

RIVER AND WEATHER CONDITIONS

Prepared for Waterways Association Meeting 9/10/2014
 National Weather Service Forecast Office, Pittsburgh PA
 For the latest river and weather forecasts--<http://www.weather.gov/pittsburgh>

WEATHER RECAP

During August 2014, the temperatures were below normal and rainfall was above normal. In Pittsburgh the maximum temperature in August was 88 and the minimum temperature was 48. The average August temperature was 70.0 degrees, which is 1.5 degrees below the normal average of 71.5 degrees. A total of 5.05 Inches of rain fell in August which is 1.57 inches above the normal amount of 3.48 inches. There were 12 days with greater than or equal to 0.01 inches of rain fell. 0.10 inches of rain fell on 6 days. 0.50 inches of rain or greater fell on 4 days. There were 2 days with greater than or equal to 1.00 inches. The maximum 24 hour precipitation was 1.80 inches August 19th and August 20th. The average daily rainfall for August was 0.16 inches. There were 174 cooling degree days which is 35 below the normal amount 209 days

As much as 8 to 10 inches of rain fell over the Tuscarawas and Muskingum River Basins in Ohio and over the Clarion River Basin in Pennsylvania. This rainfall was between 200% and 300% of normal. There were 4 periods during August with heavy rains. August 3rd brought 2 to 3 inches of rain to the Pittsburgh Metropolitan Area as well as the Beaver and Lower Allegheny Basins causing roadway and stream flooding. On August 12th 3 to 4 inches of rain fell over the Tuscarawas and Muskingum River Basins in Ohio causing rises and minor flooding. On August 20th slow moving thunderstorms with localized rainfall of over 4 inches caused roadway and stream flooding across Eastern Ohio and the Northern Panhandle of West Virginia. August 23rd brought more than 4 inches of rain overnight in Fayette County Pennsylvania over the Youghiogheny river basin causing roadway and stream flooding in the Dunbar area.

| Location | Aug 2014 Precipitation | Departure (Inches) | Since Jan 1 |
|------------|---------------------------|-----------------------|--------------|
| Pittsburgh | 5.05 | +1.57 | 25.77(+2.03) |

| Location | Aug Average Temperature | Departure degrees | Extreme High | Extreme Low |
|------------|----------------------------|----------------------|--------------|-------------|
| Pittsburgh | 70.0 | -1.5 | 88(Aug 30) | 48(Aug 16) |

RIVER CONDITIONS

River flows and velocities remained well above normal for the Allegheny River with flows about 275% of normal and the Ohio River about 200% of normal for August. Flows and velocities on the Monongahela River were 75% of normal for August.

HIGH WATER POTENTIAL

A minimum of 2.50 to 3.00 inches basin wide rainfall in 6 to 12 hours is needed to bring rivers to bank full. High water potential is below normal over the next 30 days.

OUTLOOK

Below normal rainfall and below normal temperatures are expected through the rest of September. We have not reached 90 degrees at all in 2014. After some rain this Thursday, an autumn like air mass will settle into the area over the weekend bringing a nearly week long stretch of mostly dry and pleasant weather. Around September 23-26 an unsettled rainy period is possible with continued cooler than normal temperatures. About 2.00 inches of rain is expected through September 27 which is below normal. We need to on the lookout for any tropical system that could develop in September and October.

WEATHER FORECAST

| WEDNESDAY | WEDNESDAY NIGHT | THURSDAY | THURSDAY NIGHT | FRIDAY | FRIDAY NIGHT | SATURDAY |
|--|---|---|---|---|--|---|
|  |  |  |  |  |  |  |
| Mostly Sunny High: 82 °F | Chance Thunderstorms Low: 66 °F | Thunderstorms High: 74 °F | Chance Showers Low: 52 °F | Partly Sunny High: 68 °F | Mostly Cloudy Low: 49 °F | Chance Showers High: 64 °F |

8-14 Day Outlook... Below normal temperatures and below normal precipitation.

30 Day Outlook... Near normal temperatures and near normal precipitation.

Sep-Oct-Nov Outlook... Normal temperatures and normal precipitation

Nov-Dec-Jan Outlook... Above normal temperatures and normal precipitation

Jan-Feb-Mar Outlook... Normal temperatures and normal precipitation

Average Yearly rainfall Pittsburgh: 38.19 inches **So far in 2014:** 25.77 (+2.03)

Totals for: 2013: 36.65 inches; 2012: 41.74 inches; 2011: 44.24 inches; 2010: 37.85 inches

| RESERVOIR | FLOOD STORAGE CAPACITY USED | POOL ELEVATIONS (NAVD88) | | | | ACTUAL FOR TODAY | |
|-------------------|-----------------------------|--------------------------|-----------------|-----------------|-----------|------------------|-----------------|
| | | MINIMUM POOL | WINTER MAX POOL | SUMMER MAX POOL | FULL POOL | 7AM POOL ELEV | 7AM OUTFLOW CFS |
| Allegheny | 1% | 1239.5 | 1306.5 | 1327.5 | 1364.5 | 1327.93 | 2580 |
| Tionesta | 2% | 1084.6 | | | 1169.6 | 1089.68 | 390 |
| Union City | 0% | 1209.7 | | | 1277.7 | 1219.80 | 240 |
| Woodcock | 1% | 1161.9 | 1164.9 | 1180.4 | 1208.4 | 1180.96 | 37 |
| East Branch | 6% | 1554.8 | 1622.8 | 1649.8 | 1684.8 | 1628.57 | 155 |
| Mahoning | 1% | 1074.2 | | 1097.1 | 1161.1 | 1098.31 | 220 |
| Crooked Creek | 3% | 837.4 | | | 917.4 | 844.50 | 145 |
| Conemaugh | 1% | 899.2 | | | 974.2 | 901.67 | 560 |
| Loyalhanna | 3% | 909.5 | | | 974.5 | 922.94 | 125 |
| Stonewall Jackson | 0% | 1037.3 | 1067.5 | 1072.5 | 1081.3 | 1069.08 | 70 |
| Tygart | 1% | 1009.5 | 1039.5 | 1093.5 | 1166.5 | 1094.84 | 1290 |
| Yough | 0% | 1343.4 | 1418.4 | 1438.4 | 1469.4 | 1425.83 | 600 |
| Michael J. Kirwan | 2% | 950.6 | 980.6 | 985.1 | 992.6 | 985.22 | 41 |
| Berlin | 16% | 979.3 | 1015.9 | 1024.0 | 1031.3 | 1019.39 | 210 |
| Lake Milton | 22% | 929.4 | 939.4 | 947.4 | 950.4 | 948.12 | 210 |
| Mosquito | 17% | 880.3 | 899.2 | 900.7 | 903.3 | 900.00 | 50 |
| Shenango | 1% | 883.7 | 886.7 | 894.7 | 917.7 | 895.15 | 435 |

| | |
|-------------------|------|
| District-wide | 2.0% |
| Allegheny Basin | 1.4% |
| Monongahela Basin | 0.8% |
| Beaver Basin | 6.7% |

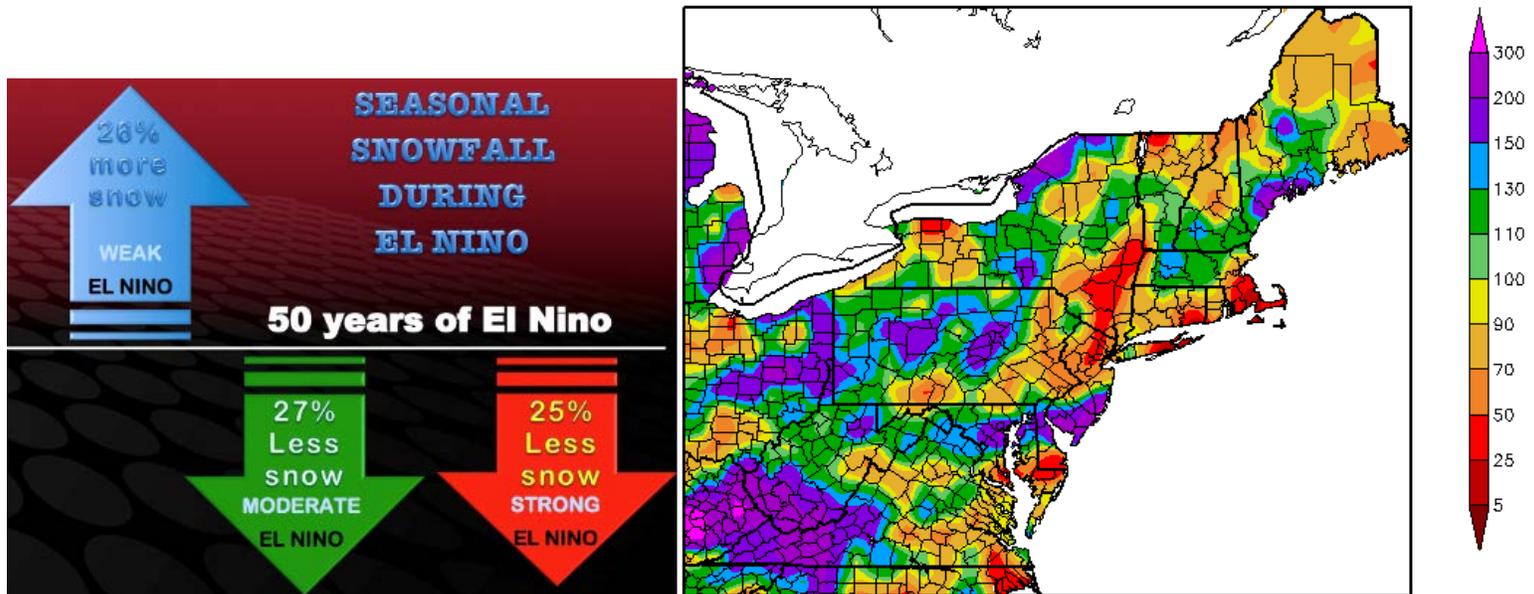
2014 Atlantic hurricane: The season runs June 1- Nov 30. No activity in the Atlantic for the past 2 weeks and none expected for at least the next week. Two tropical cyclones formed in the Atlantic in August...both became hurricanes. Based on 30-year (1981-2010) Climatology...three or four named storms is normal for August, with one or two of those becoming hurricanes. A major Hurricane occurs in August in about 7 out of 10 years. In terms of accumulated cyclone energy, which measures the combined strength and duration of tropical storms & hurricanes...activity so far in 2014 has been about 45 percent of the 1981-2010 average.

2014 Atlantic hurricane Summary table

| Name | dates | max wind (mph) |
|-----------|-----------|----------------|
| Arthur | 1-5 July | 100 |
| Bertha | 1-6 Aug | 80 |
| Cristobal | 23-29 Aug | 85 |

El Niño Outlook Tropical Pacific Ocean surface temperatures are normal, but sub-surface water is warmer than average. A late season El Nino remains possible if these warmer waters rise to the surface. The last El Nino was from 2009 to 2010, and the Pacific has either been in its cooler state, called La Nina, or neutral since then. A weak El Nino likely means a normal to above normal snow fall for Pittsburgh.

Percent of Normal Precipitation (%)
8/10/2014 - 9/8/2014



No temperature or rainfall records were broken for August: