

## Station History for Harrisburg Local Climatology Data

Federal observations in Harrisburg were established on July 1<sup>st</sup>, 1888. The parameters measured included barometric pressure, max and min temperatures, rainfall, snowfall, snow depth, and wind direction and speed. The observations were taken at the Post Office building on the corner of 3<sup>rd</sup> and Walnut Streets. The office moved within the building four times, but the observing site remained in the Post Office location until 1939. During the 1920s, wind and rainfall measurements were severely affected by the construction of several tall buildings surrounding the Post Office. On October 17<sup>th</sup>, 1929 the tipping bucket and 8 inch rain gage were moved to the roof of the Arcade Building, 275 feet SSE of the Post Office. This essentially split the observing site into two locations.

Several things happened prior to the actual move of the observing site during 1938 and 1939. The Weather Bureau moved into room 302 in the Post Office on August 8<sup>th</sup>, 1938. On January 1<sup>st</sup> 1939, official records were begun at the airport station. It appears weather observations were begun on January 18<sup>th</sup>, 1931 at the airport to support aviation. It also appears that these observations were not made official until the following entry in the log dated January 1<sup>st</sup>, 1939. The entry in the hand written history simply states, "Official observation, for record and telegraphic purposes transferred to the Airport Station." This move was 3.3 miles SE of the Post Office location. However, just five months later the weather office and records of the downtown site were moved to the State Education Building; Capital Group occupying rooms 460, 489, 490, and 491. This was the same building occupied by the Federal-State Flood Forecasting Office. So the Weather Bureau and the Flood Forecasting Office combined at this time. It took until January 6<sup>th</sup>, 1941 for the Weather Bureau to relinquish the final room at the Post Office, when the Navy took over Room 304.

On July 1<sup>st</sup>, 1940, the thermometers and psychrometer were added to the rain gages atop the Arcade Building. The wind instrument on top of the post office was dismantled. There were wind measurements at the airport from January 18<sup>th</sup>, 1931 which became the official measurement on January 1<sup>st</sup>, 1939. Therefore the wind measurements, which had been compromised by tall building construction, were no longer needed downtown. Thus began the era of two weather observing sites in Harrisburg, PA. From January 18<sup>th</sup>, 1931 to January 1<sup>st</sup>, 1939 the official readings were still taken downtown with the unofficial readings taken at the airport. From January 1<sup>st</sup>, 1939 until 1991 official readings were taken at the Harrisburg State Airport. The airport was renamed Capital City Airport (KCXY) in October 1971. Based on the hand written entry of January 1<sup>st</sup> 1939 which transferred the official readings to the airport we could assume that the readings taken downtown were not official. The Weather Bureau started a third thermometer at their headquarters on the grounds of the State Education Building. This site was started September 25<sup>th</sup>, 1939, just over a year after they combined with the Flood Forecasting Office and measured ambient temperature only.

While at the airport, the instrumentation moved three more times. The first move was 600 feet to the NNW from the General Aviation Hanger area to the Airport Administration Building on October 17<sup>th</sup>, 1938. This move occurred two and a half months before the data became official. Nine years later, the observing site moved 200 feet north to the Administration Annex. That move was accomplished on August 28<sup>th</sup>, 1947. On December 20<sup>th</sup>, 1961, the site moved back to the Administration building, 225

feet SSW. This began a 30 year period of stability where the observations were taken at the same location. Some confusion arises with the following entry in the historical record. "Observational functions (temp., pcpn., snow., & fastest mile winds) transferred from the WSO (Federal BLDG.) to the FWCOS (Capital City AP) 3.5 mi. SE effective 5/1/87. Documentation concerning instrument moves is not available." This conflicts with the handwritten note discussed above that moved the "official" data to the airport in 1939. What this might mean is that the site at the Federal Building (formerly the Arcade Building) simply stopped taking observations effective May 1<sup>st</sup>, 1987, thus ending the era of two observing sites in Harrisburg.

Four years later, on October 1<sup>st</sup>, 1991 the official observing site for Harrisburg moved yet again, to the Harrisburg International Airport (HIA) in Middletown (KMDT). HIA/KMDT is located on the site of the old Middletown Air Depot & (later) Olmsted Air Force Base. See: <http://www.flyhia.com/about-hia/history/> for more detailed history of HIA/KMDT. The Universal Rain Gage, the 8" rain gage, the max and min thermometer and the wind instrumentation all moved to the field. The thermometer that was originally placed was the HO83 type that was typical of the 80s era. The sling for relative humidity and dew point was taken "on the roof." The roof referred to herein remains unknown - there are three possible locations.

ASOS was commissioned on March 31<sup>st</sup>, 1995, which brings us to the present. The ASOS unit was placed at a distance of approximately 600 meters northwest of the KMDT tower. ASOS does not measure snow and for years the maintenance department measured snow to keep the snow records/climatology going. The maintenance people were busiest during snow storms though, and the measurements were low on their list of priorities. Therefore, the measurements were often taken well after the last flakes had fallen and the wind had increased enough to make measuring the new snow fall difficult. The measurements were, at times, unreliable as a result. On February 8<sup>th</sup>, 2010, the Observing Program Leader from the National Weather Service (NWS) Weather Forecast Office (WFO) in State College (CTP) provided the equipment and the training necessary to the FAA-contracted weather office in the Middletown Tower and the reliability of snowfall measurements returned. The HIA/KMDT site is the current Local Climatological Data (LCD) site for Harrisburg, PA.

On April 1<sup>st</sup> 1998 another era of two weather observing sites began in the Harrisburg area. The Harrisburg Water Plant, one mile northeast of the Post Office in downtown Harrisburg (HARP1), began taking observations as an official (Co-Operative Observation Program) CO-OP site. This site provides max and min temperatures and precipitation, including snowfall and snow on the ground. The instrumentation includes an MMTS and an eight inch Standard Rain Gage. However, the observations from this CO-OP site are kept separate from the LCD site (HIA/KMDT).