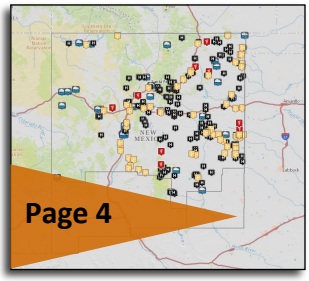
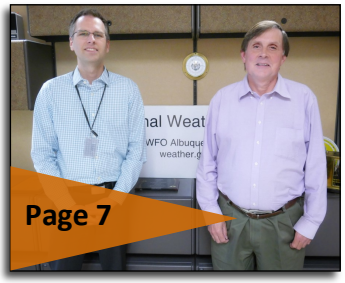
Albuquerque
National Weather Service

Fall 2017 NEWSLETTER

Winter Hazard Simplification Rolls Out



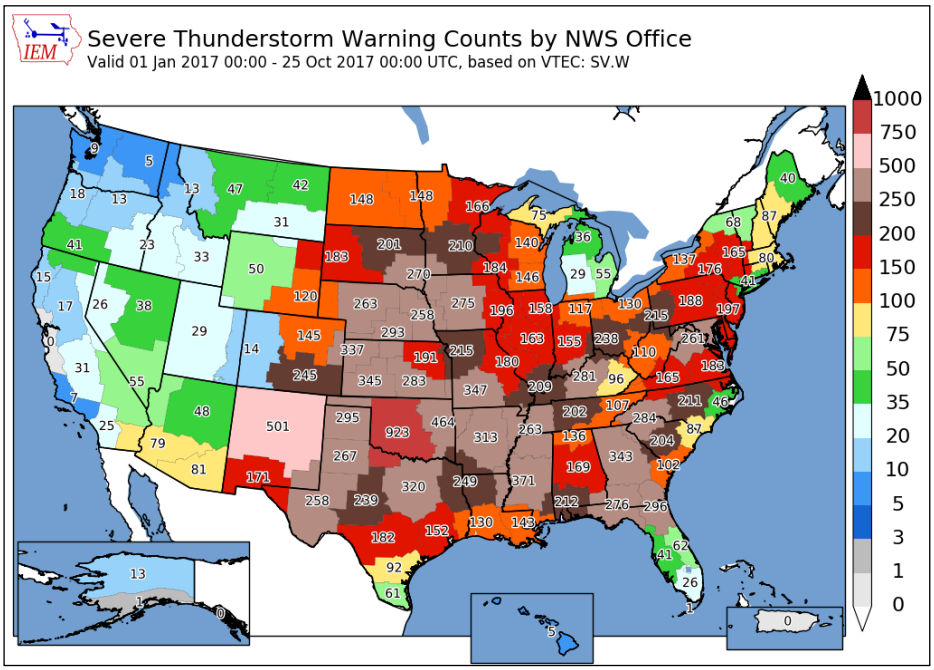
2017 Brings Barrage of Severe Weather to NM



Familiar faces join our team!

Whew! What a year it has been! In the wake of an eventful spring and summer, the staff members at the Albuquerque National Weather Service continue to assess reports, tally statistics, and recap the cornucopia of adverse weather episodes that plagued many parts of New Mexico. In fact, the Weather Forecast Office in Albuquerque has issued a total of 501 severe thunderstorm warnings, 64 flash flood warnings, and 35 tornado warnings since January 1st, keeping a near-continuous buzz of activity over our operations center!

Forecasting the weather for northern and central New Mexico certainly has its challenges, trying to pinpoint temperatures, precipitation, and weather hazards across a vast and diverse landscape. The highly variable topography and the numerous coincident microclimates will always demand attentive analysis, and our staff at the Albuquerque National Weather Service takes pride in providing a continuous weather watch for the residents and visitors of northern and central Mexico. Our service takes on many forms: releasing weather balloons, drafting a seven day forecast, issuing a winter storm warning, or even chatting on social media about the latest information on "La Niña." No matter the avenue, we are proud to serve you, and we thank you for reading our newsletter. Inside this edition, you will find a glimpse of what we are currently working on, as well as some of the latest announcements and changes that are underway at the Albuquerque Weather Forecast Office. Thanks for reading, and don't forget to reach out to us on social media!



Right: This map shows the number of severe thunderstorm warnings issued by each National Weather Service Office. The Albuquerque Office was second only to Norman, Oklahoma. Map by Iowa Environmental Mesonet.

Winter Hazards Simplification

Last November we introduced the inner workings of the Hazard Simplification project, an effort to assess users' needs of hazardous weather information. For decades the National Weather Service has been issuing information regarding hazardous weather, based upon a Watch, Warning, and Advisory protocol. There is an abundance of information that accompanies hazardous weather, and conveying it in a compact format to the public and to decision makers can prove challenging. Recall that the goal of the Hazard Simplification project was to assess what weather information is most important to you, the end user, and to repair or revamp any of our hazardous weather products (Watches, Warnings, and Advisories). Utilizing feedback from the public, our stakeholders, and even social scientists we hope to better convey a comprehensive, concise, and complete message about impending hazardous weather.

In both Fall 2016 and Spring 2017, the Hazard Simplification project team asked National Weather Service partners and the public to comment on a series of proposals to reduce the number of products issued for certain hazard types. This would ultimately simplify the format of NWS products, with the first changes occurring in winter and flood products. The reformatting proposal uses a consistent message format: "What", "Where", "When", "Additional Details" and "Precautionary/ Preparedness Actions".

These proposals were developed based on multiple social science engagements, including focus groups, surveys and the 2015 Hazard Simplification Workshop. Considered together, the feedback on our consolidation and reformatting proposals have been consistently positive, so we are now moving forward with implementing these changes, beginning with winter weather hazard information.

While not all of these changes will impact New Mexico, here are the specific Winter elements the NWS plans to implement starting this Fall and Winter:

- Consolidate Lake Effect Snow Advisory and Freezing Rain Advisory into Winter Weather Advisory.
- Consolidate Lake Effect Snow Watch and Blizzard Watch into Winter Storm Watch.
- Consolidate Lake Effect Snow Warning into Winter Storm Warning (selected sites only).
- Reformat all Winter products with structured "What, Where, When, Additional Details, and Precautionary/ Preparedness Actions" bullets.

We hope these changes are beneficial, allowing our users to quickly scan any winter weather products to find what the impacts are, where they are happening, when they are happening, and what actions you need to take to stay safe. You can visit http://www.weather.gov/hazardsimplification to learn more.

What does Winter 2017-2018 look like for New Mexico?

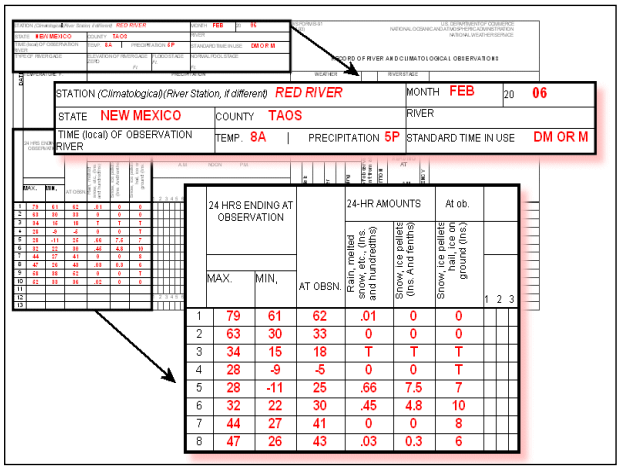
Are you curious about what's in store for the upcoming winter season? Our local climate expert, Andrew Church, has the latest on La Niña, the Pacific Decadal Oscillation, and what it means for northern and central New Mexico. Look for our Winter 2017-2018 Outlook at: http://www.weather.gov/media/abq/Briefings/201718WinterOutlook.pdf

Co-op Corner

A Message to Our Cooperative Weather Observers

Though we have only seen traces to a few inches of snow on the highest peaks of the Sangre de Cristo and Tusas mountains so far, increasing amounts are not far away. Now that we are at the beginning of the snowfall season, here are a few friendly reminders as you venture out to your snow measuring boards. Remember to remove the inner tube in your rain gauge as well as the funnel that sits on the top. Any snow that falls into the gauge will not be representative if the inner tube and funnel are still present. After preparing your rain gauge, please set out your snow measuring board and dig out your snow measuring stick so you are prepared for the next winter storm.

Please remember, when taking snow measurements, there are three values you are recording: snow melt (or liquid equivalent), snowfall accumulation, and snow depth (if snow is present at observation time).



STATION (Climatological)(River Station, if different) RED RIVER — MONTH FEB — 20 06

STATE NEW MEXICO — COUNTY TAOS — RIVER

TIME (local) OF OBSERVATION — TEMP. 8A | PRECIPITATION 5P — STANDARD TIME IN USE DM OR M

	24 HRS ENDING AT OBSERVATION		AT OBSN.	24-HR AMOUNTS		At ob.	
	MAX.	MIN.		Rain, melted snow, etc., (ins. and hundredths)	Snow, ice pellets (ins. And tenths)	Snow, ice pellets on ground (ins.)	1 2 3
1	79	61	62	.01	0	0	
2	63	30	33	0	0	0	
3	34	15	18	T	T	T	
4	28	-9	-5	0	0	T	
5	28	-11	25	.66	7.5	7	
6	32	22	30	.45	4.8	10	
7	44	27	41	0	0	8	
8	47	26	43	.03	0.3	6	

Snow melt or liquid equivalent is the first column, and it is where you record the melted contents of the gauge. Measure it just like you would for rain, recorded to the nearest hundredth of an inch (0.00").

The second column is the snowfall measurement; this is where you record the snowfall since the previous day's observation. Find your snowboard, or a place where the snow is least drifted and near-average for the locality. This amount is recorded to the nearest tenth of an inch (0.0"). The 3rd column is the snow depth column. This is where you record to the nearest inch the total snow depth on the ground.

If you would like more information on measuring snow, see the links below:

- https://www.youtube.com/watch?v=CzWFhbO_NNg&t=597s
- http://www.nws.noaa.gov/om/coop/reference/_Snow_Measurement_Guidelines.pdf
- http://www.cocorahs.org/Content.aspx?page=snow

We would like to again thank all our observers for your continued support of the National Weather Service. The volunteer service you provide has immeasurable value to local, city, state, federal, and international partners. If you have any questions or concerns, you may reach our office at 1-888-386-7637 or via e-mail at: SR-ABQ.Coop@NOAA.GOV.

2017 Brings Barrage of Severe Weather

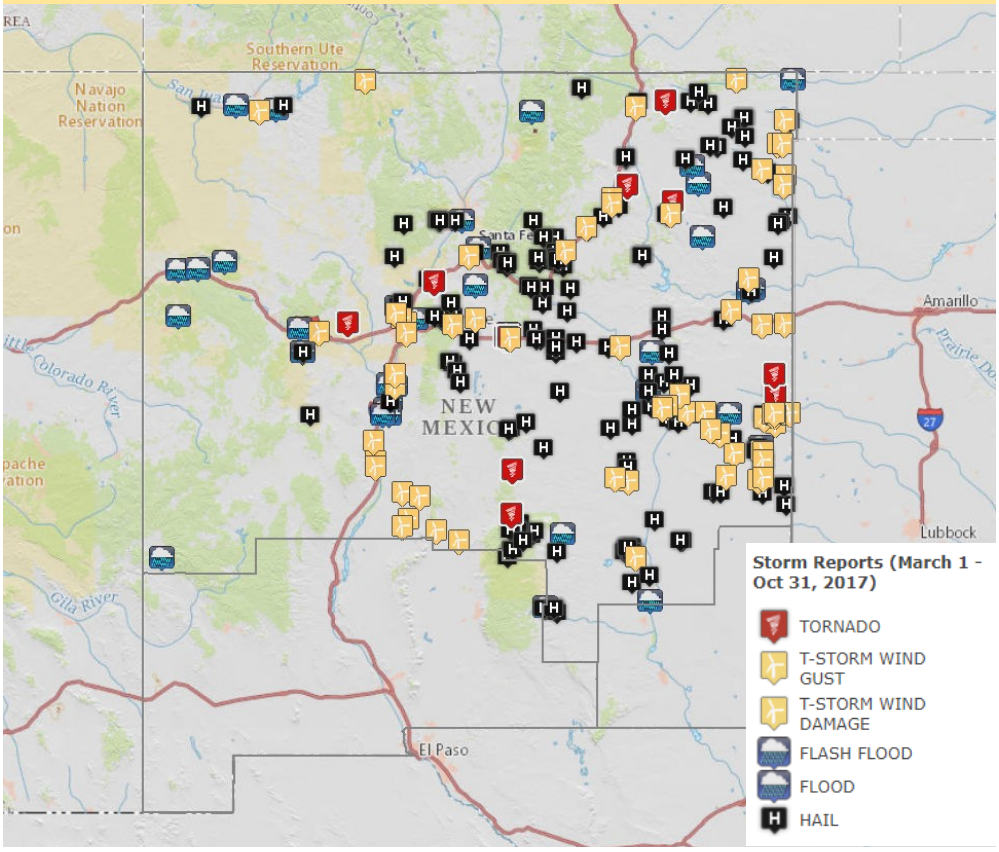
If you felt inundated with severe thunderstorm warnings crawling across the bottom of your television this past summer and spring, you are not alone. Did your mobile device seem to buzz and alert you to hazardous weather more frequently over the past six months? While the year is not quite finished, 2017 has already brought a deluge of severe thunderstorms to much of central and eastern New Mexico.

These storms not only produced heavy rain and flash floods, but also large hail, damaging winds, and even several tornadoes. Severe weather operations within our office were exceptionally busy this year, and to put things into perspective we dug into some severe weather numbers and statistics. Since 1987 (30 years ago), an average of 84.9 severe hail reports (0.75" diameter or greater) are gathered every year within the 25 county area of responsibility that the Albuquerque Weather Forecast Office serves. This year was an exceptional outlier, and the following statistics shed some light on how extremely active Mother Nature has been over the past several months.

Average Severe Weather Reports within Northern and Central New Mexico

Severe Weather Type	Average Events Per Year (1987-2016)	Events Reported in 2017
Hail (0.75" Diameter or larger)	84.9	198
Thunderstorm Winds (58mph Gusts or Damage)	23.5	95
Flash Flood	23.1	46
Tornado	6.5	12

2017 Severe Weather in Northern and Central New Mexico
(The 25 counties of northern and Central New Mexico are served by the Albuquerque NWS.)



Above: Hail up to the size of tennis balls fell near Storrie Lake in northeast New Mexico on August 18, 2017. Photo courtesy of Shannon Atencio.

Below: A tornado is seen west of Albuquerque on September 30, 2017. View is from the Albuquerque NWS Office.

Above Normal Precipitation Erodes Drought

The summer thunderstorm season, or monsoon, was generous towards eastern New Mexico with well above normal precipitation being observed over much of the plains of the state. Then, on the tail end of the season, a relatively long duration wet pattern set up over the Land of Enchantment, feeding bouts of moisture along with resultant rounds of showers and thunderstorms. While the precipitation sometimes came too fast and furiously in the form of flash flooding, much of New Mexico has been able to sustain itself out of drought conditions.

Drought Monitor

Drought Conditions (Percent Area)

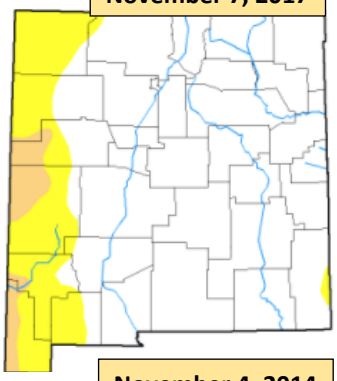
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	88.63	11.37	1.04	0.00	0.00	0.00
Last Week 10-17-2017	91.99	8.01	0.00	0.00	0.00	0.00
3 Months Ago 07-25-2017	66.49	33.51	1.34	0.00	0.00	0.00
Start of Calendar Year 01-03-2017	66.20	33.80	4.28	0.00	0.00	0.00
Start of Water Year 09-26-2017	85.16	14.84	0.00	0.00	0.00	0.00
One Year Ago 10-25-2016	45.87	54.13	3.89	0.00	0.00	0.00

Intensity:

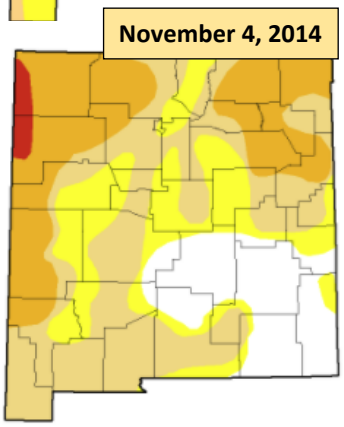
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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

November 7, 2017



November 4, 2014

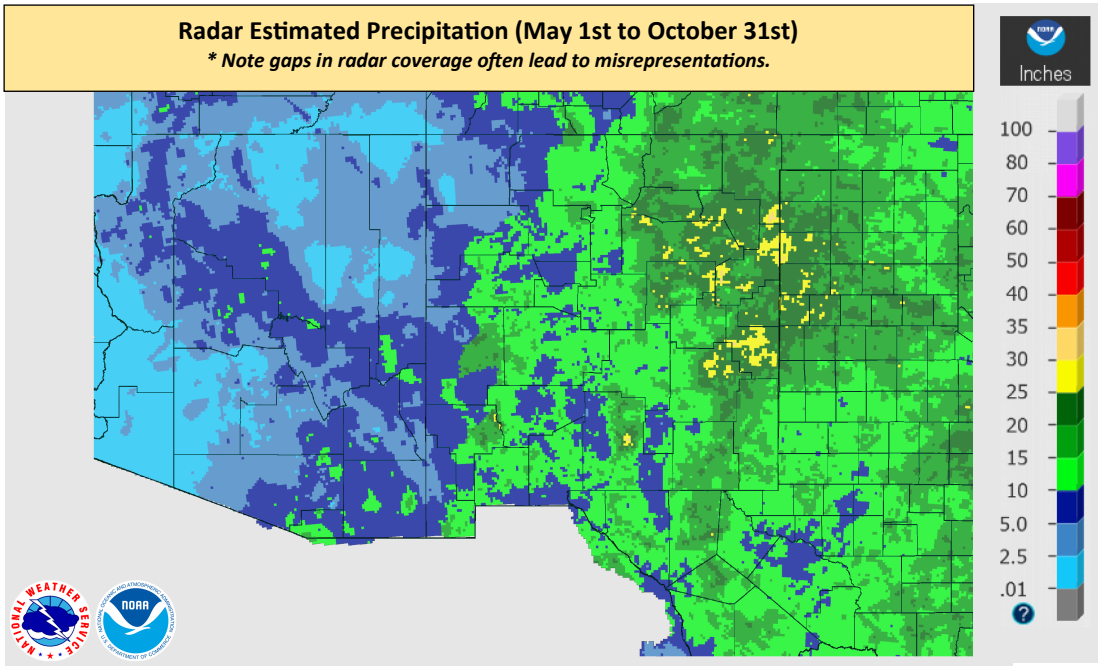


Top 25 Precipitation Reports (May 1st to October 31st)

Location	Station Type	Precip (Inches)
PORTALES 2.9 SW	CoCoRaHS	26.82
PORTALES 5.1 SSW	CoCoRaHS	25.13
LAS VEGAS 1.6 NNW	CoCoRaHS	24.88
PORTALES	COOP	23.94
SAPELLO 5.1 WNW	CoCoRaHS	23.19
LOGAN 1.5 W	CoCoRaHS	23.14
LAS VEGAS 1.7 NNW	CoCoRaHS	23.12
TEXICO 13.6 N	CoCoRaHS	22.81
CIMARRON 4 SW	COOP	22.54
LOGAN 0.8 W	CoCoRaHS	21.93
PASAMONTE	COOP	21.85
DILIA	COOP	21.11
TUCUMCARI 4.0 NW	CoCoRaHS	20.83
CLAYTON 14.6 SSW	CoCoRaHS	20.46
CLOVIS 1.1 NE	CoCoRaHS	20.23
CAPULIN	COOP	20.02
CLOVIS 3.3 E	CoCoRaHS	19.98
LAS VEGAS MUNI AP	ASOS	19.98
GASCON	COOP	19.52
CLOVIS 6.6 SE	CoCoRaHS	19.49
SAPELLO 3.9 NW	CoCoRaHS	19.47
BROADVIEW 2.7 N	CoCoRaHS	19.32
CLOVIS 2.3 NNE	CoCoRaHS	19.21
OCATE 2 NW	COOP	19.10
ROSEBUD 7NW	COOP	19.07

Radar Estimated Precipitation (May 1st to October 31st)

**** Note gaps in radar coverage often lead to misrepresentations.***



Albuquerque Weather Forecast Office

Staff Changes

Much like the changing of the seasons, changes in personnel are also a reality for the Albuquerque Weather Forecast Office staff. As they embark on new employment opportunities, we are sad to bid farewell to three of our team members, yet excited for each of their futures.

Chris Luckett, prepares a weather balloon for release. Chris launched hundreds of weather balloons at the Weather Forecast Office in Albuquerque, gathering temperature, wind, and humidity data for weather analysis and prediction.

Chris Luckett— Chris has been a member of the Albuquerque National Weather Service family for a few years as a meteorologist intern, but he has recently accepted a new promotion as a forecaster with the Alaska Aviation Weather Unit in Anchorage. Throughout his time here in Albuquerque, Chris worked on various data acquisition tasks, including the release of hundreds of weather balloons over the years. Chris acted as a spokesman for one of our educational videos that showcased the Albuquerque upper air program (click here to view), including the release of weather balloons. In addition, Chris often acted as a liaison to our volunteer cooperative observers, CoCoRaHS (Community Collaborative Rain, Hail, and Snow network), and also our CityNet precipitation observer program in Albuquerque. We wish Chris all the best as he plunges into his proverbial pool of new forecasting challenges up in Anchorage, Alaska!

In September, Brent Wachter (left) and Chris Luckett (right) were presented with a cake and some small gifts at a party to recognize their work at the Weather Forecast Office in Albuquerque.

Brent Wachter — Brent was a unique and vital asset that the Albuquerque National Weather Service will sorely miss, and many national "fire weather" programs that he served will also feel a vast void of expertise with his departure. Brent was part of a specially designed unit known as Incident Meteorologists. Incident Meteorologists, or IMETs, are deployed to national incidents that need specialized weather forecasts due to their sensitive nature and potentially high-impact to public safety. These incidents range from disaster response, political conventions, large sports events, and most frequently wildfire response and support. Brent was deployed to over 70 incidents during his tenure here in Albuquerque, often working in smoky environments, providing vital weather forecast information to fire fighters. Brent is a self-proclaimed "weather geek" with regard to fire weather, and had an unmatched ability to recognize the weather patterns and signals that are conducive to wildland fire growth. Brent meticulously educated the Albuquerque Weather Forecast Office staff on how to familiarize ourselves with indices and scientific parameters that allow these critical fire weather patterns to be recognized. Brent's unparalleled knowledgebase of fire weather provided a public service to the fire management teams and the residents at risk to wildfires. Brent has already begun his new role as a meteorologist within the U.S. Forest Service in Redding, California. We wish Brent the best of luck as he exercises his one-of-a-kind skillset with the Forest Service!

Brent Wachter, an Incident Meteorologist (IMET) was deployed to over 70 incidents, most of which were wildfires where he offered weather forecasts and expertise to fire management officials.

Staff Changes (continued)

Sharon Sullivan— We would be remiss if we did not wish Sharon our heartfelt congratulations. Sharon, worked as a student volunteer here at the Weather Forecast Office as she pursued her undergraduate degree in mathematics at the University of New Mexico. Back in 2014, Sharon authored a research paper on the historic rainfall that buffeted New Mexico last century in 1941. Her research on this wet and historic year have already proven invaluable to the climatological records of New Mexico, helping meteorologists and climatologists build contemporary baselines. Her paper earned her the James B. Macelwane scholarship, a prestigious honor! Sharon also assisted with other climate projects here at the Albuquerque Weather Forecast office, and later began supporting our data acquisition team by releasing weather balloons. Sharon would periodically visit our office and volunteer her time during school breaks while pursuing her M.S. degree in atmospheric science. Now that she has graduated, she is well on her way to a long, fruitful career in the National Weather Service, and just began her journey in Juneau, Alaska! Congratulations, Sharon! We wish you all the best in Juneau!

Sharon Sullivan poses next to a weather balloon on a tour of the Langmuir Laboratory at New Mexico Tech.

Familiar Faces

Daniel Porter— We are happy to report that a couple of familiar faces have returned to our office. Daniel Porter, formerly a senior forecaster here in Albuquerque, has returned to our office as our new Science and Operations Officer! Daniel was most recently employed as the National Weather Service liaison to the Federal Emergency Management Agency (FEMA). Working in the Washington D.C. area over the last few years, Daniel kept FEMA continuously updated on high-impact weather events across the nation—such as winter storms, flooding, tornado outbreaks, hurricanes, and even space weather. His onsite decision support was critical during all phases of the disaster life cycle (preparedness, response, recovery, and mitigation). Daniel knows he has some big shoes to fill here in Albuquerque, but he has already jumped into action, assisting with training plans and introducing operational best practices. We even put him to work issuing severe thunderstorm warnings during his first week back! Despite the workload, he has already brought an enthusiastic demeanor to our operations. Welcome back, Dan!

Daniel Porter (left), a former forecaster in Albuquerque, re-joins our Weather Forecast Office as the new Science and Operations Officer.

Roger Smith (right), formerly a forecaster with the Albuquerque Center Weather Service Unit, has now joined our forecaster team at the Weather Forecast Office.

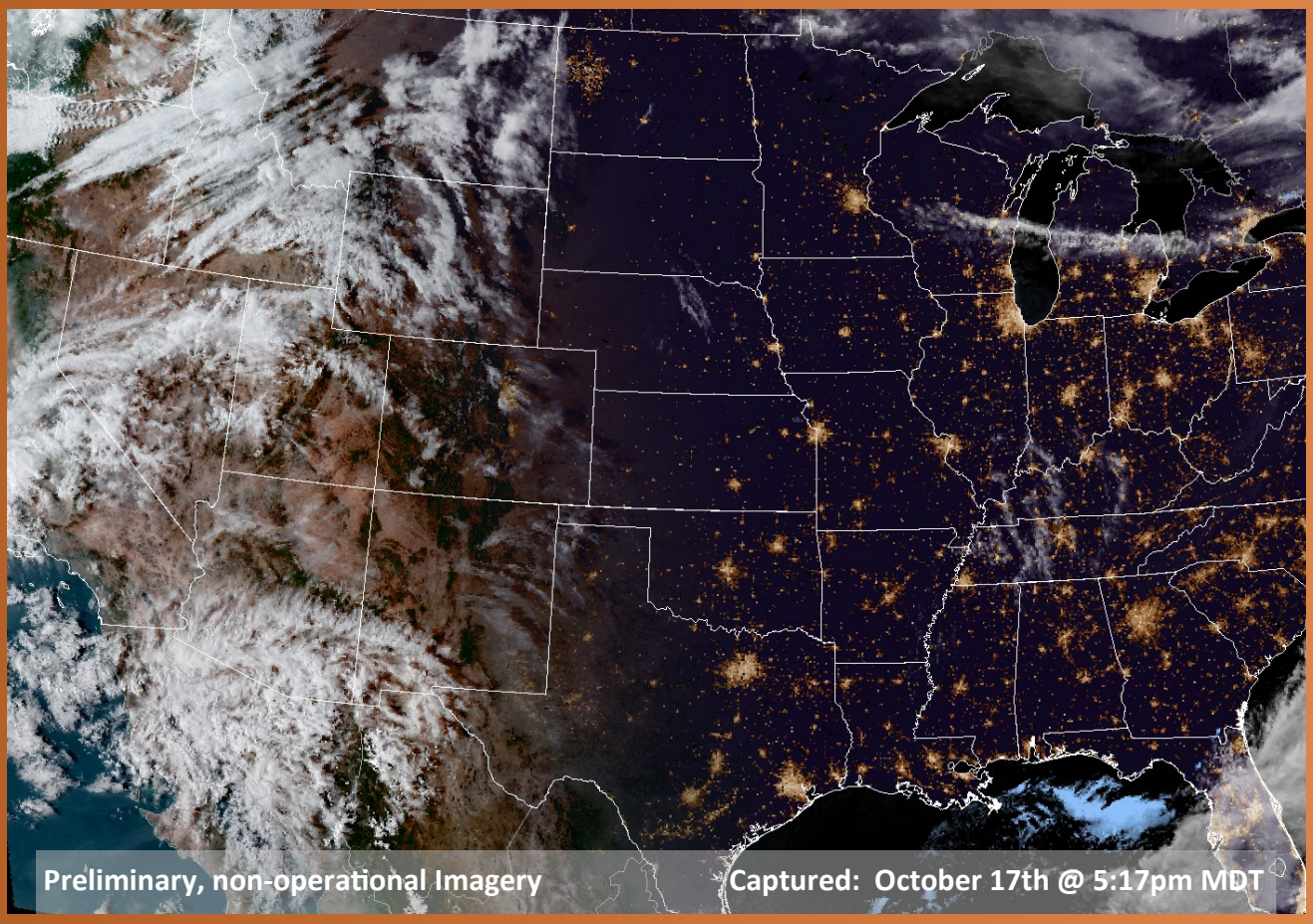
Roger Smith— Roger has been living and forecasting in central New Mexico for several years now, and is certainly no stranger to the Albuquerque Weather Forecast Office. However, Roger has recently changed positions and is the newest addition to our forecaster staff, coming from the Center Weather Service Unit at the Air Routing and Traffic Control Center here in Albuquerque. At the Center Weather Service Unit, Roger was directly involved with aviation operations, providing onsite weather expertise and forecasts to air traffic controllers and other aviation specialists. Aviation is obviously highly dependent on weather, and Roger routinely presented critical information about high-impact weather to the aviation community via his daily briefings at the Center Weather Service Unit. Some examples would often include the outbreaks of widespread thunderstorm activity when Roger would promptly provide insight on the areal coverage, time of development, and movement of storms to ensure pilots could be safely and efficiently routed around the hazards that storms produce. Roger also has previous experience forecasting in the western states of Wyoming and Nevada with the Forecast Offices in Riverton and Elko respectively. We are excited to welcome Roger as our new team member!

The Radio Room

CQ! CQ! Calling all amateur radio operators! SKYWARN™ Recognition Day is just around the corner on December 2, 2017! If you are an amateur radio operator, we invite you to jump on the bands and try to contact one of our 122 participating Weather Forecast Offices across the nation. Dating back to 1999, SKYWARN Recognition Day has been a great partnership between the National Weather Service and the American Radio Relay League. SKYWARN Recognition day began as a means to acknowledge the valuable contributions that SKYWARN volunteers make to the NWS mission, the protection of life and property.

Many volunteer SKYWARN storm spotters are also Amateur radio operators, offering real-time updates and ground truth observations to NWS forecasters. These reports are a vital aide to NWS operations, helping forecasters better assess current conditions and verify warnings during times of severe weather. Even in this day and age, technology is not foolproof, and should normal communications become inoperative, the amateur radio community would be the first to step up, providing a crucial communication link between the NWS, first responders, and emergency management. SKYWARN Recognition Day will run from 5 pm MST on Friday, December 2nd to 5 pm MST on Saturday, December 3rd. During this SKYWARN Special Event, the Albuquerque Weather Forecast Office will be monitoring the bands and contacting other radio operators across the nation in hopes of acknowledging the dedicated efforts of our SKYWARN spotters. Listen for our call sign, WX5ABQ, and we hope to hear you on the bands! Also, if you would like to assist us and work the radios at our office, feel free to RSVP at (888)386-7637 or via email at sr-abq.webmaster@noaa.gov.

DAYLIGHT FADING — Exciting new satellite images continue to stream in from GOES-16, the game-changing weather satellite that was launched a year ago. This particular image was captured on October 17th at 5:17 pm MDT, and represents a composite of 5 satellite channels that render the transition from day to night in beautiful detail. With sunlight still visible in the western U.S., clouds and terrain are seen. However, as night falls first on the eastern states, darkness is noted over rural areas while urban areas and large cities emit viewable light sources.



Are You A Weather-Ready Ambassador???

The Weather-Ready Nation Ambassador™ initiative is the National Oceanic and Atmospheric Administration's (NOAA) effort to formally recognize NOAA partners who are improving the nation's readiness, responsiveness, and overall resilience against extreme weather, water, and climate events. As a WRN Ambassador, partners commit to working with NOAA and other Ambassadors to strengthen national resilience against extreme weather. To learn more, visit:

https://www.weather.gov/wrn/ambassadors

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