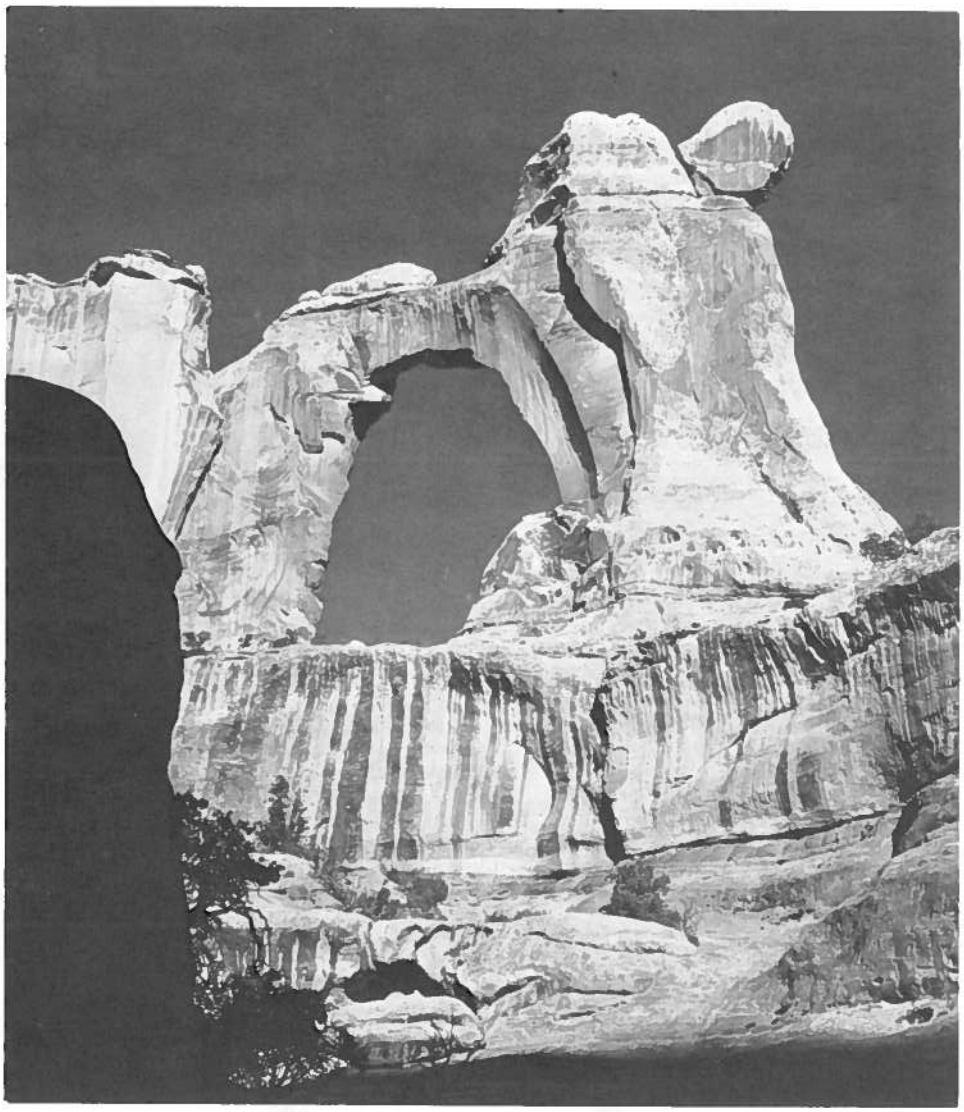
The National Cooperative Observer Newsletter

SUMMER 1988 VOLUME 5 NUMBER 4

EASTERN REGION SOUTHERN REGION CENTRAL REGION

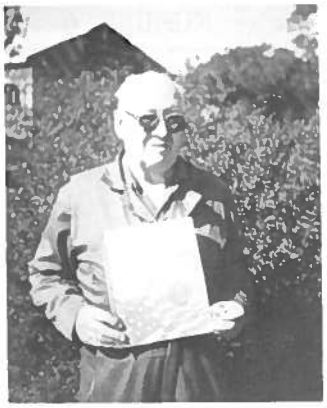


WESTERN REGION ALASKA REGION PACIFIC REGION

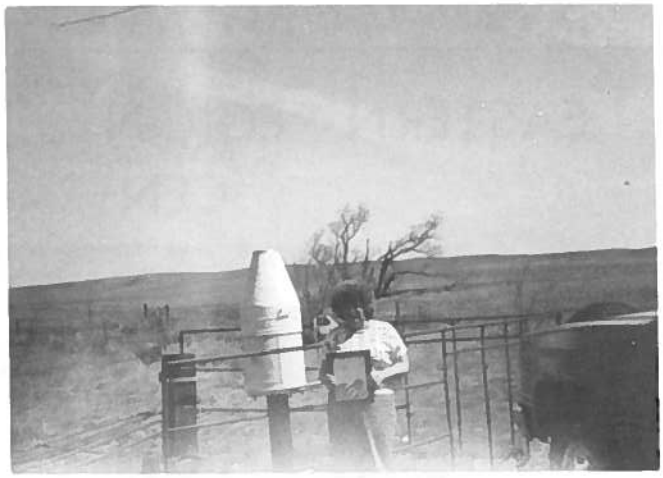
noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE

About the cover: A San Juan County Project--Utah. Angel Arch, one of the most beautiful arches in the Canyonlands National Park, rises 200 feet in a natural colorful sandstone structure. The arch is so named because the figure to the right of the arch has the appearance of a winged, robed angel. Located in a side canyon off Salt Creek Canyon, this arch stands about 175 feet high, the angel itself being about 200 feet tall. A very popular scenic tourist attraction, this arch at present may be reached only by four-wheel drive vehicle after a 13-mile drive along the bed of Salt Creek. U.S. Dept. of The Interior. (Bureau of Reclamation photo by Mel Davis.)

WESTERN REGION



George S. Hatch is shown with a 40-year length-of-service award which was presented by CPM Dean Hirschi. George has been a lifelong resident of Koosharem, UT. He is now retired and enjoys hunting, fishing, and gardening. He took over the weather station in 1948 in order to settle some local arguments about the temperature extremes at Koosharem. He was presented the Holm award in 1979.



Mr. and Mrs. Clarence Kuehn were presented a 20-year length-of-service award by Dave Taylor, CPM/MT. The Kuehns have provided the National Weather Service with weather data from their ranch north of Terry, MT, since 1966.

Wayne Bly accepted a 25-year Institutional length-of-service award on behalf of the City of St. John, WA. Wayne has been the observer for ten of those years. Earl Pickering, CPM/Washington, made the presentation.

Leah Rookstool was presented a 20-year length-of-service award. Leah is the observer at Kings River Valley, NV, located approximately 60 miles from Winnemucca. This valley is a prime alfalfa-growing area. Pictured are Ted Rookstool (left), Leah, and John Cannon, the OIC/WSO, Winnemucca.

Lee E. Weltner (right) was presented a 25-year award by Salem Weather Service Office Meteorologist in Charge Bill Isabell. Lee runs a service station and towing service in Tidewater, OR. His wife Helen (center) is a retired postmistress.

Earle Stewart, Laveen, AZ, was presented a 20-year length-of-service award by CPM Irv Haynes. Laveen is a rural suburb southwest of Phoenix, AZ. Besides his observing duties, Earle restores old aircraft.

WESTERN REGION

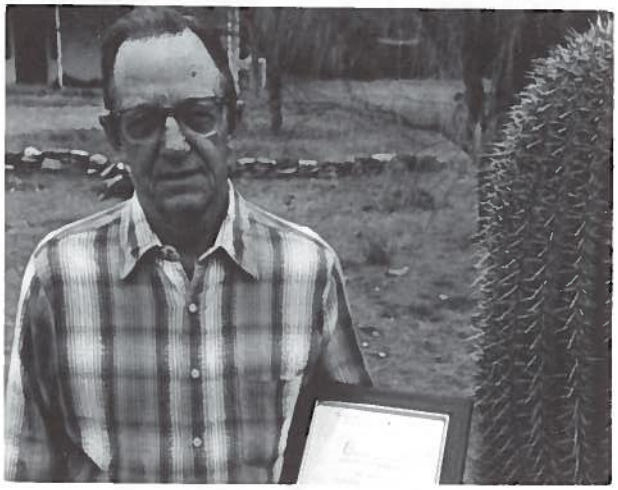
Marshall Colorow (left) and Pete McNac (right) are shown with their 20-year pin and certificate. Marshall started taking observations at Fort Duchesne, UT, in 1968. He now takes care of the Fischer & Porter rain gage near Neola, UT. Pete has taken all his observations at Fort Duchesne. Both are employed by the Forestry Department of the Uintah and Ouray Indian Reservation.

Cookie Overson (right), St. Johns, AZ, was presented a 10-year length-of-service award, as her husband Clay looks on. Clay's father took observations at St. Johns for 35 years before Cookie took over, so actually the station has been in the family for 45 years.

Wayne Tienhaara, observer, Dufur, OR, was recently presented a 20-year length-of-service award by CPM Clint Jenson. Wayne, a retired insurance broker who had his own business, now cultivates a beautiful Japanese-style garden with the help of his wife, Jean. Dufur is 13 miles south of The Dalles, OR.

Keith Rugg, Ismay, MT, was presented a 10-year length-of-service award by CPM Dave Taylor. The weather station at Ismay was established in 1939, and has been in the Rugg family since 1962.

Richard Rende was presented a 15-year award by Clint Jenson. Dick is the postmaster at Arlington, OR, which is on the Columbia River, 135 miles east of Portland.



Knox Talley was presented a 10-year length-of-service award by CPM Irv Haynes. Knox, retired from the U.S. Air Force, takes observations at Cascabel, northeast of Tucson, AZ. He cites as his most unusual weather observation the 6 inches of snow on the ground for Christmas 1987!

ALASKA REGION

Since the last issue of the newsletter three new cooperative stations were opened in July. One at St. Michaels, in Norton Sound and the second on Little Diomede Island in the Bering Straits. A third new station was just opened at Homer 9 East.

We have located prospective observers for new cooperative stations. The first east of Becharof Lake, approximately 80 miles southeast of King Salmon. Two other stations at White Mountain and Koyuk, east of Nome. Another at Buckland, southeast of Kotzebue. The only holdup to installing these stations are the rain gages which are on back order.

A few stations are sending in carbon copies of the Climate Form E-15, that are very hard to read and near impossible to make copies. Please change the carbon paper more often to insure more legible copies of the climate form.

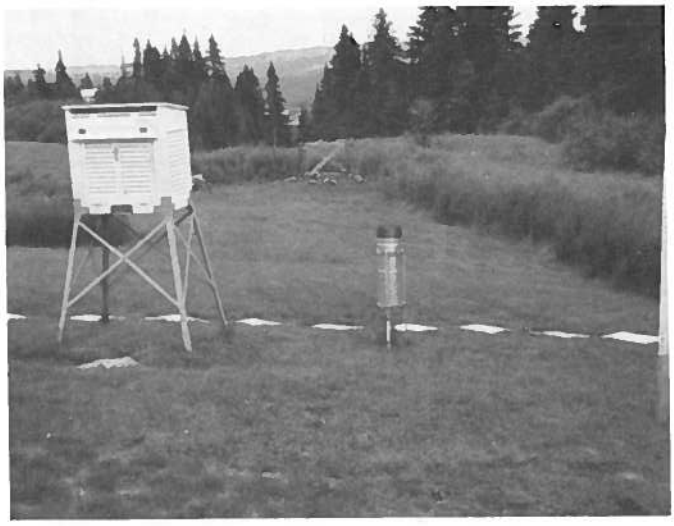
I have had a few complaints from the coop observers not receiving the Monthly CD's for Alaska. If you have not been receiving your copies, let me know so I can get in touch with NLSC to correct the matter.

I would again like to remind the coop observers to mail the climate forms in as soon as possible after the first of the month. We still have about 9 percent of the forms arriving too late to be published in the Monthly CD's. I would like to lower this percentage by half. At some stations because of remote locations we can do nothing about the mail situation. At sites with good mail service our percentage should be 100 percent.

We have included pictures from two of our cooperative stations. Homer 8 NW located in the rolling hills north of Homer and a new cooperative station just opened east of Homer overlooking Kachemak Bay.

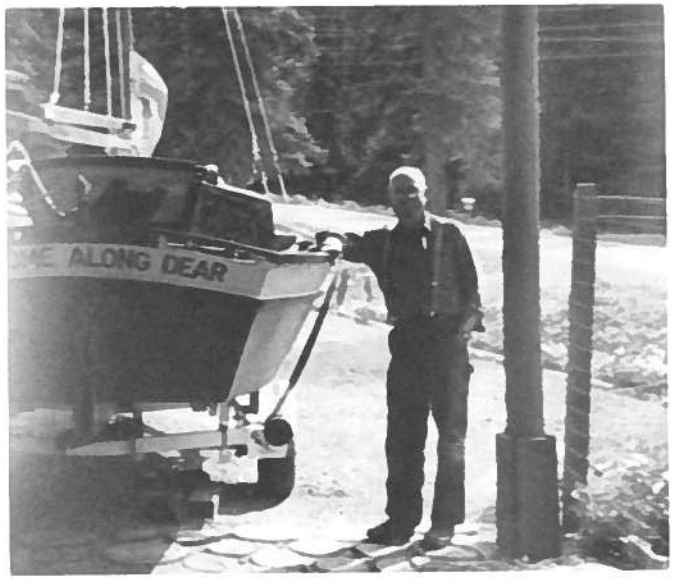
Homer 8 NW (Allan B. Crawford, observer)

Homer 9 E (900 feet)



Homer 8 NW (looking south)

Homer 8 NW (looking east, 1000 feet)



Homer 9 E observer
Harold Gnad and his boat "Come Along Dear".

PACIFIC REGION

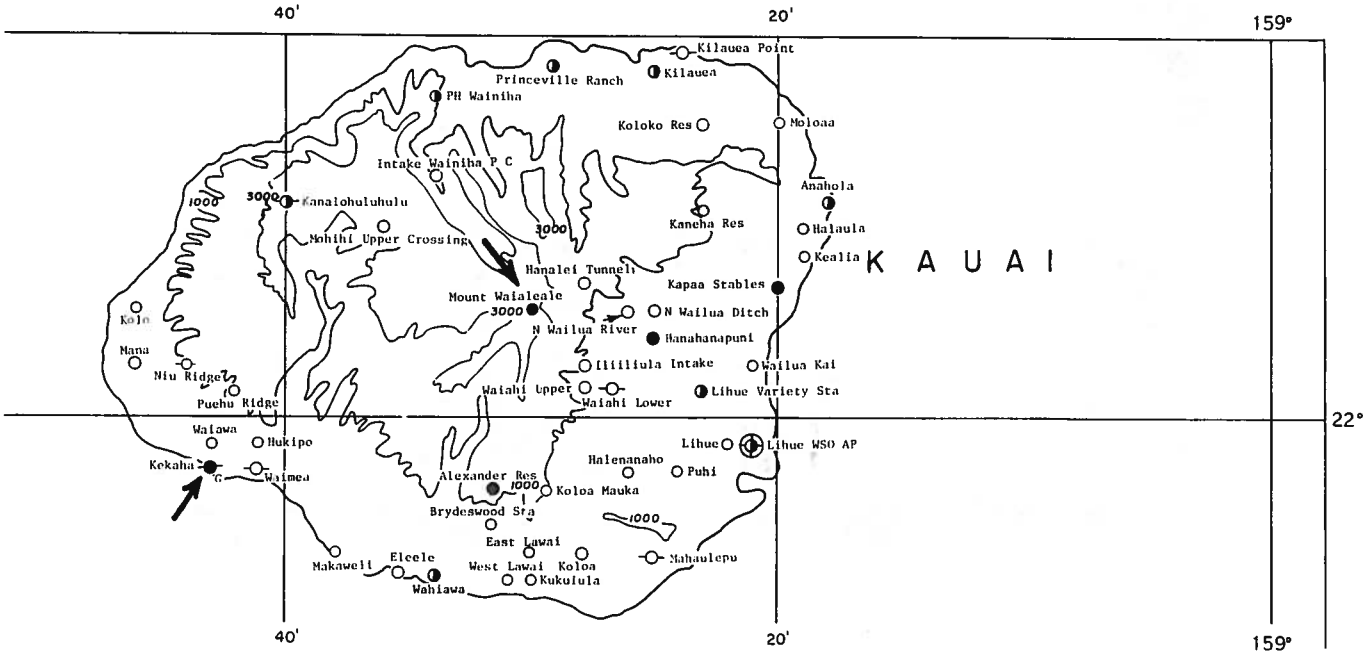
RAINFALL IN HAWAII

Of the climatic elements, rainfall is probably the most easily measured and, for this reason, there are more and longer records of rainfall than of temperature, wind, humidity, solar radiation, or any other climatic feature. It may also be argued that rainfall is the most important climatic element, having the greatest effect on man and his physical and biological environment. This is certainly true in the tropics where spatial and temporal variability of temperature is small and distinctions among various climates result primarily from differences in the amount, frequency, intensity, seasonality, and variability of rainfall.

In Hawaii, a great diversity of climate is found in a small area due in part to elevation-related temperature differences and the spatial variability of sunlight. However, Hawaii's climatic diversity is most strikingly seen in the spatial variability of rainfall. The gradients in average rainfall in some places in Hawaii are among the steepest in the world. On the island of Kauai, annual rainfall increases from about 19.70 inches near Kekaha on the western side of the island to over 433.10 inches at Mt. Waialeale on the east side, an average gradient of 26.60 inches per mile. Therefore, one small island experiences a range of moisture regimes exceeding that found across the breadth of a continent.

It has been confirmed that a total of 1985 rain gage sites operated at one time or another in Hawaii for various lengths of time prior to 1976.....an average gage density of 0.125 gage per kilometer-squared. Several factors have contributed to this large network. Plantation agriculture dominated the economy of Hawaii for much of this century. The growers developed and practiced advanced methods of maximizing crop yields that required detailed environmental data.....especially water availability. The joint Pineapple Research Institute-Hawaiian Sugar Planters' Association Meteorology Department established a dense network of gages and collected, collated and published data. In addition, Board of Water Supply and other agencies, including the National Weather Service and the U.S. Geological Survey and many private citizens maintained rain gages throughout the State. Thus, as a result of the need for data and because of the extra-ordinary spatial variability of its rainfall, Hawaii has one of the densest networks of rain gages in the world.

Open ocean rainfall over an area as small as that occupied by the major Hawaiian Islands would show almost no spatial gradient. Estimates of annual average open ocean rainfall near Hawaii currently range from 21.70 inches to 27.60 inches. Yet measurements on the islands themselves indicate average annual rainfall varies from less than 9.80 inches near Kawaihae on the west side of the island of Hawaii to more than 433.10 inches at Mt. Waialeale on the island of Kauai. Obviously, these mountainous islands are responsible for these deviations. The formation of clouds and rainfall occur when air is cooled, usually the result of its ascent. The primary rainfall-producing mechanism in Hawaii is the orographic lifting of moisture-laden northeast tradewinds up the windward slopes of each island. In addition, sea-breeze-land systems and mountain-valley winds contribute to rainfall by reinforcing tradewind-orographic lifting. Convective uplift occurs on the larger islands often in conjunction with the sea-breeze circulation. Open ocean rainfall near Hawaii is almost exclusively produced by large-scale storm systems which produce rainfall with a relatively uniform spatial distribution. Drier areas of the State receive most of their rainfall from such storms.



EASTERN REGION

Trula W. Price, observer, McCormick 9 E, SC, was presented the John Campanius Holm Award for outstanding accomplishments in the field of meteorological observations.

Presentation was made by then Governor Richard Riley of South Carolina. Arrangements for the presentation were made by Earl Rampey. Photo left to right: Trula W. Price, Governor Richard Riley.

John Melvin Brown, observer, Kingstree 1 SE, SC, was presented the John Campanius Holm Award for outstanding accomplishments in the field of meteorological observations.

Presentation was made by then Governor Richard Riley of South Carolina. Arrangements for the presentation was made by Earl Rampey, CPM, Columbia, SC. Photo left to right: John Melvin Brown, Governor Richard Riley.

EASTERN REGION

In recognition of her long and outstanding record, Mrs. Ruth Moore, cooperative observer, Bradford, NH, was presented the Edward H. Stoll Award and a 50-year length-of-service pin by James Vollkomer, Area Manager, Portland, ME. The award was named for the Elwood, NE farmer who was a cooperative observer for more than 70 years.

In 1977, Mrs. Moore received the Thomas Jefferson Award. This award is presented to approximately five of the most outstanding Cooperative Weather Observers in the United States. Those honored are selected from the more than 12,000 observers who devote so much time and effort to recording the climate of this country. This award is for unusual and outstanding accomplishment in the field of meteorological observations.

In 1968, Mrs. Moore received the John Campanius Holm Award for her long period of outstanding accomplishment in the field of meteorological observations.

Arrangements for the presentation of this award were made by James Donahue, CPM, Portland, ME. Photo left to right: Mrs. Moore, James Vollkomer. Photo by James Donahue.

The following individuals accepted 50-year Institutional Awards on behalf of the U.S. Corps of Engineers.

They are as follows: Emory Divan, Pleasant Hill Lake; Jim Bittinger, Charles Mill Lake; Ed Bennington, Beach City; Art Murray, Piedmont Lake; Jack Canfield, Tappan Lake; and Victor Grewell, Wills Creek.

Presentation was made by Marvin Miller, MIC, Cleveland, OH; Ed Heath, MIC, Akron, OH; and Michael Wyatt, CPM, Columbus, OH, who made all the arrangements for this presentation.

Photo left to right: Standing: Ed Heath, Emory Divan, Jim Bittinger, Marvin Miller, Ed Bennington, Bill Tope, Resources Manager Muskimgum Area US Corps of Engineers and Michael Wyatt. Seated: Art Murray, Jack Canfield, and Victor Grewell.

James Blankenship, observer, Pineville, WV, was presented a 20-year length-of-service pin. Presentation was made by David Keller, Hydrologic, CPM, Charleston, WV.

Edward Pell, observer, Union 3 SSE, WV, was presented a 10-year length-of-service pin by David Keller.

Wayne Roop, observer, Cape May, NJ, was presented a 10-year length-of-service pin by James Smith, CPM Baltimore, MD.

SOUTHERN REGION

Volunteer Weather Observer dies after 75 years of weather watching.

Ralph Guy holds one of the many NOAA NWS awards presented to him in the past 75 years, while his wife, Verda, looks on.

The National Weather Service has lost a very important family member, Ralph H. Guy. The dean of the National Weather Service Cooperative Weather Observers died in February.

Once daily since 1910, the 89-year-old Ralph Guy maintained a perfect record of weather-recorded observations for 75 years. Guy, who lived in Boise City, OK, was an important asset to weather watching. Throughout the years, Guy strived to maintain a clean and unbroken record.

The Guy family has a long weather-oriented history. At 11, Guy began training as an observer at Kenton, OK, while his father and brother shared official duties between April 1910 and June 1912.

An example of Guy's dedication occurred on his wedding day. He delayed his overnight honeymoon until after he took the evening weather observation. Guy and his wife returned the next evening at six o'clock so he could record the 24-hour weather readings.

Over the years Guy won every award the NWS has to offer its cooperative observers. These included several length of service emblems, The John Campanius Holm Award, The Thomas Jefferson Award, The Edward H. Stoll Award, The Helmut E. Landsberg Award and letters of commendations from presidents and secretaries of commerce.

"Whenever we wonder what the weather was like in the Oklahoma panhandle during the past 75 years, we can thank Ralph Guy for being there, rain or shine, taking those weather observations," said Robert W. Manning, Chief of the Southern Region Cooperative Program Branch in Fort Worth, Texas. (Reprint from Commerce People)

John Lambert (left), Cooperative Program Manager, Oklahoma City, OK; and Woody Currence (center), Cooperative Program Manager, Little Rock, AR were recently presented certificates of recognition for their efforts in implementing the automated telephone tone dial data collection system in Oklahoma and Arkansas. Bob Manning (right), Chief of the Cooperative Program made the presentations at a ceremony held in Idabell, OK. Congratulations John and Woody! How does it feel to be on the receiving end for a change?

WEATHER SERVICE HONORS A TOP OBSERVER

Steve Moster of Muenster, Texas, recently received the coveted "Thomas Jefferson Award and a 40-year length-of-service lapel pin." The award ceremony was directed by Bob Manning, Chief of the Regional Cooperative Program. Mary Moster was also presented a citation for service and letter of appreciation. Steve began working for the City of Muenster as an apprentice waterworks operator in March 1946, following service in the United States Army during WWII. As a weather observer, he organized local weather watchers. He was called many times for information in his records. The Enterprise carried his weekly weather record regularly. His weather record was used on one occasion in deciding a court case. Steve Moster's involvement in community activities and clubs covers long years of service:

1. He served as Commander of WFW Post #6205 in Muenster.
2. He was VFW Post Service Officer approximately 25 years.
3. He served as President of the Lions Club in Muenster.
4. He was Assistant Scout Master for a number of years and acted as Counselor for Scouts working on merit badges.
5. He is a lifetime member of the Knights of Columbus Council #1459 in Muenster.
6. He is a member of the St. Joseph's Society.
7. He was a Red Cross Drive Chairman.
8. As City Manager of Muenster for 33 years, he assisted organizations, clubs, etc. in various ways with their projects. Along with the City Manager's job he was appointed City Judge by the Muenster City Council "temporarily, for one year" until other provisions could be made and he held the job for 17 years, without a pay raise!

Principals in the award ceremony held in April at the home of Steve and Mary Moster are shown, left to right, top row: Bob Manning; Ernie Cathey, Service Hydrologist, Fort Worth Headquarters; Jo Ann Lewis, Hydrologist Technician, River Forecast office; Jerry Wolfe, North Texas Cooperative Program Manager. Front row: Tommy Trimble, Deputy Fort Worth Meteorologist in Charge; Steve Moster, Mary Moster, and their son, Frank Moster.

"The National Oceanic and Atmospheric Administration, the Department of Commerce, and the National Weather Service congratulate you, Mr. Moster, on a job well done!"

SOUTHERN REGION

Dr. Bill Loe and Danny Thompson accepted a 50-year Institutional Award for the University of Arkansas Experiment Station, Hope, AR. The award was presented by Woody Currence, CPM/LZK.

Chester B. Cox, observer, Red Springs, TX, was recognized by the NWS for over 45 years service. The presentation was made by Jerry Wolfe.

Grover Springer, cooperative observer, Lenorah, TX, received his 40-year length-of-service award and pin recently. Grover farms and is a retired school teacher. He enjoys keeping track of the rainfall for his area and just last year received a 50-year pin from the Boy Scouts of America for service as Scout leader and counselor. Presentation was made by Chuck Megee, CPM, Lubbock WSFO, TX.

Hal and Erin English.....watching the weather together for 40 of their 59 years of marriage. (Photo-Greenville Herald Banner)

Hal English has spent half of his 80 years watching the weather.

He's never received monetary reward for the work, but last week the volunteer weather observer received recognition from the National Weather Service for those 40 years of service for Greenville, TX.

English says he has always had an interest in weather and has a collection of records dating back to the 1920's. In 1980 he was awarded one of the five Thomas Jefferson awards given nationally by the National Weather Service for top-notch dedicated volunteer service.

English, who retired from crop farming in 1984 but continues to raise cattle on his farm, has been assisted in his weather watching duties by his wife of 59 years (as of last week), Erin. Jerry Wolfe, CPM/FTW presented the award.

Wesley V. Stribling, observer, Canton, MS, was presented a 40-year length-of-service award by Randall McKee from the Jackson office. Pictured left to right: Randall McKee, Wesley V. Stribling, Maxie Brown, and John McBroom.

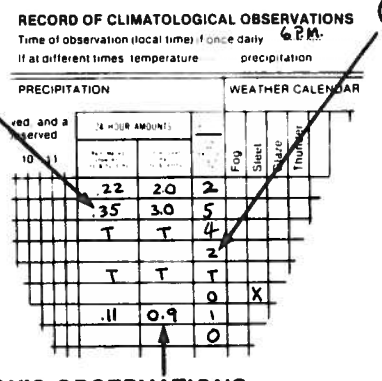
SNOW MEASUREMENT GUIDE

OBSERVERS WITH NON-RECORDING GAGES RECORD THREE MEASUREMENTS WHEN IT SNOWS

(1.) WATER IN THE SNOW

Record in this column to inches and hundredths.

Melt contents of gage and measure like rain. If high winds have blown snow out of the gage, the outer container is used to obtain a substitute sample from the snow on the ground where the depth represents the amount that fell since yesterday's observation.



(2.) SNOWFALL SINCE YESTERDAY'S OBSERVATIONS

Record in this column to the nearest 0.1 inch.

Find some place where the freshly fallen snow is least drifted and is about average depth for the locality. Measure the depth of the snow which fell since yesterday's observation. Report an estimate if the snow melted before observation time.

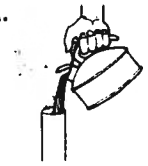
When significant amounts of new snowfall have occurred round off to the nearest inch and record as, for example, 2.0 and 3.0. (Record as 2.0 not 2, 3.0 not 3).

(3.) DEPTH OF SNOW ON THE GROUND AT OBSERVATION TIME

Record in this column to nearest inch--if less than ½ inch, record "T".

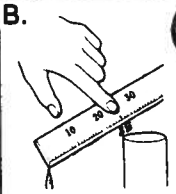
Any time there is snow on the ground at observation time record average depth on ground at observation time. Include old snow as well as newly fallen snow.

A.



Pour some warm water into the tube

B.



Measure

C.

Empty into the can to melt the snow

D.

Empty the can into the tube

E.

Measure

F.

Subtract the first measurement from the second

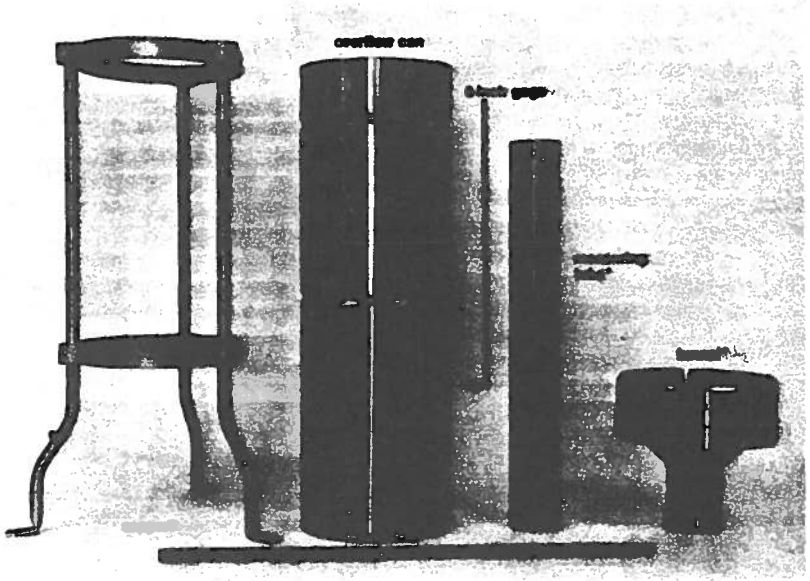
G.

24 HOUR AMOUNTS		At obsn
Rain, Melted Snow, etc (ins & hund'ths)	Snow, Sleet Hail (ins & tenths)	Snow, Sleet, Hail Ice on grd (inches)
.13	1.0	T

Record the difference in the melted snow column.

1

At the beginning of the snowfall season only the 8-inch gage can is exposed to catch the snow. The funnel and measuring tube are removed at the beginning of the snowfall season. The measuring tube is used to measure the water from the melted snow.

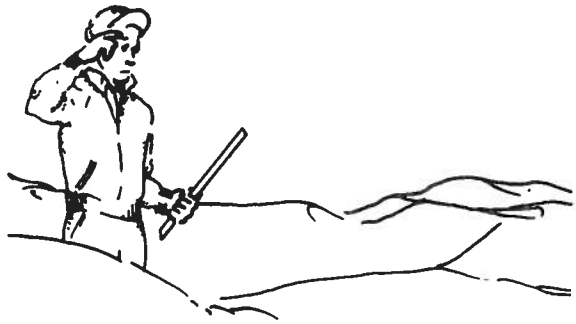


*removed during winter months

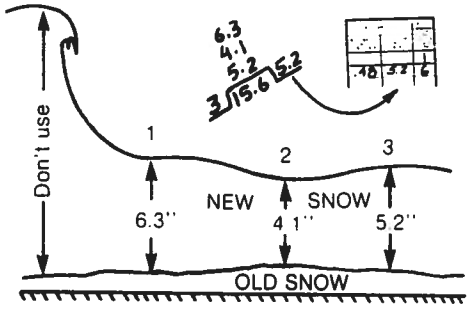
snow won't fall in representative quantity into the gage if the funnel and measuring tube are not removed.

2 TO MEASURE SNOWFALL SINCE YESTERDAY'S OBSERVATIONS

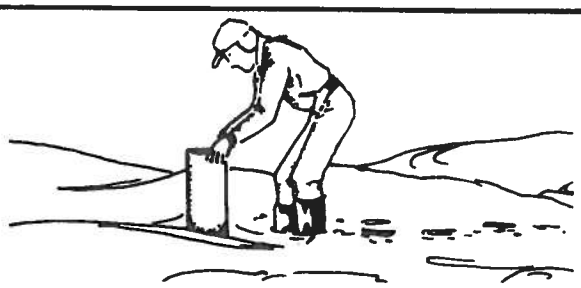
1. If the snow melts as it falls, enter a trace for snowfall.



2. Measure each new snow. Use good judgment in selecting spots where the snow is least affected by drifting.



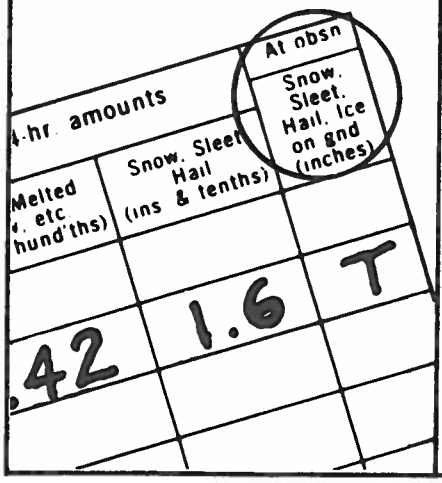
3. When possible, take several measurements where the snow is least affected by drifting (don't include deep drifts) and average.



4. If the snow has blown out of the can or the "catch" is not good, cut a "biscuit" with the can where the snow is near the average and melt the biscuit for the water equivalent.

3 SNOW DEPTH

Entry in this column is the measurement to the nearest whole inch of all snow, sleet, ice and hail remaining on the ground at your regular observation every 24 hours.



24 hr amounts		At obsn
Rain, Melted Snow, etc (ins & hund'ths)	Snow, Sleet Hail (ins & tenths)	Snow, Sleet, Hail, Ice on gnd (inches)
.32	T	0

Rain and snow mixed; snow melted as it fell.

24 hr amounts		At obsn
Rain, Melted Snow, etc (ins & hund'ths)	Snow, Sleet Hail (ins & tenths)	Snow, Sleet, Hail, Ice on gnd (inches)
		T
.16	2.0	0

2.0 inches of new snow fell, containing .16 water--snow melted before time of observation.

24 hr amounts		At obsn
Rain, Melted Snow, etc (ins & hund'ths)	Snow, Sleet Hail (ins & tenths)	Snow, Sleet, Hail, Ice on gnd (inches)
		T
		T
.27	1.8	2
		1
		T

1.8 inches snow and ice pellets containing .27 water. 2 inches on ground at observation time.

24 hr amounts		At obsn
Rain, Melted Snow, etc (ins & hund'ths)	Snow, Sleet Hail (ins & tenths)	Snow, Sleet, Hail, Ice on gnd (inches)
1.58	T	T

1.58 inches rain fell and also a trace of hail; hail had not melted at observation time.

24 hr amounts		At obsn
Rain, Melted Snow, etc (ins & hund'ths)	Snow, Sleet Hail (ins & tenths)	Snow, Sleet, Hail, Ice on gnd (inches)
2.31		2

Rain fell and froze causing 2 inches ice (glaze on ground at observation time).

24 hr amounts		At obsn
Rain, Melted Snow, etc (ins & hund'ths)	Snow, Sleet Hail (ins & tenths)	Snow, Sleet, Hail, Ice on gnd (inches)
T	T	
T	T	T

Two snows are recorded here--both are traces. The first one melted before observation time; the latter did not melt before observation time.

USCOMM-NOAA-ASHEVILLE, N.C. -1988/10800

DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
NATIONAL CLIMATIC DATA CENTER
FEDERAL BUILDING
ASHEVILLE, N.C. 28801

BULK RATE
POSTAGE & FEES PAID
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NOAA Permit No. G - 19