

Update on NWS use of Real Time CoCoRaHS Reports




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Significant Weather Reports to NWS Forecast Offices

- Significant weather reports are forwarded to the Boulder NWS office as part of the form submission process when the report is entered.
- Reports are checked for timeliness and lightly filtered to remove 1/8 inch hail and lighter rainfall amounts (<.50 inch, <1 inch in an hour).
- Reports are then forwarded to the relevant NWS offices under the AWIPS product header **DENCCRAHS** and can be set to alarm at the forecaster workstations.

CoCoRaHS Report Form



Enter My New Reports

- Daily Precipitation
- Multi-Day Accumulation
- Hail
- Significant Weather
- Monthly Zeros
- Condition Monitoring Report
- Soil Moisture
- Ice Accretion - Pilot
- FROST Reports
 - Frost
 - Optics
 - Snowflake
 - Thunder

List/Edit My Reports

- Daily Precipitation
- Multi-Day Accumulation
- Hail
- Significant Weather
- Condition Monitoring Report
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My Data Entry : Significant Weather Report Form

Notification:

- Use this form to report heavy rain or snow that has just fallen, or is still falling.

Significant Weather Report

Submit DataReset

Station Number : CO-WE-171


Station Name : Greeley 2.6 W

* Denotes Required Field

***Observation Date**


***Observation Time**

Time duration that the report covers

 **Rain**

in. **Gauge Catch:** New Rain and Melted Snow that has fallen during the report duration, in inches to the nearest hundredth

in. **Total Gauge Catch:** Total Precipitation, rain and melted snow, since storm began, in inches to the nearest hundredth

 **Snow**

in. **Snowfall:** Depth of New Snow that has fallen during the report duration, in inches to the nearest tenth

in. **Snowpack Depth:** Total depth of snow and ice on ground at the time of this observation to nearest half inch

Additional Information

☒ Yes ☐ No **Report was taken at registered location?**

Was There Flooding?

☐ No

If Yes, how severe?

☒ Minor (typical). Street or field flooding.

☐ Unusual street or field flooding (only see this every few years)

☐ Severe Flooding

☐ Extreme (never seen it this bad before)

Observation Notes (This will be available to the public)

-RA at obs time. No hail noted.

Submit DataReset

Weather Forecast Offices

Text 3: CCRAHS

File Edit Options Version Tools Scripts Products

AWIPS Browser Load History WMO Search Enter Editor ☐ Accum ☐ Update Obs Clear

AWIPS ID: WMO TTAAii CCCC: AFOS Cmd:

NZUS45 KBOU 100321
CCRAHS

intense rain report from CoCoRAHS spotter:

06/09/2024 09:10 PM local time
County: Pueblo CO
Pueblo 6.3 SSW (number CO-PU-144)
Latitude: 38.2122
Longitude: -104.6604
1.61 inches so far, with 1.61 inches in the past 60 mins
Flooding: Minor
Comments: -RA at obs time. No hail noted

Received NWS Boulder Sun Jun 9 21:21:42 2024 MDT
Sent to WFOs: PUB,BOU,FWR

All of today's CoCoRAHS observations are in WRKCCR (Boulder and Pueblo only)
Or at <http://www.cocorahs.org> (click on reports)

Report Filtering Criteria--Sent If:

- 0.50" in 15 minutes
- 0.75" in 30 minutes
- 1.00" in 60 minutes
- 1.50" in any time
- 0.25" diameter hail
- Snow > T
- Flooding greater than "minor"
- Mention of freezing rain, ice, or icing in comments
- Marked "STALE" if more than 60 minutes old
- Not sent if more than 28 hours old
- No filter for CA, AZ, NV, UT, NM

Why Filter?

Date ▲	Time	Station Number	Station Name	Average	Largest	Photo	State	County	View
7/5/2019	6:30 PM	CO-BO-149	Longmont 1.7 NNE	NA	1/2" Grape	--	CO	Boulder	
7/5/2019	7:10 PM	CO-BO-490	Boulder 1.5 WNW	3/4" Penny Size	1 1/4" Half Dollar Size	--	CO	Boulder	
7/5/2019	7:11 PM	CO-BO-491	Boulder 1.8 W	NA	NA	--	CO	Boulder	
7/5/2019	7:12 PM	CO-BO-472	Boulder 1.3 W	1/4" Pea Size	1" Quarter Size	--	CO	Boulder	
7/5/2019	7:30 PM	CO-BO-165	Boulder 1.8 ESE	1/4" Pea Size	1/2" Grape	--	CO	Boulder	
7/5/2019	7:30 PM	CO-BO-286	Boulder 3.5 S	1/4" Pea Size	1" Quarter Size	--	CO	Boulder	
7/5/2019	7:30 PM	CO-BO-446	Boulder 1.9 SSE	NA	1/2" Grape	--	CO	Boulder	
7/5/2019	7:33 PM	CO-BO-220	Boulder 4.7 ENE	3/4" Penny Size	1 1/2" Ping Pong Ball Size	--	CO	Boulder	
7/5/2019	7:35 PM	CO-BO-4	Boulder 2.9 S	1/2" Grape	1 1/4" Half Dollar Size	--	CO	Boulder	
7/5/2019	7:40 PM	CO-BO-446	Boulder 1.9 SSE	NA	1/2" Grape	--	CO	Boulder	
7/5/2019	7:40 PM	CO-BO-513	Lafayette 2.1 WNW	NA	2" Hen Egg Size	--	CO	Boulder	
7/5/2019	7:41 PM	CO-BO-8	Lafayette 0.4 WSW	7/8" Nickel Size	1 3/4" Golf Ball Size	--	CO	Boulder	
7/5/2019	7:45 PM	CO-BO-285	Erie 1.7 WNW	1/4" Pea Size	1/2" Grape	--	CO	Boulder	
7/5/2019	8:10 PM	CO-BO-165	Boulder 1.8 ESE	1/4" Pea Size	3/8"	--	CO	Boulder	
7/5/2019	8:28 PM	CO-BO-143	Longmont 2.1 N	5/8"	1 1/4" Half Dollar Size	--	CO	Boulder	
7/5/2019	8:30 PM	CO-BO-84	Longmont 2.6 NW	3/8"	3/8"	--	CO	Boulder	
7/5/2019	8:45 PM	CO-BO-220	Boulder 4.7 ENE	3/8"	5/8"	--	CO	Boulder	

Why Filter?

View Data : View Significant Weather Report US Units ▼

Significant Weather Report

Station Number:	CO-ME-69
Station Name:	Grand Junction 4.0 W
Date:	8/11/2019 12:55 PM
Submitted	8/11/2019 1:05 PM
Notes:	Also some brief pea-sized hail. No thunder heard.
Taken at Registered Location:	True
Precip Duration Minutes:	10
New Precip Amount:	0.07 in.
Total Precip Amount:	0.07 in.
New Snow Depth:	0.0 in.
Total Snow Depth:	0.0 in.
Flooding:	No

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Flooding: No

Significant Weather Report

Station Number: CO-PW-34
Station Name: Lamar 2.9 S
Date: 1/16/2019 3:45 PM
Submitted: 1/16/2019 6:32 PM
Notes: We were much cooler than the forecast. Started cooling off before lunch and fog moved in around 3:45pm. Never saw the sun today.
Taken at
Registered: True
Location:
Precip Duration
Minutes: 0
New Precip
Amount: NA
Total Precip
Amount: NA
New Snow Depth: NA
Total Snow Depth: NA
Flooding:

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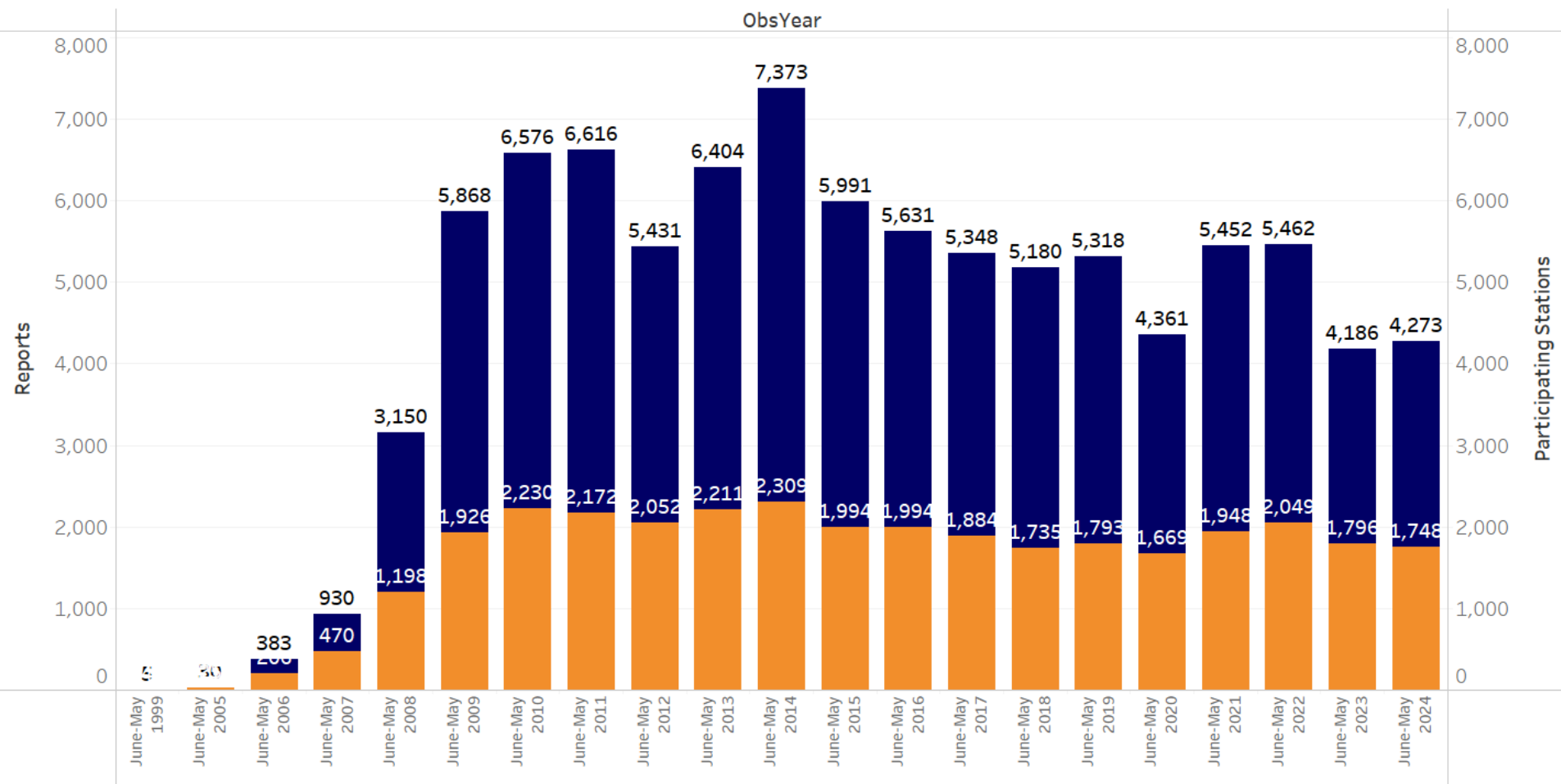
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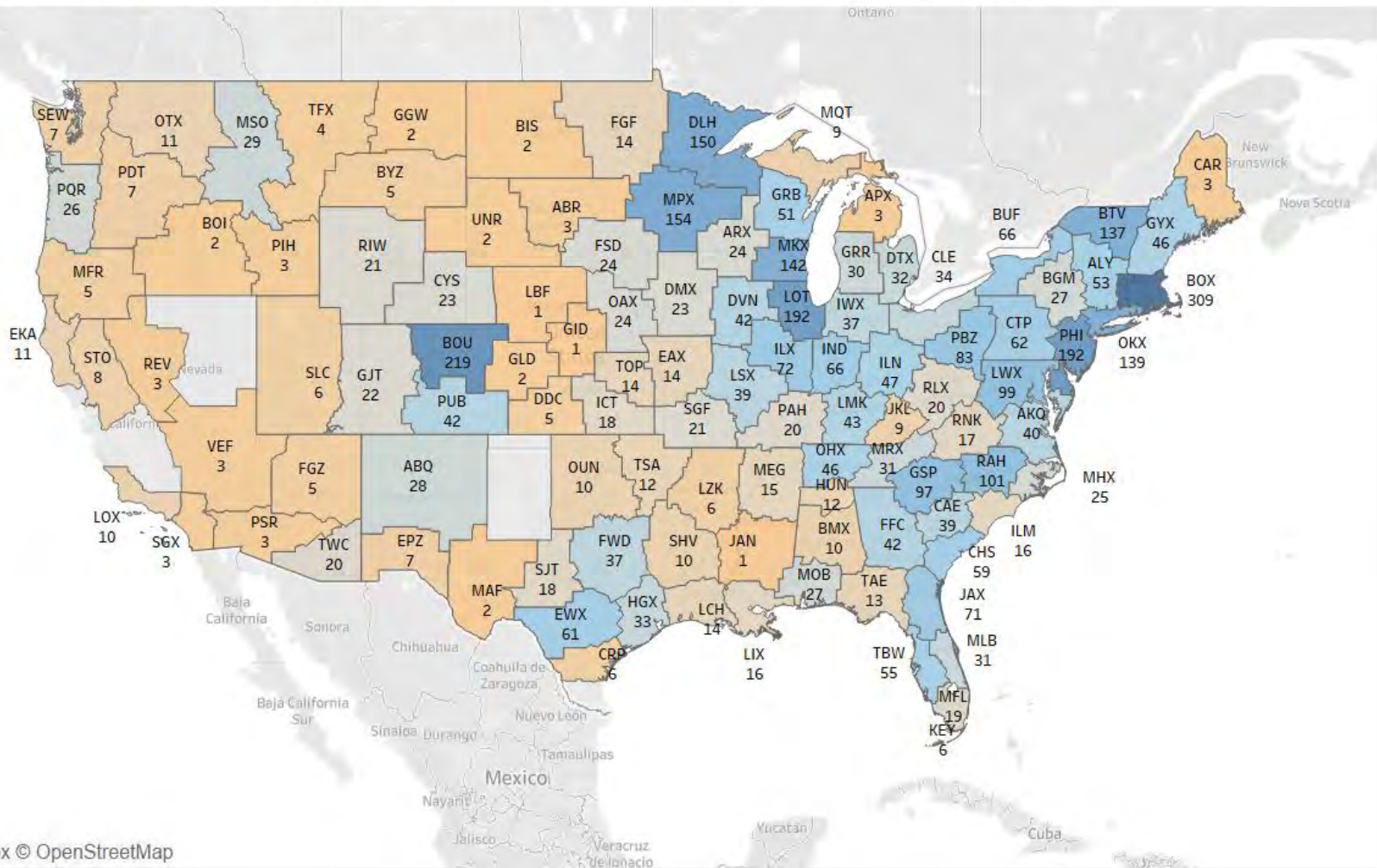
Significant Weather Report

Station Number: CO-PW-34
Station Name: Lamar 2.9 S
Date: 2/5/2019 12:39 PM
Submitted: 2/05/2019 12:40 PM
Notes: Why is it so hard to forecast the temp?
Taken at Registered Location: True
Precip Duration Minutes: 0
New Precip Amount: NA
Total Precip Amount: NA
New Snow Depth: NA
Total Snow Depth: NA
Flooding:

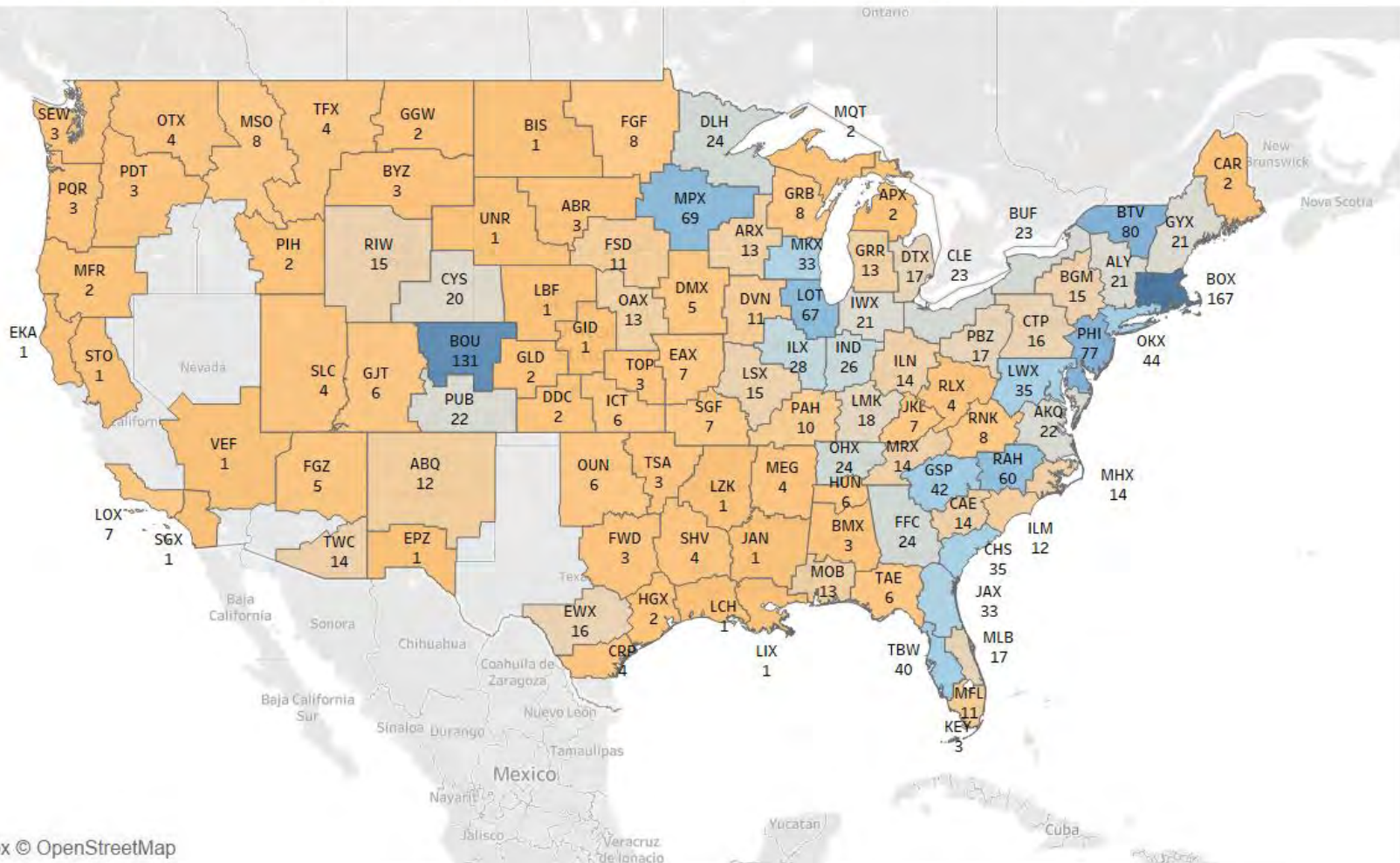
Significant Weather Reports and Participating Stations. Years span from June - May



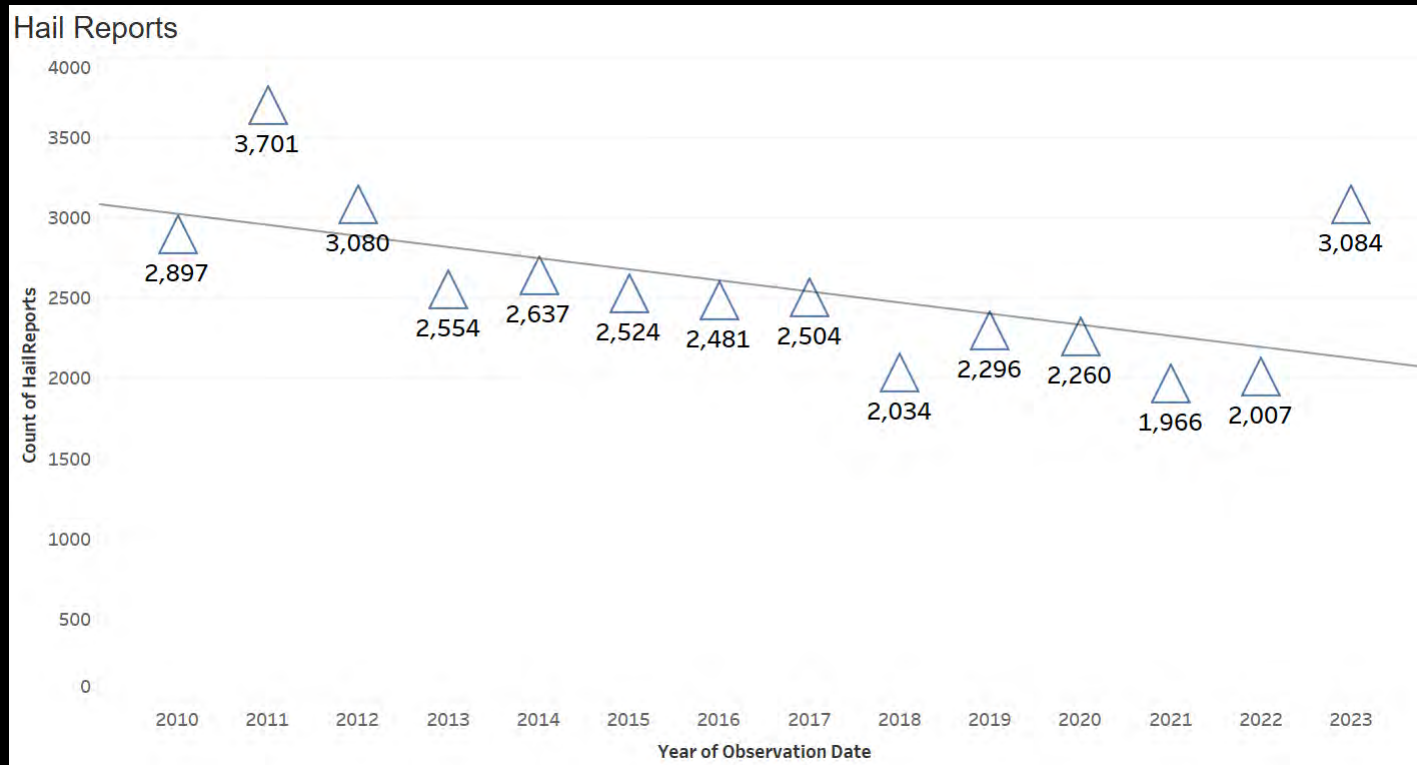
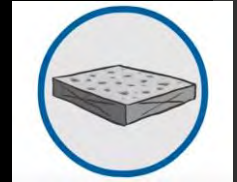
Significant Weather Reports by CWA. June 1, 2023 - May 31, 2024



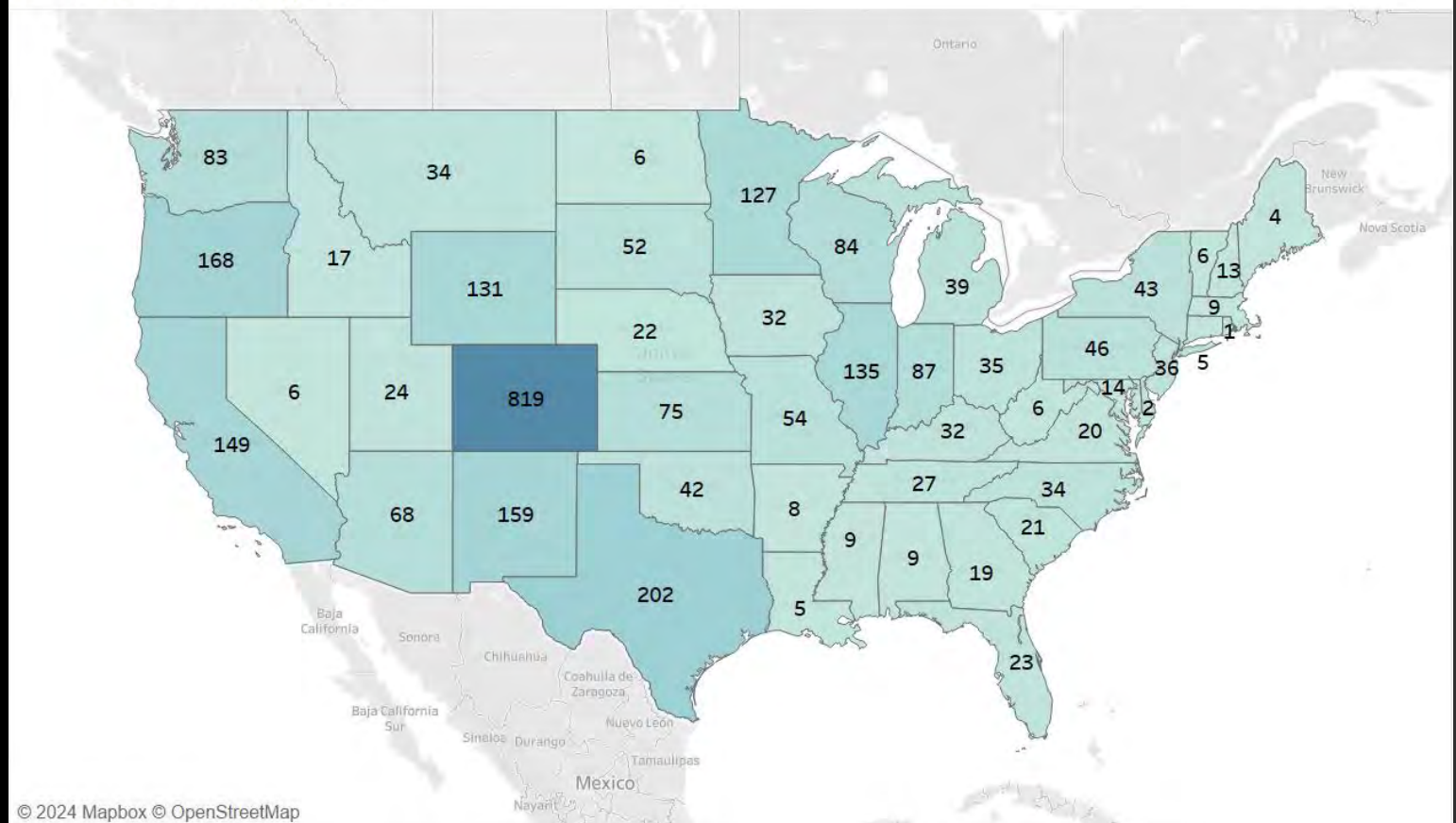
Significant Weather Reports by CWA. June 1, 2023 - August 31, 2023



Count of Hail Reports Year 2010 -> Year 2023



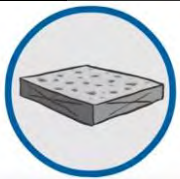
Year 2023 Hail Reports



819 out of 3,084 Hail Reports (27%) came from Colorado

Top 20 Hail Reporting Stations

Station Number	Station Name	FirstReport	LastReport	Count of HailRep..	Years Reporting
OR-BN-13	Blodgett 1 N	12/30/2007	2/26/2024	301	18
CO-JF-267	Golden 9.4 WNW	6/16/2006	6/1/2023	175	18
CO-SA-2	Crestone 1.2 SSE	9/4/2004	10/2/2023	165	20
CO-LR-220	Estes Park 0.6 SSE	4/29/2000	8/7/2017	138	18
OR-CC-66	Happy Valley 1.7 ESE	5/9/2014	3/12/2024	134	11
NM-CL-1	Angel Fire 10.2 SSE	6/21/2005	7/6/2021	134	17
CO-LR-247	Estes Park 3.3 SSW	5/24/2003	8/28/2023	133	21
CO-EP-24	Black Forest 2.1 SSE	5/6/2005	8/30/2019	130	15
CO-EP-12	Colorado Springs 18.7 N	7/28/2003	8/29/2017	125	15
CO-LR-251	Stove Prairie 2 WNW	5/17/2000	8/24/2016	117	17
CO-LR-36	Timnath 4.1 NNE	7/3/2002	10/2/2023	97	22
CO-LR-329	Red Feather 5.9 NE	4/29/2000	5/24/2023	95	24
CO-JF-51	Evergreen 5.3 S	8/5/2002	5/4/2023	93	22
CO-JF-32	Conifer 3 E	7/3/2002	6/15/2010	93	9
CO-LR-311	FCL 2.3 NW	6/17/1998	8/27/2023	92	26
CO-WE-171	Greeley 2.6 W	4/29/2000	6/6/2023	89	24
MT-DL-1	Anaconda 7.4 NW	5/7/2008	7/27/2023	87	16
CO-GR-29	Kremmling 7.8 WNW	7/20/2004	10/3/2023	87	20
CO-PK-39	Lake George 7.2 WNW	5/13/2004	6/30/2023	85	20
CO-PK-78	Fairplay 2.7 SW	6/8/2006	9/14/2023	83	18



Real Time Reports

- 50-75% are received within an hour of observation time
- For Significant Weather Reports, about 80%
- Hail reports are more complicated
- About 65% of snow reports are timely/warning related
- 35% for heavy rain, 15% for hail.
- Annually about 4,000 reports are forwarded to NWS offices within an hour of the event time.
- About 2,000 of these were warning related.

Real Time Reports Issues?

- Awareness:
 - NWS Offices don't all know about this despite reminders
 - Volunteer reporting varies considerably
- Filtering Confusion:
 - Generally accepted once it's explained
- Worth rewriting? Hasn't been yet?

Questions?

