**LOCAL CLIMATOLOGICAL DATA**

**READING 4 SW, PENNSYLVANIA 2019 ANNUAL SUMMARY**

 ELEVATION 320 FEET ASL LATITUDE 40.316251° LONGITUDE -75.988661°

OBSERVATION TIME (LMT): 24:00

 **----- TEMPERATURES (°F) ----- PRECIPITATION (IN.) - SNOWFALL (IN.) -**

 **EXTREME ---- AVERAGE ---- TOTAL DEGREE DAYS MONTH MAX MAX MONTH MAX MAX**

 **MONTH MAX MIN MAX MIN AVG HEATNG COOLNG GROWNG TOTAL 1-DAY 24-HR TOTAL 1-DAY 24-HR MONTH**

 **JAN 59 -7 38.3 23.2 30.7 1053 4.37 1.50 1.76 6.4 3.8 3.8 JAN**

 **FEB 67 1 43.0 26.7 34.9 836 3.48 0.83 0.84 6.7 3.0 3.0 FEB**

 **MAR 75 11 50.1 30.2 40.1 765 77 5.33 1.71 2.35 10.8 5.4 5.4 MAR**

 **APR 80 27 68.1 46.2 57.1 246 16 312 4.08 1.11 1.52 T T T APR**

 **MAY 89 42 74.6 55.7 65.2 90 103 488 10.39 1.89 2.03 MAY**

 **JUN 92 47 81.9 60.7 71.3 13 212 637 9.30 3.64 4.87 JUN**

 **JUL 97 61 89.0 68.2 78.6 429 834 7.30 2.22 2.51 JUL**

 **AUG 93 55 85.0 64.6 74.8 309 753 4.47 1.27 1.70 AUG**

 **SEP 91 44 80.5 58.0 69.3 15 151 582 2.20 1.36 1.36 SEP**

 **OCT 94 34 68.4 48.3 58.3 226 27 328 8.28 1.75 1.75 OCT**

 **NOV 64 20 50.4 31.2 40.8 716 52 1.56 0.77 1.03 T T T NOV**

 **DEC 54 17 43.5 29.0 36.3 884 4.81 0.78 1.07 0.6 0.6 0.6 DEC**

 **YEAR 97 -7 64.5 45.3 54.9 4844 1247 4063 65.57 3.64 4.87 24.5 5.4 5.4 YEAR**

 **DEP -0 -14 +0.7 +1.4 +1.0 -306 +178 +216 +13.59 -4.6 DEP**

 ANNUAL TEMPERATURE EXTREMES AND FREEZE DATA. . .

 HIGHEST MAXIMUM TEMPERATURE, DATE(S) .....: 97, 7/21

 LOWEST MAXIMUM TEMPERATURE, DATE(S) ......: 16, 1/31

 HIGHEST MINIMUM TEMPERATURE, DATE(S) .....: 76, 7/19 7/20

 LOWEST MINIMUM TEMPERATURE, DATE(S) ......: -7, 1/31

 HIGHEST AVERAGE TEMPERATURE, DATE(S) .....: 86, 7/19 7/20 7/21

 LOWEST AVERAGE TEMPERATURE, DATE(S) ......: 5, 1/31

 NO. OF DAYS WITH MINIMUM OF 32 OR BELOW ..: 107

 NO. OF DAYS WITH MAXIMUM OF 32 OR BELOW ..: 11

 NO. OF DAYS WITH MINIMUM OF 0 OR BELOW ...: 2

 NO. OF DAYS WITH MAXIMUM OF 90 OR ABOVE ..: 28

 TEMPERATURE & DATE OF LAST SPRING FREEZE .: 31, 4/03

 TEMPERATURE & DATE OF FIRST FALL FREEZE ..: 30, 11/02

 NO. OF DAYS BETWEEN (GROWING SEASON) .....: 213

 ANNUAL PRECIPITATION EXTREMES. . .

 NO. OF DAYS WITH A TRACE OF PRECIPITATION : 36

 NO. OF DAYS WITH 0.01 TO 0.09 IN. OF PCPN : 54

 NO. OF DAYS WITH 0.10 TO 0.49 IN. OF PCPN : 56

 NO. OF DAYS WITH 0.50 TO 0.99 IN. OF PCPN : 24

 NO. OF DAYS WITH 1.00 TO 1.99 IN. OF PCPN : 17

 NO. OF DAYS WITH 2.00 OR MORE IN. OF PCPN : 2

 MAXIMUM ONE-DAY PRECIPITATION, DATE(S) ...: 3.64, 6/19

 MAXIMUM FLOATING 24-HOUR PCPN, DATE(S) ...: 4.87, 6/19-20

 NO. OF DAYS WITH A TRACE OF SNOWFALL .....: 19

 NO. OF DAYS WITH 0.1 TO 0.9 IN. OF SNOW ..: 12

 NO. OF DAYS WITH 1.0 TO 3.9 IN. OF SNOW ..: 5

 NO. OF DAYS WITH 4.0 TO 7.9 IN. OF SNOW ..: 1

 NO. OF DAYS WITH 8.0 OR MORE IN. OF SNOW .: 0

 MAXIMUM ONE-DAY SNOWFALL, DATE(S) ........: 5.4, 3/03

 MAXIMUM FLOATING 24-HOUR SNOW, DATE(S) ...: 5.4, 3/03

 NO. OF DAYS WITH 1 IN. OR MORE SNOW COVER : 22

 MAXIMUM DEPTH (IN.) OF SNOW & ICE, DATE ..: 6, 3/03

 THUNDER DAYS .............................: 48

**HIGHLIGHTS**

Year 2019 at Reading 4 SW ended slightly warmer than normal with an average temperature of 54.9°F (+1.0), nearly the same as 2018 which averaged 54.8. The average of the daily minimums (45.3/+1.4) contributed twice as much to the anomaly as the average of the daily maximums (64.5/+0.7). Year 2019 followed which became by far the wettest year on record (80.63”) with a new third wettest year of 37 at 65.57” (+13.59). Only 2004 with 66.73 lies in between. Even so, the 2018/2019 pair is now by far the wettest pair with a two-year total of 146.20. Snowfall during 2019 amounted to 24.5” (-4.6) of which 10.7 fell during the first three days of March from three distinct storms. The 2019 part of the 2019-20 snow season produced only 0.6.

The key event of the year, in the opinion of the observer in charge, was severe flooding triggered by torrential downpours from late evening 19 June to early morning of 20 June when a returning warm front moved into then stalled over the area, supporting a slow-moving thunderstorm complex. Rainfalls of 4 to 8 inches in a few hours deluged western and southwestern Berks County, included the southwestern suburbs of Reading, and resulted in flooding of similar magnitude of that of 31 August 2018. Reading 4 SW collected 4.87 over those two days and included slightly over 3.00 within 60 minutes at midnight. The most inundated area, a few miles SW of Reading 4 SW, got up to 5.25 within 60 minutes.

Other significant weather events:

\* Snow squall on arctic front midday of 30 January brought only a quarter inch of snow. However, its suddenness with near-zero visibility caught many motorists off guard and resulted in a pileup of dozens of vehicles with one fatality on US Route 222 one mile northeast of Reading 4 SW.

\* The arctic air which followed plummeted the temperature to minus 7 by early morning of 31 January to mark the coldest since January 1994. The arctic sieges of only January 1994 (-14) and January 1985 (-9) brought colder temperatures. This arctic outbreak of 2019 was brief. Temperature rebounded to 67 on 5 February 2019.

\* The first thunderstorm of 2019, as well as the first 70 temperature (75) came on the Ides of March (15th). Thunderstorms were to become quite numerous from May into September, and occurred on 48 different days during the year to mark a new record (previously 46 during 2011) for most thunder days. Several of these thunderstorms were highly electrified with prolonged continuous lightning plus rumbling and booming thunder. The only post-September thunder occurrence was evening of 31 October.

\* While several thunderstorms brought large hail or damaging winds nearby to Reading 4 SW, many more delivered torrential downpours which caused numerous minor to moderate flooding occurrences nearby and a few additional severe floods in other areas of Berks County. The most severe flooding overall (three fatalities) occurred afternoon of 11 July over a swath of eastern Berks from deluges of 4 to 7 inches within an hour or two.

\* The first 90-degree temperature did not occur till 28 June, a month later than average. Those frequent downpours and chronically wet grounds suppressed hot (according to the thermometer) weather, but provided moisture which raised dew points to above 75 on many days and resulted in feels-like temperatures much higher than actual temperatures. Even so, 28 days heated to at least 90, which is slightly above average. The year’s hottest of 97 on 21 July was accompanied by a dew point of 84, which conspired to produce a dangerous feels-like temperature of 119.

\* The last of the 90s occurred quite late, 94 on 2 October, and marked a new record high for October at Reading 4 SW, previously 91 on 9 October 2007. Officially for Reading (RDG) the high was 93, one short of the October record of 94 on 5 Oct. 1941.

\* Weather turned abruptly cool toward midnight of this hot October day, and warmth was to be scarce the rest of the year. A spike to 77 on Halloween evening proved to be the final occurrence of 70 or above.

\* Although the first fall freeze or killing frost did not occur till 2 November, the first snowflakes were observed on 8 November, and wintry cold arrived soon afterward, including lows of 21 and 20 on 9 and 13 November respectively. Below normal temperatures not only dominated the remainder of autumn but also shut out late autumn warmth which has occurred at least briefly most years. The monthly max temperatures of 64 and 54 of November and December were 9 degrees below average for their respective monthly maximums.

\* September and November were the only two months of 2019 with below normal precipitation. The year through much of August was consistently wet, keyed by 10.39 during May and 9.30 during June. Combined with an even wetter second half of 2018, Reading 4 SW marked a new record for running 365-day precipitation of 90.38 on 21 July.