Good flying conditions are forecasted for Monday, though we should keep an eye on possible late afternoon clouds. Clouds will probably be a problem for Tuesday. Wednesday through the weekend will likely be hazy, hot, and humid. This heatwave builds as the massive upper-level ridge plaguing the Plains moves east. Air quality is expected to be poor most of the work week.
Recommendations for July 18th-22nd

Monday, July 18th: **Fly** – possible afternoon clouds – TES special observation

Tuesday, July 19th: **No fly** – clouds

Wednesday, July 20th: **Can Fly** – MISR

Thursday, July 21st: **Can Fly**

Wednesday → Sunday – AQ should be awful, asthmatics wheezing
Current Conditions at BWI, 11am

Partly Cloudy

Temperature: 83 °F (28 °C)

Humidity: 55%
Wind Speed: SW 6 MPH
Barometer: 30.19" (1022.3 mb)
Dewpoint: 65 °F (18 °C)
Heat Index: 85 °F (29 °C)
Visibility: 10.00 mi.
“SYNOPSIS... HIGH PRESSURE WILL CONTINUE ACROSS THE MID ATLANTIC FOR THE REMAINDER OF THE WEEKEND. A FRONT WILL MOVE SOUTH ACROSS THE REGION ON TUESDAY...WITH HIGH PRESSURE RETURNING FOR THE REMAINDER OF THE WORK WEEK.”
TRACKING THE HEAT WAVE THIS WEEK

UPPER-LEVEL RIDGE SHIFTS EAST

MID TO UPPER 90'S OHIO VALLEY & MID-ATLANTIC

<table>
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<tr>
<th>Today</th>
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<th>Tue</th>
<th>Wed</th>
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<td>Jul 17</td>
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<td>26</td>
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<tr>
<td>Mostly Sunny</td>
<td>Partly Cloudy</td>
<td>Scattered T-Storms</td>
<td>Sunny</td>
<td>Mostly Sunny</td>
<td>Mostly Sunny</td>
<td>Isolated T-Storms</td>
<td>Isolated T-Storms</td>
<td>Isolated T-Storms</td>
<td>Scattered T-Storms</td>
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<td>89°F</td>
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Today is the last mild day. Heat and humidity build Monday with evening precipitation possible.

- **Today**
  - Pleasant
  - <40% Clouds

- **Monday**
  - Dripping Humidity
  - Weak Front Dying
  - Clouds >50% by late afternoon

- **Tuesday**
  - Wind Shift
  - 50% Chance Rain
Tuesday will likely be too cloudy all day, but Wednesday looks like a possible fly day.
Hazy, Hot, & Humid – temperatures approaching 100°F.
BUFKIT seems to be an outlier in the forecast.
Today 2 pm: High pressure off East Coast. Moist southwest flow.
Tomorrow morning 8 am: Upper level low/trough over Eastern Canada intensifies.
Monday evening: The trough pushes SE through the Mid-Atlantic. The warm, humid airmass ahead of this trough will enable thunderstorm development. But timing is difficult.
Tuesday 8 am: Upper level trough moves south through our area. Flow from the Bermuda High takes over. Ongoing thunderstorm activity is expected as the trough sags through the region.
Monday 8 am: GFS forecasts some high level clouds (10-20%). NAM shows high level clouds (18K ft+) in western MD. GEM model is showing some thin cloud cover as well.
Monday 2 pm: GFS forecasts some high level clouds (10-30%). NAM showing widespread high level (18K+ ft) cloud cover over Mid-Atlantic. GEM model is showing some thin cloud cover as well.
Monday 8 pm: GFS forecasts high level cloud cover (50-80%). NAM showing widespread high level (18K+ ft) cloud cover over Mid-Atlantic. GEM model showing some clouds cover as well.
Tuesday 8 am: GFS forecasts mid and high level cloud cover (~80%).
Tuesday 2 pm: GFS forecasts mid level cloud cover (40+%). Thinner, high level cloud cover moving south.
Tuesday 8 pm: NAM forecasting some clouds above 18K ft.
Wednesday 8 am: All models clear

GEOS - 5

84-hr forecast valid Wed 12z 2011-07-20

GFS

High Cloud Cover (%) at 12 UTC Wednesday 20 July 2011

NAM

72-hour forecast valid 1200 UTC Wed 20 Jul 2011
Wednesday 8 pm: All models clear
GEOS-5 extended forecast: No precip forecast for Wed or Thu
GFS extended forecast: Precip forecast for midday and evening Tuesday
NWS Forecast Discussion

NEAR TERM /THROUGH TONIGHT/... SURFACE HIGH PRESSURE HAS MOVED OFF THE MID ATLANTIC COAST. HIGH WILL REMAIN OFFSHORE THROUGH THE NEXT 24 HOURS...INCREASING MOISTURE WITH TIME. ALREADY HAVE SOME CLOUDS ACROSS THE SOUTHWEST CWA WITH GENERALLY CLEAR SKIES FURTHER NORTHEAST INTO MARYLAND. THIS PARTLY TO MOSTLY CLOUDY SOUTHWEST/MOSTLY CLEAR NORTHEAST GRADIENT WILL LIKELY LAST THROUGH SUNRISE PER MODEL RH FIELDS. MORNING SHOULD BE DRY. CU DEVELOPMENT WILL OCCUR THIS AFTERNOON...MOST ROBUST ACROSS THE HIGHLANDS/RIDGES. THIS IS WHERE A FEW SHOWERS/THUNDERSTORMS MAY ALSO POP DURING THE MID TO LATE AFTERNOON. WOULDN'T BE SURPRISED FOR AN ISOLATED CELL TO OCCUR OVER THE CENTRAL SHENANDOAH VALLEY EITHER...BUT ANY ACTIVITY WILL TEND TO BE DIURNALLY-DRIVEN AND DISSIPATE WITH THE SETTING OF THE SUN. PATCHY FOG MAY OCCUR LATE AT NIGHT OVER THE CENTRAL SHENANDOAH VALLEY...ESPECIALLY IF ANY RAIN OCCURS AND SKIES CLEAR OUT. WARMING TREND WILL CONTINUE TODAY...WITH TEMPERATURES EAST OF THE BLUE RIDGE LIKELY GETTING NEAR 90 DEGREES. DEWPOINTS WILL BE IN THE LOWER TO MID 60S SO IT WILL FEEL A LITTLE MORE HUMID THAN THE PAST COUPLE OF DAYS TOO. MINIMA WILL ALSO BE HIGHER THAN RECENT NIGHTS...WITH LOWER 70S IN DOWNTOWN WASHINGTON AND BALTIMORE AND MID TO UPPER 60S IN THE SUBURBS. && .

SHORT TERM /MONDAY THROUGH TUESDAY/... A TROUGH OVER ERN CANADA WILL AMPLIFY SOUTH ACROSS THE NERN CONUS MONDAY THROUGH TUESDAY...PUSHING THE ERN CONUS PORTION OF THE EAST-WEST ORIENTED RIDGE SOUTH. MONDAY...WITH THE LOW LEVEL RIDGE AXIS DRAPED ACROSS THE SRN MID ATLANTIC...EXPECT LIGHT SWLY SFC FLOW. THE 00Z GFS AND 12Z ECMWF BOTH DEPICT 20 TO 22C 850MB TEMPS ACROSS THE LWX CWA BY MONDAY EVENING. UNDER IDEAL CONDITIONS THIS WOULD LEAD TO MAX TEMPS IN THE UPR 90S. HOWEVER...CLOUDS WILL BE MOVING IN FROM THE NORTH...SO MAX TEMPS WERE RAISED ONLY A COUPLE DEGREES...STILL IN THE MID 90S. MONDAY EVENING...A TROUGH EXTENDING FROM A LOW OVER NRN QUEBEC PUSHES SOUTHEAST THROUGH THE MID ATLANTIC. THE WARM/HUMID AIRMASS AHEAD OF THIS TROUGH WILL ENABLE THUNDERSTORM DEVELOPMENT. CONSIDERING THE NWLY FLOW OVERSPOILING THE REGION WITH THIS TROUGH...TIMING/AREAL COVERAGE OF POPS ARE DIFFICULT. THE EXPECTATION IS FOR THUNDERSTORM CLUSTERS/SYSTEMS TO SPREAD SOUTH/SOUTHEAST. THE INITIAL ROUND...ASSOCIATED WITH THE LEADING SFC TROUGH IS PROGGED TO CROSS MONDAY EVENING PER 00Z GUIDANCE. THEREFORE HIGH CHANCE POPS WERE INTRODUCED ACROSS THE NORTHERN AND EASTERN PORTIONS OF THE CWA FOR THE FIRST HALF OF MONDAY NIGHT FOR NOW. PWATS THROUGH THIS TIME WILL INCREASE INTO THE TWO INCH RANGE...THE GREATEST THREAT WILL BE HYDROLOGIC FROM HEAVY RAIN. HOWEVER...BULK SHEAR IN THE 30 TO 40 KT RANGE WILL KEEP THE ACTIVITY MOVING. REST OF MONDAY NIGHT THROUGH TUESDAY...ONGOING THUNDERSTORM ACTIVITY IS EXPECTED AS THE TROUGH SAGS THROUGH THE REGION...SO CHANCES WERE BROADBRUSHED ACROSS THE CWA. DETAILS IMPOSSIBLE BECAUSE DEVELOPMENT WILL DEPEND ON BOUNDARIES LAID BY THE INITIAL WAVE OF CONVECTION. LOW CONFIDENCE OF TEMPERATURES THROUGH THIS TIME CONSIDERING CHANCES FOR THUNDERSTORMS AND CLOUD COVER. LEANED TO THE CLOUDY SIDE...SO WENT JUST UNDER GUIDANCE...LOW TO MID 90S FOR MAX TEMPS TUESDAY. && .

LONG TERM /TUESDAY NIGHT THROUGH SATURDAY/... TUESDAY NIGHT THROUGH MIDWEEK...TROUGH MOVES SOUTH OF THE CWA AND DISSIPATES AS FLOW FROM THE BERMUDA HIGH TAKES OVER. DIURNAL TREND IN CLOUDS/CONVECTIVE STORMS PARTICULARLY OVER TERRAIN LOOKS TO BEGIN ON WEDNESDAY. MAX TEMPS WEDNESDAY MID 90S. LATE NEXT WEEK AND WEEKEND...SWLY FLOW ADVECTS PERHAPS /HOPEFULLY?/ THE WARMEST AIR OF THE YEAR ACROSS THE MID ATLANTIC. DEEP LOW LEVEL MIXING WITH 850MB TEMPS 22 TO EVEN 24C WOULD BRING MAX TEMPS IN THE UPR 90S TO AROUND 100F FROM THURSDAY THROUGH THE WEEKEND. DEWPOINTS AT LEAST 70F THROUGH MOST OF THIS TIME...SO HEAT HEADLINES LOOK LIKE A SURE BET. AFTERNOON CONVECTIVE STORM PATTERN FOR THE BLUE RIDGE AND WEST THROUGH THIS TIME. REMNANTS OF THE TROUGH TO OUR SOUTH LOOK TO COME THROUGH ON THURSDAY...SO CHANCE POPS FOR THUNDERSTORMS WERE ADDED THAT AFTERNOON.
MDE Surface Sites

Padonia  Beltsville  Edgewood  Aldino  Essex  Fairhill

Ozone (ppbv) 1 hr

PM2.5 (ug/m³) 1 hr
MDE Surface Sites

Padonia  Beltsville  Edgewood  Aldino  Essex  Fairhill

Ozone (ppbv) 8 hr

75 ppbv
60 ppbv

7/01  7/03  7/05  7/07  7/09  7/11  7/13  7/15
NAQFC-MOS valid for Monday

Edgewood

Beltsville
Essex

Today
S/SW Winds

Monday
WSW Winds

Tuesday
N/NW Winds

Wednesday
S Winds

Thursday
SW Winds
A high pressure system off the Mid-Atlantic coast will continue to bring south/southeasterly flow across the region on Sunday. This air-mass is maritime in nature; thus, it's somewhat clean. Ozone levels is expected to reach into the low Moderate range along the Baltimore-Washington corridor due to mostly clear skies and light winds. Elsewhere, ozone levels will be Good. Particle pollution levels are currently in the single digit and are expected to remain in the Good range for Sunday. On Monday, this high pressure extends back over the southern Mid-Atlantic. Coupled with the approaching cold front, southwesterly winds will be enhanced over the region. This situation is typical for ozone production and AQI is expected to increase into the Unhealthy for Sensitive Groups (USG) category along the Baltimore-Washington corridor. Elsewhere will observe Moderate ozone. Particle pollution will increase into the Moderate range due to increasing humidity and transported aerosols. On Tuesday, the approach of the cold front could initiate some thunderstorms although it's still uncertain. At this time, USG conditions are still anticipated to continue on Tuesday along the I-95 corridor and east of it. Particle pollution will continue to increase well into the Moderate range. - MDE