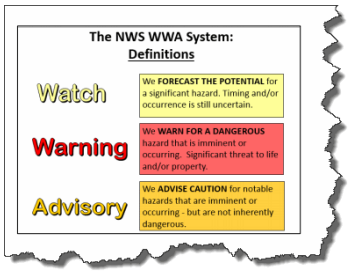


Hazard Simplification Project

Geostationary Operational Environmental Satellite—R Series: A game changer for atmospheric scientists

Deirdre Kann steps into retirement after 22 years at the Albuquerque Weather Forecast Office

Meet Paul: The new voice of NOAA Weather Radio

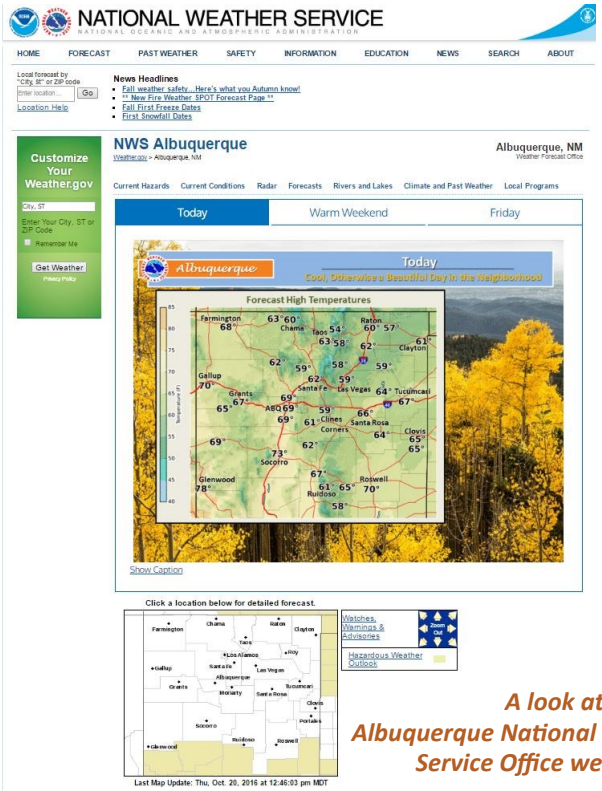
NEW MEXICO SKYWATCHER

A Publication of the Albuquerque National Weather Service Office

Fall has not only brought change in the form of cooler temperatures and wilting leaves, but the season of change has also extended to many other programs within the Albuquerque National Weather Service. One of the big changes that our office has been undertaking is the new look that has just been recently rolled out with our web pages. This past September, a major overhaul occurred as several NWS offices across the southern U.S. shifted to a new standardized web page format.

This new format keeps a common theme across more neighboring NWS offices, and is intended to give users a more seamless interface when navigating through the jungles of data and weather information that is available to the public. For some time, many users of our website have requested these changes, and this recent update represents the fruits of a long term initiative to produce more consistent pages across all NWS offices nationwide.

We realize change can often disrupt habits and sometimes introduce speed bumps as you navigate your day-to-day routines. With such a drastic change carried out to our web pages, you might have found it difficult to locate some of your favorite weather pages or go-to links for sourcing your weather needs. Should you have difficulties navigating the new web site or finding where some of the links have been relocated, please reach out to us via phone, email, or social media and we will gladly assist you. Many sections of our main home page will continue to evolve over the coming weeks with additional refinements, and some of our linked sub-pages will also have some additional construction ongoing. We ask that you bear with us, as we strive to enhance this resource and give our users a complete one-stop source for all things related to northern and central New Mexico weather.

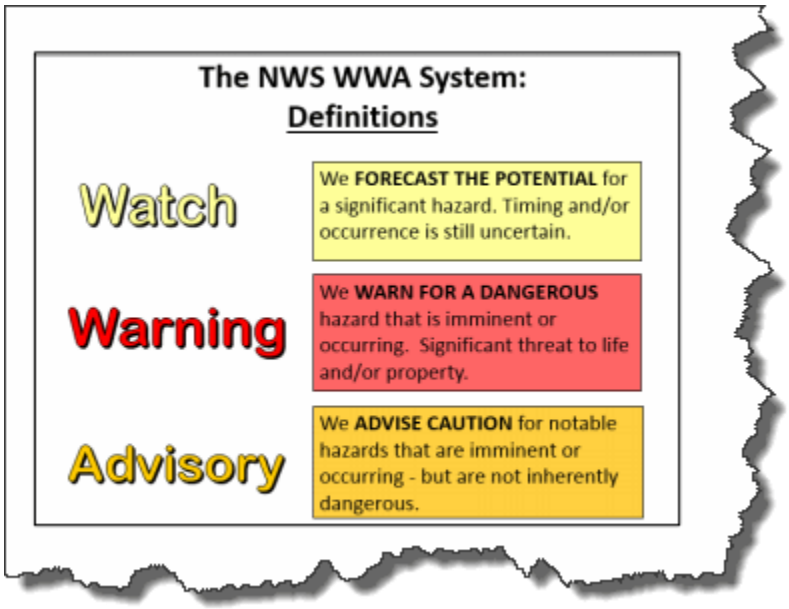


A look at the new Albuquerque National Weather Service Office web page...

Hazard Simplification Project Underway

By Kerry Jones

The National Weather Service Watch, Warning, and Advisory (WWA) program is used to alert users of expected hazards. A Blizzard Warning, for example, is issued when a combination of high wind and heavy snowfall will result in a widespread, significant threat to life and property for an extended period whereas a Winter Weather Advisory might be posted when wintry weather (e.g. snow, freezing rain, sleet) would present a hazard, but overall impacts would be more of an inconvenience.



The current Watch, Warning, and Advisory program has been in place and largely unchanged for several decades. While it has been highly effective in protecting life and property over the years, the Watch, Warning, and Advisory program continues to be a source of confusion. Understanding the difference between a Watch and Warning, for example, is critically important and could affect whether or not a life-saving decision is made in a timely manner.

To that end, the NWS is exploring alternatives for more effectively communicating our hazard messages. It's worth noting that the NWS is not making any changes to the operational system at this time, but we are carefully considering a number of options, as follows:

- Keep the current Watch, Warning, and Advisory system as is;
- Make small to moderate changes (i.e. Repair); or
- Make a transformational change (i.e. Revamp) to the Watch, Warning, Advisory system.

Needless to say, keeping the Watch, Warning, and Advisory system as is will probably end up being the least viable option. We have already collected feedback and have learned that some users struggle to interpret and distinguish among the large number of individual Watch, Warning, and Advisory "products" (e.g., Wind Advisory, Winter Storm Watch, and Winter Storm Warning). Thus, it will be important to weigh any and all new ideas carefully, and to consider making initial small improvements while we continue to investigate the possibility of larger and more wholesale changes. To support both efforts, we will be collecting public comments on these options as we move forward.

We are defining a Watch, Warning, and Advisory "Repair" as a relatively small change that could be implemented by altering our policy and/or making minor adjustments to our current weather and water hazard messaging system. Watch, Warning, and Advisory "Revamp" is defined as a larger change that would require significant policy revision, could result in an overhaul and/or revisualization of the current hazard messaging paradigm and could require major software adjustments. Of course, a "Revamp" would need to be widely advertised in advance, and would also require extensive education and outreach to facilitate any transition.

We will be asking for public comment on a variety of proposed Repair and Revamp ideas. We will be advertising the opportunities for comment on our website, social media, and via a variety of mailing lists. Stay tuned for these opportunities as they become available. You can also visit http://www.weather.gov/hazardsimplification

What does Winter 2016-2017 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. Take a look at our Winter 2016-2017 Outlook at http://www.weather.gov/media/abq/Briefings/201617WinterOutlook.pdf

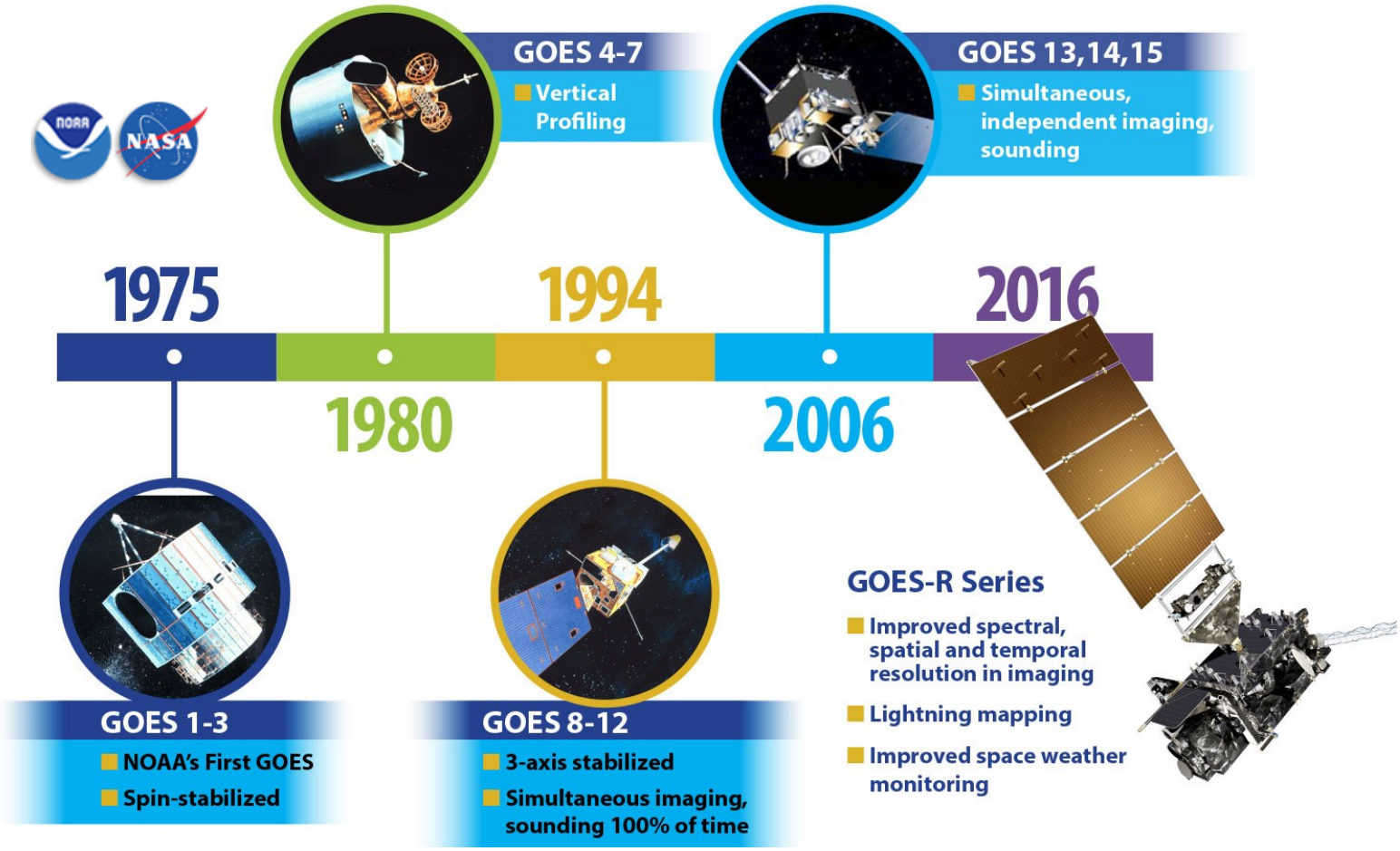
GOES-R: A game changer for scientists

By Todd Shoemake

Atmospheric scientists across North America are eagerly awaiting a new analysis and forecasting tool. It is no secret that satellites are an integral part of our advanced technology-based world, adding countless enhancements to our day-to-day routines that thrive on media and communications. Satellites have also been assisting meteorologists since the early 1970s, giving us a detailed view of the weather occurring on our globe. Whether it be a simple black and white image revealing the eye of a strengthening hurricane or a high resolution lightning mapping array, satellite data sets give meteorologists a vital starting point in the forecast process; and to make an accurate forecast, a detailed analysis of what the atmosphere is currently doing is critical.

Not all weather satellites behave the same; some are polar-orbiting while others orbit around the equator, synchronously locked onto a fixed longitude. Several iterations or versions of the latter type, known as geosynchronous satellites, have come and gone with each satellite within the fleet continuing to evolve and gain enhancements as technology advances. Known as the GOES (Geostationary Operational Environment Satellite) series of satellites, this program has been in operation since the mid 1970s. The newest generation, known as the *R series*, of geosynchronous satellites is scheduled to launch November 16, 2016 and will bring a suite of revolutionary data to a wide spectrum of scientists.

After launch, GOES-R will undergo an extended checkout and validation phase for approximately one year before becoming fully operational. Once operational, meteorologists will have access to high resolution images from an advanced imager capable of imaging 16 spectral (wavelength) bands, as opposed to the 5 currently available. This high resolution data will also be available on more frequent temporal scales. A lightning mapper will also be on-board, measuring in-cloud, cloud-to-cloud, and cloud-to-ground lightning continuously. This will complement on-ground lightning detection instruments, allowing better diagnoses and prognoses of thunderstorms. Upgraded ultraviolet and X-ray irradiance sensors will provide invaluable data, critical to understanding and monitoring the power and effects of the sun's electromagnetic radiation.



These are just a few of the upcoming upgrades associated with GOES-R, a game changer for atmospheric scientists. For more on GOES-R, visit: http://www.goes-r.gov.

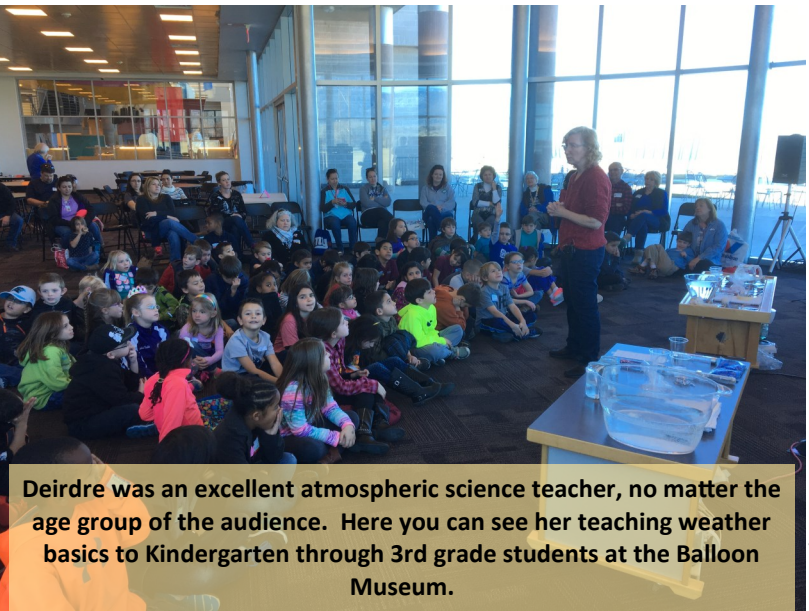
Deirdre Kann Steps Into Retirement

Recently this past July, the Albuquerque Weather Forecast Office had to bid farewell to one of our longstanding management members. Staff members come and go on a somewhat regular basis in our office, but the departures of longstanding staff members are never an easy endeavor for those individuals or the remaining staff body. In July, Deirdre Kann, the Science and Operations Officer, concluded a very fruitful and eventful 22 year career with the Albuquerque National Weather Service as she entered retirement.

Deirdre Kann spent 22 years at the Albuquerque National Weather Service Office, acting as the Science and Operations Officer.

Deirdre brought a hard-working, always busy demeanor to our office, and since her departure a surplus of local programs and operations have felt the absence of her guidance and expertise. To list all the numerous NWS programs that Deirdre was involved with would be an arduous chore - everything from web development, to public outreach, to climate studies, to geographical information system plotting and mapping.

Education was a big part of Deirdre's career, whether it



Deirdre was an excellent atmospheric science teacher, no matter the age group of the audience. Here you can see her teaching weather basics to Kindergarten through 3rd grade students at the Balloon Museum.

Deirdre had a great relationship with the Langmuir Laboratory that conducts lightning research out of New Mexico Tech University. They presented a signed and framed lightning photograph to Deirdre at her retirement party in July.

was demonstrating hydrologic processes to youngsters or wowing them by making clouds in a jar, or even teaching atmospheric science to undergraduate students at the University of New Mexico. She commonly attended conferences to share scientific studies in the realm of climatology, hydrology, and weather and had an expressive role in the collaboration of scientific best practices as they relate to

Deirdre enjoyed partaking in fun educational awareness activities, like bringing tasty "pies" into the office to celebrate π (Pi) Day for awareness in mathematics!

the atmospheric sciences and the role of the NWS. Deirdre had a passion for public outreach, and was known for developing eye-catching and engaging display materials for local museums, schools, and other educational programs.

Deirdre has already been severely missed in the Albuquerque Weather Forecast Office. Her meticulous attention to detail, her vast knowledgebase, and her readily available insight were always a vital asset to the operations of our office. We wish Deirdre all the best as she joins her husband, Steve, in the realm of retirement.

Albuquerque Weather Forecast Office
Staff Additions

The Albuquerque Weather Forecast Office is pleased to announce some recent staff additions to our team. Some of the longstanding staff vacancies have now been filled with proficient and diverse personnel, bringing a wide range of skillsets and experience from across the nation.

Dwight Koehn, Hydrometeorological Technician—Our newest hydrometeorological technician, or HMT, joins the Albuquerque team from Oceanside, California. Dwight currently serves as a Reservist in the U.S. Navy, and recently acted as a contract aviation forecaster and observer with Control Systems Research at Naval Air Facility El Centro, CA. Dwight will now take part in our upper air program as an HMT, releasing weather balloons while also maintaining our vast network of cooperative observations. Dwight is originally from Fayetteville, Arkansas and is now looking forward to hitting some of the many mountain biking trails that New Mexico has to offer. Welcome, Dwight!

Dwight Koehn
Hydrometeorological Technician

Randall Hergert
Meteorologist Intern

Randall Hergert, Meteorologist Intern—With previous experience in the Brownsville, Texas Weather Forecast Office, our newest meteorologist intern, Randall, arrived here in Albuquerque this past summer. Randall has a taste for tropical weather, given his stint in Brownsville and his roots in Florida where he grew up and attended undergraduate and graduate school. With degrees from Florida International University and the University of South Florida, Randall has already made quick use of his skills in Geographical Information Systems here in the Albuquerque office. Randall will also be performing upper air duties, releasing weather balloons. In addition, he will partake in forecaster development, refining his data analysis, forecasting, and warning skills. Randall, an Eagle Scout, is an avid hiker, and has already been exploring many trails and sights within the Land of Enchantment. Welcome, Randall!

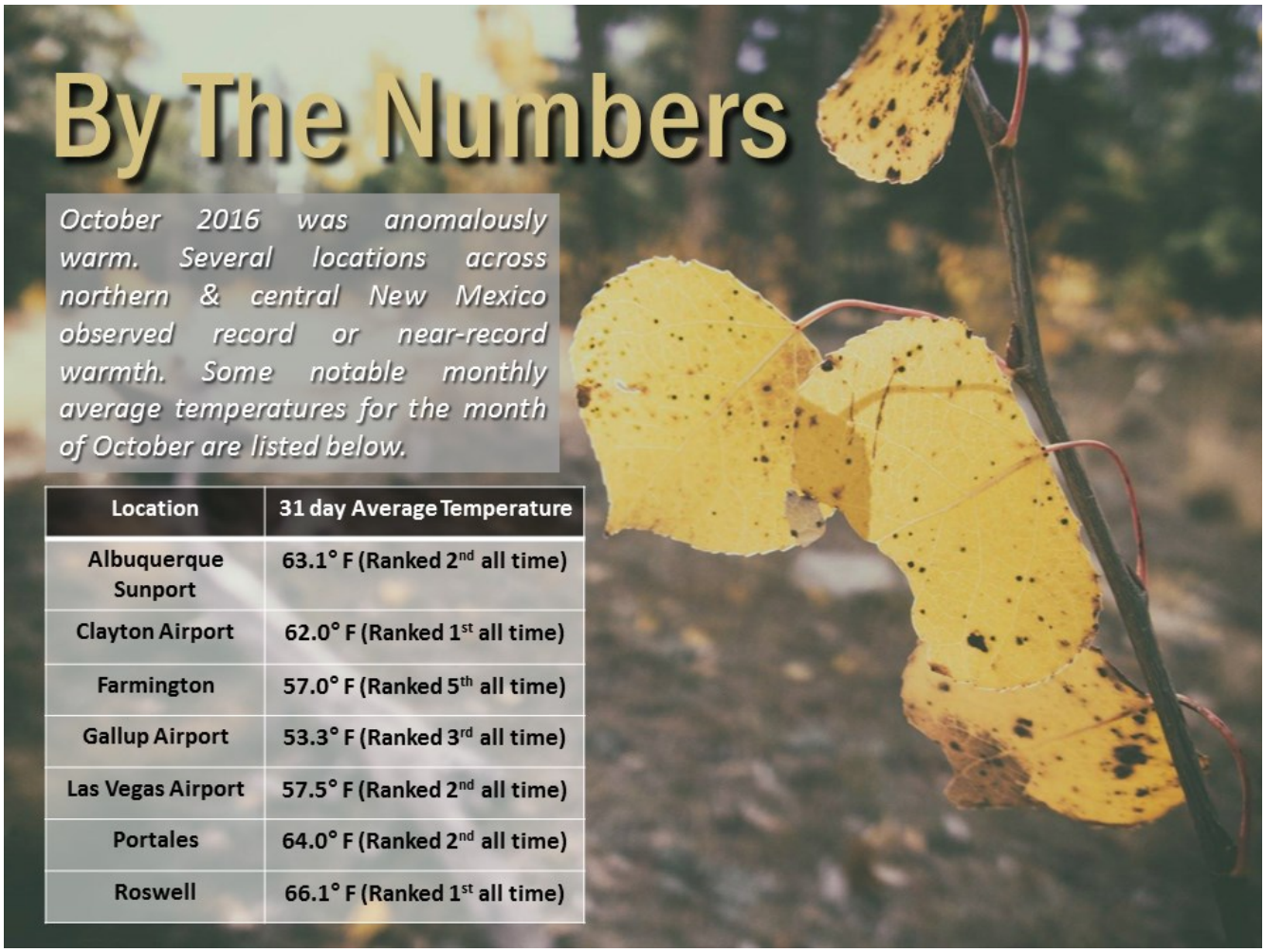
Royce Fontenot, Service Hydrologist—Most recently in the Anchorage, Alaska Weather Forecast Office, Royce has now joined our team in Albuquerque, bringing several skillsets rooted in hydrology, meteorology, climatology, and other geosciences. A native of Louisiana, Royce received undergraduate and graduate degrees from Louisiana State University. Royce joined our team in June, and as the office hydrologist he has already dove into the New Mexico flavor of hydrology, performing damage assessments of flooding over areas impacted by wildfires. In addition to assessing river and streamflow data, as well as maintaining databases of New Mexico's river gage networks, he is actively involved in our local drought monitor meetings. Royce has already been dubbed "The Waterboy" of New Mexico! Welcome, Royce!

Royce Fontenot
Service Hydrologist

New Voice for NOAA Weather Radio

By Todd Shoemake

If you are a NOAA Weather Radio listener, you may have noticed a new voice filling the airways over the past few months. Late this past Spring, a substantial overhaul was performed to the hardware and software infrastructure that drives the NOAA Weather Radio broadcasts across northern and central New Mexico. Much of the existing hardware and software that was in use in National Weather Service offices was in dire need of upgrades, and these new enhancements have brought a welcome advancement and enrichment to both the management and delivery of NOAA Weather Radio broadcast messages. In addition to enhancing and streamlining our broadcast workflow, the new software came with an upgrade for the listeners via a new voice. Meet Paul: the new synthesized voice of NOAA Weather Radio. Paul takes text from National Weather Service observations, forecasts, watches, and warnings and synthesizes the text into an audible speech format. The new synthesized voice is more configurable with improved sound quality, giving a clearer broadcast to our listeners. You can find more information on NOAA Weather Radio programming for northern and central New Mexico at http://www.weather.gov/abq/wxradio



By The Numbers

October 2016 was anomalously warm. Several locations across northern & central New Mexico observed record or near-record warmth. Some notable monthly average temperatures for the month of October are listed below.

Location	31 day Average Temperature
Albuquerque Sunport	63.1° F (Ranked 2nd all time)
Clayton Airport	62.0° F (Ranked 1st all time)
Farmington	57.0° F (Ranked 5th all time)
Gallup Airport	53.3° F (Ranked 3rd all time)
Las Vegas Airport	57.5° F (Ranked 2nd all time)
Portales	64.0° F (Ranked 2nd all time)
Roswell	66.1° F (Ranked 1st all time)

NEW MEXICO SKYWATCHER

Would you like to be notified when future editions of the New Mexico Skywatcher are issued? Simply send an email to sr-abq.webmaster@noaa.gov and request to be added to our SKYWATCHER mailing list.