

**NATIONAL WEATHER SERVICE INSTRUCTION 10-516  
OCTOBER 9, 2017**

*Operations and Services  
Public Weather Services, NWSPD 10-5*

**NATIONAL NON-PRECIPIATION WEATHER PRODUCTS SPECIFICATION**

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**NOTICE:** This publication is available at: <http://www.nws.noaa.gov/directives/>.

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**Certified by:** W/AFS21 (M. Hawkins)

**Type of Issuance:** Routine

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**SUMMARY OF REVISIONS:** This directive supersedes NWSI 10-516, “*National Non-Precipitation Weather Products Specification*,” dated June 14, 2012. Changes made to reflect the NWS Headquarters reorganization effective April 1, 2015. No content changes were made.

Signed \_\_\_\_\_

9/25/2017

Andrew D. Stern

Date

Director

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National Non-Precipitation Weather Products Specification

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1. **Introduction.** This procedural directive describes national non-precipitation weather products issued at the National Weather Service (NWS), National Centers for Environmental Prediction (NCEP), guidelines associated with these products, and detailed content and format for each product type. Heat index products are issued by the Weather Prediction Center (WPC) for the contiguous United States (CONUS), while air quality products are issued by the Environmental Modeling Center (EMC) for differing domains.

2. **Day 3-7 Maximum Heat Index Probability Forecast Graphics**

2.1 **Mission Connection.** WPC issues probabilistic daily maximum Heat Index forecast graphics for days 3 through 7 as guidance to CONUS NWS field offices and the general meteorological community (private sector and the media). These products support the NWS Excessive Heat Outlook program by providing early indications of significant heat related events and are issued in probabilistic form to better represent the forecast uncertainty associated with a particular event.

2.2 **Issuance Guidelines.**

2.2.1 **Creation Software.** WPC uses NCEP Advanced Weather Interactive Processing System (NAWIPS) software to generate these products.

2.2.2 **Issuance Criteria.** These are routine, schedule-driven products issued for days 3 through 7 from May 1 through September 30.

2.2.3 **Issuance Time.** Refer to Table 1.

2.2.4 **Valid Time.** Refer to Table 1.

<b>WPC Day 3-7 Max Heat Index Probability Forecast Graphics Product Schedule</b>					
<i>Issuance Time (UTC)</i>	<i>Valid Time</i>	<i>AWIPS ID</i>	<i>WMO Header</i>	<i>Max Heat Index Thresholds (%)</i>	<i>Product Description</i>
1905	Day 3	RBG396 RBG300 RBG305 RBG310 RBG315	PTNK98 KWNH PTNK98 KWNH PTNK98 KWNH PTNK98 KWNH PTNK98 KWNH	Chance > 95F Chance > 100F Chance > 105F Chance > 110F Chance > 115F	Day 3 probabilities of daily maximum Heat Index exceeding predetermined thresholds
1905	Day 4	RBG496 RBG400 RBG405 RBG410 RBG415	PTNM98 KWNH PTNM98 KWNH PTNM98 KWNH PTNM98 KWNHPTNM98 KWNH	Chance > 95F Chance > 100F Chance > 105F Chance > 110F Chance > 115F	Day 4 probabilities of daily maximum Heat index exceeding predetermined thresholds
1905	Day 5	RBG596 RBG500 RBG505 RBG510 RBG515	PTNO98 KWNH PTNO98 KWNH PTNO98 KWNH PTNO98 KWNH PYNO98KWNH	Chance > 95F Chance > 100F Chance > 105F Chance > 110F Chance > 115F	Day 5 probabilities of daily maximum Heat Index exceeding predetermined thresholds
1905	Day 6	RBG696 RBG600 RBG605 RBG610 RBG615	PTNQ98 KWNH PTNQ98 KWNH PTNQ98 KWNH PTNQ98 KWNH PTNQ98 KWNH	Chance > 95F Chance > 100F Chance > 105F Chance > 110F Chance > 115F	Day 6 probabilities of daily maximum Heat Index exceeding predetermined thresholds
1905	Day 7	RBG796 RBG700 RBG705 RBG710 RBG715	PTNS98 KWNH PTNS98 KWNH PTNS98 KWNH PTNS98 KWNH PTNS98-KWNH	Chance > 95F Chance > 100F Chance > 105F Chance > 110F Chance > 115F	Day 7 probabilities of daily maximum Heat Index exceeding predetermined thresholds

**Table 1.** Probabilistic maximum Heat Index forecast graphic issuance and valid times.

2.2.5 Product Expiration Time. Product expires after next day issuance at 1905 UTC.

2.3 Technical Description. Charts should follow the format and content described in this section.

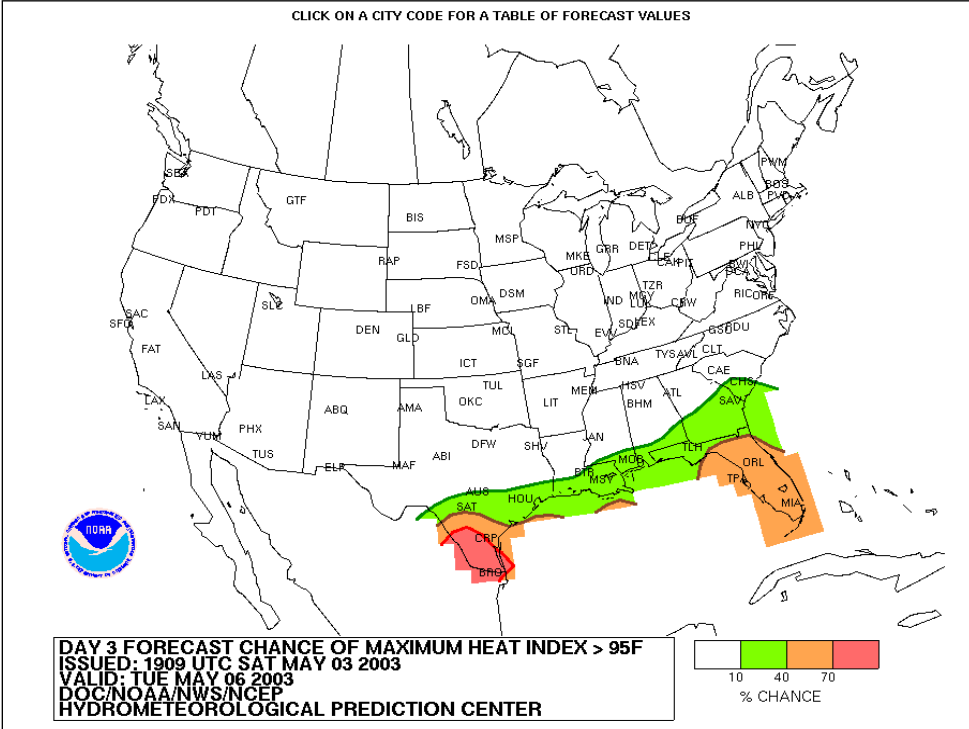
2.3.1 Universal Geographic Code Type. Not applicable.

2.3.2 Mass News Disseminator Broadcast Instruction Line. Not applicable.

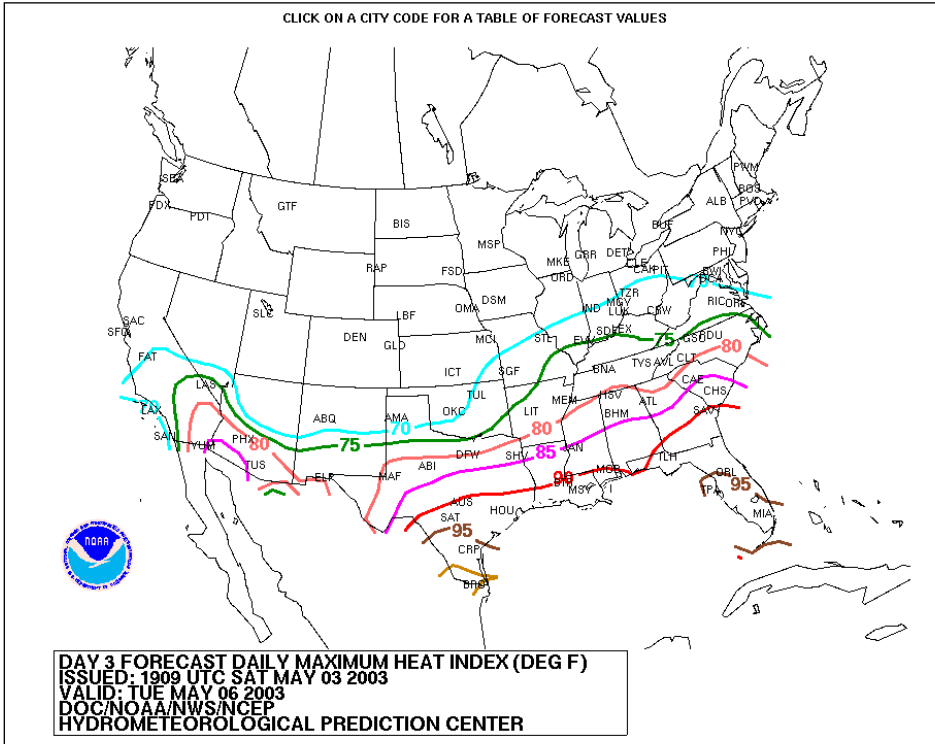
2.3.3 Mass News Disseminator Product Type Line. Not applicable.

2.3.4 Content. A graphical forecast product that shows the forecast maximum Heat Index and probabilities of daily maximum Heat Index (shaded contours) exceeding predetermined threshold values within the CONUS for days 3 through 7. The shaded contours indicate the probability (e.g., 10%, 40%, 70%) that a location within the shaded area will receive greater than or equal to a daily maximum heat index of 95 F, 100 F or 105 F respectively.

2.3.5 Format Examples. Examples 1 and 2 below show graphical Day 3 forecasts of Probabilities of Maximum Heat Index exceeding 95 F and Graphical Day 3 forecasts of Maximum Heat Index, respectively.



Example 1: Probability of Maximum Heat Index >95 F (Day 3)



Example 2: Daily Maximum Heat Index Forecast (Day 3)

**3. Day 3-7 Minimum Heat Index Probability Forecast Graphics.**

3.1 Mission Connection. WPC issues probabilistic daily minimum Heat Index forecast graphics for days 3 through 7 as guidance to CONUS NWS field offices and the general meteorological community (private sector and the media). These products support the NWS Excessive Heat Outlook program by providing early indications of significant heat related events and are issued in probabilistic form to better represent the forecast uncertainty associated with a particular event.

3.2 Issuance Guidelines.

3.2.1 Creation Software. WPC uses N-AWIPS software to generate these products.

3.2.2 Issuance Criteria. These are routine, schedule-driven products issued for days 3 through 7 from May 1 through September 30.

3.2.3 Issuance Time. Refer to Table 2.

3.2.4 Valid Time. Refer to Table 2.

<b>WPC Day 3-7 Minimum Heat Index Probability Forecast Graphics Product Schedule</b>					
<i>Issuance Time (UTC)</i>	<i>Valid Time</i>	<i>AWIPS ID</i>	<i>WMO Header</i>	<i>Min Heat Index Thresholds (%)</i>	<i>Product Description</i>
1915	Day 3	RBG375 RBG380 RGB384	PTNK98 KWNH PTNK98 KWNH PTNK98 KWNH	Chance > 75F Chance > 80F Chance > 85F	Day 3 probabilities of daily minimum Heat Index exceeding predetermined thresholds
1915	Day 4	RBG475 RBG480 RGB484	PTNM98 KWNH PTNM98 KWNH PTNM98 KWNH	Chance > 75F Chance > 80F Chance > 85F	Day 4 probabilities of daily minimum Heat index exceeding predetermined thresholds
1915	Day 5	RBG575 RBG580 RGB584	PTNO98 KWNH PTNO98 KWNH PTNO98 KWNH	Chance > 75F Chance > 80F Chance > 85F	Day 5 probabilities of daily minimum Heat Index exceeding predetermined thresholds
1915	Day 6	RBG675 RBG680 RGB684	PTNQ98 KWNH PTNQ98 KWNH PTNQ98 KWNH	Chance > 75F Chance > 80F Chance > 85F	Day 6 probabilities of daily minimum Heat Index exceeding predetermined thresholds
1915	Day 7	RBG775 RBG780 RGB784	PTNS98 KWNH PTNS98 KWNH PTNS98 KWNH	Chance > 75F Chance > 80F Chance > 85F	Day 7 probabilities of daily minimum Heat Index exceeding predetermined thresholds

**Table 2.** Probabilistic minimum Heat Index forecast graphic issuance and valid times.

3.2.5 Product Expiration Time. Product expires after next day issuance at 1915 UTC.

3.3 Technical Description. Charts should follow the format and content described in this section.

3.3.1 Universal Geographic Code Type. Not applicable.

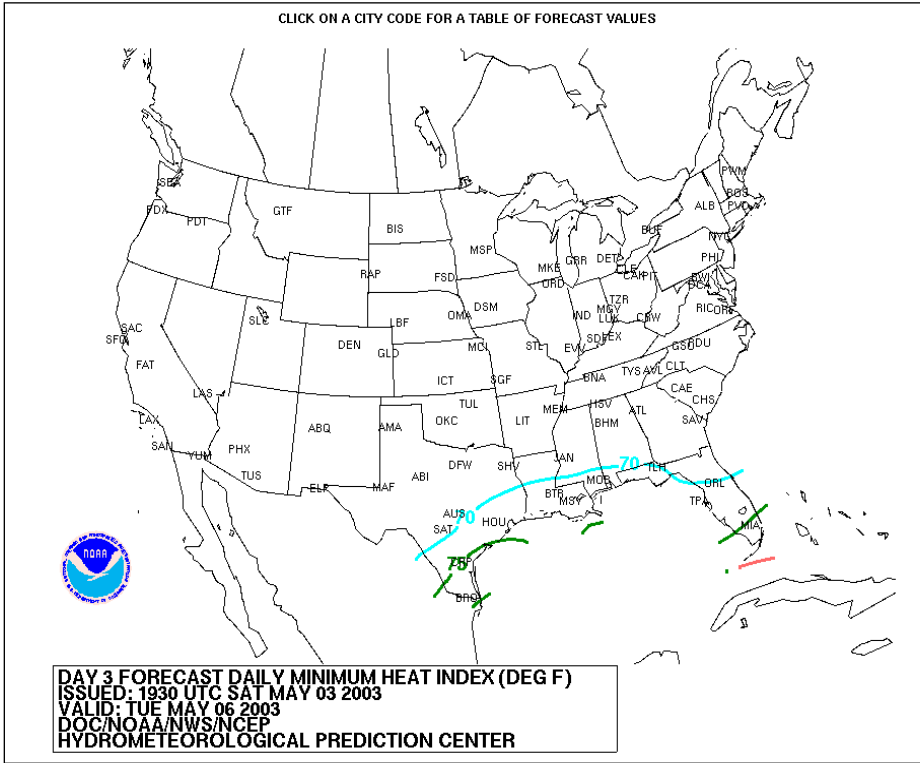
3.3.2 Mass News Disseminator Broadcast Instruction Line. Not applicable.

3.3.3 Mass News Disseminator Product Type Line. Not applicable.

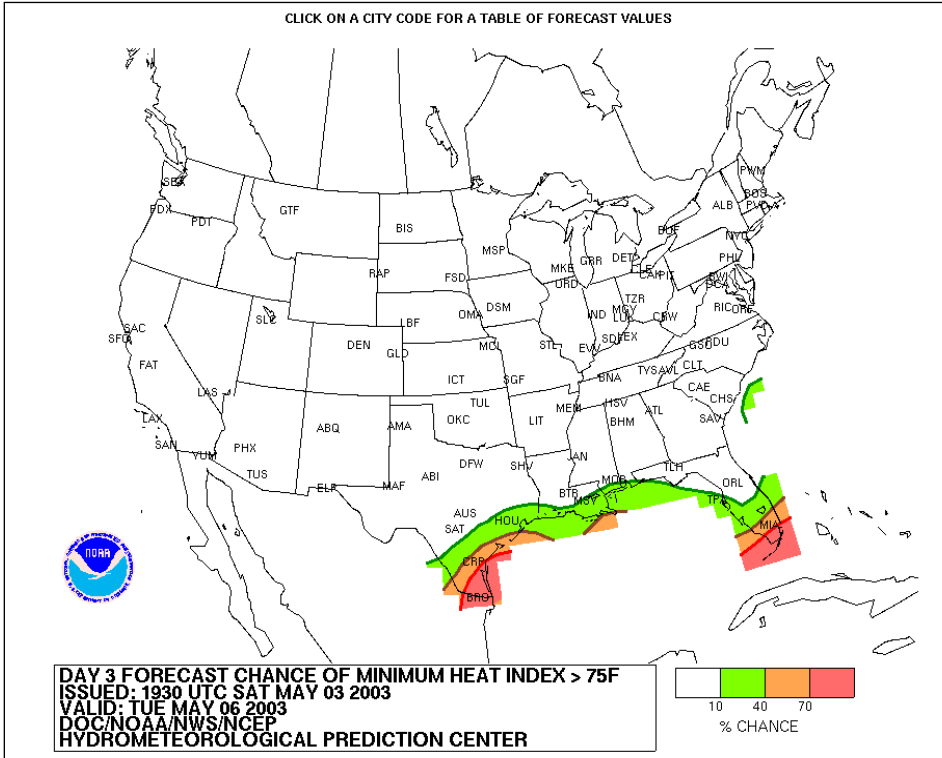
3.3.4 Content. A graphical forecast product that shows the forecast minimum Heat Index and probabilities of daily minimum Heat Index (shaded contours) exceeding predetermined threshold values within the CONUS for days 3 through 7. The shaded contours indicate the probability (e.g., 10%, 40%, 70%) that a location within the shaded area will receive greater than or equal to a daily minimum heat index of 75 F, 80 F or 85 F respectively.

3.3.5 Format Examples. Examples 3 and 4 below show Graphical forecasts of Day 3 minimum Heat Index and probabilities of minimum Heat Index exceeding 75 F, respectively.





Example 3: Forecast Daily Minimum Heat Index (Day 3)



Example 4: Forecast Probability of Minimum Heat Index >75 F (Day 3)

**4. Day 3-7 Mean Heat Index Probability Forecast Graphics.**

4.1 Mission Connection. WPC issues probabilistic daily mean Heat Index forecast graphics for days 3 through 7 as guidance to CONUS NWS field offices and the general meteorological community (private sector and the media). These products support the NWS Excessive Heat Outlook program by providing early indications of significant heat related events and are issued in probabilistic form to better represent the forecast uncertainty associated with a particular event.

4.2 Issuance Guidelines.

4.2.1 Creation Software. WPC uses N-AWIPS software to generate these products.

4.2.2 Issuance Criteria. These are routine, schedule-driven products issued for days 3 through 7 from May 1 through September 30.

4.2.3 Issuance Time. Refer to Table 3.

4.2.4 Valid Time. Refer to Table 3.

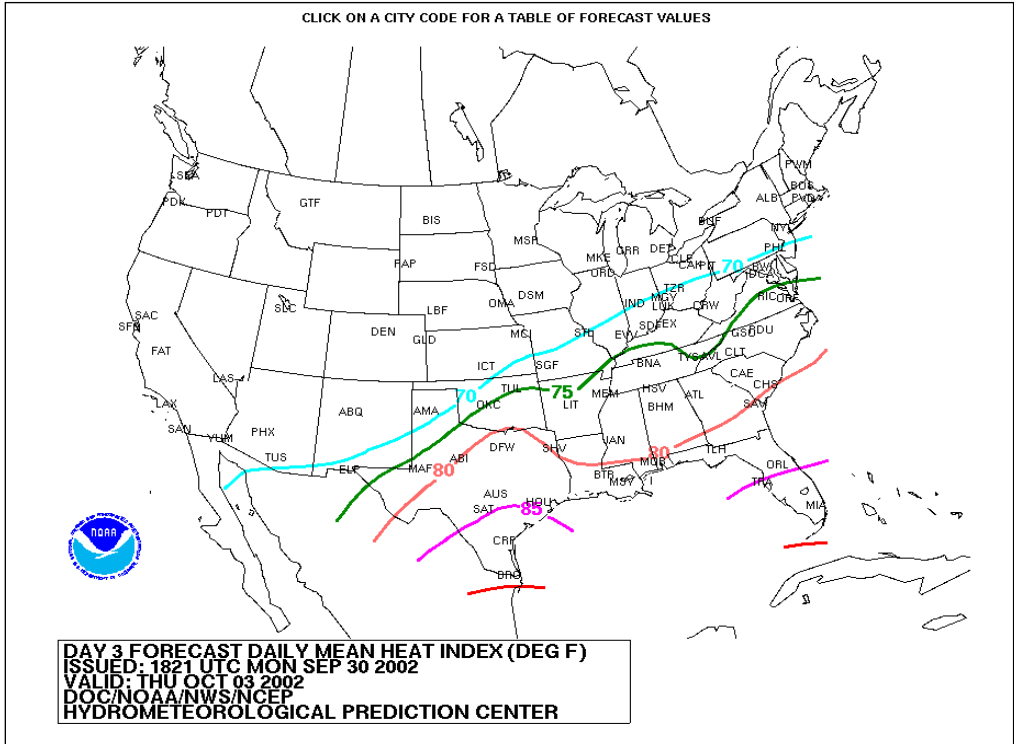
<i>WPC Day 3-7 Mean Heat Index Probability Forecast Graphics Product Schedule</i>					
<i>Issuance Time (UTC)</i>	<i>Valid Time</i>	<i>AWIPS ID</i>	<i>WMO Header</i>	<i>Mean Heat Index Thresholds (%)</i>	<i>Product Description</i>
1855	Day 3	RBG385 RBG390 RGB395	PTNK98 KWNH PTNK98 KWNH PTNK98 KWNH	Chance > 85F Chance > 90F Chance > 95F	Day 3 probabilities of daily mean Heat Index exceeding predetermined thresholds
1855	Day 4	RBG485 RBG490 RGB495	PTNM98 KWNH PTNM98 KWNH PTNM98 KWNH	Chance > 85F Chance > 90F Chance > 95F	Day 4 probabilities of daily mean Heat index exceeding predetermined thresholds
1855	Day 5	RBG585 RBG590 RGB595	PTNO98 KWNH PTNO98 KWNH PTNO98 KWNH	Chance > 85F Chance > 90F Chance > 95F	Day 5 probabilities of daily mean Heat Index exceeding predetermined thresholds
1855	Day 6	RBG685 RBG690 RGB695	PTNQ98 KWNH PTNQ98 KWNH PTNQ98 KWNH	Chance > 85F Chance > 90F Chance > 95F	Day 6 probabilities of daily mean Heat Index exceeding predetermined thresholds
1855	Day 7	RBG785 RBG790 RGB795	PTNS98 KWNH PTNS98 KWNH PTNS98 KWNH	Chance > 85F Chance > 90F Chance > 95F	Day 7 probabilities of daily mean Heat Index exceeding predetermined thresholds

**Table 3.** Probabilistic mean Heat Index forecast graphic issuance and valid times.

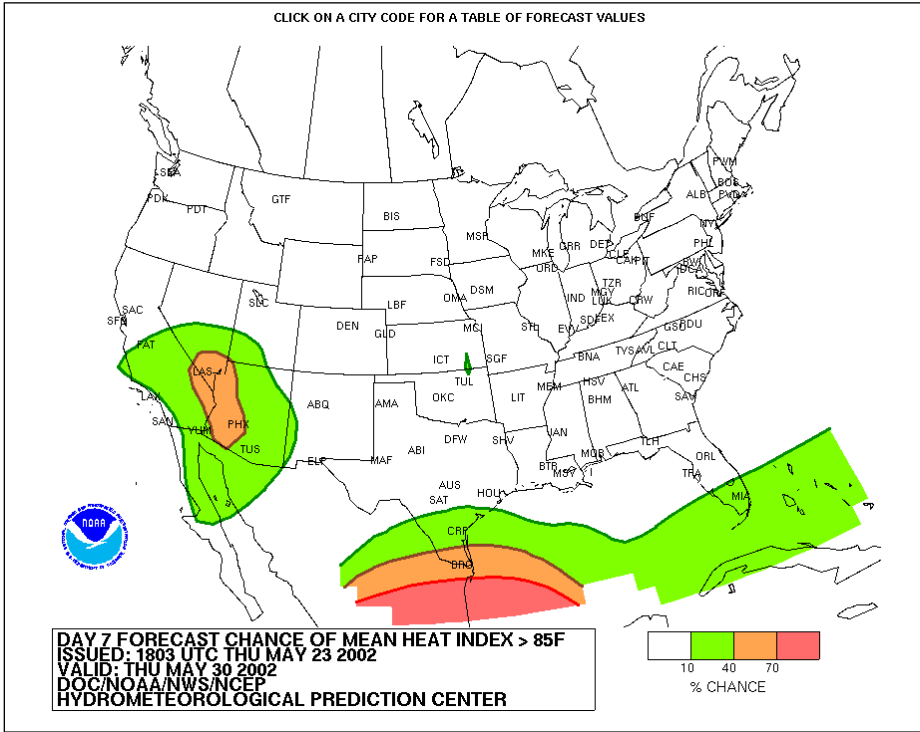
4.2.5 Product Expiration Time. Product expires after next day issuance at 1855 UTC.

4.3 Technical Description. Charts should follow the format and content described in this section.

- 4.3.1 Universal Geographic Code Type. Not applicable.
- 4.3.2 Mass News Disseminator Broadcast Instruction Line. Not applicable.
- 4.3.3 Mass News Disseminator Product Type Line. Not applicable.
- 4.3.4 Content. A graphical product that depicts the probabilities of daily mean Heat Index (shaded contours) exceeding predetermined threshold values within the CONUS for days 3 through 7. The shaded contours indicate the probability (e.g., 10%, 40%, 70%) that a location within the shaded area will receive greater than or equal to a daily mean heat index of 85 F, 90 F or 95 F respectively.
- 4.3.5 Format Examples. Examples 5 and 6 below show Graphical forecasts of Day 3 mean Heat Index and probabilities of mean Heat Index exceeding 85 F, respectively.



Example 5: Forecast Daily Mean Heat Index (Day 3)



Example 6: Probabilistic Mean Heat Index >85 F (Day 7)

4.4 Updates, Amendments, and Corrections. Products are not updated or amended. Corrections are issued when necessary.

5. Day 3-7 Heat Index Probability Forecast Text.

5.1 Mission Connection. WPC issues an alphanumeric text product displaying probabilistic daily maximum, minimum and mean Heat Index forecasts for days 3 through 7 as guidance to CONUS NWS field offices and the general meteorological community (private sector and the media). These products support the NWS Excessive Heat Outlook program by providing early indications of significant heat related events and are issued in probabilistic form to better represent the forecast uncertainty associated with a particular event.

5.2 Issuance Guidelines.

5.2.1 Creation Software. WPC uses N-AWIPS software to generate these products.

5.2.2 Issuance Criteria. These are routine, schedule-driven products issued for days 3 through 7 from May 1 through September 30.

5.2.3 Issuance Time. Refer to Table 4.

5.2.4 Valid Time. Refer to Table 4.

<i>WPC Day 3-7 Heat Index Probability Forecast Text Product Schedule</i>				
<i>Issuance Time (UTC)</i>	<i>Valid Time</i>	<i>AWIPS ID</i>	<i>WMO Header</i>	<i>Product Description</i>
1915	Day 3-7	PRBEHH	FMUS23 KWNH	Day 3-7 probabilities of daily maximum heat index exceeding predetermined thresholds for eastern U.S. cities
1915	Day 3-7	PRBWHH	FMUS24 KWNH	Day 3-7 probabilities of daily maximum heat index exceeding predetermined thresholds for western U.S. cities
1915	Day 3-7	PRBEHL	FMUS23 KWNH	Day 3-7 probabilities of daily minimum heat index exceeding predetermined thresholds for eastern U.S. cities
1915	Day 3-7	PRBWHL	FMUS24 KWNH	Day 3-7 probabilities of daily minimum heat index exceeding predetermined thresholds for western U.S. cities
1915	Day 3-7	PRBEHI	FMUS23 KWNH	Day 3-7 probabilities of daily mean heat index exceeding predetermined thresholds for eastern U.S. cities
1915	Day 3-7	PRBWHI	FMUS24 KWNH	Day 3-7 probabilities of daily mean heat index exceeding predetermined thresholds for western U.S. cities

**Table 4.** Probabilistic Heat Index forecast graphic issuance and valid times.

5.2.5 Product Expiration Time. Product expires after next day issuance at 1915 UTC.

5.3 Technical Description. The Heat Index alphanumeric products follow the format and content described in this section.

5.3.1 Universal Geographic Code Type. Not applicable.

5.3.2 Mass News Disseminator Broadcast Instruction Line. Not applicable.

5.3.3 Mass News Disseminator Product Type Line. The MND line is “DAYS 3-7 HEAT INDEX FORECAST TABLES.”

5.3.4 Content. This tabular text forecast product provides 3 to 7 day forecasts of daily maximum, daily minimum and daily mean Heat Index values and the probability (%) of that Heat Index parameter exceeding 70 , 75 , 80 , 85 , 90 , 95 , and 100 degree F thresholds, except 80 , 85 , 90 , 95 , 100 , 105 , and 110 degrees F for the maximum.

5.3.5 Format Examples. Figures 7, 8 and 9 below show product formats for the tabular daily maximum, daily minimum and daily mean Heat Index probability forecasts, respectively.

<u>Product Format</u>						<u>Description of Entry</u>
MEMPHIS TN						<i>(Name of City)</i>
CHS	0831	0901	0902	0903	0904	<i>(Location &amp; Day 3 to 7 Date Label)</i>
MAX	95	99	101	97	94	<i>(Daily Max Heat Index forecast - MAX)</i>
%>115	0	0	0	0	0	<i>(% probability of MAX exceeding 115 F)</i>
%>110	0	2	4	0	1	<i>(% probability of MAX exceeding 110 F)</i>
%>105	2	13	20	2	6	<i>(% probability of MAX exceeding 105 F)</i>
%>100	13	42	54	24	21	<i>(% probability of MAX exceeding 100 F)</i>
%>95	41	77	86	74	47	<i>(% probability of MAX exceeding 95 F)</i>
%>90	75	95	98	97	75	<i>(% probability of MAX exceeding 90 F)</i>
%>85	94	99	100	100	92	<i>(% probability of MAX exceeding 85 F)</i>
%>80	99	100	100	100	98	<i>(% probability of MAX exceeding 80 F)</i>

**Figure 7.** Product Format for a Tabular Maximum Heat Index Probability Forecast.

<u>Product Format</u>						<u>Description of Entry</u>
MIAMI FL						<i>(Name of City)</i>
CAK	0831	0901	0902	0903	0904	<i>(Location &amp; Day 3 to 7 Date Label)</i>
MIN	80	81	82	82	81	<i>(Daily Min Heat Index forecast - MIN)</i>
%>100	0	0	0	0	0	<i>(% probability of MIN exceeding 100 F)</i>
%>95	0	0	0	0	0	<i>(% probability of MIN exceeding 95 F)</i>
%>90	0	2	3	2	1	<i>(% probability of MIN exceeding 90 F)</i>
%>85	6	16	21	16	14	<i>(% probability of MIN exceeding 85 F)</i>
%>80	44	61	69	66	62	<i>(% probability of MIN exceeding 80 F)</i>
%>75	96	98	98	98	99	<i>(% probability of MIN exceeding 75 F)</i>
%>70	100	100	100	100	100	<i>(% probability of MIN exceeding 70 F)</i>

**Figure 8.** Product Format for a Tabular Minimum Heat Index Probability Forecast.

<u>Product Format</u>						<u>Description of Entry</u>
AKRON-CANTON						<i>(Name of City)</i>
CAK	0527	0528	0529	0530	0531	<i>(Location &amp; Day 3 to 7 Date Label)</i>
MHI	67	69	68	69	69	<i>(Daily Mean Heat Index forecast - MHI)</i>
%>100	0	0	0	0	0	<i>(% probability of MHI exceeding 100 F)</i>
%>95	0	0	0	0	0	<i>(% probability of MHI exceeding 95 F)</i>
%>90	0	0	0	0	0	<i>(% probability of MHI exceeding 90 F)</i>
%>85	0	0	0	0	0	<i>(% probability of MHI exceeding 85 F)</i>
%>80	0	0	0	0	0	<i>(% probability of MHI exceeding 80 F)</i>
%>75	1	6	5	6	11	<i>(% probability of MHI exceeding 75 F)</i>
%>70	19	41	33	36	42	<i>(% probability of MHI exceeding 70 F)</i>

**Figure 9.** Product Format for a Tabular Mean Heat Index Probability Forecast.

5.4 Updates, Amendments, and Corrections. Products are not updated or amended. Corrections are issued when necessary.

**6. Air Quality Forecast Guidance.**

6.1 Mission Connection. NOAA/NWS Air Quality Forecast Guidance is issued to support the National Air Quality Forecast Capability, which provides the U.S. with ozone, smoke, particulate matter and other pollutant forecasts with enough accuracy and advance notice to take action to prevent or eliminate adverse effects. The forecasts are web-based presentations of gridded forecast guidance originating from NCEP’s EMC. Complete information on this guidance is online at [http://www.nws.noaa.gov/ost/air\\_quality/](http://www.nws.noaa.gov/ost/air_quality/).

6.2 Issuance Guidelines.

6.2.1 Creation Software. Air Quality Forecast Guidance is produced from the NOAA-Environmental Protection Agency (EPA) Community Multiscale Air Quality (CMAQ) model driven by NOAA’s operational North American Mesoscale Weather Prediction model (NAM).

6.2.2 Issuance Criteria. These are routine, schedule-driven products issued for a period of 24 to 48 hours.

6.2.3 Issuance Time. Refer to Table 5.

6.2.4 Valid Time. Refer to Table 5.

<i>Air Quality Forecast Guidance</i>			
<i>Issuance Time (UTC)</i>	<i>Valid Time</i>	<i>WMO Header</i>	<i>Product Description</i>
0600 & 1200	Days 1-2 (out to 48 hours)	LYUZ99 KWBP	Air Quality Ozone Forecast Guidance as 1-hour ozone concentration (in parts per billion or ppb) averages for the contiguous U.S. (CONUS)
0600 & 1200	Days 1-2 (out to 48 hours)	LZUZ99 KWBP	Air Quality Ozone Forecast Guidance as 8-hour ozone concentration (in parts per billion or ppb) averages for the CONUS
0600 & 1200	Days 1-2 (out to 48 hours)	LIOZ99 KWBP	Air Quality Ozone Daily Maximum Forecast Guidance as 1-hour ozone concentration (in parts per billion or ppb) averages for the 24-hour period for the CONUS
0600 & 1200	Days 1-2 (out to 48 hours)	LJOZ99 KWBP	Air Quality Ozone Daily Maximum Forecast Guidance as the maximum 8-hour ozone concentration (in parts per billion or ppb) averages for the 24-hour period for the CONUS
0600 & 1200	Days 1-2 (out to 48 hours)	LNSZ99 KWBP	Air Quality Ozone Forecast Guidance as 1-hour ozone concentration (in parts per billion or ppb) averages for Hawaii
0600 & 1200	Days 1-2 (out to 48 hours)	LOSZ99 KWBP	Air Quality Ozone Forecast Guidance as 8-hour ozone concentration (in parts per billion or ppb) averages for Hawaii
0600 & 1200	Days 1-2 (out to 48 hours)	LURZ99 KWBP	Air Quality Ozone Daily Maximum Forecast Guidance as 1-hour ozone concentration (in parts per billion or ppb) averages for the 24-hour period for Hawaii

0600 & 1200	Days 1-2 (out to 48 hours)	LVRZ99 KWBP	Air Quality Ozone Daily Maximum Forecast Guidance as 8-hour ozone concentration (in parts per billion or ppb) averages for the 24-hour period for Hawaii
0600 & 1200	Days 1-2 (out to 48 hours)	LNRZ99 WKBP	Air Quality Ozone Forecast Guidance as 1-hour ozone concentration (in parts per billion or ppb) averages for Alaska
0600 & 1200	Days 1-2 (out to 48 hours)	LORZ99 WKBP	Air Quality Ozone Forecast Guidance as 8-hour ozone concentration (in parts per billion or ppb) averages for Alaska
0600 & 1200	Days 1-2 (out to 48 hours)	LUSZ99 KWBP	Air Quality Ozone Daily Maximum Forecast Guidance as 1-hour ozone concentration (in parts per billion or ppb) averages for the 24-hour period for Alaska
0600 & 1200	Days 1-2 (out to 48 hours)	LVSZ99 KWBP	Air Quality Ozone Daily Maximum Forecast Guidance as 8-hour ozone concentration (in parts per billion or ppb) averages for the 24-hour period for Alaska
0600	Days 1-2 (out to 48 hours)	LXQZ99 KWBP	Air Quality Smoke Forecast Guidance as 1-hour average surface smoke, defined as the surface smoke concentration, in micrograms per cubic meter, backward averaged over 1 hour for the CONUS.
0600	Days 1-2 (out to 48 hours)	LWQX99 KWBP	Air Quality Smoke Forecast Guidance as 1-hour average smoke integration, defined as the average column-integrated smoke concentration, in micrograms per cubic meter, backward averaged over 1 hour for the CONUS.
0600	Days 1-2 (out to 48 hours)	LXRZ99 KWBP	Air Quality Smoke Forecast Guidance as 1-hour average surface smoke, defined as the surface smoke concentration, in micrograms per cubic meter, backward averaged over 1 hour for Alaska.
0600	Days 1-2 (out to 48 hours)	LWRZ99 KWBP	Air Quality Smoke Forecast Guidance as 1-hour vertically integrated smoke, defined as the average column-integrated smoke concentration, in micrograms per cubic meter, backward averaged over 1 hour, for Alaska.
0600	Days 1-2 (out to 48 hours)	LXSZ99 KWBP	Air Quality Smoke Forecast Guidance as 1-hour average surface smoke, defined as the surface smoke concentration, in micrograms per cubic meter, backward averaged over 1 hour for Hawaii
0600	Days 1-2 (out to 48 hours)	LWSZ99 KWBP	Air Quality Smoke Forecast Guidance as 1-hour vertically integrated smoke, defined as the average column-integrated smoke concentration, in micrograms per cubic meter, backward averaged over 1 hour, for Hawaii
0600 & 1200	Days 1-2 (out to 48 hours)	LAPZ99 KWBP	Air Quality Dust Forecast Guidance as 1-hour average surface dust, defined as the surface dust concentration, in micrograms per cubic meter, backward averaged over 1 hour for CONUS
0600 & 1200	Days 1-2 (out to 48 hours)	LDPZ99 KWBP	Air Quality Dust Forecast Guidance as 1-hour average vertically integrated dust, defined as the vertically integrated dust concentration, in micrograms per cubic meter, backward averaged over 1 hour for CONUS

**Table 5.** Air Quality Forecast Guidance, Graphics and Valid Times.

6.2.5 Product Expiration Time. Product expires after the next day issuance at 1200 UTC.



6.3 Technical Description. The Air Quality ozone and smoke alphanumeric products follow the format and content described in this section.

6.3.1 Universal Geographic Code Type. Not applicable.

6.3.2 Mass News Disseminator Broadcast Instruction Line. Not applicable.

6.3.3 Mass News Disseminator Product Type Line. Not applicable.

6.3.4 Content.

a. Ozone. Graphical and tabular forecast products that provide ozone data displayed for domain covering CONUS, Alaska, and Hawaii for 1-hour and 8-hour averages as well as daily maximum of 1-hour and 8-hour averages extending out to 48 hours. It is intended for use by the general public, state and local agency forecasters, the media and private sector meteorologists. Data are posted as graphic images to NOAA and EPA web sites per interagency agreement.

b. Smoke. Graphical and tabular forecast products that provide smoke data displayed for domains covering CONUS, Alaska, and Hawaii for 1-hour surface smoke concentration, and the 1-hour average vertical smoke integration, extending out to 48 hours. It is intended for use by the general public, state and local agency forecasters, the media and private sector meteorologists. Data are posted as graphic images to NOAA web.

c. Dust. Graphical and tabular forecast products that provide dust data displayed for a domain covering the CONUS for 1-hr surface dust concentration, and the one hour average vertical dust integration, extending out to 48 hours. It is intended for use by the general public, state and local agency forecasters, the media and private sector meteorologists. Data are posted as graphic images to NOAA web sites.

6.3.5 Format Examples. Figures 10-17 show various graphical and tabular Ozone, Smoke and Dust products as shown below.

6.3.5.1 Graphical Air Quality Ozone Forecast Guidance.

Found at <http://airquality.weather.gov>

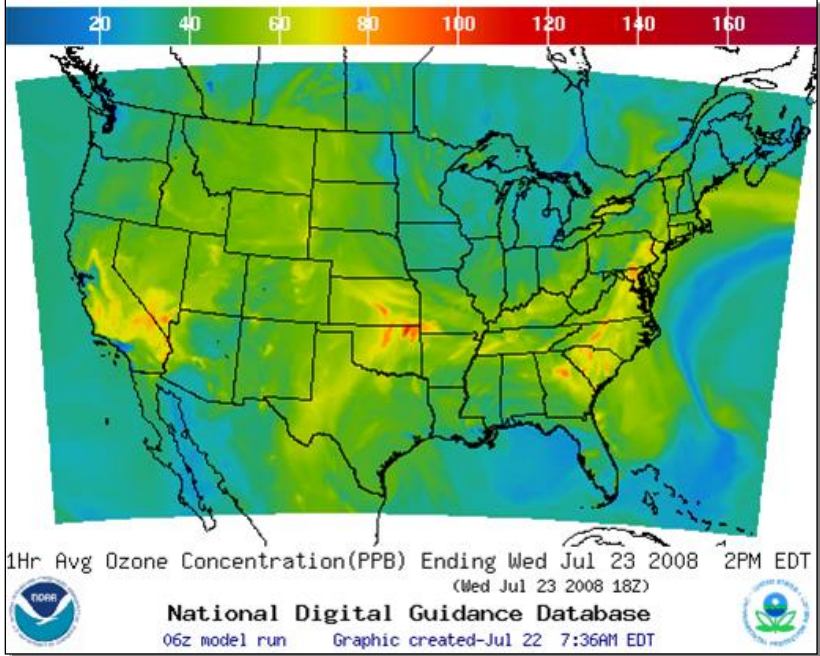


Figure 10. Graphical Air Quality Ozone Forecast Guidance (Average Ozone Concentration for the CONUS in Parts per Billion (PPB))

6.3.5.2 Graphical Air Quality Ozone Daily Maximum Forecast Guidance.

Found at <http://airquality.weather.gov>

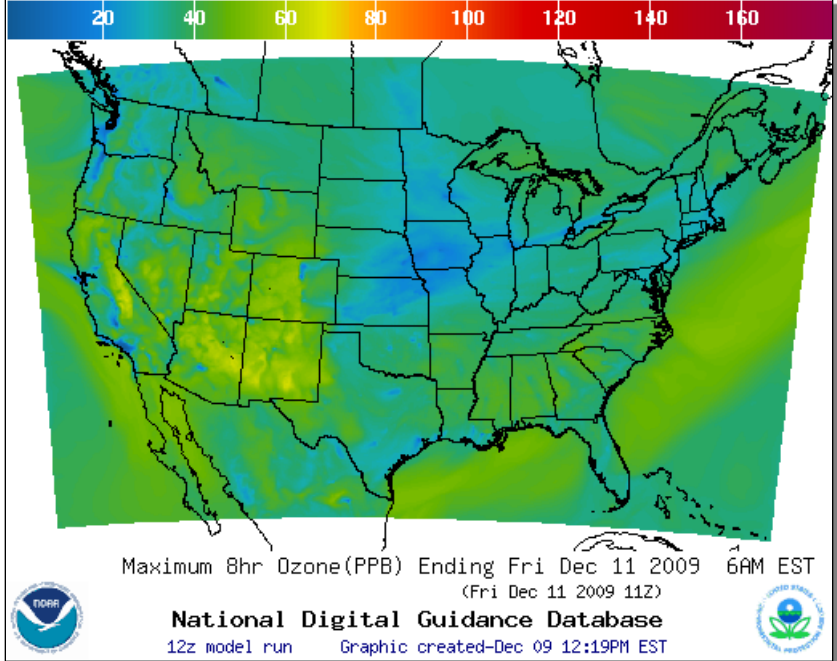


Figure 11. Graphical Air Quality Daily Maximum Ozone Forecast Guidance (Average Ozone Concentration for the CONUS in Parts per Billion (PPB) backward averaged over 8 hours)

6.3.5.3 Graphical Air Quality Surface Smoke Forecast Guidance.

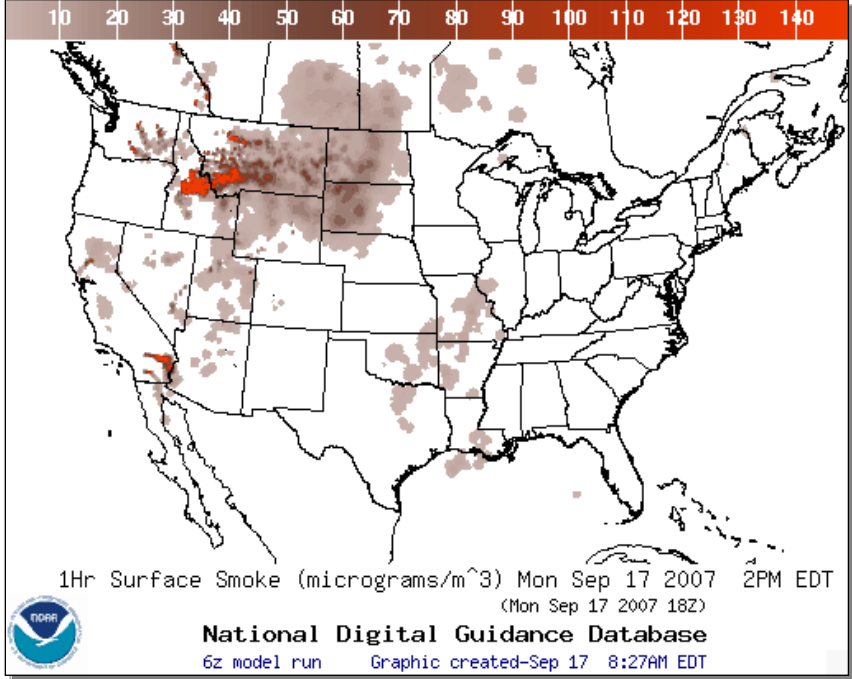


Figure 12. Graphical 1-hour Average Surface Smoke (the surface smoke concentration for the CONUS, in micrograms per cubic meter, backward averaged over 1 hour).

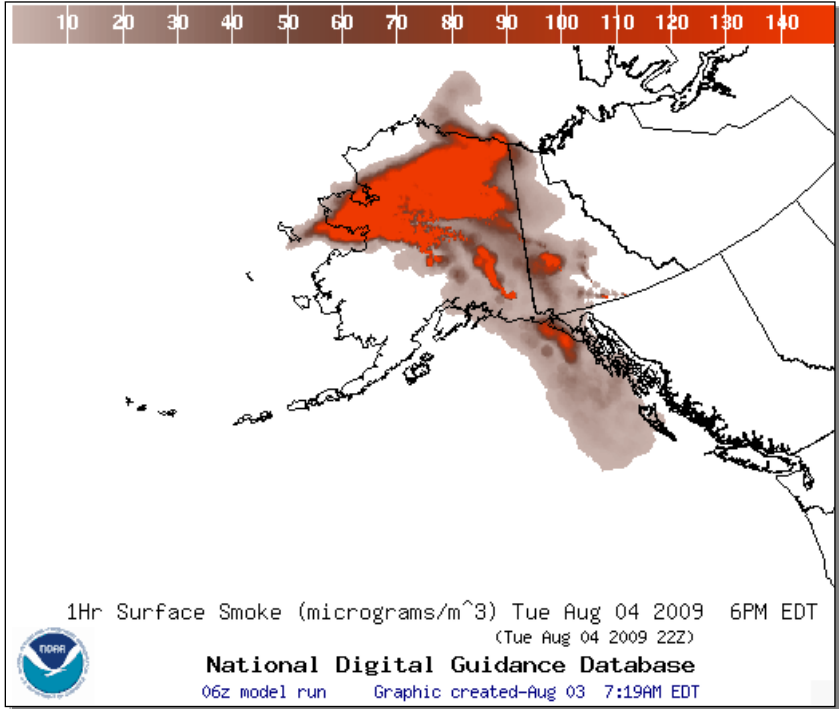
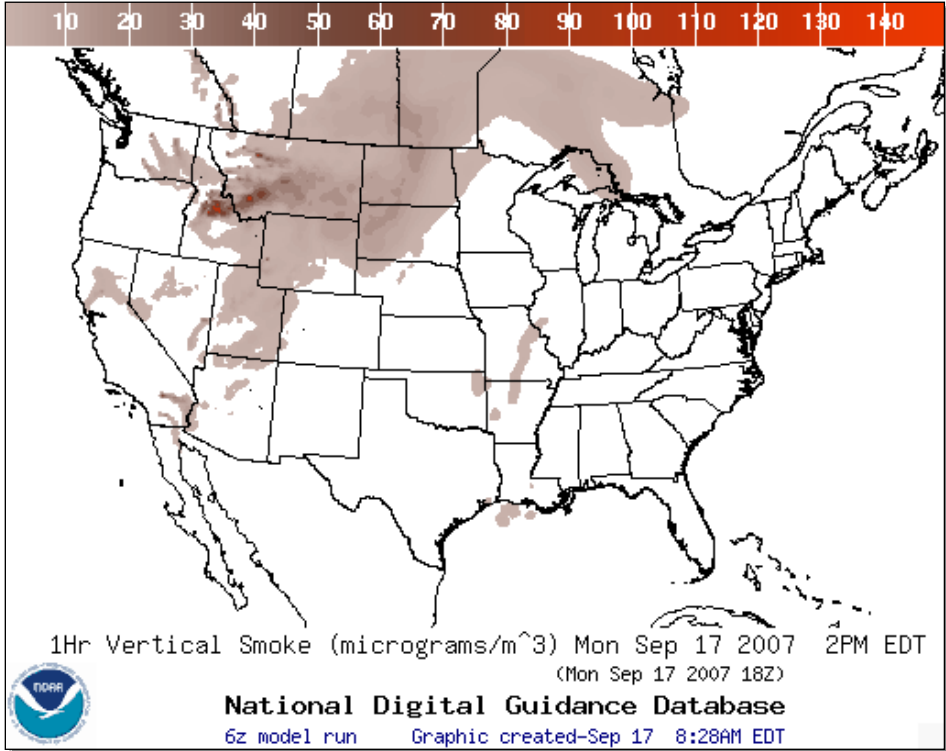


Figure 13. Graphical 1-hour Average Surface Smoke (the surface smoke concentration for Alaska, in micrograms per cubic meter, backward averaged over 1 hour).

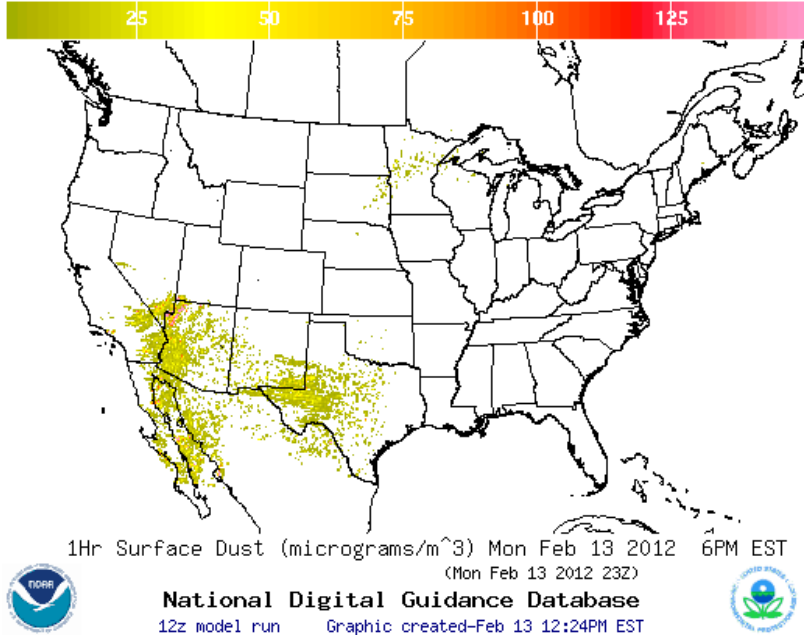
6.3.5.4 Graphical Air Quality Smoke Integration Forecast Guidance.



**Figure 14.** Graphical 1-hour Average Smoke Integration (the average column-integrated smoke concentration for the CONUS in micrograms per cubic meter, backward averaged over 1 hour)

6.3.5.5 Graphical Air Quality Surface Dust Forecast Guidance.

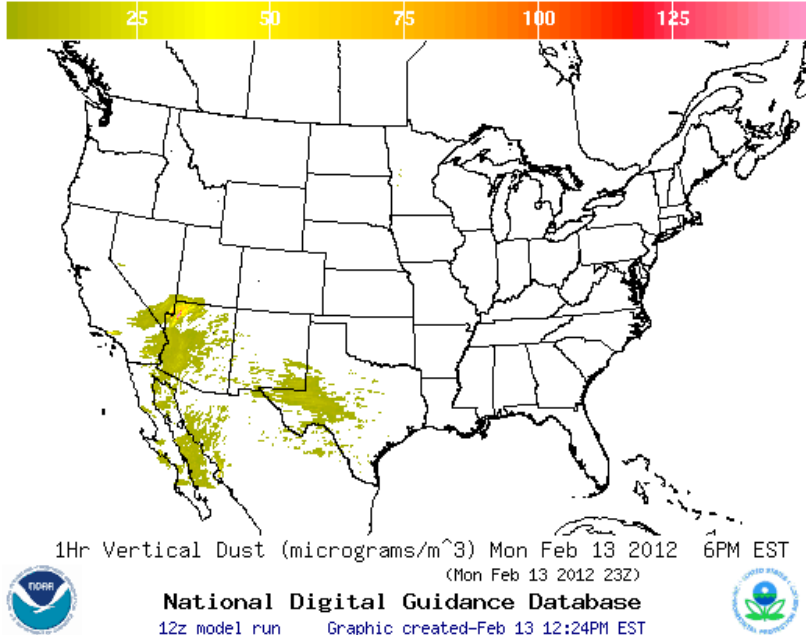
Found at <http://airquality.weather.gov>



**Figure 15.** Graphical 1-hour Average Surface Dust (the surface dust concentration for the CONUS in micrograms per cubic meter, backward averaged over 1 hour)

6.3.5.6 Graphical Air Quality Dust Integration Forecast Guidance.

Found at <http://airquality.weather.gov>



**Figure 16.** Graphical 1-hour Average Dust Integration (the average column-integrated dust concentration for the CONUS in micrograms per cubic meter, backward averaged over 1 hour)

6.3.5.5 Tabular Air Quality Forecast Guidance.

Found at <http://airquality.weather.gov/sectors/conusPoint.php#tabs>

	Daily Maximum Ending	Maximum 1 Hour Average Ozone Concentration (PPB)	Maximum 8 Hour Average Ozone Concentration (PPB)
Today		44	40
Tomorrow		39	37

Ozone Ending Time (Local Time)	1 Hour Average Ozone Concentration (PPB) 12Z Model Run	8 Hour Average Ozone Concentration (PPB) 12Z Model Run	Smoke Ending Time (Local Time)	1 Hour Surface Smoke (µg/m³) 06Z Model Run	1 Hour Column-Integrated Smoke (µg/m³) 06Z Model Run
Wed, Dec 09 04 PM	42	39	Wed, Dec 09 04 PM	0	0
Wed, Dec 09 05 PM	40	40	Wed, Dec 09 05 PM	0	0
Wed, Dec 09 06 PM	37	40	Wed, Dec 09 06 PM	0	0
Wed, Dec 09 07 PM	35	40	Wed, Dec 09 07 PM	0	0
Wed, Dec 09 08 PM	33	39	Wed, Dec 09 08 PM	0	0
Wed, Dec 09 09 PM	32	38	Wed, Dec 09 09 PM	0	0
Wed, Dec 09 10 PM	30	37	Wed, Dec 09 10 PM	0	0
Wed, Dec 09 11 PM	30	35	Wed, Dec 09 11 PM	0	0
Thu, Dec 10 12 AM	29	33	Thu, Dec 10 12 AM	1	0
Thu, Dec 10 01 AM	28	32	Thu, Dec 10 01 AM	2	0
Thu, Dec 10 02 AM	27	30	Thu, Dec 10 02 AM	3	0
Thu, Dec 10 03 AM	27	29	Thu, Dec 10 03 AM	2	0
Thu, Dec 10 04 AM	26	29	Thu, Dec 10 04 AM	2	0
Thu, Dec 10 05 AM	26	28	Thu, Dec 10 05 AM	1	0
Thu, Dec 10 06 AM	26	27	Thu, Dec 10 06 AM	0	0
Thu, Dec 10 07 AM	27	27	Thu, Dec 10 07 AM	0	0
Thu, Dec 10 08 AM	30	27	Thu, Dec 10 08 AM	0	0
Thu, Dec 10 09 AM	33	28	Thu, Dec 10 09 AM	0	0
Thu, Dec 10 10 AM	35	29	Thu, Dec 10 10 AM	0	0
Thu, Dec 10 11 AM	36	30	Thu, Dec 10 11 AM	0	0
Thu, Dec 10 12 PM	37	31	Thu, Dec 10 12 PM	0	0
Thu, Dec 10 01 PM	37	33	Thu, Dec 10 01 PM	0	0
Thu, Dec 10 02 PM	38	34	Thu, Dec 10 02 PM	0	0
Thu, Dec 10 03 PM	38	36	Thu, Dec 10 03 PM	0	0
Thu, Dec 10 04 PM	39	37	Thu, Dec 10 04 PM	0	0
Thu, Dec 10 05 PM	36	37	Thu, Dec 10 05 PM	0	0
Thu, Dec 10 06 PM	33	37	Thu, Dec 10 06 PM	0	0
Thu, Dec 10 07 PM	31	36	Thu, Dec 10 07 PM	0	0
Thu, Dec 10 08 PM	29	35	Thu, Dec 10 08 PM	0	0
Thu, Dec 10 09 PM	28	34	Thu, Dec 10 09 PM	0	0
Thu, Dec 10 10 PM	28	33			
Thu, Dec 10 11 PM	28	32			
Fri, Dec 11 12 AM	29	30			
Fri, Dec 11 01 AM	29	29			
Fri, Dec 11 02 AM	29	29			
Fri, Dec 11 03 AM	28	28			
Fri, Dec 11 04 AM	28	28			

**Figure 17.** National Air Quality Forecast Guidance values for Logandale, NV (latitude: 36.60 N, longitude: 114.53 W). Ozone concentrations are presented in parts per billion (PPB). Smoke concentrations are presented in micrograms per cubic meter.

**APPENDIX A National Non-Precipitation Product Examples**

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1. Introduction. This section contains examples of national non-precipitation weather products.

2. Probabilistic Day 3-7 Maximum Heat Index Forecast - Eastern U.S. (PRBEHH).

FMUS23 KWNH 131900

PRBEHH

DAYS 3-7 HEAT INDEX FORECAST TABLES

NWS WEATHER PREDICTION CENTER COLLEGE PARK MD

1900 UTC MON AUG 13 201107

MAXIMUM HEAT INDEX (DEG F) AND MAXIMUM HI PROB (%) FRCSTS  
AT EASTERN US CITIES - DAYS 3 THRU 7 FROM MON AUG 13 2007

AKRON-CANTON\_OH

	0815	0816	0817	0818	0819	ALB	0815	0816	0817	0818	0819
CAK	86	83	77	77	83	MAX	82	76	73	73	75
%>115	0	0	1	0	0	%>115	0	0	0	0	0
%>110	0	0	1	0	0	%>110	0	0	0	0	0
%>105	0	0	2	1	1	%>105	0	0	0	0	0
%>100	0	0	4	2	4	%>100	2	0	0	0	0
%>95	0	2	9	6	11	%>95	6	2	0	1	1
%>90	6	12	16	14	24	%>90	16	6	2	2	4
%>85	58	36	27	25	44	%>85	34	16	7	8	12
%>80	98	67	41	41	64	%>80	58	34	20	20	27

ALBANY\_NY

ASHEVILLE\_NC

	0815	0816	0817	0818	0819	ATL	0815	0816	0817	0818	0819
AVL	97	94	100	90	87	MAX	112	104	102	98	98
%>115	0	0	1	0	0	%>115	10	2	0	0	0
%>110	1	0	1	0	0	%>110	54	10	4	7	4
%>105	2	3	6	2	2	%>105	74	44	28	19	16
%>100	12	16	50	9	6	%>100	89	83	72	39	39
%>95	77	47	91	26	17	%>95	96	98	95	62	67
%>90	95	77	97	52	35	%>90	99	100	100	81	88
%>85	99	93	100	76	58	%>85	100	100	100	93	97
%>80	100	98	100	91	77	%>80	100	100	100	98	100

ATLANTA\_GA

BALTIMORE\_MD

	0815	0816	0817	0818	0819	BHM	0815	0816	0817	0818	0819
BWI	97	92	87	85	88	MAX	111	117	110	100	96
%>115	0	0	1	0	0	%>115	12	51	10	1	0
%>110	4	3	3	1	0	%>110	56	69	50	3	7
%>105	13	8	6	3	2	%>105	80	81	75	16	18
%>100	32	20	14	9	8	%>100	94	89	92	48	35
%>95	59	38	25	18	20	%>95	99	95	98	81	55
%>90	83	61	41	32	41	%>90	100	98	100	96	74
%>85	95	80	58	50	64	%>85	100	99	100	100	88
%>80	99	92	73	68	83	%>80	100	100	100	100	95

BIRMINGHAM\_AL



NWSI 10-516 October 9, 2017

BOSTON_MA						BUFFALO_NY					
BOS	0815	0816	0817	0818	0819	BUF	0815	0816	0817	0818	0819
MAX	85	77	77	73	74	MAX	78	76	72	74	78
%>115	0	0	1	0	0	%>115	0	0	0	0	0
%>110	4	0	0	0	0	%>110	0	0	0	0	0
%>105	7	1	0	0	0	%>105	0	0	0	0	1
%>100	13	3	1	0	0	%>100	0	0	0	0	2
%>95	21	6	3	0	0	%>95	0	0	0	1	6
%>90	31	13	8	1	1	%>90	0	1	1	4	14
%>85	43	23	18	5	6	%>85	4	8	5	11	27
%>80	57	37	33	15	19	%>80	29	27	15	24	44

CHARLESTON_SC					CHARLESTON_WV						
CHS	0815	0816	0817	0818	0819	CRW	0815	0816	0817	0818	0819
MAX	116	106	111	102	98	MAX	101	97	89	88	93
%>115	52	2	48	1	0	%>115	1	0	0	0	0
%>110	58	22	55	3	2	%>110	18	1	0	0	1
%>105	69	56	73	26	11	%>105	33	8	2	2	4
%>100	80	87	87	69	34	%>100	52	31	7	6	15
%>95	90	98	95	95	66	%>95	71	66	21	18	38
%>90	95	100	98	100	90	%>90	86	91	44	38	65
%>85	97	100	99	100	98	%>85	94	99	69	63	86
%>80	98	100	100	100	100	%>80	98	100	87	83	96

CHARLOTTE_NC					CHICAGO_IL						
CLT	0815	0816	0817	0818	0819	ORD	0815	0816	0817	0818	0819
MAX	111	103	104	97	94	MAX	88	88	80	85	89
%>115	12	3	5	0	0	%>115	0	0	0	0	0
%>110	52	4	2	2	2	%>110	0	0	1	2	4
%>105	70	29	37	11	9	%>105	0	1	3	4	9
%>100	85	75	89	31	24	%>100	1	7	6	10	18
%>95	94	97	99	61	47	%>95	10	20	12	19	31
%>90	98	100	100	85	71	%>90	36	42	22	33	48
%>85	99	100	100	96	88	%>85	72	67	36	50	64
%>80	100	100	100	99	97	%>80	94	86	51	66	79

CINCINNATI_OH					CLEVELAND_OH						
LUK	0815	0816	0817	0818	0819	CLE	0815	0816	0817	0818	0819
MAX	100	99	88	86	96	MAX	84	82	76	77	83
%>115	1	0	0	0	0	%>115	0	0	0	0	0
%>110	9	1	3	2	11	%>110	0	0	0	0	0
%>105	26	11	8	5	21	%>105	0	0	1	0	1
%>100	51	43	16	11	36	%>100	0	0	2	2	3
%>95	76	82	27	21	53	%>95	0	2	5	5	10
%>90	91	98	43	35	70	%>90	7	10	11	11	22
%>85	98	100	59	52	83	%>85	43	32	22	23	42
%>80	100	100	74	68	92	%>80	88	64	38	39	64

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COLUMBIA_SC						COLUMBUS_OH					
CAE	0815	0816	0817	0818	0819	TZR	0815	0816	0817	0818	0819
MAX	120	105	104	103	99	MAX	96	93	84	83	90
%>115	65	2	1	1	0	%>115	0	0	0	0	0
%>110	72	3	7	14	9	%>110	2	0	2	1	3
%>105	81	46	41	38	23	%>105	9	2	4	3	8
%>100	88	94	84	68	46	%>100	26	12	10	7	18
%>95	93	100	98	89	70	%>95	54	34	19	16	32
%>90	96	100	100	98	87	%>90	81	66	32	28	50
%>85	98	100	100	100	96	%>85	95	89	48	45	68
%>80	99	100	100	100	99	%>80	99	98	64	62	83

DAYTON_OH						DETROIT_MI					
MGY	0815	0816	0817	0818	0819	DET	0815	0816	0817	0818	0819
MAX	95	95	86	85	91	MAX	83	81	75	77	83
%>115	0	0	0	0	0	%>115	0	0	0	0	0
%>110	0	0	0	0	0	%>110	0	0	0	0	1
%>105	5	2	6	4	10	%>105	0	0	0	0	2
%>100	20	15	12	10	20	%>100	0	0	0	1	5
%>95	52	50	23	19	35	%>95	1	2	2	3	12
%>90	84	84	37	32	53	%>90	9	10	5	9	24
%>85	97	98	53	49	70	%>85	37	27	14	21	41
%>80	100	100	69	65	84	%>80	74	53	29	38	60

EVANSVILLE_IN						GRAND_RAPIDS_MI					
EVV	0815	0816	0817	0818	0819	GRR	0815	0816	0817	0818	0819
MAX	107	108	101	102	105	MAX	84	81	76	80	86
%>115	15	15	1	1	4	%>115	0	0	0	0	0
%>110	40	29	4	18	35	%>110	0	0	0	0	2
%>105	59	73	22	36	50	%>105	0	0	0	1	6
%>100	75	97	56	58	66	%>100	0	1	1	2	12
%>95	88	100	85	77	79	%>95	2	4	3	7	22
%>90	95	100	97	90	89	%>90	13	13	8	16	36
%>85	98	100	100	97	95	%>85	42	30	19	30	53
%>80	99	100	100	99	98	%>80	77	54	35	49	68

GREENSBORO_NC						HUNTSVILLE_AL					
GSO	0815	0816	0817	0818	0819	HSV	0815	0816	0817	0818	0819
MAX	115	104	101	95	91	MAX	114	106	109	101	99
%>115	50	5	1	0	0	%>115	41	12	18	0	0
%>110	61	20	4	4	2	%>110	66	21	43	2	3
%>105	72	46	20	12	6	%>105	82	60	72	16	14
%>100	81	74	55	28	15	%>100	92	91	91	57	41
%>95	88	92	85	52	32	%>95	97	99	98	91	73
%>90	93	98	97	75	54	%>90	99	100	100	99	93
%>85	96	100	100	90	74	%>85	100	100	100	100	99
%>80	98	100	100	97	89	%>80	100	100	100	100	100

INDIANAPOLIS_IN						KNOXVILLE_TN					
IND	0815	0816	0817	0818	0819	TYS	0815	0816	0817	0818	0819
MAX	98	92	87	89	97	MAX	104	98	101	93	102
%>115	0	0	1	0	0	%>115	10	0	0	0	2
%>110	6	2	3	3	17	%>110	18	1	2	0	20
%>105	18	7	7	8	28	%>105	42	7	17	1	36
%>100	42	19	14	17	41	%>100	71	33	58	9	56
%>95	68	38	26	30	56	%>95	92	71	93	35	75
%>90	88	60	41	47	69	%>90	98	93	100	72	89
%>85	97	80	58	64	81	%>85	100	99	100	93	96
%>80	99	92	74	79	89	%>80	100	100	100	99	99

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LEXINGTON_KY						LOUISVILLE_KY					
LEX	0815	0816	0817	0818	0819	SDF	0815	0816	0817	0818	0819
MAX	103	99	94	92	98	MAX	109	105	96	93	97
%>115	5	0	1	0	0	%>115	10	4	0	0	0
%>110	16	1	2	2	8	%>110	44	11	3	3	9
%>105	40	9	9	7	21	%>105	64	51	11	9	21
%>100	69	40	24	18	41	%>100	80	90	30	22	39
%>95	89	79	48	37	64	%>95	91	100	56	40	60
%>90	98	97	72	59	82	%>90	97	100	80	61	79
%>85	100	100	89	79	93	%>85	99	100	94	79	91
%>80	100	100	97	91	98	%>80	100	100	99	91	97

MEMPHIS_TN						MIAMI_FL					
MEM	0815	0816	0817	0818	0819	MIA	0815	0816	0817	0818	0819
MAX	117	110	106	103	106	MAX	106	99	99	99	104
%>115	77	50	10	1	10	%>115	10	0	0	0	8
%>110	82	44	13	6	28	%>110	33	1	0	0	23
%>105	94	91	64	31	56	%>105	43	10	6	3	44
%>100	99	100	97	71	82	%>100	58	42	41	39	68
%>95	100	100	100	95	95	%>95	78	81	86	91	87
%>90	100	100	100	100	99	%>90	92	98	99	100	96
%>85	100	100	100	100	100	%>85	96	100	100	100	99
%>80	100	100	100	100	100	%>80	98	100	100	100	100

MILWAUKEE_WI						MOBILE_AL					
MKE	0815	0816	0817	0818	0819	MOB	0815	0816	0817	0818	0819
MAX	79	82	76	78	84	MAX	124	107	101	100	101
%>115	0	0	0	0	0	%>115	50	10	1	0	1
%>110	0	0	0	0	1	%>110	78	34	12	18	13
%>105	0	1	1	0	3	%>105	85	64	30	32	31
%>100	0	3	2	1	7	%>100	91	87	56	49	54
%>95	0	8	5	5	16	%>95	95	97	79	67	76
%>90	1	21	11	12	30	%>90	97	100	93	81	90
%>85	9	40	22	25	48	%>85	98	100	98	91	97
%>80	39	61	37	43	66	%>80	99	100	100	96	99

NASHVILLE_TN						NEW_YORK_CITY_NY					
BNA	0815	0816	0817	0818	0819	NYC	0815	0816	0817	0818	0819
MAX	111	108	108	99	97	MAX	98	84	81	78	81
%>115	40	1	1	0	0	%>115	0	0	0	0	0
%>110	55	27	31	1	1	%>110	22	0	0	0	0
%>105	77	76	68	10	7	%>105	32	1	0	0	1
%>100	91	97	92	43	30	%>100	44	4	2	1	2
%>95	98	100	99	82	67	%>95	57	11	6	3	6
%>90	99	100	100	98	92	%>90	70	25	16	9	15
%>85	100	100	100	100	99	%>85	80	45	34	22	31
%>80	100	100	100	100	100	%>80	88	67	56	40	52

NORFOLK_VA						ORLANDO_FL					
ORF	0815	0816	0817	0818	0819	ORL	0815	0816	0817	0818	0819
MAX	106	99	98	89	91	MAX	117	99	99	104	104
%>115	1	0	1	0	0	%>115	89	0	0	10	10
%>110	34	14	10	1	2	%>110	63	2	2	25	27
%>105	46	27	22	4	6	%>105	71	11	11	46	47
%>100	60	44	41	11	15	%>100	78	39	39	68	68
%>95	76	65	62	25	31	%>95	84	75	74	85	84
%>90	88	83	81	44	53	%>90	89	95	94	95	94
%>85	94	94	92	65	74	%>85	92	99	99	99	98
%>80	97	98	98	82	88	%>80	95	100	100	100	100

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PHILADELPHIA_PA						PITTSBURGH_PA					
PHL	0815	0816	0817	0818	0819	PIT	0815	0816	0817	0818	0819
MAX	98	87	84	82	85	MAX	90	82	77	78	82
%>115	0	0	1	0	0	%>115	0	0	0	0	0
%>110	15	0	1	0	0	%>110	0	0	0	0	0
%>105	28	1	3	1	1	%>105	1	0	1	1	0
%>100	44	5	8	3	5	%>100	4	0	3	3	1
%>95	61	14	16	8	13	%>95	18	0	7	7	5
%>90	77	33	29	19	28	%>90	47	5	14	15	16
%>85	88	58	46	36	48	%>85	79	25	26	28	34
%>80	95	80	63	57	69	%>80	95	62	41	44	57

PORTLAND_ME						PROVIDENCE_RI					
PWM	0815	0816	0817	0818	0819	PVD	0815	0816	0817	0818	0819
MAX	80	74	75	73	72	MAX	89	80	79	75	75
%>115	0	0	1	0	0	%>115	0	0	0	0	0
%>110	4	0	0	0	0	%>110	5	0	0	0	0
%>105	7	0	1	0	0	%>105	10	1	0	0	0
%>100	10	1	2	0	0	%>100	17	3	0	0	0
%>95	16	2	5	2	0	%>95	28	8	2	1	0
%>90	24	6	11	5	1	%>90	42	17	8	3	2
%>85	34	13	20	11	5	%>85	60	31	21	9	8
%>80	47	26	33	23	15	%>80	76	49	42	24	25

RALEIGH-DURHAM_NC						RICHMOND_VA					
RDU	0815	0816	0817	0818	0819	RIC	0815	0816	0817	0818	0819
MAX	117	108	103	94	96	MAX	116	102	100	89	95
%>115	77	50	10	0	0	%>115	52	2	1	0	0
%>110	66	39	13	8	7	%>110	62	21	14	3	9
%>105	76	65	36	17	18	%>105	70	38	30	8	19
%>100	84	85	66	31	35	%>100	78	57	49	17	33
%>95	90	96	87	48	56	%>95	84	74	69	30	51
%>90	94	99	97	66	76	%>90	89	87	85	47	68
%>85	97	100	99	80	89	%>85	93	95	94	64	82
%>80	98	100	100	90	96	%>80	96	98	98	79	92

SAVANNAH_GA						TALLAHASSEE_FL					
SAV	0815	0816	0817	0818	0819	TLH	0815	0816	0817	0818	0819
MAX	116	103	104	104	100	MAX	120	105	104	102	101
%>115	57	3	3	2	1	%>115	60	5	1	1	1
%>110	64	4	7	7	4	%>110	71	10	7	2	5
%>105	75	34	44	42	20	%>105	80	50	39	16	24
%>100	84	83	87	86	53	%>100	87	91	82	69	61
%>95	92	99	99	99	85	%>95	92	100	98	95	89
%>90	96	100	100	100	97	%>90	95	100	100	100	98
%>85	98	100	100	100	100	%>85	98	100	100	100	100
%>80	99	100	100	100	100	%>80	99	100	100	100	100

TAMPA_FL						WASHINGTON_DC					
TPA	0815	0816	0817	0818	0819	DCA	0815	0816	0817	0818	0819
MAX	110	103	104	103	105	MAX	101	93	88	86	89
%>115	77	50	10	1	7	%>115	10	0	0	0	0
%>110	50	20	28	18	31	%>110	18	2	4	1	1
%>105	63	38	45	38	50	%>105	34	8	8	4	3
%>100	75	61	63	62	70	%>100	53	21	16	10	9
%>95	84	80	79	82	85	%>95	72	42	28	20	23
%>90	91	92	90	94	94	%>90	86	66	43	35	44
%>85	95	98	96	98	98	%>85	95	84	60	53	67
%>80	98	99	99	100	99	%>80	98	95	74	70	85

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3. Probabilistic Day 3-7 Minimum Heat Index Forecast - Western U.S. (PRBWHL).

FMUS23 KWNH 131900  
PRBWHL

DAYS 3-7 HEAT INDEX FORECAST TABLES  
NWS WEATHER PREDICTION CENTER COLLEGE PARK MD  
1900 UTC MON AUG 13 2007

MINIMUM HEAT INDEX (DEG F) AND MINIMUM HI PROB (%) FRCSTS  
AT WESTERN US CITIES - DAYS 3 THRU 7 FROM MON AUG 13 2007

ABILENE_TX						ALBUQUERQUE_NM					
ABI	0815	0816	0817	0818	0819	ABQ	0815	0816	0817	0818	0819
MIN	74	74	75	75	75	MIN	59	63	61	62	63
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	0	0	0	0
%>85	0	0	0	0	0	%>85	0	0	0	0	0
%>80	0	0	0	2	2	%>80	0	0	0	0	0
%>75	26	27	48	59	54	%>75	0	2	1	2	1
%>70	97	98	100	99	99	%>70	0	12	7	11	8

AMARILLO_TX						AUSTIN_TX					
AMA	0815	0816	0817	0818	0819	AUS	0815	0816	0817	0818	0819
MIN	67	69	68	68	68	MIN	76	77	77	76	76
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	0	0	0	0
%>85	0	0	0	0	0	%>85	0	2	1	0	2
%>80	2	2	1	2	2	%>80	7	19	19	9	17
%>75	9	13	7	11	13	%>75	57	70	73	60	59
%>70	30	41	33	38	38	%>70	99	97	98	98	92

BATON_ROUGE_LA						BISMARCK_ND					
BTR	0815	0816	0817	0818	0819	BIS	0815	0816	0817	0818	0819
MIN	75	77	77	77	75	MIN	56	56	56	58	59
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	0	0	0	0
%>85	0	0	2	3	0	%>85	0	1	0	0	0
%>80	0	16	22	25	6	%>80	0	3	1	0	0
%>75	63	74	70	72	52	%>75	1	6	3	1	2
%>70	100	99	97	97	95	%>70	5	13	9	6	8

BROWNSVILLE_TX						CORPUS_CHRISTI_TX					
BRO	0815	0816	0817	0818	0819	CRP	0815	0816	0817	0818	0819
MIN	82	84	85	81	79	MIN	80	79	79	78	78
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	1	1	0	0	0	%>95	1	1	0	0	0
%>90	9	10	8	2	3	%>90	5	7	3	1	1
%>85	32	48	47	21	16	%>85	25	21	16	9	7
%>80	67	82	92	63	46	%>80	50	46	46	35	34
%>75	90	97	100	92	77	%>75	76	73	78	73	77
%>70	98	100	100	99	94	%>70	92	90	95	94	97

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DALLAS_TX						DENVER_CO					
DFW	0815	0816	0817	0818	0819	DEN	0815	0816	0817	0818	0819
MIN	79	81	79	80	79	MIN	61	62	61	61	61
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	1	0	1	1	%>95	0	0	0	0	0
%>90	1	4	1	4	3	%>90	0	0	0	0	0
%>85	5	12	6	12	10	%>85	0	0	0	0	0
%>80	25	43	22	43	36	%>80	0	0	0	0	0
%>75	95	97	97	95	89	%>75	0	0	0	0	0
%>70	100	100	100	99	99	%>70	1	0	0	1	1

DES_MOINES_IA						EL_PASO_TX					
DSM	0815	0816	0817	0818	0819	ELP	0815	0816	0817	0818	0819
MIN	70	67	64	69	71	MIN	65	68	68	69	69
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	1	0	0	%>95	0	0	0	0	0
%>90	0	1	2	1	1	%>90	0	0	0	0	0
%>85	0	4	4	4	4	%>85	0	0	0	0	0
%>80	1	10	9	12	13	%>80	0	0	0	0	0
%>75	14	21	18	26	31	%>75	0	0	1	3	4
%>70	50	38	32	45	56	%>70	1	15	21	37	37

FRESNO_CA						GOODLAND_KS					
FAT	0815	0816	0817	0818	0819	GLD	0815	0816	0817	0818	0819
MIN	62	65	63	63	63	MIN	65	65	63	65	65
%>100	0	0	0	1	1	%>100	0	0	0	0	0
%>95	0	0	1	2	2	%>95	1	1	1	0	0
%>90	0	1	2	4	4	%>90	2	3	3	1	1
%>85	0	3	5	7	7	%>85	5	6	6	2	2
%>80	2	8	10	13	13	%>80	11	12	11	7	6
%>75	5	17	18	21	21	%>75	21	22	20	16	16
%>70	13	32	30	32	32	%>70	34	34	31	31	31

GREAT_FALLS_MT						HOUSTON_TX					
GTF	0815	0816	0817	0818	0819	HOU	0815	0816	0817	0818	0819
MIN	51	54	55	51	49	MIN	80	80	80	80	78
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	1	0	0	0
%>85	0	0	0	0	0	%>85	5	10	7	7	0
%>80	0	0	0	0	0	%>80	56	53	55	54	17
%>75	0	0	0	0	0	%>75	98	93	95	95	84
%>70	0	1	0	0	0	%>70	100	99	99	100	100

JACKSON_MS						KANSAS_CITY_MO					
JAN	0815	0816	0817	0818	0819	MCI	0815	0816	0817	0818	0819
MIN	75	77	76	76	76	MIN	77	76	74	75	76
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	0	1	1	1
%>85	0	1	0	0	1	%>85	2	2	5	5	5
%>80	8	16	4	9	12	%>80	23	18	19	21	22
%>75	47	69	64	62	57	%>75	73	62	45	52	54
%>70	88	97	99	97	94	%>70	98	91	73	81	83

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LAS_VEGAS_NV						LITTLE_ROCK_AR					
LAS	0815	0816	0817	0818	0819	LIT	0815	0816	0817	0818	0819
MIN	77	80	79	76	78	MIN	77	78	78	76	78
%>100	0	1	1	1	4	%>100	0	0	0	0	0
%>95	0	3	3	2	8	%>95	0	0	0	0	0
%>90	2	9	9	7	15	%>90	0	0	0	0	0
%>85	11	22	20	16	26	%>85	0	0	0	0	2
%>80	33	45	40	31	40	%>80	12	18	19	7	23
%>75	71	72	65	53	57	%>75	77	98	82	72	77
%>70	91	93	87	76	73	%>70	99	100	99	99	99

LOS_ANGELES_CA						MIDLAND_TX					
LAX	0815	0816	0817	0818	0819	MAF	0815	0816	0817	0818	0819
MIN	65	67	66	65	66	MIN	70	72	73	72	73
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	0	0	0	0
%>85	0	0	0	0	0	%>85	0	0	0	0	0
%>80	0	0	0	0	0	%>80	0	0	0	0	0
%>75	3	0	0	1	1	%>75	2	0	11	6	14
%>70	18	14	11	10	14	%>70	48	94	92	87	92

MINNEAPOLIS_MN						NEW_ORLEANS_LA					
MSP	0815	0816	0817	0818	0819	MSY	0815	0816	0817	0818	0819
MIN	64	61	59	60	64	MIN	79	83	80	80	80
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	2	0	0	0
%>90	0	0	0	0	0	%>90	0	10	1	3	3
%>85	0	0	1	0	1	%>85	1	34	10	16	16
%>80	0	2	2	2	3	%>80	25	71	48	52	51
%>75	1	6	6	6	9	%>75	93	95	90	88	87
%>70	8	16	14	15	23	%>70	100	100	99	99	99

NORTH_PLATTE_NE						OKLAHOMA_CITY_OK					
LBF	0815	0816	0817	0818	0819	OKC	0815	0816	0817	0818	0819
MIN	66	64	62	67	65	MIN	74	77	75	76	74
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	1	1	0	0	%>95	0	0	0	0	0
%>90	0	2	2	0	0	%>90	0	0	0	0	0
%>85	1	4	5	1	2	%>85	0	1	2	2	2
%>80	5	10	10	5	5	%>80	0	19	15	19	14
%>75	14	19	18	15	14	%>75	31	72	51	62	44
%>70	32	32	29	34	28	%>70	96	97	85	93	78

OMAHA_NE						PENDLETON_OR					
OMA	0815	0816	0817	0818	0819	PDT	0815	0816	0817	0818	0819
MIN	74	71	68	72	73	MIN	54	58	49	49	52
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	1	0	0	%>95	0	0	0	0	0
%>90	0	1	2	1	2	%>90	0	0	0	0	0
%>85	0	5	6	5	6	%>85	0	0	0	0	0
%>80	5	15	14	15	18	%>80	0	0	0	0	0
%>75	41	32	27	35	39	%>75	0	0	0	0	0
%>70	88	54	44	59	64	%>70	0	2	0	0	0

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PHOENIX_AZ						PORTLAND_OR					
PHX	0815	0816	0817	0818	0819	PDX	0815	0816	0817	0818	0819
MIN	86	85	85	84	84	MIN	57	58	54	54	53
%>100	3	5	5	3	3	%>100	0	0	0	0	0
%>95	11	14	14	10	10	%>95	0	0	1	0	0
%>90	28	30	30	24	24	%>90	0	1	1	1	0
%>85	53	52	52	46	46	%>85	1	2	3	2	0
%>80	77	73	73	69	70	%>80	3	5	5	3	1
%>75	92	88	88	86	87	%>75	6	9	9	7	3
%>70	98	96	96	95	96	%>70	12	17	16	12	6

RAPID_CITY_SD						SACRAMENTO_CA					
RAP	0815	0816	0817	0818	0819	SAC	0815	0816	0817	0818	0819
MIN	63	63	63	64	61	MIN	56	57	56	55	56
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	1	1	1	0	0	%>90	0	0	0	0	0
%>85	2	4	2	1	1	%>85	0	0	0	0	0
%>80	6	8	6	4	3	%>80	0	0	1	0	1
%>75	14	16	13	11	9	%>75	0	1	2	2	3
%>70	26	28	26	25	19	%>70	1	5	6	5	7

SAINT_LOUIS_MO						SALT_LAKE_CITY_UT					
STL	0815	0816	0817	0818	0819	SLC	0815	0816	0817	0818	0819
MIN	75	77	76	74	78	MIN	70	68	69	67	65
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	1	%>95	1	0	0	0	0
%>90	0	0	1	1	5	%>90	2	0	1	1	2
%>85	0	1	5	6	17	%>85	5	0	3	3	4
%>80	11	18	24	19	39	%>80	13	2	10	9	9
%>75	54	72	56	42	66	%>75	28	10	23	19	18
%>70	89	98	84	69	86	%>70	48	38	43	35	32

SAN_ANTONIO_TX						SAN_DIEGO_CA					
SAT	0815	0816	0817	0818	0819	SAN	0815	0816	0817	0818	0819
MIN	76	77	78	77	76	MIN	66	68	68	67	67
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	0	0	0	0
%>85	1	1	5	2	1	%>85	0	0	0	0	0
%>80	13	17	29	18	12	%>80	3	0	0	0	0
%>75	62	68	76	66	55	%>75	10	5	2	1	2
%>70	98	98	98	97	94	%>70	29	36	34	23	23

SAN_FRANCISCO_CA						SEATTLE_WA					
SFO	0815	0816	0817	0818	0819	SEA	0815	0816	0817	0818	0819
MIN	54	56	54	54	54	MIN	55	57	53	52	52
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	0	0	0	0
%>85	0	0	0	0	0	%>85	0	0	1	0	0
%>80	0	0	0	0	0	%>80	0	1	2	1	0
%>75	0	0	0	0	0	%>75	1	4	4	2	1
%>70	0	0	0	0	0	%>70	5	10	9	5	2



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SHREVEPORT_LA						SIOUX_FALLS_SD					
SHV	0815	0816	0817	0818	0819	FSD	0815	0816	0817	0818	0819
MIN	77	78	77	77	77	MIN	65	63	63	63	64
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	1	1	1	0
%>85	0	1	1	2	3	%>85	0	2	3	2	1
%>80	3	24	17	24	25	%>80	1	6	7	6	4
%>75	79	89	80	75	71	%>75	6	14	15	13	11
%>70	100	100	100	98	96	%>70	22	27	27	26	25

SPRINGFIELD_MO						TUCSON_AZ					
SGF	0815	0816	0817	0818	0819	TUS	0815	0816	0817	0818	0819
MIN	72	75	74	74	74	MIN	76	75	75	76	75
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	0	0	0	0
%>85	0	0	0	0	0	%>85	0	0	0	1	1
%>80	0	0	5	2	5	%>80	5	6	7	15	12
%>75	11	52	39	37	42	%>75	68	51	50	59	57
%>70	82	100	86	91	89	%>70	95	97	95	93	90

TULSA_OK						WICHITA_KS					
TUL	0815	0816	0817	0818	0819	ICT	0815	0816	0817	0818	0819
MIN	73	78	77	76	77	MIN	75	76	73	75	74
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	0	1	0	0
%>85	0	0	0	1	0	%>85	0	5	5	4	3
%>80	0	10	16	13	11	%>80	5	23	17	20	16
%>75	8	95	76	62	79	%>75	55	58	40	51	45
%>70	96	100	98	95	100	%>70	97	87	67	82	77

YUMA_AZ					
YUM	0815	0816	0817	0818	0819
MIN	85	94	87	88	86
%>100	0	29	3	10	3
%>95	1	44	12	22	11
%>90	8	61	33	41	28
%>85	43	76	63	63	54
%>80	96	87	88	82	78
%>75	100	94	97	93	93
%>70	100	98	100	98	98

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4. Probabilistic Day 3-7 Mean Heat Index Forecast - Eastern U.S. (PRBEHI).

FMUS23 KWNH 131813  
PRBEHI

DAYS 3-7 HEAT INDEX FORECAST TABLES  
NWS WEATHER PREDICTION CENTER COLLEGE PARK MD  
1813 UTC MON AUG 13 2007

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MEAN HEAT INDEX (DEG F) AND MEAN HI PROB (%) FRCSTS  
 AT EASTERN US CITIES - DAYS 3 THRU 7 FROM MON AUG 13 2007

AKRON-CANTON_OH						ALBANY_NY					
CAK	0816	0817	0818	0819	0820	ALB	0816	0817	0818	0819	0820
MEAN	72	71	66	70	72	MEAN	67	66	62	63	65
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	1	1	%>95	0	0	0	0	1
%>90	1	0	0	3	3	%>90	0	0	0	1	2
%>85	5	0	0	8	8	%>85	0	0	0	2	4
%>80	15	2	2	17	19	%>80	1	0	1	6	10
%>75	34	17	8	31	36	%>75	7	1	4	13	19
%>70	59	55	25	49	57	%>70	29	13	14	24	32
ASHEVILLE_NC						ATLANTA_GA					
AVL	0816	0817	0818	0819	0820	ATL	0816	0817	0818	0819	0820
MEAN	85	82	78	75	75	MEAN	93	86	88	85	84
%>100	0	0	0	0	0	%>100	13	0	0	1	0
%>95	1	0	0	0	0	%>95	37	0	3	5	0
%>90	6	2	3	3	1	%>90	69	9	28	20	7
%>85	48	21	14	10	6	%>85	92	71	75	50	38
%>80	91	67	40	27	22	%>80	99	99	97	80	79
%>75	99	93	71	52	51	%>75	100	100	100	95	97
%>70	100	99	91	76	79	%>70	100	100	100	99	100
BALTIMORE_MD						BIRMINGHAM_AL					
BWI	0816	0817	0818	0819	0820	BHM	0816	0817	0818	0819	0820
MEAN	83	81	73	74	76	MEAN	95	92	93	89	88
%>100	0	1	0	0	1	%>100	27	2	10	2	0
%>95	0	4	0	2	4	%>95	52	19	35	13	1
%>90	3	12	1	5	10	%>90	77	66	71	45	25
%>85	31	30	4	13	20	%>85	92	96	93	81	80
%>80	80	54	15	27	36	%>80	98	100	99	97	99
%>75	98	77	38	45	54	%>75	100	100	100	100	100
%>70	100	91	66	66	72	%>70	100	100	100	100	100
BOSTON_MA						BUFFALO_NY					
BOS	0816	0817	0818	0819	0820	BUF	0816	0817	0818	0819	0820
MEAN	73	70	66	67	67	MEAN	65	65	64	66	67
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	1	0
%>90	0	0	0	0	0	%>90	0	0	0	3	0
%>85	2	0	0	2	1	%>85	0	0	0	7	2
%>80	10	2	1	6	6	%>80	0	0	1	13	7
%>75	31	16	8	17	16	%>75	3	2	5	23	19
%>70	67	55	27	36	34	%>70	17	16	17	37	38
CHARLESTON_SC						CHARLESTON_WV					
CHS	0816	0817	0818	0819	0820	CRW	0816	0817	0818	0819	0820
MEAN	101	92	91	87	88	MEAN	83	79	75	76	78
%>100	54	0	10	4	1	%>100	0	0	0	0	0
%>95	74	10	29	14	7	%>95	0	0	1	2	1
%>90	92	73	56	36	32	%>90	4	1	4	6	4
%>85	98	97	80	63	71	%>85	31	10	12	17	15
%>80	100	100	93	85	94	%>80	82	42	27	34	37
%>75	100	100	98	96	99	%>75	99	81	48	55	65
%>70	100	100	100	99	100	%>70	100	97	70	75	86

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CHARLOTTE_NC						CHICAGO_IL					
CLT	0816	0817	0818	0819	0820	ORD	0816	0817	0818	0819	0820
MEAN	94	89	85	80	81	MEAN	79	72	70	71	74
%>100	8	0	0	0	0	%>100	0	0	0	0	0
%>95	37	0	4	2	1	%>95	2	0	1	1	1
%>90	79	29	19	9	5	%>90	8	0	3	3	3
%>85	98	96	48	26	22	%>85	23	2	8	9	9
%>80	100	100	79	52	53	%>80	46	10	18	19	23
%>75	100	100	95	77	82	%>75	71	31	32	35	45
%>70	100	100	99	92	96	%>70	88	62	50	55	68

CINCINNATI_OH						CLEVELAND_OH					
LUK	0816	0817	0818	0819	0820	CLE	0816	0817	0818	0819	0820
MEAN	84	78	73	76	77	MEAN	72	71	67	71	72
%>100	0	0	0	1	1	%>100	0	0	1	1	0
%>95	0	1	0	3	3	%>95	0	0	1	2	1
%>90	6	5	2	9	9	%>90	0	1	2	5	3
%>85	36	17	8	19	20	%>85	3	2	3	11	9
%>80	80	39	20	34	36	%>80	12	6	6	21	20
%>75	98	67	40	53	56	%>75	34	21	13	35	38
%>70	100	87	64	71	74	%>70	63	56	29	52	60

COLUMBIA_SC						COLUMBUS_OH					
CAE	0816	0817	0818	0819	0820	TZR	0816	0817	0818	0819	0820
MEAN	96	90	87	84	84	MEAN	77	76	71	73	75
%>100	16	0	4	4	1	%>100	0	0	0	1	1
%>95	60	8	15	10	5	%>95	0	0	1	2	2
%>90	94	49	36	24	19	%>90	3	1	3	6	7
%>85	100	89	64	44	47	%>85	12	7	8	13	16
%>80	100	99	85	65	76	%>80	34	26	18	26	30
%>75	100	100	96	83	93	%>75	63	57	34	43	48
%>70	100	100	99	93	99	%>70	85	84	54	62	67

DAYTON_OH						DETROIT_MI					
MGY	0816	0817	0818	0819	0820	DET	0816	0817	0818	0819	0820
MEAN	79	76	71	75	75	MEAN	72	70	66	69	71
%>100	0	0	0	1	1	%>100	0	0	0	0	0
%>95	1	0	0	3	2	%>95	0	0	0	1	1
%>90	5	1	2	8	7	%>90	0	1	0	3	2
%>85	19	8	6	17	16	%>85	2	2	1	7	6
%>80	46	28	16	31	32	%>80	11	8	3	16	16
%>75	75	59	33	48	51	%>75	32	23	10	28	33
%>70	93	84	55	66	70	%>70	62	49	25	45	54

EVANSVILLE_IN						GRAND_RAPIDS_MI					
EVV	0816	0817	0818	0819	0820	GRR	0816	0817	0818	0819	0820
MEAN	91	86	80	88	83	MEAN	74	67	65	69	70
%>100	0	1	2	9	2	%>100	0	0	0	0	0
%>95	5	6	6	22	7	%>95	0	0	0	1	0
%>90	66	25	15	40	20	%>90	1	0	0	3	1
%>85	99	58	31	61	42	%>85	4	0	0	8	4
%>80	100	86	50	79	66	%>80	18	1	2	16	12
%>75	100	97	70	91	85	%>75	45	7	9	30	28
%>70	100	100	85	97	95	%>70	75	28	25	48	49

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GREENSBORO_NC						HUNTSVILLE_AL					
GSO	0816	0817	0818	0819	0820	HSV	0816	0817	0818	0819	0820
MEAN	95	91	82	80	79	MEAN	93	92	89	87	88
%>100	20	0	0	0	0	%>100	14	5	2	1	0
%>95	47	3	2	2	1	%>95	39	26	13	9	1
%>90	75	59	9	9	5	%>90	71	67	46	32	24
%>85	92	99	30	25	18	%>85	92	94	82	66	80
%>80	99	100	61	49	45	%>80	99	100	98	90	99
%>75	100	100	86	74	74	%>75	100	100	100	99	100
%>70	100	100	97	90	92	%>70	100	100	100	100	100

INDIANAPOLIS_IN						KNOXVILLE_TN					
IND	0816	0817	0818	0819	0820	TYS	0816	0817	0818	0819	0820
MEAN	81	78	75	76	79	MEAN	90	85	82	81	81
%>100	0	0	1	1	1	%>100	10	0	0	0	0
%>95	3	0	4	4	4	%>95	25	0	3	2	0
%>90	11	3	9	9	11	%>90	49	4	12	10	2
%>85	30	13	19	20	25	%>85	74	44	34	30	19
%>80	56	37	34	36	46	%>80	91	95	65	58	63
%>75	80	68	51	55	68	%>75	98	100	88	83	94
%>70	94	90	69	73	85	%>70	100	100	98	95	100

LEXINGTON_KY						LOUISVILLE_KY					
LEX	0816	0817	0818	0819	0820	SDF	0816	0817	0818	0819	0820
MEAN	85	85	78	77	80	MEAN	87	87	79	81	80
%>100	0	0	0	0	0	%>100	0	0	1	2	1
%>95	1	2	2	2	3	%>95	1	5	4	6	4
%>90	13	14	8	7	9	%>90	20	26	12	17	12
%>85	55	47	20	18	25	%>85	74	65	26	34	29
%>80	91	82	40	37	48	%>80	98	91	45	57	52
%>75	99	97	63	60	73	%>75	100	99	66	77	74
%>70	100	100	82	79	89	%>70	100	100	83	90	89

MEMPHIS_TN						MIAMI_FL					
MEM	0816	0817	0818	0819	0820	MIA	0816	0817	0818	0819	0820
MEAN	99	92	91	92	90	MEAN	92	91	92	91	96
%>100	47	2	2	6	0	%>100	3	1	1	0	14
%>95	68	24	17	27	3	%>95	19	4	8	4	54
%>90	85	75	57	65	45	%>90	79	56	88	71	93
%>85	94	98	90	92	94	%>85	99	100	100	99	100
%>80	98	100	99	99	100	%>80	100	100	100	100	100
%>75	100	100	100	100	100	%>75	100	100	100	100	100
%>70	100	100	100	100	100	%>70	100	100	100	100	100

MILWAUKEE_WI						MOBILE_AL					
MKE	0816	0817	0818	0819	0820	MOB	0816	0817	0818	0819	0820
MEAN	74	69	68	70	71	MEAN	97	91	93	93	91
%>100	0	0	0	0	0	%>100	37	2	9	3	0
%>95	1	0	1	1	0	%>95	62	15	35	27	2
%>90	5	0	2	2	1	%>90	83	55	72	75	60
%>85	12	1	5	7	5	%>85	94	90	94	97	99
%>80	27	4	11	16	14	%>80	99	99	99	100	100
%>75	47	14	23	31	32	%>75	100	100	100	100	100
%>70	68	38	42	51	56	%>70	100	100	100	100	100

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NASHVILLE_TN						NEW_YORK_CITY_NY					
BNA	0816	0817	0818	0819	0820	NYC	0816	0817	0818	0819	0820
MEAN	94	88	87	89	87	MEAN	77	76	70	71	72
%>100	15	0	2	6	0	%>100	0	0	0	0	0
%>95	44	0	10	20	5	%>95	0	0	0	0	0
%>90	77	18	30	42	27	%>90	0	0	1	1	2
%>85	95	96	61	69	66	%>85	3	4	3	5	6
%>80	99	100	86	88	93	%>80	23	21	10	14	16
%>75	100	100	97	97	99	%>75	68	54	26	31	34
%>70	100	100	100	99	100	%>70	96	84	51	53	58

NORFOLK_VA						ORLANDO_FL					
ORF	0816	0817	0818	0819	0820	ORL	0816	0817	0818	0819	0820
MEAN	93	88	81	81	82	MEAN	101	88	89	90	89
%>100	1	3	0	0	0	%>100	53	0	0	0	0
%>95	18	13	1	1	3	%>95	67	0	1	0	1
%>90	83	37	6	7	12	%>90	79	8	31	53	35
%>85	100	68	24	24	34	%>85	88	93	93	99	92
%>80	100	88	57	54	63	%>80	94	100	100	100	100
%>75	100	97	85	81	86	%>75	97	100	100	100	100
%>70	100	99	97	95	97	%>70	99	100	100	100	100

PHILADELPHIA_PA						PITTSBURGH_PA					
PHL	0816	0817	0818	0819	0820	PIT	0816	0817	0818	0819	0820
MEAN	78	77	71	73	74	MEAN	71	71	65	68	71
%>100	0	0	0	0	1	%>100	0	0	0	0	0
%>95	0	2	0	1	2	%>95	0	0	0	0	0
%>90	0	7	0	4	6	%>90	0	0	0	1	2
%>85	4	18	2	10	14	%>85	0	0	0	4	7
%>80	34	36	9	22	28	%>80	4	2	2	11	17
%>75	83	59	27	40	46	%>75	23	17	8	24	34
%>70	99	79	56	60	65	%>70	61	56	25	42	55

PORTLAND_ME						PROVIDENCE_RI					
PWM	0816	0817	0818	0819	0820	PVD	0816	0817	0818	0819	0820
MEAN	63	66	63	63	64	MEAN	74	71	67	68	67
%>100	0	0	0	0	0	%>100	0	0	0	0	0
%>95	0	0	0	0	0	%>95	0	0	0	0	0
%>90	0	0	0	0	0	%>90	0	0	0	0	0
%>85	0	0	0	0	2	%>85	2	1	0	0	0
%>80	0	0	1	1	5	%>80	12	7	1	3	3
%>75	0	1	5	5	13	%>75	41	27	7	12	12
%>70	0	15	16	16	27	%>70	82	60	28	35	35

RALEIGH-DURHAM_NC						RICHMOND_VA					
RDU	0816	0817	0818	0819	0820	RIC	0816	0817	0818	0819	0820
MEAN	97	91	84	83	83	MEAN	92	90	78	78	82
%>100	29	2	0	1	1	%>100	6	0	0	1	2
%>95	67	18	3	6	4	%>95	30	11	0	3	6
%>90	93	63	16	18	16	%>90	69	55	3	9	17
%>85	99	93	43	39	41	%>85	94	91	14	23	35
%>80	100	99	74	63	70	%>80	99	99	39	43	57
%>75	100	100	93	84	90	%>75	100	100	69	65	78
%>70	100	100	99	95	98	%>70	100	100	90	83	91

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SAVANNAH_GA						TALLAHASSEE_FL					
SAV	0816	0817	0818	0819	0820	TLH	0816	0817	0818	0819	0820
MEAN	102	88	92	89	86	MEAN	100	88	92	88	88
%>100	56	1	10	3	0	%>100	49	0	5	4	0
%>95	74	7	30	15	4	%>95	74	6	26	16	3
%>90	89	33	60	44	21	%>90	90	31	63	39	29
%>85	96	73	84	76	56	%>85	98	72	90	68	80
%>80	99	95	96	94	87	%>80	100	95	98	88	98
%>75	100	100	99	99	98	%>75	100	100	100	97	100
%>70	100	100	100	100	100	%>70	100	100	100	100	100

TAMPA_FL						WASHINGTON_DC					
TPA	0816	0817	0818	0819	0820	DCA	0816	0817	0818	0819	0820
MEAN	95	90	91	90	90	MEAN	85	81	73	74	77
%>100	27	1	1	0	0	%>100	0	1	0	0	1
%>95	51	9	11	1	1	%>95	0	5	0	1	4
%>90	75	51	69	46	56	%>90	8	14	1	4	10
%>85	91	94	99	96	99	%>85	45	31	4	12	22
%>80	98	100	100	100	100	%>80	88	53	16	26	38
%>75	99	100	100	100	100	%>75	99	74	40	46	57
%>70	100	100	100	100	100	%>70	100	89	69	67	75

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