The Newsletter of the National Weather Service in Green Bay, Wisconsin

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Packerland Weather News

Volume 3, Issue 1 January 2004

Inside this issue:

Weather Observer Receives Ben Franklin Award

Recognizing over five decades of dedication, the National Weather Service has named Phelps resident John Caskey a 2003 recipient of the agency's Ben Franklin Award for outstanding service in the Cooperative Observer Program (COOP). The award is one of the agency's most prestigious, honoring volunteer observers with 55 years of service.

Meteorologist-in-Charge Gary Austin and Hydrometeorological Technician Pat Hein of the Green Bay Weather Forecast Office presented the award during a ceremony held on October 3, 2003.

Caskey, 88, began taking weather observations for the Wisconsin Valley Improvement Company and the National Weather Service at Lac Vieux Desert lake in 1948. He has recorded daily precipitation at 7:00 A.M. every day for the past 55 years.

The NWS Cooperative Observer Program has given scientists and researchers continuous observational data since the program's inception more than 100 years ago. Today, more than 11,000 volunteer observers participate in the nationwide program to provide daily reports on temperature, precipitation, and other weather elements.

Many of the COOP stations have been collecting weather data from the same location for more than a century. In some cases, several generations of a family have given up vacations and braved all kinds of extreme conditions to report weather conditions.

John Caskey with his wife Stella, with the Ben Franklin Award. Photo by Pat Hein.

Satellites, high-speed computers, mathematical models, and other technological breakthroughs have brought great benefits to the Nation in terms of better forecasts and warnings. But without the century-long accumulation of accurate weather observations taken by volunteer observers, scientists could not begin to adequately describe the climate of the United States.

Comments or Suggestions?

If you have any suggestions for articles or have comments about the ***Packerland Weather News***, feel free to contact us at:

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NWS Green Bay "On the Road" in Northeast Wisconsin

By Jeff Last, Warning Coordination Meteorologist, NWS Green Bay

NWS Green Bay staff members participate in numerous outreach activities every year, meeting with thousands of northeast and central Wisconsin residents.

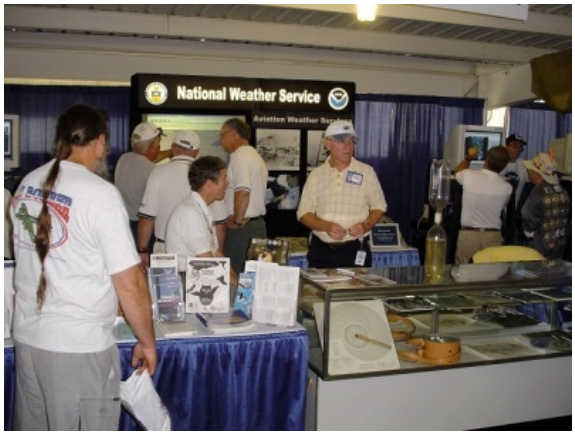
Every February, NWS Green Bay staff members attend the Northeast Wisconsin Boat Show in Green Bay, meeting with recreational boaters and outdoor enthusiasts. Visitors to the Weather Service's booth provide valuable feedback on NWS marine forecasts and services.

Springtime means thunderstorms, tornadoes, and severe weather spotter training. Weather spotters volunteer their time to keep an eye to the sky during severe weather. Training for spotters is presented by NWS Green Bay staff in many of the counties of northeast and central Wisconsin. Classes are scheduled from March through May.

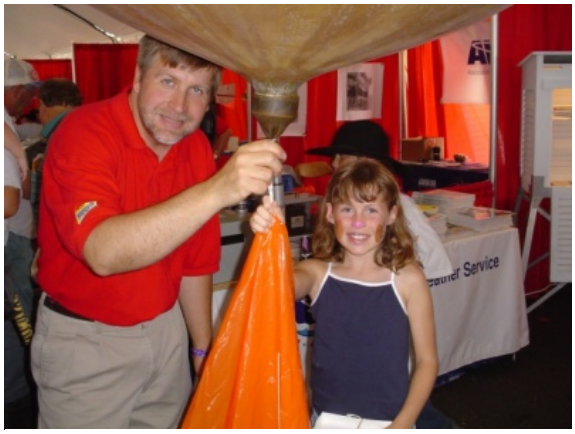
Weather and flying go hand-in-hand, so in late July and early August the NWS is busy at the annual Experimental Aircraft Association AirVenture in Oshkosh. Thousands of pilots and aircraft enthusiasts come to the NWS booth, located in the Federal Pavilion on the EAA grounds.

Careers in weather and science are the focus in December, as the Green Bay Area Career Expo takes center stage. Thousands of high school sophomores from school districts in and near Green Bay attend the career fair. NWS Green Bay staff discuss careers in meteorology and the NWS with students and teachers.

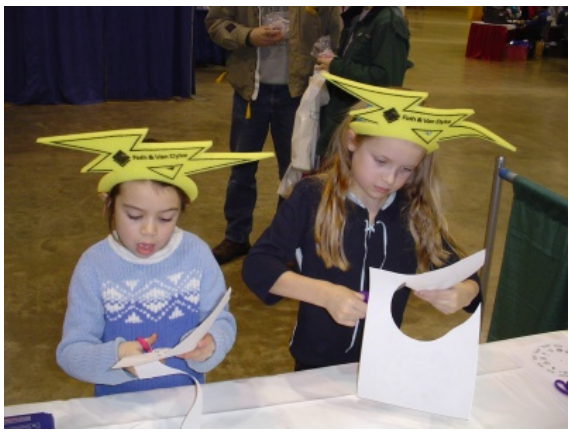
Most recently, staff from the office participated in the Einstein Science Expo in Green Bay. This year's Expo, which was held in January, allowed children to engage in hands-on explorations with scientists in the four areas of science: life, earth, physical, and engineering. The NWS booth featured winter weather safety brochures and information about how a weather forecast is produced. The most popular item at the booth was the "Wind Wheel." Kids of all ages enjoyed putting together the wheel, which approximates wind speed based on visual clues.



NWS booth at the EAA AirVenture in August, 2003.



NWS Green Bay forecaster Rich Mamrosh at the EAA AirVenture in August, 2003.



Two future meteorologists putting together "Wind Wheels" at the NWS booth during the Einstein Science Expo in January, 2004.

New Electronics Technician at NWS Green Bay

By Linda S. Karman, Administrative Support Assistant, NWS Green Bay

WFO Green Bay was pleased to welcome Glenn Wareham to its staff on December 15, 2003, as an Electronics Technician. Prior to joining the National Weather Service, Wareham spent 20 years in the United States Air Force, being honorably discharged as a Master Sergeant. While in the U.S. Air Force, Wareham earned an Associate Degree in Electronics Systems Technology. Throughout his career, Wareham maintained sophisticated electronic radar systems and spent several years as an instructor in the field. He is a veteran of both Desert Shield and Desert Storm.

Electronics Technicians in the National Weather Service maintain all observation equipment and radar technology for the issuance of weather forecasts and watches, warnings, and advisories. Without their attention to detail, forecast accuracy would be greatly reduced.

NWS Green Bay Electronics Tech Glenn Wareham.

A native of Tamarack, Michigan, Wareham now resides in DePere, Wisconsin, with his wife Laurie and daughter Alyssa.

Wareham replaces Kolly Mars, who was selected for a position at the NWS Aviation Weather Center in Kansas City, Missouri.

50th Anniversary of Computer Weather Models

This year the meteorological community celebrates the 50th anniversary of operational numerical weather prediction, commonly known as computer weather models. These models are the basis for all weather and climate forecasts issued by the National Weather Service.

Operational numerical weather prediction began on July 1, 1954, with the establishment of the federal government's Joint Numerical Weather Prediction Unit, which was staffed by members of the U.S. Weather Bureau (precursor to the National Weather Service), the U.S. Air Force and the U.S. Navy. The JNWPU was a landmark collaborative approach between civilian and military services organized to pool resources for the best new computer technology for operational weather forecasting. The origins of the NOAA National Centers for Environmental Prediction, the U.S. Air Force Weather Agency and the U.S. Navy's Fleet Numerical Meteorology and Oceanography Center can all be traced to the JNWPU.

Accurate weather forecasts would be impossible without computer models of the atmosphere. The models use equations that describe how a fluid (such as air) moves and describe the physical changes that affect weather. A forecaster uses the model "output" and his or her experience to put together a forecast.

The supercomputers at the NOAA National Centers for Environmental Prediction, circa 2003. Photo: NOAA.

Today's supercomputers have helped increase forecast accuracy by allowing scientists to model small-scale weather features, such as thunderstorms and cold fronts, more accurately.

On the Web

www.ncep.noaa.gov

Autumn 2003 in Review

By Roy Eckberg, Forecaster,
NWS Green Bay

Autumn 2003 brought temperatures near the expected seasonal average across central and north-central Wisconsin, while temperatures were above normal over the east-central part of the state. Precipitation was substantially (as much as four inches) below normal across central and north-central Wisconsin, while Green Bay was almost an inch above normal. Snowfall amounts for the entire area were well below normal, just like the last few years.

September started out warm and dry, with the first eleven days of the month experiencing temperatures mainly in the 70s and 80s. Temperatures reached the middle to upper 80s from September 6-9 across central and north central Wisconsin. The rest of September was typical, with the first significant cold snap of the fall occurring during the last five days of the month. The first freeze of autumn was recorded on September 28 at Rhinelander (26 F), and on September 29 at Green Bay (31 F) and Wausau (30 F). Overall, September ended up being about a degree or two above normal, with precipitation well below normal across central and northern Wisconsin, but near normal over the east.

In October, snow showers were reported across portions of north-central and east-central Wisconsin on the 1st, when Green Bay and Rhinelander recorded a trace of snow for the day. The cold snap was brief, as an "Indian summer" was experienced on October 7-11. Temperatures on October 8 topped out at 80 F at Green Bay and 77 F at Rhinelander, while Wausau reached 77 F on the 7th and 8th. Seasonable temperatures continued into the latter half of the month, with another unseasonably warm day on October 20, when temperatures reached the mid and upper 70s.

The first measurable snow of the season was reported on October 27 at Rhinelander (1.0 inch) and Wausau (0.5 inch). Overall, temperatures for the month were near normal over central and east central Wisconsin, and about a degree below normal over the north. Precipitation and snowfall amounts were below normal.

After a cool start, November temperatures recovered to typical readings. The warmest day of the month occurred on November 20, when Green Bay reached 62 F, Wausau hit 60 F, and Rhinelander had 53 F. Overall, temperatures for the month over central and north-central Wisconsin were near normal and precipitation was below normal. Temperatures and precipitation were above normal across the east-central part of the state.

Want to Learn More about Weather?

Do you have a strong interest in weather and the related sciences? Would you like to become more active in the meteorological community of northeast and north-central Wisconsin? The Packerland Chapter of the American Meteorological Society might be for you.

The Packerland Chapter of the AMS promotes weather education and shares knowledge of atmospheric and related sciences to the meteorological community in northeast, central, and north-central Wisconsin.

The Chapter holds monthly meetings during most of the year and is active in AMS educational initiatives and outreach activities.

Recent meetings have covered topics ranging from the Door county tornado to sprites and the northern lights. The Chapter has also participated in field trips, including a visit to Wausau to see how snow is made at Granite Peak and to the Fire Museum in Peshtigo.

For more information about the Packerland Chapter of the AMS, check out the Chapter's web site:

http://chapters.ametsoc.org/packerland

On the Web

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Summer of 2003: Mild and Dry

By Roy Eckberg, Forecaster,
NWS Green Bay

The summer of 2003 started off on a chilly note. On June 1, a hard freeze was reported across north-central Wisconsin. Rhinelander set an all time record low of 27 F for the month of June, which broke the old record of 28 degrees last set on June 5, 2001. The 27 F low was the coldest summer temperature (June through August) ever recorded in Rhinelander. Temperatures across central and east central Wisconsin fell into the lower to middle 30s, with Green Bay and Wausau bottoming out at 36 degrees. Below normal temperatures continued throughout the first half of the month, before summer-like readings returned to the area from the 17th to the 27th. That wasn't enough, however, as June temperatures averaged 1.5 F to 2.5 F degrees below normal. Rainfall was near normal across east-central Wisconsin, and below normal across the central and north-central part of the state.

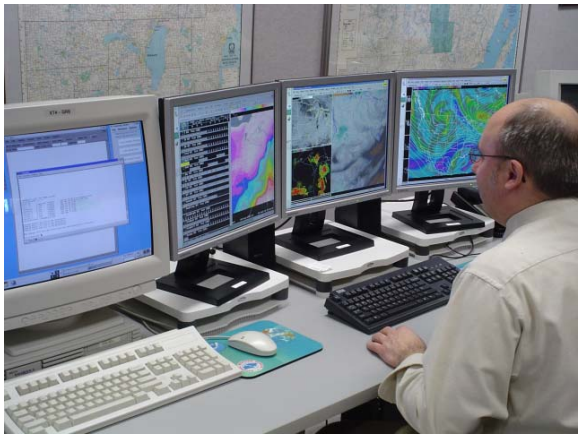
July was a relatively quiet month. Rhinelander received 2.82 inches of rain on the 26th and Green Bay topped out at 90 F on the 3rd, the only day it was in the 90s in Green Bay during the summer. For the month, temperatures across the entire area averaged 1-2 degrees F below normal. Rainfall was near normal across the east, slightly below across the north, and substantially below normal across central Wisconsin. For the month, Wausau was 2.07 inches below normal.

August brought much of the same. Highs were generally in the 70s and 80s. Only a few days reached 90 F across central and north-central Wisconsin. The hottest day of the summer at Rhinelander and Wausau occurred in August. Rhinelander reached 91 F on the 19th, and Wausau hit 93 F on the 24th. The first hints of fall were felt on the 30th, as temperatures dropped to 38 F at Rhinelander, 46 F at Wausau, and 47 F at Green Bay. Even so, temperatures for the month were well above normal (most locations were +1.5 F to +3.0 F). As was the case in July, precipitation was near normal across the east, but well below normal over the remainder of the area. Rhinelander's August rainfall ended 3.59 inches below normal and Wausau was 3.06 inches below normal—drought-like conditions were officially declared across central and southwest Wisconsin.

A Peek Inside Weather Operations at NWS Green Bay

The NWS Weather Forecast Office in Green Bay issues weather forecasts, advisories, and warnings for 22 counties in northeast and north-central Wisconsin. The forecasts and warnings produced by the NWS office are disseminated to the media, emergency officials, and other customers who use the information to keep the citizens of the region safe.

The forecast operations staff consists of thirteen meteorologists and five hydrometeorological technicians (also known as forecaster assistants), on duty 24 hours a day. Weather forecasts are issued for the general public and many other customers. For example, the NWS Green Bay office issues forecasts for four airports across northeast Wisconsin. These aviation fore-



NWS Green Bay Senior Forecaster Jim Skowronski at one of the weather workstations.

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A Peek Inside NWS Green Bay

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casts pinpoint the exact time when, for example, precipitation will begin or end, how low cloud bases will form, and when the wind will shift. This information is critical for pilots who takeoff and land at area airports. Forecasts for foresters, known as "fire weather" forecasts, provide important humidity, precipitation, and wind information to land managers who prevent fires in our forests.

Of all the forecasts and advisories the NWS issues, warnings for severe weather conditions are the most important. These alerts provide critical information to the public, emergency officials, and the media regarding the development of tornadoes, severe thunderstorms, and floods. Forecasters use satellite, Doppler radar, and storm spotter reports to evaluate the severity of storms. After analysis of a particular storm indicates it will become severe, a warning is issued and disseminated to the world.

The NWS Green Bay Weather Forecast Office.

All of the work that is done at the Green Bay office supports the NWS mission to provide weather, hydrologic, and climate forecasts and warnings for the U.S. and adjacent waters for the protection of life and property and the enhancement of the national economy.