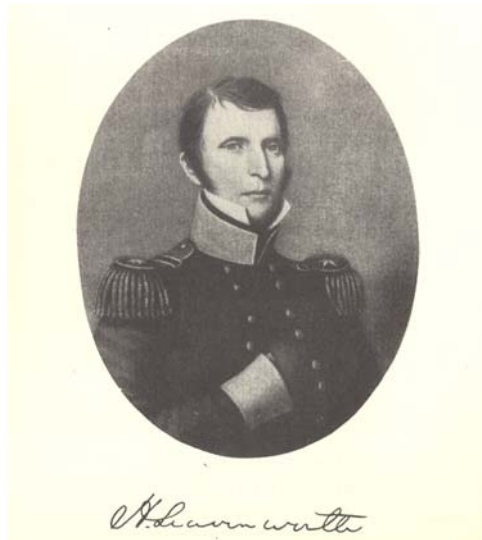


# **THE HISTORY OF WEATHER OBSERVING IN LEAVENWORTH, KANSAS, 1827-2004**

**Including Fort Leavenworth and West Leavenworth**



General Henry Leavenworth, 1783-1834 From *History of Fort Leavenworth 1827-1927*

**Current as of  
January 21, 2005**

**Prepared by:  
Stephen R. Doty  
Information Manufacturing Corporation  
Rocket Center, West Virginia**

**This report was prepared for the Midwestern Regional Climate Center  
under the auspices of the Climate Database Modernization Program,  
NOAA's National Climatic Data Center, Asheville, North Carolina**

## **Executive Summary**

Weather observing in the Leavenworth, Kansas, area began in 1827 when the U.S. Army established a post at Fort Leavenworth. Military surgeons recorded observations at the Post Hospital and the Military Prison Hospital until the early 1900's. Observations were then begun at the Army Airfield in 1926 and they continued through 1996. Meanwhile, Smithsonian Institution observers were recording the weather in Leavenworth beginning in 1857. These volunteer observers were followed by the U.S. Army Signal Service and Weather Bureau observers serving through 1893. Volunteer observers again began to record Leavenworth's weather. The U.S. Federal Penitentiary was the site of the observations beginning in 1911 continuing through 1946 when Kansas Power and Light assumed the observing role at their generating plant, a role they continued until 1961. Radio station KCLO was the site of the observations from 1961 until 1973. The site moved to the municipal water plant in 1973 where observations continued until 1988. After this time the program moved to a series of individuals, a service that continues to this day.

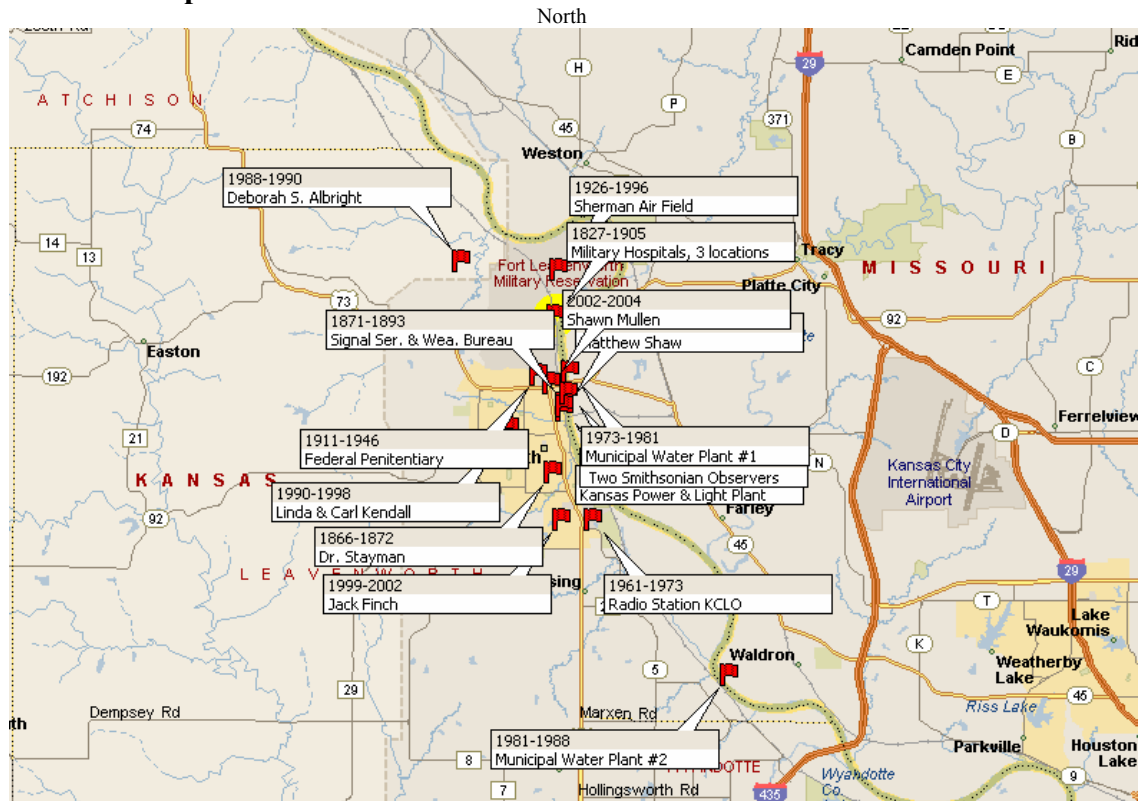
An U.S. Army Signal Service volunteer observer recorded observations in West Leavenworth from 1883 until 1888.

## **Goal of Study**

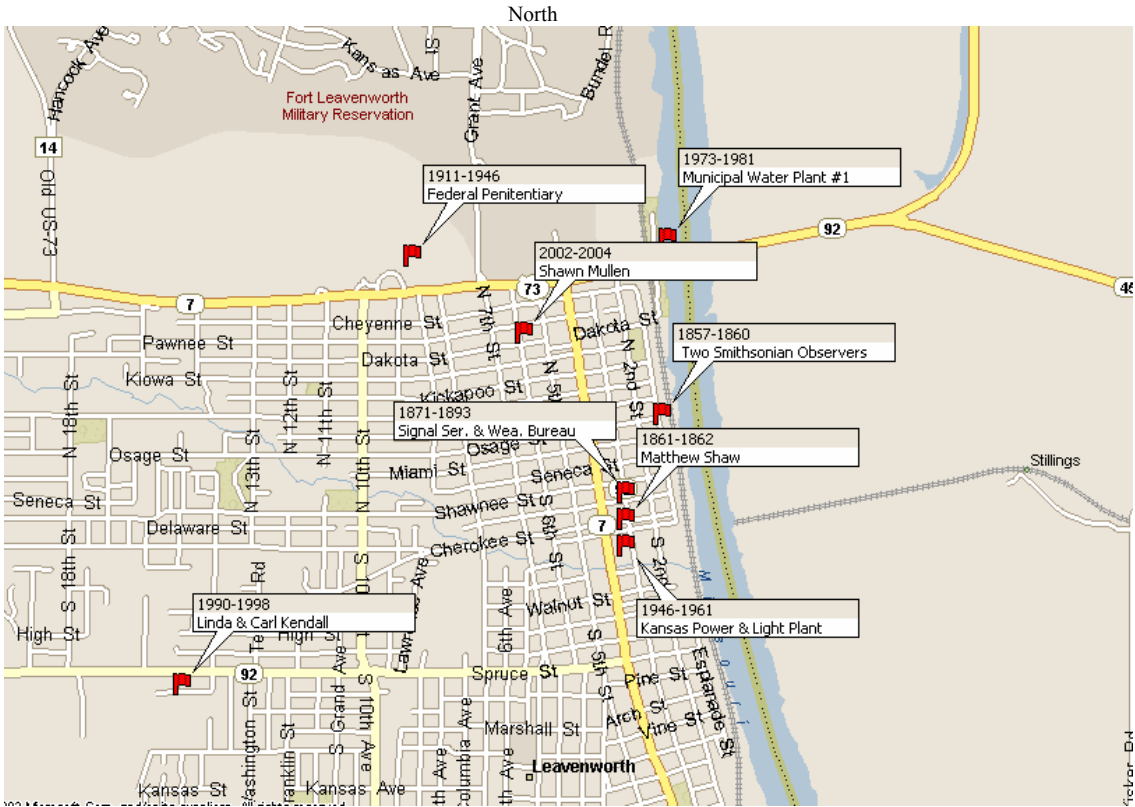
The goal of this study is to document the primary weather observational path at Leavenworth, Kansas, leading to the current and on-going National Weather Service's Cooperative observers.

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 the whatever variability may be discerned.

## Location Maps



Map 1. The location of weather observing sites in the Leavenworth, Kansas vicinity, 1857-2004.



Map 2. The location of weather observing locations in the downtown area of Leavenworth, Kansas, 1857-2004.



Map 3. A 1926 map of the Fort Leavenworth and Leavenworth, Kansas area. The location of the “airdrome” hanger can be seen at the top of the map. The location of the fort’s hospitals is indicated by the red arrow. The U. S. Penitentiary is towards the bottom of the map as is the city of Leavenworth. From *History of Fort Leavenworth 1827-1927*.

The following lists the chronology of weather station locations in the Leavenworth, Kansas, area from 1827 until 2004 including Fort Leavenworth and West Leavenworth: (Many of the early entries of latitudes, longitudes, and elevations are from the observers themselves and, therefore, may not be completely accurate.)

### Leavenworth

November 1857 – November 1858 – Smithsonian volunteer observer

- M. W. McCarty, address unknown, 39° 20' N 94° 33' W, elevation listed as 98 feet above river

July 1858 – January 1860 – Smithsonian volunteer observer

- Edward L. Berthoud, northeast corner Osage and 3<sup>rd</sup> Streets, 39° 19' N 94° 36' W, Elevation 809 feet

February 1861 – April 1862 – Smithsonian volunteer observer

- Matthew Shaw, South side Choctaw Street between 3<sup>rd</sup> and 4<sup>th</sup> Streets, 39° 18' N 94° 32' W, Elevation “about 896 feet”

January 1866 – December 1872 – Smithsonian volunteer observer

- Dr. Joseph Stayman, corner of Maple Avenue and Santa Fe Street, 39° 15' N 94° 33' W, Elevation unknown

November 1871 – December 1893 – U.S. Army Signal Service (U.S. Weather Bureau began in May 1892)

- 315 Delaware Street, 39° 21' N 94° 44' W, Elevation 842 feet

February 1911 – August 1946 – Weather Bureau Volunteer observers

- U.S. Penitentiary, most observers were doctors, 39° 20' N 94° 57' W, Elevation 913 feet

October 1946 – November 1961 – Weather Bureau Volunteer observers

- Kansas Power and Light Plant, 4<sup>th</sup> and Choctaw Streets, 39° 19' N 94° 55' W, Elevation 790 feet

November 1961 – May 1973 – Weather Bureau Volunteer observers

- Radio Station KCLO, 335 Muncie Road, Elevation 880 feet

May 1973 – June 1981 – Weather Bureau/National Weather Service Volunteer observers

- Municipal Water Plant #1, north end of 2<sup>nd</sup> Street, 39° 20' N 94° 55' W, Elevation 840 feet

July 1981 – October 1988 – National Weather Service Volunteer observers

- Municipal Water Plant #2, 39° 16' N 94° 53' W, Elevation 860 feet

October 1988 – April 1990 – National Weather Service Volunteer observer

- Deborah S. Albright, on County Road 18, one mile from Highway 7, 39° 22' N 94° 58' W, Elevation 860 feet

April 1990 – March 1998 – National Weather Service Volunteer observer

- Linda & Carl E. Kendall, 1501 Kenton Street, 39° 18' 56" N 94° 56' 23" W, Elevation 910 feet

January 1999 – February 2002 – National Weather Service Volunteer observer

- John (Jack) Robert Finch, 612 Muncie Road, 39° 16' 53' N 94° 54' 53" W, Elevation 870 feet

March 2002 – 2004 – National Weather Service Volunteer observer

- Shawn B. Mullen, 39° 19' 32" N 94° 55' 08" W, 609 Dakota Street, Elevation 870 feet

### Fort Leavenworth

July 1827 – August 1883 – U.S. Army Medical Service

- Post Hospital, 39° 20' 00" N 94° 52' 00" W, Elevation 912 (160 feet above river)

August 1888 – February 1892 – U.S. Army Medical Service

- Post Hospital, Elevation 840 feet
- Military Prison Hospital, 39° 21' 19" N 94° 54' 51" W, Elevation 840 feet

January 1901 – December 1905 – U.S. Army Medical Service

- location unclear

December 1926 – October 1996 – U.S. Army Air Corp/Air Force

- Sherman Army Airfield, two locations, 39° 22' N 94° 55' W, Elevation 772 feet.

### West Leavenworth

November 1883 – January 1888 – U.S. Army Signal Service Volunteer observer

- Dr. William B. Carpenter, 20<sup>th</sup> Street South, 39° 19' N 94° 58' W, Elevation 909 feet

## **Location and Instrument Descriptions**

### **Leavenworth**

**1857 – 1872:** Weather observers working with the Smithsonian Institutions observing network began recording observations in November 1857 at an unknown location. Between 1857 and 1872 a series of four observers faithfully recorded the weather. No information is available for the type or location of instruments in use by these men.

November 1857 – January 1860: M.W. McCarty was the first Smithsonian observer. No record could be found for a location. During this time another Smithsonian observer was present, Edward L. Berthoud. Mr. Berthoud was a civil engineer who developed many of the maps of the area. He lived at the northeast corner of Osage and 3rd Streets.

February 1861 – April 1862: Matthew Shaw was the next Smithsonian observer. He lived on the south side of Choctaw Street between 3<sup>rd</sup> and 4<sup>th</sup> Streets. Mr. Shaw was a clerk at the D. W. Adams Grocers located at 93 Shawnee Street.

January 1866 – December 1872: Dr. Joseph Stayman was the last Smithsonian observer in Leavenworth. In 1866, he lived at the corner of Maple Avenue and Santa Fe Street. Dr. Stayman was a horticulturist and “pomologist.”

**1871 – 1893:** On May 24, 1871, the U.S. Army Signal Service (later Signal Corps) established an office at 315 Delaware Street in a third floor (top floor) office. Sergeant George H. Bochmer established the station so as to be near several public offices. The earliest surviving observations from this location are from November 1871. During the period May through July 1891 the observing program slowly changed hands from the Signal Corps to the U.S. Department of Agriculture’s Weather Bureau. Mr. L.A. Welch, originally with the Signal Corps, became the Weather Bureau observer in May 1891 continuing his services until December 1893.





Figure 1. Leavenworth, Kansas as it appeared in 1876. The site of the U. S. Army Signal Service office at 315 Delaware Street is indicated by the red arrow. From author's personal collection of maps.



Figure 2. Delaware Street scene in Leavenworth, Kansas, circa 1890's. The U.S. Army Signal Service would have been located in one of the buildings on the right hand (south) side of the street. From Kansas State Historical Society.

Thermometer – In 1871, the shelter was mounted in a window, “built after the standard model.” In 1888, the instrument shelter was located on the roof and the 1889 entry reported the shelter as a “roof lattice.”

Barometer – The standard Signal Service barometer was located at 842 feet above sea level.

Wind instruments – The wind vane and anemometer were located on the roof.

Rain gage – The rain gage was located on the roof.

**1911 – 1946:** In February 1911, after a break of some 16 years, observations were restarted at the U.S. Federal Penitentiary. This location was 1.5 miles northwest of the Post Office. The Post Office was located at 4<sup>th</sup> and Shawnee Streets. A series of eight observers of record were listed as F. H. Lemon, Dr. A. F. Yohe, J. L. Everhardy, Dr. H. E. Meriness, Dr. C. A. Bennett, Charles J. Bowers, and Merrill R. Rhodes.

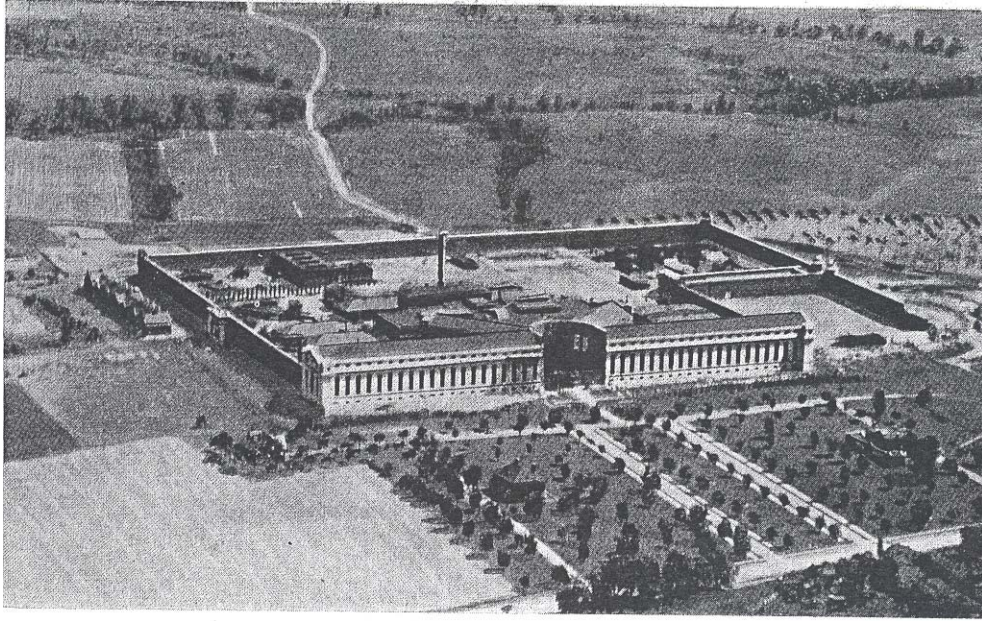


Figure 3. The U. S. Federal Penitentiary in Leavenworth, Kansas. The weather instruments would have been located on the grounds in front of the prison to the east (right) of the front entrance from 1912 until 1946. From the Kansas State Historical Society.

A note on the station history form of February 21, 1918, states, “The observations are made and recorded by Mr. J.D. Brock, a convict, who is the personal clerk of Dr. Yohe. He is an intelligent and well educated young man. He has been attending to the observations almost 3 years past but needed instruction relative to recording the temperatures below zero and unmelted snowfall.”

The following statement was made on the August 1921 station history form, “The readings are at present made by Mr. R. A. Malone, a former Captain of the Engineer Corps U.S.A., who is serving a five term in the prison. He is well educated and painstaking and has had previous experience in meteorological observations. He is considered quite reliable. His work is, of course, under the supervision of Dr. Yohe.”

In August 1925, the following statement was made, “The observations are taken by a “trustee” under direction of Dr. Yohe, the observer. The “trustee” or trusted convict, assigned to the readings is always an intelligent man and one who can be depended on to exercise care.”

The station history report from May 1940 states, “During this inspection the observer stated that since he was not always on duty and the taking of the observations were left to trustees who took very little interest in the making of the record that a number of errors had crept into the record. Also because of his lack of time for proper care of the instruments and record he was willing that the instruments and record be removed from his custody. This has been taken under consideration with the warden of the penitentiary.

Mr. Rhodes was asked to continue the record, giving it as much care as possible and encourage the trusty who took the observations to also be as careful as he could.”

Note: Mr. Rhodes upon his death in 1946 was still the observer of record.

The instruments were placed at several locations in and around the penitentiary. The following notes were found in the official station history files at the National Climatic Data Center. It is not known if this is a complete history or not.

October 1912: “on built up ground in Penitentiary”

October 1913: “over bare ground within the walls of the U. S. Penitentiary”

February 1918: “The surrounding country is rolling and the instruments are located on rather high ground which slopes away rather sharply to a ravine to the northeast, north and southeast. About 2 years ago the instruments were removed from within the walls of the prison to their present location on the lawn, about 100 feet south of the front prison wall, which is here 50 feet high. It was considered there was a possibility of the temperature record being affected by radiation from this wall and arrangements were made to have the shelter moved about 100 feet farther away, where it will have an exposure entirely in the open, over the sod. This change will be made without expense to the Bureau and the shelter, its support, and the box support will also be painted with any charge to the Bureau.”

August 1921: “The instruments are located on the beautiful grounds in front of the Federal Penitentiary.”

August 1925: “The instruments stand near the walk between the residence of the observer and the entrance to the Penitentiary and are under constant observation by the guards in the watch towers outside the wall of the prison.”

May 1940: “Instruments were found in approximately the same location as at previous inspection, about one block east of the main entrance to the penitentiary. They are on the lawn in front of the south wall of the penitentiary.”

The instruments were moved from inside the prison walls to a location outside the walls in 1912. The new location was 100 feet south of the front wall and one block east of the main entrance.

Thermometer –The history of the shelters and thermometers is as follows:

1912: “Standard” thermometers located in a Cotton Region Shelter over sod, 75 feet north of building, door opened east, 36” above ground

1914: “Standard” thermometers in a Cotton Region Shelter located about 84 feet north of a one story store house and 84 feet east of the prison wall, which was 38

feet high. Door opens to east. Floor of the shelter is 4.5 feet above ground. The open space in which the shelter is located is sufficient for a good circulation of air.”

1918: The Cotton Region Shelter faced north, with bottom 4 feet above ground, located over sod and was in need of painting.

1921: The Cotton Region Shelter faced north, with bottom 4.5 feet above ground, located over sod. The shelter was entirely in the open. Shelter was listed as needing to be replaced as “it is worn out and has a roof of composition roofing that will absorb heat of sun unduly.” “The shelter had been repainted and repaired in the prison shop since the previous inspection, but the repairing had injured its usefulness, as the slats had been painted yellow and the framework green. The boards on top had become rotten and had been removed and a roof of composition had been put on, which is quite liable to affect the readings of the thermometers by absorbing too much heat. Steps have been taken to have the shelter replaced.”

1925: Cotton Region Shelter faced north, with bottom 3.5 feet above ground, located over sod. “Defective thermometer support replaced and arrangements made to replace maximum thermometer.” “Since the previous inspection a new instrument shelter has been received and set up near the site of the old one.”

1940: The Cotton Region Shelter faced north, with bottom 3.5 feet above ground, located over sod. “The instrument shelter and box support are both in very poor condition. The door is practically off of its hinges, and the slats in the side of the shelter are loose in many places. He [the observer] stated, however, that a new instrument shelter and support had been received some time ago but had never been put up. They were still in the shipping crate inside of the penitentiary. If a change is made in the observers at this station, the new shelter and support will be set up, and a new box support furnished.” “Unauthorized persons frequently tamper with the thermometers, however.” See Figure 4.

Rain gage - The history of the rain gages follows:

1912: Standard rain gage on ground, 80 feet north of building, 3 feet above ground.

1914: “On ground, about 15 feet northwest of shelter. Nearest high object is 38 foot high prison wall 75 feet to the west. Top of gage is 2.5 feet above ground.”

1918: Top of gage is 3 feet above ground with exposure listed as satisfactory. The condition of the gage was listed as “leak in can, which can be resoldered.”

1921: Top of gage is 3 feet above ground with exposure listed as satisfactory. Condition of gage now listed as excellent. The gage was entirely in the open.

1925: Top of gage is 3 feet above ground with exposure listed as satisfactory. The can again had a leak in it. "Arrangements made to have leak in can repaired at once and new concrete support of approved pattern constructed locally for rain gage."

1940: The gage was a "standard U.S. Weather Bureau," eight-inch gage at a height of 3 feet above the ground. "The rain gage has evidently been moved to its new position about fifty feet east of the instrument shelter. The location is considered very satisfactory except that at times the instruments are tampered with by trustees who are working around the grounds."

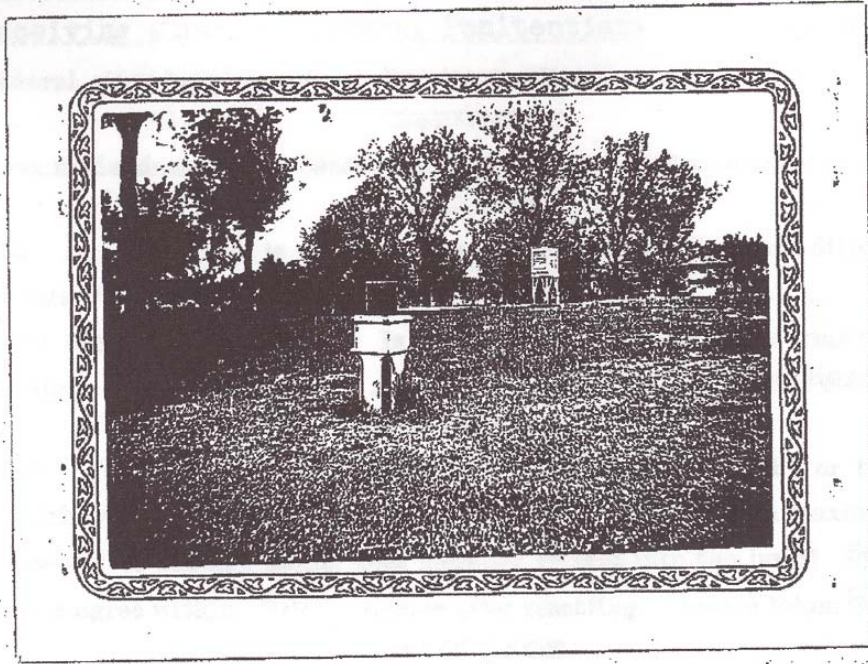


Figure 4. The weather instruments at the Federal Penitentiary in Leavenworth, Kansas on May 14, 1940. Camera is pointed almost west. Rain gage is in the foreground. Instrument shelter and box support, in the background, are in very bad condition. From the official station history files at the National Climatic Data Center.

**1946 – 1961:** On October 11, 1946, the observational program in Leavenworth was moved to the Kansas Power and Light plant located at 4<sup>th</sup> Street (US Highway 73) and Choctaw Street, or 3 blocks south of the Post Office. There were three observers at this site including William H. Yates, Gail R. Darrow, Blair C. Forbes, and Harry R. Koblitz. The previous observer died.

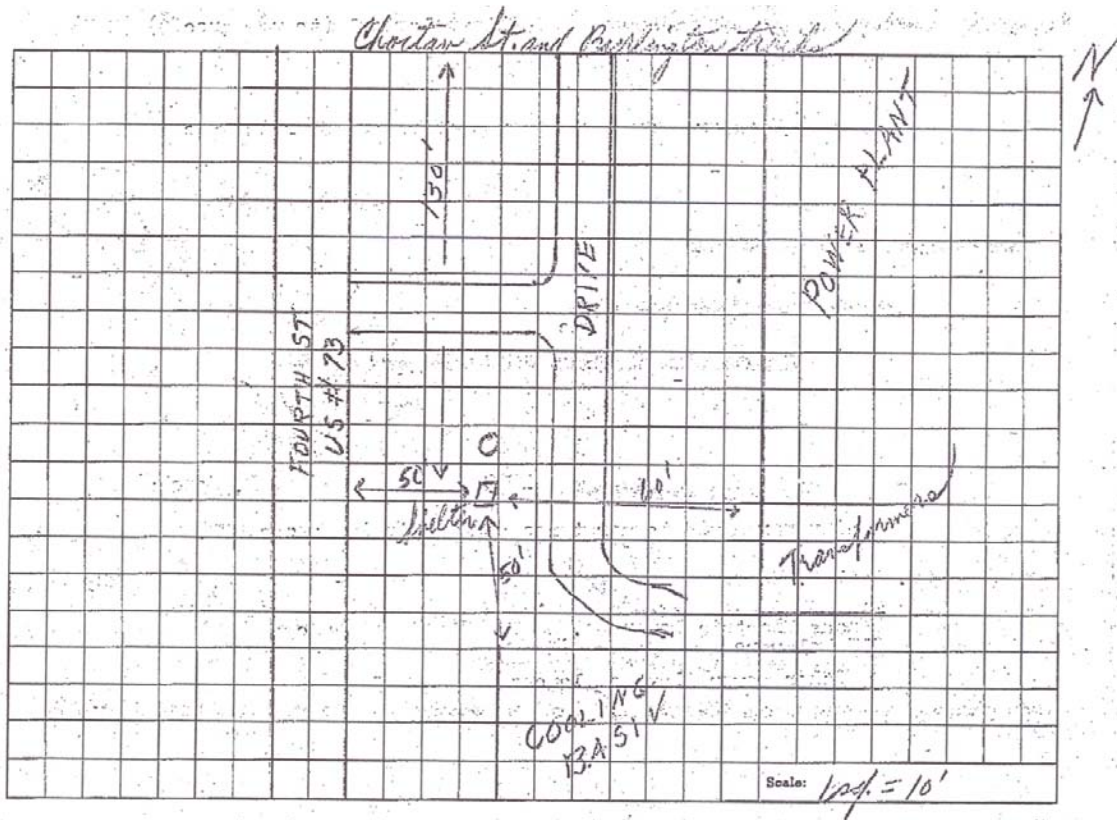


Figure 5 Leavenworth, Kansas cooperative weather station site plan, January 1950. From the official station history files at the National Climatic Data Center.

Thermometer – The Cotton Region Shelter housed a standard Maximum and Minimum thermometer.

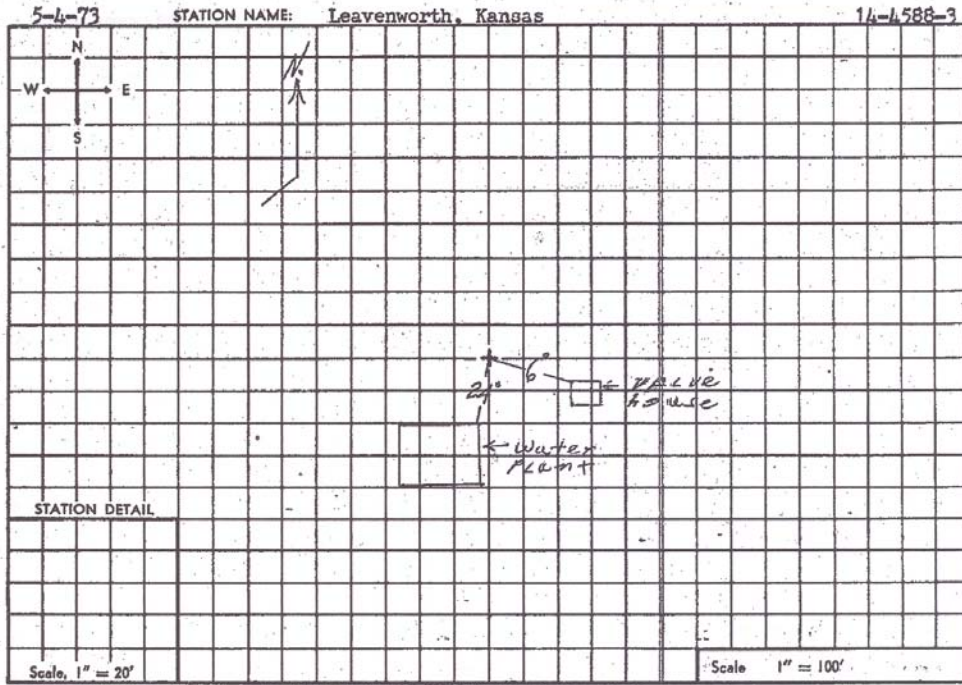
Rain gage – Rain gage was standard eight-inch rain gage.

**1961 -1973:** On November 20, 1961, the weather observing duties were assumed by Radio Station KCLO at 335 Muncie Road. This location was at half a mile west on Kansas 5 from US Highway 73 on the south boundary of Saint Mary College. This location was 2.2 miles south of the previous location. The observers over the next 12 years included Robert L. Potter, Dale J. Van Meter, Dan Howell, Weldon E. Weilage, William R. Davenport, Fred E. Carroll, and Lawrence D. Spurgeon. Station was officially known as “Leavenworth 3S”.

Thermometer – Maximum and minimum thermometers were housed in a standard Cotton Region Shelter.

Rain gage - Rain gage was a standard eight-inch gage.

**1973 – 1981:** Effective May 4, 1973 the observational program was moved to the Municipal Water Plant #1 at the north end of 2<sup>nd</sup> Street along the Missouri River. Alfred C. Lee was the primary observer.



TOPOGRAPHY: (State briefly the general nature of the topography within 3 to 5 miles radius.)  
 Station site in the extreme eastern edge of Leavenworth county (extreme eastern Kansas), on the high RB Missouri river. Low hilly terrain on the Kansas side, very flat terrain on the Missouri side of the river.

Figure 6. Map showing the location of the weather instruments at the Cooperative station in Leavenworth, Kansas on May 4, 1973. Instruments are located between the valve house and the water plant. From the official station history files at the National Climatic Data Center.

Thermometer – The standard maximum/minimum thermometers were in a Cotton Region Shelter.

Rain gage - Rain gage was a standard eight-inch gage.

**1981 – 1988:** The site of the observations was moved to the Municipal Water Plant #2 on July 9, 1981. Observations were taken from this location until October 18, 1988. Municipal Water Plant # 2 was located on the Missouri River, 5.1 miles south southeast from the previous location. Alfred C. Lee and George Simanowitz were the primary observers. Station was officially known as “Leavenworth 4SSE”. It was noted on the



station history forms that the water plant supervisor would “like to get rid of the weather equipment.”

Thermometer –A standard National Weather Service Maximum Minimum Temperature Sensor (MMTS) was installed on December 2, 1986 replacing the standard maximum/minimum thermometers in a Cotton Region Shelter.

Rain gage - Rain gage was a standard eight-inch gage.

**1988 – 1990:** Deborah S. Albright assumed the weather observing responsibilities on October 19, 1988, from a location listed only as Route 4, Box 334, Leavenworth. This location was on County Road 18, one mile from Highway 7. This was a move of 8.3 miles northwest from previous location. Observing program was moved to a new observer because “previous observer very poor performer.” Station was officially known as “Leavenworth 5NNW.”

Thermometer – Observer was using a standard MMTS.

Rain gage - Rain gage was a standard eight-inch gage.

**1990 – 1998:** On April 11, 1990, the weather observing was assumed by Linda and Carl E. Kendall at 1501 Kenton Street. This was a move of 3.7 miles south southeast from previous location.



Figure 7. The backyard of 1501 Kenton Street the site of weather observing in Leavenworth, Kansas from 1990 until 1998. Photograph by author as taken in June 2004.

Thermometer – Observer was using a standard MMTS.

Rain gage - Rain gage was a standard eight-inch gage.

**1998 – 2002:** Mr. Jack Finch began observing duties at 612 Muncie Road on December 7, 1998. This location was between Lakeview Street and Shrine Park Road.

Thermometer – Observer was using Davis equipment, comparable to MMTS.

Rain gage – Rain gage was a standard eight-inch gage.

**2002 – 2004:** Effective April 10, 2002, Mr. Shawn Mullen assumed the observing duties at his home at 609 Dakota Street.



Figure 8. The location of the weather instruments in Leavenworth, Kansas at 609 Dakota Street as of June 2004. View is looking west. Photograph by author.

Thermometer – Observer was using a TEMPX (Radio Shack Model 63-1026, comparable to MMTS) temperature system.

Rain gage – Rain gage was a standard eight-inch gage with a copper funnel and tube.

### **Fort Leavenworth**

**1827 – 1905:** In 1827, Colonel Henry Leavenworth, with the officers and men of the 3<sup>rd</sup> Infantry Regiment from Jefferson Barracks at St. Louis, Missouri, established Fort Leavenworth. During the country's westward expansion, Fort Leavenworth was a forward destination for thousands of soldiers, surveyors, emigrants, American Indians, preachers and settlers who passed through. A United States Disciplinary Barracks was established in 1875.

The first weather observations that remain available today are from July 1827 (Figure 9.) These observations were taken by U.S. Army Surgeons. In 1814, Army Surgeon General Tilton had issued a general order directing all hospital surgeons, mates, and post surgeons under his command to “keep a diary of the weather.”

Observations were taken at the Post Hospital. The hospital moved three times over the course of the observational history from 1827 through 1892 (Figure 13.) The move of 1883 was a relocation of one block south. Observations also were made at the Military Prison Hospital from 1889 through 1892. From 1901 until 1905 medical doctors continued to take observations using Weather Bureau forms but the location is only listed as Ft. Leavenworth. No further location or instrument details have been found to date.

It appears from the contours found on the 1926 map of the Fort, see Figure 13, that the first hospital was located a few feet above 860 feet. The second hospital was just a few feet below 860 feet, and the third site was several feet lower yet.

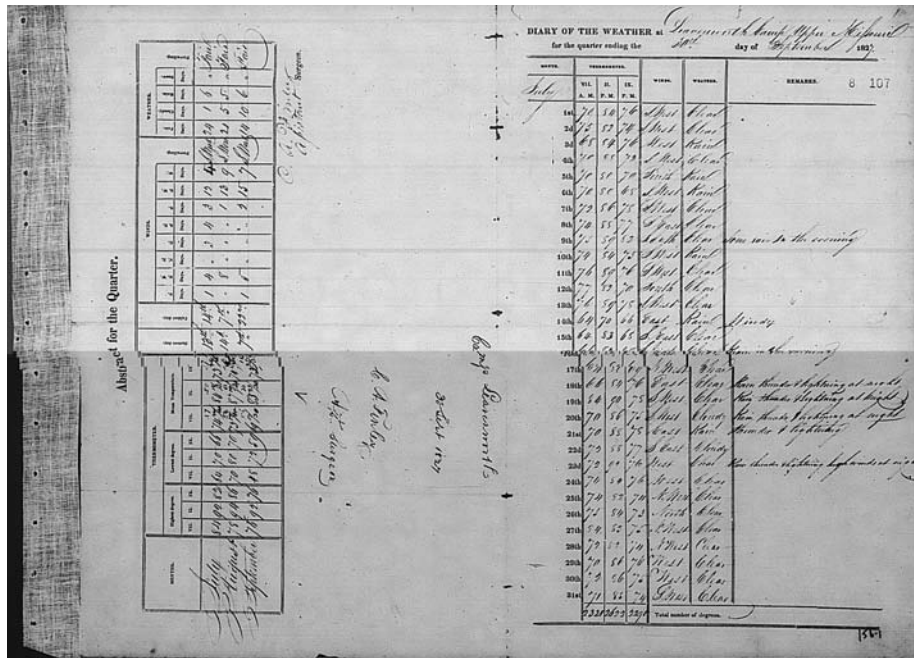


Figure 9. The first weather observation form for Fort Leavenworth, Kansas, July 1827, as recorded by a U.S. Army Surgeon. From the National Climatic Data Center archives.

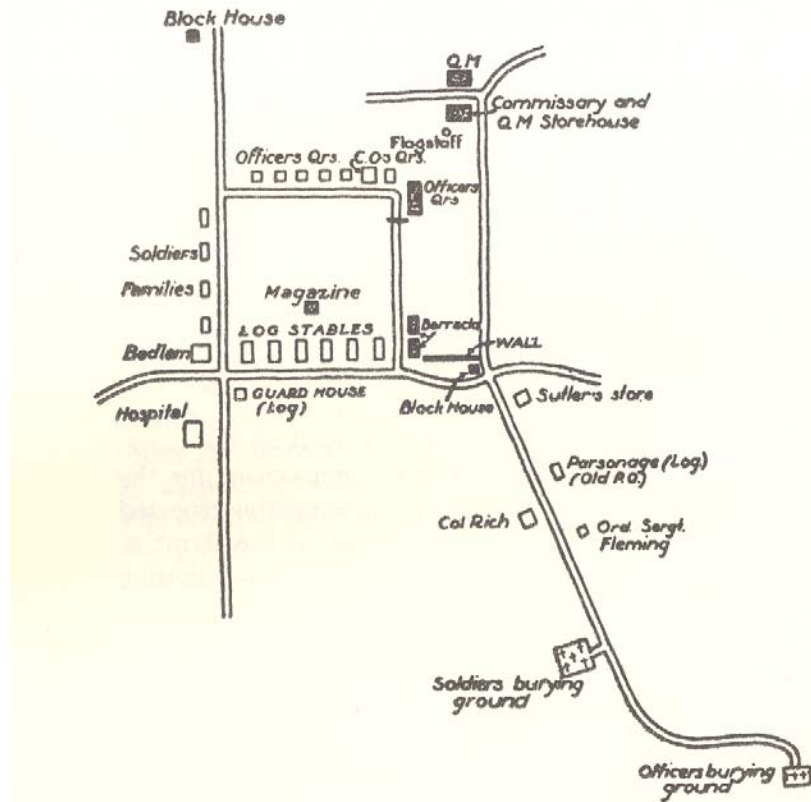


Figure 10. Map of Fort Leavenworth, Kansas in 1849 showing the location of the first hospital. From *History of Fort Leavenworth 1827-1927*.

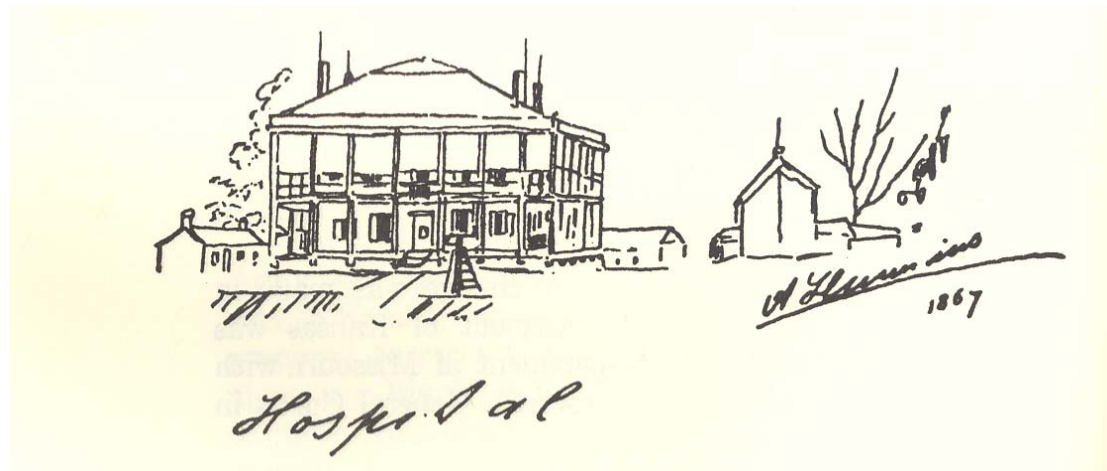


Figure 11. A sketch of the hospital at Fort Leavenworth, Kansas, in 1867. From *History of Fort Leavenworth 1827-1927*.



Figure 12. The Fort Leavenworth, Kansas Post Hospital circa 1880. From the Fort Leavenworth Historic Society.

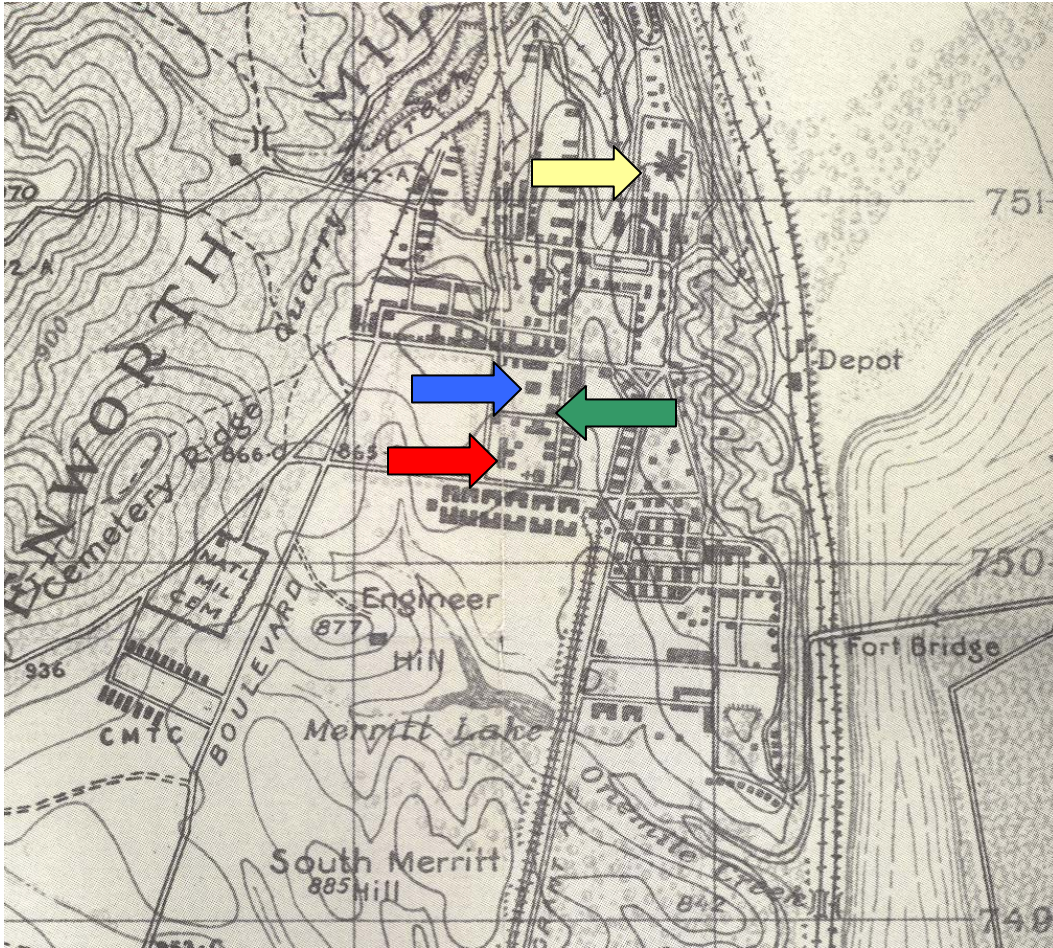


Figure 13. The location of the three hospitals at Fort Leavenworth, Kansas, 1827-1905. The dates by location are as follows: 1827-1882, blue; 1883-1902, green; 1902-at least 1927; red. The 860 foot contour runs between the first and second locations. The location of the United States Disciplinary Barracks is indicated by the yellow arrow. From *History of Fort Leavenworth 1827-1927*.

Thermometer – Type and location of shelter and thermometers is unknown.

Rain gage – Type and location of rain gage is unknown.

**1926 – 1996:** Beginning in December 1926, a weather observational program was begun at Sherman Field. This location was in the river bottoms bordered on three sides by the Missouri River. This can be clearly seen in Figure 14. There was a bluff to the southwest and another high wooded bluff was to the west. In 1931, the observations were taken in Building #47 on McClellan Avenue, moving to Air Corp Hanger #1 in October 1935. The weather office in the Hanger was located in the center room on the south side.

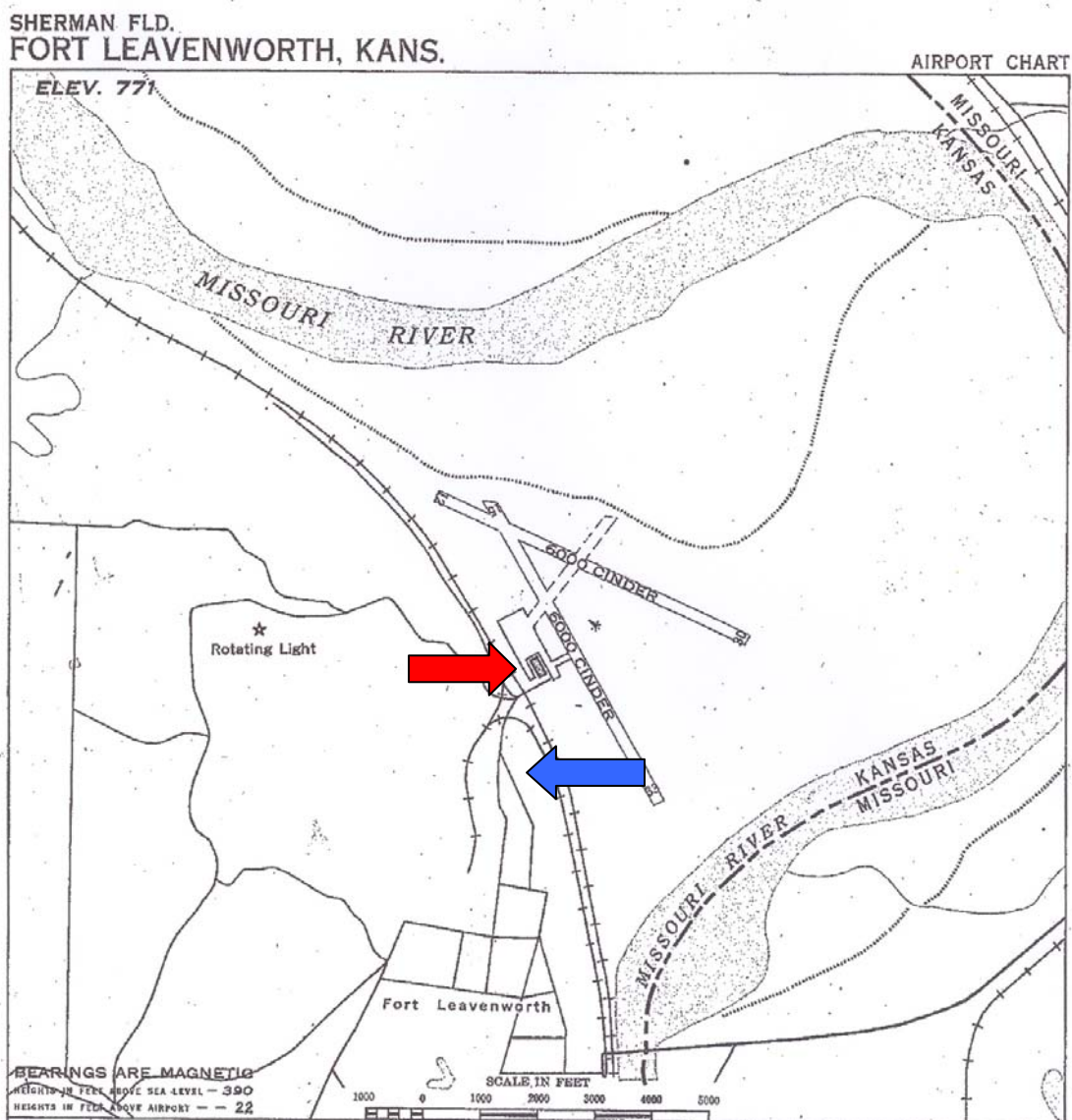


Figure 14. Map of Sherman Field, Kansas, September 1946, showing the location of the main hanger (red arrow) in which the weather program was housed. The blue arrow shows the location of McClellan Avenue, however, it is unclear where Building #47 was located along this road. From the official station history files, National Climatic Data Center.

The observational program was assumed by the Tower personnel in October 1986 and they provided observations until the station closed on October 1, 1996.

Thermometer – The record of January 1937 and April 1938 indicates that the instrument shelter was of the “large” type having the floor 5 feet above the ground. The shelter was located southeast of the hanger, 45 feet from the hanger corner. “There were no influences of any sort near the shelter.”

Barometer – In January 1937, the height of the mercurial barometer was listed as 774 feet above sea level.

Wind instruments – The record of January 1937 and the April 1938 records indicates that the anemometer was 45 feet above the ground on the west peak of Hanger #1 and 8 feet above the roof. The anemometer was a 3-cup version, while the wind vane was a 2 foot metal version.

Rain gage - The rain gage was a standard eight-inch type gage but the location was not given. The January 1937 record indicates that the gage was at zero feet above the ground.

Other instruments – The station was also equipped with the following instruments, register ML-28, barograph ML-3, hygrograph ML-16, a thermograph ML-77, ceiling light, clinometer, and a theodolite.

### **West Leavenworth**

**1883 – 1888:** Concurrent with other observations being taken in Leavenworth, Dr. William B. Carpenter was actively recording the weather from November 1883 through January 1888. The location was listed as 20<sup>th</sup> Street South. Dr. Carpenter was a volunteer observer for the U. S. Army Signal Service. No further details about this location have been found.

The following information about Dr. Carpenter’s instruments was taken from his December 1887 form. His hand writing was difficult to read so some entries are “best guesses”.

Thermometer – The thermometers (exposed and wet-bulb) were made by Oalachlayer Bro.

Barometer – A Woodruffs barometer was located at 909.38 feet above sea level.

Rain gage – The rain gage was a “Smithsonian (old)” with a height above the ground of 3 feet.



## **The Story of General Henry Leavenworth**

The following account of the life of General Henry Leavenworth was extracted from the book *History of Fort Leavenworth 1827-1927* by Elvid Hunt.

General Henry Leavenworth, youngest son of Captain Jesse Leavenworth, was born in New haven, Conn., in 1783. While still a lad he moved to Vermont and then to Delhi, Delaware County, N. Y. There he grew to manhood, and acquired such education as the condition of the country immediately following the close of the Revolution afforded. He adopted the law as his profession, and upon admission to its practice formed a law partnership with General Erastus Root of Delhi.

At the outbreak of the second war with England, he was selected to command the company of infantry raised in Delaware County in the winter of 1812-13. The company was assigned to the Ninth Infantry, which was attached to General Winfield Scott's brigade. Captain Leavenworth rose rapidly, and as a major, commanded his regiment in the invasion of Canada from the Niagara frontier.

At the close of the war he obtained leave of absence to permit him to serve in the legislature of his adopted State, to which he had been elected. In 1818 he was promoted lieutenant colonel of the 5<sup>th</sup> Infantry. From Detroit, Mich., where his new regiment was stationed, he conducted the organization to the Falls of St. Anthony, Minn., and there, on the banks of the Mississippi River, selected the site on which he established Fort Snelling. Before the permanent buildings were completed, Colonel Leavenworth was transferred (Oct 21, 1821) to the 6<sup>th</sup> Infantry, and placed in command of the troops at Fort Atkinson, in Nebraska, situated on the banks of the Missouri River. In 1823 he was placed in command of an expedition against the Arickaree Indians, seven hundred miles up the river. For this service, he was specially commended by the Department Commander, the Secretary of War, and by the President in his annual message to Congress.

In 1825, Lieutenant Colonel Leavenworth was promoted to the colonelcy of the 3d Infantry. He was assigned to its command at Green Bay Barracks, Wis., and the following year went with a detachment of his regiment to Jefferson Barracks, Mo., and established a School of Practice for Infantry, the site for the same having been selected during the previous year by General Atkinson and General Gaines. He at once addressed himself to the task. The school was not destined to live long.

Scarcely settled at his new post, Colonel Leavenworth received orders in March, 1827, to take four companies of infantry, to ascend the Missouri River, and, upon reaching a point within twenty miles of the mouth of the Little Platte River, to establish a cantonment. He explored the country and was soon convinced that the land on the east, or Missouri side of the river, would be flooded during high water, and that it was not advantageous for a permanent post. Without waiting for new orders, he crossed over to the Kansas side and picked the site for a cantonment where Fort Leavenworth is now located. The first camp on the site was pitched on May 8, 1827. The location was approved by a formal order of

the War Department September 19, 1827, and the camp was named “Cantonment Leavenworth.”

In 1834 Colonel Leavenworth was assigned to command the entire southwestern frontier in which year he took charge of an expedition against hostile Pawnee and Comanche Indians. Out of this enterprise was secured, without a single battle, a permanent treaty of peace. The campaign was a long one, but it was conducted with such skill that he was promoted to brigadier general as a reward. While engaged on this duty, he contracted a fever from which he died July 21, 1834, in a hospital wagon near a place called Cross Timber, Indian Territory. The news of this promotion did not reach his command until four days after his death.

James Hildreth, who published “Dragon Campaigns” in 1833, and who knew General Leavenworth intimately, says: “He is a plain looking old gentleman, tall yet graceful, though stooping under the weight of perhaps fifty years, affable and unassuming in the society of his brother officers, mild and compassionate toward those under his command, combining most happily the dignity of the commander with the moderation and humanity of the Christian, and the modest and urbane deportment of the scholar and the gentleman: all love him, for all have access to him, and none that know him can help but love him.”

## **Observer Stories**

### **Dr. Joseph Stayman, 1817-1903**

The following was extracted from a publication entitled *They Came This Way* by J.H. Johnston III available at the Leavenworth County Historical Society.

“Dr. Joseph Stayman, widely known among nineteenth century horticulturalists in Kansas, and through whose influence the Kansas State Horticultural Society was organized in 1866, left the practice of medicine at an early age to specialize in horticultural research and experimentation, developing numerous varieties of apples, strawberries, and grapes in his Leavenworth orchards. His goal was to learn which varieties of apples and other fruits were most suited to the soil and climate of northeast Kansas, the region being one of two in the state where fruit trees were grown extensively in the late 1800s. Dr. Stayman oversaw two orchards containing some 3,000 trees.”



Figure 15. Dr Stayman, 1817-1903, prominent horticulturist in Leavenworth, Kansas. From the Leavenworth County Historical Society.

“Dr. Stayman was born in Cumberland County, Pennsylvania on October 7, 1817. He moved with his parents to Ohio in 1839 being associated with his fathers milling business but meanwhile studying medicine and psychology. In 1849 he was married and established a residence in Carlisle, Pennsylvania. Several years later he moved to Abingdon, Illinois, where he practiced medicine. In 1858, he purchased a nursery business, and two years later decided to move to Kansas.”

“The pioneer fruit grower took up residence at Maple Avenue and Santa Fe, and devoted the remainder of his life to the development and improvement of various strains of fruit. He originated the Clyde strawberry as well as several varieties of grapes and raspberries. Dr. Stayman studied the drawing of fruit varieties, and his sketches were regarded as extremely precise. These sketches were given to the Smithsonian Institution in Washington, D.C. He was one of the founders of the Leavenworth County Horticultural Society, serving as its secretary for many years.”

“In 1866, with William Tanner, his neighbor on Maple Avenue, he helped organize the Kansas State Horticultural Society. The organizational papers for the KSHS were drawn up in Dr. Stayman’s residence by Stayman and Tanner, who served as the KSHS’ first president. Dr. Stayman was also associated with the Grange and the Leavenworth County Agricultural Society. He experimented with grafting fruit trees and at one time had an apple tree which bore sixteen varieties, the result of multiple grafting.

“His hobby of checkers also brought him national attention. He was widely known among the most accomplished checkers players in America. Dr. Stayman competed with other checkers hobbyist, playing games by correspondence in matches which would last as long as a year at a time.”

### **A Short History of the U. S. Federal Penitentiary in Leavenworth**

The following was extracted from a short newspaper article (date unknown) available from the Leavenworth County Historical Society.

“U.S. Bureau of Prison history dates the concept of a federal prison back to an act of Congress in 1895, when the military prison – the Disciplinary Barracks at Fort Leavenworth – was transferred to the Department of Justice for the confinement of federal prisoners. By a special act of Congress in 1896, the reservation for the penitentiary was deeded by the War Department to the Justice Department to build the prison. Congress approved the selection of about 1,000 acres of land on the military reservation as a site for a walled penitentiary capable of accommodating at 1,200 prisoners.

Construction began a year later with the use of inmate labor from the U.S. Disciplinary Barracks. About 250 prisoners began the construction in March 1897. Inmates were marched to the site daily, returning to the fort at night. This continued until February 21, 1903, when the first 418 inmates to occupy the prison site were moved into the facilities. In 1906, all of the federal prisoners from Fort Leavenworth were housed in the new institution and the Disciplinary Barracks was returned to military jurisdiction.”

## Doctor J. L. Everhardy



Figure 16. A caricature of Dr. J. L. Everhardy, a physician with the U. S. Federal Penitentiary in Leavenworth, Kansas and volunteer weather observer, 1918-1919. From the Leavenworth County Historical Society.

### 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

Kansas State Historical Society

Ms Cheryl Bogner, Westar Energy (formerly Kansas Power and Light)

Leavenworth County Historic Society

Leavenworth City Library

Ms. Megan Scheidt, Public Information Officer, City of Leavenworth, Kansas

*History of Fort Leavenworth 1827-1927* by Elvid Hunt, 1979

Mr. Kenneth LaMaster, “unofficial historian” for the Federal Penitentiary

*Report of the Chief Signal Officer – 1871*

Fort Leavenworth History and Self Guided Tour  
([www.leavenworth.army.mil/cac/history](http://www.leavenworth.army.mil/cac/history))

## **APPENDIX I - METHODOLOGY**

The primary sources of information for this study were the Leavenworth observers’ daily weather records themselves. Copies of their monthly reports were available from the National Climatic Data Center’s on-line system called WSSRD. The monthly reports can be considered original sources because they were written by the observers and not altered by subsequent readers. Station history files at the Climate Center also provided details as to station and instrument history.

A variety of secondary sources held information about the city and its weather observers including the Leavenworth Historic Society and Museum, the City Library, the Public Information Officer for the City of Leavenworth and Westar Energy. Ms. Mary Knapp, the State Climatologist for Kansas also provided assistance.

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 Leavenworth, Kansas. Maps, drawings, and photographs were included when appropriate to illustrate the information.

Street maps were generated using Microsoft’s Streets and Trips software.