NOVEMBER 2003: Above normal temperatures and rainfall highlighted local weather conditions in the final month of Autumn. Unusually warm weather produced monthly temperature departures exceeding $+4^{\circ} \mathrm{F}$ at the three major airports. The $+4.4^{\circ} \mathrm{F}$ monthly temperature departure observed at DCA was the largest since February 2002. There were 22 days with at or above normal temperatures at DCA, making November one of only three warmer than normal months in 2003. The warmest conditions occurred in the first week with DCA daily temperatures averaging between $7^{\circ} \mathrm{F}$ and $21^{\circ} \mathrm{F}$ above normal. Readings more typical of early summer were observed at BWI and IAD as both locations reported four days with highs at or above $80^{\circ} \mathrm{F}$; DCA noted two such days (no $80^{\circ} \mathrm{F}+$ days at any of the three airports in October 2003). The high of $81^{\circ} \mathrm{F}$ on the $4^{\text {th }}$ at IAD set a new daily record; at BWI a high of $80^{\circ} \mathrm{F}$ on the $5^{\text {th }}$ equaled the daily record maximum. The coldest air of the season followed on the $9^{\text {th }}$ and $10^{\text {th }}$ as temperatures fell well below freezing in many areas. IAD set a record low on the $10^{\text {th }}$ when the mercury plunged to $21^{\circ} \mathrm{F}$. DCA observed its first and only monthly subfreezing temperature when the mercury dropped to $31^{\circ} \mathrm{F}$. Generally above normal readings soon followed and continued for much of the remainder of the month. In fact, highs reached into the 70 s on the $21^{\text {st }}$ at the three major airports including a $74^{\circ} \mathrm{F}$ reading at DCA.

Rainfall in November continued the 2003 trend of wet conditions. Monthly totals averaged between 4 "and 6 ", resulting in monthly precipitation surpluses approaching two inches at BWI and IAD. The majority of the rain fell in once-a-week storms. The first three storms were particular noteworthy. The first storm system on the $5^{\text {th }}-6^{\text {th }}$ soaked the area with nearly two inches of rain in some areas (IAD 1.85 "); however, the event will be remembered for generating thunderstorms and two small tornadoes in western Montgomery County, MD on the afternoon of the $5^{\text {th }}$. The storms caused an estimated $\$ 2$ million in damage and stranded hundreds of rush-hour commuters on stalled MARC trains, according to press reports. On the 12th, about a half inch of rain fell on most locations followed by a strong windstorm on the $13^{\text {th }}$ producing gusts to 55 mph that knocked out power to thousands and resulted in several injuries, according to press reports. On the $18^{\mathrm{th}}$, torrential downpours produced nearly two inches of rain, leading to three fatalities in Baltimore as flood waters pulled the individuals, working on a storm drain into currents near Dead Run Creek, according to press reports. The month’s final storm occurred on the $28^{\text {th }}$ as a rainy day after Thanksgiving ended with heavy windswept showers that generated about $3 / 4$ " of rain across most of the area.

## NOVEMBER 2003 WEATHER STATISTICS FOR THE WASHINGTON/BALTIMORE AREA:

| Station | Temperatures ( ${ }^{\circ} \mathrm{F}$ ) |  |  |  | Extreme/Day |  |  | Precipitation (In) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Location | AvMx | AvMn | AvgT | NmIT | DepNmI | MaxT | MinT | Total | Norm | DepNmI | Yr to Date |
| National (DCA) | 61.6 | 44.6 | 53.1 | 48.7 | +4.4 | 81/1* | 31/10 | 4.23 | 3.03 | +1.21 | 56.51 |
| Baltimore (BWI) | 61.1 | 40.5 | 50.8 | 45.5 | +5.3 | 81/1 | 24/10 | 4.86 | 3.12 | +1.74 | 57.95 |
| Dulles (IAD) | 60.7 | 39.3 | 50.0 | 45.2 | +4.8 | 81/1 ${ }^{\text {\# }}$ | 21/10 | 5.20 | 3.31 | +1.89 | 62.20 |
| Andrews AFB (ADW) | 61.0 | 41.0 | 51.0 | N/A | N/A | 82/5 | 25/10 | 4.83 | 3.30 | +1.53 | 59.15 |

Other Occurrences:* November 5 th; ${ }^{\text {\# }}$ November $4^{\text {th }}$.
AUTUMN (SEPTEMBER-NOVEMBER) 2003: Slightly above-normal temperatures and wetter than normal conditions prevailed across the metro area. Seasonal temperature were up between $+0.9^{\circ} \mathrm{F}$ and $+2.0^{\circ} \mathrm{F}$ at the three major airports. The season commenced with nearnormal temperatures in September. There were no prolonged periods of heat and no $90^{\circ} \mathrm{F}$ readings observed at any of the three airports. Slightly cooler than normal conditions prevailed during October with monthly temperature departures between $-0.3^{\circ} \mathrm{F}$ and $-1.3^{\circ} \mathrm{F}$ observed at the three major airports. There were no $80^{\circ} \mathrm{F}+$ readings observed at any of the three major airports, but both BWI and IAD recorded their first $32^{\circ} \mathrm{F}$ or lower reading of the season on the $24^{\text {th }}\left(29^{\circ} \mathrm{F}\right)$ and $3^{\text {rd }}\left(30^{\circ} \mathrm{F}\right)$, respectively. Unusually warm weather dominated during November as monthly temperatures averaged more than $4^{\circ} \mathrm{F}$ above normal at all three major airports. It was the largest monthly temperature departure since February 2002 and only the third warmer than normal month of 2003 at DCA.

Wetter than normal conditions prevailed for the fourth consecutive season in Washington. Seasonal precipitation totals between 15 and 19 inches were common at many locations, yielding surpluses of between 5 and 8 inches at the three major airports and the wettest Autumn on record at BWI and second wettest at IAD. In September, the area saw wetter than normal conditions due in large part to the remnants of Tropical Storms Henri ( $\left.12^{\text {th }}-13^{\text {th }}\right)$ and Isabel, which pummeled the area with strong winds (gusts near 60 mph ) and heavy rain (nearly a foot of rain to the west of Washington) on the $18^{\text {th }}-19^{\text {th }}$. Monthly precipitation totals exceeding 6 inches were common at many locations. October was also highlighted by wetter than normal conditions with monthly precipitation totals between 3.5 and 6 inches at the three major airports. November also featured wet weather. Monthly precipitation totals exceeding 4 inches were common across the local area. The wet November pushed 11-month (January-November 2003) precipitation totals to more than 61 inches at IAD; 57" at BWI and more than 56 " at DCA, resulting in the wettest 11-month period on record at IAD and second wettest in Washington and at BWI.

## AUTUMN 2003 WEATHER STATISTICS FOR THE WASHINGTON/BALTIMORE AREA:

| Station | Temperatures ( ${ }^{\circ} \mathrm{F}$ ) |  |  |  |  | Extreme/Month-Day |  | Precipitation (In) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Location | AvMx | AvMn | AvgT | NmiT | DepNml | MaxT | MinT | Total | Norm | DepNmI |
| National (DCA) | 68.5 | 52.2 | 60.3 | 59.4 | +0.9 | 85/9-1* | 31/11-10 | 15.03 | 10.04 | +4.99 |
| Baltimore (BWI) | 67.8 | 48.0 | 57.9 | 56.1 | +1.8 | 85/9-1 | 24/11-10 | 18.15 | 10.26 | +7.89 |
| Dulles (IAD) | 67.3 | 46.6 | 57.0 | 55.9 | +1.1 | 86/9-1 | 21/11-10 | 17.10 | 10.50 | +6.60 |
| Andrews AFB (ADW) | 68.5 | 48.7 | 58.6 | N/A | N/A | 86/9-7 | 25/11-20 | 15.44 | 10.20 | +5.20 |

Other Occurrences: * September 20 ${ }^{\text {th }}$.
LOOKING AHEAD TO DECEMBER: Wettest Year Ever Recorded in Washington?
With the 2003 January-November period being the second wettest on record in Washington, our attention now turns to the calendar year (2003) precipitation total. If 4.83 inches of precipitation is observed during December at DCA, 2003 will go down as the wettest year ever recorded in Washington. Below is a list of the five wettest years ever observed in Washington. Normal DCA annual precipitation: 39.35".

| Year | 1889 | 1878 | 1886 | 1948 | 2003 (to Nov.) |
| ---: | :---: | :---: | :---: | :---: | :---: |
| Total Precipitation | 61.33 | 60.09 | 58.18 | 57.54 | 56.51 |

