

**NATIONAL WEATHER SERVICE INSTRUCTION 10-504**

**JUNE 5, 2015**

**Operations and Services**

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

**NATIONAL PUBLIC WEATHER FORECAST PRODUCTS SPECIFICATION**

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

**OPR:** W/AFS13 (A. Horvitz)

**Certified by:** W/AFS21 (E. Jacks)

**Type of Issuance:** Routine

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**SUMMARY OF REVISIONS:** This directive supersedes NWSI 10-504, “National Public Weather Forecast Products Specification”, dated December 5, 2012. This directive incorporates the following changes:

1. Deleted Preliminary Forecast Discussion product.
2. Updated Model Diagnostic Mission Connection, Section 2.1.
3. Updated Short Range Forecasts Valid Times, Section 3.2.4.
4. Changed issuance times for the Extended Forecast Discussion to 0700 UTC and 1600 UTC. Section 4.2.3. - Changed Mission Connection, Section 4.1 and Content, Section 4.3.3.
5. Updated Selected Cities Content to remove Elevation Criteria, Section 16.3.3.
6. Updated Issuance Times on Tables 7, Surface Prog and Table 8, Temperature / Precipitation Anomalies.
7. Changed all reference from the Hydrological Prediction Center to the Weather Prediction Center.
8. Changed Approving Official and Office.

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/signed/

May 22, 2015

Andrew D. Stern  
Acting Director, Analyze, Forecast  
and Support Office

Date

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# National Public Weather Forecast Products Specification

## 1 Introduction

This procedural instruction describes narrative, tabular and graphical weather products issued by multiple National Centers for Environmental Prediction (NCEP) offices. The Canadian Urban Forecast, issued by the Meteorological Service of Canada, and retransmitted by the National Weather Service (NWS), is included for domestic public interests.

## 2 Model Diagnostic Discussion (product category PMDHMD)

### 2.1 Mission Connection

NCEP's Weather Prediction Center (WPC) issues the model diagnostic discussion, which provides an evaluation of the analyses of NCEP and non-NCEP model guidance, a review of model trends and biases and a description of model differences and preferences. These include the ensemble suites which are the operational model runs with different initialization conditions. The discussion focuses on the performance and impact on the weather forecast expected in the medium range time period, generally days 4 through 7.

This guidance is used by conterminous U.S. (CONUS) NWS field offices and the general meteorological community (private sector and the media), including the aviation community. The products support the NWS public and aviation weather programs.

### 2.2 Issuance Guidelines

#### 2.2.1 Creation Software

WPC uses commercial text editor software.

#### 2.2.2 Issuance Criteria

This is a routine, schedule-driven product.

#### 2.2.3 Issuance Times

Preliminary issuance at 0445 and 1645 Coordinated Universal Time (UTC); final issuance at 0645 and 1845 UTC.

#### 2.2.4 Valid Time

0000 UTC Day 1 to 1200 UTC Day 3 for 0645 UTC issuance; 1200 UTC Day 1 to 0000 UTC Day 3 for 1845 UTC issuance.

### 2.2.5 Product Expiration Time

Product expires with the next issuance.

## 2.3 Technical Description

The short range prognostic discussion should follow the format and content described in this section.

### 2.3.1 Mass News Disseminator (MND) Broadcast Line

Not applicable.

### 2.3.2 MND Header

The MND header is MODEL DIAGNOSTIC DISCUSSION.

### 2.3.3 Content

A narrative that may use standard NWS abbreviations to provide an evaluation of the North American Meso (NAM) and Global Forecast System (GFS) models, as well as a wide range of other Numerical Prediction Models for Day 1 to Day 3. Denotes quality of model initializations, model trends, and preferred models for various regions of the CONUS.

### 2.3.4 Format

```
MODEL DIAGNOSTIC DISCUSSION
NWS WEATHER PREDICTION CENTER COLLEGE PARK MD
152 PM EST TUE DEC 02 2014
```

```
VALID DEC 02/1200 UTC THRU DEC 06/0000 UTC
```

```
...SEE NOUS42 KWNO (ADMNFD) FOR THE STATUS OF THE UPPER AIR INGEST...
```

```
12Z MODEL EVALUATION WITH PREFERENCES
```

```
~~~~~
```

```
NAM/GFS INITIALIZATION ERRORS DO NOT SEEM TO DEGRADE THEIR SHORT RANGE
FORECASTS.
```

```
UPPER TROUGH/CYCLONE MOVING TOWARDS THE WEST COAST FRI
```

```
~~~~~
```

```
PREFERENCE: NON-GFS COMPROMISE
CONFIDENCE: AVERAGE
```

```
THERE REMAINS A BIT OF UNCERTAINTY WITH THE NEXT PACIFIC SYSTEM APPROACHING
THE WEST COAST, WITH THE GFS ON THE SOUTH SIDE OF THE ENVELOPE OF MODEL SOLNS
WHILE THE CANADIAN/UKMET/NAM/ECMWF MORE TO THE NORTH.
```

```
FOCUSING ON THE APEX OF THE RIDGE TO ITS NORTH...A CONSENSUS WHICH BEGAN ON
THE 02/00Z RUN CONTINUED THIS MODEL CYCLE...MEANING THAT NON-GFS GUIDANCE
FROM THE 02/12Z IS PREFERRED WITH AVERAGE CONFIDENCE.
```

WEAKENING SYSTEM MOVING NORTH ALONG THE WEST COAST WED/THU  
~~~~~

PREFERENCE: GFS/ECMWF COMPROMISE  
CONFIDENCE: AVERAGE

THE 02/12Z NCEP AND NON NCEP MODELS MADE FEW SIGNIFICANT CHANGES WHEN COMPARED WITH THEIR 02/00Z RUNS. THE NAM REMAINED ON THE WEAK SIDE OF THE ENVELOPE OF SOLUTIONS WITH THIS SYSTEM WHILE THE 02/12Z CANADIAN WAS ON THE STRONG SIDE. OVERALL...THINK A COMPROMISE BETWEEN THE 02/12Z GFS AND 02/12Z ECMWF.

SHORTWAVE MOVING THROUGH THE CENTRAL PLAINS THU NIGHT  
~~~~~

PREFERENCE: CLOSEST TO THE ECMWF  
CONFIDENCE: AVERAGE

THE 02/12Z GFS AND THE 02/12Z CANADIAN REMAINED ON THE SLOW SIDE OF THE MODEL SOLNS WHILE THE UKMET WAS MORE DYNAMIC AND FASTER THAN OTHER MODELS. GIVEN THE LOW-AMPLITUDE, QUASI-ZONAL FLOW...THE GFS/CANADIAN IDEA LOOKS LEAST LIKELY TO PAN OUT. AT THIS POINT...WITHOUT ANY MAJOR SHIFT IN THE NCEP MODELS...THE 02/12Z ECMWF WAS CLOSE TO THE 02/12Z ECMWF AND HAD THEIR 02/09Z SREF MEAN SOLUTIONS SO IT REMAINED OUR PREFERRED SOLN WITH ABOUT AVERAGE CONFIDENCE.

SHORTWAVE TROUGH/FRONTS MOVING THROUGH NEW ENGLAND WED/THU  
~~~~~

PREFERENCE: NON-NAM COMPROMISE  
CONFIDENCE: ABOVE AVERAGE

THE NON-NAM GUIDANCE FROM THE 02/12Z MODEL PRODUCTION CYCLE SHOWED GREATER PROGRESSION WITH THIS SYSTEM, AIDED BY THE INCREASINGLY ZONAL FLOW PATTERN IN WHICH THE SYSTEM BECOMES EMBEDDED. AS A RESULT...FEEL THE MORE NORTHERLY SOLN IS MOST UNLIKELY TO VERIFY WHILE A COMPROMISE OF THE 02/12Z GFS AND 02/12Z NON-NCEP MODELS APPEAR TO HAVE THE BEST CHANCE OF VERIFYING WELL.

[www.wpc.ncep.noaa.gov/html/model2.shtml](http://www.wpc.ncep.noaa.gov/html/model2.shtml)...  
[www.wpc.ncep.noaa.gov/h5pref/h5pref.shtml](http://www.wpc.ncep.noaa.gov/h5pref/h5pref.shtml)...

BANN

## 2.4 Updates, Amendments, and Corrections

No updates. WPC will correct for format and grammatical errors as required.

## 3 Short Range Forecast Discussion (product category PMDSPD)

### 3.1 Mission Connection

WPC issues a short range discussion that provides the meteorological reasoning behind the Surface Fronts and Pressure Charts (section 13) and the Surface Instantaneous Precipitation Charts (section 14) graphical products. This guidance is used by CONUS NWS field offices and the general meteorological community (private sector and the media) including the aviation community. The products support the NWS public and aviation weather programs.

## **3.2 Issuance Guidelines**

### **3.2.1 Creation Software**

WPC uses commercial text editor software.

### **3.2.2 Issuance Criteria**

This is a routine, schedule-driven product.

### **3.2.3 Issuance Times**

0900 and 2100 UTC.

### **3.2.4 Valid Time**

1200 UTC Day 1 to 0000 UTC Day 3 for 0730 UTC issuance, and 0000 UTC Day 2 to 1200 UTC Day 3 for 1930 UTC issuance.

### **3.2.5 Product Expiration Time**

Product expires with the next issuance.

## **3.3 Technical Description**

The short range prognostic discussion should follow the format and content described in this section.

### **3.3.1 MND Broadcast Line**

Not applicable.

### **3.3.2 MND Header**

The MND header is SHORT RANGE FORECAST DISCUSSION.

### **3.3.3 Content**

A narrative that may use standard NWS abbreviations that describes the meteorological reasoning for the location of significant weather features and precipitation across the CONUS for the next 12 to 48 hours.

### **3.3.4 Format**

```
Short Range Forecast Discussion  
NWS Weather Prediction Center College Park MD  
248 AM EST Tue Dec 02 2014
```

```
Valid 12Z Tue Dec 02 2014 - 12Z Thu Dec 04 2014
```

```
...Wintry mix of precipitation possible across the Central Appalachians and  
into New England...
```

```
...Heavy rain possible over parts of California...
```

```
A quasi-stationary front extending from the Mid-Atlantic to along the Gulf  
Coast to the Rockies then westward across the Northern Rockies to the Pacific
```

Northwest will have a wave of low pressure over the Tennessee Valley that will move northeastward to Southern New England Coast by Wednesday morning. Rain will develop over parts of the Tennessee Valley and extend to the Mid-Atlantic on Tuesday morning with Pockets of rain/freezing rain over parts of the Mid-Atlantic/Central Appalachians that will expand northward into the Northeast by Tuesday evening. The rain will move off the Northeast/Mid-Atlantic Coast by Wednesday afternoon. Snow will also develop over parts of the Northeast through Wednesday evening. In addition, pockets of rain/freezing rain will develop near the rain/snow line over parts of the Northeast through to Wednesday.

Meanwhile, a weakening upper-level low off the California Coast will slowly weaken as associated upper-level energy moves inland over California. Moisture from the Pacific will move onshore over California that will produce light to moderate rain over parts of the state through Wednesday. Light rain and higher elevation snow will develop over parts of the Great Basin into the Central Rockies on Wednesday. Elsewhere, northerly flow off the Gulf of Mexico and a nearby front will aid in producing rain over parts of the Lower Rio Grande Valley on Tuesday. Additionally, easterly flow off the Atlantic will aid in producing rain along parts of the east Coast of Florida through Wednesday. Also, energy moving over the Great Lakes will produce scattered light snow over parts of the Upper Great Lakes.

Ziegenfelder

Graphics available at [www.wpc.ncep.noaa.gov/basicwx/basicwx\\_wbg.php](http://www.wpc.ncep.noaa.gov/basicwx/basicwx_wbg.php)

### **3.4 Updates, Amendments, and Corrections**

This product is not updated or amended. WPC will correct for format and grammatical errors as required.

## **4 Extended Forecast Discussion (product category PMDEPD)**

### **4.1 Mission Connection**

WPC issues an extended range discussion that provides the meteorological reasoning behind the Days 3 to 7 Surface and 500 millibar (mb) forecasts (section 18). This guidance is used by CONUS field offices and the general meteorological community (private sector and the media) including the aviation community. Similar products are issued for Alaska. The products support the NWS public and aviation weather programs.

### **4.2 Issuance Guidelines**

#### 4.2.1 Creation Software

WPC uses commercial text editor software.

#### 4.2.2 Issuance Criteria

This is a routine, schedule-driven product.

#### 4.2.3 Issuance Time

Daily at 0700 UTC and 1600 UTC.

#### 4.2.4 Valid Time

1200 UTC Day 3 to 1200 UTC Day 7.

#### 4.2.5 Product Expiration Time

Product expires with next product issuance.

### 4.3 Technical Description

The Extended Forecast Discussion should follow the format and content described in this section.

#### 4.3.1 MND Broadcast Line

Not applicable.

#### 4.3.2 MND Header

The MND header is EXTENDED FORECAST DISCUSSION.

#### 4.3.3 Content

This is a text product that describes the meteorological reasoning and uncertainty of the forecaster behind the generation of the Days 3 to 7 Surface Prognostications (Progs).

#### 4.3.4 Format

```
EXTENDED FORECAST DISCUSSION  
NWS WEATHER PREDICTION CENTER COLLEGE PARK MD  
1056 AM EST TUE DEC 02 2014
```

```
VALID 12Z FRI DEC 05 2014 - 12Z TUE DEC 09 2014
```

```
...GUIDANCE/UNCERTAINTY ASSESSMENT AND SENSIBLE WEATHER HIGHLIGHTS...
```

```
THE LATEST MODELS AND ENSEMBLES OFFER A REASONABLY SIMILAR AND ACTIVE LARGER  
SCALE FLOW PATTERN EVOLUTION OVER MUCH OF THE NEXT WEEK...BOLSTERING FORECAST  
CONFIDENCE. HOWEVER...A MULTITUDE OF LESS PREDICTABLE AND VARIED AMPLITUDE  
SMALL-MID SCALE NRN AND SRN STREAM SHORTWAVES EMBEDDED WITH THE FLOW PROGRESS  
OVER NORTH AMERICA DOWNSTREAM OF AN ANCHORING NERN PACIFIC MID-UPPER LEVEL  
TROUGH. THE TIMING OF THESE FEATURES AND POTENTIAL ASPECTS OF ANY STREAM  
PHASING REMAIN MORE UNCERTAIN. ACCORDINGLY PREFER A PREDOMINANTLY ENSEMBLE  
MEAN BASED SOLUTION TO MITIGATE SOME OF THE SMALL TO MID SCALE UNCERTAINTY.
```

```
LEANED ON THE 00 UTC ECMWF ENSEMBLE MEAN INTO FRI/SAT THAT OF THE ENSEMBLE
```

SOLUTIONS SEEMS TO BEST MATCH WITH SEEMINGLY REASONABLE WPC OVERNIGHT MODEL DIAGNOSTIC DESK PMDHMD PREFERENCES...ESPECIALLY FROM THE ERN PACIFIC INTO THE WRN US THAT ALSO FAVORED SOME INFLUENCE FROM THE 00 UTC ECMWF/CANADIAN INTO THESE EARLY MEDIUM RANGE FRAMES IN CONTRAST TO THE MORE SOUTHWARD SHIFTED 00 UTC GFS.

INSTEAD MIXED THE 00 UTC ECMWF ENSEMBLE MEAN WITH SOME COMPATABLE 06 UTC GFS ENSEMBLE MEAN AT LONGER TIME FRAMES LATER WEEKEND INTO EARLY NEXT WEEK. THIS OFFERED BETTER CONTINUITY CONSISTENT WITH GROWING UNCERTAINTY. NRN AND SRN STREAM FLOWS OVER NORTH AMERICA SHOULD TEND TO AMPLIFY OVER TIME GIVEN THE SETTLED UPSTREAM NERN PACIFIC MID-UPPER LEVEL TROUGH POSITION. THIS PATTERN SHOULD PROVIDE SYSTEMS FOR A PROTRACTED WET PERIOD ACROSS THE NWRN US WITH SYSTEM APPROACH/PASSAGE AND AN EMERGING DOWNSTREAM WET PATTERN FROM THE E-CENTRAL TO ERN US. WHILE FLOW EVOLUTION DOES OFFER SOME POTENTIAL FOR SOME STREAM PHASING AND COASTAL LOWS FARTHER EAST...THE TIMING OF EMBEDDED SHORTWAVES IS TOO UNCERTAIN TO DETERMINISTICALLY DEPICT FEATURES WITH MUCH UMPH.

SCHICHTEL

#### **4.4 Updates, Amendments, and Corrections**

This product is not updated or amended. WPC will correct for format and grammatical errors as required.

### **5 Caribbean Discussion (product category PMDCA)**

#### **5.1 Mission Connection**

The WPC International Desks issue the Caribbean Discussion as guidance to Central American and Caribbean Basin users. It includes a 3-day forecast and model comparison.

#### **5.2 Issuance Guidelines**

##### **5.2.1 Creation Software**

WPC uses commercial text editor software.

##### **5.2.2 Issuance Criteria**

This is a routine, schedule-driven product.

##### **5.2.3 Issuance Time**

1830 UTC, non-holiday, Monday through Friday only.

##### **5.2.4 Valid Time**

0000 UTC Day 1 through 0000 UTC Day 3.

##### **5.2.5 Product Expiration Time**

Product expires with next product issuance.

#### **5.3 Technical Description**

The Caribbean Discussion should follow the format and content described in this section.

### 5.3.1 MND Broadcast Line

Not applicable.

### 5.3.2 MND Header

The MND header is TROPICAL DISCUSSION - INTERNATIONAL DESKS.

### 5.3.3 Content

This text bulletin gives a synopsis and forecast for Mexico, the Caribbean and South America north of the Equator for Days 1 to 3.

### 5.3.4 Format

TROPICAL DISCUSSION - INTERNATIONAL DESKS  
NWS WEATHER PREDICTION CENTER COLLEGE PARK MD  
209 PM EST TUE DEC 02 2014

DISCUSSION FROM DECEMBER 02/00UTC: BROAD MID/UPPER LEVEL RIDGE CONTINUES TO DOMINATE FLOW ACROSS WESTERN PORTIONS OF THE DOMAIN. AT 250 HPA THE RIDGE IS TO CENTER ON A CLOSED HIGH NEAR 15N 110W...WHILE AT 500 HPA THE HIGH CENTERS FARTHER TO THE NORTH OVER THE COLIMA/NAYARIT IN SOUTHWEST MEXICO. THIS SUSTAINS A SUBSIDENCE PATTERN ACROSS MEXICO THAT IS CAPPING DEEP CONVECTION. AT LOW LEVELS...A RIDGE EXTENDS FROM THE WESTERN ATLANTIC TO THE NORTHERN GULF OF MEXICO. THE LOW LEVEL RIDGE SUSTAINS A NORTHEASTERLY FLOW ACROSS THE GULF INTO THE CENTRAL-SOUTHERN STATES. THIS IS ENHANCING MOISTURE TRANSPORT/CONVERGENCE...WITH MOISTURE CONVERGING ACROSS SOUTHERN VERACRUZ-CHIAPAS. IN THIS AREA EXPECTING RAINFALL AMOUNTS OF 00-05MM/DAY AND MAXIMA OF 10MM THROUGH THURSDAY MORNING...AND TRACE AMOUNTS THEREAFTER.

A TROUGH LIES TO THE EAST OF THE UPPER LEVEL RIDGE...WITH AXIS SOUTH-SOUTHWEST ACROSS THE EASTERN USA-THE YUCATAN TO THE EASTERN TROPICAL PACIFIC. THROUGH THIS EVENING THE BASE OF THE TROUGH REACHES THE GALAPAGOS ISLANDS. MID/UPPER LEVEL TROUGH THEN PUSHES EAST ACROSS THE BAHAMAS-CUBA...WHILE TRAILING ACROSS THE WESTERN CARIBBEAN/CENTRAL AMERICA. AXIS IS TO THEN SPLIT...WITH THE NORTHERN SEGMENT TO MEANDER EAST ACROSS HISPANIOLA TO PUERTO RICO LATER ON THURSDAY/EARLY ON FRIDAY...WHILE THE SOUTHERNMOST EVOLVES INTO A CLOSED LOW OVER CENTRAL AMERICA. AS IT CUTS OFF FROM THE FLOW...THIS SEGMENT IS THEN FORECAST TO GRADUALLY WEAKEN/FILL. AT LOW LEVELS...THE DEEPENING MID LEVEL TROUGH IS FORECAST TO FAVORABLY INTERACT WITH THE PANAMANIAN LOW TO THE SOUTH. THROUGH WEDNESDAY MORNING THIS IS TO SUSTAIN THE NORTHWARD AMPLIFICATION OF AN INDUCED/INVERTED TROUGH ACROSS PANAMA TO THE CENTRAL CARIBBEAN. LATER ON THURSDAY THE PANAMANIAN LOW IS TO LIFT ACROSS THE ISTHMUS TO THE SOUTHERN CARIBBEAN. AS THE TROUGHDEEPENS...STRONG EASTERLY TRADES ACROSS THE BASIN ARE TO GRADUALLY WANE. THIS...IN-TURN...WILL ALLOW FOR DEEP MOISTURE TO POOL ACROSS THE CENTRAL CARIBBEAN...WITH PWAT IN THE AREA TO PEAK AT 50-55MM.

EARLY IN THE CYCLE THE DEEP MID/UPPER LEVEL TROUGH IS TO ENHANCE CONVECTIVE DEVELOPMENT ACROSS NORTHERN HONDURAS/ISLAS DE LA BAHIA AND BELIZE...TO SUSTAIN RAINFALL AMOUNTS OF 15-20MM/DAY AND MAXIMA OF 35-70MM. THROUGH WEDNESDAY THIS DECREASES TO 10-15MM/DAY AND MAXIMA OF 20-35MM. OVER THE NORTHWEST BAHAMAS-WESTERN CUBA THIS IS TO FAVOR RAINFALL AMOUNTS OF 00-05MM/DAY AND MAXIMA OF 10MM THROUGH WEDNESDAY MORNING. LATER IN THE DAY...MOST ACTIVE IS TO CLUSTER ACROSS THE SOUTHEAST BAHAMAS-TURKS AND



EASTERN CUBA...WITH RAINFALL AMOUNTS OF 05-10MM/DAY AND MAXIMA OF 15-20MM. THIS THEN SPREADS ACROSS NORTHERN HAITI/DOMINICAN REPUBLIC...WITH MAXIMA TO PEAK AT 15-20MM. AS THE PANAMANIAN LOW DEEPENS...THE MOST ACTIVE CONVECTION IS EXPECTED TO THE SOUTH...OVER SOUTHERN NICARAGUA/COSTA RICA. IN THIS AREA EXPECTING RAINFALL AMOUNTS OF 15-30MM/DAY AND MAXIMA OF 40-80MM...WITH THE MOST INTENSE ON TUESDAY TO WEDNESDAY. THIS DECREASES TO 15-20MM/DAY AND MAXIMA OF 25-50MM ON WEDNESDAY TO FRIDAY MORNING. ACROSS CENTRAL-EASTERN PANAMA EXPECTING RAINFALL AMOUNTS OF 05-10MM/DAY AND MAXIMA OF 15-20MM. THIS INCREASES TO 10-15MM/DAY AND MAXIMA OF 15-20MM LATER ON THURSDAY-FRIDAY MORNING. ON THE WESTERN PLAINS OF COLOMBIA AND THE ANDEAN REGION EXPECTING RAINFALL AMOUNTS OF 10-15MM/DAY AND MAXIMA OF 20-30MM. BUT AS THE PANAMANIAN LOW DEEPENS...THIS IS TO INCREASE TO 10-15MM/DAY AND MAXIMA OF 20-45MM LATER ON WEDNESDAY. LOCALLY HIGHER AMOUNTS ARE HIGHLY LIKELY DUE TO STRONG TOPOGRAPHICAL FORCING.

AMPLIFYING TROUGH TO THE WEST IS TO THEN INDUCE THE NORTHWARD AMPLIFICATION OF A MID/UPPER LEVEL RIDGE ACROSS THE VENEZUELA/EASTERN CARIBBEAN. BUILDING RIDGE IS TO THEN DISPLACE A TROUGH NORTH OF THE ISLANDS TO THE EAST OF 60W LATER THIS EVENING...AND ACROSS 50W LATER ON WEDNESDAY. STRONG SUBSIDENCE IS TO THEN ENVELOP THE EASTERN CARIBBEAN ISLES-NORTHERN VENEZUELA. OVER THE NORTHEAST CARIBBEAN ISLES THIS PATTERN IS TO HOLD THROUGH THURSDAY MORNING...WHILE OVER THE GUIANAS-WINDWARD/FRENCH ISLES THIS IS TO PERSIST THROUGH THE END OF THE WEEK. AS THE RIDGE BUILDS...EXPECTING NEGATIVE INTERACTION WITH THE ATLANTIC ITCZ. EARLY IN THE CYCLE THE CONVERGENCE ZONE IS TO MEANDER ACROSS TRINIDAD/TOBAGO TO NORTHEAST VENEZUELA. THIS IS TO MEANDER SOUTH TO THE NORTHERN THE GUIANAS AS THE CYCLE PROGRESSES. ACROSS TRINIDAD AND THE GRENADINES THIS IS TO FAVOR RAINFALL AMOUNTS OF 05-10MM/DAY AND MAXIMA OF 15-20MM THROUGH WEDNESDAY MORNING...DECREASING TO 00-05MM/DAY AND MAXIMA OF 10MM ON WEDNESDAY TO FRIDAY MORNING. SIMILAR AMOUNTS ARE EXPECTED ACROSS NORTHEAST VENEZUELA-NORTHERN GUYANA.

TROPICAL/EASTERLY WAVES INITIALIZED AT 12UTC  
 INITIAL 24 36 48 60 72 84 96 TYPE

NONE.

JN BAPTISTE...MS (SAINT LUCIA)  
 NANDA...MDS (SURINAME)  
 DAVISON...WPC (USA)

#### 5.4 Updates, Amendments, and Corrections

This product is not updated or amended. WPC will correct for format and grammatical errors as required.

### 6 Hawaii Discussion (product category PMDHI)

#### 6.1 Mission Connection

The Hawaii Discussion focuses on Days 1-7 model differences, and highlights the reasoning used by the WPC forecaster in terms of model preferences for particular weather situations. This product supports public and private sector having a particular focus on Hawaii.

## **6.2 Issuance Guidelines**

### **6.2.1 Creation Software**

WPC uses commercial text editor software.

### **6.2.2 Issuance Criteria**

This is a routine, schedule-driven product.

### **6.2.3 Issuance Time**

1200 UTC.

### **6.2.4 Valid Time**

0000 UTC Day 1 to 0000 UTC Day 8.

### **6.2.5 Product Expiration Time**

Product expires after the next product issuance.

## **6.3 Technical Description**

The Hawaii Discussion should follow the format and content described in this section.

### **6.3.1 MND Broadcast Line**

Not applicable.

### **6.3.2 MND Header**

The MND header is HAWAII EXTENDED FORECAST DISCUSSION.

### **6.3.3 Content**

This is a text product that describes the meteorological reasoning for the location of significant weather and precipitation features in the vicinity of the Hawaiian Islands for the 7 day period.

### **6.3.4 Format**

```
Hawaii Extended Forecast Discussion  
NWS Weather Prediction Center College Park MD  
646 AM EST Tue Dec 02 2014
```

```
Valid 00Z Wed Dec 03 2014 - 00Z Wed Dec 10 2014
```

The global numerical guidance is indicating that a trough will reload throughout the next week well to the east of Hawai'i, keeping a dry, generally northeast flow across the state. Deep-layer tropical moisture should be shunted off well south and west of the islands. Very little precipitation is expected, with many areas seeing no rain whatsoever. Even the normally wet terrain of the Big Island may not net more than an inch or so.

Cisco

#### **6.4 Updates, Amendments, and Corrections**

No updates are issued for this product. WPC will correct for format and grammatical errors as required.

### **7 South America Synopsis (product category PMDSA)**

#### **7.1 Mission Connection**

The WPC International Desks issue the South America Synopsis as guidance to regional users, the U.S. Department of Agriculture, and the Department of Defense.

#### **7.2 Issuance Guidelines**

##### **7.2.1 Creation Software**

WPC uses commercial text editor software.

##### **7.2.2 Issuance Criteria**

This is a routine, schedule-driven product.

##### **7.2.3 Issuance Time**

1400 UTC, non-holiday, Monday through Friday only.

##### **7.2.4 Valid Time**

0000 UTC Day 1.

##### **7.2.5 Product Expiration Time**

Product expires with next product issuance.

#### **7.3 Technical Description**

The South America Synopsis should follow the format and content described in this section.

##### **7.3.1 MND Broadcast Line**

Not applicable.

### 7.3.2 MND Header

The MND header is SOUTH AMERICA SYNOPTIC DISCUSSION -INTERNATIONAL DESKS.

### 7.3.3 Content

This text bulletin gives a synopsis for South America south of the Equator.

### 7.3.4 Format

SOUTH AMERICA SYNOPTIC DISCUSSION - INTERNATIONAL DESKS  
 NWS WEATHER PREDICTION CENTER COLLEGE PARK MD  
 842 AM EST TUE DEC 02 2014

GFS DATA AT FTPPRD.NCEP.NOAA.GOV/PUB/DATA/NCCF/COM/GFS/PROD/

SYNOPSIS (VALID FROM DECEMBER 02 AT 00UTC): AT 200 HPA...THE SUBTROPICAL HIGH NOW CENTERS SOUTH OF ITS CLIMATOLOGICAL POSITION OVER MATO GROSSO DO SUL IN BRASIL. THIS EXTENDS A RIDGE TO THE NORTHWEST ACROSS BOLIVIA AND TO THE SOUTHEAST ACROSS PARANA/SANTA CATARINA IN SOUTHERN BRASIL. A TROUGH TO THE EAST DOMINATES NORTHEAST AND NORTHERN STATES OF BRASIL. MOST ACTIVE CONVECTION IS BUILDING IN ASSOCIATION WITH THE RIDGE...CLUSTERING ACROSS RONDONIA-MATO GROSSO/MATO GROSSO DO SUL...WITH OTHER CONVECTION ACROSS MINAS GERAIS-ESPIRITO SANTO IN ASSOCIATION WITH THE UPPER TROUGH.

AT 250 HPA...THE JET ANALYSIS SHOWS THE SOUTHERN POLAR WITH ENTRANCE AT 59S 75W...THEN ALONG 55S 52W...51S 31W...53S 17W...AND 54S 05W. THE NORTHERN POLAR HAS ITS ENTRANCE AT 40S 95W...THEN ALONG 48S 91W...A 148KT MAXIMUM AT 54S 80W...A 170KT MAXIMUM AT 54S 62W...49S 45W...46S 77W...47S 19W...AND 45S 07W. THE SUBTROPICAL JET HAS ITS ENTRANCE AT 26S 75W...THEN ALONG 29S 68W...37S 56W...41S 46W...A 143KT MAXIMUM AT 42S 34W...42S 18W...EXITING AT 37S 06W.

AT 500 HPA...THE MID LEVEL ANALYSIS SHOWS A PROGRESSIVE SHORT WAVE TROUGH ON THE SOUTHERN STREAM MOVING ALONG 85W AND TO THE SOUTH OF 50S. ANOTHER IS PULLING ACROSS THE DRAKE PASSAGE/ANTARCTIC PENINSULA. OTHER PERTURBATIONS POPULATE THE NORTHERN STREAM FLOW...WITH ONE ALONG 95W TO 30S. THIS IS PRESSING AGAINST A RIDGE TO THE EAST...AS THE LATTER EXTENDS FROM 28S 85W TO NORTHERN PATAGONIA IN ARGENTINA. FARTHER EAST...A LOW NEAR 34S 66W ANCHORS A SHORT WAVE TROUGH OVER CENTRAL ARGENTINA...WITH AXIS TRAILING TO THE NORTHWEST ACROSS LA SERENA CHILE TO THE EASTERN PACIFIC.

AT LOW LEVELS...THE SUFACE ANALYSIS SHOWS AN ELONGATED FRONT ON THE SOUTHERN STREAM THAT LIES ALONG A 978 HPA LOW AT 58S 53W...50S 58W...49S 70W...A 996 HPA LOW AT 53S 79W...49S 83W...A 1006 HPA LOW AT 43S 91W...AND 35S 94W. THIS SUSTAINS LIGHT RAINFALL ACROSS EXTREME SOUTHERN PORTIONS OF CHILE. A RIDGE TO THE NORTH CENTERS ON A 1025 HPA HIGH AT 36S 83W. FARTHER EAST...AN ELONGATED FRONT ON THE NORTHERN STREAM LIES ALONG A 1006 HPA LOW AT 44S 31W...39S 37W...A 1016 HPA LOW AT 37S 45W...31S 48W...RIO GRANDE DO SUL...A 1010 HPA LOW OVER CORRIENTES ARGENTINA...EASTERN PARAGUAY-SOUTHEAST BOLIVIA TO NORTHWEST. THIS SUSTAINS SCATTERED DEEP CONVECTION. A RIDGE TO SOUTH CENTERS ON 1017 HPA HIGHS...WITH ONE AT 39S 56W AND THE OTHER AT 34S 63W.

ARREAGA...INAMHI (ECUADOR)

DURAN...SENAMHI (PERU)  
 DAVISON...WPC (USA)

**7.4 Updates, Amendments, and Corrections**

This product is not updated or amended. WPC will correct for format and grammatical errors as required.

**8 Surface Fronts and Pressure Analysis (product categories 90F, 90I)**

**8.1 Mission Connection**

WPC issues the Surface Fronts and Pressure Analysis as guidance to CONUS and Alaskan NWS field offices and the general meteorological community (private sector and the media) including the aviation community. The products support the NWS public and aviation weather programs.

**8.2 Issuance Guidelines**

**8.2.1 Creation Software**

WPC uses National Centers-Advanced Weather Interactive Processing System (N-AWIPS) software to generate these products.

**8.2.2 Issuance Criteria**

These are routine, schedule-driven products.

**8.2.3 Issuance Time and Valid Time**

Refer to Table 1.

**Table 1:** Surface Fronts and Pressure Chart Issuance and Valid Times

| <i>WPC Surface Fronts and Pressure Analysis Product Schedule</i> |                            |                  |                            |                                                                          |
|------------------------------------------------------------------|----------------------------|------------------|----------------------------|--------------------------------------------------------------------------|
| <i>Valid Time (UTC)</i>                                          | <i>Issuance Time (UTC)</i> | <i>AWIPS ID</i>  | <i>WMO Header</i>          | <i>Product Description</i>                                               |
| 0000                                                             | 0130                       | RBG90F<br>RBG90I | PYAA98 KWNO<br>PPAA89 KWNO | Surface Front & Pressure Analysis (N. America, CONUS, AK, Regional U.S.) |
| 0300                                                             | 0430                       | RBG90F<br>RBG90I | PYAA98 KWNO<br>PPAA89 KWNO | Surface Front & Pressure Analysis (N. America, CONUS, AK, Regional U.S.) |
| 0600                                                             | 0730                       | RBG90F<br>RBG90I | PYAA98 KWNO<br>PPAA89 KWNO | Surface Front & Pressure Analysis (N. America, CONUS, AK, Regional U.S.) |
| 0900                                                             | 1030                       | RBG90F<br>RBG90I | PYAA98 KWNO<br>PPAA89 KWNO | Surface Front & Pressure Analysis (N. America, CONUS, AK, Regional U.S.) |
| 1200                                                             | 1330                       | RBG90F<br>RBG90I | PYAA98 KWNO<br>PPAA89 KWNO | Surface Front & Pressure Analysis (N. America, CONUS, AK, Regional U.S.) |
| 1500                                                             | 1630                       | RBG90F<br>RBG90I | PYAA98 KWNO<br>PPAA89 KWNO | Surface Front & Pressure Analysis (N. America, CONUS, AK, Regional U.S.) |
| 1800                                                             | 1930                       | RBG90F<br>RBG90I | PYAA98 KWNO<br>PPAA89 KWNO | Surface Front & Pressure Analysis (N. America, CONUS, AK, Regional U.S.) |
| 2100                                                             | 2230                       | RBG90F<br>RBG90I | PYAA98 KWNO<br>PPAA89 KWNO | Surface Front & Pressure Analysis (N. America, CONUS, AK, Regional U.S.) |

**8.2.4 Product Expiration Time**

Not applicable.

**8.3 Technical Description**

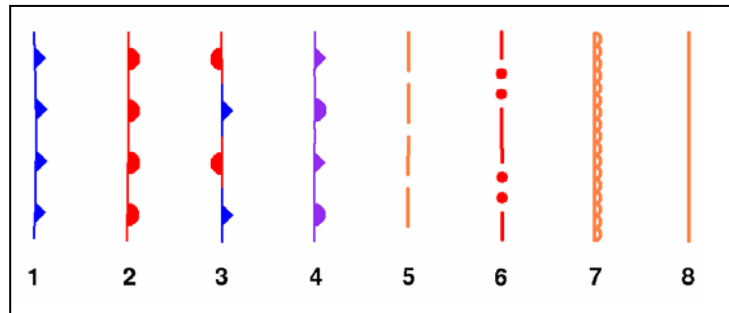
Charts should follow the format and content described in this section.

**8.3.1 MND Broadcast Line and Header**

Not applicable.

**8.3.2 Content**

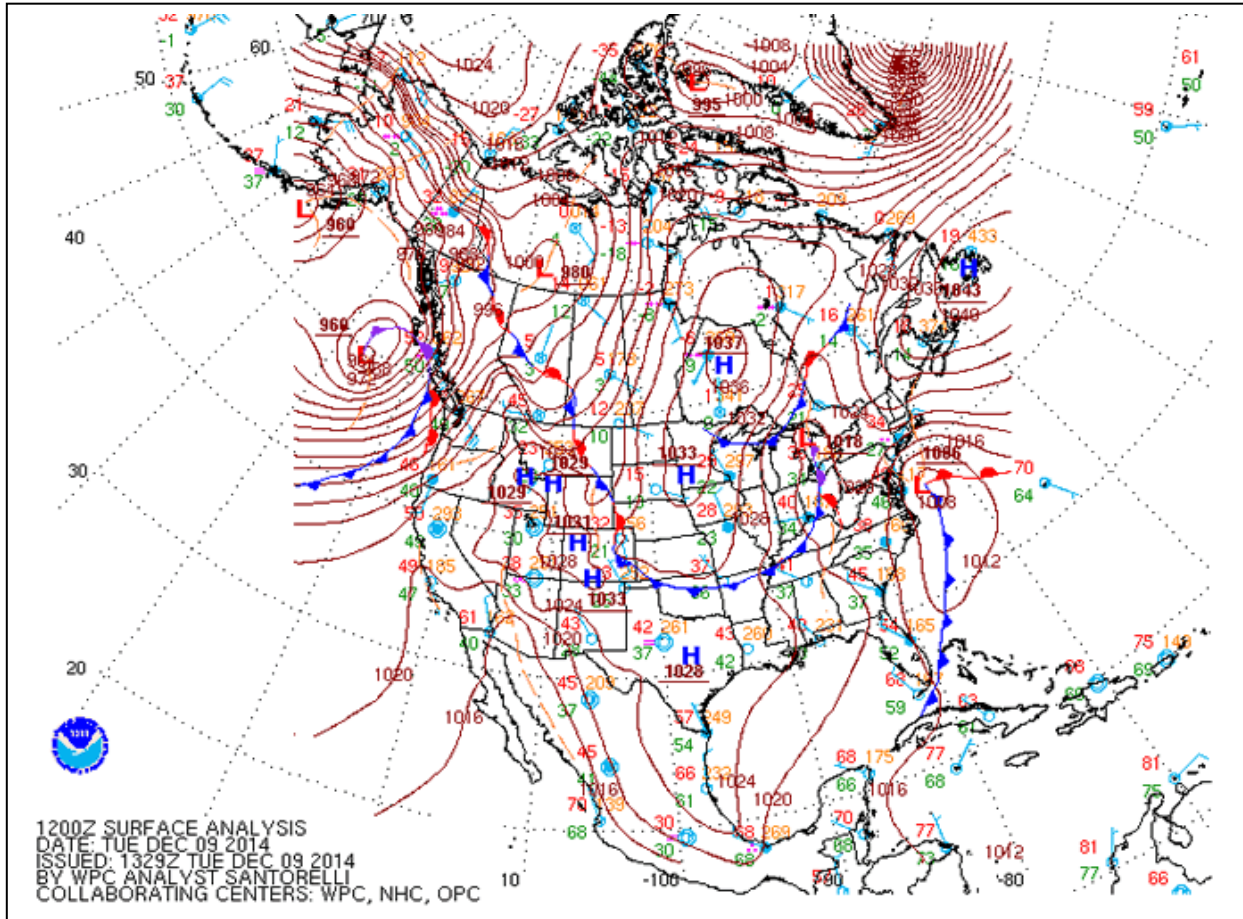
This product depicts the analysis of synoptic and sub-synoptic / mesoscale surface features including highs, lows, fronts, troughs, outflow boundaries, squall lines, and dry lines. The analysis domain covers most of North America, the Western Atlantic and Eastern Pacific oceans, and the Gulf of Mexico.



**Figure 1:** Color Codes for Features

**Key to Features**

1 - Cold Front; 2 - Warm Front; 3 - Stationary Front; 4 - Occluded Front; 5 -Trough (“TROF”) Also used to Depict Outflow Boundary (“OUTFLOW BNDRY”); 6 – Squall Line; 7 – Dry Line; 8 – Tropical Wave (“TRPCL WAVE”)



**Figure 2:** Surface Fronts and Pressure Analysis

**8.3.3 Format**

**8.4 Updates, Amendments, and Corrections**

Products are not updated or amended. Corrections are issued as necessary.

**9 Coded Surface Frontal Positions (product category CODSUS)**

**9.1 Mission Connection**

WPC issues the coded Surface Frontal positions to NWS field offices and to the general meteorological community (private sector and the media) including the aviation community. The products support the NWS public and aviation weather programs.

**9.2 Issuance Guidelines**

**9.2.1 Creation Software**

WPC uses N-AWIPS software to generate these products.

**9.2.2 Issuance Criteria**

These are routine, schedule-driven products.

**9.2.3 Issuance Time and Valid Time**

Refer to Tables 2 and 3.

**Table 2:** Coded Surface Frontal Position Product Schedule for Low Resolution Product

| <i>WPC Coded Surface Frontal Position Product Schedule</i> |                         |                 |                     |                                       |
|------------------------------------------------------------|-------------------------|-----------------|---------------------|---------------------------------------|
| <i>Issuance Time (UTC)</i>                                 | <i>Valid Time (UTC)</i> | <i>AWIPS ID</i> | <i>(WMO Header)</i> | <i>Product Description</i>            |
| 0130                                                       | 0000                    | CODSUS          | ASUS01 KWBC         | Coded description of frontal analysis |
| 0430                                                       | 0300                    | CODSUS          | ASUS01 KWBC         | Coded description of frontal analysis |
| 0730                                                       | 0600                    | CODSUS          | ASUS01 KWBC         | Coded description of frontal analysis |
| 1030                                                       | 0900                    | CODSUS          | ASUS01 KWBC         | Coded description of frontal analysis |
| 1330                                                       | 1200                    | CODSUS          | ASUS01 KWBC         | Coded description of frontal analysis |
| 1630                                                       | 1500                    | CODSUS          | ASUS01 KWBC         | Coded description of frontal analysis |

**Table 3:** Coded Surface Frontal Position Product Schedule for High Resolution Product

| <i>WPC Coded Surface Frontal Position Product Schedule</i> |                         |                 |                     |                                       |
|------------------------------------------------------------|-------------------------|-----------------|---------------------|---------------------------------------|
| <i>Issuance Time (UTC)</i>                                 | <i>Valid Time (UTC)</i> | <i>AWIPS ID</i> | <i>(WMO Header)</i> | <i>Product Description</i>            |
| 0130                                                       | 0000                    | CODSUS          | ASUS02 KWBC         | Coded description of frontal analysis |
| 0430                                                       | 0300                    | CODSUS          | ASUS02 KWBC         | Coded description of frontal analysis |
| 0730                                                       | 0600                    | CODSUS          | ASUS02 KWBC         | Coded description of frontal analysis |
| 1030                                                       | 0900                    | CODSUS          | ASUS02 KWBC         | Coded description of frontal analysis |
| 1330                                                       | 1200                    | CODSUS          | ASUS02 KWBC         | Coded description of frontal analysis |
| 1630                                                       | 1500                    | CODSUS          | ASUS02 KWBC         | Coded description of frontal analysis |
| 1930                                                       | 1800                    | CODSUS          | ASUS02 KWBC         | Coded description of frontal analysis |
| 2230                                                       | 2100                    | CODSUS          | ASUS02 KWBC         | Coded description of frontal analysis |
| 1930                                                       | 1800                    | CODSUS          | ASUS01 KWBC         | Coded description of frontal analysis |
| 2230                                                       | 2100                    | CODSUS          | ASUS01 KWBC         | Coded description of frontal analysis |

**9.2.4 Product Expiration Time**

Not applicable.

**9.3 Technical Description**

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

**9.3.1 MND Broadcast Line**

Not applicable.

**9.3.2 MND Header**

The MND header is CODED SURFACE FRONTAL POSITIONS.



### 9.3.3 Content

These are text bulletins that give the latitude and longitude positions (to the nearest degree) of vertices along the analyzed frontal positions or significant weather features along with the positions of high and low pressure centers.

Here is specific information on how to decode / interpret the bulletin:

44109 = 44°N Latitude, 109°W Longitude

HIGHS = High Pressure Centers

LOWS = Low Pressure Centers

COLD = Cold Front

WK = Weak

WARM = Warm Front

STNRY = Stationary Front

TROF = Weak Surface Boundary

OCFNT = Occluded Front

### 9.3.4 Format

Note: Valid time is decoded MMDDHH.

CODED SURFACE FRONTAL POSITIONS  
 NWS WEATHER PREDICTION CENTER COLLEGE PARK MD  
 225 PM EST TUE DEC 02 2014

VALID 120218Z  
 HIGHS 1028 3397 1044 4867 1032 49120 1021 41115 1026 37106 1022 61126 1019  
 48105 1000 7446 1023 50136  
 LOWS 1023 3885 1017 36103 1008 43108 998 60151 1004 73159 1015 35114 1015  
 4297 998 6584 982 7775 975 6635 990 6651 986 7995  
 COLD WK 2397 2297 2298 2298 2299 23100 24100  
 COLD WK 41132 40128 37125 34122 32123 30123 27125 25125  
 STNRY WK 3763 3765 3766 3668 3670 3475 3378 3379 3379 3380 3481 3581 3582  
 3583 3683  
 WARM WK 3885 3884 3784 3684 3684 3583  
 WARM WK 36103 35104 34105 33106 33106 32106 31105 31104  
 STNRY WK 36103 36103 37102 38102 39101 40100 41100 4199 4299  
 WARM WK 43108 43107 43107  
 COLD WK 4299 4299 41101 41104 42106 43107  
 COLD WK 43108 43109 44109 45110  
 OCFNT WK 59172 60169 60167 61162 61158 60153 60151  
 TROF 62163 64157 65148 65140  
 TROF 64164 67164 68166  
 OCFNT WK 73159 73164 73167 73170  
 TROF 73159 74151 72143  
 COLD WK 60150 60148 59145 57143 55142 54142 52143 50145 48147  
 STNRY WK 51128 52129 54130 56132 57135 59138 60143 60147 60151  
 TROF 35114 33113 32112  
 TROF 35114 36115 38115  
 OCFNT WK 4297 4298 4299  
 TROF 4297 4397 4597 4696 4895 5095  
 COLD WK 6386 6289 6291 6097 60103 60109 60114 61118  
 OCFNT WK 6584 6485 6387

TROF 6584 6880 6973  
TROF 5392 5688 5986 6186  
TROF 4087 3986 3885  
TROF 3884 3983 3981 4081  
TROF 4280 4379 4378 4476  
TROF 56121 55116 54110 55105 57103 59101  
STNRY WK 3885 3885 3785 3685 3486 3486 3388 3289 3190 3091  
2992 2993 2893 2795 2696 2596 2397  
STNRY WK 24100 25101 26102 27103 28103 29103 29103 30104 30104 31104  
STNRY WK 45110 45111 44111 44112 43113 43115 43116 42117 42119 42121  
42122 42123 42125 42126  
COLD WK 6028 5831 5733 5637 5440 5342 5144 4946 4847  
TROF 7773 7866 7960 7954  
TROF 7994 7888 7783 7776  
TROF 6536 6239 5942  
TROF 6551 6350 6151 6053  
TROF 37129 35127 32127 30128  
OCFNT WK 39137 40136 41135 41133 41132  
WARM WK 41132 42129 42126  
TROF 7996 79104 79110  
OCFNT WK 6635 6733 6830

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#### **9.4 Updates, Amendments, and Corrections**

This product is not updated or amended. Corrections are issued as necessary.

### **10 South America Forecast Discussion (product category PMDSA)**

#### **10.1 Mission Connection**

WPC International Desks issue an overview discussion of numerical model guidance for South America to regional users.

#### **10.2 Issuance Guidelines**

##### **10.2.1 Creation Software**

WPC uses commercial text editor software.

##### **10.2.2 Issuance Criteria**

This is a routine, schedule-driven product.

##### **10.2.3 Issuance Time**

1630 UTC, non-holiday, Monday through Friday only.

##### **10.2.4 Valid Time**

0000 UTC Day 1 through 0000 UTC Day 5.

##### **10.2.5 Product Expiration Time**

Product expires with next product issuance.

### 10.3 Technical Description

The South America Forecast Discussion should follow the format and content described in this section.

#### 10.3.1 MND Broadcast Line

Not applicable.

#### 10.3.2 MND Header

The MND header is SOUTH AMERICA FORECAST DISCUSSION -INTERNATIONAL DESKS.

#### 10.3.3 Content

This text bulletin provides an overview of the model forecasts and associated weather for South America for Days 1 through 5. The WPC International Desks prepare a set of graphics each day. Follow this link, <http://www.wpc.ncep.noaa.gov/international/intl2.shtml>, and look for the box labeled "Charts".

#### 10.3.4 Format

SOUTH AMERICA SYNOPTIC DISCUSSION - INTERNATIONAL DESKS  
 NWS WEATHER PREDICTION CENTER COLLEGE PARK MD  
 842 AM EST TUE DEC 02 2014

GFS DATA AT FTPPRD.NCEP.NOAA.GOV/PUB/DATA/NCCF/COM/GFS/PROD/.

SYNOPSIS (VALID FROM DECEMBER 02 AT 00UTC): AT 200 HPA...THE SUBTROPICAL HIGH NOW CENTERS SOUTH OF ITS CLIMATOLOGICAL POSITION OVER MATO GROSSO DO SUL IN BRASIL. THIS EXTENDS A RIDGE TO THE NORTHWEST ACROSS BOLIVIA AND TO THE SOUTHEAST ACROSS PARANA/SANTA CATARINA IN SOUTHERN BRASIL. A TROUGH TO THE EAST DOMINATES NORTHEAST AND NORTHERN STATES OF BRASIL. MOST ACTIVE CONVECTION IS BUILDING IN ASSOCIATION WITH THE RIDGE...CLUSTERING ACROSS RONDONIA-MATO GROSSO/MATO GROSSO DO SUL...WITH OTHER CONVECTION ACROSS MINAS GERAIS-ESPIRITO SANTO IN ASSOCIATION WITH THE UPPER TROUGH.

AT 250 HPA...THE JET ANALYSIS SHOWS THE SOUTHERN POLAR WITH ENTRANCE AT 59S 75W...THEN ALONG 55S 52W...51S 31W...53S 17W...AND 54S 05W. THE NORTHERN POLAR HAS ITS ENTRANCE AT 40S 95W...THEN ALONG 48S 91W...A 148KT MAXIMUM AT 54S 80W...A 170KT MAXIMUM AT 54S 62W...49S 45W...46S 77W...47S 19W...AND 45S 07W. THE SUBTROPICAL JET HAS ITS ENTRANCE AT 26S 75W...THEN ALONG 29S 68W...37S 56W...41S 46W...A 143KT MAXIMUM AT 42S 34W...42S 18W...EXITING AT 37S 06W.

AT 500 HPA...THE MID LEVEL ANALYSIS SHOWS A PROGRESSIVE SHORT WAVE TROUGH ON THE SOUTHERN STREAM MOVING ALONG 85W AND TO THE SOUTH OF 50S. ANOTHER IS PULLING ACROSS THE DRAKE PASSAGE/ANTARCTIC PENINSULA. OTHER PERTURBATIONS POPULATE THE NORTHERN STREAM FLOW...WITH ONE ALONG 95W TO 30S. THIS IS PRESSING AGAINST A RIDGE TO THE EAST...AS THE LATTER EXTENDS FROM 28S 85W TO NORTHERN PATAGONIA IN ARGENTINA. FARTHER EAST...A LOW NEAR 34S 66W ANCHORS A SHORT WAVE TROUGH OVER CENTRAL ARGENTINA...WITH AXIS TRAILING TO THE NORTHWEST ACROSS LA SERENA CHILE TO THE EASTERN PACIFIC.

AT LOW LEVELS...THE SUFACE ANALYSIS SHOWS AN ELONGATED FRONT ON THE SOUTHERN STREAM THAT LIES ALONG A 978 HPA LOW AT 58S 53W...50S 58W...49S 70W...A 996

HPA LOW AT 53S 79W...49S 83W...A 1006 HPA LOW AT 43S 91W...AND 35S 94W. THIS SUSTAINS LIGHT RAINFALL ACROSS EXTREME SOUTHERN PORTIONS OF CHILE. A RIDGE TO THE NORTH CENTERS ON A 1025 HPA HIGH AT 36S 83W. FARTHER EAST...AN ELONGATED FRONT ON THE NORTHERN STREAM LIES ALONG A 1006 HPA LOW AT 44S 31W...39S 37W...A 1016 HPA LOW AT 37S 45W...31S 48W...RIO GRANDE DO SUL...A 1010 HPA LOW OVER CORRIENTES ARGENTINA...EASTERN PARAGUAY-SOUTHEAST BOLIVIA TO NORTHWEST. THIS SUSTAINS SCATTERED DEEP CONVECTION. A RIDGE TO SOUTH CENTERS ON 1017 HPA HIGHS...WITH ONE AT 39S 56W AND THE OTHER AT 34S 63W.

ARREAGA...INAMHI (ECUADOR)  
DURAN...SENAMHI (PERU)  
DAVISON...WPC (USA)

#### **10.4 Updates, Amendments, and Corrections**

No updates or amendments are issued for this product. WPC will correct for format and grammatical errors as required.

### **11 Today's National Forecast Chart (no product ID or Header).**

#### **11.1 Mission Connection**

WPC compiles three significant weather charts that highlight the critical weather expected over the next three days for the CONUS. These products support the NWS public weather program. A Spanish version is also issued for Day 1.

#### **11.2 Issuance Guidelines**

##### **11.2.1 Creation Software**

WPC uses N-AWIPS software to generate these products.

##### **11.2.2 Issuance Criteria**

These are routine, schedule-driven products.

##### **11.2.3 Issuance Time**

Issued twice daily. Initial issuance is no later than 1000 UTC and updated no later than 2200 UTC.

##### **11.2.4 Valid Time**

1200 UTC Day 1 to 1200 UTC Day 2; 1200 UTC Day 2 to 1200 UTC Day 3 and 1200 UTC Day 3 to 1200 UTC Day 4.

##### **11.2.5 Product Expiration Time**

Product expires with the next issuance.

#### **11.3 Technical Description**

Charts should follow the format and content in this section.

##### **11.3.1 MND Broadcast Line**

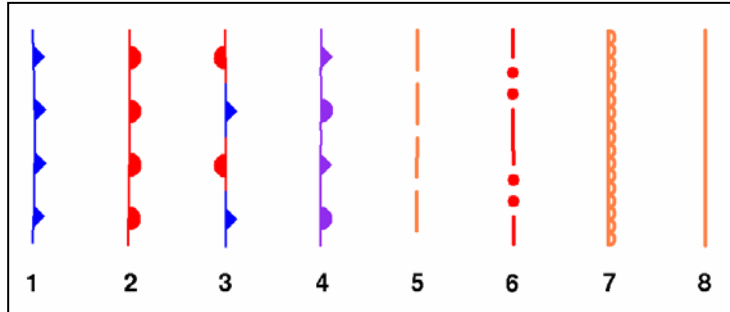
Not applicable.

##### **11.3.2 MND Header**

Not applicable.

**11.3.3 Content**

These are graphical products that depict the instantaneous positions of frontal features (warm, cold, occluded, trough lines, etc.) and high and low pressure centers at the valid time of the product. In addition, significant weather hazards such as flash flooding, severe thunderstorms, heavy snow, etc., are highlighted.



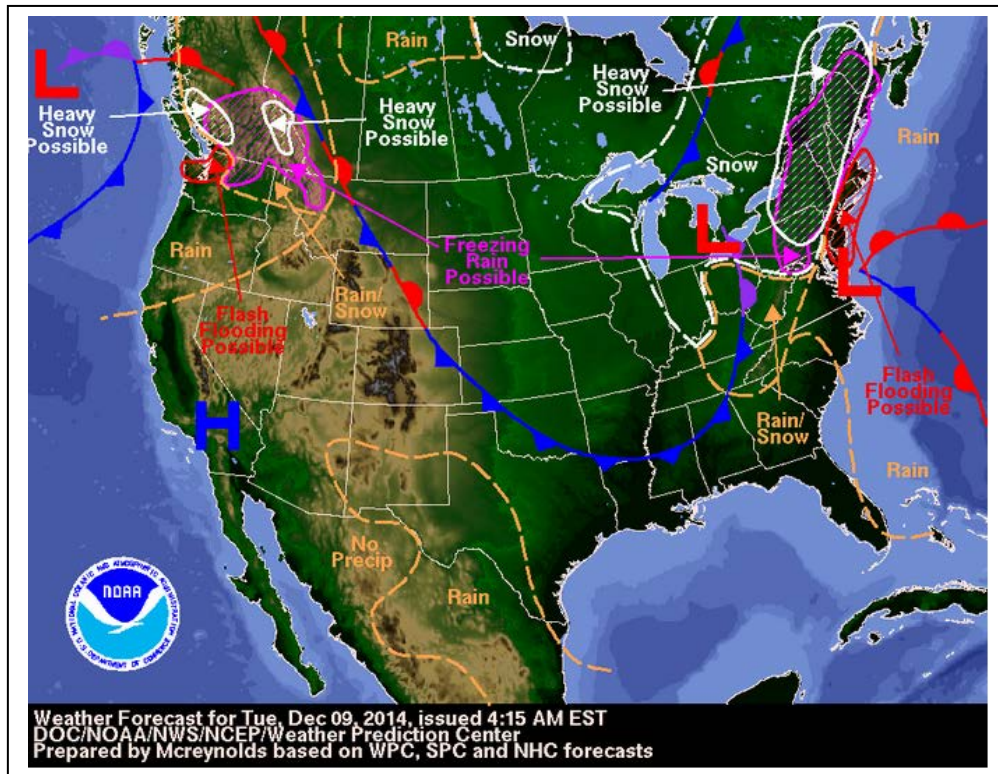
**Figure 3:** Symbols Used on Surface Analysis Charts

**Key to Features:**

1 – Cold Front; 2 – Warm Front; 3 – Stationary Front; 4 – Occluded Front; 5 – Trough (“TROF”) also used to depict Outflow Boundary (“OUTFLOW BNDRY”); 6 – Squall Line; 7 – Dry Line; 8 – Tropical Wave (“TRPCL WAVE”)

### 11.3.4 Format

Product will follow the format as indicated in Figure 4, below.



**Figure 4:** Forecast Fronts / Pressure Centers and Significant Weather

### 11.4 Updates, Amendments, and Corrections

Products are not updated or amended. Corrections are issued as necessary.

## 12 Surface Fronts and Pressure Charts (12-48 hours) (product categories 92F, 94F, 96F, 98F)

### 12.1 Mission Connection

WPC issues the surface fronts and pressure charts as guidance to CONUS NWS field offices and to the general meteorological community (private sector and the media), including the aviation community. These products describe the location and strength of major meteorological features over the next 48 hours. The products support the NWS public and aviation weather programs.

### 12.2 Issuance Guidelines

#### 12.2.1 Creation Software

WPC uses N-AWIPS software to generate these products.

#### 12.2.2 Issuance Criteria

These are routine, schedule-driven products.

**12.2.3 Issuance Time and Valid Time**

Refer to Table 4.

**Table 4:** Surface Fronts and Pressure Chart Issuance and Valid Times

| <i>WPC Short-Range Surface Fronts and Pressure Chart Product Schedule</i> |                                        |                            |                                           |                                                                                              |
|---------------------------------------------------------------------------|----------------------------------------|----------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------|
| <i>Issuance Time (UTC)</i>                                                | <i>Valid Time (UTC)</i>                | <i>AWIPS ID</i>            | <i>(WMO Header)</i>                       | <i>Product Description</i>                                                                   |
| 0200                                                                      | 0600 Day 1<br>1200 Day 1               | RGB91F<br>RBG92F           | PPIA01 KWBC<br>PPIC01 KWBC                | 06-hour fronts and pressures<br>12-hour fronts and pressures                                 |
| 0430                                                                      | 1800 Day 1<br>0000 Day 2<br>0600 Day 2 | RBG93F<br>RBG94F<br>RBG97F | PPID01 KWBC<br>PPIE01 KWBC<br>PPIF01 KWBC | 18-hour fronts and pressures<br>24-hour fronts and pressures<br>30-hour fronts and pressures |
| 0730                                                                      | 1200 Day 2<br>0000 Day 3               | RBG96F<br>RBG98F           | PPIG01 KWBC<br>PPII01 KWBC                | 36-hour fronts and pressures<br>48-hour fronts and pressures                                 |
| 0800                                                                      | 1200 Day 3                             | RBG99F                     | PPIK01 KWBC                               | 60-hour fronts and pressures                                                                 |
| 1400                                                                      | 1800 Day 1<br>0000 Day 2               | RGB91F<br>RBG92F           | PPIA01 KWBC<br>PPIC01 KWBC                | 06-hour fronts and pressures<br>12-hour fronts and pressures                                 |
| 1630                                                                      | 0600 Day 2<br>1200 Day 2<br>1800 Day 2 | RBG93F<br>RBG94F<br>RBG97F | PPID01 KWBC<br>PPIE01 KWBC<br>PPIF01 KWBC | 18-hour fronts and pressures<br>24-hour fronts and pressures<br>30-hour fronts and pressures |
| 1930                                                                      | 0000 Day 3<br>1200 Day 3               | RBG96F<br>RBG98F           | PPIG01 KWBC<br>PPII01 KWBC                | 36-hour fronts and pressures<br>48-hour fronts and pressures                                 |
| 2000                                                                      | 0000 Day 4                             | RBG99F                     | PPIK01 KWBC                               | 60-hour fronts and pressures                                                                 |

**12.2.4 Product Expiration Time**

Not applicable.

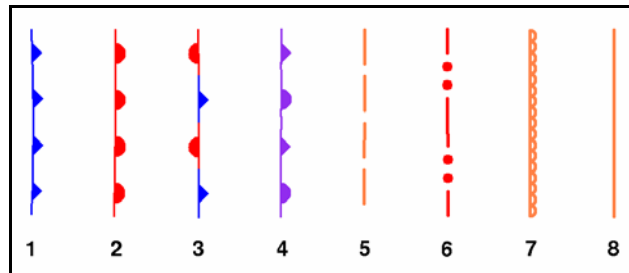
**12.3 Technical Description**

Charts should follow the format and content in this section.

**12.3.1 MND Broadcast Line and Header**

Not applicable.

**12.3.2 Content**



**Figure 5:** Color Codes for Features

These are graphical products that depict the instantaneous positions of frontal features (warm, cold, occluded, trough lines) and high and low pressure centers at the valid time of the product.

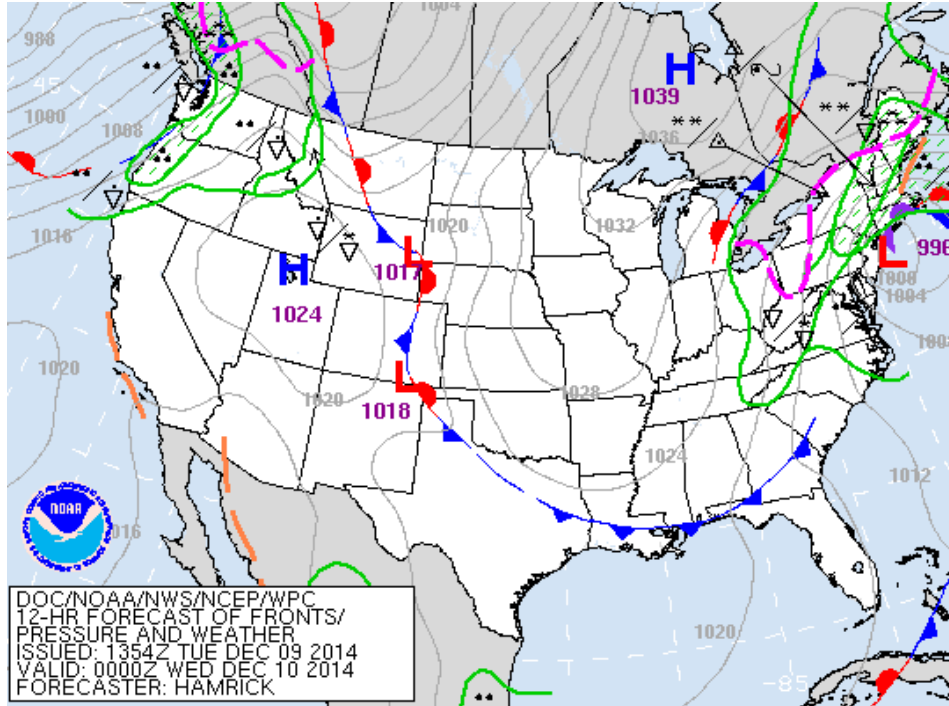
**Key to Features:**

1 – Cold Front; 2 – Warm Front; 3 – Stationary Front; 4 – Occluded Front; 5 – Trough (“TROF”)

also used to depict Outflow Boundary (“OUTFLOW BNDRY”); 6 – Squall Line; 7 – Dry Line; 8 – Tropical Wave (“TRPCL WAVE”)

### 12.3.3 Format

Product will follow the format as indicated in Figure 6.



**Figure 6:** Forecast Fronts / Pressure Centers

### 12.4 Updates, Amendments, and Corrections

Products are not updated or amended. Corrections are made as necessary.



**13 Surface Instantaneous Precipitation Charts (12-48 hours) (product categories L2P, L4P, L6P, L8P)**

**13.1 Mission Connection**

WPC issues the instantaneous precipitation forecast charts as guidance to NWS field offices and to the general meteorological community (private sector and the media) including the aviation community. These products describe the instantaneous location and coverage of precipitation and precipitation type every 12 hours through 48 hours. The products support the NWS public and aviation weather program.

**13.2 Issuance Guidelines**

**13.2.1 Creation Software**

WPC uses N-AWIPS software to generate these products.

**13.2.2 Issuance Criteria**

These are routine, schedule-driven products.

**13.2.3 Issuance Time and Valid Time**

Refer to Table 5.

**Table 5:** Instantaneous Precipitation Chart Issuance and Valid Times

| <i>WPC Short-Range Instantaneous Precipitation Chart Product Schedule</i> |                         |                 |                     |                                     |
|---------------------------------------------------------------------------|-------------------------|-----------------|---------------------|-------------------------------------|
| <i>Issuance Time (UTC)</i>                                                | <i>Valid Time (UTC)</i> | <i>AWIPS ID</i> | <i>(WMO Header)</i> | <i>Product Description</i>          |
| 0200                                                                      | 0600 Day 1              | RBGL1P          | PEIA61 KWBC         | 06-hour instantaneous precipitation |
|                                                                           | 1200 Day 1              | RBGL2P          | PEIC61 KWBC         | 12-hour instantaneous precipitation |
| 0430                                                                      | 1800 Day 1              | RBGL3P          | PEID61 KWBC         | 18-hour instantaneous precipitation |
|                                                                           | 0000 Day 2              | RBGL4P          | PEIE61 KWBC         | 24-hour instantaneous precipitation |
|                                                                           | 0600 Day 2              | RBGL7P          | PEIF61 KWBC         | 30-hour instantaneous precipitation |
| 0730                                                                      | 1200 Day 2              | RBGL6P          | PEIG61 KWBC         | 36-hour instantaneous precipitation |
|                                                                           | 0000 Day 3              | RBGL8P          | PEII61 KWBC         | 48-hour instantaneous precipitation |
| 1400                                                                      | 1800 Day 1              | RBGL1P          | PEIA61 KWBC         | 06-hour instantaneous precipitation |
|                                                                           | 0000 Day 2              | RBGL2P          | PEIC61 KWBC         | 12-hour instantaneous precipitation |
| 1630                                                                      | 0600 Day 2              | RBGL3P          | PEID61 KWBC         | 18-hour instantaneous precipitation |
|                                                                           | 1200 Day 2              | RBGL4P          | PEIE61 KWBC         | 24-hour instantaneous precipitation |
|                                                                           | 1800 Day 2              | RBGL7P          | PEIF61 KWBC         | 30-hour instantaneous precipitation |
| 1930                                                                      | 0000 Day 3              | RBGL6P          | PEIG61 KWBC         | 36-hour instantaneous precipitation |
|                                                                           | 1200 Day 3              | RBGL8P          | PEII61 KWBC         | 48-hour instantaneous precipitation |

**13.2.4 Product Expiration Time**

Not applicable.

**13.3 Technical Description**

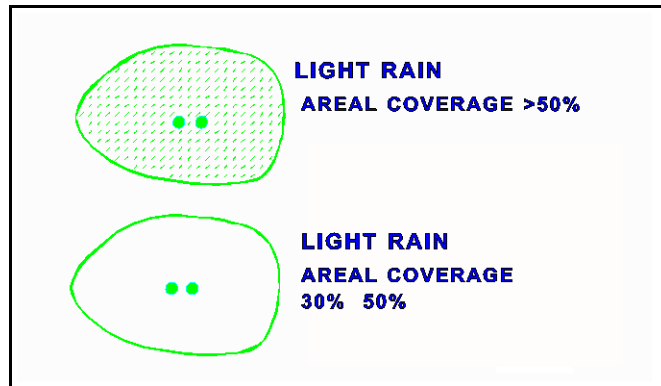
Charts should follow the format and content in this section.

**13.3.1 MND Broadcast Line and Header**

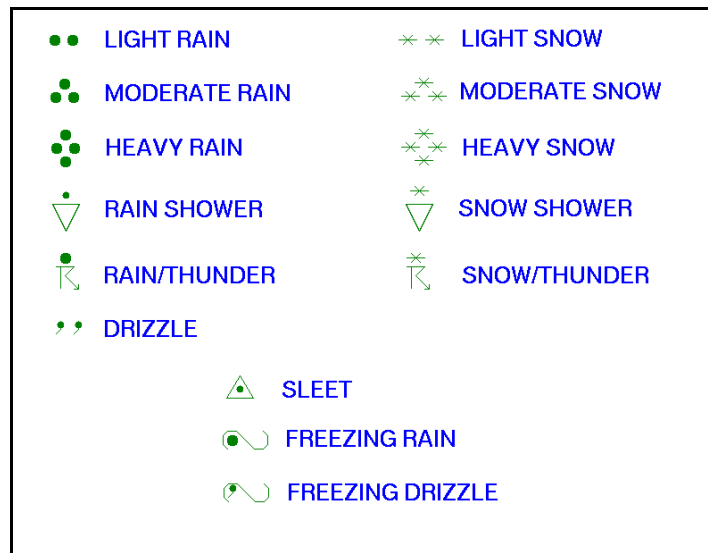
Not applicable.

**13.3.2 Content**

A graphical product that depicts the instantaneous position of precipitation, both type and coverage, at the valid time of the product.



**Figure 7:** Areal Precipitation Depiction



**Figure 8:** Precipitation Symbols and Intensity

**13.3.4 Format**

**13.4 Updates, Amendments, and Corrections**

Products are not updated or amended. Corrections are issued as necessary.

**14 Coded Surface Frontal Positions Forecast (product category CODSRP)**

**14.1 Mission Connection**

WPC issues the coded Surface Frontal Position Forecasts to NWS field offices and to the general meteorological community (private sector and the media). These products support the NWS public weather program.

**14.2 Issuance Guidelines**

**14.2.1 Creation Software**

WPC uses N-AWIPS software to generate these products.

**14.2.2 Issuance Criteria**

These are routine, schedule-driven products.

**14.2.3 Issuance and Valid Time**

Refer to Table 6.

**Table 6:** Coded Surface Frontal Position Product Schedule

| <i>WPC Coded Surface Frontal Position Product Schedule</i> |                          |                 |                     |                                       |
|------------------------------------------------------------|--------------------------|-----------------|---------------------|---------------------------------------|
| <i>Issuance Time (UTC)</i>                                 | <i>Valid Time (UTC)</i>  | <i>AWIPS ID</i> | <i>(WMO Header)</i> | <i>Product Description</i>            |
| 0430                                                       | 1200 Day 1<br>0000 Day 2 | CODSRP          | FSUS02 KWBC         | Coded description of frontal forecast |
| 0730                                                       | 1200 Day 2<br>0000 Day 3 | CODSRP          | FSUS02 KWBC         | Coded description of frontal forecast |
| 0900                                                       | 1800 Day 1<br>0600 Day2  | CODSRP          | FSUS02 KWBC         | Coded description of frontal forecast |
| 1630                                                       | 0000 Day 1<br>1200 Day 2 | CODSRP          | FSUS02 KWBC         | Coded description of frontal forecast |
| 1930                                                       | 0000 Day 2<br>1200 Day 3 | CODSRP          | FSUS02 KWBC         | Coded description of frontal forecast |
| 2100                                                       | 1800 Day 1<br>0600 Day 2 | CODSRP          | FSUS02 KWBC         | Coded description of frontal forecast |

**14.2.4 Product Expiration Time**

Not applicable.

**14.3 Technical Description**

Message should follow the format and content described in this section.

**14.3.1 MND Broadcast Line**

Not applicable.

**14.3.2 MND Header**

The MND header is CODED SURFACE FRONTAL POSITIONS FORECAST.

**14.3.3 Content**

These are text bulletins that describe the latitudes and longitudes (to the nearest degree) of vertices along the forecast frontal positions, along with the positions of highs and lows and pressures. These correspond directly with the 92F, 94F, 96F, 98F products described in Section 13. These text messages allow the private sector, academia, and the media to plot the location of these weather systems.

Here is specific information on how to decode / interpret the bulletin:

44109 = 44°N Latitude, 109°W Longitude

HIGHS = High Pressure Centers

LOWS = Low Pressure Centers

COLD = Cold Front

WK = Weak

WARM = Warm Front

STNRY = Stationary Front

TROF = Weak Surface Boundary

OCFNT = Occluded Front

### 14.3.4 Format

FSUS02 KWBC 071630  
CODSRP

CODED SURFACE FRONTAL POSITIONS FORECAST  
NWS WEATHER PREDICTION CENTER COLLEGE PARK MD  
1130 AM EST TUE JAN 07 2015

12HR PROG VALID 080000Z  
HIGHS 1002 5186 1029 2798 1030 40109  
LOWS 983 5073 990 57101 990 5496  
COLD WK 3869 3770 3572 3475 3377  
TROF 4076 3878 3680 3483  
OCFNT WK 5672 5471 5172 5073  
OCFNT WK 5073 4973 4873 4774  
COLD WK 4774 4774 4675 4578 4581 4684 4788 4991  
STNRY WK 4991 5092 5194 5395 5496 5598 56100 57101 58101  
TROF 4793 4594 4396 4299 40102  
TROF 36130 35128 33127 32126 29125  
COLD WK 58101 57104 56108 57113 57118 58121  
TROF 61106 59104 58101

24HR PROG VALID 081200Z  
HIGHS 1020 29117 1022 2595 993 5278 1023 41113 1023 36111  
LOWS 983 4885  
TROF 39129 37127 35126 33124 30124 28124  
COLD WK 4290 4192 3993 3995 3897 37100 37102 38104 39105  
TROF 3977 3878 3680 3483  
COLD WK 4885 4988 5091 5193 5296 52100 52104 52109 54113 56118  
58121  
STNRY WK 4378 4480 4582 4784 4885  
STNRY WK 39105 40105 41105 42106 44108 46110 46113 46115 46116 46118  
45119 45120  
TROF 57101 55100 5498 5396  
TROF 5265 5066 4767 4569 4371

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#### **14.4 Updates, Amendments, and Corrections**

Products are not updated or amended. Corrections are issued as necessary.

### **15 Ultraviolet Index (UVI) Forecast (product category UVICAC)**

#### **15.1 Mission Connection**

The Climate Prediction Center (CPC) issues a UV Index (UVI) Forecast for 58 U.S. cities daily. CPC generates the UVI Forecast to help people understand the effects on their skin of their exposure to the sun's ultraviolet radiation. This product is used by the media and supports public weather programs.

#### **15.2 Issuance Guidelines**

##### **15.2.1 Creation Software**

CPC uses commercial text editor software.

##### **15.2.2 Issuance Criteria**

This is a routine, schedule-driven product.

##### **15.2.3 Issuance Time**

The UVI product is issued daily at approximately 1800 UTC.

##### **15.2.4 Valid Time**

The product is valid for solar noon (approximately 12 noon local standard time or 1PM local daylight time), Day 2.

##### **15.2.5 Product Expiration Time**

Product expires after valid time.

#### **15.3 Technical Description**

The UVI product should follow the format and content described below.

##### **15.3.1 MND Broadcast Line**

Not applicable.

##### **15.3.2 MND Header**

The UVI MND header is NOAA/EPA ULTRAVIOLET INDEX /UVI/ FORECAST.

##### **15.3.3 Content**

Both the text-based and web-based products specify the forecast UVI for solar noon, Day 2.

##### **15.3.4 Format**

```
AEUS41 KWBC 021739
UVICAC
```

```
NOAA/EPA ULTRAVIOLET INDEX /UVI/ FORECAST
NWS CLIMATE PREDICTION CENTER CAMP SPRINGS MD
1238 PM EST TUE DEC 2 2014
```

```
VALID DEC 3 2014 AT SOLAR NOON /APPROXIMATELY NOON LOCAL STANDARD TIME OR 100
```

PM LOCAL DAYLIGHT TIME/

THE UV INDEX IS CATEGORIZED BY THE WORLD HEALTH ORGANIZATION AS FOLLOWS:

| UVI            | EXPOSURE LEVEL |
|----------------|----------------|
| 0 1 2          | LOW            |
| 3 4 5          | MODERATE       |
| 6 7            | HIGH           |
| 8 9 10         | VERY HIGH      |
| 11 AND GREATER | EXTREME        |

FOR HEALTH RELATED ISSUES...CONTACT EPA AT 1-800-296-1996

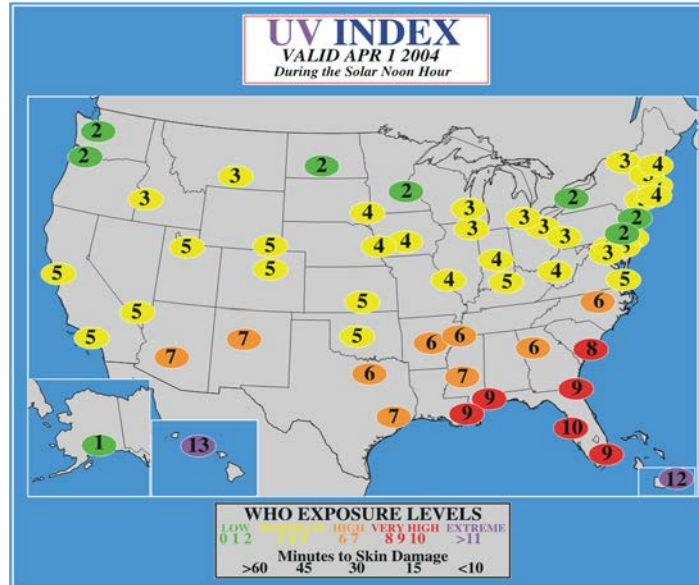
FOR TECHNICAL INFORMATION ABOUT THE UV INDEX...GO TO THE NATIONAL WEATHER SERVICE UV INDEX WEB PAGE:

WWW.CPC.NCEP.NOAA.GOV/PRODUCTS/STRATOSPHERE/UV\_INDEX

| CITY          | STATE | UVI | CITY           | STATE | UVI |
|---------------|-------|-----|----------------|-------|-----|
| ALBUQUERQUE   | NM    | 3   | LITTLE ROCK    | AR    | 1   |
| ANCHORAGE     | AK    | 0   | LOS ANGELES    | CA    | 1   |
| ATLANTIC CITY | NJ    | 1   | LOUISVILLE     | KY    | 2   |
| ATLANTA       | GA    | 2   | MEMPHIS        | TN    | 1   |
| BALTIMORE     | MD    | 1   | MIAMI          | FL    | 5   |
| BILLINGS      | MT    | 1   | MILWAUKEE      | WI    | 1   |
| BISMARCK      | ND    | 1   | MINNEAPOLIS    | MN    | 1   |
| BOISE         | ID    | 1   | MOBILE         | AL    | 3   |
| BOSTON        | MA    | 1   | NEW ORLEANS    | LA    | 4   |
| BUFFALO       | NY    | 1   | NEW YORK       | NY    | 1   |
| BURLINGTON    | VT    | 0   | NORFOLK        | VA    | 2   |
| CHARLESTON    | WV    | 1   | OKLAHOMA CITY  | OK    | 2   |
| CHARLESTON    | SC    | 3   | OMAHA          | NE    | 1   |
| CHEYENNE      | WY    | 1   | PHILADELPHIA   | PA    | 1   |
| CHICAGO       | IL    | 1   | PHOENIX        | AZ    | 2   |
| CLEVELAND     | OH    | 1   | PITTSBURGH     | PA    | 1   |
| CONCORD       | NH    | 1   | PORTLAND       | ME    | 1   |
| DALLAS        | TX    | 2   | PORTLAND       | OR    | 1   |
| DENVER        | CO    | 2   | PROVIDENCE     | RI    | 1   |
| DES MOINES    | IA    | 2   | RALEIGH        | NC    | 2   |
| DETROIT       | MI    | 1   | SALT LAKE CITY | UT    | 1   |
| DOVER         | DE    | 1   | SAN FRANCISCO  | CA    | 1   |
| HARTFORD      | CT    | 1   | SAN JUAN       | PU    | 7   |
| HONOLULU      | HI    | 6   | SEATTLE        | WA    | 1   |
| HOUSTON       | TX    | 4   | SIOUX FALLS    | SD    | 1   |
| INDIANAPOLIS  | IN    | 2   | ST. LOUIS      | MO    | 2   |
| JACKSON       | MS    | 3   | TAMPA          | FL    | 4   |
| JACKSONVILLE  | FL    | 3   | WASHINGTON     | DC    | 1   |
| LAS VEGAS     | NV    | 2   | WICHITA        | KS    | 2   |

CPC also generates a graphical product depicting the same information and posts it on the Web.

See Figure 9.



**Figure 9:** Ultraviolet Index Map

## 15.4 Updates, Amendments, and Corrections

No updates or amendments are issued for this product. CPC will correct for format and grammatical errors as required.

## 16 Selected Cities Forecast (product categories SCS [01-04])

### 16.1 Mission Connection

The NWS Telecommunications Operations Center (TOC) began issuing the Selected Cities Forecast (SCS) in January, 2009. The SCS provides the observed maximum and minimum temperatures, observed precipitation, and forecast weather and temperatures for selected cities in the U.S., Puerto Rico and the U.S. Virgin Islands. This product is heavily used by the print media and supports the public weather program.

### 16.2 Issuance Guidelines

#### 16.2.1 Creation Software

The TOC uses commercial text editor software.

#### 16.2.2 Issuance Criteria

This is a routine, schedule-driven product.

#### 16.2.3 Issuance Time

0100 and 1300 UTC.

#### 16.2.4 Valid Time

1200 UTC Day 1 to 1200 UTC Day 2.

**16.2.5 Product Expiration Time**

Product expires with the next issuance.

**16.3 Technical Description**

The Selected Cities Forecast should follow the format and content described in this section.

**16.3.1 MND Broadcast Line**

Not applicable.

**16.3.2 MND Header**

The SCS header is SELECTED CITIES WEATHER SUMMARY AND FORECASTS.

**16.3.3 Content**

This is a tabular text product consisting of the previous day’s maximum and minimum temperatures and observed liquid precipitation, along with forecast weather and temperatures for the next two days for selected cities in the U.S., Puerto Rico and the U.S. Virgin Islands. The abbreviated forecasts are derived from the National Digital Forecast Database (NDFD) grids issued by NWS Weather Forecast Offices (WFOs). The last part (SCS14, FPUS20 KWBN) has a final section that gives the highest and lowest temperatures observed in the CONUS. If a city is missing, it is noted as “MISG” in the weather category and “MM/MM” for the maximum and minimum temperature.

**16.3.4 Format**

Example...Morning Issuance:

```
FPUS20 KWBN 041250
SCS01
SELECTED CITIES WEATHER SUMMARY AND FORECASTS...PART 1 OF 4
NWS/NDFD TELECOMMUNICATION OPERATIONS CENTER SILVER SPRING MD
850 AM EDT FRI JUN 04 2010
```

```
TEMPERATURES INDICATE DAYTIME HIGH...NIGHTTIME LOW
B INDICATES TEMPERATURES BELOW ZERO
PRECIPITATION FOR 24 HOURS ENDING AT 8 AM EDT
```

| CITY         | THU...JUN 03 |      |  | FORECAST<br>FRI....JUN 04 |       | FORECAST<br>SAT....JUN 05 |        |
|--------------|--------------|------|--|---------------------------|-------|---------------------------|--------|
|              | HI/LO        | PCPN |  | WEA                       | HI/LO | WEA                       | HI/LO  |
| ABILENE TX   | 89 68        |      |  | SUNNY                     | 96/70 | SUNNY                     | 100/76 |
| AKRON CANTON | 78 61        | .14  |  | TSTRMS                    | 82/66 | TSTRMS                    | 80/64  |
| ALBANY NY    | 80 61        | .08  |  | PTCLDY                    | 82/65 | TSTRMS                    | 82/59  |
| ALBUQUERQUE  | 91 58        |      |  | SUNNY                     | 95/64 | SUNNY                     | 99/67  |
| ALLENTOWN    | 85 63        | .01  |  | PTCLDY                    | 88/68 | MOCLDY                    | 86/66  |
| AMARILLO     | 86 64        |      |  | SUNNY                     | 95/64 | SUNNY                     | 99/66  |



Key to Weather Terminology:

|                        |                           |
|------------------------|---------------------------|
| PTCLDY = Partly Cloudy | RNSNOW = Rain and Snow    |
| MOCLDY = Mostly Cloudy | BLZZRD = Blizzard         |
| VRYPHOT = Very Hot     | BLGSNO = Blowing Snow     |
| VRYPCLD = Very Cold    | TSTRMS = Thunderstorms    |
| SNOSHW = Snow Showers  | SHWRS = Rain Showers      |
| DRZL = Drizzle         | FZRAIN = Freezing Rain    |
| FLRRYS = Snow Flurries | FZDRZL = Freezing Drizzle |

Cities Used in Selected Cities Products:

Cities for SCS01

|                  |                |                  |
|------------------|----------------|------------------|
| ABILENE TX       | BATON ROUGE LA | CHARLESTON SC    |
| AKRON/CANTON OH  | BILLINGS MT    | CHARLESTON WV    |
| ALBANY NY        | BIRMINGHAM AL  | CHARLOTTE NC     |
| ALBUQUERQUE NM   | BISMARCK ND    | CHATTANOOGA TN   |
| ALLENTOWN PA     | BOISE ID       | CHEYENNE WY      |
| AMARILLO TX      | BOSTON MA      | CHICAGO IL       |
| ANCHORAGE AK     | BRIDGEPORT CT  | CINCINNATI OH    |
| ASHEVILLE NC     | BROWNSVILLE TX | CLEVELAND OH     |
| ATLANTA GA       | BUFFALO NY     | COLORADO SPGS CO |
| ATLANTIC CITY NJ | BURLINGTON VT  | COLUMBIA SC      |
| AUSTIN TX        | CARIBOU ME     | COLUMBUS GA      |
| BALTIMORE MD     | CASPER WY      | COLUMBUS OH      |

Cities for SCS02

|                    |                       |                        |
|--------------------|-----------------------|------------------------|
| CONCORD NH         | FARGO ND              | HONOLULU HI            |
| CORPUS CHRISTI TX  | FLAGSTAFF AZ          | HOUSTON INTCNL ARPT TX |
| DALLAS FT WORTH TX | FLINT MI              | HUNTSVILLE AL          |
| DAYTON OH          | FORT SMITH AK         | INDIANAPOLIS IN        |
| DAYTONA BEACH FL   | FORT WAYNE IN         | JACKSON MS             |
| DENVER CO          | FRESNO CA             | JACKSONVILLE FL        |
| DES MOINES IA      | GOODLAND KS           | JUNEAU AK              |
| DETROIT MI         | GRAND JUNCTION CO     | KANSAS CITY MO         |
| DULUTH MN          | GRAND RAPIDS MI       | KEY WEST FL            |
| EL PASO TX         | GREAT FALLS MT        | KNOXVILLE TN           |
| ELKINS WV          | GREEN BAY WI          | LAKE CHARLES LA        |
| ERIE PA            | GREENSBORO NC         | LANSING MI             |
| EUGENE OR          | HARRISBURG PA         | LAS VEGAS NV           |
| EVANSVILLE IN      | HARTFORD CT SPGFLD MA | LEXINGTON KY           |
| FAIRBANKS AK       | HELENA MT             |                        |

Cities for SCS03

|                |                  |                   |
|----------------|------------------|-------------------|
| LINCOLN IL     | NASHVILLE TN     | POCATELLO ID      |
| LITTLE ROCK AR | NEW ORLEANS LA   | PORTLAND ME       |
| LOS ANGELES CA | NEW YORK CITY NY | PORTLAND OR       |
| LOUISVILLE KY  | NEWARK NJ        | PROVIDENCE RI     |
| LUBBOCK TX     | NORFOLK VA       | PUEBLO CO         |
| MACON GA       | NORTH PLATTE NE  | RALEIGH DURHAM NC |
| MADISON WI     | OKLAHOMA CITY OK | RAPID CITY SD     |

MEDFORD OR  
MEMPHIS TN  
MIAMI BEACH FL  
MIDLAND ODESSA TX  
MILWAUKEE WI  
MISSOULA MT  
MPLS ST PAUL MN  
MOBILE AL  
MONTGOMERY AL

OMAHA NE  
ORLANDO FL  
PADUCAH KY  
PENDLETON OR  
PEORIA IL  
PHILADELPHIA PA  
PHOENIX AZ  
PITTSBURGH PA

RENO NV  
RICHMOND VA  
ROANOKE VA  
ROCHESTER NY  
ROCKFORD IL  
SACRAMENTO CA  
ST LOUIS MO  
ST. PETERSBURG FL  
ST THOMAS VI

### Cities for SCS04

SALEM OR  
SALT LAKE CITY UT  
SAN ANGELO TX  
SAN ANTONIO TX  
SAN DIEGO CA  
SAN FRANCISCO CA  
SAN JOSE CA  
SAN JUAN PR  
SANTA FE NM  
ST STE MARIE MI  
SAVANNAH GA  
SEATTLE WA  
SHREVEPORT LA

SIOUX CITY IA  
SIOUX FALLS SD  
SOUTH BEND IN  
SPOKANE WA  
SPRINGFIELD IL  
SPRINGFIELD MO  
SYRACUSE NY  
TALLAHASSEE FL  
TAMPA FL  
TOLEDO OH  
TOPEKA KS  
TUCSON AZ

TULSA OK  
TUPELO MS  
WACO TX  
WASHINGTON DC  
W PALM BEACH FL  
WICHITA KS  
WICHITA FALLS TX  
WILKES BARRE PA  
WILMINGTON DE  
YAKIMA WA  
YOUNGSTOWN OH  
YUMA AZ

## **16.4 Updates, Amendments, and Corrections**

These products are not updated or amended. The TOC will correct for format and grammatical errors as required.

## **17 Canadian Urban Forecasts (product category CSCNMC)**

### **17.1 Mission Connection**

The product is generated by the Meteorological Service of Canada (MSC), and disseminated internationally to U.S. public interests.

### **17.2 Issuance Guidelines**

#### **17.2.1 Creation Software**

The NWS Telecommunications Gateway receives this product and re-transmits it to domestic users.

#### **17.2.2 Issuance Criteria**

This is a routine, schedule-driven product.

#### **17.2.3 Issuance Time**

This product is issued daily at approximately 0730 UTC and 1930 UTC.

#### **17.2.4 Valid Time**

Through Day 2.

**17.2.5 Product Expiration Time**

Product expires with the next issuance.

**17.3 Technical Description**

The product follows the format and content described in this section.

**17.3.1 MND Broadcast Line**

Not applicable.

**17.3.2 MND Header**

The MND header for this product is CANADIAN URBAN FORECASTS.

**17.3.3 Content**

This product contains tabular arrays of short forecasts and predicted high and low temperatures (in degrees Celsius) for numerous Canadian cities.

**17.3.4 Format**

Example:

```
FPCN12 CWA0 040800
CANADIAN URBAN FORECASTS
TEMPERATURE IN DEGREES CELSIUS
CITY          FORECAST
              FRIDAY
              WEA          HI
IQALUIT       WINDY          M06
YELLOWKNIFE   MAINLY SUNNY    8
WHITEHORSE    MAINLY CLOUDY  8

              FORECAST
              SATURDAY
              WEA          LO/HI
INCRG CLOUDINESS M12/00
VARIABLE CLOUD  M02/8
PARTLY CLOUDY  M03/7
```

Cities for CSCNMC

|                   |               |                |
|-------------------|---------------|----------------|
| CALGARY AB        | OTTAWA ONT    | THUNDER BAY ON |
| CHARLOTTETOWN PEI | QUEBEC QUE    | TORONTO ON     |
| EDMONTON AB       | REGINA SK     | VANCOUVER BC   |
| FREDERICTON NB    | SAINT JOHN NB | VICTORIA BC    |
| HALIFAX NS        | SASKATOON SK  | WINDSOR ON     |
| IQALUIT NU        | ST JOHNS NFLD | WINNIPEG MB    |
| KAMLOOPS BC       | SUDBURY ON    | WHITEHORSE YT  |
| MONTREAL QUE      | SYDNEY NS     | YELLOWKNIFE NT |

**17.4 Updates, Amendments, and Corrections**

Not applicable.

**18 Days 3 - 7 Surface Progs (product categories 9JH-9NH)**

**18.1 Mission Connection**

WPC issues the Days 3 through 7 Surface Progs as guidance to NWS field offices and to the general meteorological community (private sector and the media) including the aviation community. These products describe the location of surface fronts and pressures for the Days 3 through 7. The products support the NWS public and aviation weather programs.

**18.2 Issuance Guidelines**

**18.2.1 Creation Software**

WPC uses N-AWIPS software to generate these products.

**18.2.2 Issuance Criteria**

These are routine, schedule-driven products.

**18.2.3 Issuance and Valid Time**

Refer to Table 7.

**Table 7:** Day 3-7 Surface Prog Product Schedule

| <i>WPC Day 3-7 Surface Prog Product Schedule</i> |                         |                 |                     |                                     |
|--------------------------------------------------|-------------------------|-----------------|---------------------|-------------------------------------|
| <i>Issuance Time (UTC)</i>                       | <i>Valid Time (UTC)</i> | <i>AWIPS ID</i> | <i>(WMO Header)</i> | <i>Product Description</i>          |
| 1900                                             | 1200 Day 3              | RBG9JH          | PPHK01 KWBC         | Medium Range Day 3 Surface Forecast |
| 1900                                             | 1200 Day 4              | RBG9KH          | PPHM01 KWBC         | Medium Range Day 4 Surface Forecast |
| 1900                                             | 1200 Day 5              | RBG9LH          | PPHO01 KWBC         | Medium Range Day 5 Surface Forecast |
| 1900                                             | 1200 Day 6              | RBG9MH          | PPTG98 KWBC         | Medium Range Day 6 Surface Forecast |
| 1900                                             | 1200 Day 7              | RBG9NH          | PPTR98 KWBC         | Medium Range Day 7 Surface Forecast |

**18.2.4 Product Expiration Time**

Not applicable.

**18.3 Technical Description**

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

**18.3.1 MND Broadcast Line**

Not applicable.

**18.3.2 MND Header**

Not applicable.

**18.3.3 Content**

These are graphical products that depict the locations of surface fronts and pressures over North America, the central North Pacific and eastern North Atlantic for Days 3 through 7.

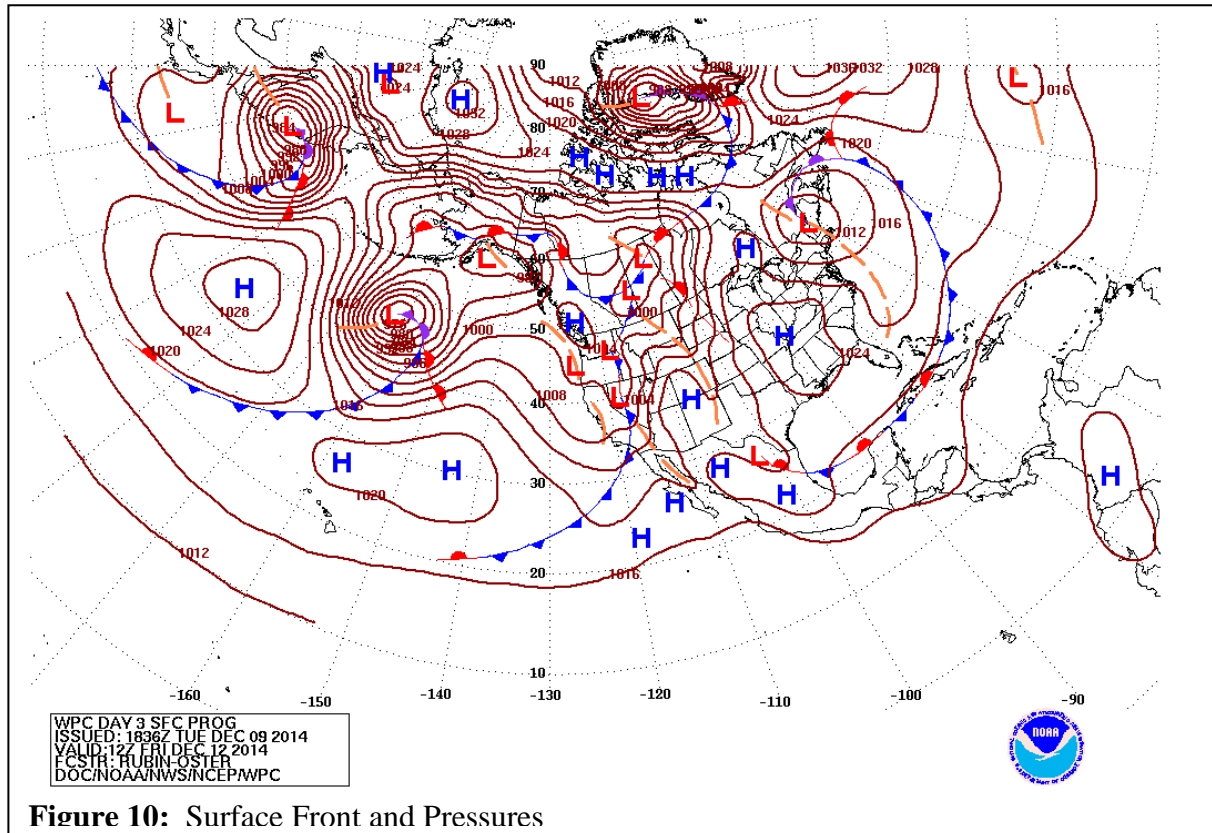


Figure 10: Surface Front and Pressures

### 18.3.4 Format

### 18.4 Updates, Amendments, and Corrections

Products are not updated or amended. Corrections are issued as necessary.

## 19 Days 3 - 7 Temp./Precipitation Forecast Anomalies (product categories 93P-97P)

### 19.1 Mission Connection

WPC issues the Days 3 - 7 Temperature/Precipitation Forecast Anomalies charts as guidance to CONUS NWS field offices and to the general meteorological community (private sector and the media), including the aviation community. The products support the NWS public weather program.

### 19.2 Issuance Guidelines

#### 19.2.1 Creation Software

WPC uses N-AWIPS software to generate these products.

**19.2.2 Issuance Criteria**

These are routine, schedule-driven products.

**19.2.3 Issuance and Valid Time**

Refer to Table 8.

**Table 8:** Days 3-7 Temperature/Precipitation Anomalies Forecast Product Schedule

| <i>WPC Day 3-7 Temperature/Precipitation Forecast Anomalies Product Schedule</i> |                   |                 |                     |                                              |
|----------------------------------------------------------------------------------|-------------------|-----------------|---------------------|----------------------------------------------|
| <i>Issuance Time (UTC)</i>                                                       | <i>Valid Date</i> | <i>AWIPS ID</i> | <i>(WMO Header)</i> | <i>Product Description</i>                   |
| 0515, 1430                                                                       | Day 3             | RBG93P          | PYWK43 KWBC         | Day 3 Temp./Precipitation Anomalies Forecast |
| 0515, 1430                                                                       | Day 4             | RBG94P          | PYWM44 KWBC         | Day 4 Temp./Precipitation Anomalies Forecast |
| 0515, 1430                                                                       | Day 5             | RBG95P          | PYWO45 KWBC         | Day 5 Temp./Precipitation Anomalies Forecast |
| 0515, 1430                                                                       | Day 6             | RBG96P          | PYWQ46 KWBC         | Day 6 Temp./Precipitation Anomalies Forecast |
| 0515, 1430                                                                       | Day 7             | RBG97P          | PYWS98 KWBC         | Day 7 Temp./Precipitation Anomalies Forecast |

**19.2.4 Product Expiration Time**

Not applicable.

**19.3 Technical Description**

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

**19.3.1 MND Broadcast Line**

Not applicable.

**19.3.2 MND Header**

Not applicable.

**19.3.3 Content**

These are graphical products that depict the Days 3 - 7 temperature and precipitation forecasts and deviation from climatology for 93 stations over the CONUS.

19.3.4 Format

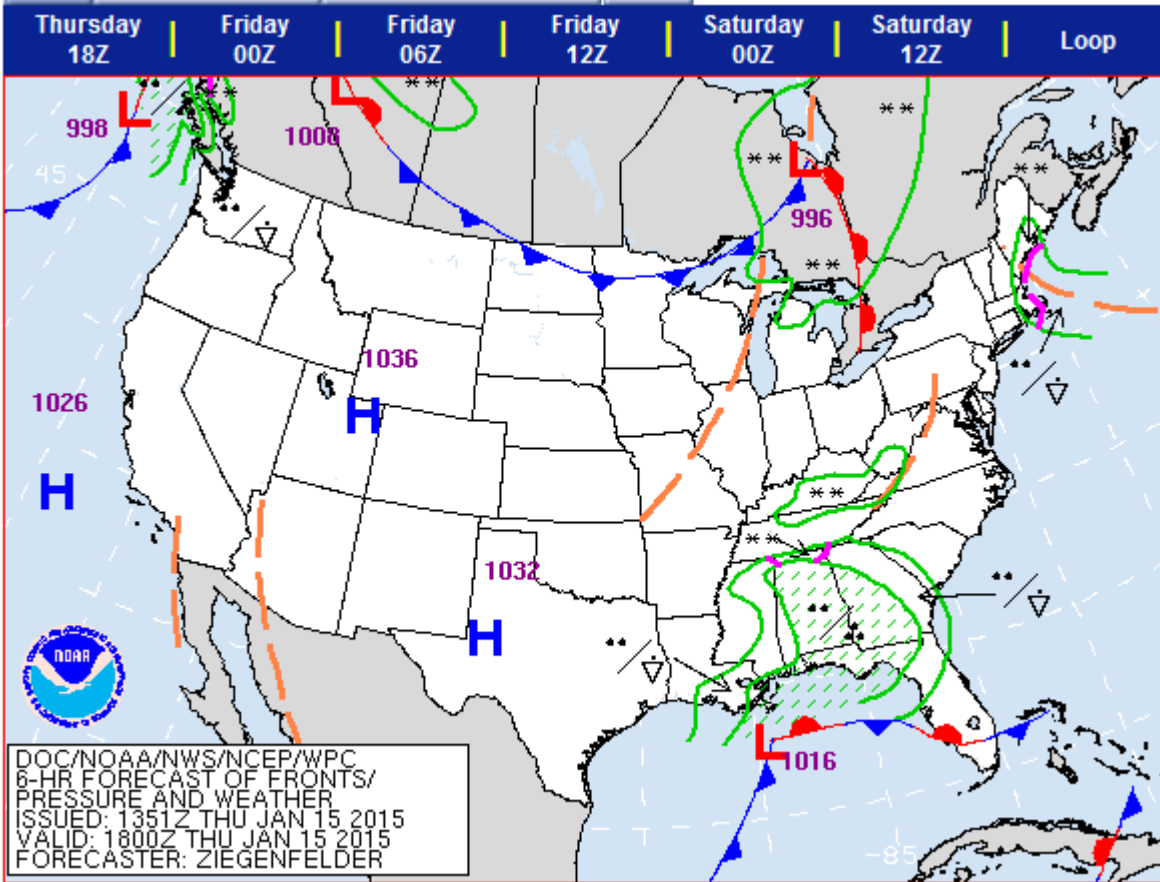


Figure 11: Forecast Fronts / Pressure Centers

**KEY**

AMIN/AMAX/APOP  
Station ID  
Tmin/Tmax/POP

AMIN - Min Temperature Anomaly  
AMAX - Max Temperature Anomaly  
APOP - POP Anomaly  
Tmin - Forecast Min Temperature  
Tmax - Forecast Max Temperature  
POP - Probability of Precipitation  
Temperatures in degrees Fahrenheit

19.4 Updates, Amendments, and Corrections

Products are not updated or amended. Corrections are issued as necessary.

**20 5-Day Mean Max/Min Temperature Anomalies (product categories 95A, 95B)**

**20.1 Mission Connection**

WPC issues the 5-day mean Maximum and Minimum Temperature anomaly charts as guidance to CONUS NWS field offices and to the general meteorological community (private sector and the media), including the aviation community. These products describe the maximum and minimum temperature anomalies from climatology over the next five days. The products support the NWS public weather program.

**20.2 Issuance Guidelines**

**20.2.1 Creation Software**

WPC uses N-AWIPS software to generate these products.

**20.2.2 Issuance Criteria**

These are routine, schedule-driven products.

**20.2.3 Issuance and Valid Time**

Refer to Table 9.

**Table 9:** Mean 5 Day Max/Min Temperature Anomaly Product Schedule

| <i>WPC Mean 5-Day Max/Min Temperature Anomalies Product Schedule</i> |                            |                 |                     |                                                |
|----------------------------------------------------------------------|----------------------------|-----------------|---------------------|------------------------------------------------|
| <i>Issuance Time (UTC)</i>                                           | <i>Valid Time (UTC)</i>    | <i>AWIPS ID</i> | <i>(WMO Header)</i> | <i>Product Description</i>                     |
| 1330                                                                 | 1200 Day 1 -<br>1200 Day 5 | RBG95A          | PTIO52 KWBC         | 5 - Day Mean Maximum Temperature Anomaly (MOS) |
| 1330                                                                 | 1200 Day 1 -<br>1200 Day 5 | RBG95B          | PTIO53 KWBC         | 5 - Day Mean Minimum Temperature Anomaly (MOS) |

**20.2.4 Product Expiration Time**

Not applicable.

**20.3 Technical Description**

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

**20.3.1 MND Broadcast Line and Header**

Not applicable.

**20.3.2 Content**

These are graphical products that depict the mean GFS MOS maximum and minimum temperature anomalies in degrees Fahrenheit from climatology.

**20.3.3 Format**

See Figures 12 and 13.



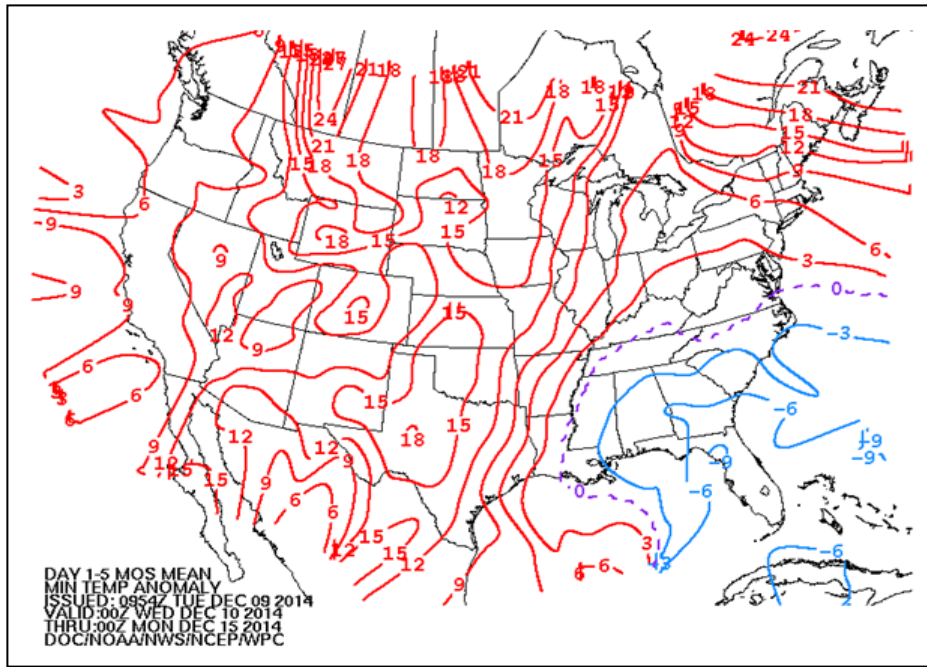


Figure 12: Mean 5-Day Minimum Temperature Anomaly (MOS)

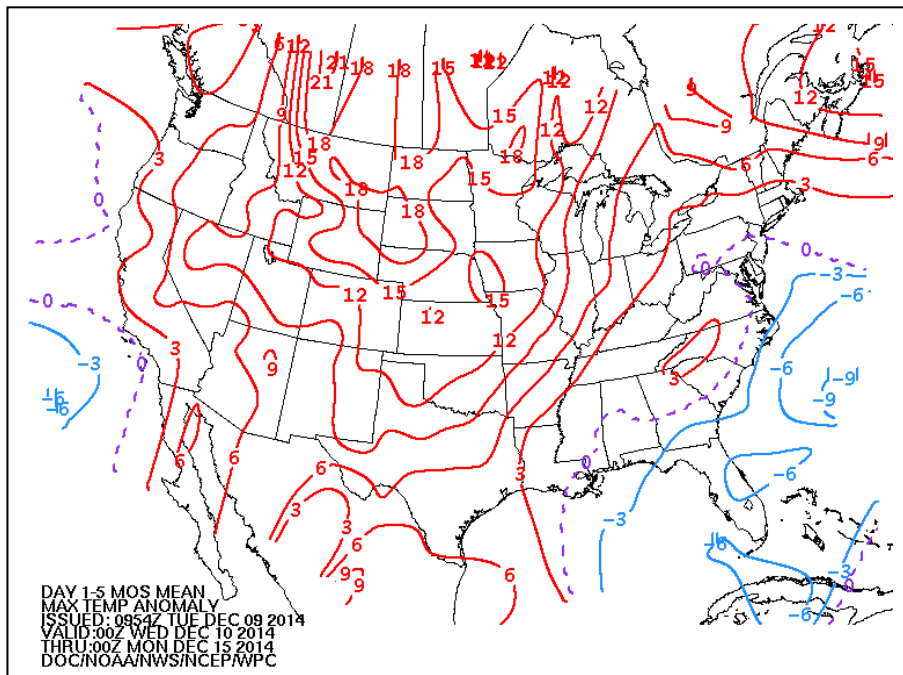


Figure 13: Mean 5-Day Maximum Temperature Anomaly (MOS)

### 20.4 Updates, Amendments, and Corrections

These products are not updated or amended. Corrections are issued as necessary.

Appendix A Geographical Area Designator Map

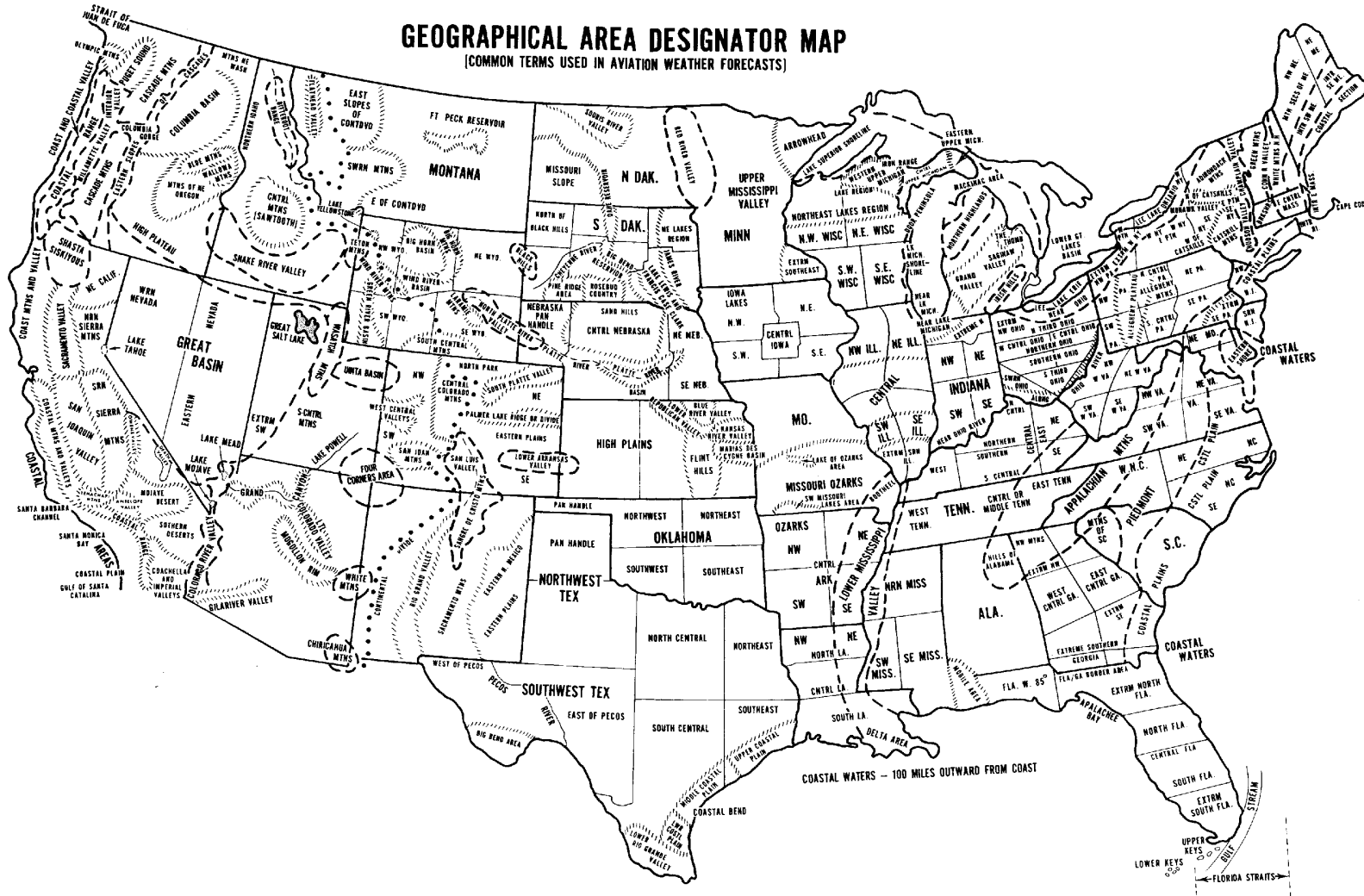


Figure 4-11. Geographical Areas and Terrain Features.