NOAA's National Weather Service

The National Cooperative Observer

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Winter 2019-20

Inside

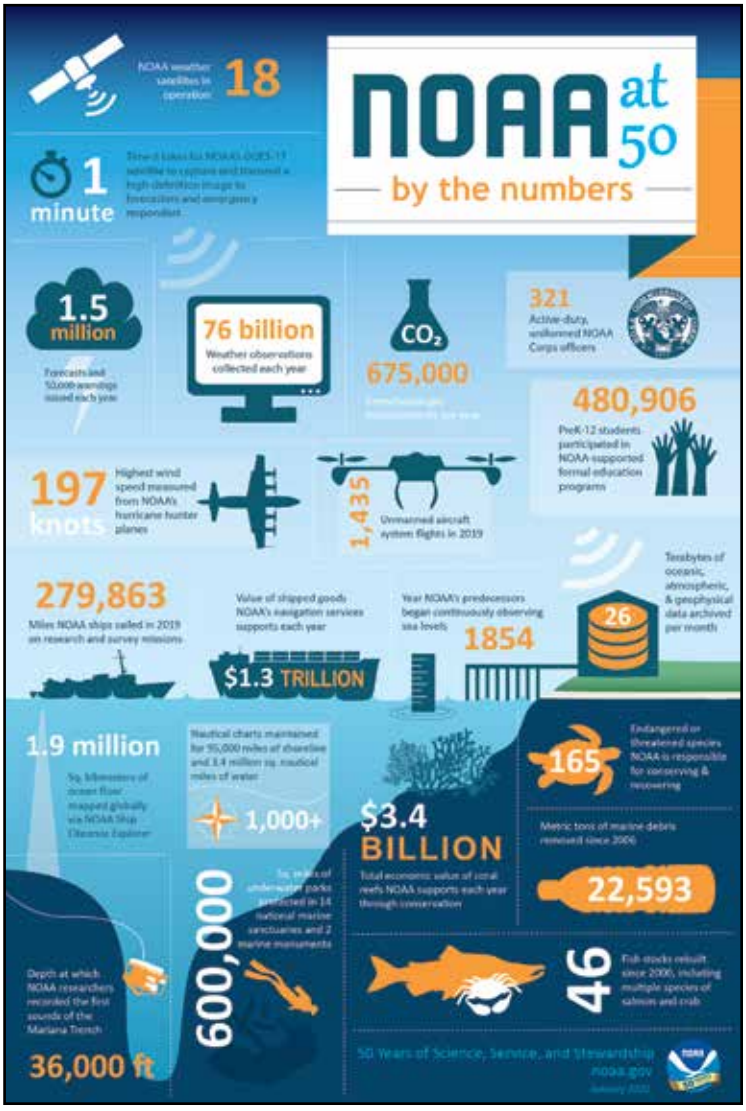
NOAA Celebrates 50 Years of Science and Service

By Neil A. Jacobs, Ph.D., Assistant Secretary of Commerce for Environmental Observation and Prediction

As we usher in this new decade, we have much to look forward to as an agency and much to celebrate as NOAA marks 50 years of science, service and stewardship.

On October 3, 1970, NOAA was formed as a new agency, born out of an idea that the ocean and atmosphere are inextricably linked and that we depend upon it — not only for the quality of our lives, but for life itself.

Over the past 50 years, NOAA has grown to become a world-class agency whose reach extends from the surface of the sun to the depths of the ocean floor. We are a global leader in environmental science and technology. We are building a Weather-Ready Nation that will save lives and property. We are leading stewards of a cleaner, healthier more sustainable ocean. We are powering the blue economy and overseeing one of the largest streams of Earth observation data in the world.



All of these achievements are possible because of volunteers like you! Each of you plays an integral role in helping NOAA meet its mission to serve the nation and the global community. Your dedication and passion is one of NOAA's greatest assets and will undoubtedly propel us through the next 50 years of innovation and discovery. NOAA's Golden Anniversary will be a year-long celebration—culminating on Oct.3, 2020. Throughout the year, please visit www.noaa.gov/50-years for features, events, and more including this new video on NOAA's legacy and how we are writing our future together.

Out of Thin Air: The History and Evolution of Upper-Air Observations

By Emily Senesac, NWS Chief of Staff Office

In France, the 1780s brought about the invention of the hot air balloon, a development that was quickly adapted for meteorological use.

Modern weather forecasting relies on a wide variety of observations, including those gathered from recent advancements like radar and satellites. Nevertheless, an essential element of contemporary meteorology has its roots in the distant past.

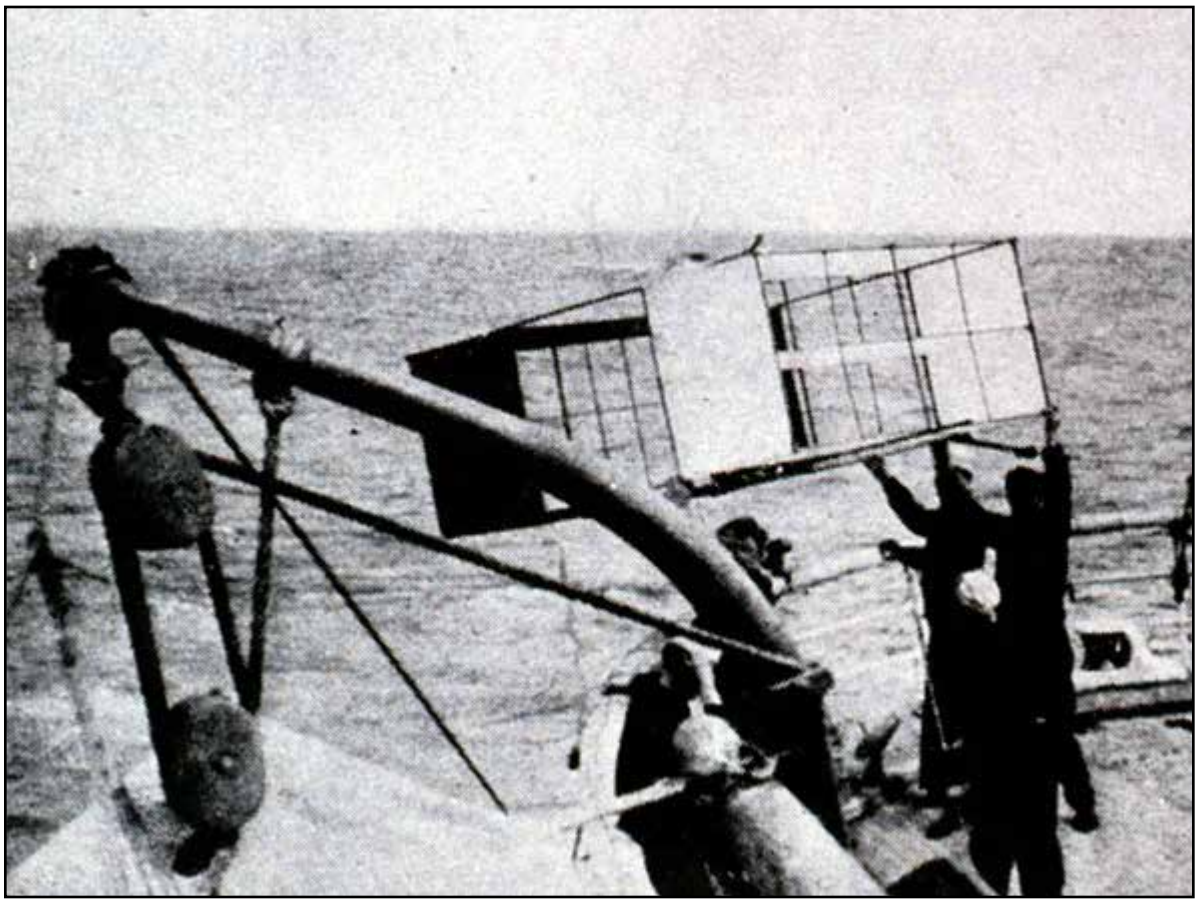
With origins that can be traced back to 18th century Europe, the practice of gathering upper air observations began when scientists attached thermometers to kites, flying them through the sky to get an accurate atmospheric reading.

Around the same time, a similar practice was occurring in the American colonies, but with a unique twist: Benjamin Franklin flew a kite during a thunderstorm to demonstrate the electrical nature of lightning.

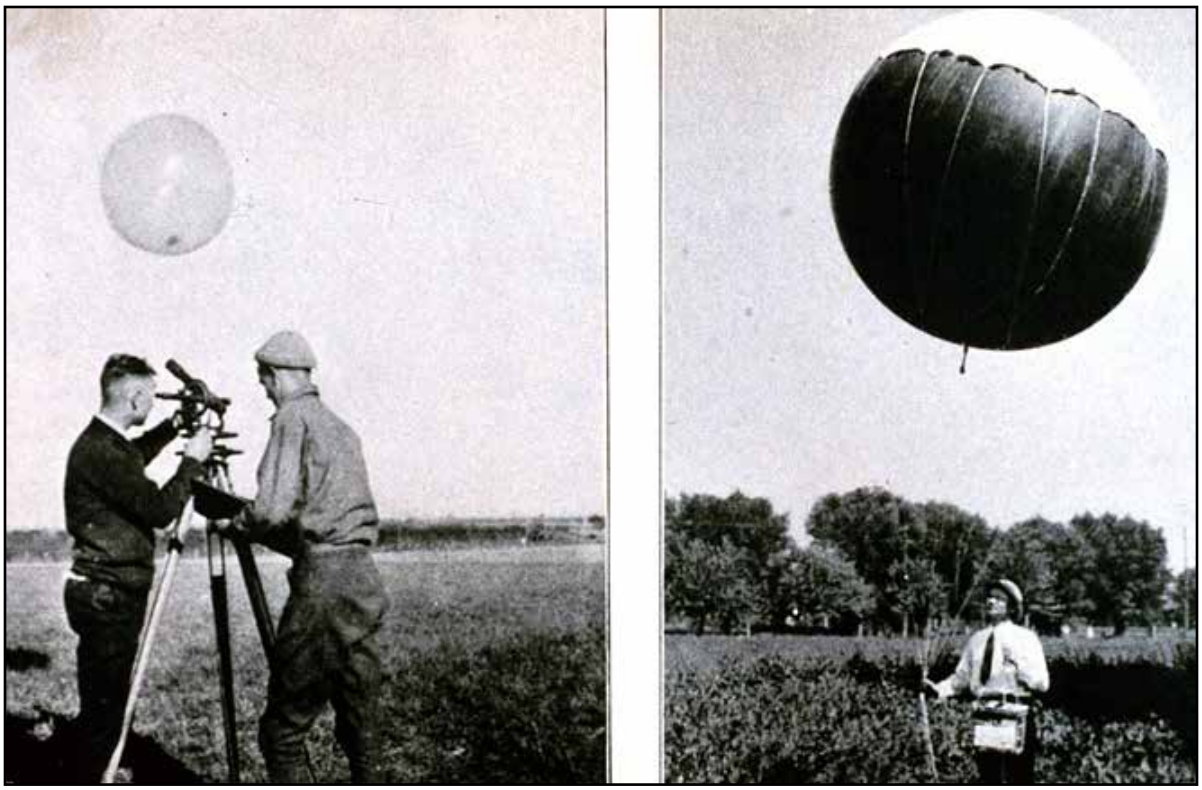
In France, the 1780s brought about the invention of the hot air balloon, a development that was quickly adapted for meteorological use. Equipped with barometers, thermometers and other instrumentation, scientists piled into balloon baskets to investigate the structure and chemistry of the upper atmosphere.

These manned ascents continued through the end of the century and even occurred with less frequency until the mid-1900s; however, these early flights were incredibly dangerous. Extreme cold, lack of oxygen and inadequate breathing equipment resulted in serious injury and, in some cases, death.

Meanwhile, the use of kites to record



Launching a weather bureau kite at sea during the International Ice Patrol to explore the air over the ocean.



Exploring the upper air: Beginning of a pilot-balloon flight

Sending up a sounding balloon: The parachute wafts the basket of instruments gently to the ground after the balloon bursts.

upper air conditions continued. By 1900, the Weather Bureau had established several kite observation stations across the country. A bit more advanced than the earlier models, these kites carried instrumentation, or meteorographs, that could record pressure, temperature and humidity.

Although kites were far safer than hot air balloons, there were many disadvantages to their widespread use. In addition to requiring almost perfect conditions to have a successful flight, the kites could only reach an average altitude of 3 kilometers (9,800 feet). More important, the data a kite collected couldn't be accessed until the kite was reeled in, and it was possible that the kite could break loose and get damaged.

By 1900, meteorographs had been developed that could be carried aloft by free, unmanned balloons. With this advancement, it was possible to reach the stratosphere, a height that was previously unattainable with kites or manned balloons.

The balloon carrying the meteograph would eventually burst upon reaching a certain altitude, and the meteorograph would return gently to earth, preserving the data until it was recovered; however, in addition to not being readily available for forecasting, the data could be lost forever if the meteorograph wasn't found.

Starting in 1925, meteorologists began using newly developed aircraft to carry meteorographs, spelling the end for kite observations. From 1925 until 1943, the Weather Bureau and Army Air Corps operated a network of 30 aircraft stations nationwide to collect upper air observations. While the new technology was certainly exciting, it too had its shortcomings: the aircraft couldn't be flown in poor weather and the data couldn't be analyzed until the plane landed.

Despite Weather Bureau efforts to supplement the aircraft data collected with small pilot balloons, there was still no fail-safe method for observing and assessing the upper atmosphere. Not yet, anyway.

Luckily, they didn't have to wait long: the invention of the radio led to the development of radio transmitters for upper-air data. By the

By 1900, meteorographs had been developed that could be carried aloft by free, unmanned balloons. With this advancement, it was possible to reach the stratosphere, a height that was previously unattainable with kites or manned balloons.

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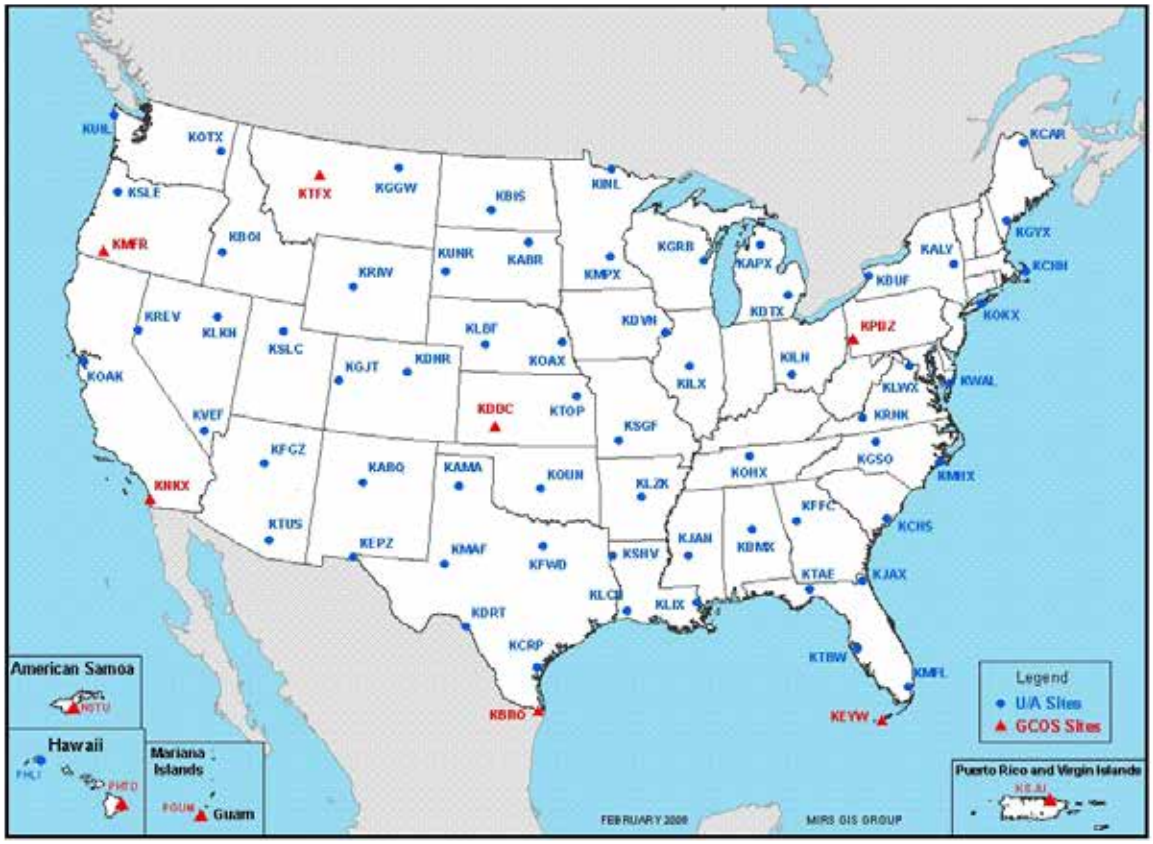

NWS Upper Air Sites

early 1930s, the first radio-meteorographs or "radiosondes" were being flown into the stratosphere.

Small, expendable instrument packages suspended beneath large balloons, the radiosonde could record pressure, temperature, humidity and GPS data as well as wind speed and direction information. In 1937, the Weather Bureau established a nationwide radiosonde network that is still operational today.

As World War II proved the necessity of upper-air data and accelerated radiosonde development, the radiosonde continued to undergo improvements.

One of the most significant advances to radiosonde technology allowed it to be tracked in flight and obtain specific wind data; these observations became known as rawinsondes.

While this information was crucial to forecasting, the early rawinsonde stations lacked computer processing systems that could analyze the data. As a result, significant manual labor and time was required to process and disseminate the gathered data. In other words, this was not an efficient process.

As the years went by, newly-developed computing technology began to infiltrate every field and industry. By 1980, technological advancements in telemetry and computers made rawinsonde observations almost entirely automated. Thanks to computers, upper-air observations could finally be performed with minimal human involvement.

Today, the NWS Upper-Air Observations Program oversees the operation of 92 radiosonde stations across North America and the Pacific Islands. After centuries of evolution and development, modern radiosondes provide upper air data that are essential for weather forecasts and research.

Additional Reading:

- Upper Air Observations Program
- A Brief History of Upper-air Observations
- Upper Air Factsheet

John Campanius Holm Awards

Creative and dedicated, **David Green** added some whimsy by using software to edit himself into a cotton shelter.

NWS Detroit, MI, had the honor of presenting **David Green** of Morenci, MI, with the prestigious John Campanius Holm award.

David has dedicated over 30 years to the Cooperative Weather Observer Program. He has not only gone above and beyond with his weather observations, but also dedicated his time to writing about various weather events for the *State Line Observer,* at which he is the editor.

The staff at the NWS Detroit/ Pontiac would like to extend a very special thank you to David for all of his efforts and humor over the years and look forward to many more. David, who also goes by "George Isobar," wrote about receiving the award in the local newspaper.

From left, **Rex, Kierra, Lory, Rodney Sr., Rodney III, Rodney Jr. and Kelly Olsen**. Photo by NWS OPL **Lisa Verzella**.

Rodney Olsen, of Neola, UT, proudly displays his 2019 Holm Award and stylish embroidered jacket. Rod, his wife, Lory, and their sons have provided timely, accurate and dependable weather observations for the past 33 years. The Olsen team has an excellent relationship with the agricultural and ranching community in this rural northeast Utah town. The award was presented by NWS Salt Lake City Meteorologist in Charge (MIC) **Rusty Billingsley** and Observing Program Leader (OPL) **Lisa Verzella**.

The Neola Cooperative Service Station began in 1956 at the Olsen Ranch, just down the road, Rodney's father, Richard, was at the helm and Rodney served as backup observer. The station primarily remained in the Olsen family, with a few years of support by neighbors

In 1989, Rodney reclaimed the station at his home, where he and Lory have been taking uninterrupted daily temperature and precipitation observations ever since. They also trained their sons Rex and Rodney Jr. to take measurements, allowing for uninterrupted observations for over three decades.

Rod's enthusiasm for taking weather observations hasn't diminished a bit over the years. Utah Senator Ronald Winterton notes, "Rodney is compassionate, always willing to be a lending hand, organized and diligent. He takes pride and value in executing his performance and giving positive results."

John Campanius Holm Award

Observer, Coal Creek Canyon, CO, **Dr. Richard Alan Keen** (center) along with his dog, **Loki,** is presented the prestigious the Holm Award. Photo was taken by Richard's son Daniel. NWS Boulder Warning Coordination Meteorologist **Paul Schlatter** (left) and OPL **Jim Kalina** made the presentation.

Dr. **Richard Alan Keen**, observer at Coal Creek Canyon, CO, was presented the Holm Award for 35 years of outstanding service. Richard has never missed an observation. Despite 3 years undergoing cancer/chemo/radiation/immunotherapy, and, perhaps worse, dealing with neuropathy and cold sensitivity.

Also, very sadly, he lost his dear wife, best friend and backup observer at the end of 2018, also to cancer. Keeping up with daily observations provides him with a continuity life that really helps him through tough times.

Richard has recorded and sent observations during hazardous and extreme weather conditions. Coal Creek Canyon is one of the snowiest sites across the Front Range Foothills of Colorado and numerous times Richard has reported during major snowstorms. One such instance was the April 17-19, 2009, when Coal Creek Canyon received 54 inches of snow and lost power for 3 days. No matter what the weather, Richard has provided a timely and accurate observation.

During times of equipment failure, such as when the MMTS was knocked out by lightning, he backs up his data from his Cotton Region Shelter. One time, he soddered the Standard 8 Inch Rain Gauge when he noticed it had a small leak. In addition, he has gone out of his way to drive to our office to swap out damaged equipment with new equipment during NWS travel restrictions. Richard is an expert on weather equipment and has written a book that included a chapter on building a weather station. He has also trained observers on how to take weather observations while in the Army and in remote areas such as Alaska. During times of extreme weather, such as very heavy snow, severe weather or flooding, he calls our office with reports. These reports greatly help our office during warning operations.

Richard has prepared presentations, papers, and theses using critical analyses of climatological data, including some using his own records at Coal Creek, such as: Thirty Years in the Bull's-Eye. He also has an ongoing project to observe volcanic aerosols using lunar eclipse observations, for which he presents annual updates at the GMAC in Boulder. He was just recently invited to provide a summary for the Annual State of the Climate Report in the Bulletin of the American Meteorological Society (AMS)!

Richard has written seven books about weather that included "how-to" chapters on building a weather station and encouraging readers to look into becoming CoCoRaHS or COOP observers. In addition, he has given numerous talks for schools and outdoor groups on outdoor lightning safety and winter weather. He is well known in Coal Creek as a "weather and autonomy guy" and frequently gives talks on weather, storms, winter weather, lightning safety, and eclipses. In the 1980s and '90s he was president of the Denver-Boulder AMS chapter.

John Campanius Holm Award

Bryan Murdoch of Alpine, UT, was presented the John Companius Holm Award for his outstanding observations and dedication to the COOP weather program. Bryan has been logging hourly temperature and daily rain and snow observations for the past 26 years.

The Alpine Cooperative Service Station officially began in 1894, just 4 years after the founding of the U.S. Bureau of Weather Cooperative Observer Program.

The station was managed by several observers until its closure in 1990. In 1993, Bryan contacted the Salt Lake City office to request a weather station at his home, where he's been taking uninterrupted daily observations ever since.

Pictured from left are wife **Debbie and Observer Bryan Murdoch** and MIC **Rusty Billingsley**; photo by OPL **Lisa Verzella**.

NWS Detroit, MI, presented **Joe Mausolf** of Filion, MI, with the prestigious John Campanius Holm award. Joe has dedicated 22 years to the Cooperative Weather Observer Program.

Joe has not only gone above and beyond with his weather observations, but has also dedicated his time to helping resolve issues that had arose with the equipment. The staff at the NWS Detroit/Pontiac would like to extend a very special thank you to Joe and his wife, **June**, for all of their hospitality over the years and look forward to many more. Photo by NWS Detroit OPL **Sara Pampreen**.

100 Year Honored Institution Award

National Weather Service presents 100 Year Honored Institution Award to **Dean Carman**, the primary COOP observer at the Champlain Canal in Whitehall, NY. From left are **Francis Putorti**, former Mayor, Whitehall, NY; **Phil Smith**, Mayor, Whitehall, NY; **Brian Stratton**, Director, New York State Canal Corporation; **Dean Carman**, Observer: **Raymond O'Keefe**, MIC, NWS Albany; and **Britt Westergard**, Senior Service Hydrologist.

NWS Albany, NY, recognized the **C-12 Lockmasters** of the **New York State Canal Corporation** in Whitehall, NY, for achieving a major milestone: 100 years of weather observations as a Cooperative Weather Station. These observations, which began on July 1, 1919, help craft forecasts for mariners on the canal, Lake Champlain and residents in the Capital Region and North Country. They also help improve NWS forecast and warning operations, assist scientists in understanding climate, and provide a history of weather extremes used for disaster declaration funding and disaster mitigation. Over the site's 100 year history, the following are some weather extremes the observers have documented:

- Highest Single Day Rainfall: 4.60 inches on August 29, 2011
- Highest Single Day Snowfall: 24.0 inches February 26, 1996
- Highest Single Day Temperature: 104°F on July 18, 1953
- Coldest Single Day Temperature: -38°F on February 18, 1979

Weather observations at the Whitehall lock include rain, snow and temperature readings. The readings were praised by NWS Albany for being both on time and accurate.

"We are proud to play a role in weather forecasts that are so crucial, not just to the operation of canals, but for the entire region," said Brian U. Stratton, New York State Corporation director. "The importance of this data can't be overstated. We look forward to continuing our partnership with the National Weather Service."

100 Year Honored Institution Award

From left, NWS Medford, OR, Meteorologists **Misty Firmin** and **Tom Wright**, WCM **Ryan Sandler**, Western Region Deputy Director **Jeff Zimmerman**, **Crater Lake National Park Superintendent Craig Ackerman,** SOO/Acting MIC **Mike Stavish**, Service Hydrologist **Spencer Higginson**, and Meteorologist **Brian Nieuwenhuis.**

WFO Medford, OR, recognized **Crater Lake National Park (NP)** for 100 years of weather observing as a Cooperative Observer Program weather station. Situated between 6,000 and 8,000 feet above sea level in the Cascade Range of southern Oregon, the National Park provides extremely valuable, high quality, high elevation weather observations dating back to October 6, 1919. The official observing site has been relocated three times over the last century, but there is a nearly continuous set of observations from the current location at park headquarters opened in 1949.

The site collects hourly precipitation and manual observations taken daily by park personnel, including high and low temperatures, snowfall, snow depth, and invaluable plain language remarks describing the state of the atmosphere. As one of the highest and most reliable snowfall observations in southern Oregon, Crater Lake's observations are particularly important during severe winter storms. Crater Lake averages over 500 inches (~42 feet) of snow annually and has recorded a whopping total of 46,006 inches (~3,834 feet) of snow during its 100-year period of record. Other statistics from Crater Lake include:

- Most snow in one year: 832 inches/69.3 feet (1932-33)
- Most snow in one day: 37 inches (occurred 3 times)
- Deepest snow: 252 inches/21 feet (April 3, 1983)
- Record High Temperature: 90°F
- Record Low Temperature: -21°F

In addition to their impressive record of observation, Crater Lake NP is a Weather Ready Nation Ambassador. NWS Medford is proud of its partnership with Crater Lake NP and looks forward to another hundred years of cooperation.

100 Year Honored Institution Award

NWS Binghamton, NY, joined with the New York State Canal Corporation to commemorate a centennial of weather observations at two Erie Canal locks. For over 100 years, dedicated lock tenders at **Lock E-22** in New London and **Lock E-24** in **Baldwinsville** have taken rain and snow measurements as part of the NWS Cooperative Observer Program.

In addition to helping improve NWS forecasts and warnings, these long-standing observations inform mariners traveling on the canal, assist scientists in understanding climate, and provide a history of regional weather extremes.

Over the site's 100-year history, several weather extremes have been documented at the sites. For example, at Lock E-22 in New London, NY:

- Highest single-day rainfall: 4.48 inches on August 23, 2010
- Highest single-day snowfall: 24.0 inches on January 31, 1966

From left, **Brad Beers**, **Lock E-24** Electrical Supervisor; **Steve Thorp**, **New York State Canal Corporation** Section Superintendent; **Joanne LaBounty**, NWS Binghamton Acting OPL; **Doug Butts**, NWS Binghamton MIC; and **Ambrose Barbuto**, New York Canal Corporation Division Engineer.

At Lock E-24 in Baldwinsville, NY:

- Highest single-day rainfall: 4.79 inches on June 15, 2002
- Highest single-day snowfall: 17.0 inches on March 5, 1971

"We are proud to play a role in weather forecasts that are so crucial, not just to the operation of canals, but for the entire region," said Brian U. Stratton, New York State Corporation Director. *"The importance of this data can't be overstated. We look forward to continuing our partnership with the National Weather Service."*

"*We're grateful that the Canal Corporation has partnered with our team to maintain these long-standing weather stations,*" stated NWS Binghamton, NY, MIC **Doug Butts**. "We *look forward to continuing that partnership for many years to come.*"

75 Year Honored Institution Awards

Grand Lake St. Marys State Park in St. Marys, OH, was honored recently for 75 years of weather observations. Thank you for your dedication and service!

From left are NWS Wilmington, OH, Meteorologist **Ashley Novak**, Observer **David Faler**, and OPL **James Gibson**. Photo by Service Hydrologist **Julie Dian-Reed**.

The **Miami Conservancy District (MCD) Germantown Dam** site in Germantown, OH, was honored recently for 75 years of weather observations. Thank you for your dedication and service!

From left are Observer **Michael Wogoman**, **Mike Ekberg** of MCD, and NWS Wilmington, OH, Meteorologist **Ashley Novak**. Photo by Service Hydrologist **Julie Dian-Reed**. Also present were OPL **James Gibson** and **Brenda Gibson** of MCD.

Ruby Stufft 70 Year Service Award

From left are NWS Dodge City, KS, WCM **Jeff Hutton**, Meteorologists **Wesley Hovorka** and **Adam Springer**, Observer **Joy Cudney**, Congressional Staffers **James Lane** and **Tyler York**, OPL **Jesse Lee** and MIC **Larry Ruthi**.

Joy Cudney, a Cooperative Weather Observer near Trousdale, KS, was the 9th person in NWS history to be presented with the Ruby Stufft Award for 70 years of service in the NWS COOP program. The award was presented at Joy's home by MIC **Larry Ruthi**, NWS Dodge City, KS. The first observer to reach this incredible milestone was **Ruby Stufft,** of Elsmere, NE. Ruby reached 70 years of cooperative service in 1991.

Joy's husband, Ray, had been the primary observer since 1949 before his passing in 1995. Joy was his backup observer before taking over the primary duties. Ray Cudney's father, **H.L. Cudney**, started the station and it has been in the family since 1916.

Joy amazingly is the second longest serving cooperative weather observer in southwest Kansas, behind **Ella May Julian**, who celebrated 70 years last fall. Joy received letters of congratulations from Senators Pat Roberts and Jerry Moran, Congressman Roger Marshall and NWS Director **Louis Uccellini**. Presenting the letter from Senator Roberts was James Lane. Tyler York presented the letter from Jerry Moran.

In 2003, Joy was honored with the NWS Thomas Jefferson Award, the most prestigious award that a cooperative weather observer can receive. Only 5 observers across the country receive this award

50 Year Honored Institution Awards

From left, previous Observer **Nancy Deyrup**; Executive Director **Dr. Hilary Swain**, MIC **Brian LaMarre**, Land Manager/Observer **Kevin Main**, and Meteorologist/Acting OPL **Dustin Norman**.

NWS Tampa Bay Area/Ruskin, FL, recognized the **Archbold Biological Station** with a 50 Year Honored Institution Award. Archbold Bio Station has been recording daily weather observations since 1932 but became the official COOP observer in 1969. MIC **Brian LaMarre** along with Meteorologist/Acting OPL **Dustin Norman** presented the Honored Institution Award. The station is an incredibly deserving institution staffed with brilliant scientists who regularly demonstrate their dedication to high quality scientific research data collection.

Rathbun Lake in Rathbun, IA, received a 50 Year Honored Institution Award. NWS Des Moines, IA, OPL **Brad Fillbach** (2nd from left), presented the award to the Corp. of Engineers staff members at Rathbun Lake.

50 Year Honored Institution Award

On behalf of the city of Bolivar, MO, **Matthew Morris** (left) Waste Water Treatment Plant Operator, was presented the 50 Year Honored Institution Award by OPL **Thomas Olsen**, NWS Springfield, MO. In addition to this award, **Steve Myrick** (not pictured) received a 15 Year Length of Service Award. On January 10, 1969, the Bolivar Water Treatment Plant began recording temperatures by using the max/min thermometers. Currently, the site is using the Max/Min Temperature System. For precipitation readings, staff use the Standard 8 inch Rain Gauge and the Fischer Porter Rain Gauge to get 15 min precipitation readings.

45 Year Dick Hagemeyer Service Award

Meteorologist **Chris Birchfield**, NWS Brownsville, TX, honored a dedicated Cooperative Weather Observer family for reaching 45 years of service. **Wilda Faye Cradit** and her husband began taking daily weather observations in 1974 at their home in Harlingen, TX. When her husband passed away in 1997, Wilda Faye continued the legacy of recording daily weather observations.

These daily observations are incredibly important to maintaining a long and accurate climatological record. Wilda Faye's observations aided in the assessment of a Presidential Disaster Declaration from resulting from significant flooding events that had occurred in the Rio Grande Valley.

In addition, this consistent record contributed to the validity of record heat this past August as well as a near-record summer. Having dependable volunteers to take accurate daily observations essential to the NWS mission.

45 Year Dick Hagemeyer Service Award

Robert "Nick" Heavrin, right, was presented the 45 Year Dick Hagemeyer Service Award from NWS Springfield, MO, OPL **Thomas Olsen**. Nick started volunteering to take daily precipitation readings in August 1974.

Nick remains active in his community and works as the Emergency Management Director for the city of Mountain View, MO. Over the past 45 years, Nick has taken over 16,000 daily observations.

40 Year Length of Service Award

NWS Phoenix AZ, presented **Koert Bodderij** from Tacna, AZ, with his 40 Year Length of Service Award. Koert has been providing timely and reliable daily observations to NWS Phoenix through this entire period. Pictured from left, are OPL **Marvin Percha J**r., Observer **Koert Bodderij**, and WCM **Ken Waters**.

35, 25 Year Length of Service Awards

A 35 Year Length of Service Award was presented to **Cynthia Leonard**, observer at Karval, CO, 75 miles east of Colorado Springs, CO. **James Kalina**, OPL, Boulder, CO, presented the award.

Dr. **Richard A. Keen** (middle) of Coal Creek Canyon, CO, received his 35 Year Length of Service Award from NWS Boulder WCM **Paul Schlatter** (right) and OPL **Jim Kalina**. In 1969, Richard was drafted into the army, and assigned as a field meteorologist. He did just about everything meteorological, from hourly MetObs at an air field, Radiosonde and Rocketsonde launches, artillery support, micrometeorology, and daily climate records.

When Richard moved to Coal Creek Canyon in 1984, the first thing he did, even before putting a bed in the house, was to set up a NOAA specs climate station. Ten years later, he was designated a COOP observer. As a kid, Richard always wanted to live at a weather station in a place that has plenty of exciting weather. He got his wish. In those 35 plus years of weather records, there's not a single missing day. Photo by son, **Daniel Keen**. Also pictured is **Loki**, Richard's dog,

Randolph, UT, observer **Jane Digerness** was presented a 25 Year Length of Service Award by Salt Lake City, UT, OPL **Lisa Verzella** for her consistent reporting from this rural town in northern Utah. Jane retired from her Coop duties but passed the reigns to neighbor **Jim Gregory**. The Randolph Coop site itself was established in 1982. Photo by Hydrometeorological Technician (HMT) **Patricia Tamrakar**.

Robert Guy shows his 25 Year Length of Service Award for Eastonville, CO. The award was given by NWS Pueblo, CO, OPL **Michael Nosko**. Robert took over the role from his father **Carl**. All together the Guy family has been serving its local community in Eastonville since 1956, a period of 63+ years!

25, 20 Year Length of Service Awards

Raymond Holden, of Summersville, MO, was presented the 25 Year Length of Service Award by NWS Springfield, MO, OPL **Thomas Olsen**. Raymond began taking daily temperature and precipitation readings on April 20, 1994. As you can see, Raymond's cows are curious on why their owner is getting his picture taken.

A 25 Year Length of Service Award was presented to **Marian F. Schneider**, observer at Inter-Canyon, CO. The award was presented by NWS Boulder, CO, OPL **James Kalina**.

John Peeler at Mocksville, NC, was presented a 25 Year Length of Service Award for his generous service by OPL **Chris Horn**e, NWS Greenville-Spartanburg, SC.

From left, NWS Dodge City OPL **Jesse Lee** helps Observer **Patsy Austin** of Bucklin, KS, show her 20 Year Length of Service Award with MIC **Larry Ruthi**, right. Patsy's husband, **Keith,** had been the primary observer before he passed away in 2009. The Bucklin station was started in 1888 by **Charles S. Culver** and lasted until 1894. The station was reopened in 1920 by **Francis Gresham**. **Keith** took over the observing duties from **Tom Luft** in 1999. Photo by WCM **Jeff Hutton**.

20 Year Length of Service Awards

Buddy Hanna at Shelby, NC, was presented a 20 Year Length of Service Award by OPL **Chris Horne,** NWS Greenville-Spartanburg, SC. Buddy's ties to the Shelby weather station extend all the way back to 1967 when his father, **Boyce Hanna**, was the Shelby weather observer at radio station WADA.

Janet McGaughey, observer for La Junta, CO, displays her 20 Year Length of Service Award presented by OPL **Michael Nosko**, Pueblo, CO. Janet is the daughter of the late **Layton Munson**, a longtime observer from Sedgwick, CO, who was a rare recipient of the 60 Year Helmut E. Landsberg Award before retiring in September of 2007. Janet continues the tradition of excellent weather observations instilled in her by her father.

Paul and Barbara Heersink serve as the observers for Monte Vista, CO, area. They were presented with a 20 Year Length of Service Award by OPL **Michael Nosko**, Pueblo, CO. Paul and Barbara began taking daily weather observations back in October of 1999 and work together to record temperatures, rainfall and snowfall data. They also routinely report tabulated data from their Fischer Porter rain gauge.

15, 10 Year Length of Service Awards

Mark Ackerman, right, of Appleton City, MO, was presented the 15 Year Length of Service Award by OPL **Thomas Olsen** of NWS Springfield, MO. Appleton City is a Historical Climate Network Site. Mark took over observing duties for **Paul Eye** who had been a COOP Observer for more than 57 years. The Appleton City site was established on June 1, 1889!

Dee Younger serves as the observer for Greenland, CO. Here she shows her 15 year Length of Service Award presented by OPL **Michael Nosko**, NWS Pueblo, CO. Dee continues a tradition begun by late her husband **Norman** in March of 1966. She has faithfully recorded and submitted the data provided by her Fischer Porter rain gauge since this time.

Nick Sienknecht of Clutier, IA, left, recently received his 10 Year Length of Service Award. OPL **Brad Fillbach**, NWS Des Moines, IA, presented Nick with his award.

Randy Evans, center, observer in rural eastern Finney County, was presented with a 10 Year Award by NWS Dodge City, KS, MIC **Larry Ruthi**, left, and OPL **Jesse Lee**. Photo by WCM **Jeff Hutton**. Randy took over the observations from **Matt Doll**. The station was started in 1959 by **Edwin Boots**. There was a brief break in 1962 when a tornado destroyed Edwin's residence.

10 Year Length of Service Awards

Tom Greenough was presented his 10 Year Length of Service Award by OPL **Bonnie Bartling**, NWS Oxnard/Los Angeles, CA. Tom is the winemaker at Saucelito Canyon Vineyard outside of Arroyo Grande in San Luis Obispo County. Like NWS, weather is a big part of the wine business.

Ken "Bud" Greiner of Traer, IA, recently received his 10 Year Length of Service award. OPL **Brad Fillbach**, NWS Des Moines, IA, presented Bud with his award.

Sharon Huizenga shows her 10 Year Length of Service Award at her Platte, SD, station. Daily reports of precipitation, snowfall, and snow depth from Platte date to January 1, 1934. Sharon has been the observer since October 15, 2009, when she took over from her father.

The award was presented by HMT **Tim Masters**, NWS Sioux Falls, SD. Sharon was delighted to receive the award, and wanted to include a few photos in the local newspaper. She is the editor of the *Platte Enterprise*, and was working on a story about how wet this year has been. She was also curious about precipitation amounts from other NWS COOP weather stations around the area and how far back some of the weather records go. Photo By Sharon's husband, **Norm Huizenga**.

The National Cooperative Observer

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Winter 2019-20

National Weather Service
Silver Spring, MD

February, March, April Temperature and Precipitation Outlooks From the Climate Prediction Center