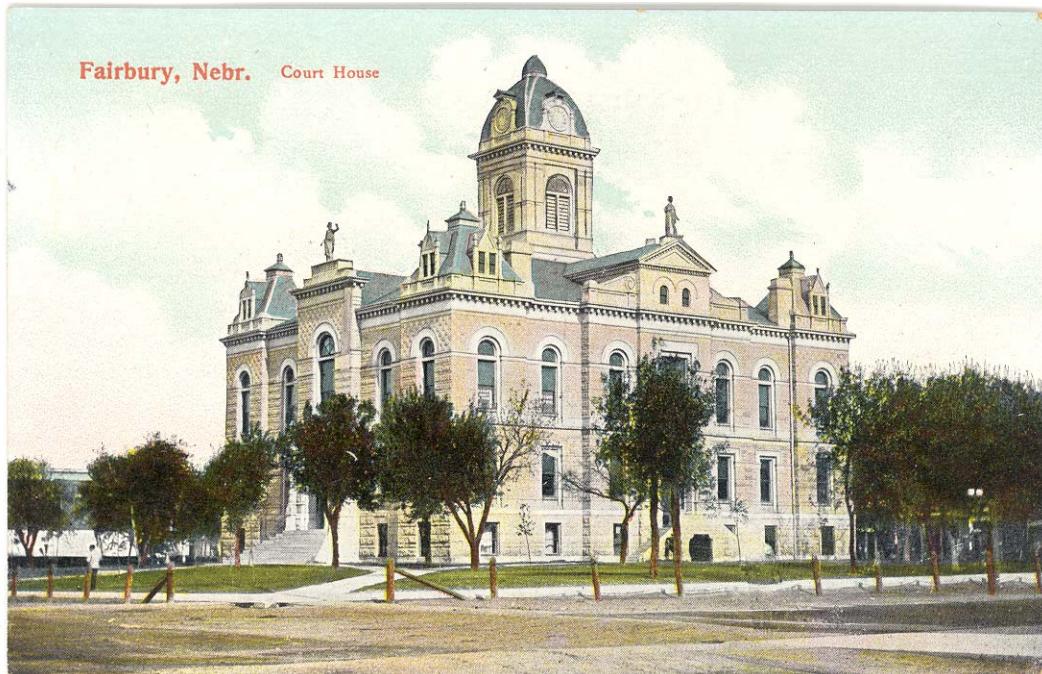


# **THE HISTORY OF WEATHER OBSERVING IN FAIRBURY, NEBRASKA, 1875-2004**



**Jefferson County Courthouse, Fairbury, Nebraska, circa 1900.**

From author's personal collection of post cards.

**Current as of  
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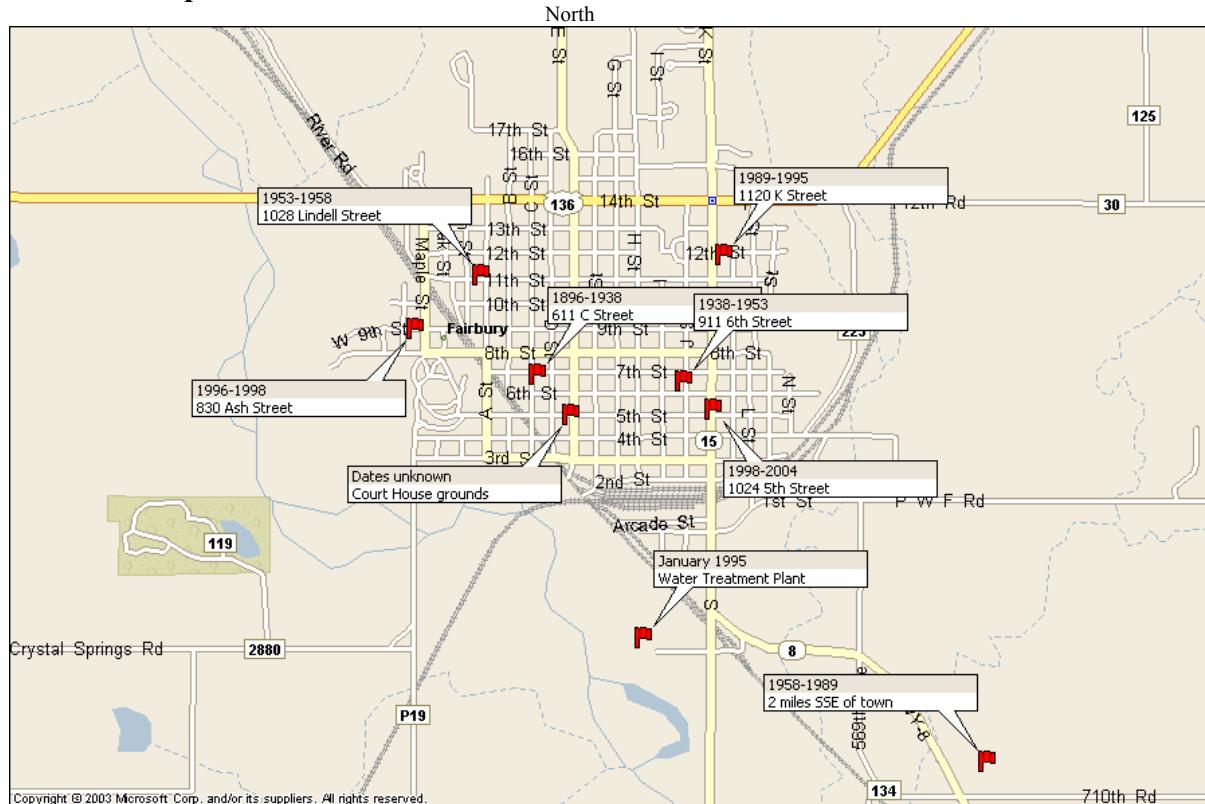
## **Executive Summary**

Weather observations in the Fairbury, Nebraska area began in 1875 and continue to this day. Volunteers have contributed exclusively to this effort beginning with Dr. J. Humphrey who observed from 1875 until 1894. A series of observers including J. N. Collier (1895), Adrian Yeager (1896-1897), H. A. Axtel (1897) and Herman Conerus (1897-1898) each served a short time as the local observer. Then in August 1898 William F. Cramb began recording the observations, a service he provided for over 50 years, finally ending his term in February 1953. Alan D. Bast then took over the duties until 1958 when Stanley E. Kasperek began his long service of over 35 years, ending in December 1995. Charles C. Bauer served from January 1996 until December 1998 when the present observer, Freddi Vorderstrasse, began his observations.

## **Goal of the Study**

The goal of this study is to document the primary weather observational path at Fairbury Nebraska, leading to the current and on-going National Weather Service's Cooperative observers. Throughout the research for and preparation of this study, the goal was to produce a document that future studies can use to evaluate the validity of the data that were collected here, judge the trustworthiness of the observers who collected them, and determine the climatological significance of whatever variability may be discerned.

## Location Map



Map 1. The location of weather observing sites at Fairbury, Nebraska, 1875-2004.

The following lists the chronology of weather station locations in Fairbury, Nebraska from 1875 until 2004.

June 1875 – August 1894 – Elevation is unknown

- Dr. J. Humphrey, M.D., U. S Army Signal Service volunteer observer until February 1892 when he became a Weather Bureau volunteer observer. Location is unknown

January 1895 – May 1895 – Elevation is unknown

- I. A. Morris, Note: No observational forms were found in the archives for this observer. His name was entered on a station history summary sheet completed in the 1950's, other than this entry no other records were found concerning this observer.

June 1895 – December 1895 – Elevation is unknown

- J. N. Collier, Weather Bureau volunteer observer. Location is unknown

January 1896 – April 1897 – Elevation 1,316 feet

- Adrian Yeager, Weather Bureau volunteer observer. Courthouse square

May 1897 – July 1897 - Elevation is unknown

- H. A. Axtell, Weather Bureau volunteer observer. Location is unknown

August 1897 – July 1898 – Elevation is unknown

- Herman Conerus, Weather Bureau volunteer observer. Location is unknown

August 1898 – February 1953 – Elevation 1,316 feet

- William F. Cramb, Weather Bureau volunteer observer. Located at 927 C Street in 1906, 911 Sixth Street in 1938

March 1953 – December 1958 – Elevation 1,311 feet

- Alvin D. Bast, Weather Bureau volunteer observer. Located at 1128 Lindell Street

December 1958 – September 1989 – Elevation 1,460 feet

- Stanley E. Kasperek, Weather Bureau & National Weather Service volunteer observer. Located at the southeast corner of 709 Road and Highway 15

October 1989 – December 1995 – Elevation 1430 feet - 40° 08' 37"N 97° 10' 13" W

- Stanley E. Kasperek, National Weather Service volunteer observer. Located at 1120 K Street

January 1996 – Elevation 1,315 feet - 40° 07' 29" N 97° 10' 26" W

- Charles (Chuck) C. Bauer, National Weather Service volunteer observer. Located at the Fairbury Water Treatment Plant

February 1996 – December 1998 – Elevation 1,315 feet - 40° 08' 25"N 97° 11' 19" W

- Charles (Chuck) Bauer, National Weather Service volunteer observer. Located at 830 Ash Street

December 1998 – November 2004 – Elevation unknown

- Freddi Vorderstrasse, National Weather Service volunteer observer. Located at 1024 Fifth Street

## **Location and Instrument Descriptions**

**1875 – 1898:** For the first twenty years of observations in Fairbury the exact locations of the observations have not been discovered. Information as to where the observers resided was not found in the local archives. Dr. J. Humphrey, M.D. took observations from September 1883 until August 1894. Mr. I. A. Morris was the observer from January 1895 until May 1895 when J. N. Collier assumed the duties. Mr. Collier observed until December 1895. Adrian Yeager took over the duties in January 1896, continuing until April 1897 when Harvey A. Axtell assumed the role in May 1897. Mr. Axtell only took observations for 3 months as Herman Conerus assumed the duties in August 1897 continuing until July 1898.

Thermometer - The only mention of instrument location was in May 1892 when the shelter was listed as being at 18 feet. Since the location for the observations is not known it is only speculation that the shelter was in a second story window. After much pleading Dr. Humphrey received a new "Green" thermometer (No. 1010) in July 1889. Prior to that time he simply listed his thermometer as a "Taylor Bro," or "Burnell," or "Government" except in February 1889 when he entered "Cheap." He listed his thermometer as "exposed" and he provided no entries for the maximum and minimum thermometers.

In April 1897 the shelter was located on the northwest corner of the courthouse square on a flag pole. The "Gov't Shelter" was 6 feet from the ground and 80 feet from the building.

Rain gage – From 1885 until at least July 1892 the gage was at 18 inches above the ground. The gage was listed using various terms such as an "overflow" gage, or as being "sent from Washington," or simply as a "U.S." gage. In April 1897, the rain gage was a Weather Bureau gage located on a picket fence 5 feet above the ground located on the northwest corner of the courthouse square.

**1898 – 1953:** William F. Cramb observed from August 1898 until his death on January 23, 1953. Mrs. Cramb continued to observe until February 1953. He resided at 927 C Street in 1906 and at 911 Sixth Street in 1938. By the mid-1940's Mrs. Cramb was assisting in the taking of the observations as indicated by entries such as "by Mrs C.H.C" or "by C.H.C." entered below his signature on the data forms.

Thermometer - In March 1906, Mr. Cramb had standard maximum and minimum thermometers mounted in a Cotton Region Shelter. The shelter was "over sod, 5 feet from shed 10 feet high; 50 feet from other high objects; door opens north; 4 feet above ground."

In August 1938, Mr. Cramb continued to have the standard maximum and minimum thermometers, and a Cotton Region Shelter. The shelter was located over plowed ground (a garden), 8 feet from tree that was 12 feet high. The floor of the shelter was 3 feet above ground. The shelter was in need of painting.

Rain gage – In March 1906, the eight-inch overflow rain gage was "on ground 10 feet from shed; 50 feet from other high objects; 3 feet above ground."

In August 1938, the rain gage was a standard eight-inch gage located on the ground, 8 feet from a tree 12 feet high. The top of the gage was at 2.5 feet. The observer was to trim the tree or move the gage. The gage was found to be "badly battered, has been patched and soldered several times: general appearance detracts from observer's well-kept buildings and grounds."

**1953 – 1958:** When Alvin D. Bast began observing from his home at 1028 Lindell Street on February 5, 1953 the equipment was relocated from the Cramb residence. Mr. Bast's widow, Pearl, still remembers the instruments being in the back yard per an interview in June 2004. She mentioned that the shelter was near the southwest corner of the garage and east of the clothes line. See Figure 1.



Figure 1. The backyard of 1028 Lindell Street in Fairbury, Nebraska as taken in June 2004. The Blue Spruce tree was not in the yard during the time of Mr. Bast's observations (1953-1958). Photograph by author.

Thermometer – A standard maximum and minimum thermometer were housed in a Cotton Region Shelter.

Rain gage – A standard eight-inch gage was being used.

**1958 – 1989:** In December 1958, Stanley E. Kasperek began observing from his residence 2 miles south southeast of Fairbury on Route 15. See Figure 2.



Figure 2. The Stanley E. Kasperek home 2 miles south southeast of Fairbury, Nebraska, as seen in June 2004. The home was abandoned. Photograph by author.

Thermometer – A standard maximum and minimum thermometer were housed in a Cotton Region shelter.

Mr. Kasperek had a full suit of standard instruments beginning in December 1958. In March 1968, the instruments were moved 100 feet north northeast. See Figure 3, 4, and 5 for sketches of the instrument locations from March 1968, May 1975, and February 1976. On April 3, 1984 the Cotton Region Shelter and the maximum and minimum thermometers were replaced by a Maximum Minimum Temperature Sensor (MMTS) serial #420.

Rain gage – A standard eight-inch gage was being used. Notice the growth of the trees as they surround the rain gage by 1975, the later removal of the trees to the north, and the addition of a new building in 1976.

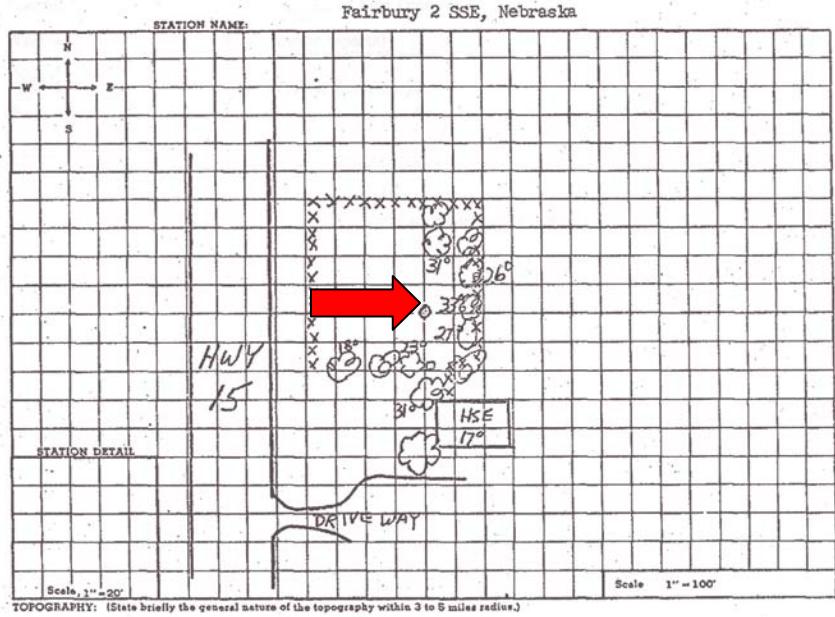


Figure 3. The location of instruments and the surrounding area at the residence of Mr. Stanley Kasperek on March 20, 1968. The red arrow indicates the location of the rain gage, the numbers indicate the elevation in degrees of the objects. From the station history files at the National Climatic Data Center.

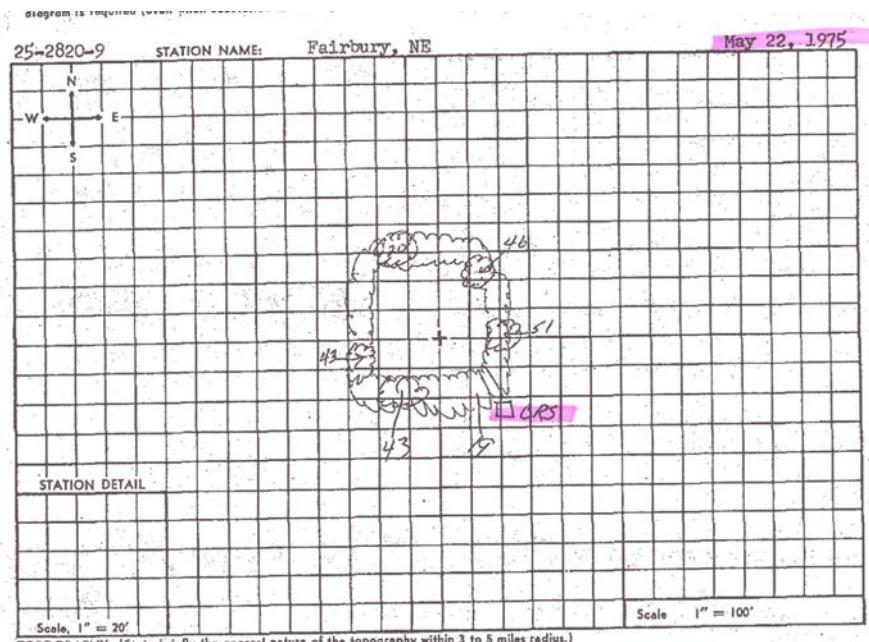
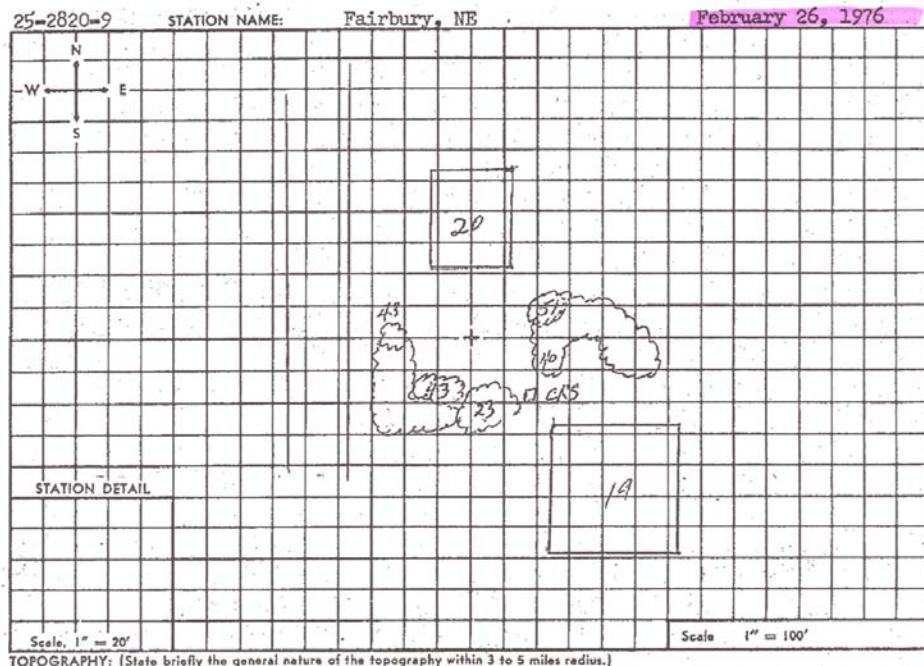


Figure 4. The location of instruments and the surrounding area at the residence of Mr. Stanley Kasperek as of May 22, 1975. The "+" indicates the location of the rain gage, the numbers indicate the elevation in degrees of the objects. From the station history files at the National Climatic Data Center.



Gently rolling and cultivated along South side of Blue River Valley.

Figure 5. The location of instruments and the surrounding area at the residence of Mr. Stanley Kasperek as of February 26, 1976. The “+” indicates the location of the rain gage, the numbers indicate the elevation in degrees of the objects. From station history files at the National Climatic Data Center.

**1989 – 1995:** On October 19, 1989, the instruments were moved to Mr. Kaparek’s home in Fairbury at 1120 K Street. See Figure 6 and 7 for a photograph taken of the front and back yards of the residence at 1120 K Street in June 2004.

Thermometer – A standard MMTS was within 30 feet of a house to the south southwest and 30 feet of a house to the north northwest.

Rain gage – A standard eight-inch gage was within 30 feet of a house to the south southwest and 30 feet of a house to the north northwest.



Figure 6. The home of Mr. Stanley E. Kasperek at 1120 K Street, Fairbury, Nebraska, where he took observations from October 1989 until December 1995. Photograph taken in June 2004 by author.



Figure 7. The backyard of the residence at 1120 K Street in Fairbury, Nebraska, as of June 2004. View is looking west northwest. Photograph by author.

**1996:** For one month, January 1996, weather observations were taken by Charles C. Bauer at the Fairbury Waste Water Treatment Plant 1.3 miles south southwest of the previous location. There were no obstructions within 100 feet of the instruments.

Thermometer – A standard MMTS was being used located so that no obstructions were within 100 feet.

Rain gage – A standard eight-inch standard rain gage was located so that no obstructions were within 100 feet.

**1996 – 1998:** Mr. Bauer moved the site to his residence at 830 Ash Street (corner of Ash and 9<sup>th</sup>) in February 1996 where he continued his service until December 7, 1998. See Figure 8.

Thermometer – A standard MMTS was being used located 50 feet north northeast of the house in the back yard.

Rain gage – A standard eight-inch gage was being used located 50 feet north northeast of the house in the back yard.



Figure 8. The home of Charles C. Bauer at 830 Ash Street in Fairbury, Nebraska. Observations were taken at this site from February 1996 until December 1998. Photograph taken in June 2004. Photograph by author.

**1998 – 2004:** The current observer, Freddi Vorderstrasse, began his weather observing from his residence on 1024 5<sup>th</sup> Street on December 8, 1998. This is at the corner of 5<sup>th</sup> and K Streets. See Figure 9.

Thermometer – A standard MMTS instrument was located in the backyard.

Rain gage – A standard eight-inch gage was located in the backyard.



Figure 9. The backyard of the residence at 1024 5<sup>th</sup> Street in Fairbury, Nebraska as of June 2004. The rain gage can be seen just to the right of the garage door (red arrow) and the MMTS instrument is just in front of the small tree in the center of the picture (blue arrow). Photograph by author.

## Observer Stories

### Dr. J. Humphrey:

Getting inside the minds of the observers is useful in order to get a glimpse of life in their times. The forms provided to the volunteer observers by the U.S. Army Signal Service provided several lines that could be filled in as it regarded the instruments in use. The following was extracted from the observational forms of Dr. J. Humphrey the volunteer weather observer in Fairbury, Nebraska from 1875 until 1894:

November 1888 – Maker and No. of therm, exposed: “Burnell”

February 1889 – Maker and No. of therm, exposed: “Cheap one”

“I here with inclose Bond as sent me for use of meteorological instruments, should you favor me with more than a single thermometer, if demanded. I will forward additional Bond with such sureties as you demand. I should like a thermometer and Barometer – However, I must, for the present be content with such as you kindly send – I would like you to mark the price on each article what it would cost, in case I get in shape to spare the money and wish to buy – I have the honor to be your obedient servant.”

March 1889 – Maker and No. of therm, exposed: “Government”

May 1889 – “The month of May has been remarkable for rain fall, amounting to 7.89 inches, ground thoroughly saturated and warm enough to push all crops rapid – fruit is abundant, had a frost on 30<sup>th</sup> [unreadable] in low ground, no damage, all is encouraging – please send me an 8 in dial thermometer, or destroy the inclosed Bond, as I sent to your address two faxsimila bonds, on same date of inclosed bond – I need a good reliable thermometer.”

June 1889 – Maker and No. of therm, exposed: “green”

“I have the honor to report the receipt of tempestions thermometers in good condition and have this day had therm mounted, now in use. Reached 85.50 in wind and shade. In case I see fit to buy it, what is the cost?”

November 1889 – Maker and No. of therm, exposed: “# = 1010 in good condition”

“Please send some blanks – also some blanks that require a report of condition of meteorological instruments. My thermometer No 1010 is in good condition – “

February 1889 – Maker and No. of therm, exposed: “green #1010”

“I have a government thermometer for ??? for which I filed a bond of fifty dollars, I think that was the amount – I have now never had any other instrument furnished only what I bought – I now want the Bond canceled and write you as to where and to whose address I shall send it.”

May 1891 – “Dear sir, I have had the misfortune to loose my measuring rod last night by some unaccountable means. It was made of black walnut, ten inches was marked in tenths, so as to set the gauge- which is near an inch in diameter. Please forward one of the same by return mail – I bought the gauge through your office, as personal property since cost of the rule, I will forward ??? – I cannot measure rain fall accurate till it comes – we are having fine weather..” Dr. Humphrey in haste”

June 1891 – “Please forward to me at once, a rain gauge measuring rod for an inch ??? cylinder. One has been forwarded some time since as your kind note informed me, but has failed to reach me – and it is very inconvenient to get correct measure without one – I will pay the price if you will tell me the cost, yours most obedient, Dr. Humphrey”

### **The next observers:**

Little is known about the early observers in Fairbury. Herman Conerus owned a shoe store in 1896. William Cramb was the newspaper owner and editor. He died on January 23, 1953 while still the observer. Alvin Bast, who followed Mr. Cramb as the observer, worked for the newspaper and took care of Mr. Cramb in his later years. Mr. Bast's widow, Pearl, still resides in Fairbury.

### **Stanley Kasperek:**

Stanley E. Kasperek was awarded the National Weather Service's John Campanius Holms Award in September 1972. The John Campanius Holms Awards were created in 1959 by the National Weather Service to honor volunteer observers for outstanding accomplishments in the field of meteorological observations. Mr. Kasperek was honored for over 29 years of prompt, accurate, timely, and unselfish service to the National Weather Service and to his community. The press release read in part "He has made rainfall (river) observations as well as temperature and precipitation measurements, on many occasions going through deep water and even swimming out to the river gage. He regularly provides weather information to local news media, the local railroad company, and residents. When ice jams and heavy rainfalls occur, he makes extra checks and readings to keep local citizens informed of hazardous conditions. Kasperek, who is a farmer specializing in see corn, received the national Weather Service's 25-year Length of Service Award in 1968. He is a member of the Fairbury American Legion Chapter."

### **References and Data Sources**

Observational forms as found in the National Climatic Data Center archives

Station history forms as found in the National Climatic Data Center files

Jefferson County Historical Society

Conversation with Mrs. Pearl Bast of Fairbury

Department of Commerce news release, NWS 72-17, September 13, 1972

### **APPENDIX I - METHODOLOGY**

The primary sources of information for this study were the Fairbury observers' daily weather records themselves. All of the observers in Fairbury's long history have been volunteers. Copies of their monthly reports were available on-line through the National Climatic Data Center's WSSRD system or on microfiche. The monthly reports can be considered primary sources because they were written by the observers and not altered by

subsequent readers. Additional station information was found in the official station history files at the Climate Center. These reports, compiled over the years by Weather Bureau or National Weather Service employees, provide a glimpse into the location and instrumentation for the observations.

Secondary sources that held limited information about Fairbury included the Fairbury Journal-News, the library, the Jefferson County Historical Society, and several individuals. Correspondence with two of the past observers was initiated but one was in a nursing home and unable to respond and the other did not respond at all. The State Climatologist for Nebraska, Allen Dutcher, and the author visited Fairbury in June 2004 in order to make local contacts and to visit the actual observational sites themselves.

All these sources were gleaned to obtain a glimpse into the lives of the observers, the location of the observation site, and the historical environment that produced the climatic history of Fairbury, Nebraska. Maps, drawings, and photographs were included when appropriate to illustrate the information.

Microsoft's Streets and Trips software and Topozone.com were used in location analysis.