

Early Weather Records in Indiana

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The first weather observers in Indiana were a hardy group of people who believed that an analysis of rainfall, temperature, wind and air pressure data would further agriculture, improve long and short range weather forecasting and further medical climatology. In the remarks which follow an attempt is made to piece together in history the collection of early weather data in Indiana

In the eighteen hundreds the motives that stimulated man to record the elements of the atmosphere were essentially like those of today. At army forts the doctor often assumed responsibility of recording temperatures and rainfall. It was thought at the time that typhoid fever and other diseases were caused by the weather. The former has been proven false but there still exists a relationship between such ailments as the common cold and the weather. Perhaps 50 years from now the cause and effect relationships between illnesses such as hay fever and the weather will be determined.

In the eighteen hundreds as well as today the interest in recording the weather was related to prognosticating. The long range forecast was a popular speculation in the early days much as it is at the present time. Professor W. H. Ragan of DePauw University in his Meteorological Summary of March 1885 made a forecast of the next winter. It read, "From such study as we have been able to make with the incomplete and recent data in our hands, we feel almost justified in expecting, with some confidence, an unusually mild winter for 1885-86. This, viewed as a prediction, must be received with extreme caution, for we have no certain means of knowing how it will turn out. The expectation is based principally on the assumption that constant cause must produce constant effect, and that whatever the force that has given us the three past cold winters it was abnormal, and the reaction will carry to the other extreme to restore the equilibrium." In the same report, "This fragmentary review also shows that our weather conditions are dependent on forces and currents set in motion far outside the boundaries of the State."

In those days there was a growing belief that much weather in Indiana moved from the west to the east which is of common knowledge to television viewers today. In June 1885, Professor Ragan thought this to be true and ventured a statement of explanation. Quote, "An investigation was set on foot on the hypothesis that areas of excessive rainfall move eastward. A crude examination of the rain records of Leavenworth and Indianapolis gives 58 to 49 in favor of the correctness of the hypothesis. The ground being left saturated after a "wet spell", vapor would be thrown into the air, rapidly carried east by the general

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movement, and condensed eastward of the "wet" area with unusual copiousness."

Weather records of the 1800's are not numerous. Weather data was often kept in diaries or with some other method of recording data and thus were lost. No doubt some of the first settlers kept rainfall records somewhat crudely. After all it was important to their agriculture and had to be considered in determining the best place to settle and to cultivate the land.

In the early eighteen hundreds very few weather stations existed in Indiana and communications were poor. There was no known state wide summarization of data from various stations in Indiana on a monthly basis until 1882. In those days there were several groups at the national level interested in obtaining weather reports. Observers for the Smithsonian Institute were known as volunteer observers. In this period the Surgeon General's Office and the Signal Office aided in collecting weather data. At least two networks existed in Indiana. Monthly summaries of temperature and rainfall in the state were duplicated to some extent in the eighteen eighties.

The Indiana State Weather Service was located at Indianapolis in June 1882. From November 1883 to at least 1886 the Indiana State Weather Service was located at Purdue University. H. A. Huston was the Director. The publication, Monthly Meteorological Summary from Stations of the Indiana Weather Service, apparently began in September 1884. For a short period from December 1886 to August 1888 the organization was called "Indiana Signal Service" rather than Indiana Weather Service. It is interesting to note that cooperators or sponsors were the Indianapolis Board of Trade and five railroads besides the U. S. Signal Service and Purdue University.

At about the same time Professor W. H. Ragan at DePauw University published weather data collected from Indiana *Volunteer* Weather Observers. His monthly reports are available for November 1884 to September 1886. These were published in cooperation with the Chief Signal Officer, U. S. A. beginning November 1885.

The monthly summaries of the two services used some of the same weather stations. Some stations had longer weather records than we are able to find today. Much of this data is lost. This was true even in 1872 when Charles G. Boerner, Observer at Vevay, reported in the 14th Annual Report of the Indiana State Board of Agriculture that an extensive log of weather data had been taken in his community in the early 1800's but that it had been lost.

The longest and still continuing weather record in Indiana is the one which was begun in November 1864 by Mr. Boerner at Vevay in Switzerland County. He recorded weather data until December 1899. His daughter, Miss Frederica Boerner, continued the good work to September 30, 1921. Apparently the instruments remained in approximately the same location for this entire period.

Mr. Boerner was a personal acquaintance of Cleveland Abbe, a well known meteorologist at that time. The record continues at Dam 39 near Markland which is 6.4 miles northeast of the old site in Vevay on Pearl Street, 4 blocks from the Ohio River.

Moving backwards in time we find that northern Indiana is the location of several old weather records. At Logansport in Cass County, the weather records begin July 1854. T. B. Helm was the observer from 1860 to 1888. Weather data is fragmentary in very early years, beginning in July 1864 at Collegeville, in March 1849 at LaPorte and at South Bend in 1862. The large cities as we know them today were not first with early weather observations.

At Spiceland in Henry County monthly rainfall data is available beginning in May of 1863 to May of 1890. The observer made the remark in December of 1889 that it was the only December in 36 years without snow. So it appears that these records began in 1853 or ten years earlier than those that are published.

An old weather record, which was made at Richmond, Indiana, is deposited in the National Archives at Washington, D. C. Rainfall data is available for the period of January 1852 to August 1868. The record resumes in 1883 and it is unbroken except for a period of May 1892 through December of 1895.

The first well organized and lengthy weather records of Indiana are those recorded by the early settlers at New Harmony. Temperature and rainfall data is nearly unbroken from June 1853 to March 1883. The first very complete weather records were recorded by these people, however, in the period of January 1, 1826 to January 31, 1829. The observers were David Dale Owen, Stedman Whitwell, Gerald Troost, and John Chapplesmith. The observations included the direction and force of the wind, state of the weather, types of clouds and the usual, rainfall and temperature data. Three to nine observations were taken daily. A conical shaped rain gauge was used which was made in London in 1824. It is claimed that the conical rain gauge was the first in the midwest and the second in America; the other being at Washington, D. C.

The number of weather observers in Indiana increased rather rapidly beginning in the 1860's. No attempt has been made to mention all observers or stations beginning at that time or later. Population growth and greater awareness of the vicissitudes of climate and their importance accompanied the growth of the weather observing network in later years in Indiana.

References

1. Monthly Meteorological Summary from Stations of the Indiana Volunteer Weather Service, compiled at DePauw University, Greencastle, Indiana, November 1884—September 1886.
2. Indiana Agricultural Experiment Station, Lafayette, Indiana Weather Service.
3. Fourteenth Annual Report of the Indiana State Board of Agriculture.
4. Substation History, Indiana, Key to Meteorological Records Documentation Number 1.1, U. S. Weather Bureau.
5. Summaries of Climatological Data by Sections, Bulletin W, 2nd Edition, U. S. Weather Bureau.