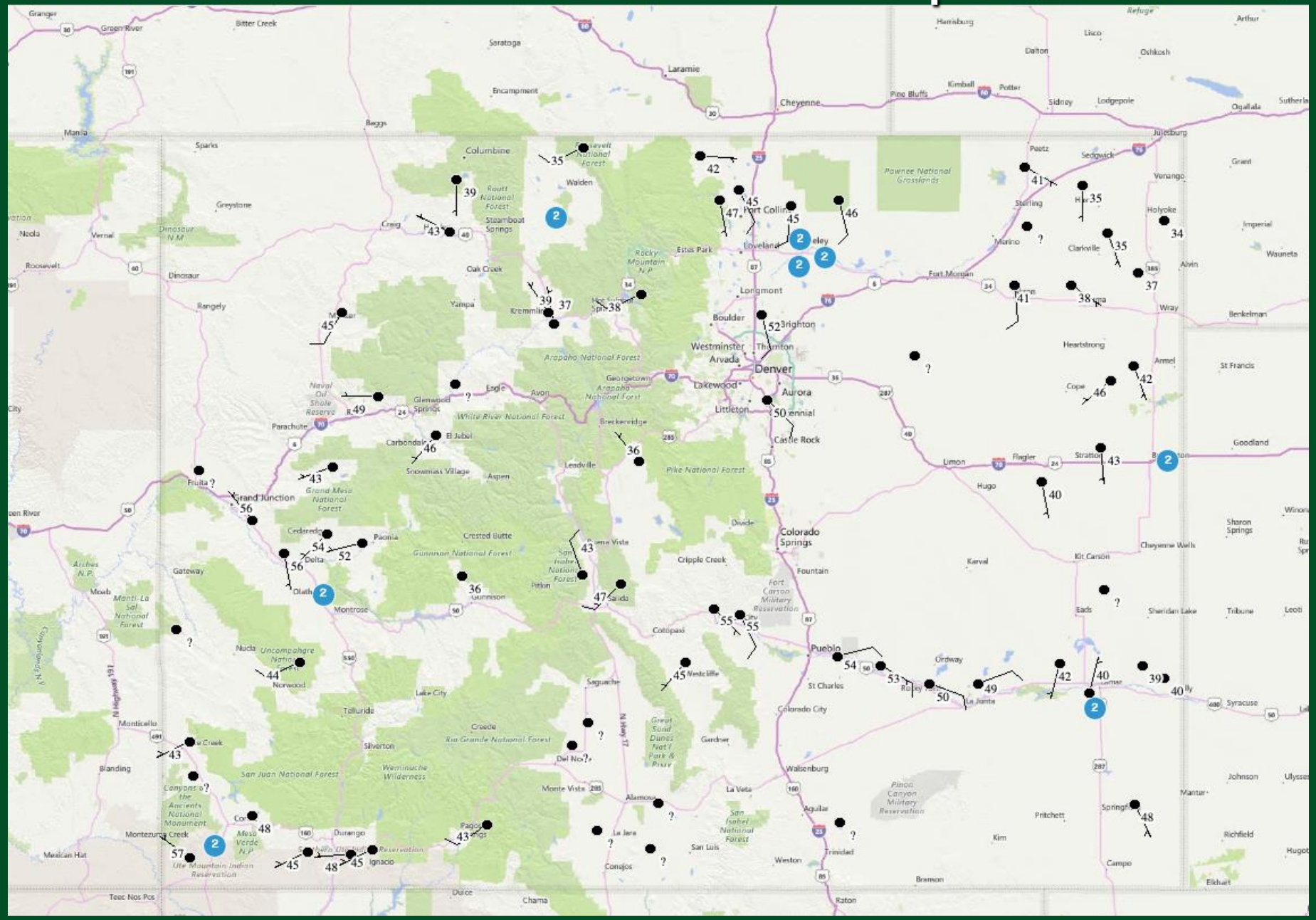
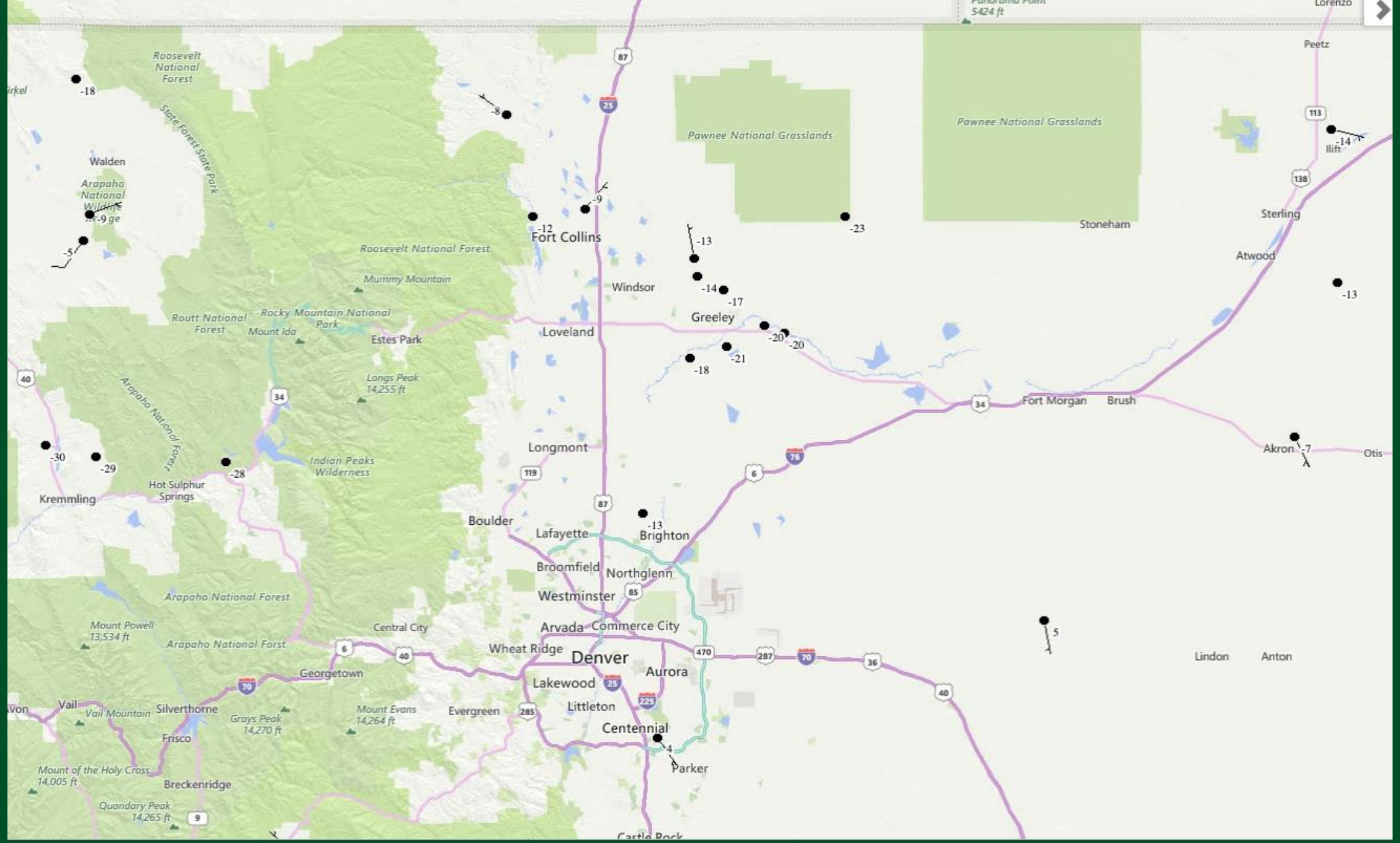


Surface Map

Interactive map

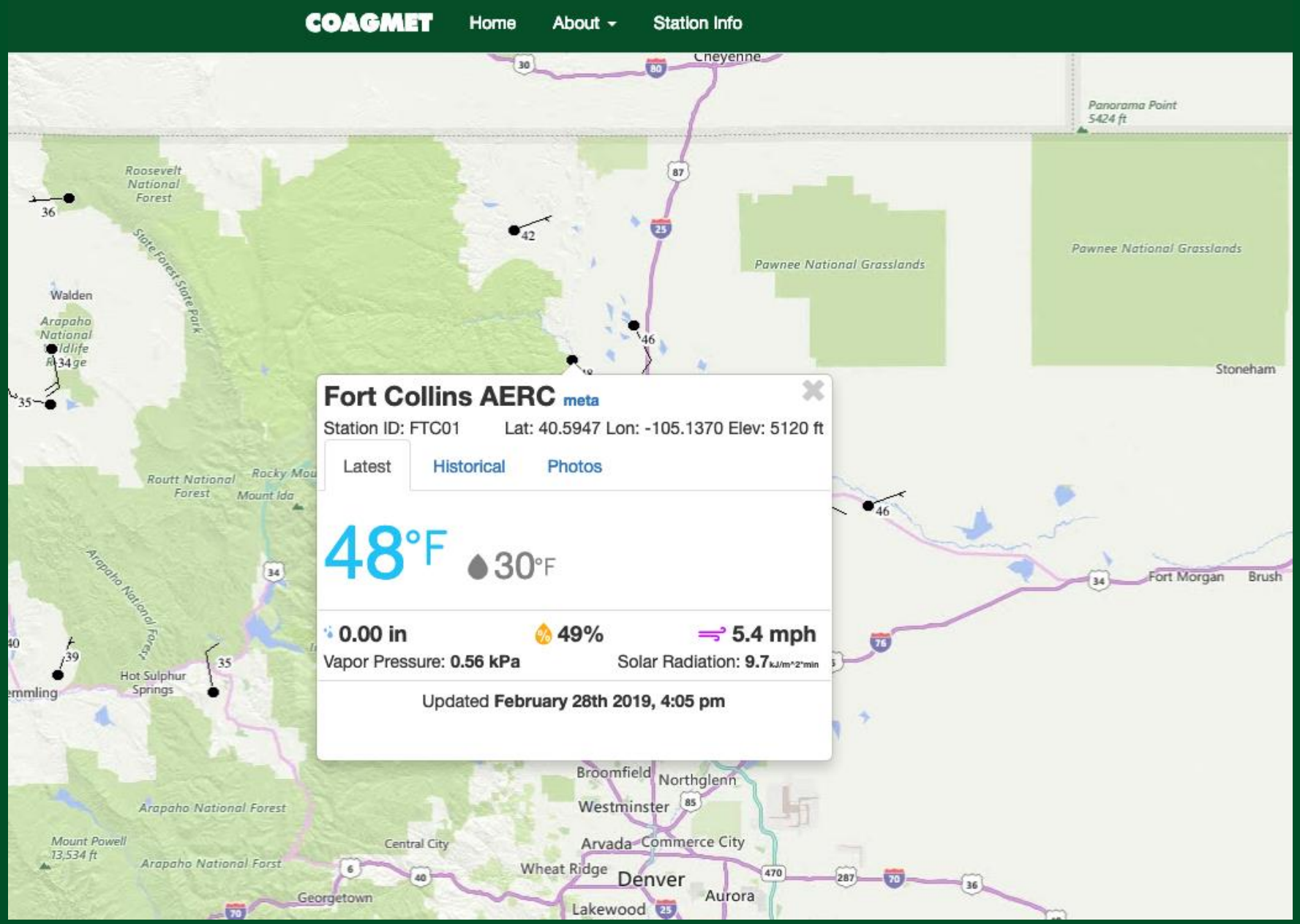




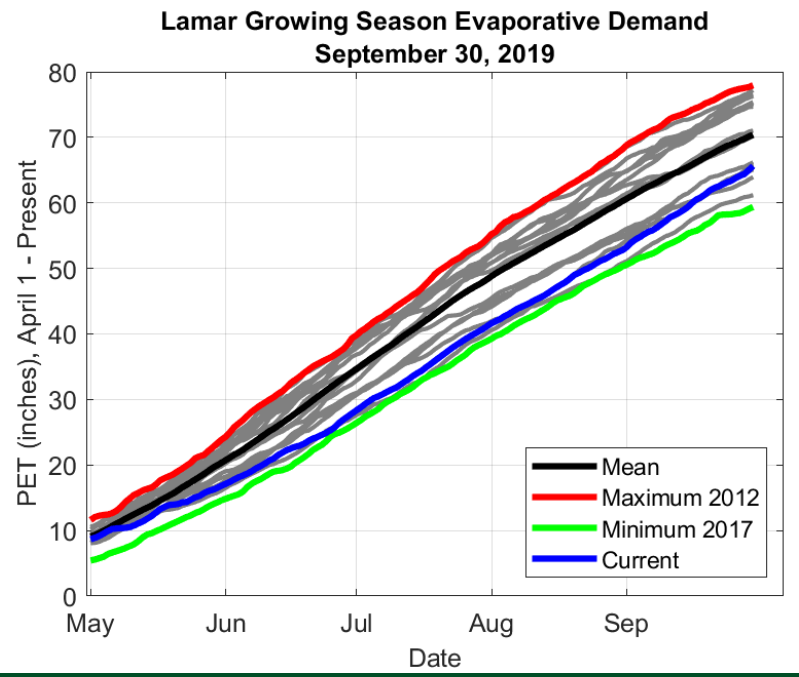
Displaying Daily Min Temperature (f)

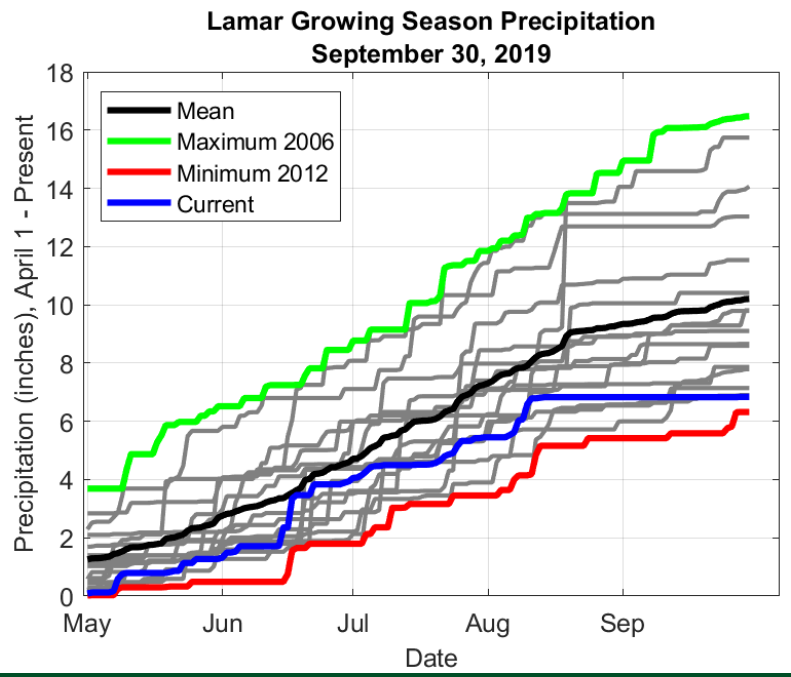
Friday, February 8th 2019 MST

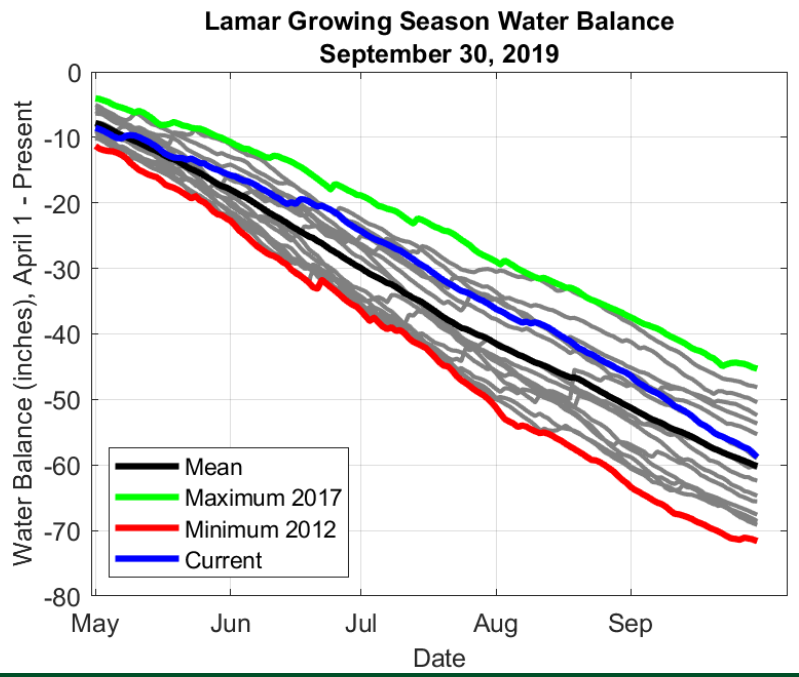
Real-time data



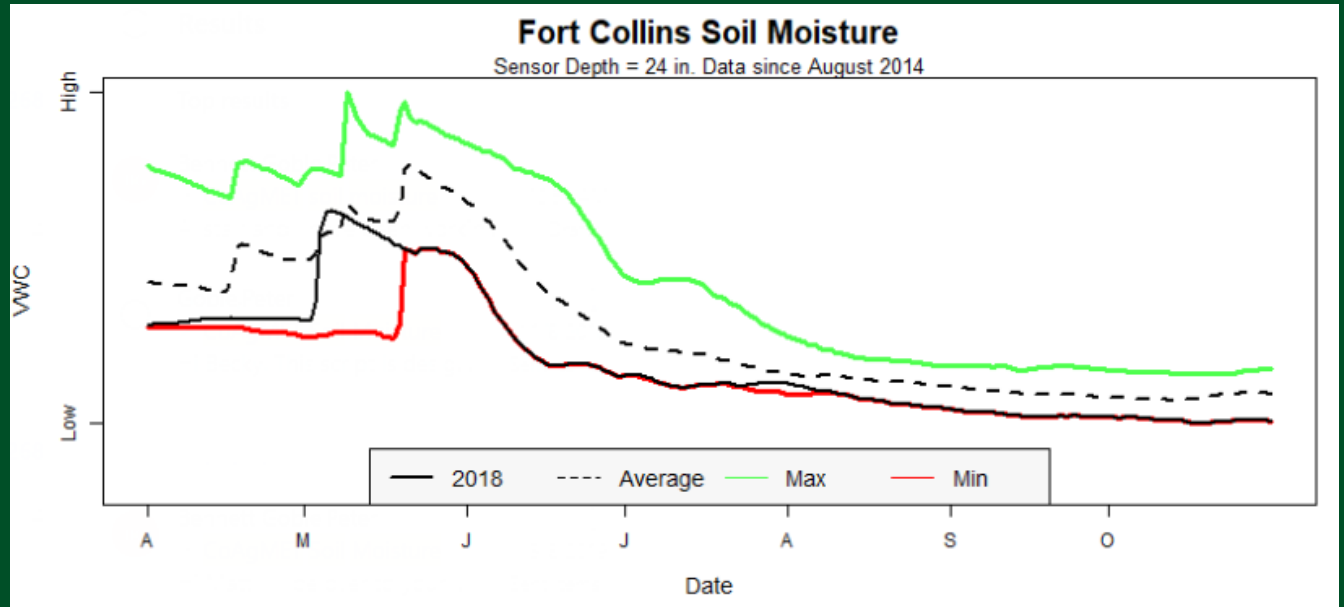
Evaporative demand and water balance

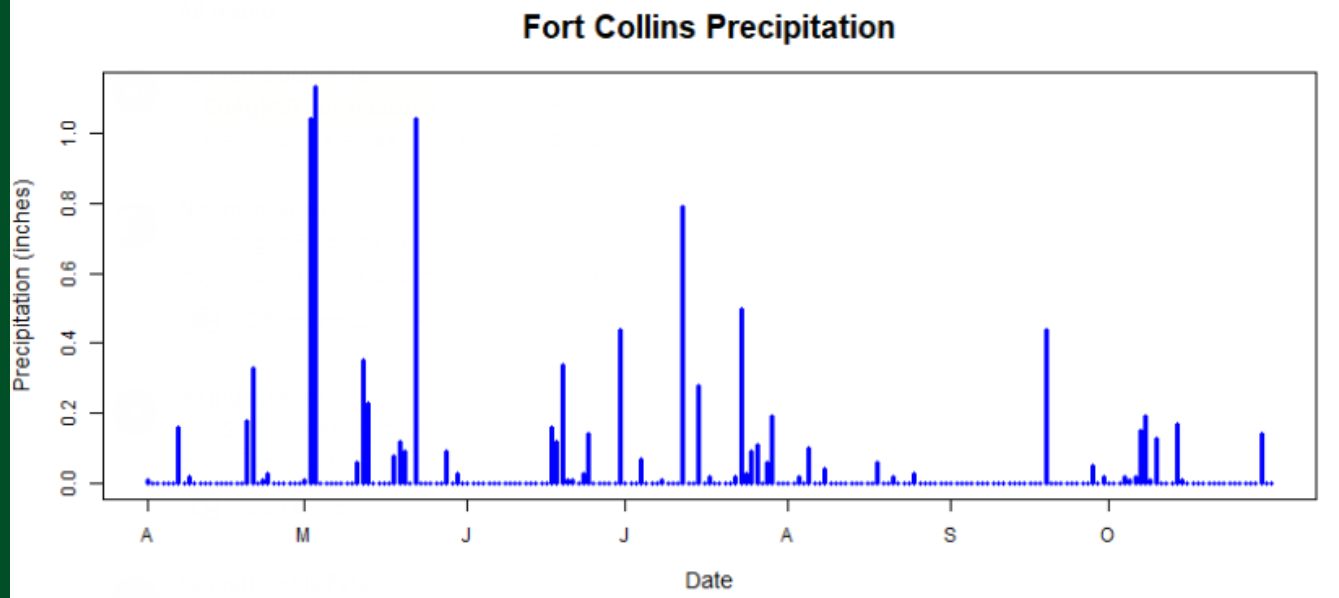




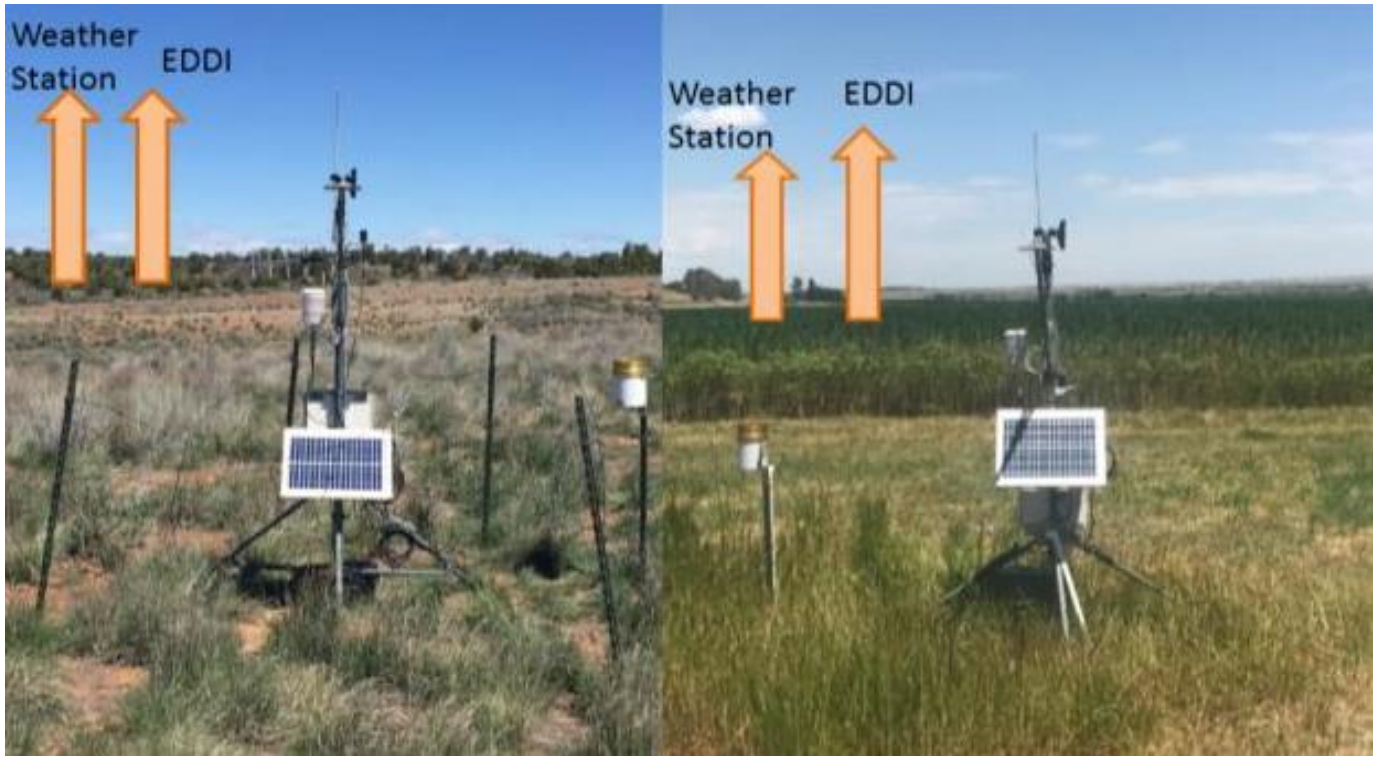


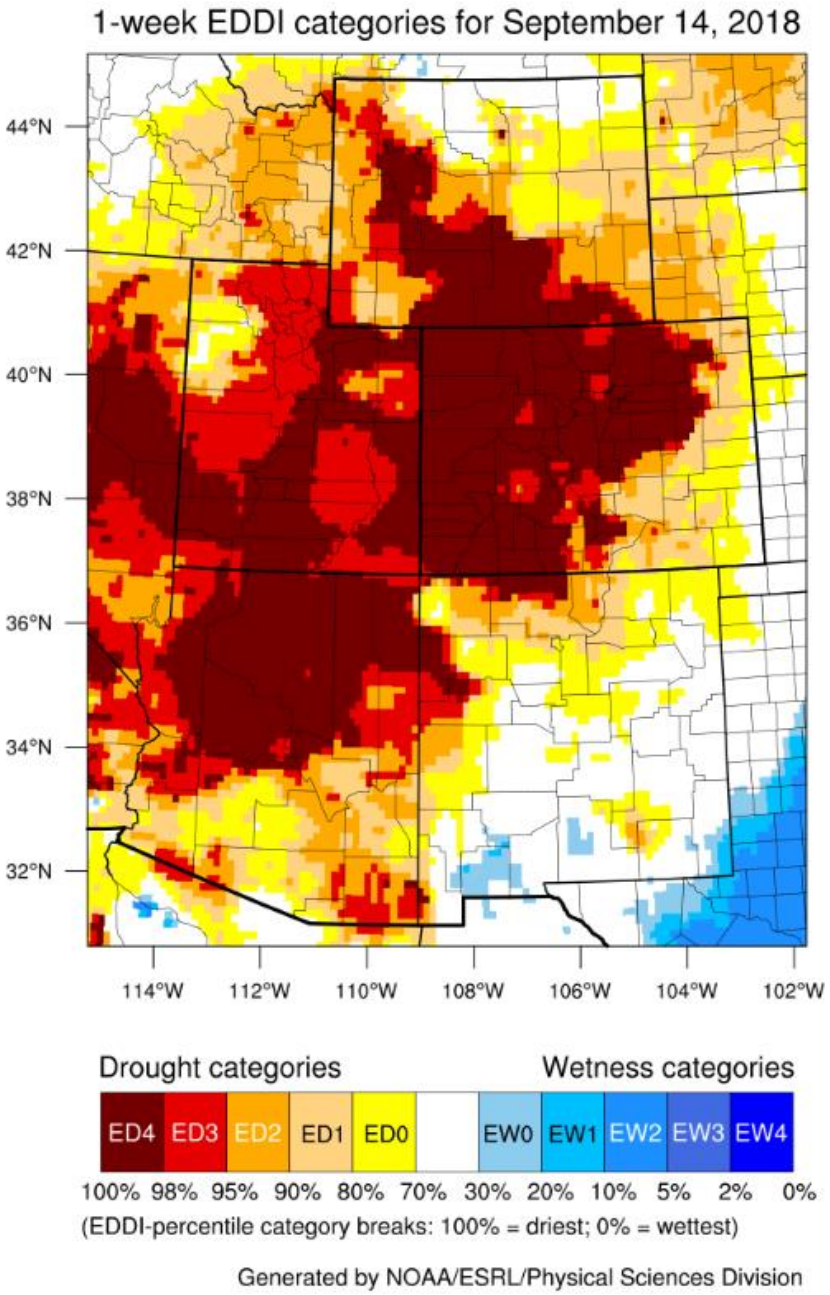
Soil moisture (under active development!)





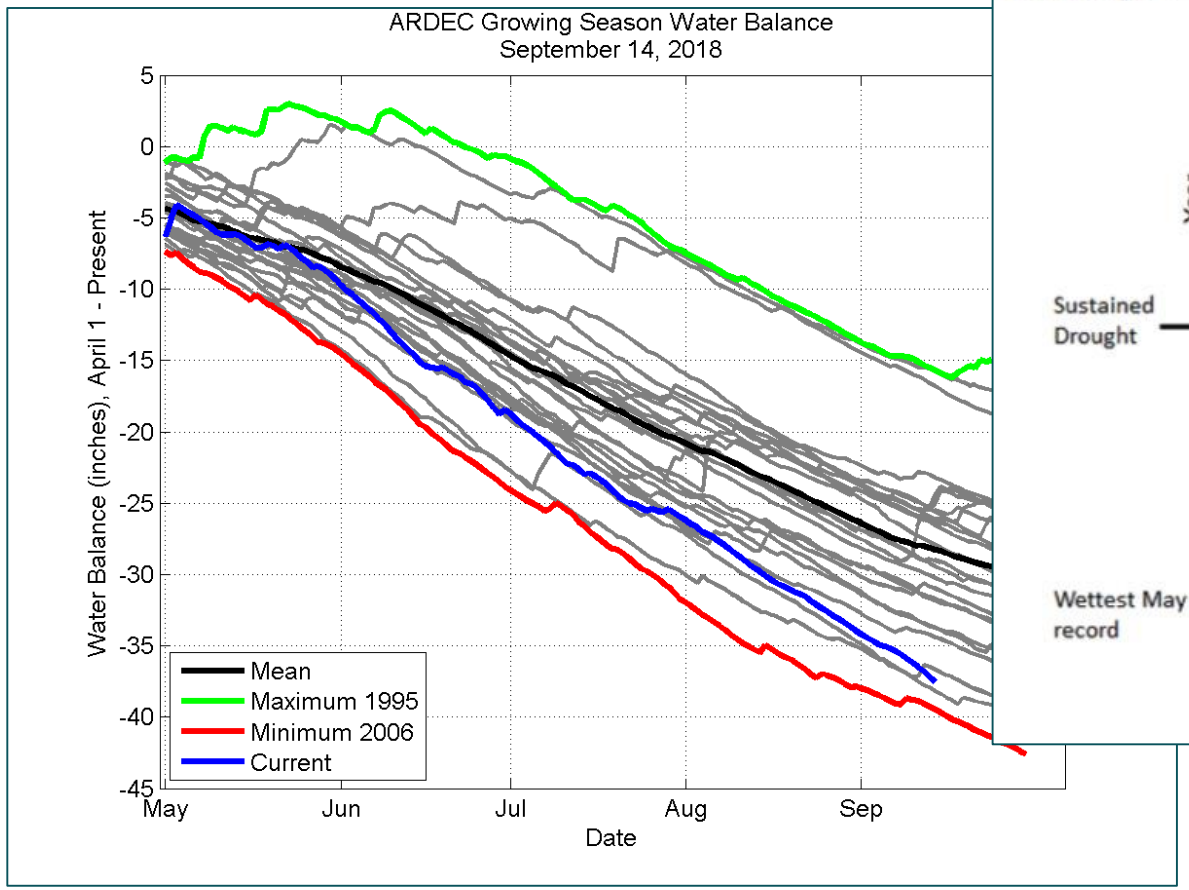
Ground validation of the Evaporative Demand Drought Index (EDDI) product using CoAgMET data.

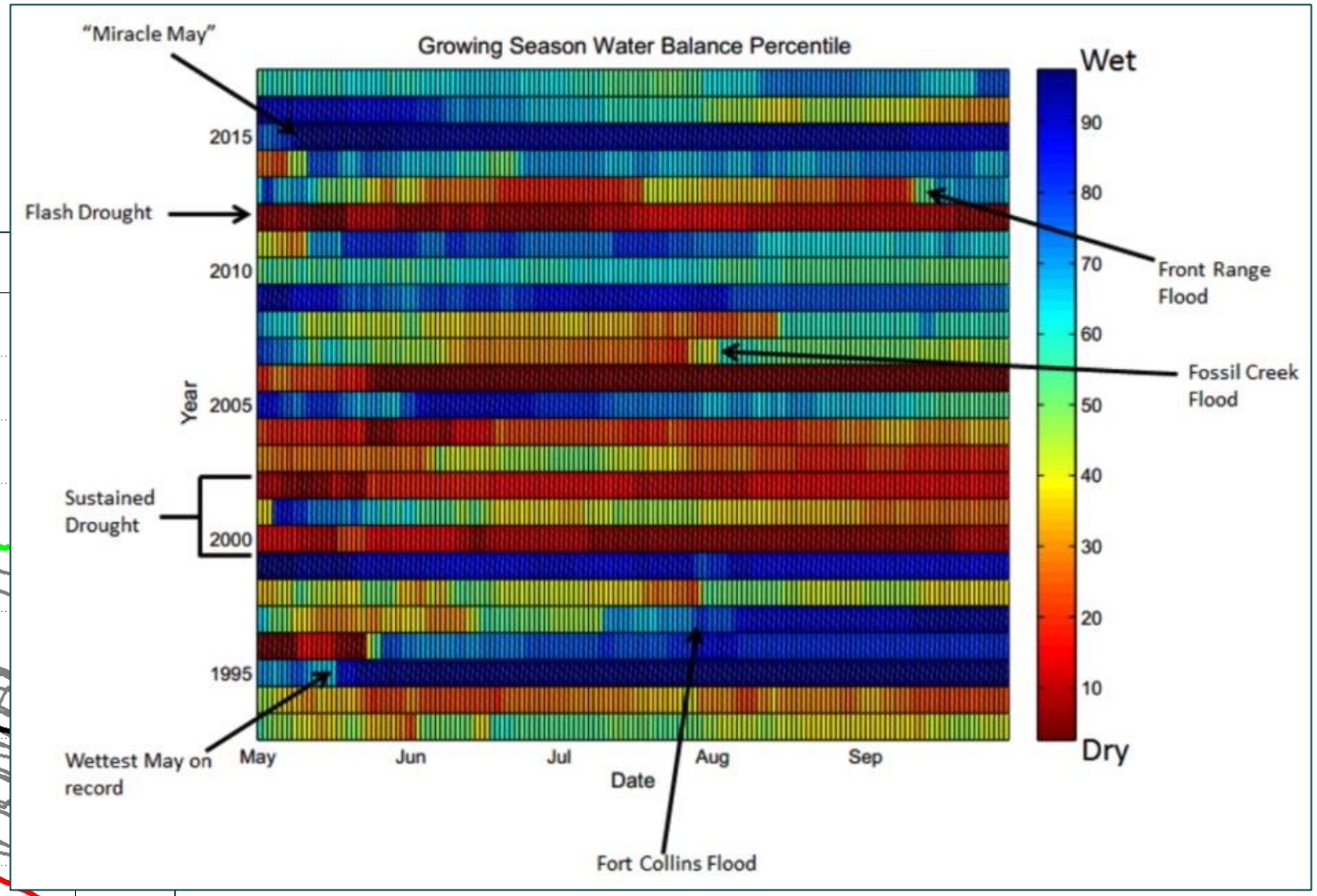




value added information and products

understanding the relationship between precipitation and evaporation and how the drought responds to water balance





CoAgMET web access:

http://coagmet.colostate.edu

Web services are available for downloading data

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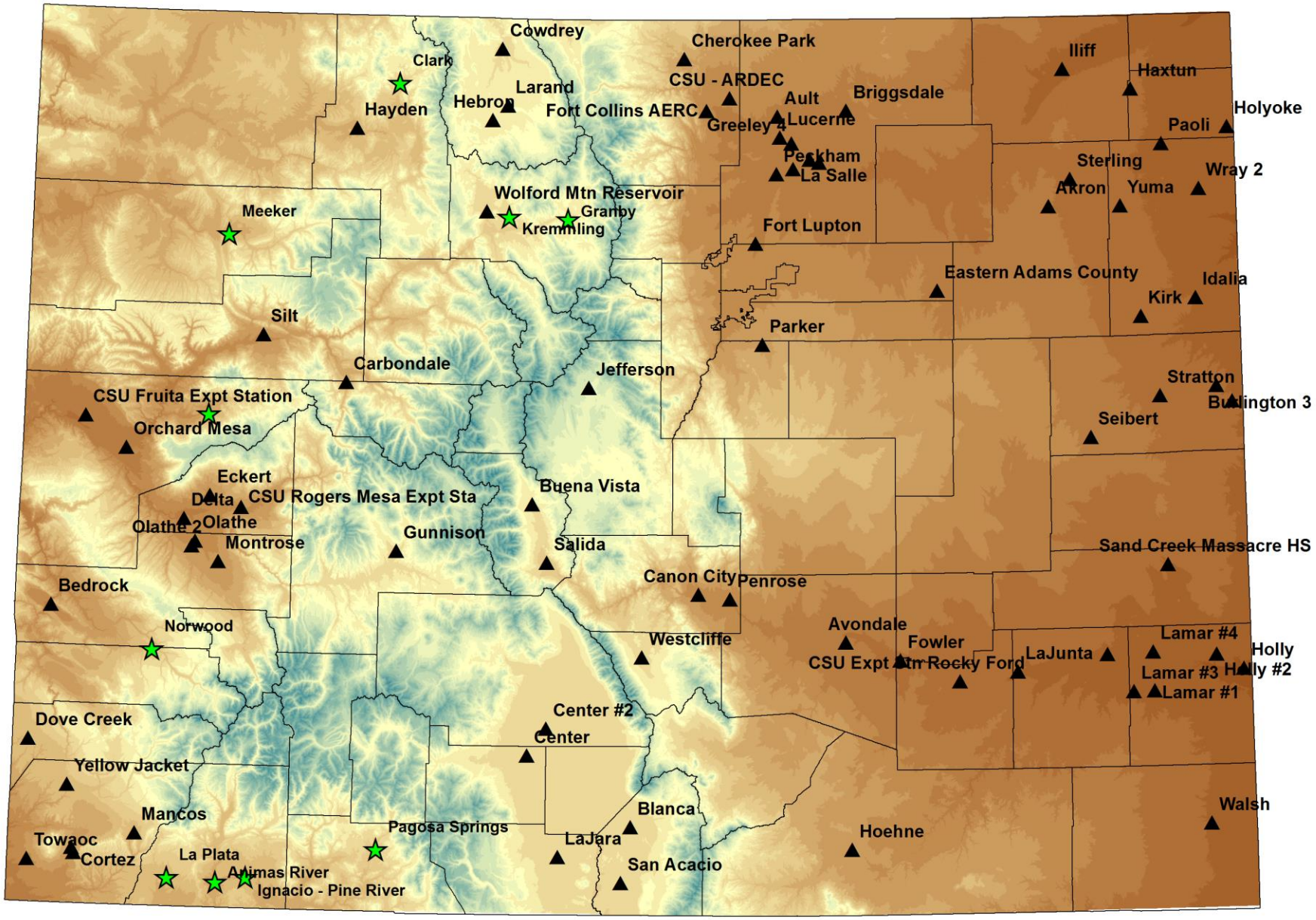
COLORADO CLIMATE CENTER

Colorado State University

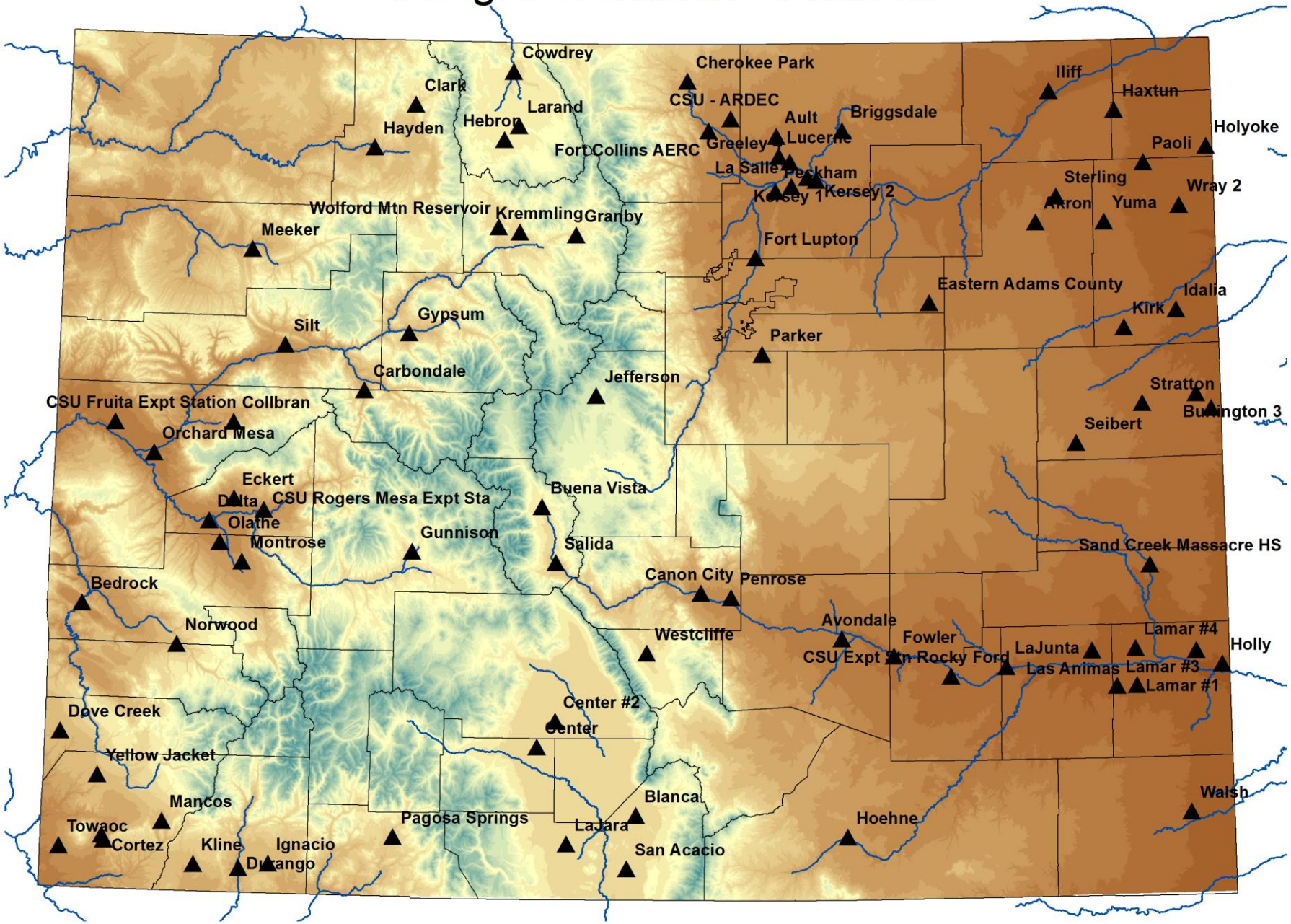
Station update since last meeting

- 85 stations statewide.
- 11 stations installed since last meeting
  - 10 Stations on west slope as part of the Upper Colorado River Compact Consumptive Use Study
  - 1 Station in Gypsum with support of the Eagle County Conservation District
- 2 stations at CSU research centers are in the process of being relocated and upgraded, currently running stations together to compare data
  - Fruita Research Station
  - Rogers Mesa Research Station
  - Moving Orchard Mesa station later this year
  - Stations were poorly located, moving to more ideal sites
- 17 Colorado Regional Climate Reference Network stations still in operation. We are planning on adding RH, Wind and solar to these to calculate ET at these stations as well

Stations as they were last meeting



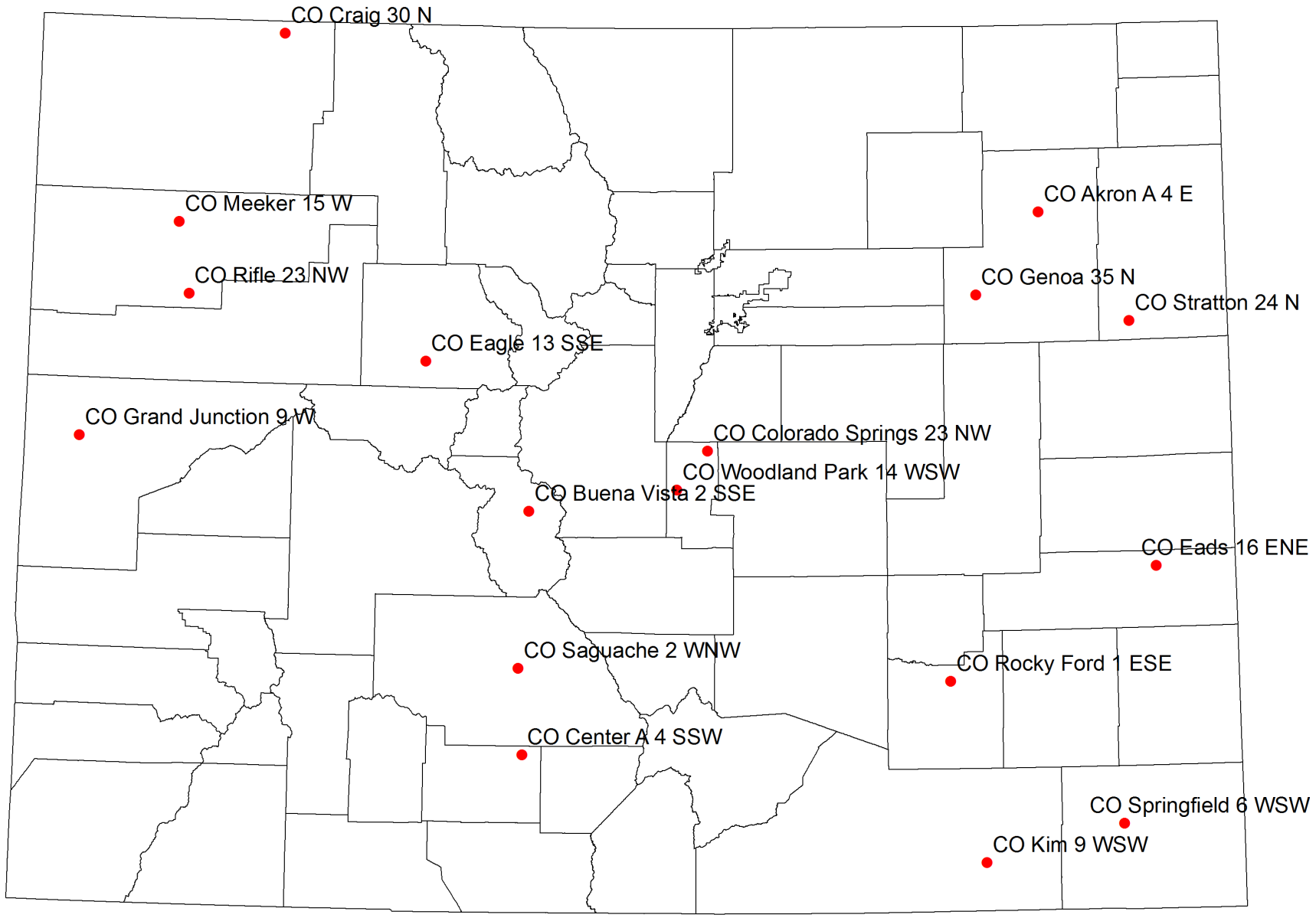
CoAgMET Station Locations



Granby

Pagosa Springs

Colorado RCRN



Buena Vista CO-
RCRN

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CLIMATE
CENTER