

# The National Cooperative Observer



Received 7/6/95

FALL 1994

VOLUME 12

NUMBER 1

EASTERN REGION

SOUTHERN REGION

CENTRAL REGION



WESTERN REGION

ALASKA REGION

PACIFIC REGION

**noaa**

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL WEATHER SERVICE

# THE NATIONAL COOPERATIVE OBSERVER

*National Climatic Data Center*  
*Publication Staff: Sara C. Lackey, Cynthia B. Karl, and Grant W. Goodge*  
*Alexander Radichevich, NWS Coordinator*

**NATIONAL COOPERATIVE OBSERVER** is prepared, funded, and distributed by the National Oceanic and Atmospheric Administration (NOAA) and is provided free of charge to Cooperative Observers.

Photographs are taken by NWS employees unless otherwise noted. Narratives are prepared and submitted by the NWS. Narratives are edited only for grammatical errors, space limitations, and consistency.

The Cooperative Observers Climatological Network was created in 1890. The program is currently administered by the National Weather Service, a line office of the National Oceanic and Atmospheric Administration, an agency within the Department of Commerce. One of the responsibilities of the National Weather Service is to take meteorological observations which are used to record the climate conditions of the United States. The National Weather Service relies heavily on a vast network of cooperative weather observer volunteers to achieve this objective.

The National Weather Service determines where observations are needed and furnishes standard meteorological instruments to individuals who volunteer their time to take and record daily observations of the weather. Currently, there are about 8000 published volunteer observing stations located in the United States and its territories. In addition to the thousands of cooperative observations stations operated by individuals, many are maintained by institutions and commercial firms (universities, utility companies, etc.). All cooperative observers submit a monthly report summarizing daily weather observations. These contributions to the climate record of the United States are invaluable.

The publication staff of **NATIONAL COOPERATIVE OBSERVER** welcomes your help in acquiring stories concerning experiences by cooperative observers and significant weather events. We request our observers to mail such items to:

Cynthia B. Karl or Grant W. Goodge  
National Climatic Data Center  
37 Battery Park Avenue  
Asheville, NC 28801-2733

Any such items received by the editor will be for use in the **NATIONAL COOPERATIVE OBSERVER** only. Any other use will be with permission of the owner of said items. Materials submitted will be returned if requested.

**NOTE: No submissions were received from the Eastern Region for this issue.**

## CONTENTS

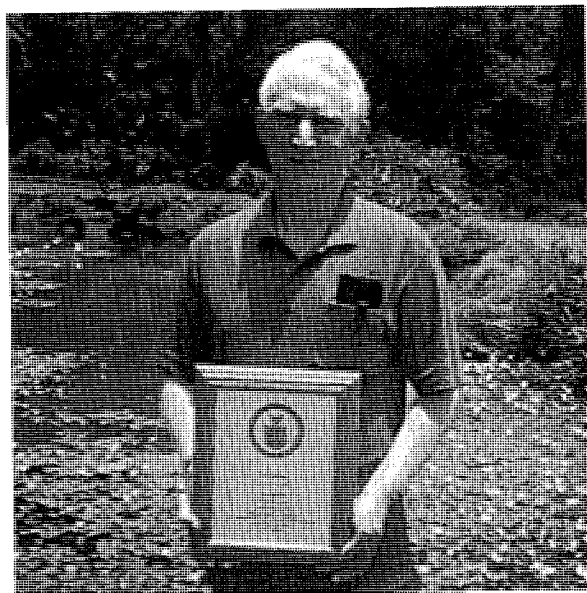
	<u>Page</u>
Pacific Region . . . . .	3
Alaska Region . . . . .	5
Western Region . . . . .	6
Southern Region . . . . .	10
Central Region . . . . .	16

**Cover: Haleakala National Park Hawaii.** The astounding beauty of Haleakala National Park conceals the wonders of a tropical rain forest, found on the island of Maui in the Kipahulu Valley. The valley receives up to 250 inches of rain a year, creating a sanctuary for many endangered plants and animals. *(Photo courtesy: National Parks and Conservation Association - Calendar 1994, Photograph copyrighted Larry Ulrich)*

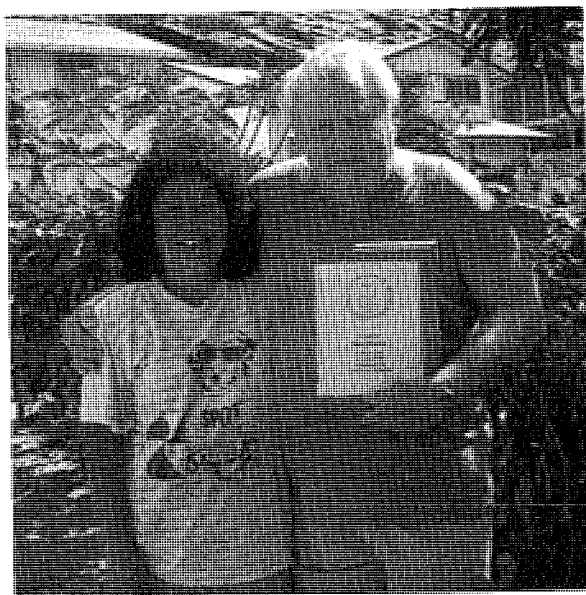
## PACIFIC REGION



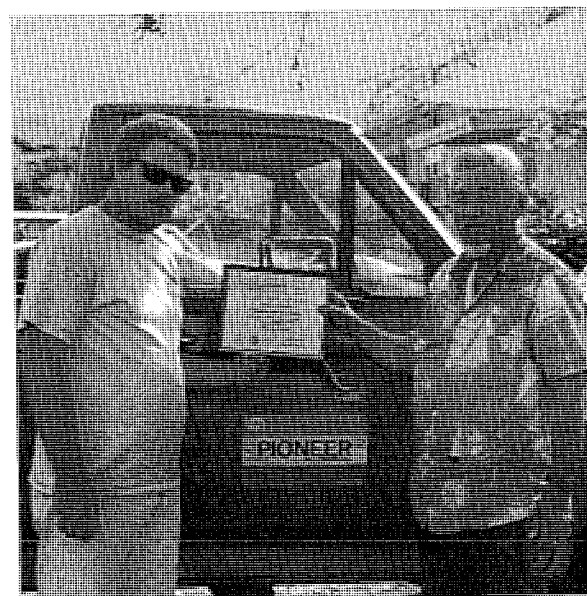
**MESSRS. JUANITO GARCES, FRANCISCO PAGAY, AND ROGER CORRELES** (left to right), were presented a **25-YEAR LENGTH-OF-SERVICE AWARD** by CPM Ray Terada for station **WAIMANALO EXPERIMENTAL FARM**.



**KEITH WOOLLIAMS, WAIMEA ARBORETUM**, holds the **10-YEAR LENGTH-OF-SERVICE CERTIFICATE** awarded him by Ray Terada.

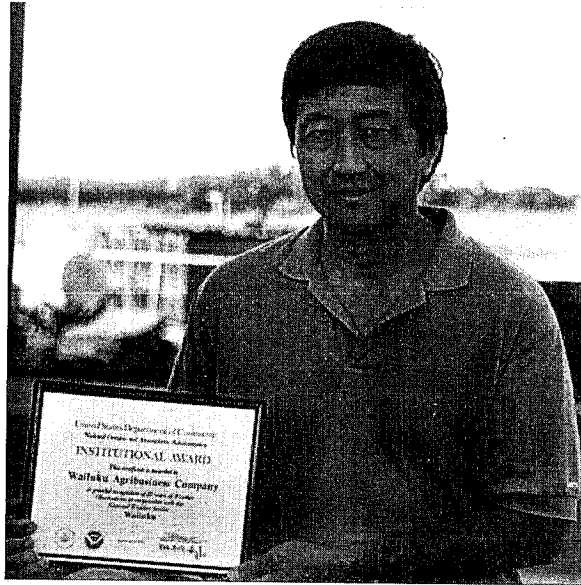


**FLO AND BEN MAYES**, station **WAIANAE**, were presented a **20-YEAR LENGTH-OF-SERVICE AWARD** by Ray Terada.

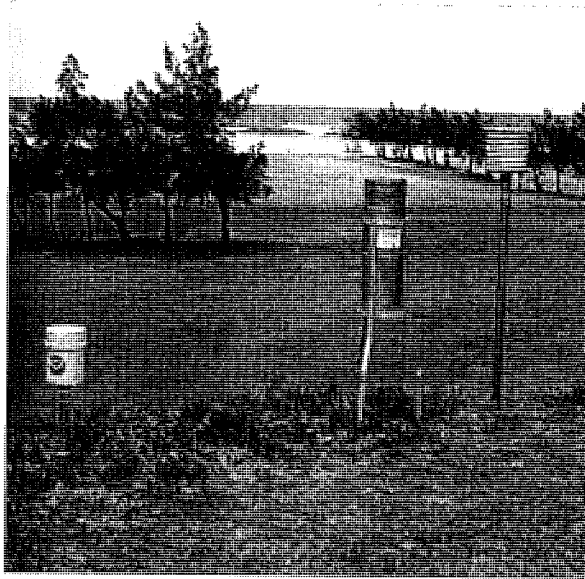


A **75-YEAR INSTITUTIONAL AWARD** was presented to the **PIONEER MILL CO., LTD.**, for continuous rainfall observations taken at **KAHOMA INTAKE** station. Accepting the award in behalf of the company were: **Todd Steele** (left), statistics clerk, and **Domingo Alboro, Sr.** (right), Control Crew Chief (who has 42 years of service with the company).

## PACIFIC REGION



A 25-YEAR INSTITUTIONAL AWARD was presented to the WAILUKU AGRIBUSINESS CO., INC., for continuous rainfall observations taken at WAILUKU station. Accepting the award in behalf of the company is Patrick Sugai, cultivation superintendent.

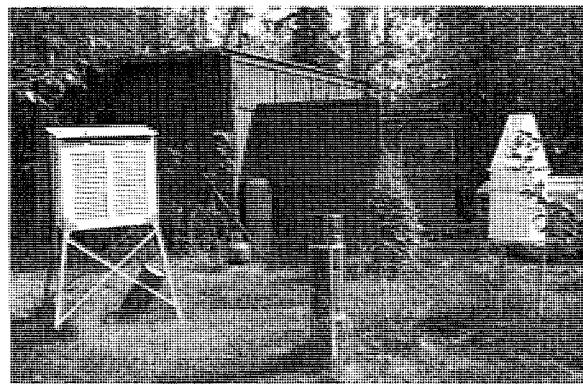


Weather station KII-KAHUKU is located on the north section of the island of OAHU BESIDE THE KAHUKU GOLF COURSE AND THE BEAUTIFUL BLUE PACIFIC OCEAN. This "AB" station is MANNED BY EMPLOYEES OF THE GOLF COURSE.

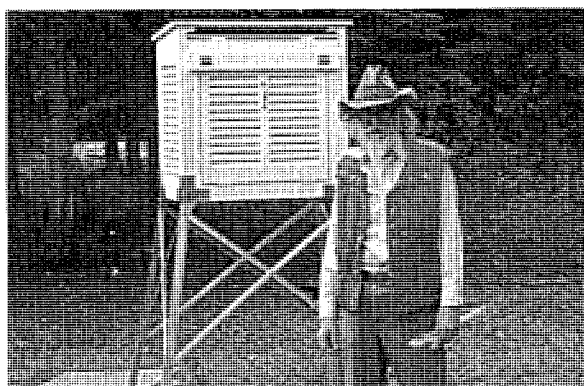
## ALASKA REGION



Coop station at **SOURDOUGH 1 N**. **CECILIA CHMIELOWSKI** has been the **OBSERVER SINCE SEPTEMBER 1971**.



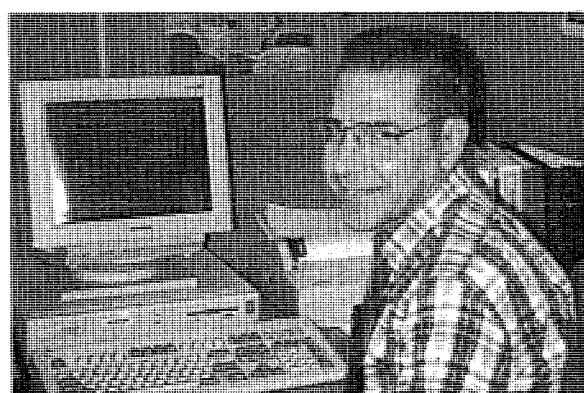
Sourdough 1 N is located at mile 150.6 Richardson Highway, about 30 miles north of Glennallen.



**BOB HARPER**, new **OBSERVER AT DELTA 5 NE**. Bob is also the **RIVER OBSERVER** for the **TANANA RIVER AT BIG DELTA**.



Bob Harper pictured with two of his grandchildren. Delta 5 NE is about 5 miles northeast of Delta Junction and about 100 miles south of Fairbanks.



**GEORGE CEBULA**, **RCPM RETIRED** on October 3, 1994, with **MORE THAN 32 YEARS OF FEDERAL SERVICE**. ~~George has worked in Alaska since August 1965.~~



George Cebula, RCPM, and Jim Hunter, his replacement. George will continue to live in Alaska and will be the backup aviation observer at McCarthy 3 SW.

## WESTERN REGION

\* \* 100th ANNIVERSARY \* \*



**EVELYN RICHTER, COLORADO CITY, AZ,** received a **25-YEAR LENGTH-OF-SERVICE AWARD**. Mrs. Richter makes her monthly observation records available to many interested persons in her town. Colorado City is near the Arizona-Utah border.



**EDRA L. MOORE (left), KNEELAND 10 SSE, CA,** was presented a **30-YEAR LENGTH-OF-SERVICE AWARD** by Sheryl Towle (right), hydrometeorologist, WSO Eureka. Visible through the window is Teal Moore, Mrs. Moore's winsome granddaughter.

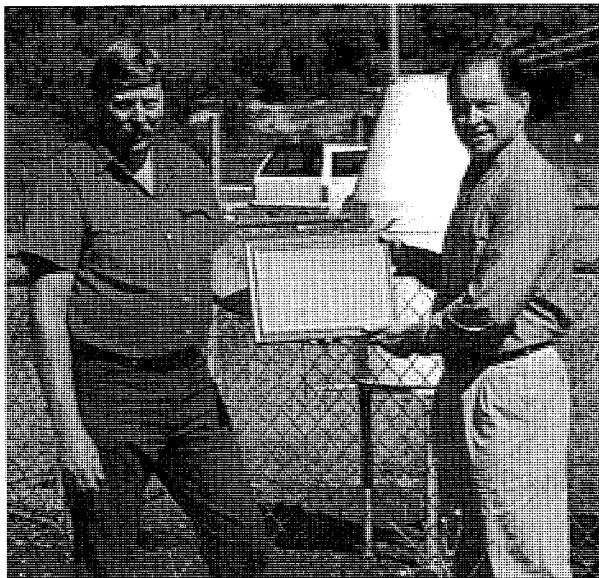


**EMMA PEREIRA, GREENVIEW, CA,** was presented a **40-YEAR LENGTH-OF-SERVICE AWARD**. Mrs. Pereira and her husband take daily rainfall readings. The couple, lifelong residents of Siskiyou County in northern California, have a small ranch where they raise sheep, geese, chickens, and rabbits.



The **CITY OF SANTA BARBARA, CA,** received a **CENTENNIAL AWARD**. The City has a **127-YEAR WEATHER RECORD**. For the past 30 years the El Estero Wastewater Treatment Plant has been the official weather observer. Pictured left to right: Hal Conklin, Mayor of Santa Barbara; Diana Van Cor, Service Hydrologist, WSFO Oxnard; and Victor Acosta, Supt., El Estero Wastewater Treatment Plant. Also at the event were Gene Van Cor, CPM, WSFO Oxnard; and Gary Ryan, WSO Santa Maria.

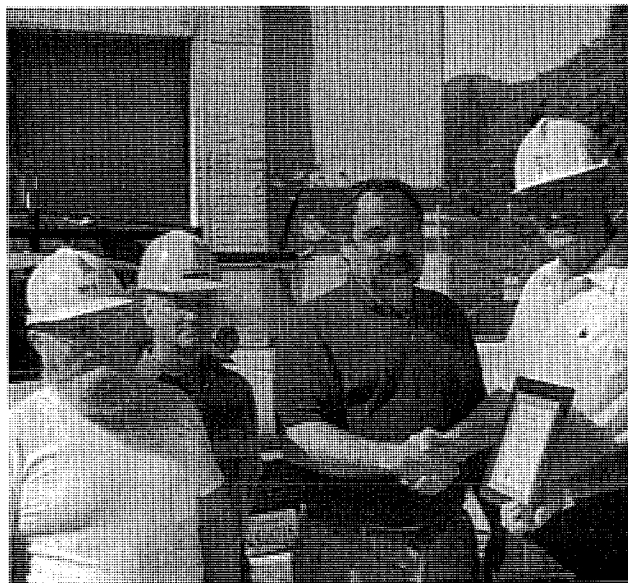
## WESTERN REGION



The **PACIFIC GAS AND ELECTRIC COMPANY'S VOLTA POWER HOUSE, CA**, received a **75-YEAR INSTITUTIONAL AWARD**. Gary Saastad (left), principal observer, accepted the award presented by Norm Hoffmann (right), NWS area manager for N. California.



The **CALIFORNIA DIVISION OF FORESTRY** received a **25-YEAR INSTITUTIONAL AWARD** for observations taken at **BIEBER**. Captain Joe Waterman accepted the award.



The **PACIFIC GAS AND ELECTRIC COMPANY'S PIT RIVER POWER HOUSE 5, CA**, received a **50-YEAR INSTITUTIONAL AWARD**. Shown (left to right) are Doss McKinney, relief operator; Bob Jones, asst. hydrological supt.; Chris Fontana, NWS MIC, WSO Redding, CA; and receiving the award, George Ondricek, foreman.

**ERLING DOHLEN** (no picture), **OPHEIM 12 SSE, MT**, received a **35-YEAR LENGTH-OF-SERVICE AWARD**. He maintained a record of the daily high and low temperatures and precipitation at his Valley County farm since 1958. Mr. Dohlen previously received the John Campanius Holm Award.

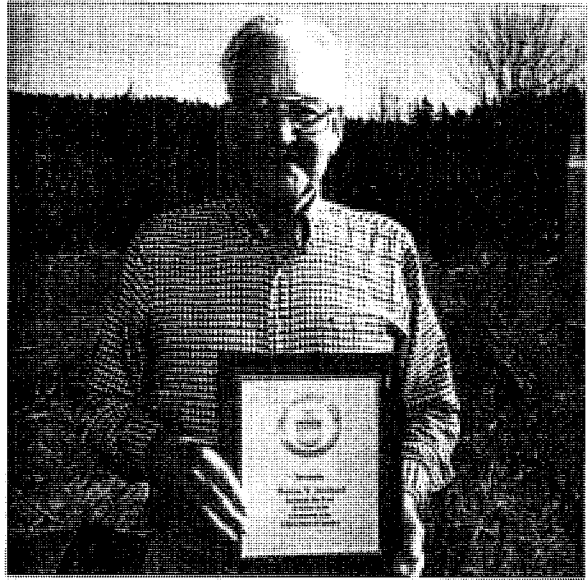
**ANNA GAIL SABADOS** (no picture), **BLACKLEAF, MT**, received a **20-YEAR LENGTH-OF-SERVICE AWARD**. She also takes part in the severe weather spotter program by reporting threatening weather conditions or rising creek levels to the Weather Service forecasters. These reports are valuable in tracking dangerous storms and preparing advance warnings for the public.

The **NEVADA DEPARTMENT OF HIGHWAYS** (no picture) received a **50-YEAR INSTITUTIONAL AWARD** for their station at **SEARCHLIGHT, NV**. The **ARIZONA HIGHWAY DEPARTMENT** (no picture) received a **25-YEAR INSTITUTIONAL AWARD** for their station at **GANADO, AZ**. Both awards were presented by Irv Haynes, Data Acquisition Program Manager, WSFO Phoenix.

## WESTERN REGION



**BILL ETTER** (center) **OBSERVER, PILOT ROCK 1 SE, OR**, received a **40-YEAR LENGTH-OF-SERVICE AWARD** presented by George Miller (left), NWS Area manager for Oregon and Dan Keeton, Pendleton MIC (right).



**MARTIN RENHARD, COLTON, OR**, was presented a **25-YEAR LENGTH-OF-SERVICE AWARD**.



**ROBERTA KEEGAN, ASHWOOD 2 NE, OR**, received a **30-YEAR LENGTH-OF-SERVICE AWARD**. Mrs. Keegan operates a "b" network station in central Oregon.



**ROBERT CUNNINGHAM** (left), **MOLALLA 2 ESE, OR**, received a **25-YEAR LENGTH-OF-SERVICE AWARD** presented by Steve Todd (right), NWS/DMIC, WSFO Portland, OR.



The **NATIONAL PARK SERVICE, CRATER LAKE, OR**, received a **SPECIAL SERVICE AWARD** to acknowledge their cooperation in taking weather observations for the **PAST 75 YEARS**. The weather station is at the 6,100 ft. elevation at park headquarters. Shown are: (left to right) Kent Taylor, chief interpreter; Mark Buktenica, resource management biologist; and Steve Todd.



## WESTERN REGION



The CITY OF FLORENCE, OR, received a 25-YEAR INSTITUTIONAL AWARD. The award was accepted by Don Fleming (left) and Jim Scott, sewage plant operators, on behalf of Rick Mumpower, plant supervisor, and the City of Florence, OR.



The U.S. ARMY CORPS OF ENGINEERS received a SPECIAL SERVICE AWARD FOR THEIR 25 YEARS OF SERVICE at FOSTER DAM, OR. James Ronyak (left), shift operator, accepted the award for the Corps. At right is Clint Jenson, CPM, who made the presentation.

### OTHER AWARDS WESTERN REGION

#### CALIFORNIA

David T. Lassila  
 Joanne Hage  
 Douglas B. Simmons  
 Richard and Patricia Sprague

#### YEARS

Colfax 15  
 Covelo Eel Rvr RS 10  
 Redwood CK O'Kane 10  
 Chester 10

#### MONTANA

Wallace K. Broderson  
 Richard Anderson  
 Ronald Belcher  
 Edward Harvey  
 Ed Hill  
 Larry and Carole Peterson  
 Carol Sluggett

#### YEARS

Ryegate 2 E 15  
 Millegan 10  
 Lavina 10  
 Divide 2 NW 10  
 Roberts 1 N 10  
 Mosby 2 ENE 10  
 Valentine 10

#### UTAH

Muriel S. Church  
 Lyle Reynolds  
 Bud Bauer  
 Clarence Johnson

#### YEARS

LaVerkin 15  
 Tremonton 15  
 Cedar City 5 E 10  
 Bluff 10

#### WASHINGTON

Marylyn S. Denton  
 Rocky Kolberg

#### YEARS

Doty 3 E 15  
 Toledo 10

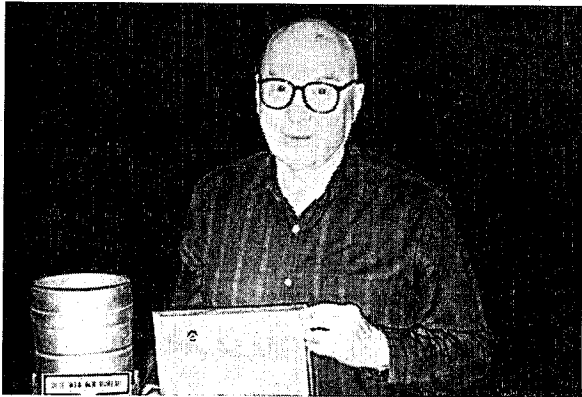
## SOUTHERN REGION



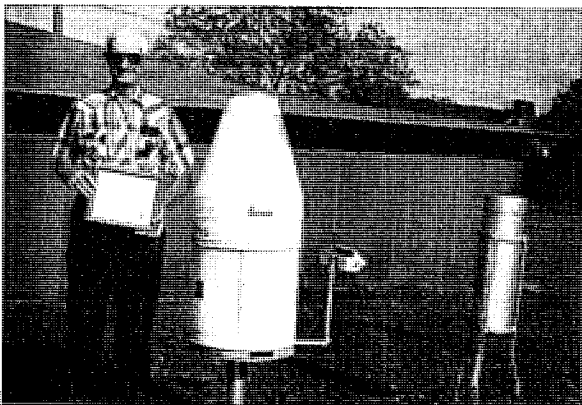
**MRS. H. M. HUDSON, OBSERVER, WINONA 5 E, MS,** received a **30-YEAR LENGTH-OF-SERVICE AWARD.** The award was presented by Larry Arnold, CPM/JAN.



**HILLARD DEPRIEST, OBSERVER, ABBEVILLE, MS,** received a **10-YEAR LENGTH-OF-SERVICE AWARD.** Mr. DePriest is retired but keeps very active on his farm. Larry Arnold presented the award.



**CHARLES COOK, OBSERVER, HERNANDO, MS,** received a **15-YEAR LENGTH-OF-SERVICE AWARD.** Mr. Cook, a Ham radio operator, helps the Memphis spotter network. Larry Arnold presented the award.



A **15-YEAR LENGTH-OF-SERVICE AWARD** was presented to **MORRIS HOLLAND, OBSERVER, HICKORY FLAT, MS.** Larry Arnold presented the award.



A **25-YEAR LENGTH-OF-SERVICE AWARD** was presented to **FERN WHITE, OBSERVER, SAN JON, NM.** Mrs. White is the Mayor of San Jon. The presentation was made by Christine Lopez, HMT/AMA.

## SOUTHERN REGION



LUCY SIMS, OBSERVER FOR 45 YEARS, HANNA, OK, received the John Campanius Holm Award for "excellence in observing". Mrs. Sims was also presented with a SPECIAL SERVICE AWARD by Don Devore, MIC/Tulsa. State Senator Frank Shurden gave her a CERTIFICATE OF APPRECIATION FROM THE STATE LEGISLATURE AND SHE ALSO RECEIVED ONE FROM EUFAULA MAYOR JOE JOHNSON. Pictured (left to right) Mike Teague (DAPM/TSA), Mrs. Sims, and Don Devore (MIC/TSA).



A 30-YEAR LENGTH-OF-SERVICE AWARD was presented to VELDA MCEACHERN, OBSERVER, OKEENE 9 E, OK. Al Abernathy, HMT/OUN, made the presentation.



A 10-YEAR LENGTH-OF-SERVICE AWARD was presented to JIM BRADSHAW, OBSERVER, SHAWNEE, OK. The award was presented by Beverly Reese, DAPM/OUN.



INA B. TEEMAN, OBSERVER, LOOKEBA 2 ENE, OK, received a 10-YEAR LENGTH-OF-SERVICE AWARD. Mr. Teeman (deceased) was the observer from 1963 to 1984, with assistance from his wife. In 1984 Mrs. Teeman continued with the observations. At the age of 90, she is possibly the oldest observer in Oklahoma and looks forward to receiving a 20-year award at the age of 100. Presentation was made by Carl Wilkins, HMT/OUN.

## SOUTHERN REGION



Arkansas Governor, Jim Guy Tucker, presented **ELIZABETH W. FRIDAY, OBSERVER, HORATIO, AR**, the **THOMAS JEFFERSON AWARD** at a ceremony in **DEQUEEN, AR**. **MRS. FRIDAY WAS ALSO PRESENTED A STATE PROCLAMATION AS PART OF THE CELEBRATION**. Representing the NWS were (left to right) Ernest S. Ethridge (OIC, Shreveport, LA); Woody Currence (retired CPM from Little Rock, AR); and Harry S. Hassel, Director, Southern Region.



A **40-YEAR LENGTH-OF-SERVICE AWARD** was presented to **WILLIAM E. BLACK, OBSERVER, MOUNT IDA, AR**. Presentation was made by Jimmy Russell, HMT/LZK, and John Lambert, CPM/OKC; pictured with Mr. Black.



A **30-YEAR LENGTH-OF-SERVICE AWARD** was presented to **KERMIT CHANCE, OBSERVER, MILLEN 4 N, GA**. The award was presented by Robert Drummond, CPM/ATL.



**ETTA C. BURKS, OBSERVER, BENTON, AR**, received the **EDWARD H. STOLL AWARD** for **50 YEARS SERVICE**. In 1982 she received the John Campanius Holm award. Pictured with Ms. Burks is Benny Terry, DAPM/LZK.

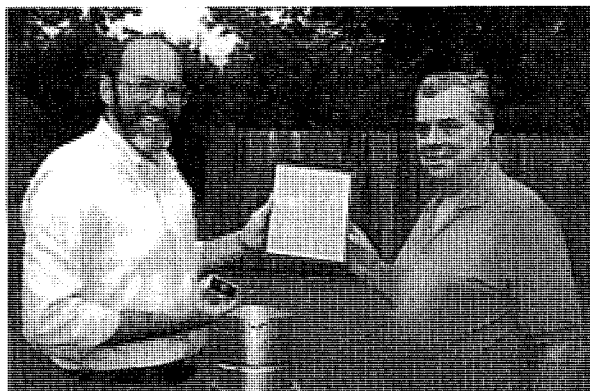


**DALE VAN CANTFORT, OBSERVER, MILLEDGEVILLE, GA**, received a **10-YEAR LENGTH-OF-SERVICE AWARD** from Melvin D. Murrell, HMT/ATL.

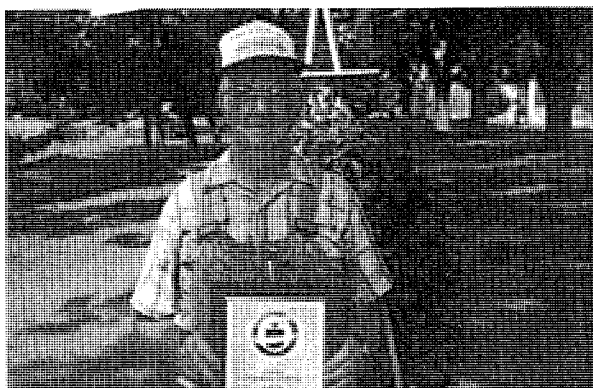
## SOUTHERN REGION



**ROBERT E. SOSBY, CARNESVILLE 4 N, GA,** received a **10-YEAR LENGTH-OF-SERVICE AWARD** from Melvin D. Murrell.



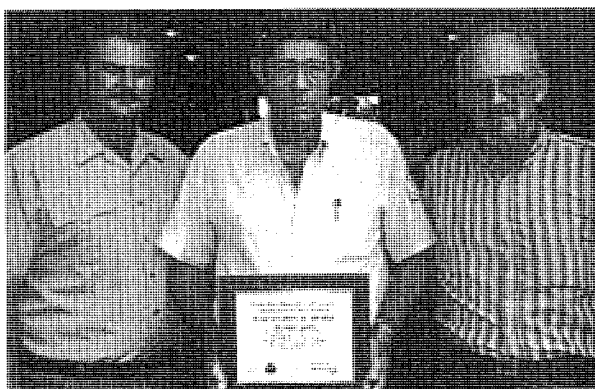
**JOHNNY SZANYI, OBSERVER, LIVINGSTON, LA,** received a **15-YEAR LENGTH-OF-SERVICE AWARD** from Gil Barton (left), DAPM/NEW.



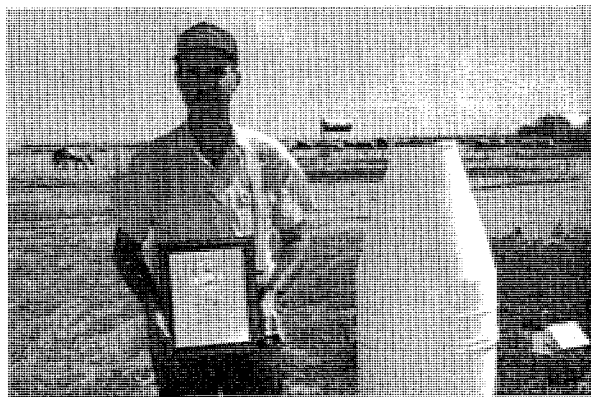
**EDWARD L. STARLINGS, OBSERVER, THE ROCK, GA,** received a **10-YEAR LENGTH-OF-SERVICE AWARD** from Melvin D. Murrell.



**LOUIS L. DUNLAP, OBSERVER, LEVELLAND, TX,** received a **30-YEAR LENGTH-OF-SERVICE AWARD**. Chuck Megee, CPM/LBB, and Johnny Wallace, HMT/LBB, made the presentation.



**The CORPS OF ENGINEERS, BAYOU BOEUF LOCK, MORGAN CITY, LA** received a **25-YEAR INSTITUTIONAL AWARD** from Mike Reid, HMT/LCH. Pictured (left to right) Ernest Breaux, Corps of Engineers; Wallace Lee, Lockmaster; and Mike Reid.



**DARRAL G. WATSON, OBSERVER, WAYSIDE, TX,** received a **30-YEAR LENGTH-OF-SERVICE AWARD**. Darral enjoys keeping the rainfall records and does an excellent job of sending the tape in on time. Presentation was made by Chuck Megee.

## SOUTHERN REGION



**E. W. HENNIG, OBSERVER, GLEN COVE 2 WNW, TX, received a 25-YEAR LENGTH-OF-SERVICE AWARD from Alan Starnes.**



**A 25-YEAR LENGTH-OF-SERVICE AWARD was presented to ONETA J. SOWERS, RED BLUFF CROSSING, TX, by Alan Starnes.**



**CALVIN BUSH, OBSERVER, RICHLAND SPRINGS, TX, received a 25-YEAR LENGTH-OF-SERVICE AWARD. Alan Starnes, CPM/ACT, made the presentation.**

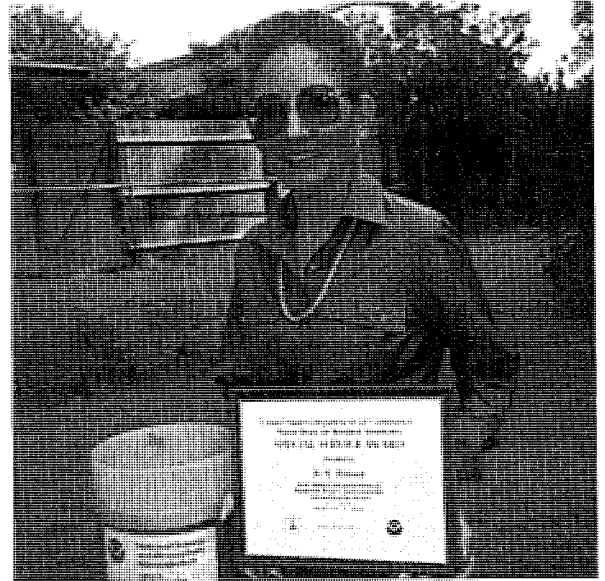


**A 25-YEAR INSTITUTIONAL AWARD was presented to the SABINE RIVER AUTHORITY OF TEXAS. Sam Collins (right), Director, Toledo Bend Dam Facility, accepted the award. The award was presented by David McIntosh (left), MIC/LCH.**

## SOUTHERN REGION



**BONNIE L. RAHE, OBSERVER, HARPER, TX,** received a **20-YEAR LENGTH-OF-SERVICE AWARD** from Alan Starnes.



**MRS. L.E. HIBBARD, OBSERVER, BURKBURNETT, TX,** received a **15-YEAR LENGTH-OF-SERVICE AWARD** from Carl Wilkins, HMT/OUN.

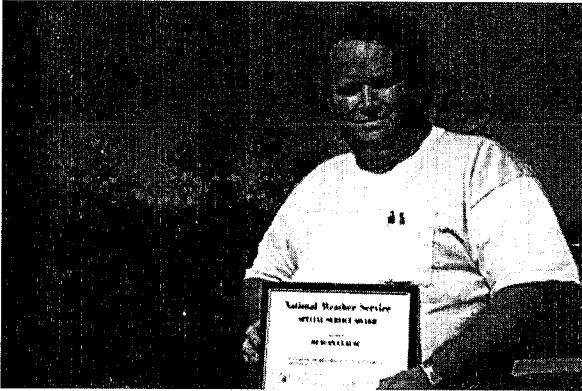


**SAM HAYNES, MCLEAN, TX,** was presented a **15-YEAR LENGTH-OF-SERVICE AWARD** by Bill Beams, DAPM/AMA.



**PEARSON COOPER, OBSERVER, MONAHANS, TX,** received a **10-YEAR LENGTH-OF-SERVICE AWARD** from Chuck Megee (right), and Keith Hicks, HMT, Lubbock. Mr. Cooper is editor of the Monahans News and is very interested in the weather trends. He does a very good job of keeping the records and is always on time with his reports.

## CENTRAL REGION



**REAGAN CLAUSE** of the **MACOMB WATER PLANT, MACOMB, IL**, was presented a **5-YEAR LENGTH-OF-SERVICE AWARD** by Bill Nelson, CPM/LOT.



A **10-YEAR LENGTH-OF-SERVICE AWARD** was presented to **STEVE COTNER (CENTER)**, **WINAMAC 2 SE, IN**, by Roger Kenyon (right) and Bill Nelson.



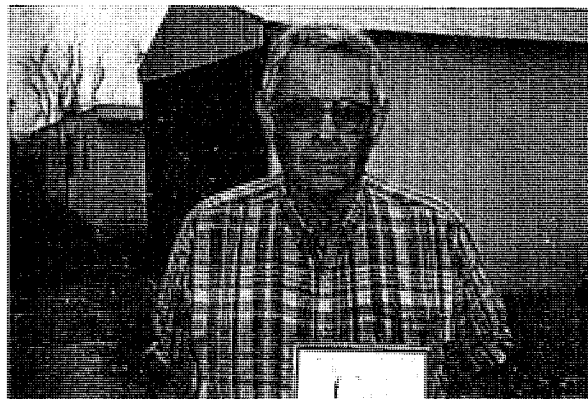
**LORES STEURY, OBSERVER, GOSHEN COLLEGE, GOSHEN, IN**, was presented a **15-YEAR LENGTH-OF-SERVICE AWARD** by Roger Kenyon (right), CPM/IN. Lores has maintained weather records dating back to 1914.



A **10-YEAR LENGTH-OF-SERVICE AWARD** was presented to **SHELLEY EDWARDS (LEFT)**, **SPENCER, IN**, by Albert Shipe (center) and Roger Kenyon.



A **10-YEAR LENGTH-OF-SERVICE AWARD** was presented to **BOB CHATTIN (CENTER)**, **JASONVILLE, IN**, by Albert Shipe (left) SH/IN; and Roger Kenyon.



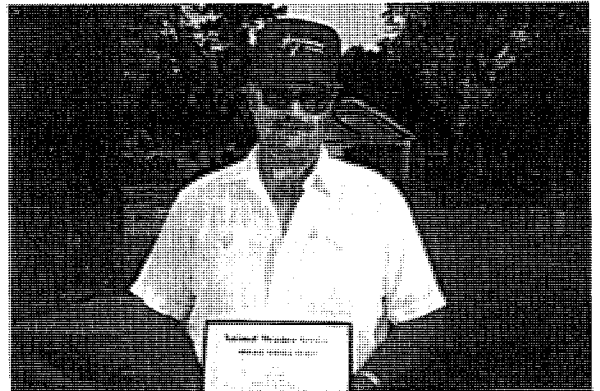
**LEE ARNOLD'S SON JOHN** accepted a **15-YEAR LENGTH-OF-SERVICE AWARD AT NORCATUR 3 WSW, KS**, from Mike Elias, CPM/GLD.



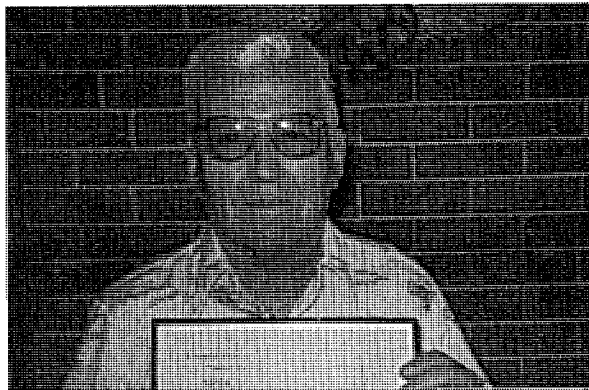
## CENTRAL REGION



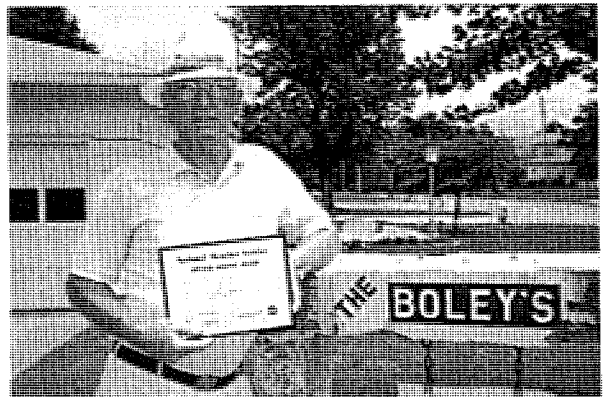
**FORREST BAKER, GARNETT 1 E, KS, received a 15-YEAR LENGTH-OF-SERVICE AWARD from Greg Painter, CPM/TOP.**



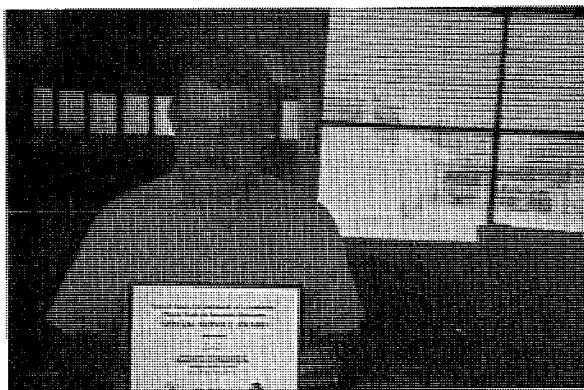
**A 15-YEAR LENGTH-OF-SERVICE AWARD was presented to ROBERT ZIEGENHIRT, OBSERVER, ALTA VISTA, KS, by Greg Painter.**



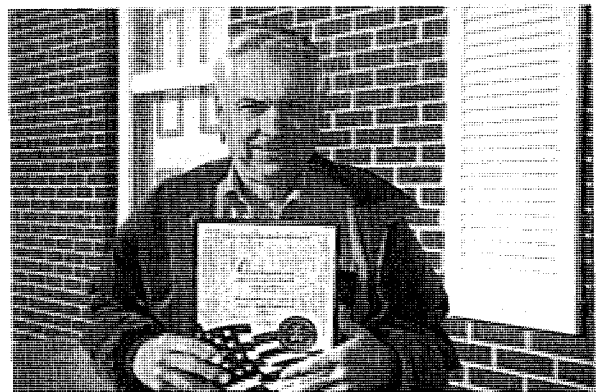
**HARVEY DEAN, SR., MOUNT HOPE, KS, was presented a 15-YEAR LENGTH-OF-SERVICE AWARD by Greg Painter.**



**LOUIE AND NITA BOLEY HAVE JUST RETIRED, AFTER 10 YEARS OF VOLUNTEER-OBSERVING DUTY IN ESKRIDGE, KS, Greg Painter presented a SPECIAL SERVICE AWARD.**



**GARY LAWSON, AUGUSTA, KS, was presented a 15-YEAR LENGTH-OF-SERVICE AWARD by Greg Painter.**

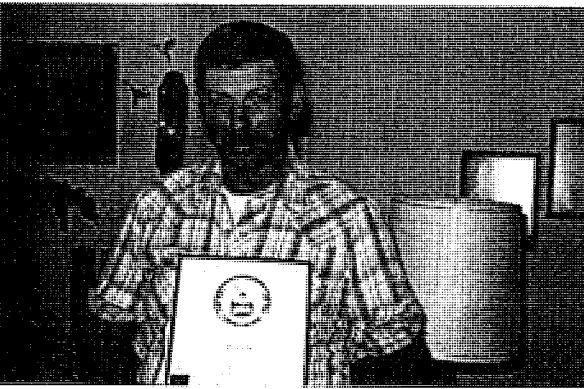


**FERDINAND H. BURMEISTER, GALATIA 1 NW, KS, was presented a 10-YEAR LENGTH-OF-SERVICE AWARD by Greg Painter.**

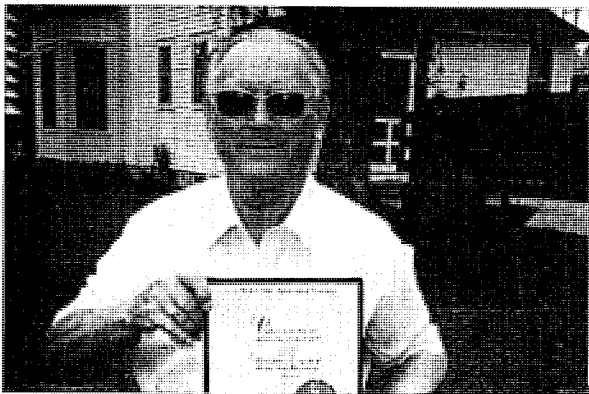
## CENTRAL REGION



A 10-YEAR LENGTH-OF-SERVICE AWARD was received by DAVID CROY, COTTONWOOD FALLS, KS, from Greg Painter.



RONNIE W. ELLIS, LE ROY, KS, was presented a 10-YEAR LENGTH-OF-SERVICE AWARD by Greg Painter.



LOUIS HAYWARD, EUREKA, KS, received a 10-YEAR LENGTH-OF-SERVICE AWARD from Greg Painter.

STEPHEN POPE (no picture), WALNUT 3 S, KS, was given a 10-YEAR LENGTH-OF-SERVICE AWARD by Greg Painter.



BEN PRITCHARD, PRATT 4 W, KS, received a 10-YEAR LENGTH-OF-SERVICE AWARD from Greg Painter.



ALICE SAMSON, ATWOOD 10 SSE, KS, was presented a 10-YEAR LENGTH-OF-SERVICE AWARD by Mike Elias.

## CENTRAL REGION

\* \* 100th ANNIVERSARY \* \*



The **NATIONAL CENTENNIAL AWARD** was presented to the **BIG RAPIDS WATERWORKS TO CELEBRATE 100 YEARS OF WEATHER OBSERVATIONS TAKEN BY DEDICATED VOLUNTEERS IN THE CITY OF BIG RAPIDS, MI.** Accepting the award for the city were: Tim Vogel (left) Dir. Dept. of Public Works and Carman Johnson (right) present observer, Supt. of the waterworks. The award was presented by Stephen J. Hicks, CPM/DTX, during the Big Rapids City Council Meeting.

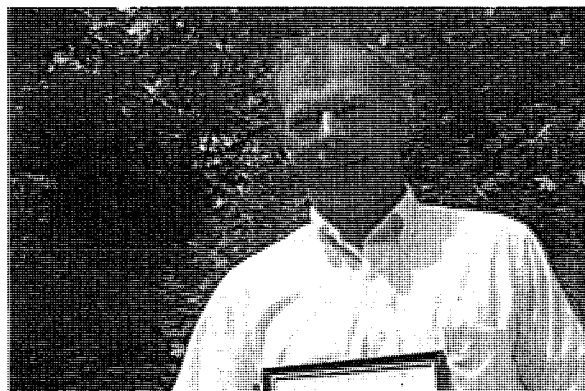


The **NATIONAL CENTENNIAL AWARD** was presented to the **CITY OF CHEBOYGAN, MI, TO CELEBRATE 100 YEARS OF WEATHER OBSERVATIONS TAKEN BY DEDICATED VOLUNTEERS IN CHEBOYGAN, MI.** Accepting the award were: Scott McNeil (left), City Manager and Steve Gall (right), present observer, Supt. of the Wastewater Treatment Plant. Award was presented by Stephen Hicks.

\* \* \* \*



**J.W. CHANDLER, CLINTON, KY,** received a **10-YEAR LENGTH-OF-SERVICE AWARD AND SERVICE PIN,** from Peter Tellez, CPM/KY.



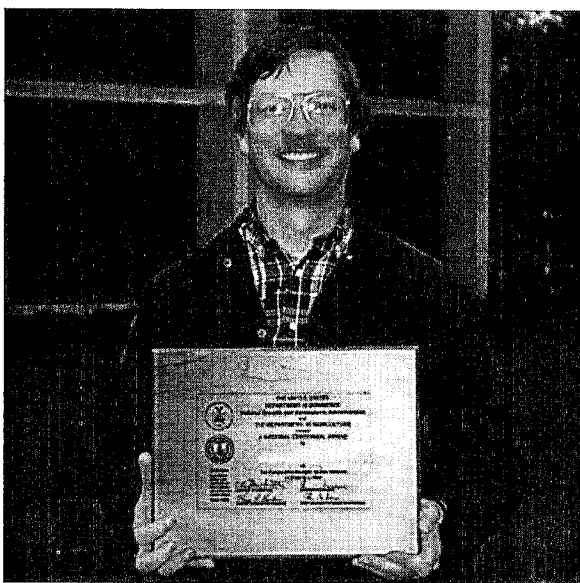
**RICHARD SCOTT, ABERDEEN, KY,** received a **10-YEAR LENGTH-OF-SERVICE AWARD AND SERVICE PIN** from Peter Tellez.

## CENTRAL REGION

\* \* 100th ANNIVERSARY \* \*

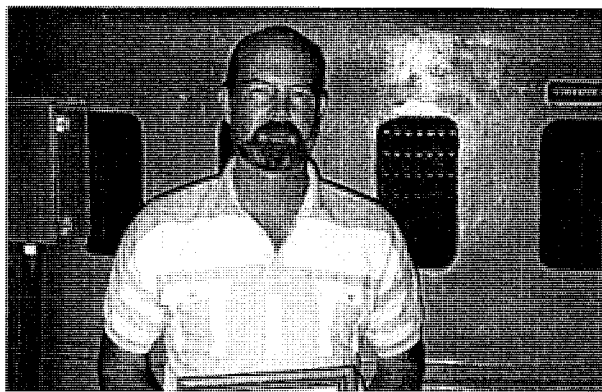


The **NATIONAL CENTENNIAL AWARD** was presented to the **CITY OF HART, MI, TO CELEBRATE 100 YEARS OF WEATHER OBSERVATIONS TAKEN BY DEDICATED VOLUNTEERS IN HART, MI.** Accepting the award were: Lt. Thomas Altland (left), present observer, Michigan State Police; and Calvin Klotz (right), mayor. Award was presented by Stephen Hicks.



The **NATIONAL CENTENNIAL AWARD** was presented to the **UNIVERSITY OF MICHIGAN, ANN ARBOR, MI, TO CELEBRATE 100-YEARS OF WEATHER OBSERVATIONS TAKEN BY DEDICATED VOLUNTEERS AT THE UNIVERSITY.** Accepting the award was Dennis Kahlbaum, the present observer. The award was presented by Stephen J. Hicks.

\* \* \* \*



A **75-YEAR INSTITUTIONAL AWARD** was presented to **CONSUMERS POWER COMPANY MIO HYDRO DAM, MIO, MI.** Accepting the award was Louis Nelson, plant operator. Award was presented by Stephen J. Hicks.

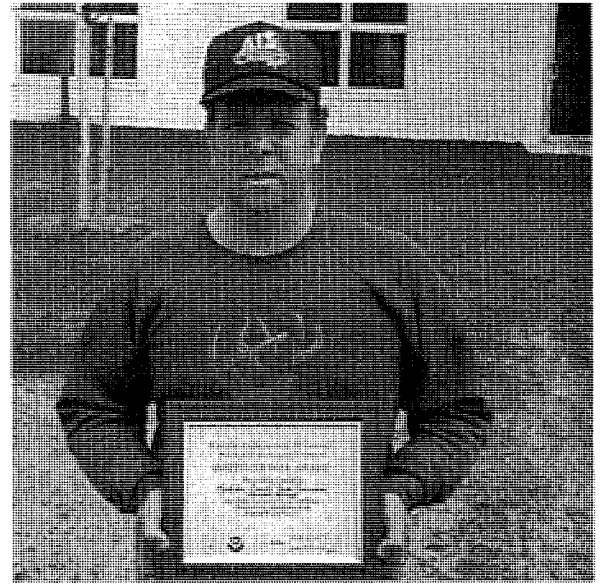


A **50-YEAR INSTITUTIONAL AWARD** was presented to the **UPPER PENINSULA POWER COMPANY DAM AT BERGLAND, MI** by Stephen J. Hicks. Also **KEVIN POISSANT, OBSERVER,** was presented a **10-YEAR LENGTH-OF-SERVICE AWARD.** With Kevin is his daughter Abbey and his son Adam.

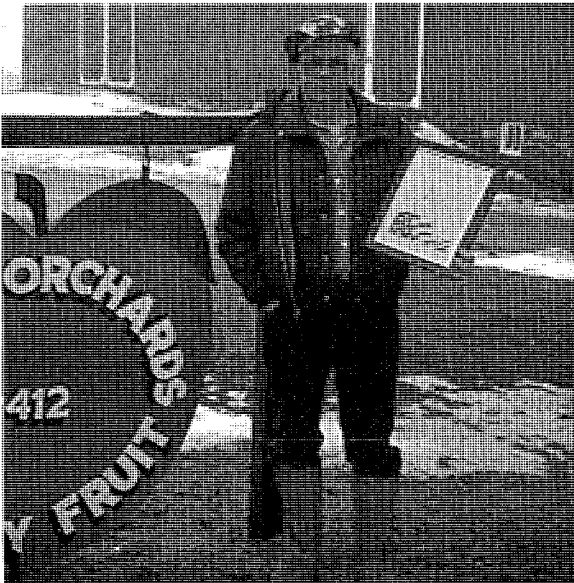
## CENTRAL REGION



A 40-YEAR LENGTH-OF-SERVICE AWARD was presented to **MAX E. KRAFT, MARLETTE, MI**, by Stephen J. Hicks.



A 25-YEAR INSTITUTIONAL AWARD was presented to **LARRY CHRISTENSEN AT THE MONTCALM COUNTY ROAD COMMISSION GARAGE, STANTON, MI**, by Stephen J. Hicks.



A 30-YEAR LENGTH-OF-SERVICE AWARD was presented to **MERLIN KRAFT, SPARTA, MI**, by Stephen J. Hicks.

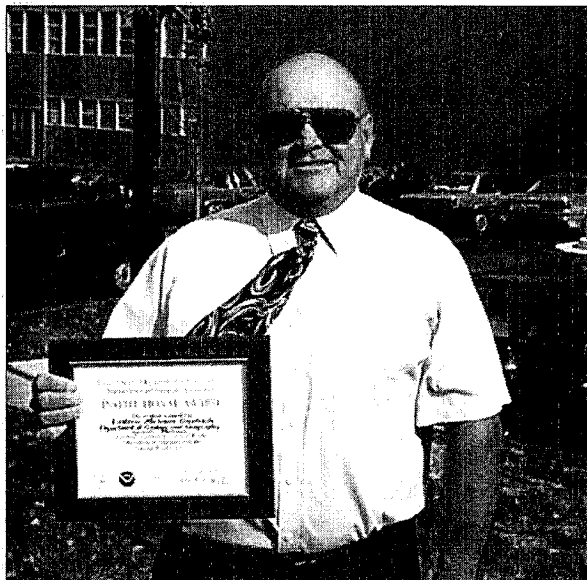


A 25-YEAR LENGTH-OF-SERVICE AWARD was presented to **JAMES EIMER, GRAND LEDGE, MI**, by Stephen J. Hicks.

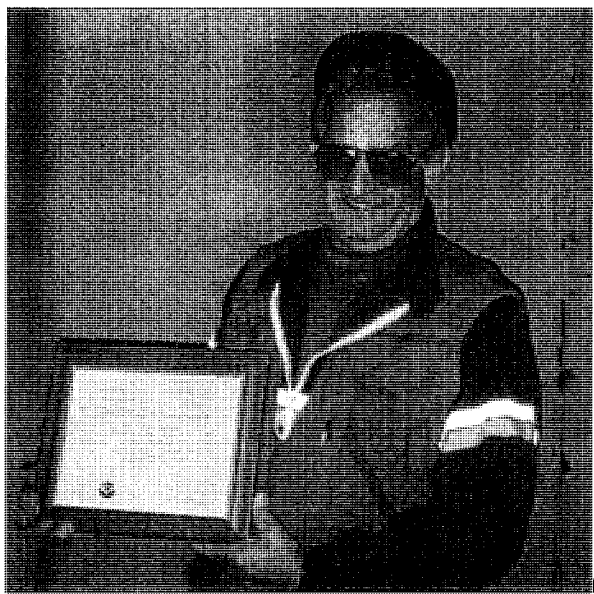
## CENTRAL REGION



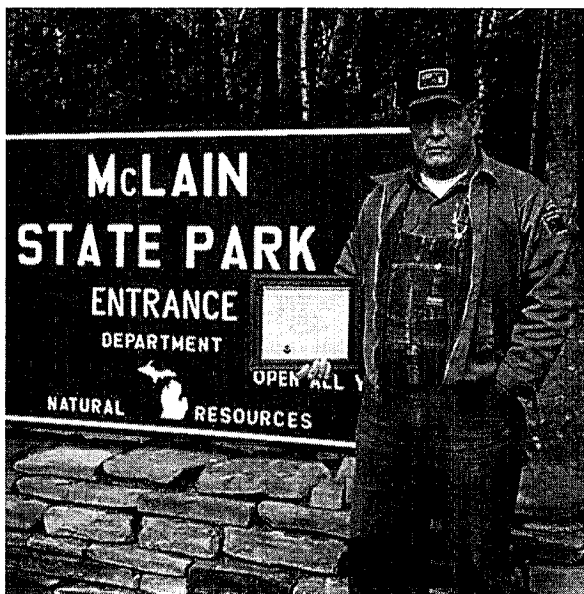
A 25-YEAR LENGTH-OF-SERVICE AWARD was presented to HERBERT F. TEICHMAN, EAU CLAIRE 4 NE, MI, by Stephen J. Hicks.



A 25-YEAR INSTITUTIONAL AWARD was presented to EASTERN MICHIGAN UNIVERSITY, YPSILANTI, MI, by Stephen J. Hicks. The award was accepted by Professor Carl Ojala, observer.

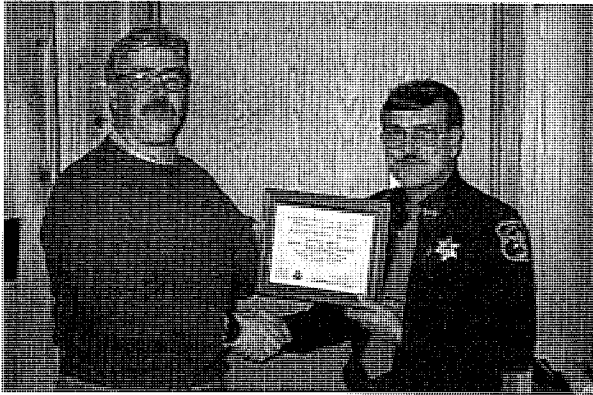


A 25-YEAR INSTITUTIONAL AWARD was presented to the DETROIT CITY AIRPORT, DETROIT, MI. Accepting the award was Eugene Stefani, observer. Award was presented by Stephen J. Hicks.

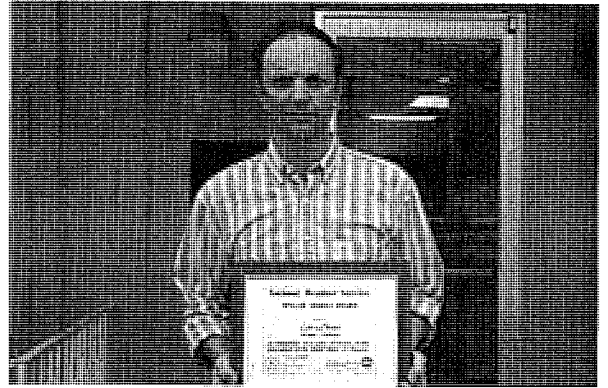


Ron Racine, Park Ranger, accepted a 25-YEAR INSTITUTIONAL AWARD presented to MCLAIN STATE PARK, HANCOCK, MI, by Stephen J. Hicks.

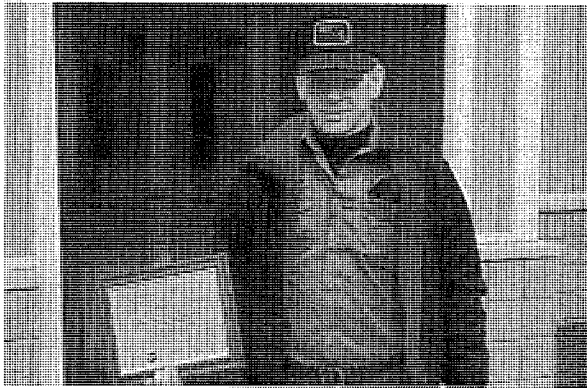
## CENTRAL REGION



A **25-YEAR INSTITUTIONAL AWARD** was presented to **SHERIFF VIRG STRICKLER OF THE SANILAC COUNTY SHERIFFS DEPARTMENT, SANDUSKY, MI**, by Stephen J. Hicks.



A **15-YEAR LENGTH-OF-SERVICE AWARD** was presented to **LARRY BROWN, ALLEGAN, MI**, by Stephen J. Hicks.



A **25-YEAR INSTITUTIONAL AWARD** was presented to **CHUCK WIERINGA, TAHQUAMENON FALLS STATE PARK, MI**, by Stephen J. Hicks.



A **15-YEAR LENGTH-OF-SERVICE AWARD** was presented to **WAYNE BURNS, MILLINGTON, MI**, by Stephen J. Hicks.



**SAM CRESWELL, WASTEWATER TREATMENT PLANT, CHARLEVOIX, MI**, was presented a **20-YEAR LENGTH-OF-SERVICE AWARD**.



A **15-YEAR LENGTH-OF-SERVICE AWARD** was presented to **JEAN POSTMA, RUDYARD, MI**, by Stephen J. Hicks.

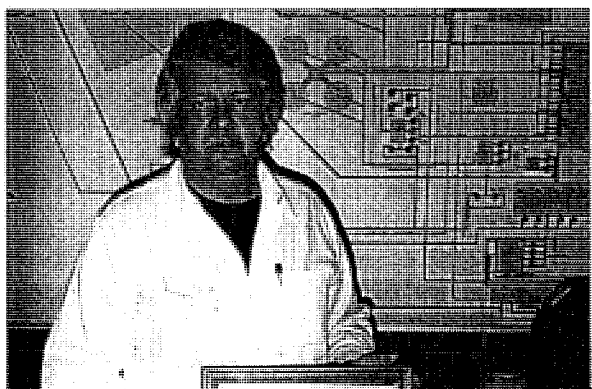
## CENTRAL REGION



A 10-YEAR LENGTH-OF-SERVICE AWARD was presented to **FRANKLIN HOFMEISTER, SEBEWAING, MI**, by Stephen J. Hicks.



**LONNIE H. SPAETH, OBSERVER, NEW ULM, MN**, was presented a 10-YEAR LENGTH-OF-SERVICE AWARD.



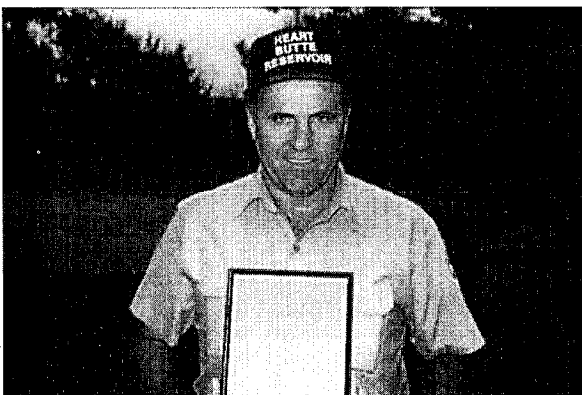
A 5-YEAR LENGTH-OF-SERVICE AWARD was presented to **BILL WESTERMAN, FLINT, MI**, by Stephen J. Hicks.



**GUS FUHRMAN, OBSERVER, FESSENDEN, ND**, was presented a 10-YEAR LENGTH-OF-SERVICE AWARD by Vern Roller, CPM, WSFO Bismarck, ND.



**TIMOTHY J. MATTEISEN** was presented a 10-YEAR LENGTH-OF-SERVICE AWARD to recognize his service as an **OBSERVER AT BENSON, MN**.



Pictured is **DAVID SIEGFRIED, OBSERVER, AND DAM TENDER AT HEART BUTTE DAM/LAKE TSCHIDA, ND**, with his 10-YEAR LENGTH-OF-SERVICE AWARD. Dave started taking the weather observations in August 1984. Picture and presentation by Vern Roller.



# NATIONAL COOPERATIVE OBSERVER

BULLETIN  
of the

AMERICAN METEOROLOGICAL SOCIETY

Published Monthly by the American Meteorological  
Society at Worcester, MA

Editor: Charles F. Brooks, Clark University  
Worcester, MA

Assistant Editor: Nesbitt H. Bangs

Contributing Editors:

Henry J. Cox, Robert E. Horton, Clarence J. Root,  
and Burton M. Varney

Vol. 9

January, 1928

No. 1

## DUTIES AND EXPERIENCES OF A COOPERATIVE OBSERVER

By Mrs. Ross Woods, Cooperative Observer,  
Palmetto, Tenn.

For years it has been my desire to have a convention of the weather observers of our state, that I might meet my fellow cooperatives and exchange experiences with them, but such a convention up to this time has not seemed feasible.

But now two mighty luminaries in the scientific world are in conjunction and with their combined attractive force, are drawing all the earth, great and small, toward them. The American Meteorological Society, for the first time in its history, and the American Association for the Advancement of Science, for the second time in its history, have met in our capital city. Truly opportunity is at the high tide of the spring tide and my erstwhile dream for years of too little importance to warrant fulfillment, is now a reality.

And now that I have the opportunity to speak, my heart fills so with emotion the words are choked back and with Tennyson I cry, "And I would that I could utter the thoughts that arise in me." That little latticed shed, or instrument shelter, in the yard back home does not seem to me to house mere instruments of wood and metal. Those instruments are a part of my family and as dear to me as some cherished heirloom to another. And why shouldn't I love them when I recall the days that used to be?

My father, R. S. Montgomery, known to his peers as Col. Bob, and to his inferiors

as Marse Bob, was one of the earliest observers in the state. In his early twenties he began keeping a diary, a habit he continued the remaining fifty years of his life. Of course the weather furnished as ready a topic for written as for spoken thought and from weather notes in his diary, it was just a step to the daily record of a cooperative observer, which he first undertook to make for the Weather Bureau in 1883, 13 years after the organization of the Weather Bureau as a division of the Signal Service in the regular army and 8 years before it was transferred to the Department of Agriculture.

Our home was in the little village of Palmetto on the extreme western boundary of Bedford County - 12 1/2 miles from the county seat. Just across the road from "our house" was "our store" with the U.S. Post Office in the rear. This was no common ordinary store, but an institution of higher learning. My father as truly dispensed knowledge from the front porch of that old store as did the Stoic philosophers from their porch in the market place at Athens. Along about four o'clock of the afternoon, the front porch meeting adjourned to the middle of the pike and there with a pair of opera glasses, swapped from hand to hand and eye to eye, the crowd watched for the coming of the hack which brought the daily mail. And then my father ~~opened up the newspaper and read aloud~~ the news of the outside world. His own weather records compared earlier in the day with his neighbors' observations and

## NATIONAL COOPERATIVE OBSERVER

with the memory of the oldest inhabitants now met comparison with the outside world.

One glance at the little latticed shed has the power to recall all these scenes of the past--the long ago past, for in 1902 the rural Free Delivery came up our pike and since every man then could have a newspaper delivered to his own front porch, the mail back was discontinued, the Post Office was abolished, the Store Porch Forum of the People lost its prestige, the dear old philosopher of the store porch closed his earthly records in 1905 and opened the book of life above. Last of all the store burned, but the weather records and the instruments remained and being intrusted to me were moved into the yard of my new home a few steps farther down the road.

At first I loved them because of my father, later for their own sake or shall I say because through association with my own babies they became almost like one of the children. For more than twenty-two years they have stood in my yard with the pride of their thirty-eight years of unbroken record which

"Through days of sorrow and of mirth  
Through days of death and days of birth  
Through every swift vicissitude  
Of changeful time"

unbroken had stood until last summer I was absent for ten days and not even the most insistent S.O.S. could secure a substitute. Full explanations and sincere apologies were sent to headquarters which were kindly accepted.

Even the fondest mother, however, at times becomes irritated with her children, so I must confess there have been times when I wished I had never seen that shed with its instruments or at least I had never consented to be a cooperative observer. Doubtless this was when I had to arise early, cook the breakfast, get some of the children off to school, see after the ones who were too small to go, look after coops and brooders full of hungry chicks crying for their feed and perform the hundred other odd tasks that confront the farm-wife each morning, while out of the corner of my eye I saw the clock hands moving forward and realized it was almost time for the mail and the monthly record must

be made out and sent in today; then it seemed as if even a camel's back couldn't stand that last straw. The sea was too far away for me to wish the shed and its contents sunk in its depths--but winds blow over land as well as sea and we have had some worthy of the name of "cyclone"--possibly I should say "hurricane" or "tornado" to be strict in the choice of names. Once the wind tipped over the shed, but it must have realized it housed government property for it left it lying on the ground.

This matter of recording the direction of the wind caused me to be subpoenaed as a witness in a lawsuit, which grew out of damage claimed for a barn supposed to have burned from sparks of a railroad engine. I was to bring my records and testify as to the direction of the wind on "said day of said burning." But the parties to the suit compromised and I did not have to appear in court. However, this little incident shows the necessity for care and accuracy in recording observations. If one could so far forget his honor as to enter any kind of record in lieu of the proper observation with the excuse, "It doesn't matter anyway," such a record might be the very one requiring accuracy. Twice my records have enabled my neighbors to collect insurance, since they proved that an electrical storm occurred on the days that it was alleged a horse and a barn were struck by lightning.

The cooperative observer of the U.S. Weather Bureau certainly has an opportunity to prove that the initials U.S. stand for Universal Service. Once the County Fair Association received the loan of the rain gauge as they had protected their profits with the rain insurance. I would not undertake to say how many times on a winter night I have been summoned to the telephone to answer the questions, "Is it cold enough to drain the car?", "Should I put more cover over the potatoes?", etc. Or perhaps in the dry weather after a welcome shower, some one calls to ask whether the gauge shows rain enough to do the crops any good. Or, maybe, a heavy rain causes a call to settle an argument as to whether more rain fell in the high water of December 1926, or the high water of April 1902. Anyone who has tried to operate the question box for an entire neighborhood knows these are only a few

## NATIONAL COOPERATIVE OBSERVER

of the questions a cooperative observer is called upon to answer.

How very, very often, I have the pleasure of showing a visitor or new-comer the maximum and the minimum thermometers, how they keep their register till I set them, explain the way to measure the rain, of keeping a daily record and noting the direction of the wind and character of the day, all of which must be made out once a month and sent to the Weather Bureau at Nashville. Usually this information calls forth words of appreciation and commendation, but there are some who are wont to ask, "Why do you do all this for nothing?" The easiest reply is: the compensation the Government could allow for this work would be small yet there are many incompetent and irresponsible persons, who would take it for the price, small though it be. But the truest and best reason in deep within my heart and could not be understood by a disinterested listener.

In fancy I stand before the instrument, not at the time I set the thermometer and make my daily record, but this is the hour before bedtime and this is my observation; above me is the sky "that beautiful parchment on which the sun and moon keep their diary." I see it "sometimes gentle, sometimes capricious, sometimes awful, never the same for two moments together, almost human in its passions, almost spiritual in its tenderness, almost divine in its infinity," and I am glad I am numbered even though in a humble way among those who scan the sky.

What an innumerable company they are, extending back to the very edge of time, including astrologers, soothsayers, diviners and what not, who interpreted the will of their gods by the skies.

It would be interesting to follow the development of the science of meteorology down to the present time, but it is enough to say that today we read the open book of the sky, not to determine how we may propitiate angry gods, but how we may ~~serve our fellowmen.~~ Through the agency of the Weather Bureau, millions of dollars' worth of crops are annually saved, ships at sea are warned, railroads

regulate their shipments and other peacetime activities are aided. During the war, accuracy of firing was aided and propitious times for gas attacks were selected.

Just as truly as we cooperatives have helped to make the U.S. in U.S. Weather Bureau, stand for universal service so surely let us make it stand for united service. Our part may be small, but if we unite in faithfully, conscientiously doing it, we will make a firm foundation for a grander structure.

I am recalled to the present by the question, "Why do all this for nothing", and this time I answer, "Is it nothing to have served my country, my fellowmen and the future?"

### TENNESSEE WEATHER SERVICE SESSION

With a room full of people, President C.F. Marvin opened the Tennessee Weather Service Session of the American Meteorological Society, December 30, promptly at 11 a.m. His brief address of welcome was a warm-hearted expression of gratitude felt by meteorologists and climatologists for the invaluable services rendered by the cooperative observers throughout the country.

"I cannot express sufficiently our appreciation for their services rendered day after day, year after year," Professor Marvin said. "Without their observations we should know little about the details of climate. The Weather Bureau is very glad to furnish instruments and forms, but the great work is the making of the observations."

Mr. Roscoe Nunn was then called on the biographies of Tennessee meteorologists, and he recounted in interesting terms the chief points in the scientific careers of Maury, Ferrel, Clayton, Fergusson and Cline.

### TENNESSEE METEOROLOGISTS

by Roscoe Nunn

Tennessee (to be more exact, Middle Tennessee) has given some worthy names to the roll of American meteorologists.

## NATIONAL COOPERATIVE OBSERVER

Matthew Fontaine Maury

One of the very first men to do anything about establishing a weather service was Lieut. Matthew Fontaine Maury. Virginia was Maury's native state, he having been born near Fredericksburg on January 24, 1806; but when he was in his fifth year the family emigrated to Tennessee, bringing their worldly goods in wagons, and settling near Franklin. Maury called Tennessee his adopted state. He lived near Franklin for about 15 years, or until 1825, when the Hon. Sam Houston, member of Congress, obtained his appointment as midshipman in the Navy. His life work then began. His first great work was the charting of the winds and currents of the oceans. He has been called the founder of the science of hydrography. His famous book, "The Physical Geography of the Sea," had much to do with some of the principles of meteorology.

After the great success of his researches on the seas, his charts and sailing directions; after he had accomplished so much of navigation and ocean commerce, and had been recognized and honored as one of the greatest benefactors of his time, Maury conceived the idea that what had been done in the way of collecting information about ocean currents and winds, and formulating practical rules for the use of such information, to the

great economic advantage of the world, might be done somewhat similarly on the land, for the benefit of agriculture, commerce and industries of many kinds. So we find that as early as 1853 Maury, upon his own initiative and exertions, brought about a convention of scientists of the world at Brussels to consider a uniform system of meteorological observations. From then on he kept hammering at the subjects of "meteorology for the farmer," and "weather and crop reports." The civil war came on, Maury joined the Confederacy and his dreams and plans were, of course, sadly interrupted.

In his last years Maury devoted himself to advocating the establishing of "agricultural meteorology," a government service which he thought would be of tremendous benefit to the farmers, and one of the last speeches he made on the subject was delivered at Nashville in 1871. His idea lived. For some years the Weather Bureau has had in its organization a division of "agricultural meteorology," which is doing a valuable work.

It was through reading the works of Maury that an almost unknown school teacher in Nashville was inspired to take up the subject of meteorology, and this resulted in those remarkable papers published in the "Nashville Journal of Medicine and Surgery," in 1856, by William Ferrel.

1. Read by the author at the Tennessee Weather Service Session of the American Meteorological Society Meeting at Nashville, Tennessee, December 30, 1927.

### MONTHLY PRECIPITATION TOTALS

ANNUAL 1987  
NORTH CAROLINA

STATION	ANNUAL	MONTH																
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC					
NORTH CAROLINA																		
ASHEVILLE WSD AP	34.57	1.11	1.85	2.75	0.57	3.55								4.19	5.28	4.28		
ASHEVILLE	26.57	0.71	1.57	1.81	0.53									2.77	4.15	2.94		
ASHFORD	36.74E	1.20	1.70	2.90	0.54E									3.80	4.90	4.80		
BADIN			1.30	2.60	1.20									2.40	4.10	2.30		
B EVERETT JORDAN DAM		1.70		3.60											1.70			
BOOMER 5 WSH		1.00	2.10															
BURLINGTON 2 WNE		0.80	1.92E															
CAPE MATTERAS WSD	48.86	5.75																
CARTRIDGE 8 SE		1.70																
CATALOCHEE		0.50																
CHARLOTTE WSD AP	26.31																	
CLINTON 2 WE																		
DALTON																		
DOBSON																		
EDEN																		
ELIZABETH																		
FRANKS																		
GREENSBORO																		
GREENVILLE																		
HICKORY																		
HOBOKEN																		
LAKE LURE																		
LAURINBURG																		
LEXINGTON																		
MORRISVILLE 2																		
MOREHEAD CITY																		
MOUNT PLEASANT																		
M WILKESBORO 12																		
POLKTON 2 NE																		
QUEBEC																		
RALEIGH-DURHAM WSP																		
ROANOKE RAPIDS																		
ROARING GAP 1 NW																		
SHELBY 2																		
SNEADS FERRY 2 ENE																		
SWANANOA 2 SSE																		
WILMINGTON WSD AP																		
WILSON 3 SW																		
YADKINVILLE 6 E																		

# HOURLY PRECIPITATION DATA

## NORTH CAROLINA

DECEMBER 1987  
WITH ANNUAL SUPPLEMENT  
VOLUME 37 NUMBER 12

- A WORLD OF CLIMATIC INFORMATION FOR . . .**
- \* Attorneys
  - \* Colleges & Universities
  - \* Construction
  - \* Consultants
  - \* Governmental Agencies
  - \* Industry
  - \* Insurance Companies
  - \* Public Utilities
  - \* Research & Development
  - \* Energy

### STATION INDEX

STATION	COUNTY	1987 (1)	1987 (2)	1987 (3)	1987 (4)	1987 (5)	1987 (6)	1987 (7)	1987 (8)
NORTH CAROLINA									
ASHEVILLE WSD AP	C300	18107000	18107000	18107000	18107000	18107000	18107000	18107000	18107000
ASHEVILLE	D301	18107000	18107000	18107000	18107000	18107000	18107000	18107000	18107000
ASHFORD	D302	18107000	18107000	18107000	18107000	18107000	18107000	18107000	18107000
BADIN	D303	18107000	18107000	18107000	18107000	18107000	18107000	18107000	18107000
B EVERETT JORDAN DAM	D304	18107000	18107000	18107000	18107000	18107000	18107000	18107000	18107000

### MONTHLY PRECIPITATION MAXIMA

MAXIMA FOR MEASUREMENT PERIODS OF

STATION	MINUTES	HOURS			
		1	2	3	6
NORTH CAROLINA					
ASHEVILLE WSD AP	15	10 2811245	20 2310745	30 1810700	42 1810700
ASHEVILLE	30	20 0171495	30 0171495	30 2310745	30 2310745
ASHFORD					
BADIN					
B EVERETT JORDAN DAM					

### HOURLY PRECIPITATION

A.M. HOUR ENDING

STATION	HOUR	A.M. HOUR ENDING												
		1	2	3	4	5	6	7	8	9	10	11	12	
NORTH CAROLINA														
ASHEVILLE WSD AP	1	00	00	00	00	00	00	00	00	00	00	00	00	00
ASHEVILLE	2	00	00	00	00	00	00	00	00	00	00	00	00	00
ASHFORD	3	00	00	00	00	00	00	00	00	00	00	00	00	00
BADIN	4	00	00	00	00	00	00	00	00	00	00	00	00	00
B EVERETT JORDAN DAM	5	00	00	00	00	00	00	00	00	00	00	00	00	00

# HOURLY PRECIPITATION DATA

## NORTH CAROLINA

JANUARY 1987

VOLUME 37 NUMBER 1

**HOURLY PRECIPITATION DATA** is published monthly and presents daily, hourly, and maximum short duration data for recording rain gage stations in each state except Alaska. Also included are a published station index and a locator map for the state. In addition to the regularly published data, the December publication contains a tabulation of monthly and annual total precipitation amounts as an annual supplement.

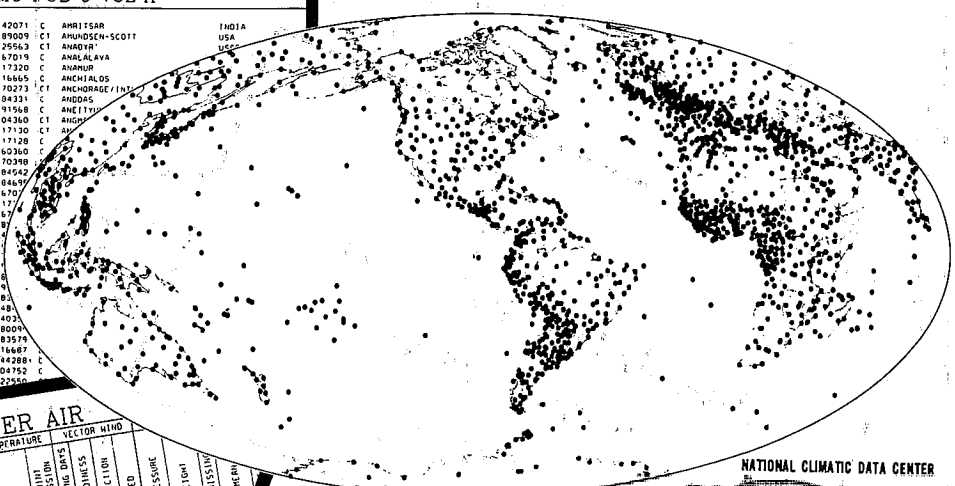
**SHELF STOCK** of the printed publication is maintained only for the most recent 3 years. Earlier years are available on microfiche or paper copies reproduced from microfiche. The data is also available in digital form - on magnetic tape or floppy disk.

For further information,  
call or write to the  
**NATIONAL CLIMATIC DATA CENTER**  
Room 120, 151 Patton Avenue, Asheville, NC 28801-5001  
Phone (704) 271-4800 or (704) 271-4010 (IDD)  
(704) 271-4876 (Fax)

# CLIMATIC DATA STATIONS - WORLDWIDE

## STATION LIST WMO PUB 9 VOL A

41246 C	ISHHAR MAJIS	OHAN	42071 C	AMRITSAR	INDIA
40033 C	ABADAN	IRAN, ISLAMIC REP	89009 C	AMUNDSEN-SCOTT	USA
47409 C	ABU DHABI	JAPAN	18467 C	AMUR	USA
71100 C	ABBOTSFORD, B C	CANADA	67019 C	ANALALVA	
64756 C	ABECH	CHAD	17320 C	ANAPUR	
03091 C	ABERDEEN/NTICE	U KINGDOM	18465 C	ANCHALOS	
81112 C	ABHA	SAUDI ARABIA	10273 C	ANCHORAGE/INTL	
85978 C	ABIDJAN	COTE D'IVOIRE	04321 C	ANDROS	
72284 C	ABILENE, TX	USA	81558 C	ANETH	
41216 C	ABU DHABI DATEEN AIRPORT	U ARAB EMIRATES	04360 C	ANGK	
41217 C	ABU DHABI INTL AIRPORT	U ARAB EMIRATES	17120 C	ANGK	
82840 C	ABU HAMED	SUDAN	17120 C	ANGK	
62795 C	ABU NA'AMA	SUDAN	60360 C		
78850 C	ACAJUTLA	EL SALVADOR	70398 C		
76805 C	ACAPULCO, GRO	MEXICO	84942 C		
80427 C	ACARIQUA	VENEZUELA	9467 C		
17282 C	ADANA	TURKEY	67070 C		
61382 C	ADDIS ABABA	ETHIOPIA	67070 C		
94672 C	ADELAIDE AIRPORT	AUSTRALIA	67070 C		
41447 C	ADEN, MUHAMMAD	YEMEN	67070 C		
65585 C	ADIRACK	COTE D'IVOIRE	67070 C		
80620 C	ADRAR	ALGERIA	67070 C		
76179 C	AEROP INTL MEXICO, O F	MEXICO	67070 C		
76444 C	AEROP INTL MEXICO, TUC	MEXICO	67070 C		
76294 C	AEROP INTL, MONTREARY, N L	MEXICO	67070 C		
81582 C	AGROPOUR	ARGENTINA	67070 C		
17190 C	AGYON	TURKEY	67070 C		
61024 C	AGADEZ	NIGER	67070 C		
60290 C	AGADIR	MOROCCO	67070 C		
61974 C	AGALEGA	MAURITIUS	67070 C		
42261 C	AGRA	INDIA	67070 C		
16472 C	AGRIATION (AIRPORT)	GREECE	67070 C		
42647 C	AGRAHABAD	INDIA	67070 C		
60560 C	AJN SEPPA	ALGERIA	67070 C		
61495 C	AJOUA EL AHOUS	MALITANIA	67070 C		
07761 C	AJACCIO	FRANCE	67070 C		
31160 C	AJAH		67070 C		
17184 C	AJMER		67070 C		
47582 C	AKITA		67070 C		
61337 C			67070 C		



NATIONAL CLIMATIC DATA CENTER



### ASIA-JAPAN UPPER AIR

STATION	LEVEL	TEMPERATURE	VECTOR WIND	LEVEL	TEMPERATURE	VECTOR WIND
	PRESSURE	WIND DIR	WIND SPD	WIND DIR	WIND SPD	WIND DIR
ASIA JAPAN	1000	10	080	1000	10	080
ASIA JAPAN	850	8	090	850	8	090
ASIA JAPAN	700	6	100	700	6	100
ASIA JAPAN	550	4	110	550	4	110
ASIA JAPAN	400	2	120	400	2	120
ASIA JAPAN	250	0	130	250	0	130
ASIA JAPAN	100	-2	140	100	-2	140

### EUROPE-NORWAY SURFACE

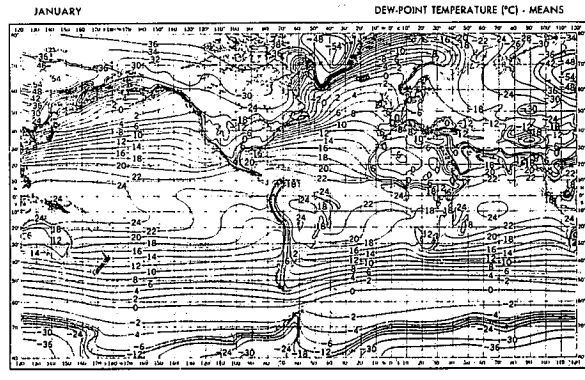
STATION	LATITUDE	LONGITUDE	ELEVATION	DATE OBS	TEMPERATURE	VAPOR PRESSURE	PRECIPITATION	SUNSHINE
	°	°	M	DD	°C	hPa	mm	HR
NORWAY	60.00	15.00	100	1988	5.0	1013.0	0.0	167
NORWAY	60.00	15.00	100	1988	5.0	1013.0	0.0	167
NORWAY	60.00	15.00	100	1988	5.0	1013.0	0.0	167
NORWAY	60.00	15.00	100	1988	5.0	1013.0	0.0	167
NORWAY	60.00	15.00	100	1988	5.0	1013.0	0.0	167

JANUARY 1988  
VOL 41 NO 1  
ISSN 0027-0296



## MONTHLY CLIMATIC DATA FOR THE WORLD

PREPARED IN COOPERATION WITH THE WORLD METEOROLOGICAL ORGANIZATION



MONTHLY CLIMATIC DATA for the WORLD (MCDW) is a publication of monthly summaries of climatic data from around the world. Data are prepared by Members of the World Meteorological Organization for selected stations and exchanged via the Global Telecommunications System in coded format.

Tables of both Surface and Upper Air data are presented. Surface data tables contain elements of pressure, temperature, vapor pressure, precipitation, and sunshine. Upper Air tables contain geopotential heights, temperatures, dew point depressions, and vector winds for ten selected pressure levels between the surface and thirty millibars (hectopascals). A Station List is also provided which, in the January and July editions, contains all stations authorized for publication. In other months the list contains only those stations from which data no more than two months old have been recently received.

Currently, world maps of long term mean temperatures, dew points, and sea level pressures are included on the cover of the MCDW. The maps are generally representative of conditions during the 1950's to mid-1970's, however some data may be from as early as the 1850's.

SHELF STOCK of the printed publication is maintained only for the most recent three years. Earlier years are available on microfiche or paper copies reproduced from microfiche. The data are also available in digital form on magnetic tape and diskette.

I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM INFORMATION RECEIVED AT THE NATIONAL CLIMATIC DATA CENTER, ASHEVILLE, NORTH CAROLINA 28801

*Kenneth D. Nielsen*  
DIRECTOR  
NATIONAL CLIMATIC DATA CENTER

**noaa**

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL ENVIRONMENTAL SATELLITE DATA AND INFORMATION SERVICE  
NATIONAL CLIMATIC DATA CENTER  
ASHEVILLE, NORTH CAROLINA

For further information,  
call or write to the  
**NATIONAL CLIMATIC DATA CENTER**  
Room 120, 151 Patton Avenue, Asheville, NC 28801-5001  
Phone (704) 271-4800 or (704) 271-4010 (TDD)  
(704) 271-4876 (Fax)

**CURRENT SERIAL PUBLICATIONS**

**A WORLD OF INFORMATION**

For . . . . .

- \* Industry
- \* Research and Development
- \* Public Utilities
- \* Government Agencies
- \* Attorneys
- \* Construction
- \* Consultants
- \* Insurance Companies
- \* Colleges and Universities
- \* Energy

NOAA  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / U.S. DEPARTMENT OF COMMERCE

NOAA

USCOMM-NOAA-ASHEVILLE, N.C.-1995-11,000

*Inquiries/Comments Call: (704) 271-4800 (Voice)*  
*(704) 271-4010 (TDD)*  
*(704) 271-4876 (Fax)*

National Climatic Data Center  
Room 120  
151 Patton Avenue  
Asheville, NC 28801-5001

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE \$300  
ADDRESS CORRECTION REQUESTED

BULK RATE  
POSTAGE & FEES PAID  
United States Department of Commerce  
NOAA Permit No. G-19