Modernization of the NWS Rain Gauge began in May 2009 in no better place than our nation’s wettest state, Hawaii.

Hawaii is home to the largest concentration of Fischer-Porter recording rain gauges. There are about 67 rain gauges sited across six of these beautiful tropical islands. The many gauges are needed to precisely record precipitation in an area where it rains often and sometimes with great intensity.

For example, the average rainfall on Hilo varies from 130 inches near the shore to as much as 200 inches on the upslope border of the city!

If you hear the climatologists cite a rainfall record of so many inches per hour, the measurement was likely made by a Fischer-Porter rain gauge and reported in a monthly publication, *Hourly Precipitation Data*. The publication reports the date and hour of the greatest rainfall for each of the Fischer-Porter rain gauges.

This summer several Weather Service employees will install the electronic sensors and data loggers on the islands of Kauai, Maui and Lanai. One of the wettest locations in the state is a site called Pa’akea on the island of Maui. The technicians who install the equipment are working to ensure the precipitation records are accurate, reliable and available for climatologists for years to come.

As of August 1, 16 NWS forecast offices across the country have begun installing the Fischer-Porter Rebuild kits. Currently, the Cooperative Observer Program is scheduling deliveries of the kits to offices in New England and the Midwest for this autumn so Observers can become acquainted with the new units before winter arrives.
El Niño and La Niña? What Does it Mean?

What Is El Niño?
The term El Niño refers to the large-scale ocean-atmosphere climate phenomenon linked to a periodic warming in sea-surface temperatures across the central and east-central equatorial Pacific. The change occurs between approximately the date line and 120°W. El Niño represents the warm phase of the El Niño/Southern Oscillation (ENSO) cycle, sometimes referred to as a Pacific warm episode. El Niño originally referred to an annual warming of sea-surface temperatures along the west coast of tropical South America.

The NWS Climate Prediction Center declares the onset of an El Niño episode when the 3-month average sea-surface temperature departure exceeds 0.5°C in the east-central equatorial Pacific, between 5°N-5°S and 170°W-120°W.

What Is La Niña?
La Niña refers to the periodic cooling of ocean surface temperatures in the central and east-central equatorial Pacific that occurs about every 3 to 5 years. La Niña represents the cool phase of the ENSO cycle, and is sometimes referred to as a Pacific cold episode. La Niña originally referred to an annual cooling of ocean waters off the west coast of Peru and Ecuador.

What Happens During El Niño or La Niña?
During an El Niño or La Niña, the changes in Pacific Ocean temperatures affect the patterns of tropical rainfall from Indonesia to the west coast of South America, a distance covering approximately half way around the world. These changes in tropical rainfall affect weather patterns worldwide.

Why Do El Niño and La Niña Occur?
El Niño and La Niña are naturally occurring phenomena that result from interactions between the ocean surface and the atmosphere over the tropical Pacific. Changes in the ocean surface temperatures affect tropical rainfall patterns and atmospheric winds over the Pacific Ocean, which in turn impact the ocean temperatures and currents. The El Niño and

El Niño episodes (left hand column) reflect periods of exceptionally warm sea surface temperatures across the eastern tropical Pacific. La Niña episodes (right hand column) represent periods of below-average sea-surface temperatures across the eastern tropical Pacific. These episodes typically last approximately 9-12 months. Sea-surface temperature (top) and departure (bottom) maps for January-March during strong El Niño and La Niña episodes are shown above.

La Niña related patterns of tropical rainfall cause changes in the weather patterns around the globe.
What is El Niño/Southern Oscillation (ENSO)?

The ENSO cycle refers to the coherent and sometimes very strong year-to-year variations in sea-surface temperatures, convective rainfall, surface air pressure, and atmospheric circulation that occur across the equatorial Pacific Ocean. El Niño and La Niña represent opposite extremes in the ENSO cycle.

Any Truth to All Those Weather Lore Sayings?

The following is taken from Wapedia. It is not official NWS material.

Lion and Lamb: March Weather

An English proverb describes typical March weather: March comes in like a lion and goes out like a lamb. In the 19th century, this homily was used as a prediction contingent on a year’s early March weather. If March comes in like a lion, it will go out like a lamb, but it was recognized to not work well.

Early Morning Rain: Rain Before Seven, Clear by Eleven

Late-night rains and early morning rains may simply be the last precipitation of a passing weather front; however, since fronts pass at night as often as they do in the day, morning rain is no predictor of a dry afternoon. This lore can describe non-frontal weather. Given sufficient surface heating, a late-day rainstorm may continue to develop into the night, produce early precipitation, then dissipate by late morning. This, though, is the exception rather than the rule. Only 40 percent of rain is produced by convective events—60 percent is the result of a frontal passage.

March Thunderstorms: When March Blows Its Horn, Your Barn Will Be Filled With Hay And Corn

"Blows its horn" refers to booming of thunder. While March thunderstorms indicate that the weather is unusually warm for that time of year (thunderstorms can occur only with a sufficiently large temperature difference between ground and sky and sufficient amounts of moisture to produce charge differential within a cloud), it is no indicator of the long-term weather trend. It is still unwise to plant your annuals before the end of May weekend in some parts of the country.

Pets Eating Grass: Cats and Dogs Eat Grass Before a Rainstorm

While it is true that cats and dogs eat grass, it has nothing to do with the weather and is because cats and dogs are not exclusively carnivorous. Some researchers believe that dogs eat grass as an emetic when feeling ill.

Onion Skins

Onion skins very thin
Mild winter coming in;
Onion skins thick and tough
Coming winter cold and rough

This verse, and so many others like it, attempts to predict long-range conditions. These predictions have stood the test of time only because they rely on selective memory: people remember when they have predicted correctly and forget when predictions don't hold.

One possible factor which could provide these predictions with a thin edge of credibility is that there is some degree of consistency in weather from year to year. Drought cycles or El Niño winters, are a perfect example of such circumstances. A pattern of cool summers and warm winters, for instance, can produce patterns in other natural events sensitive enough to be affected by changes in temperature or precipitation.
Brother Anselm Allen has been a NWS Cooperative Observer since 1965 at the Subiaco Abbey in Logan County, AR. Br. Anselm has the longest tenure as an Observer at the Abbey since Benedictine Monks began taking weather observations at the Abbey more than 110 years ago on October 1, 1897. During the past 42 years, NWS Little Rock, AR, has come to rely heavily on his detailed weather observations, which are characterized by their accuracy and timeliness.

Br. Anselm’s weather reporting is exceptional. He rarely misses an observation. On the rare occasions he is unable to take observations, he always ensures someone else records and reports them. In addition to his outstanding support to NWS, he is active in the HAM radio net. HAM radio operators provide a valuable service to NWS by reporting severe weather. Br. Anselm was the recipient of the John Campanius Holm Award in November 2003. The award presentation received widespread local and international news coverage. His story was reported in France and Germany via the Associated Press.

Br. Anselm is also Chief of the Abbey’s Volunteer Fire Department. The fire department not only supports Subiaco Abbey, but they also assist the local community of Subiaco’s Fire.
A 70 Year Family Heritage Award was presented to the Rufener family in Grizzly, OR. Pictured from left are Mike Vescio, MIC, NWS Pendleton, OR; and Wyatt, Sam and Samara Rufener.

Ella Mae Julian of rural Big Bow in eastern Stanton County, KS, received the Albert J. Myer Award for 65 years of service as an NWS Cooperative Observer. Ella Mae's husband, Ted, took over the Big Bow Cooperative Station in 1944 from the previous Observer, Caspar Barlup. Ella Mae was the backup Observer for Ted until his death in 1999. She has been the primary Observer since then. Ella Mae records precipitation and snowfall data and sends the information to NWS Dodge City, KS. MIC Larry Ruthi presented the award to Ella Mae.
The **Mountain Research Station** at Waynesville, NC, was recognized for 100 years of service as a Coop Station. The award was presented during its “Hay Field Day Program.”

Discussions with the Mountain Research Station staff, the Haywood County Coop Extension Agents and farmers at the event ranged from global warming and climate change to a hail storm that occurred the previous day, and a new federal program dealing with livestock deaths caused by natural disasters, such as lightning and flooding.

Pictured from left are Bill Teague, Superintendent; Terry Benthall, Data Acquisition Program Manager (DAPM), NWS Greenville/Spartanburg, SC; Larry Gabric, MIC; Chris Leek, Observer; and Karon Mathew, National Climatic Data Center, Asheville, NC.

The weather station at **Neosho, MO**, is one of the oldest in Missouri, dating back to 1878, 12 years before the Weather Bureau was first authorized by Congress. Staff of the U.S. Fisheries agency became the official Observer on October 1, 1909. The equipment has been located in roughly the same area the entire time, making the data particularly valuable. Over that time, the staff of the Fish Hatchery has taken about 36,500 observations.

Because of the long history of this station, it was selected for the U.S. Historical Climatology Network (HCN). HCN stations are a subset of the Cooperative Observer Network. The approximately 1,200 HCN stations were selected according to factors such as record longevity, percentage of missing values, spatial coverage and number of station moves or other station changes that may affect data homogeneity.

U.S. Fisheries Neosho staff: From back left are Jeff Messens and Roderick May. In front are Jamie Pacheco, Heather Williams, David Hendrix and Melissa Cheung.
100 Year Honored Institution Award

From left are Dan Keirns, Observing Program Leader (OPL), NWS Portland, OR; Eric Jespersen, Portland General Electric Maintenance Supervisor; and Bill Schneider, Science and Operations Officer (SOO). Bill accepted the award on behalf of all the Control Operators at the West Side Hydro Project.

60 Year Helmut E. Landsburg Award

Ray Burkholder of Pandora, OH, received the Helmut E. Landsberg Award in recognition of his 60 years of service as a Coop Observer. Lynn Maximuk, Regional Director of the NWS Central Region, presented the award at a family gathering in Pandora.

Ray also received the John Campanius Holm Award in 1976, the Thomas Jefferson Award in 1984, the Stoll Award in 1999, the Environmental Hero Award in 2002, and the Benjamin Franklin Award in 2004.

Ray served on the area school board and was president of both the Pandora Medical Center and the Mennonite Disaster Relief Service of Western Ohio. He has supplied many area newspapers with weather data.

Ray Burkholder, seated, received his 60 Year Helmut E. Landsburg Award with family and friends looking on.
Donna Strum and Darwin Frye from the Arlington Agriculture Research Center, accept the Honored Institution Award for 50 years of continuous service as part of the Coop program. The Research Center is part of the University of Wisconsin’s School of Agriculture and Life Sciences.

Ray Sommers, the Associate Director of the Animal Research Center of the University of Wisconsin’s School of Veterinarian Medicine, Charnamy Farm, accepts the Honored Institution Award for 50 years of continuous service as a Cooperative Weather Station.

From left, Keith Foote and Paul Pann of the Coldwater, MI, Wastewater Treatment Plant, accept a 50 Year Honored Institution Award. The award was presented by Brentley Lothamer, OPL, NWS Northern Indiana.
Donner Memorial State Park received its 50 Year Honored Institution Award. Pictured from left are Jane Hollingsworth, MIC, NWS Reno, NV; California State Park Rangers Donald K. Schmidt and Susan C. Grave; and Rudy Cruz, OPL. Also present were Diana Simpson, Administrative Support Assistant (ASA), and Jessica Kielhorn, Hydrometeorological Technician (HMT).

A 50 Year Honored Institution Award was presented to the staff of Kailua, HI, Fire Station. Coop Observer Captain Ogata accepted the award.

From left are Senior Service Hydrologist (SSH) Kevin Kodama, OPL Mark Farnsworth, Captain. H. Ogata, and NWS Honolulu Director of Operations Richard Knabb. Photo courtesy of Kailua Fire Fighters.

From left, Crystal Chapman, Dean Chapman, Jimmy Chapman, Bob Brelsford, and Dave McGraw of the Portland, IN, Sewage Plant, accept a 50 Year Honored Institution Award. The award was presented by Brentley Lothamer, OPL, NWS Northern Indiana.
The maintenance crew at the Sonora Junction, CA, CalTrans Station received its 50 Year Honored Institution Award. The award was presented by Rudy Cruz, OPL, NWS Reno, NV.

From left, Dan Risner and Ken Murphy of the Warsaw, IN, Wastewater Treatment Plant, accept a 50 Year Honored Institution Award on behalf of the plant. Award presented by Brentley Lothamer, OPL, NWS Northern Indiana.

A 50 Year Honored Institution Award was presented to the Madras, OR, Department of Public Works. Accepting the award was Greg Whittenburg, right. The award was presented by NWS Pendleton MIC Mike Vescio.
45 Year Dick Hagemeyer Awards

Frederick Clair, center, accepts a 45 Year Dick Hagemeyer Award from, Brentley Lothamer, OPL, NWS Northern Indiana, left, and Michael Sabones, MIC, right. Frederick takes river readings in addition to precipitation. He commented that he has only twice seen the river go over the local road in his 45 years of weather observing. The second time was this year, 2009. Photo by Hydrologist Michael Rehbein.

NWS Goodland, KS, had the privilege of presenting a 40 Year Length of Service Award to Marvin Orth. The award was presented prior to lunch with Marvin and his wife, Veda, at the Park Hill Restaurant in St. Francis. Marvin recalled during the lunch the years of drought, plentiful rains, hail storms and blizzards to the National Weather Service employees. The award was presented by Scott Mentzer, MIC, of the National Weather Service in Goodland, Kansas. Also in attendance were Joy Hayden, ASA, Albert Pietrycha, SOO, Mike Lammers, OPL, Christina Henderson, HMT, and Brad Mickelson, MIT. Photo by SOO Albert Pietrycha, NWS Goodland, KS.

A 45 Year Dick Hagemeyer Award was presented to Roberta Keegan of Ashwood, OR. Presenting the award was Mike Vescio, MIC, NWS Pendleton, OR.
NWS Goodland, KS, had the privilege of presenting a 40 Year Length of Service Award to Marvin Orth, right. The award was presented prior to lunch with Marvin and his wife, Veda, at the Park Hill Restaurant in St. Francis. Marvin observes precipitation at his farm northwest of St. Francis. Over lunch, he kept Joy Hayden, ASA; Albert Pietrycha, SOO; Mike Lammers, OPL; Christina Henderson, HMT; and Brad Mickelson, MIT; enthralled with stories about drought, plentiful rains, hail storms and blizzards. The award was presented by Scott Mentzer, MIC, NWS Goodland, KS.

For over 40 years, Steve Reckers has gone into his backyard at 10:30 p.m. to record weather data for New Hope, MN, a Minneapolis suburb. He has recorded over 14,780 daily observations. Steve got his first thermometer from his grandmother when he was in grade school. His father gave him his first rain gauge. Steve’s most memorable weather events include the Halloween Blizzard of 1991 where he recorded 22.9 inches of snow over a 4-day period. He also recalled a deluge of 7.43 inches on July 23-24, 1987; the rain led to the worst flooding in recent memory. He has recorded temperatures as cold as -33°F and as warm as 105°F. He recorded temperatures below zero on 4 consecutive days in March 1969. A below zero reading has never been recorded in Minneapolis/St. Paul in April, dating back to pioneer records from 1819 at Fort Snelling, so his readings were just one day away from redefining April’s climate.
35 Year Length of Service Awards

Robert N. Heavrin, the Cooperative Observer at White Church, MO, shows his 35 Year Length of Service Award presented by Springfield, MO, OPL Larry Dooley.

A 35 Year Length of Service Award was presented to Doug Daniels, right, in Glenwood, WA, by Mike Vescio, MIC at NWS Pendleton, OR.

Don Smith, left, was presented with a 40 Year Length of Service award by NWS Glasgow, MT. The award was presented by OPL Matt Moorman and CPM Brian Burleson. Don takes and records daily precipitation, snowfall and snow depth readings along with maximum and minimum temperature readings at his station located near Wibaux, MT.
30 Year Length of Service Awards

Alan “Gabby” Galbraith, right, of Sac City, IA, received his 30 Year Length of Service Award from Brad Fillbach, HMT, Des Moines, IA. After 30 years as a Cooperative Observer, Brad regretfully has decided it's time to retire. Photo by Alan Galbraith, NWS Des Moines.

Observer Beverly Ditty and her canine assistant were presented a 30 Year Length of Service Award for the Virgil, KS, area. Presenting the award was Leon Wasinger, CPM, NWS Wichita, KS.

Observer Clifford Jordan, right, was presented a 30 Year Length of Service Award for the Great Bend, KS, area by Joe Rosner, DAPM, NWS Wichita, KS.
25 Year Length of Service Awards

Patricia A. Goble, Coop Observer in Cantwell, AK, receives her 25 Year Award from Michael Kutz, Alaska Region Coop Program Specialist. Patricia has taken observations at Gulkana, Summit and Nome, AK, as well as Fargo, ND, and Sioux Falls, SD, before beginning at Cantwell. The Cantwell area, east-northeast of Mount McKinley, North America’s tallest mountain, and on the road access for Denali National Park, is at the lower end of Windy Pass, a main aviation route for moose, caribou and bear hunters, fishermen and tourists exploring the vast Alaskan interior.

Stephen Hatfield, right, of Parkdale, OR, shows his 25 Year Length of Service Award. Presenting the award is Dan Keirns, OPL, Portland, OR.

Clint Hershey shows his 25 Year Length of Service Award. The award was presented by Rudy Cruz, OPL, NWS Reno, NV.

John Marty, of Kendallville, IN, accepts a 25 Year Length of Service Award. Photo taken and award presented by Brentley Lothamer, OPL, NWS Northern Indiana.
Beth Johnson of Hattiesburg, MS, was presented a 25 Year Length of Service Award from Alan E. Gerard, MIC, NWS Jackson, MS. Beth has been measuring temperatures and rainfall at the Emergency Management Agency for Forrest County since 1984.

Bill McLemore of Chase, LA was presented a 25 Year Award. Bill has been measuring temperatures and rainfall at the Louisiana State University Sweet Potato Research Station since 1984. The award was presented by Mark R. Wilson, Interim OPL, NWS Jackson, MS.

Pam Solano of Hastings, FL, accepts her 25 Year Length of Service Award from OPL Mike McAllister of NWS Jacksonville, FL. Photo by Bill d’Angelo, University of Florida, IFAS Analytical Services Lab Manager.

Allen Schmidt shows his 25 Year Award for New England, ND. Allen is an exemplary example of dedication and pride. When Allen started taking observations, he had a shelter with thermometers that had to be read, logged and reset each morning. Allen now has a remote system so he can log the information in the comfort of his home. Still, the rain, snow and snow depth information he provides can be a “pain in the neck.” This past winter Allen went out a lot. It was one of the coldest and wettest in recent memory in his town.
Edward Starling of The Rock, GA, received his 25 Year Award from Frank Taylor, NWS Peachtree City, GA. Edward told the story of how his town, The Rock, got its name. Back in the 1800s mail carriers would drop off and pick up mail at a location with a large rock. The rock had a hole in it so that the mail could be delivered and shipped. In addition to receiving his 25 Year Award, Edward is celebrating 50 years of marriage this week and his wife just received her 40 Service Award from the U.S. Postal Service. Photo by Jessica Fieux, Meteorologist.

Ottis Stephens of Louisville, GA, holds up his 25 Year Length of Service Award. The award was presented in a ceremony at radio station WPCH, where he takes observations. Photo by Frank Taylor, OPL, NWS Peachtree City.

Todd Taylor, of the Laporte, IN, Waterworks, accepts a 25 Year Length of Service Award. The award was presented by Brentley Lothamer, OPL, NWS Northern Indiana. Todd and others have been observing at this site since 1970.

From left, Bradley Zellers and Ron Thomas, accept 25 Year Length of Service Awards for the Winamac Wastewater Treatment Plant in Winamac, IN. The award was presented and photo taken by Brentley Lothamer, OPL, NWS Northern Indiana. The Winamac Wastewater Treatment Plant and others have been observing at Winamac, IN, since 1906.
The **Bedford Indiana Waste Water Treatment Plant** was presented with a 25 Year Honored Institution Award. The crew reports 24 hour precipitation values as they keep a close eye on the East Fork White River. Al Shipe, Service Hydrologist, and Ed Terrell, OPL, NWS Indianapolis, IN, presented the award. Pictured are **Jed Moore, Steve Ford, Greg Mitchell, Jeff Kendall** and **Al Shipe**. Crew member **Tim Branaman** is not pictured.

The **Carson City, NV Fire Station #3** Crew receives their 25 Year Length of Service Award. The award was presented by WFO Reno, NV, OPL Rudy Cruz.

David Herr from the **Department of Reclamation at Heart Butte Dam, ND**, accepted the Dam’s 25 Year Honored Institution Award for the staff.

Moanalua, HI, Coop Observer **Lance Fujimoto**, center, accepts a 25 Year Award from the NWS Honolulu Director of Operations, Richard Knabb, left, and SSH Kevin Kodama, right. **Kaimana Ventures** maintains the 130 year old Monkey Pod tree within the privately owned public park at Moanalua. The tree is registered with the city and county as an “exceptional tree” and is leased by the Hitachi Corporation of Japan as its company symbol. Photo by OPL Mark Farnsworth.

Mike Hillery of Van Wert, OH, accepts a 25 Year Honored Institution Award for the **Van Wert Water Treatment Plant**. The award was presented and photo taken by Brentley Lothamer, OPL, NWS Northern Indiana.
Eugene McAlexander, right, of Beaconsfield, IA, received his 20 Year Length of Service Award from Brad Fillbach, HMT, NWS Des Moines, IA.

A 20 Year Length of Service Award was present to Rollie and Ward Deering, primary and secondary observers at Yuma, CO. Also pictured is their canine helper, Lacey. The award was presented by Carl Burroughs, HMT, Boulder, CO.

From left, Frank Taylor, NWS Peachtree City, recently presented a 20 Year Length of Service Award to Ferrell (not pictured) and Steve Morton of Dublin, GA.

Tom Miller, right, shows his 20 Year Length of Service Award for service at Towner, ND. Tom continues a 33 year tradition of service by his family.

Leonard Steward, of Garrett, IN, accepts a 20 Year Length of Service Award. The award was presented by Brentley Lothamer, OPL, NWS Northern Indiana.
15 Year Length of Service Awards

**Ralph Gast**, right, of Steamboat Rock, IA, shows his 15 Year Length of Service Award. Presenting Ralph with his award is Jeff Zogg, SSH, NWS Des Moines, IA.

**Tim Dorgan**, Winchester ID, received his 15 Year Length of Service Award. The Award was presented by Stan Krenz, OPL, NWS Missoula MT.

**Dwayne Beaver**, the Cooperative Weather Observer at Carthage, MO, holds a 15 Year Length of Service Award presented by Service Hydrologist Megan Terry and OPL Larry Dooley.

**Donald Johnson** the Coop Observer at Spring City, MO, receives a 15 Year Length of Service Award from Service Hydrologist Megan Terry. Photo by OPL Larry Dooley.

**Raymond “Sonny” Holden**, the Cooperative Observer at Summersville, MO, shows his 15 Year Length of Service Award presented by Springfield, MO, OPL Larry Dooley.

**Mark Hoover** of Eldora, IA, received his 15 Year Length of Service Award from Brad Fillbach, HMT, Des Moines, IA.
Clarence Lutter, of Laotto, IN, accepts a 15 Year Length of Service Award from Brentley Lothamer, OPL, NWS Northern Indiana.

Louise Slack-Hendrix, right, the Coop Observer at Washburn, MO, receives a 15 Year Length of Service Award from Service Hydrologist Megan Terry. Photo by OPL Larry Dooley.

Ed Penland, left, of Chatsworth, GA, shows his 15 Year Award for service at the Chatsworth, GA, Water Plant. Ed is retiring. He and his wife are planning a 6-week vacation. Behind Ed is Eddie Tankersley, the new Observer, and coworker Tim Summey. In the far back are Ronnie Tinsley and Johnny Caldwell. The award was presented by Frank Taylor, OPL, Peachtree City, GA. Photo by Laura Griffith, Meteorologist.

James F. Wishborn received a 15 Year Length of Service Award for his dedicated service as an Observer at Fort Collins, CO. The award was presented by James Kalina, Intern, Boulder, CO.

Yale Yager, Observer at Clinton, IN, receives a 15 Year Service Award. Yale was interviewed by The Daily Clintonian newspaper about his Coop duties. NWS Indianapolis, IN, OPL Ed Terrell presented Yale’s award. Photograph by HMT Brad Herold.
From left, **Brother John Patrick Arnett** received his 10 Year Award from Len Peterson, OPL, Bismarck, ND. The award was presented in Richardton, ND.

**Tom and Jennifer Fatzinger**, Coop Observers at Bloomfield, MT, received a 10 Year Length of Service Award. The Fatzingers took over a site established in 1968. The award was presented by OPL Matt Moorman, NWS Glasgow, MT.

**Gary and Evelyn Aumiller**, of Lenora, KS, accept a 10 Year Length of Service Award from Katie Burtis, Meteorologist, NWS Goodland, KS. Photo by ASA Joy Hayden.

**Mark Hoffman** of Flasher, ND, shows his 10 Year Length of Service Award. The award was presented by CPM Sandra Wiche, NWS Bismarck, ND.

**Frank Taylor**, OPL, left, NWS Peachtree City, GA, presents a 10 Year Length of Service Award to **Jack and Martha Beach** of Winterville, GA. The ceremony was held at Jack and Martha’s business, INCO, Inc., in Crawford, GA. Photo by Kevin Simmons, NWS Peachtree City.

Observer **Jerrold Houlden**, left, was presented a 10 Year Length of Service Award for the Corbin, KS, area. Presenting the award was Leon Wasinger, CPM, NWS Wichita, KS. Jerrold also provides river readings for the Corbin area.
10 Year Length of Service Awards

**Candy Pellman** shows her 10 Year Length of Service Award presented by CPM Sandra Wiche, NWS Bismarck, ND. Candy, along with her husband, **Jim**, as backup Observer, take observations near McClusky, ND.

**Jim Richards**, Pierce, ID, received his 10 Year Length of Service Award. The award was presented by Stan Krenz, OPL, NWS Missoula MT.

**Stanley Markusen** from Karlsruhe, ND, received a 10 Year Service Award and lapel pin from by CPM Sandra Wiche, NWS Bismarck, ND.

**Leland Shaum**, of Goshen, IN, along with wife, **Sharon**, and son, **Thaddaeus**, accept a 10 Year Length of Service Award. The award was presented by Brentley Lothamer, OPL, NWS Northern Indiana.

**Greg Stone** of Francesville, IN, accepts a 10 Year Length of Service Award. The award was presented by Brentley Lothamer, OPL, NWS Northern Indiana.

**Aggie Wareham**, left, Observer at Gateway, CO, and back up Observer **Rowena McLaughlin**, right, were presented 10 Year Length of Service Awards by Megan Schwitzer, Intern, NWS Grand Junction, CO.
September, October, November
Temperature and Precipitation Outlooks
From the Climate Prediction Center

THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
1.5 MONTH LEAD
VALID SON 2009
MADE 16 JUL 2009

EC MEANS EQUAL
A MEANS ABOVE
B MEANS BELOW

THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
1.5 MONTH LEAD
VALID SON 2009
MADE 16 JUL 2009

EC MEANS EQUAL
A MEANS ABOVE
B MEANS BELOW