Department of Commerce · National Oceanic & Atmospheric Administration · National Weather Service

NATIONAL WEATHER SERVICE INSTRUCTION 10-504
October 15, 2010

Operations and Services
Public Weather Services, NWSPD 10-5

NATIONAL PUBLIC WEATHER FORECAST PRODUCTS SPECIFICATION

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

OPR: W/OS22 (A. Horvitz) **Certified by:** W/OS22 (E. Jacks)
Type of Issuance: Routine

SUMMARY OF REVISIONS: This directive supersedes NWSI 10-504, "National Public Weather Forecast Products Specification", dated September 10, 2008. This directive incorporates the following changes:

1. Updated model data for PMDHMD, section 3.3.3
2. Updated issuance times for PMDSPD, section 4.2.3
3. Changed all references from "Hawaiian" to "Hawaii" in PMDHI, section 7
4. Updated HPC Coded Surface Frontal Position Product Schedule tables, section 10.2.4
5. Updated issuance times for National Forecast Chart, section 12.2.3
6. Updated tables on products and changes to the issuance schedule, section 13 and 14
7. Updated Selected Cities Forecast including issuance of the product by the Telecommunication Operations Center (TOC), section 17
8. Deleted population criteria for determining maximum/minimum temperatures in the Selected Cities Forecast in section 17.3.3
9. Added Geographical Area Designator Map as an Appendix (map initially located in 10-503, *WFO Public Weather Forecast Products Specification Document*)
10. Elimination of the Travelers Forecast product

signed 10/1/10

David B. Caldwell Date
Director, Office of Climate,
Water, and Weather Services

National Public Weather Forecast Products Specification

Table of Contents: Page

1. Introduction....9

2. Preliminary Extended Forecast Discussion (product category PREEPD)....9
2.1 Mission Connection....9
2.2 Issuance Guidelines....9
2.2.1 Creation Software....9
2.2.2 Issuance Criteria....9
2.2.3 Issuance Time....9
2.2.4 Valid Time....9
2.2.5 Product Expiration Time....9
2.3 Technical Description....9
2.3.1 MND Broadcast Line....9
2.3.2 MND Header....9
2.3.3 Content....9
2.3.4 Format....10
2.4 Updates, Amendments, and Corrections....10

3. Model Diagnostic Discussion (product category PMDHMD)....11
3.1 Mission Connection....11
3.2 Issuance Guidelines....11
3.2.1 Creation Software....11
3.2.2 Issuance Criteria....11
3.2.3 Issuance Time....11
3.2.4 Valid Time....11
3.2.5 Product Expiration Time....11
3.3 Technical Description....11
3.3.1 MND Broadcast Line....11
3.3.2 MND Header....11
3.3.3 Content....11
3.3.4 Format....11
3.4 Updates, Amendments, and Corrections....13

4. Short Range Forecast Discussion (product category PMDSPD)....13
4.1 Mission Connection....13
4.2 Issuance Guidelines....13
4.2.1 Creation Software....13
4.2.2 Issuance Criteria....14
4.2.3 Issuance Time....14
4.2.4 Valid Time....14
4.2.5 Product Expiration Time....14
4.3 Technical Description....14
4.3.1 MND Broadcast Line....14

4.3.2 MND Header 14
4.3.3 Content 14
4.3.4 Format 14
4.4 Updates, Amendments, and Corrections 15

5. Extended Forecast Discussion (product category PMDEPD) 15
5.1 Mission Connection 15
5.2 Issuance Guidelines 15
5.2.1 Creation Software 15
5.2.2 Issuance Criteria 15
5.2.3 Issuance Time 16
5.2.4 Valid Time 16
5.2.5 Product Expiration Time 16
5.3 Technical Description 16
5.3.1 MND Broadcast Line 16
5.3.2 MND Header 16
5.3.3 Content 16
5.3.4 Format 16
5.4 Updates, Amendments, and Corrections 18

6. Caribbean Discussion (product category PMDCA) 18
6.1 Mission Connection 18
6.2 Issuance Guidelines 18
6.2.1 Creation Software 18
6.2.2 Issuance Criteria 18
6.2.3 Issuance Time 18
6.2.4 Valid Time 18
6.2.5 Product Expiration Time 18
6.3 Technical Description 18
6.3.1 MND Broadcast Line 18
6.3.2 MND Header 18
6.3.3 Content 18
6.3.4 Format 18
6.4 Updates, Amendments, and Corrections 20

7. Hawaii Discussion (product category PMDHI) 20
7.1 Mission Connection 20
7.2 Issuance Guidelines 20
7.2.1 Creation Software 20
7.2.2 Issuance Criteria 20
7.2.3 Issuance Time 20
7.2.4 Valid Time 21
7.2.5 Product Expiration Time 21
7.3 Technical Description 21
7.3.1 MND Broadcast Line 21
7.3.2 MND Header 21
7.3.3 Content 21

7.3.4 Format....21
7.4 Updates, Amendments, and Corrections....21

8. South America Synopsis (product category PMDSA)....21
8.1 Mission Connection....21
8.2 Issuance Guidelines....22
8.2.1 Creation Software....22
8.2.2 Issuance Criteria....22
8.2.3 Issuance Time....22
8.2.4 Valid Time....22
8.2.5 Product Expiration Time....22
8.3 Technical Description....22
8.3.1 MND Broadcast Line....22
8.3.2 MND Header....22
8.3.3 Content....22
8.3.4 Format....22
8.4 Updates, Amendments, and Corrections....23

9. Surface Fronts & Pressure Analysis (product categories 90F,90I)....23
9.1 Mission Connection....23
9.2 Issuance Guidelines....24
9.2.1 Creation Software....24
9.2.2 Issuance Criteria....24
9.2.3 Issuance Time....24
9.2.4 Valid Time....24
9.2.5 Product Expiration Time....24
9.3 Technical Description....24
9.3.1 MND Broadcast Line....24
9.3.2 MND Header....24
9.3.3 Content....24
9.3.4 Format....26
9.4 Updates, Amendments, and Corrections....26

10. Coded Surface Frontal Positions (product category CODSUS)....26
10.1 Mission Connection....26
10.2 Issuance Guidelines....26
10.2.1 Creation Software....26
10.2.2 Issuance Criteria....26
10.2.3 Issuance Time....26
10.2.4 Valid Time....26
10.2.5 Product Expiration Time....27
10.3 Technical Description....27
10.3.1 MND Broadcast Line....27
10.3.2 MND Header....27
10.3.3 Content....27
10.3.4 Format....28
10.4 Updates, Amendments, and Corrections....28

11. South America Discussion (product category PMDSA).....28
11.1 Mission Connection.....29
11.2 Issuance Guidelines.....29
11.2.1 Creation Software.....29
11.2.2 Issuance Criteria.....29
11.2.3 Issuance Time.....29
11.2.4 Valid Time.....29
11.2.5 Product Expiration Time.....29
11.3 Technical Description.....29
11.3.1 MND Broadcast Line.....29
11.3.2 MND Header.....29
11.3.3 Content.....29
11.3.4 Format.....29
11.4 Updates, Amendments, and Corrections.....30

12. Daily Hazardous Weather Chart (no product ID or Header). 30
12.1 Mission Connection.....31
12.2 Issuance Guidelines.....31
12.2.1 Creation Software.....31
12.2.2 Issuance Criteria.....31
12.2.3 Issuance Time.....31
12.2.4 Valid Time.....31
12.2.5 Product Expiration Time.....31
12.3 Technical Description.....31
12.3.1 MND Broadcast Line.....31
12.3.2 MND Header.....31
12.3.3 Content.....31
12.3.4 Format.....32
12.4 Updates, Amendments, and Corrections.....32

13. Surface Fronts & Pressure Charts (12-48 hrs) (product categories 92F, 94F, 96F,98F) 32
13.1 Mission Connection.....32
13.2 Issuance Guidelines.....32
13.2.1 Creation Software.....32
13.2.2 Issuance Criteria.....32
13.2.3 Issuance Time.....32
13.2.4 Valid Time.....32
13.2.5 Product Expiration Time.....33
13.3 Technical Description.....33
13.3.1 MND Broadcast Line.....33
13.3.2 MND Header.....33
13.3.3 Content.....33
13.3.4 Format.....34
13.4 Updates, Amendments, and Corrections.....34

14. Surface Instantaneous Precipitation Charts (12-48 hrs) (product categories L2P, L4P, L6P, L8P) 35
14.1 Mission Connection 35
14.2 Issuance Guidelines 35
14.2.1 Creation Software 35
14.2.2 Issuance Criteria 35
14.2.3 Issuance Time 35
14.2.4 Valid Time 35
14.2.5 Product Expiration Time 35
14.3 Technical Description 35
14.3.1 MND Broadcast Line 35
14.3.2 MND Header 36
14.3.3 Content 36
14.3.4 Format 37
14.4 Updates, Amendments, and Corrections 37

15. Coded Surface Frontal Positions Forecast (product category CODSRP) 37
15.1 Mission Connection 37
15.2 Issuance Guidelines 37
15.2.1 Creation Software 37
15.2.2 Issuance Criteria 37
15.2.3 Issuance Time 37
15.2.4 Valid Time 38
15.2.5 Product Expiration Time 38
15.3 Technical Description 38
15.3.1 MND Broadcast Line 38
15.3.2 MND Header 38
15.3.3 Content 38
15.3.4 Format 39
15.4 Updates, Amendments, and Corrections 39

16. Ultraviolet Index (UVI) Forecast (product category UVICAC) 39
16.1 Mission Connection 39
16.2 Issuance Guidelines 39
16.2.1 Creation Software 39
16.2.2 Issuance Criteria 39
16.2.3 Issuance Time 40
16.2.4 Valid Time 40
16.2.5 Product Expiration Time 40
16.3 Technical Description 40
16.3.1 MND Broadcast Line 40
16.3.2 MND Header 40
16.3.3 Content 40
16.3.4 Format 40
16.4 Updates, Amendments, and Corrections 41

17. Selected Cities Forecast (product categories SCS [11-14]) 42
17.1 Mission Connection.....42
17.2 Issuance Guidelines.....42
17.2.1 Creation Software.....42
17.2.2 Issuance Criteria.....42
17.2.3 Issuance Time.....42
17.2.4 Valid Time.....42
17.2.5 Product Expiration Time.....42
17.3 Technical Description.....42
17.3.1 MND Broadcast Line.....42
17.3.2 MND Header.....42
17.3.3 Content.....42
17.3.4 Format.....42
17.4 Updates, Amendments, and Corrections.....44

18. Canadian Urban Forecasts (product category CSCNMC) .... Error! Bookmark not defined.
18.1 Mission Connection.....44
18.2 Issuance Guidelines.....44
18.2.1 Creation Software.....44
18.2.2 Issuance Criteria.....44
18.2.3 Issuance Time.....45
18.2.4 Valid Time.....45
18.2.5 Product Expiration Time.....45
18.3 Technical Description.....45
18.3.1 MND Broadcast Line.....45
18.3.2 MND Header.....45
18.3.3 Content.....45
18.3.4 Format.....45
18.4 Updates, Amendments, and Corrections.....45

19. Days 3 - 7 Surface Progs (product categories 9JH-9NH).....45
19.1 Mission Connection.....45
19.2 Issuance Guidelines.....46
19.2.1 Creation Software.....46
19.2.2 Issuance Criteria.....46
19.2.3 Issuance Time.....46
19.2.4 Valid Time.....46
19.2.5 Product Expiration Time.....46
19.3 Technical Description.....46
19.3.1 MND Broadcast Line.....46
19.3.2 MND Header.....46
19.3.3 Content.....46
19.3.4 Format.....47
19.4 Updates, Amendments, and Corrections.....47

20. Days 3 - 7 Temp./Precipitation Forecast Anomalies (product categories 93P-97P) 47
20.1 Mission Connection.....47

20.2 Issuance Guidelines 47
20.2.1 Creation Software 47
20.2.2 Issuance Criteria 47
20.2.3 Issuance Time 47
20.2.4 Valid Time 47
20.2.5 Product Expiration Time 48
20.3 Technical Description 48
20.3.1 MND Broadcast Line 48
20.3.2 MND Header 48
20.3.3 Content 48
20.3.4 Format 48
20.4 Updates, Amendments, and Corrections 49

21. 5-Day Mean Max/Min Temperature Anomalies (product categories 95A, 95B) 50
21.1 Mission Connection 50
21.2 Issuance Guidelines 50
21.2.1 Creation Software 50
21.2.2 Issuance Criteria 50
21.2.3 Issuance Time 50
21.2.4 Valid Time 50
21.2.5 Product Expiration Time 50
21.3 Technical Description 50
21.3.1 MND Broadcast Line 50
21.3.2 MND Header 50
21.3.3 Content 50
21.3.4 Format 51
21.4 Updates, Amendments, and Corrections 51

Appendix A: Geographical Area Designator Map 52

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. Preliminary Extended Forecast Discussion (product category PREEPD).

2.1 Mission Connection. NCEP's Hydrometeorological Prediction Center (HPC) issues the preliminary extended forecast discussion that provides an evaluation of numerical meteorological models from NCEP as well as several numerical models from other foreign national meteorological services. 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. HPC reviews these with regard to model biases, recent performance, and consistency. This guidance is used by NWS field offices and the general meteorological community (private sector and the media) and supports the public weather program.

The purpose of this product is to provide early guidance, prior to additional data based on the 1200 UTC model suites, to meet the workflow needs of NWS field offices. A final product is issued later (Extended Forecast Discussion, section 5), updating and potentially amending the preliminary product.

2.2 Issuance Guidelines.

2.2.1 Creation Software. HPC uses commercial text editor software.

2.2.2 Issuance Criteria. This is a routine, schedule-driven product.

2.2.3 Issuance Times. Initial at 0930 UTC daily; final at 1430 UTC daily.

2.2.4 Valid Time. 1200 UTC Day 4 to 1200 UTC Day 7.

2.2.5 Product Expiration Time. This product is superseded with the issuance of the Extended Forecast Discussion (PMDEPD, section 5).

2.3 Technical Description. The extended 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 APRELIMINARY EXTENDED FORECAST DISCUSSION.@

2.3.3 Content. A narrative that may use standard NWS abbreviations to provide an evaluation of NCEP and foreign national meteorological services numerical models for Days 4 through 7.

Denotes quality of model initializations, model trends, and preferred models for various regions of the Continental U.S. (CONUS).

2.3.4 Format. Example:

```
FXUS02 KWNH 101423
PREEPD

PRELIMINARY EXTENDED FORECAST DISCUSSION
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
923 AM EST THU MAR 10 2005

VALID 12Z MON MAR 14 2005 - 12Z THU MAR 17 2005

UPDATED PRELIMINARY MEDIUM RANGE DISCUSSION...

PLAN TO STAY THE COURSE WITH THE PRELIM HPC FRONTS AND PRESSURE
PROGS THAT ARE BASED PRIMARILY FROM THE ECMWF.  THE 00 UTC ECMWF
IS REASONABLY CONSISTENT WITH THE 12 UTC/09 ECMWF...ESPECIALLY
THRU EARLY NEXT WEEK...WITH THE GENERAL FLOW PATTERN OVER NORTH
AMERICA AND VICINITY AND THE 00 UTC GFS SEEMS TO BE AT LEAST
TRENDING TOWARD THE ECMWF WITH MANY SIGNIFICANT FEATURES.

THE 00 UTC GFS HAS TRENDED STRONGLY AWAY FROM THE STRONG CLOSED
LOW CARRIED OVER THE INTERIOR WRN US MON-THU AS PER ITS 00 UTC/09
RUN DESPITE A AMPLIFIED UPSTREAM RIDGE BUT IN AN AREA OF HIGHER
ENSEMBLE SPREAD.  THE LATEST 00 UTC GFS NOW ALLOWS MORE MID-UPPER
LEVEL S/WV ENERGY PROGRESS EWD THAN THE ECMWF...CANADIAN...NOGAPS
AND 18 UTC DGEX.  THIS GFS AND SIMILAR 06 UTC DGEX END UP WITH
MORE 500 MB N-CENTRAL US TROFFING MIDWEEK THAN THOSE OTHER MODELS.
THE 00 UTC NCEP ENS AND 12 UTC ECMWF ENSEMBLE MEANS SUPPORT A
SOLUTION MORE ALONG THE LINES OF THE 12 UTC ECMWF...CARRYING
WEAKER AND MORE PROGRESSIVE NRN STREAM ENERGY DOWNSTREAM WHILE
HOLDING MORE TROFFING BACK OVER THE INTERMOUNTAIN-WEST AS WELL AS
SUPPRESSING THE SURFACE FRONT OVER THE GULF OF MEX MORE THAN THE
00 UTC GFS THRU MIDWEEK.  THE BIGGEST DIFFS FROM YESTERDAYS HPC
PROGS CONCERN THE TIMING AND STRENGTH OF A SRN US/GULF OF MEX
FRONTAL WAVE MON/TUES AS WELL AS THE DEPTH OF THE COLD AIR IN THE
SWRN US...NOW MORE IN LINE WITH THE 12 UTC ECMWF.

MEANWHILE...THE 00 UTC GFS...06 UTC DGEX...AND 12 UTC ECMWF ARE
SLOWER TO DIG A COMPACT BUT POTENTIALLY POTENT KICKER SYSTEM SWD
ALONG THE BC COAST/NWRN US TO THE LEE OF BLOCKY UPSTREAM GULF OF
AK/AK RIDGING TUE-THU THAN THE 00 UTC ECMWF AND 06 UTC GFS.  THE
LESS PROGRESSIVE PATTERN RESULTS IN HOLDING MORE LEAD TROFFING
FROM THE SWRN US THRU S-CENTRAL ROCKIES/HIGH PLAINS NEXT WED/THU.
THE 00 UTC NCEP/12 UTC ECMWF ENSEMBLES SUPPORT A SOLUTION CLOSEST
TO A BLEND OF THE 00 UTC GFS/06 UTC DGEX AND STRONG 12 UTC ECMWF.

CLARK/SCHICHTEL

$$
```

2.4 Updates, Amendments, and Corrections. Product is updated only as needed at 1400 UTC. HPC will correct for format and grammatical errors as required.

3. Model Diagnostic Discussion (product category PMDHMD).

3.1 Mission Connection. HPC issues the model diagnostic discussion which provides an evaluation of the analyses of the three primary models (WRF, NAM, GFS), a review of model trends and biases and a description of model differences and preferences. 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. HPC uses commercial text editor software.

3.2.2 Issuance Criteria. This is a routine, schedule-driven product.

3.2.3 Issuance Times. Preliminary issuance at 0400 and 1600 UTC, final issuance at 0530 and 1730 UTC.

3.2.4 Valid Time. 0000 UTC Day 1 to 1200 UTC Day 3 for 0530 UTC issuance; 1200 UTC Day 1 to 0000 UTC Day 3 for 1730 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 AMODEL DIAGNOSTIC DISCUSSION.@

3.3.3 Content. A narrative that may use standard NWS abbreviations to provide an evaluation of the NAM and GFS, 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.

3.3.4 Format.

```
FXUS10 KWNH 101603
PMDHMD

MODEL DIAGNOSTIC DISCUSSION
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
1103 AM EST THU MAR 10 2005

VALID MAR 10/1200 UTC THRU MAR 14/0000 UTC

MODEL INITIALIZATION...
```

...SEE NOUS42 KWNO ADMNFD FOR STATUS OF NOAM UPR AIR INGEST...

MID LEVEL VORT DROPPING SWD INTO NRN GTBASIN…

THE 1200 UTC NAM APPEARS TO BE POORLY INITIALIZED WITH THE STRENGTH OF THE MID LEVEL VORT DROPPING SWD INTO THE NRN GTBASIN. H5 HTS ARE 4 DM TOO HIGH AT REV...3-4 DM TOO HIGH AT MFR...AND 4 DM TOO HIGH AT BOI. THE GFS IS WELL INITIALIZED WITH THIS FEATURE.

CLIPPER MOVG FROM THE UPR MS VALLEY INTO THE OH VALLEY DAY 1...

THE NAM IS SLIGHTLY TOO WEAK WITH THIS TROF...3DM TOO HIGH WITH H5 HTS AT BIS. THE PW VALUES AT BIS ARE INITIALIZED AS ZERO IN BOTH THE NAM AND GFS. SURROUNDING STATIONS SUGGEST A VALUE NEAR .25" WOULD BE MORE APPROPRIATE.

HT FALLS DROPPING SWD FROM NCNTRL CAN THRU MB DAY 1...INTO THE UPR MS VALLEY/WRN LAKES DAY 2...THRU THE OH VALLEY INTO THE MID ATL DAY 3...

THE NAM AND GFS APPEAR TO INITIALIZE THIS SYSTEM WELL

H5 SYS PASSING OFF THE SE COAST ON DAY 1…

THE NAM IS ABOUT 3 DM TOO HIGH WITH H5 HTS IN THIS TROF (TLH...JAX). THE GFS INITIALIZATION IS BETTER THAN THE GFS OVER THE BAHAMAS...H5 HTS AT NASSAU ARE APPROX 5 DM TOO LOW IN BOTH THE NAM AND GFS. ACRS S FL...H25 WINDS IN THE NAM AND GFS AT MFL ARE ABOUT 50 KTS WEAKER THAN THE 1200 UTC INITIALIZATION.

S TX...

THE NAM INITIAL ANALYSIS SHOWS A CLOSED 1016 ISOBAR OVR S TX IMPLYING A WEAK SFC LOW. HOWEVER...LATEST SFC DATA AND 1200 UTC NAM LOW LEVEL WINDS DO NOT SUPPORT THIS ANALYSIS. A SFC RIDGE..AS PER LATEST NCEP ANALYSIS...EXTENDS FROM NERN MEXICO NEWD INTO THE LOWER MS VALLEY. THE GFS DOES NOT SHOW THIS CLOSED 1016 ISOBAR.

MODEL TRENDS...

HT FALLS DROPPING SWD FROM NCNTRL CAN THRU MB DAY 1...INTO THE UPR MS VALLEY/WRN LAKES DAY 2...THRU THE OH VALLEY INTO THE MID ATL DAY 3...

THE 1200 UTC NAM IS TRENDING SLIGHTLY WEAKER WITH THIS SYSTEM AS IT DROPS SEWD THRU THE UPR MS VALLEY/WRN LAKES REGION FRI...AND INTO THE UPR OH VALLEY/MID ATL REGION DURG SAT.

MID LEVEL VORT DROPPING SWD INTO THE NRN GTBASIN...

THE LATEST NAM IS ABOUT 100 NM FARTHER TO THE WEST WITH THE MID LEVEL VOR...INIT OVR THE GTBASIN...THAT IS FCST TO

```
RETROGRADE ON THE S SIDE OF THE PAC NW UPR RIDGE AND ACRS
SCNTRL CA THIS EVENING AND OFFSHORE EARLY FRI.  THE NEW NAM IS
ABOUT 150 NM FARTHER TO THE WEST DURG FRI WITH THIS FEATURE
COMPARED TO THE 0000 UTC RUN.  THIS SYSTEM IS THEN EXPECTED
TO TURN BACK TO THE NORTH OFF THE SRN TO CNTRL CA COAST FRI
NIGHT ON THE WRN SIDE OF THE PAC NW UPR RIDGE.  THE NAM TREND
TO BE FASTER TO PUSH THE SYSTEM WWD LEADS TO THIS SYSTEM
THAN BEING ABOUT 150-200+ NM FARTHER SOUTH WEST OF THE 0000
UTC PSN SAT OFF THE SRN TO CNTRL CA COAST.

EVOLUTION OF SFC LOW OFF THE NRN MID ATL/NEW ENGLAND COAST...

THE NAM AND GFS HAVE BEEN SHOWING A COMPLEX EVOLUTION OF
SFC LOW PRESSURE OFF THE NEW ENGLAND COAST FRI NIGHT INTO
SAT.  THEY HAVE BEEN BOTH SHOWING A TWO LOW STRUCTURE
TAKING SHAPE DURG SAT...WITH ONE LOW MOVG INVOF ERN L.I./CAPE
COD/LOWER ME COAST SAT…WHILE A SECOND LOW FORMS ALONG 60-
65W AND MOVES NNEWD.  THE DIFFS BETWEEN THE GFS AND NAM
OVER THE PAST RUNS HAVE BEEN WHICH LOW WOULD BE
DOMINANT...WITH THE GFS SHOWING A STRONGER ERN LOW AND THE
NAM A STRONG LOW CLOSER TO THE COAST.  THE LAST TWO RUNS OF
THE NAM...1200 AND 0600 UTC...HAVE TRENDED WEAKER WITH THE LOW
CLOSER TO THE COAST BY ABOUT 5 MB COMPARED TO THE 0000 UTC
RUN...BUT STILL IS NOT AS STRONG WITH THE OFFSHORE LOW AS PER
THE GFS.  HOWEVER...THESE DIFFS AND TRENDS ARE NOT AS
IMPORTANT AS THE OVERALL STRUCTURE FROM THE SFC TO MID
LEVELS WHERE UPSTREAM MID LEVEL HT FALLS WL HELP TO FOCUS
HVY SNOW POTENTIAL ALONG THE INVERTED SFC TROF FCST OVER
NEW ENGLAND DURG SAT.  BOTH MODELS SHOW THIS...WITH THIS
REFLECTED IN VERY SIMILAR QPF AMTS LATE FRI THRU SUN.

ORAVEC

MODEL BIASES AT WWW.HPC.NCEP.NOAA.GOV/HTML/MODEL2.SHTML

$$
```

3.4 Updates, Amendments, and Corrections. No updates. HPC will correct for format and grammatical errors as required.

4. Short Range Forecast Discussion (product category PMDSPD).

4.1 Mission Connection. HPC 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.

4.2 Issuance Guidelines.

4.2.1 Creation Software. HPC uses commercial text editor software.

4.2.2 Issuance Criteria. This is a routine, schedule-driven product.

4.2.3 Issuance Times. 0900 and 2100 UTC.

4.2.4 Valid Time. 1200 UTC Day 1 to 0000 UTC Day 3 for 0700 UTC issuance, and 0000 UTC Day 2 to 1200 UTC Day 3 for 1915 UTC issuance.

4.2.5 Product Expiration Time. Product expires with the next issuance.

4.3 Technical Description. The short range prognostic 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 ASHORT RANGE FORECAST DISCUSSION.@

4.3.3 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.

4.3.4 Format.

```
FXUS01 KWBC 101808
PMDSPD

SHORT RANGE FORECAST DISCUSSION
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
108 PM EST THU MAR 10 2005

VALID 00Z FRI MAR 11 2005 - 12Z SAT MAR 12 2005

A STAGNANT LONGWAVE PATTERN REMAINS IN PLACE THIS PERIOD...
WITH A LONGWAVE RIDGE OVER THE WESTERN THIRD OF THE COUNTRY
AND BROAD AND DEEP LONGWAVE TROUGH EAST OF THE ROCKIES.

A STRONG SHORTWAVE OVER THE HIGH PLAINS DIVES SOUTH TO THE
MIDWEST THURSDAY EVENING AND TO THE CAROLINA COAST LATE
FRIDAY.  THE BEST LIFT IN ASSOCIATION WITH THIS WEATHER FEATURE
WILL LIE ALONG THE PATH OF THE SURFACE LOW...WHERE LIGHT SNOW
IS LIKELY FROM THE SOUTHERN GREAT LAKES...NORTHERN MIDWEST...AND
NORTHERN OHIO VALLEY THURSDAY AFTERNOON AND EVENING.  BY
FRIDAY...LIGHT SNOW WILL PUSH INTO THE MID ATLANTIC AND
NORTHEAST...AND LIGHT RAIN IS POSSIBLE ALONG THE CAROLINA
COAST AS THE ASSOCIATED COLD FRONT BEGINS TO MOVE OFFSHORE.
SNOW WILL BECOME HEAVIER OVER NEW ENGLAND THROUGHOUT THE
DAY FRIDAY...AS A PRELUDE TO THE POTENTIAL HEAVY SNOW EVENT
SLATED FOR EARLY THIS WEEKEND.

A SECOND...EVEN MORE POTENT SHORTWAVE OVER CENTRAL CANADA
THURSDAY WILL FOLLOW IN THE WAKE OF THE FIRST SHORTWAVE AND
LIE OVER THE MIDWEST LATE FRIDAY.  ADDITIONAL LIGHT SNOW WILL
FLY OVER THE MIDWEST...GREAT LAKES...AND OHIO VALLEY AS THE
```

```
ASSOCIATED COLD FRONT RACES SOUTHEASTWARD.  IN THE WARMER
AIR TO THE SOUTH...LIGHT RAIN SHOWERS ARE FORECAST OVER
PARTS OF THE CENTRAL MISSISSIPPI RIVER VALLEY FRIDAY.  THIS
WEATHER SYSTEM WILL WRING OUT A LIMITED AMOUNT OF AVAILABLE
MOISTURE TO PRODUCE LIGHT SNOW FROM THE OHIO VALLEY TO THE
NORTH CAROLINA/VIRGINIA AREA BY EARLY SATURDAY.

AS BOTH SHORTWAVES COMBINE OVER THE MID ATLANTIC LATE
FRIDAY...STRONG CYCLOGENESIS WILL OCCUR IMMEDIATELY OFFSHORE
THE MID ATLANTIC COAST.  THE INCIPIENT COASTAL LOW...SIMILAR TO A
SERIES OF WINTER WEATHER SYSTEMS THE LAST FEW WEEKS...WILL
NEAR THE SOUTHERN NEW ENGLAND COAST WHILE RAPIDLY
DEEPENING.  SNOW WILL INCREASE OVERNIGHT OVER CENTRAL AND NORTHERN
NEW ENGLAND...BUT WARMER...MARITIME AIR MAY CAUSE PRECIPITATION TO
FALL AS RAIN OVER SOUTHERN NEW ENGLAND FROM LONG ISLAND TO NEAR
BOSTON.  PLEASE REFER TO CURRENT AND FUTURE ISSUANCES OF QPFHSD FOR
ADDITIONAL INFORMATION ON THIS DEVELOPING WINTER WEATHER EVENT.

YET ANOTHER SHORTWAVE IN THE NORTHERN STREAM WILL DIVE INTO
THE NORTHERN ROCKIES BY EARLY SATURDAY.  A NEW FRONTAL WAVE
WILL FORM ALONG THE POLAR FRONT AND ADVANCE SOUTHEASTWARD
INTO THE NORTHERN PLAINS AROUND THIS TIME.  LIGHT RAIN SHOWERS
WILL OCCUR NEAR THE ASSOCIATED COLD FRONT OVER THE NORTHERN
ROCKIES...WITH HIGHER ELEVATION SNOWS POSSIBLE OVER PARTS OF
MONTANA.  LIGHT SNOW IS ALSO LIKELY OVER THE NORTHERN PLAINS
AHEAD OF SURFACE LOW PRESSURE.

ELSEWHERE ... HIGH PRESSURE DOMINATES THE WEATHER OVER
ROUGHLY THE WESTERN THIRD THROUGH THE PERIOD.

KIMBERLAIN

GRAPHICS AVAILABLE ON THE WEB AT WWW.HPC.NCEP.NOAA.GOV

$$
```

4.4 Updates, Amendments, and Corrections. This product is not updated or amended. HPC will correct for format and grammatical errors as required.

5. Extended Forecast Discussion (product category PMDEPD).

5.1 Mission Connection. HPC issues an extended range discussion that provides the meteorological reasoning behind the Days 3 to 7 Surface Progs (section 20) and Days 3 to 7 Temperature/Precipitation Forecast Anomalies (section 21) graphical products. This guidance is used by 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.

5.2 Issuance Guidelines.

5.2.1 Creation Software. HPC uses commercial text editor software.

5.2.2 Issuance Criteria. This is a routine, schedule-driven product.

5.2.3 Issuance Time. 1830 UTC/1930 UTC (230 PM EDT/EST).

5.2.4 Valid Time. 1200 UTC Day 3 to 1200 UTC Day 7.

5.2.5 Product Expiration Time. Product expires with next product issuance.

5.3 Technical Description. The Extended Forecast 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 AEXTENDED FORECAST DISCUSSION.@

5.3.3 Content. This is a text product that describes the meteorological reasoning of the forecaster behind the generation of the Days 3 to 7 Surface Progs and Days 3 to 7 24-Hour Probability of Precipitation (PoP) Anomaly forecasts for CONUS and Alaska.

5.3.4 Format.

```
FXUS02 KWBC 092015
PMDEPD

EXTENDED FORECAST DISCUSSION
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
315 PM EST WED MAR 09 2005

VALID 12Z SAT MAR 12 2005 - 12Z WED MAR 16 2005

FINAL MEDIUM RANGE DISCUSSION...

MODEL MEANS CONTINUE TO SHOW RETROGRESSION OF HIGHER LATITUDE
RIDGES.  ONE POSITIVE ANOMALY CENTER MIGRATES ACROSS THE DAVIS
STRAIT TOWARD NERN CANADA.  ANOTHER SWELLS NW OUT OF THE W COAST OF
NOAM RIDGE TOWARDS THE NRN GULF OF ALASKA BY SUN DAY 4.

THE 12Z/08 ECMWF DIFFERED FROM THE GFS IN HOW IT HANDLED THE GULF
OF AK ANOMALY NEXT WEEK.  THE 12Z/08 ECMWF MOVES IT BACK TOWARDS
THE ALEUTIANS...WHILE THE GFS REDEVELOPS THE MAIN ANOMALY CENTER
BACK OVER THE WRN BEAUFORT SEA BY D+8.  AT ANY RATE...BOTH THE
ECMWF AND GFS SUPPORT BELOW NORMAL HGTS OVER MOST OF THE CONUS
WITH THE ECMWF HAVING A BIT MORE RIDGE OVER THE SERN STATES.

THE MAIN FORECAST CHALLENGE CONTINUES TO BE THE EVOLUTION OF
CANADIAN ENERGY DIGGING INTO THE WRN STATES NEXT MON-WED DAYS 5-7.
THE NEW 12Z/09 GFS WAS LESS INTENSE THAN ITS 06Z PREDECESSOR IN
DIGGING SHORTWAVE ENERGY TOWARDS CA NON-TUE.  OTHERWISE IT HAD THE
SAME GENERAL SWD-TRENDING TRACK AS THE 06Z.  AMIDST REMAINING
UNCERTAINTIES...IT APPEARS THAT THE NEW ECMWF/UKMET/CANADIAN GEM
ARE ALL HEADING FOR AN UPPER TROF IN THE SRN RATHER THAN THE N
CENTRAL INTER MOUNTAIN REGION COME EARLY NEXT WEEK.  WE ARE
CONFIDENT OF THAT TREND.  THEY SUPPORT THE IDEA OF THE MAIN VORT
```

ENERGY DIGGING S INTO THE SRN GRT BASIN AS HAS BEEN THE CASE WITH OTHER SYS THIS PAST WINTER. IN THIS WAY THEY SUPPORT THE CHARACTER...NOT NECESSARILY THE INTENSITY...OF THE 06Z GFS ENSEMBLE MEAN WITH THE UPPER TROF OVER THE SWRN STATES MON-WED.

...AK...

HEAVY PCPN ON THE S CENTRAL COAST EARLY SAT DAY 3 SHOULD DIMINISH THEREAFTER AS STRONG HEIGHT RISES TAKE A FOOTHOLD. LINGERING GFS QPF LOOKS TOO HIGH ON THE S CENTRAL COAST SUN-MON GIVEN THE STRENGTH OF THE RIDGING SURFACE AND ALOFT EXPECTED IN THAT AREA. SOME PCPN WILL WORK ITS WAY AROUND THE TOP OF THE UPPER RIDGE SUN-MON OVER THE NW HALF OF THE STATE.

CONCERNING DIFFERENCES IN THE 00Z/09 GFS AND 12Z/08 ECMWF IN HOW THEY HANDLE THE BREAKDOWN OF THE ERN GULF OF ALASKA BLOCK MON DAY 5 AND BEYOND...WE NOTE THAT THE LATEST 00Z/12Z ECMWF RUNS HAVE TRENDED TOWARDS THE 00Z/09 GFS IN HOW THEY HANDLE THE UPPER PATTERN OVER AK EARLY NEXT WEEK. WE CAUTIOUSLY PREFER THE LATEST GFS HERE. HOWEVER...THE UNEXPECTED CAN HAPPEN WHEN SHORTWAVE ENERGY EATS AWAY AT THE ERN PORTION OF A BLOCKING RIDGE AS BOTH THE GFS AND ECMWF SHOW....AND THERE REMAINS SOME UNCERTAINTY.

...WEST...

WE ARE LOOKING FOR COOLER TEMPS SOUTH OF THE ARCTIC FRONT IN THE WEST THAN WE WERE EXPECTING EARLIER. PCPN IN THE W WILL BE DISORGANIZED AND TERRAIN-FOCUSED NEXT MON-WED UNTIL/UNLESS AN UPPER LOW DEVELOPS SOMEWHERE OVER SRN CA/AZ/NM.

...CENTRAL/EAST...

A CONSENSUS OF NEW 12Z MODELS AND HPC/OPC FORECASTERS PLACES THE DEVELOPING OFFSHORE STORM NEAR 37.5N/71.2W FOR SAT DAY 3. SOME BACKLASH SN IN NEW ENG BUT THE BEST ACTION WILL REMAIN OFFSHORE. THE NEXT SYS IN THE SERIES FOR SUN DAY 4 APPEARS TO BE A MINOR FEATURE RACING EWD IN THE FAST FLOW BELOW THE SUPPRESSED VORTEX ACROSS EXTREME SE CANADA. MUCH BELOW NORMAL TEMPS UNDER THE BLOCKING UPPER LOW OVER CANADA WILL FEEL MUCH MORE LIKE FEBRUARY THAN MARCH THRU MOST OF THE MEDIUM RANGE PERIOD. THE GULF COAST STATES WILL BRIEFLY SEE MORE NORMAL TEMPS THIS WEEKEND...THEN THEY TOO WILL COOL OFF AGAIN.

IN THE CENTRAL/SRN HI PLAINS...THE ECMWF/GFS HAVE BACKED OFF HAVING A DEEP AS SURFACE SYS OVER THE WRN STATES TUE-WED. FINAL GRAPHICS ADJUSTED THE FRONT FARTHER S ALONG THE GULF COAST DAY 7 WED. WE SUPPRESSED THE ERSTWHILE CO LOW FARTHER S INTO NM FROM OUR SECOND SET OF UPDATED GRAPHICS THIS MORNING. THE SUPPRESSED FRONT IN THE GULF COAST AREA BODES FOR AREAS OF COLD RA RACING EWD FROM TX ACROSS THE GULF STATES...PSBY SN ON THE NRN EDGE OF THE PCPN SHIELD. SOME UPSLOPE SN POSSIBLE IN THE CENTRAL ROCKIES FROM SUN ONWARD...TIMING UNCERTAIN.

FLOOD

$$

5.4 Updates, Amendments, and Corrections. This product is not updated or amended**.** HPC will correct for format and grammatical errors as required.

6. Caribbean Discussion (product category PMDCA).

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

6.2 Issuance Guidelines.

6.2.1 Creation Software. HPC uses commercial text editor software.

6.2.2 Issuance Criteria. This is a routine, schedule-driven product.

6.2.3 Issuance Time. 1830 UTC, non-holiday Monday-Friday only.

6.2.4 Valid Time. 0000 UTC Day 1 through 0000 UTC Day 3.

6.2.5 Product Expiration Time. Product expires with next product issuance.

6.3 Technical Description. The Caribbean 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 ATROPICAL DISCUSSION - INTERNATIONAL DESKS.@

6.3.3 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.

6.3.4 Format.

```
FXCA20 KWBC 101907
PMDCA

TROPICAL DISCUSSION - INTERNATIONAL DESKS
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
207 PM EST THU MAR 10 2005

DISCUSSION FROM MAR 10/0000UTC...A 500 HPA TROUGH IS TO MOVE OFF
THE EASTERN USA EARLY THIS CYCLE...TO ALIGN ALONG 60W TO 27N AT
24 HRS...THEN RAPIDLY DAMPEN BY 48 HRS WHILE LIFTING OVER A
BLOCKING RIDGE ON THE CENTRAL ATLANTIC.  THE TROUGH SUPPORTS A
FRONT ACROSS THE TURKS AND CAICOS-EASTERN CUBA-CAYMANS TO
NORTHERN HONDURAS AT 24 HRS.  BY 36 HRS IT WILL MEANDER OVER THE
TURKS AND CAICOS-WINDWARD PASSAGE/EASTERN CUBA-CAYMAN ISLES TO
```

GULF OF HONDURAS. THE BOUNDARY WILL THEN REMAIN NEARLY STATIONARY THROUGH 60 HRS. EXPECT SCATTERED CONVECTION ACROSS THE CAYMAN ISLES-EASTERN CUBA-SOUTHEAST BAHAMAS TO PRODUCE RAINFALL ACCUMULATION OF 05-10MM/DAY AND MAXIMA OF 25-35MM THROUGH 30 HRS...WITH CONVECTION TO RAPIDLY WEAKEN THROUGH 48 HRS. ACROSS NORTHERN HONDURAS-CENTRAL GUATEMALA/SOUTHERN BELIZE...EXPECT SIMILAR AMOUNTS THROUGH 36 HRS.

THE MODELS FORECAST ANOTHER 500 HPA TROUGH TO CLOSELY FOLLOW...TO MOVE ACROSS THE NORTHEAST/MID ATLANTIC REGION OF THE USA THROUGH 42-48 HRS...THEN EJECT ACROSS THE NORTHEAST ATLANTIC BY 72 HRS. THIS TROUGH WILL ALSO SUPPORT A SURFACE FRONT...TO EXTEND ACROSS CENTRAL FLORIDA/NORTHERN GULF TO SOUTHERN TEXAS/RIO BRAVO BORDER BY 54 HRS...INTO THE NORTHWEST BAHAMAS BY 60 HRS...AND THE CENTRAL BAHAMAS-WESTERN CUBA BY 72 HRS. AT 72-84 HRS IT WILL MERGE/INTERACT WITH THE AFOREMENTIONED FRONT...TO SUPPORT ITS SOUTHWARD MODULATION ACROSS HAITI/JAMAICA. EXPECT MOSTLY LIGHT RAINFALL AS THIS BOUNDARY MOVES ACROSS THE BAHAMAS-CUBA WITH ACCUMULATION OF 00-05MM/DAY.

FARTHER SOUTH...AN EAST TO WEST RIDGE WILL EXTEND AT 500HPA ACROSS SOUTHERN MEXICO-CENTRAL AMERICA/CARIBBEAN BASIN INTO THE TROPICAL ATLANTIC. THE RIDGE WILL ANCHOR ON AN ILL ORGANIZED HIGH OVER ANTIGUA-BARBUDA THROUGH 60-72 HRS...WITH SOME RELOCATION OF THE HIGH INTO THE TROPICAL ATLANTIC LATER IN THE CYCLE. NO MAJOR CHANGES ARE EXPECTED TO THE SYNOPTIC PATTERN AS PUERTO RICO-HISPANIOLA-JAMAICA-EASTERN CUBA-LESSER ANTILLES AND VENEZUELA ARE TO REMAIN UNDER A SUBSIDENCE CAP THROUGH 72 HRS. ACROSS THE GUIANAS IT IS TO ALSO SUPPORT A WEAK SUBSIDENCE INVERSION...TO CAP CONVECTION BELOW 600 HPA. SIMILARLY ACROSS COLOMBIA-COSTA RICA AND PANAMA...WHERE IT WILL FAVOR AN UPPER LEVEL CONVERGENT/SUBSIDENT PATTERN TO INHIBIT ORGANIZED CONVECTION. ACROSS COLOMBIA ORGANIZED CONVECTION WILL LIMIT TO THE NEAR EQUATORIAL TROUGH SOUTH OF 01N/02N...TO MAINLY AFFECT THE STATE OF AMAZONAS...WHERE WE EXPECT DAILY ACCUMULATION OF 05-15MM/DAY. ON THE WESTERN PLAINS AND ANDEAN REGION... MEANWHILE...EXPECT RAINFALL ACCUMULATION OF 00-05MM/DAY. SIMILARLY ACROSS THE GUIANAS...WITH LIGHT CONVECTION ALONG THE NORTHERN COAST...AND MODERATE TO HEAVY CONVECTION ALONG THE EQUATORIAL TROUGH ON THE SOUTHERN BORDER WITH BRAZIL. OVERALL EXPECT RAINFALL ACCUMULATION OF 00-05MM/DAY AND MAXIMA OF 10-20MM/DAY TO CONCENTRATE ACROSS FRENCH GUIANA.

THE SATELLITE IMAGERY SHOWS AN ELONGATED SHEARLINE WITH AXIS SOUTHWEST ACROSS THE TROPICAL ATLANTIC ALONG 20N 30W...15N 45W...TO TRINIDAD TOBAGO. EVALUATION OF THE 850 HPA EQUIVALENT POTENTIAL TEMPERATURE (THTA-E) SHOWS A CLUSTER THAT DETACHES FROM THIS AXIS AND MOVES WEST ACROSS THE WINDWARD/FRENCH ISLES AT 36-60 HRS. IN A SUBSIDENT PATTERN THIS SYSTEM IS TO SUPPORT SHALLOW CONVECTION WITH ACCUMULATION OF 00-05MM/DAY AND ISOLATED MAXIMA OF 10-20MM/DAY. MOST ACTIVE WILL CONCENTRATE ON THE NORTHERN WINDWARD AND SOUTHERN FRENCH ISLES.

THE 850 HPA PATTERN SHOW A RIDGE PERSISTING ACROSS THE CARIBBEAN/CENTRAL AMERICA THROUGH 72 HRS. AT 24 HRS THE MEAN AXIS WILL LIE ACROSS THE LEEWARDS/FRENCH ISLES TO HONDURAS/ NICARAGUA AND INTO SOUTHERN MEXICO. AS THE POLAR FRONT PULLS

```
AWAY FROM THE REGION THE RIDGE ACROSS THE CENTRAL/EASTERN
CARIBBEAN WILL GRADUALLY SHIFT TO THE NORTH ACROSS PUERTO RICO/
HISPANIOLA BY 36-48 HRS WHERE IT WILL REMAIN QUASISTATIONARY
THROUGH 72 HRS.  AS ANOTHER POLAR TROUGH DROPS TO THE SOUTH
ACROSS THE EASTERN USA A RIDGE OVER MEXICO WILL RE-ESTABLISH
ITSELF ALONG THE GULF OF MEXICO THROUGH 72 HRS.  ACROSS THE
EASTERN/CENTRAL CARIBBEAN THE RIDGE WILL FAVOR A LIGHT
NORTHEAST/EASTERLY FLOW OF LESS THAN 10 KT TO CONCENTRATE NORTH
OF 15N...AND A 15-20 KT FLOW FURTHER SOUTH TO ESTABLISH BY 72
HRS.  OVER CENTRAL AMERICA/WESTERN CARIBBEAN AN INITIALLY
NORTH/NORTHWESTERLY FLOW OF 10-15 KT WILL BECOME MOSTLY
NORTH/NORTHEASTERLY AS THE RIDGE BUILDS OVER THE GULF.  ALTHOUGH
A GENERALLY SUBSIDENT/DRYING PATTERN WILL PERSIST ACROSS THE
REGION...THE REGIME OF LIGHT WIND WILL ALLOW FOR POSSIBILITY OF
SEA BREEZE CONVERGENCE ON THE LARGER ISLANDS ACROSS EASTERN/
CENTRAL CARIBBEAN.  THE NORTHERLIES ACROSS THE CENTRAL CARIBBEAN
ARE TO CONVERGE ACROSS SOUTHERN NICARAGUA AND CARIBBEAN PLAINS
OF COSTA RICA/WESTERN PANAMA...WHERE IT IS TO FAVOR SHALLOW
CONVECTION WITH ACCUMULATION OF 05-10MM/DAY.

A LOW ALONG THE EASTERN PACIFIC ITCZ RELOCATED TO 10N 96W...AND
UNDER THE INFLUENCE OF THE POLAR FRONT OVER THE WESTERN
CARIBBEAN IT SEEMS TO BE SHEARING NORTHEASTWARD...WHILE UPPER
MOISTURE IS DRAWN NORTHWARD ACROSS EL SALVADOR/HONDURAS.  LOOKS
LIKE THE GFS HAS LOST TRACK OF THIS SYSTEM...AND NOW INITIALIZES
A LOW FARTHER SOUTH AND EAST THAN ITS ACTUAL POSITION.  WE ARE
EXPECTING THE LOW TO CONTINUE WEAKENING UNDER THE NEGATIVE
INFLUENCE OF THE POLAR FRONT...WITH CONVECTION TO CONCENTRATE
ALONG THE ITCZ.

MARTINEZ...SNET (EL SALVADOR)
WILLIAMS...BMS (BARBADOS)
DAVISON...NCEP (HPC)

$$
```

6.4 Updates, Amendments, and Corrections. This product is not updated or amended. HPC will correct for format and grammatical errors as required.

7. Hawaii Discussion (product category PMDHI).

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

7.2 Issuance Guidelines.

7.2.1 Creation Software. HPC uses commercial text editor software.

7.2.2 Issuance Criteria. This is a routine, schedule-driven product.

7.2.3 Issuance Time. 1200 UTC.

7.2.4 Valid Time. 0000 UTC Day 1 to 0000 UTC Day 8.

7.2.5 Product Expiration Time. Product expires after the next product issuance.

7.3 Technical Description. The Hawaii Discussion 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 AHAWAII EXTENDED FORECAST DISCUSSION.@

7.3.3 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.

7.3.4 Format.

```
FXHW01 KWNH 101156
PMDHI

HAWAII EXTENDED FORECAST DISCUSSION
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
656 AM EST THU MAR 10 2005

VALID 00Z FRI MAR 11 2005 - 00Z FRI MAR 18 2005

UNSETTLED WEATHER WILL CONTINUE WITH FREQUENT SHOWERS ON THE SRN
FRINGE OF A DEEPENING LOWER MIDDLE LATITUDE UPPER LOW/MEAN TROF
ALONG 160W THRU TUE DAY 5.  MODELS AND GFS ENSEMBLES SHOW THE UPPER
TROF LIFTING OUT NEXT WED-THU DAYS 6-7.  THE MAIN COLD FRONT WILL
BEGIN TO PUSH THRU THE ISLANDS AROUND SUN BUT THERE IS A STRONG
HINT AMONG MODELS OF THE FRONT BEING HELD BACK MON BY VORT ENERGY
DROPPING WELL S INTO THE BASE OF THE UPPER TROF.  THIS WOULD KEEP
SHOWERY WEATHER AROUND A DAY OR TWO AFTER THE FROPA BEFORE DRIER
AIR FINALLY SWEEPS SHOWERS E OF THE STATE WED-THU.  ABOVE NORMAL
PCPN MOST AREAS.

FLOOD

$$
```

7.4 Updates, Amendments, and Corrections. No updates are issued for this product. HPC will correct for format and grammatical errors as required.

8. South America Synopsis (product category PMDSA).

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

8.2 Issuance Guidelines.

8.2.1 Creation Software. HPC uses commercial text editor software.

8.2.2 Issuance Criteria. This is a routine, schedule-driven product.

8.2.3 Issuance Time. 1400 UTC, non-holiday Monday-Friday only.

8.2.4 Valid Time. 0000 UTC Day 1.

8.2.5 Product Expiration Time. Product expires with next product issuance.

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

8.3.1 MND Broadcast Line. Not applicable.

8.3.2 MND Header. The MND header is ASOUTH AMERICA SYNOPTIC DISCUSSION - INTERNATIONAL DESKS.@

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

8.3.4 Format.

```
FXSA20 KWBC 101334
PMDSA

SOUTH AMERICA SYNOPTIC DISCUSSION - INTERNATIONAL DESKS
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
834 AM EST THU MAR 10 2005

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

SYNOPSIS (MAR 10/0000UTC)...A 200 HPA HIGH CENTERED NEAR 20S
65W EXTENDS A RIDGE WEST-NORTHWEST ACROSS SOUTHERN/CENTRAL
PERU INTO THE EASTERN PACIFIC.  IT ALSO RIDGES TO THE
EAST-SOUTHEAST ACROSS PARAGUAY/SOUTHERN BRASIL INTO THE
WESTERN ATLANTIC.  THE RIDGE SUPPORTS AN AREA OF DIVERGENCE
ALOFT NORTH OF 10S AND WEST OF 55W...FAVORING ACTIVE
CONVECTION ALONG THE NEAR EQUATORIAL TROUGH OVER NORTHERN
SOUTH AMERICA.  IT ALSO FAVORS ACTIVE CONVECTION ALONG THE
SIERRA/JUNGLE OF PERU-ECUADOR AND BOLIVIA.  A TROUGH LIES
EAST-NORTHEAST OF THIS RIDGE...WITH AXIS ALONG 22S 30W...
18S 40W...TO 10S 55W.  THE TROUGH WAS ENHANCING CONVECTION
ACROSS NORTHEASTERN BRASIL.

JET ANALYSIS SHOWS THE SOUTHERN BRANCH OF THE POLAR JET WITH
ENTRANCE AT 57S 85W...THEN ALONG 53S 74W...EXITING AT 52S 63W.
IT REFORMS AT 46S 35W...THEN ALONG 51S 26W...A 180KT MAXIMUM
AT 55S 15W...AND 57S 09W.  THE NORTHERN BRANCH HAS ITS ENTRANCE
```

```
AT 44S 114W...THEN ALONG 47S 107W...53S 96W...A 163KT MAXIMUM
AT 53S 85W...44S 64W...39S 39W...47S 24W...AND 52S 04W.  THE
SUBTROPICAL JET HAS ITS ENTRANCE AT 36S 115W...CROSSING 43S
106W...EXITING AT 43S 90W. IT REFORMS AT 33S 81W...THEN ALONG
30S 87W...EXITING AT 23S 89W. IT REFORMS AT 20S 86W...CROSSING
24S 79W...31S 71W...A 126KT MAXIMUM AT 32S 57W...EXITING
AT 30S 40W.

A 500 HPA HIGH NEAR 34S 100W SUPPORTS A BLOCKING RIDGE OVER
THE EASTERN PACIFIC...WITH A POLAR TROUGH STREAKING UNDER
THIS AXIS.  THE LATTER CENTERS ON A CLOSED LOW NEAR 63S 77W...
FOCUSING ITS SHORT WAVE ENERGY ACROSS SOUTHERN CHILE AND
PATAGONIA ARGENTINA.  A LOW AMPLITUDE SHORT WAVE RIDGE ALONG
47W SEPARATES THIS SYSTEM FROM AN TROUGH THAT EXTENDS ALONG
35W TO 30S.  AN ELONGATED CYCLONIC VORTICITY TONGUE EXTENDS
ALONG 50S 20W...40S 35W...33S 50W...URUGUAY TO MENDOZA IN
ARGENTINA.  MEANWHILE...ON THE NORTHERN STREAM...A CUTOFF LOW
MEANDERS ON THE EASTERN PACIFIC NEAR 26S 84W...WHILE A MID
LEVEL HIGH CENTERS OVER EL CHACO PARAGUAYO.  FARTHER EAST...
ANOTHER NORTHERN STREAM CUTOFF LOW CENTERS OVER THE ATLANTIC
NEAR 30S 25W.

A BLOCKING RIDGE OVER THE EASTERN PACIFIC ANCHORS ON A 1025
HPA HIGH AT 38S 96W.  SOUTH AND EAST OF THIS RIDGE...A DEEP
962 HPA MATURED OCCLUDED LOW CENTERS AT 61S 78W...SUPPORTING
A TIGHT PRESSURE GRADIENT AND STRONG BOUNDARY LAYER WINDS ACROSS
EXTREME SOUTHERN CHILE.  REVOLVING AROUND THIS TROUGH...THE ANALYSIS
SHOWS A FRONT THAT EXTENDS ALONG A 986 HPA LOW AT 48S 56W...45S
53W...43S 58W...A 998 HPA LOW AT 42S 63W...LA PAMPA ARGENTINA-
PUERTO MONTT CHILE...A 1010 HPA LOW AT 45S 74W...41S 75W...45S
85W...48S 91W...TO A 1006 HPA LOW AT 49S 105W.  THIS SYSTEM FAVORS
LIGHT TO MODERATE RAINFALL ACROSS SOUTHERN CHILE.  FARTHER NORTH...AN
ELONGATED FRONT EXTENDS ALONG 34S 36W...30S 46W...RIO GRANDE
DO SUL-RESISTENCIA TO NORTHWEST ARGENTINA.  MODERATE CONVECTION WAS
BUILDING ALONG THE TAIL END OF THIS FRONT OVER NORTHWEST ARGENTINA...
WITH A PREFRONTALTROUGH SUPPORTING CONVECTION ACROSS PARAGUAY/MATO
GROSSO DO SUL TO MATO GROSSO/NORTHERN BOLIVIA.

TRUJILLO...SENAMHI (BOLIVIA)
FAJARDO...DMC (CHILE)
DAVISON...NCEP (HPC)

$$
```

8.4 Updates, Amendments, and Corrections. This product is not updated or amended. HPC will correct for format and grammatical errors as required.

9. Surface Fronts & Pressure Analysis (product categories 90F, 90I).

9.1 Mission Connection. HPC 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.

9.2 Issuance Guidelines.

9.2.1 Creation Software. HPC uses National Centers Automated Weather Interactive Processing System (N-AWIPS) software to generate these products.

9.2.2 Issuance Criteria. These are routine, schedule-driven products.

9.2.3 Issuance Time. Refer to Table 1.

9.2.4 Valid Time. Refer to Table 1.

HPC Surface Fronts and Pressure Analysis Product Schedule				
Valid Time (UTC)	*Issuance Time (UTC)*	*AWIPS ID*	*WMO Header*	*Product Description*
0000	0130	RBG90F RBG90I	PYAA98 KWNO PPAA89 KWNO	Surface Front & Pressure Analysis (N. America, CONUS, AK, Reg=l U.S.)
0300	0430	RBG90F RBG90I	PYAA98 KWNO PPAA89 KWNO	Surface Front & Pressure Analysis (N. America, CONUS, AK, Reg=l U.S.)
0600	0730	RBG90F RBG90I	PYAA98 KWNO PPAA89 KWNO	Surface Front & Pressure Analysis (N. America, CONUS, AK, Reg=l U.S.)
0900	1030	RBG90F RBG90I	PYAA98 KWNO PPAA89 KWNO	Surface Front & Pressure Analysis (N. America, CONUS, AK, Reg=l U.S.)
1200	1330	RBG90F RBG90I	PYAA98 KWNO PPAA89 KWNO	Surface Front & Pressure Analysis (N. America, CONUS, AK, Reg=l U.S.)
1500	1630	RBG90F RBG90I	PYAA98 KWNO PPAA89 KWNO	Surface Front & Pressure Analysis (N. America, CONUS, AK, Reg=l U.S.)
1800	1930	RBG90F RBG90I	PYAA98 KWNO PPAA89 KWNO	Surface Front & Pressure Analysis (N. America, CONUS, AK, Reg=l U.S.)
2100	2230	RBG90F RBG90I	PYAA98 KWNO PPAA89 KWNO	Surface Front & Pressure Analysis (N. America, CONUS, AK, Reg=l U.S.)

Table 1. Surface Fronts and Pressure Chart Issuance and Valid Times.

9.2.5 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. Not applicable.

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

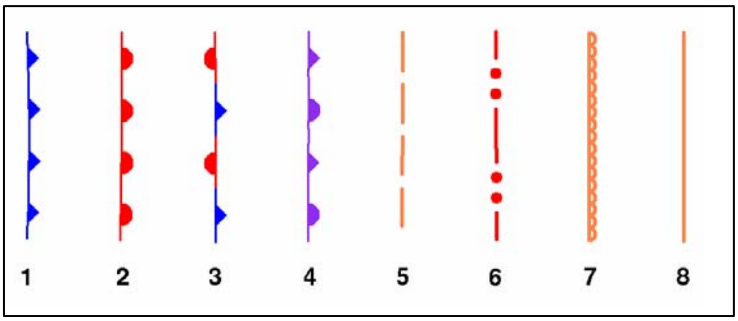

Figure 1. Color Codes for Features

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")

9.3.4 Format.

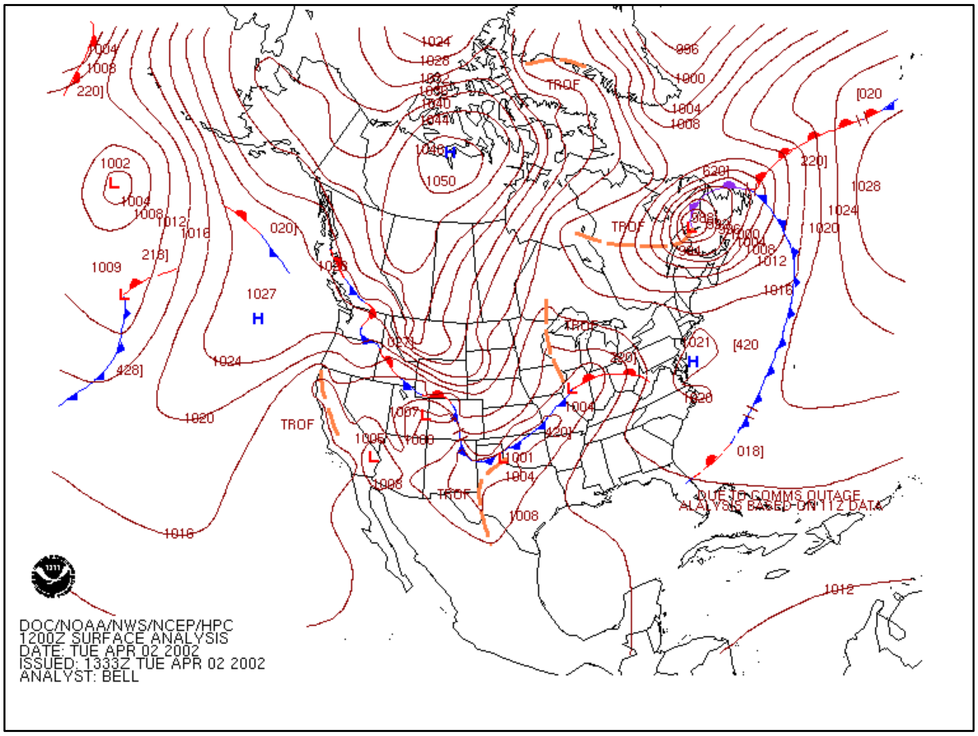

Figure 2. Surface Fronts & Pressure Analysis

9.4 Updates, Amendments, and Corrections. Products are not updated or amended. Corrections are issued as necessary.

10. Coded Surface Frontal Positions (product category CODSUS).

10.1 Mission Connection. HPC 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.

10.2 Issuance Guidelines.

10.2.1 Creation Software. HPC uses N-AWIPS software to generate these products.

10.2.2 Issuance Criteria. These are routine, schedule-driven products.

10.2.3 Issuance Time. Refer to Table 2.

10.2.4 Valid Time. Refer to Table 2.

HPC Coded Surface Frontal Position Product Schedule				
Issuance Time (UTC)	***Valid Time (UTC)***	***AWIPS ID***	***(WMO Header)***	***Product Description***
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
1930	1800	CODSUS	ASUS01 KWBC	Coded description of frontal analysis
2230	2100	CODSUS	ASUS01 KWBC	Coded description of frontal analysis

Table 2a. Coded Surface Frontal Position Product Schedule for Low Resolution product.

HPC Coded Surface Frontal Position Product Schedule				
Issuance Time (UTC)	***Valid Time (UTC)***	***AWIPS ID***	***(WMO Header)***	***Product Description***
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

Table 2b. Coded Surface Frontal Position Product Schedule for High Resolution product.

10.2.5 Product Expiration Time. Not applicable.

10.3 Technical Description. Charts 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 ACODED SURFACE FRONTAL POSITIONS.@

10.3.3 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 Lat 109 W Long
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

10.3.4 Format.

Note: Valid time is decoded MMDDHH. Example below is January 8th, 09 UTC.

```
ASUS01 KWBC 081030
CODSUS

CODED SURFACE FRONTAL POSITIONS
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
500 AM EST WED JAN 08 2003

VALID 010809Z
HIGHS 1040 41108 1028 2999 1032 67152 1030 55132
LOWS 989 58104 982 5872 962 4657 962 54171 990 46155 1010 29120 1004 35136
1016 33114
TROF 4177 4078 3978 3780 3583
WARM WK 4757 4756 4755 4853 4749 4544 4442 4138 3834
COLD WK 4976 4878 4882 5087 5191 5395
TROF 5972 5672 5474
OCFNT WK 5474 5274 5174 4976
WARM WK 4976 4875 4775 4675 4474
OCFNT WK 4557 4658 4657 4757
COLD WK 4757 4554 4353 4052 3852 3553 3254 2957 2661 2564
2466 2268 2171 2074 1878
COLD WK 58104 57107 57112 58117 59122
STNRY WK 59123 60127 60130 60135 60138 60139 60141 60144 60146 59151
58160 57168 55173 53177 51179 51176
WARM WK 45152 44152 43151 41150 38149
OCFNT WK 45155 46154 46153 45152
COLD WK 45152 43152 39153 36154 34156
WARM WK 58104 57102 56100 5598 5598 5396 5395
TROF 4855 5052 5449
TROF 63114 62110 61107 58104
OCFNT WK 34136 35137 36138 37138
COLD WK 37138 35134 31130 26131 22134
WARM WK 37138 38138 40138 42137 44134 44133 45130

$$
```

10.4 Updates, Amendments, and Corrections. This product is not updated or amended. Corrections are issued as necessary.

11. South America Forecast Discussion (product category PMDSA).

11.1 Mission Connection. HPC International Desks issue an overview discussion of numerical model guidance for South America to regional users.

11.2 Issuance Guidelines.

11.2.1 Creation Software. HPC uses commercial text editor software.

11.2.2 Issuance Criteria. This is a routine, schedule-driven product.

11.2.3 Issuance Time. 1630 UTC, non-holiday Monday-Friday only.

11.2.4 Valid Time. 0000 UTC Day 1 through 0000 UTC Day 5.

11.2.5 Product Expiration Time. Product expires with next product issuance.

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

11.3.1 MND Broadcast Line. Not applicable.

11.3.2 MND Header. The MND header is ASOUTH AMERICA FORECAST DISCUSSION - INTERNATIONAL DESKS.@

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

11.3.4 Format.

```
FXSA20 KWBC 101734
PMDSA

SOUTH AMERICA FORECAST DISCUSSION - INTERNATIONAL DESKS
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
1234 PM EST THU MAR 10 2005

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

MODEL COMPARISON VALID FROM 00Z MAR 10...THE GFS MADE TIMING
ADJUSTMENTS TO THE INBOUND SHORT WAVE PERTURBATIONS...AS IT
NOW FAVORS A SLOWER SOLUTION THAN ON THE PREVIOUS RUN...MORE
IN PHASE WITH THE EUROPEAN MODELS.

THE SUBTROPICAL RIDGE AT 200 HPA IS TO INITIALLY ANCHOR ON A
HIGH NEAR 20S 60W...SUPPORTING A RIDGE ON AREAS NORTH OF 30S
AND WEST OF 50W.  AT 36-60 HRS THE HIGH WILL RELOCATE TO 20S
55W...WHILE THE RIDGE EXPANDS EAST ACROSS BRASIL.  THIS IS TO
THEN PERSIST THROUGH 84-96 HRS.  BY 96-120 HRS...THE HIGH
REDEVELOPS OVER CENTRAL BOLIVIA...WHILE THE RIDGE OVER EASTERN
BRASIL WEAKENS.  UNDER THESE CONDITIONS DIVERGENCE ALOFT WILL
```

```
PERSIST ACROSS NORTHWESTERN BRASIL (AMAZONIA-PARA-MATO GROSSO)
...CENTRAL/NORTHERN PERU AND ECUADOR.  DIVERGENCE IS TO
GRADUALLY EXPAND EASTWARD ACROSS NORTHERN BRASIL BY 72-96 HRS.
THE RIDGE ALOFT WILL SUPPORT AN EASTERLY FLOW ACROSS NORTHWEST
BRASIL...WHICH IN-TURN WILL FAVOR A WINDWARD SIDE LOW LEVEL
TROUGH OVER EASTERN PERU AND ECUADOR.  THE COMBINATION OF NEAR
EQUATORIAL...THERMAL TROUGH AND INDUCED WINDWARD TROUGH WILL
FAVOR ORGANIZED CONVECTION ON AREAS NORTH OF 12S...WITH
RAINFALL MAXIMA OF 30-60MM.  ACROSS SOUTHERN PERU AND BOLIVIA...
MOST ACTIVE CONVECTION WILL BE ON THE SIERRA/ALTIPLANO...WITH
AN INCREASE IN CONVECTION BY 96 HRS.
THE MODELS ALSO AGREE ON A 200 HPA TROUGH TO AMPLIFY NORTH
ALONG 30W TO THE EQUATOR...AND EVOLVE INTO A CLOSED LOW NEAR
20S 30W BY 96 HRS.  AT 108-120 HRS THE LOW/TROUGH WILL MOVE
WEST INTO NORTHEAST BRASIL...TO SUPPORT CONVERGENCE ALOFT
ACROSS ESPIRITO SANTO AND BAHIA...WHERE IT IS LIKELY TO
INHIBIT ORGANIZED CONVECTION INLAND...BUT COASTAL CONVECTION
IS TO PERSIST.  ALSO ALONG THE NORTHER COAST...BETWEEN RECIFE
AND THE AMAZON RIVER DELTA...CONDITIONS WILL BE MORE FAVORABLE
FOR THE DEVELOPMENT OF SEA BREEZE INDUCED CONVECTION.

A STRONG CYCLONIC VORTEX IS MOVING OFF THE COAST OF PATAGONIA...
ENTERING A BROAD MID LEVEL TROUGH ON THE WESTERN ATLANTIC.
THE VORTEX IS TO CONTINUE ACROSS 40W THROUGH 48 HRS...AND INTO
30W/35W BY 72 HRS...THEN RAPIDLY EJECT ACROSS 15W/20W BY 96 HRS.
THE MODELS AGREE ON A SECONDARY SHORT WAVE TROUGH TO CLOSELY
FOLLOW...TO MOVE ACROSS 50S 104W BY 24 HRS...INTO PATAGONIA.

(…portion omitted for brevity…)

CYCLONE/FRONT...EXPECT RAINFALL MAXIMA OF 50-100MM BY 60 HRS...
WITH MAXIMA OF 35-70MM ACROSS PARAGUAY-CHACO ARGENTINO-MESOPOTAMIA
VALLEY AS THE FRONT PUSHES NORTH.  THE DEEPENING LOW WILL
SUPPORT STRONG EASTERLY WINDS ACROSS RIO DE LA PLATA REGION LATER
IN THE CYCLE...WITH POTENTIAL FOR HEAVY POST FRONTAL RAINFALL TO
PERSIST OVER THIS AREA.  THERE IS ALSO A GOOD CHANCE FOR ORGANIZED
RAINFALL ACROSS CENTRAL/NORTHERN BOLIVIA AND SOUTHERN/CENTRAL PERU
ON DAYS 4-5.

THE MODELS THEN CARVE A LONG WAVE TROUGH ALONG 100W THROUGH 72 HRS...
TO MOVE ACROSS 80W BY 120 HRS.  THE DEEP TROUGH WILL FOCUS ITS SHORT WAVE
ENERGY ACROSS SOUTHERN/CENTRAL CHILE BY 96 HRS...TO FAVOR ORGANIZED
RAINFALL WITH MAXIMA OF 30-60MM.

TRUJILLO...SENAMHI (BOLIVIA)
FAJARDO...DMC (CHILE)
DAVISON...NCEP (HPC)

$$
```

11.4 Updates, Amendments, and Corrections. No updates or amendments are issued for this product. HPC will correct for format and grammatical errors as required.

12. Today's National Forecast Chart (no product ID or Header).

12.1 Mission Connection. HPC compiles a significant weather chart that highlights the critical weather expected over the next 24 hours. This product supports the NWS public weather program.

12.2 Issuance Guidelines.

12.2.1 Creation Software. HPC uses N-AWIPS software to generate these products.

12.2.2 Issuance Criteria. These are routine, schedule-driven products.

12.2.3 Issuance Time. Issued twice daily, initial issuance no later than 1000 UTC and updated no later than 2200 UTC.

12.2.4 Valid Time. 1200 UTC Day 1 to 1200 UTC Day 2.

12.2.5 Product Expiration Time. Product expires with the next issuance.

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

12.3.1 MND Broadcast Line. Not applicable.

12.3.2 MND Header. Not applicable.

12.3.3 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.

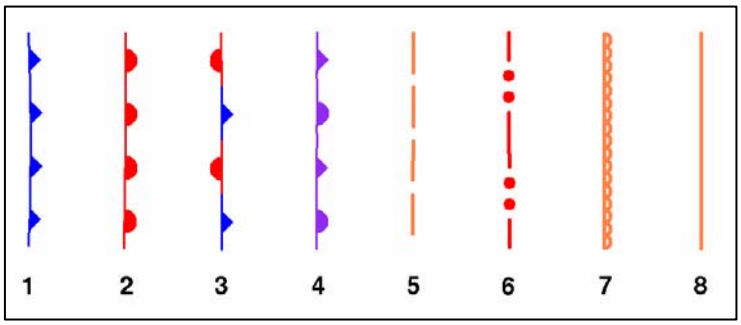

Figure 3. Color Codes for Features

Key to features:
1 -- Cold Front; 2 -- Warm Front; 3 -- Stationary Front; 4 -- Occluded Front;
5 B Trough (ATROF@) also used to depict Outflow Boundary (AOUTFLOW BNDRY@); 6 -- Squall Line;
7 -- Dry Line; 8 -- Tropical Wave (ATRPCL WAVE@)

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

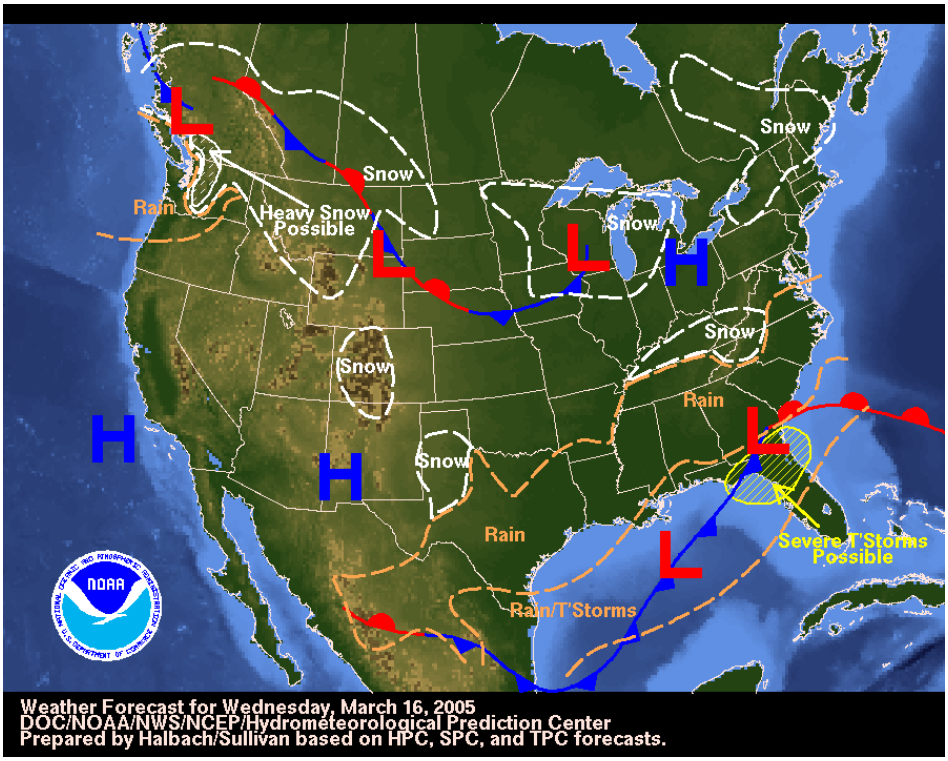

Figure 4. Forecast Fronts/Pressure Centers and Significant Weather

12.4 Updates, Amendments, and Corrections. Products are not updated or amended. Corrections are issued as necessary.

13. Surface Fronts & Pressure Charts (12-48 hrs) (product categories 92F, 94F, 96F, 98F).

13.1 Mission Connection. HPC 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.

13.2 Issuance Guidelines.

13.2.1 Creation Software. HPC uses N-AWIPS software to generate these products.

13.2.2 Issuance Criteria. These are routine, schedule-driven products.

13.2.3 Issuance Time. Refer to Table 3.

13.2.4 Valid Time. Refer to Table 3.

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

Table 3. Surface Fronts and Pressure Chart Issuance and Valid Times.

13.2.5 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. Not applicable.

13.3.2 MND Header. Not applicable.

13.3.3 Content. 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.

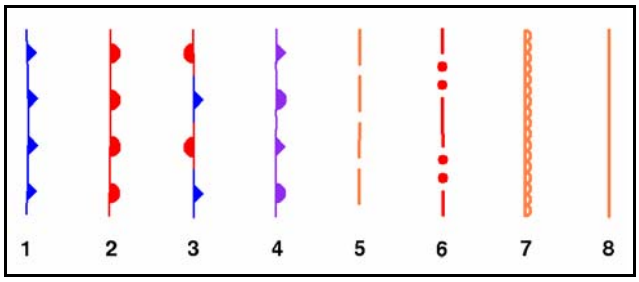

Figure 5. Color Codes for Features

Key to Features
1 -- Cold Front; 2 -- Warm Front; 3 -- Stationary Front
4 -- Occluded Front; 5 B Trough (ATROF@) also used to depict Outflow Boundary (AOUTFLOW BNDRY@)
6 -- Squall Line; 7 -- Dry Line; 8 -- Tropical Wave (ATRPCL WAVE@)

13.3.4 Format. Product will follow the format as indicated in Figure 6.

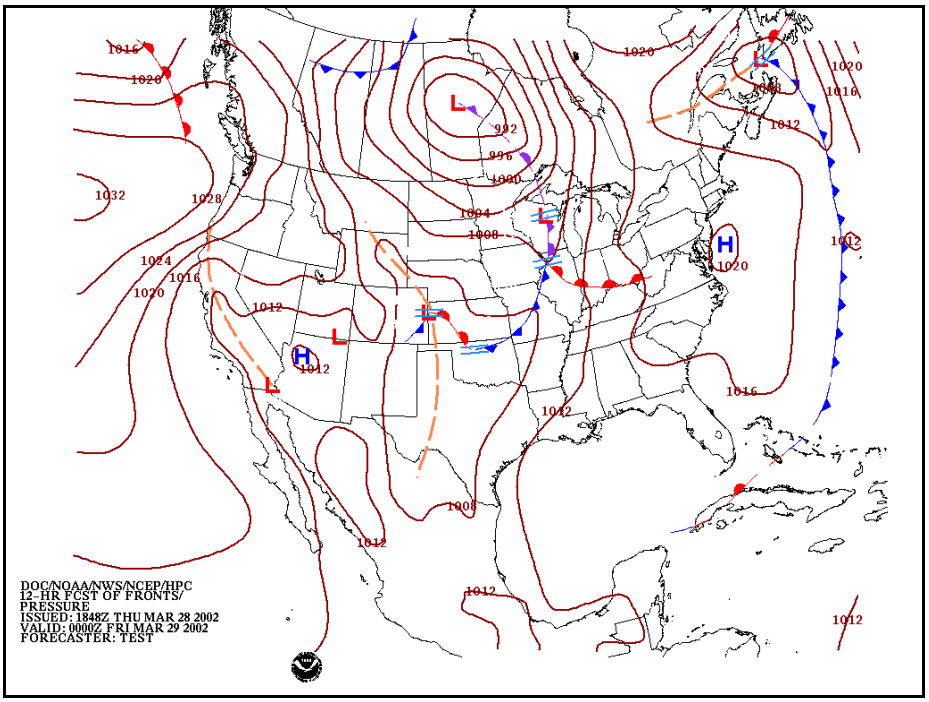

Figure 6. Forecast Fronts/Pressure Centers

13.4 Updates, Amendments, and Corrections. Products are not updated or amended. Corrections are made as necessary.

14. Surface Instantaneous Precipitation Charts (12-48 hrs) (product categories L2P, L4P, L6P, L8P).

14.1 Mission Connection. HPC 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.

14.2 Issuance Guidelines.

14.2.1 Creation Software. HPC uses N-AWIPS software to generate these products.

14.2.2 Issuance Criteria. These are routine, schedule-driven products.

14.2.3 Issuance Time. Refer to Table 4.

14.2.4 Valid Time. Refer to Table 4.

HPC Short-Range Instantaneous Precipitation Chart Product Schedule				
Issuance Time (UTC)	*Valid Time (UTC)*	*AWIPS ID*	*(WMO Header)*	***Product Description***
0200	0600 Day 1	RGBL1P	PEIA61 KWBC	06-hour instantaneous precipitation
	1200 Day 1	RBGL2P	PEIC61 KWBC	12-hour instantaneous precipitation
	1800 Day 1	RBGL3P	PEID61 KWBC	18-hour instantaneous precipitation
0430	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	RGBL1P	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

Table 4. Instantaneous Precipitation Chart Issuance and Valid Times.

14.2.5 Product Expiration Time. Not applicable.

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

14.3.1 MND Broadcast Line. Not applicable.

14.3.2 MND Header. Not applicable.

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

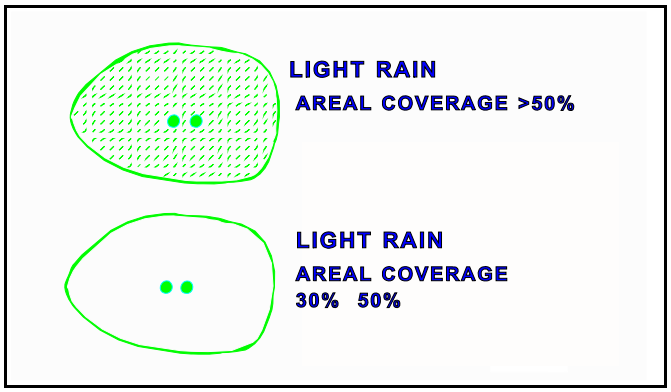

Figure 7. Areal Precipitation Depiction

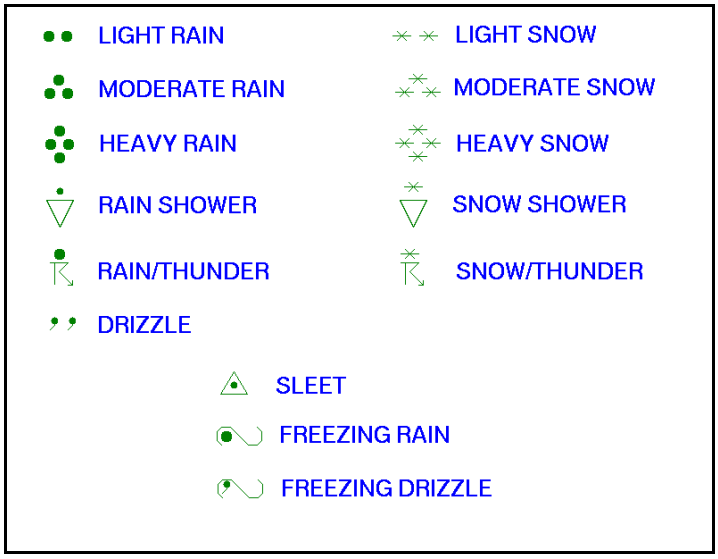

Figure 8. Precipitation Symbols and Intensity

14.3.4 Format.

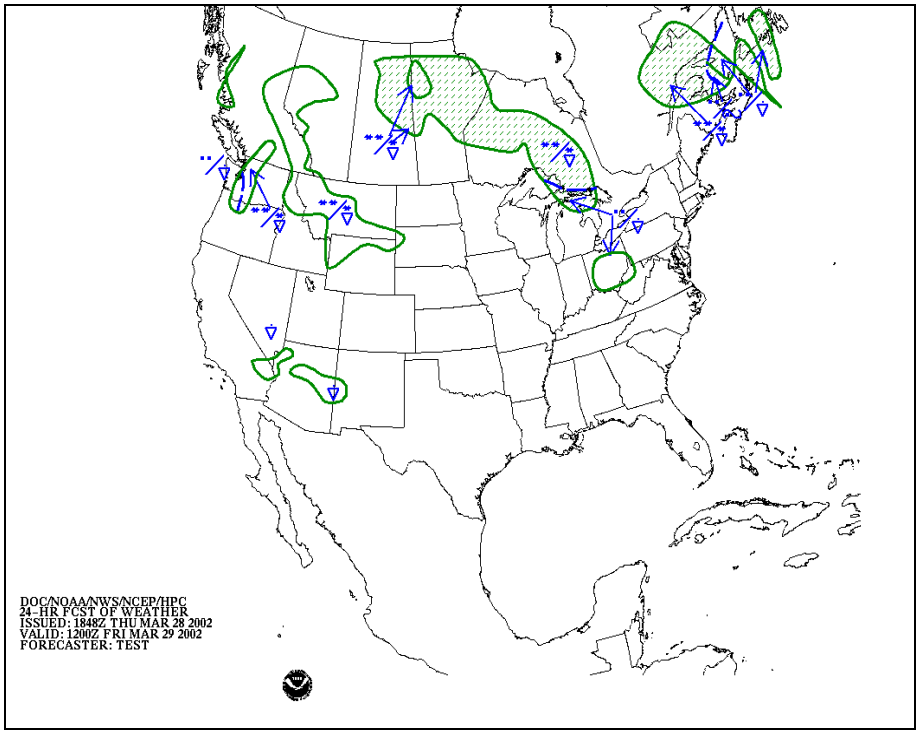

Figure 9. Forecast of Instantaneous Precipitation and Type

14.4 Updates, Amendments, and Corrections. Products are not updated or amended. Corrections are issued as necessary.

15. Coded Surface Frontal Positions Forecast (product category CODSRP).

15.1 Mission Connection. HPC 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.

15.2 Issuance Guidelines.

15.2.1 Creation Software. HPC uses N-AWIPS software to generate these products.

15.2.2 Issuance Criteria. These are routine, schedule-driven products.

15.2.3 Issuance Time. Refer to Table 5.

15.2.4 Valid Time. Refer to Table 5.

HPC Coded Surface Frontal Position Product Schedule				
Issuance Time (UTC)	***Valid Time (UTC)***	***AWIPS ID***	***(WMO Header)***	***Product Description***
0430	1200 Day 1 0000 Day 2	CODSRP	FSUS02 KWBC	Coded description of frontal forecast
0730	1200 Day 2 0000 Day 3	CODSRP	FSUS02 KWBC	Coded description of frontal forecast
0900	1800 Day 1 0600 Day2	CODSRP	FSUS02 KWBC	Coded description of frontal forecast
1630	0000 Day 1 1200 Day 2	CODSRP	FSUS02 KWBC	Coded description of frontal forecast
1930	0000 Day 2 1200 Day 3	CODSRP	FSUS02 KWBC	Coded description of frontal forecast
2100	1800 Day 1 0600 Day 2	CODSRP	FSUS02 KWBC	Coded description of frontal forecast

Table 5. Coded Surface Frontal Position Product Schedule.

15.2.5 Product Expiration Time. Not applicable.

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

15.3.1 MND Broadcast Line. Not applicable.

15.3.2 MND Header. The MND header is ACODED SURFACE FRONTAL POSITIONS FORECAST.@

15.3.3 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

15.3.4 Format.

```
FSUS02 KWBC 071630
CODSRP

CODED SURFACE FRONTAL POSITIONS FORECAST
NWS HYDROMETEOROLOGICAL PREDICTION CENTER CAMP SPRINGS MD
1130 AM EST TUE JAN 07 2003

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

$$
```

15.4 Updates, Amendments, and Corrections. Products are not updated or amended. Corrections are issued as necessary.

16. Ultraviolet Index (UVI) Forecast (product category UVICAC).

16.1 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.

16.2 Issuance Guidelines.

16.2.1 Creation Software. CPC uses commercial text editor software.

16.2.2 Issuance Criteria. This is a routine, schedule-driven product.

16.2.3 Issuance Time. The UVI product is issued daily at approximately 1800 UTC.

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

16.2.5 Product Expiration Time. Product expires after valid time.

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

16.3.1 MND Broadcast Line. Not applicable.

16.3.2 MND Header. The UVI MND header is ANOAA/EPA ULTRAVIOLET INDEX /UVI/FORECAST.@

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

16.3.4 Format.

```
AEUS41 KWBC 251800
UVICAC

NOAA/EPA ULTRAVIOLET INDEX /UVI/ FORECAST
NWS CLIMATE PREDICTION CENTER CAMP SPRINGS MD
100 PM EST WED MAR 31 2004
VALID APR 1 2004 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     7       LITTLE ROCK          AR     6
ANCHORAGE            AK     1       LOS ANGELES          CA     5
ATLANTIC CITY        NJ     3       LOUISVILLE           KY     5

(...portion omitted for brevity)...

JACKSONVILLE         FL     9       WASHINGTON           DC     3
LAS VEGAS            NV     5       WICHITA              KS     5

$$
```

Cities Used in UVICAC (UVI Forecast):

ALBUQUERQUE
ANCHORAGE
ATLANTIC CITY
ATLANTA
BALTIMORE
BILLINGS
BISMARCK
BOISE
BOSTON
BUFFALO
BURLINGTON VT
CHARLESTON WV
CHARLESTON SC
CHEYENNE
CHICAGO
CLEVELAND
CONCORD
DALLAS
DENVER
DES MOINES
DETROIT
DOVER
HARTFORD
HONOLULU
HOUSTON
INDIANAPOLIS
JACKSON MS
JACKSONVILLE
LAS VEGAS
LITTLE ROCK
LOS ANGELES
LOUISVILLE
MEMPHIS
MIAMI
MILWAUKEE
MINNEAPOLIS
MOBILE
NEW ORLEANS
NEW YORK
NORFOLK
OKLAHOMA CITY
OMAHA
PHILADELPHIA
PHOENIX
PITTSBURGH
PORTLAND ME
PORTLAND OR
PROVIDENCE
RALEIGH
SALT LAKE CITY
SAN FRANCISCO
SAN JUAN
SEATTLE
SIOUX FALLS
ST. LOUIS
TAMPA
WASHINGTON DC
WICHITA

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

Example:

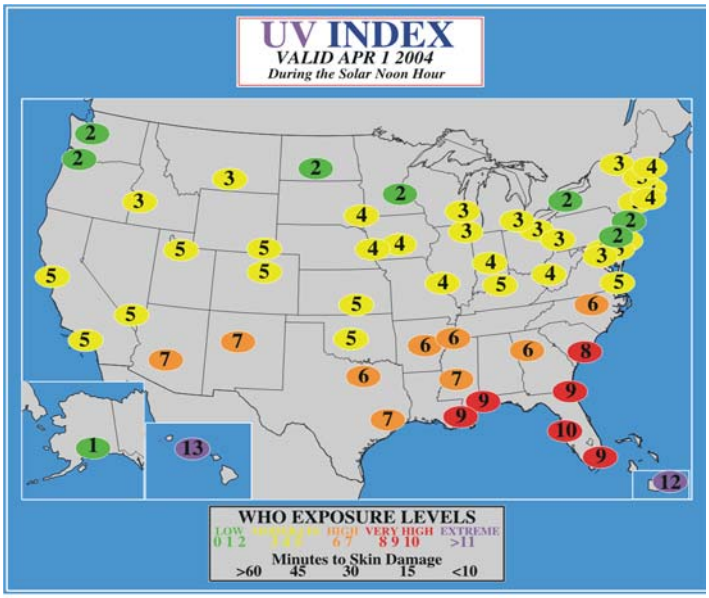

Figure 10. Ultraviolet Index Map

16.4 Updates, Amendments, and Corrections. No updates or amendments are issued for this product. CPC will correct for format and grammatical errors as required.

17. Selected Cities Forecast (product categories SCS [01-04]).

17.1 Mission Connection. The Telecommunication 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.

17.2 Issuance Guidelines.

17.2.1 Creation Software. TOC uses commercial text editor software.

17.2.2 Issuance Criteria. This is a routine, schedule-driven product.

17.2.3 Issuance Time. 0100 and 1300 UTC.

17.2.4 Valid Time. 1200 UTC Day 1 to 1200 UTC Day 2.

17.2.5 Product Expiration Time. Product expires with the next issuance.

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

17.3.1 MND Broadcast Line. Not applicable.

17.3.2 MND Header. The SCS header is, ASELECTED CITIES WEATHER SUMMARY AND FORECASTS.@

17.3.3 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 NDFD grids issued by WFOs. The last part (SCS14, FPUS20 KWBN) has a final section that gives the highest and lowest temperatures observed in the conterminous U.S. These extremes are usually for stations with elevations below 8,500 feet. Some exceptions to these guidelines may be made due to noteworthiness of the location (e.g., Death Valley, California, or West Yellowstone, Montana). If a city is missing, it is noted as MISG in the weather category and MM/MM for the max and min temperature.

17.3.4 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

	THU...JUN 03			FORECAST FRI....JUN 04		FORECAST SAT....JUN 05	
CITY	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
MOCLDY = Mostly Cloudy
VRYHOT = Very Hot
VRYCLD = Very Cold
SNOSHW = Snow Showers
DRZL = Drizzle
FLRRYS = Snow Flurries
RNSNOW = Rain and Snow
BLZZRD = Blizzard
BLGSNO = Blowing Snow
TSTRMS = Thunderstorms
SHWRS = Rain Showers
FZRAIN = Freezing Rain
FZDRZL = Freezing Drizzle

Cities Used in Selected Cities Products:

Cities for SCS01

ABILENE TX
AKRON
CANTON
ALBANY NY
ALBUQUERQUE
ALLENTOWN
AMARILLO
ANCHORAGE
ASHEVILLE
ATLANTA
ATLANTIC CITY
AUSTIN
BALTIMORE
BATON ROUGE
BILLINGS
BIRMINGHAM
BISMARCK
BOISE
BOSTON
BRIDGEPORT
BROWNSVILLE
BUFFALO
BURLINGTON VT
CARIBOU
CASPER
CHARLESTON SC
CHARLESTON WV
CHARLOTTE
CHATTANOOGA
CHEYENNE
CHICAGO
CINCINNATI
CLEVELAND
COLORADO SPGS
COLUMBIA SC
COLUMBUS GA
COLUMBUS OH

Cities for SCS02

CONCORD NH
CORPUS CHRISTI
DALLAS FT WORTH
DAYTON
DAYTONA BEACH
DENVER
DES MOINES
DETROIT
DULUTH
EL PASO
FARGO
FLAGSTAFF
FLINT
FORT SMITH
FORT WAYNE
FRESNO
GOODLAND
GRAND JUNCTION
GRAND RAPIDS
GREAT FALLS
HONOLULU
HOUSTON INTCNTL
HUNTSVILLE AL
INDIANAPOLIS
JACKSON MS
JACKSONVILLE
JUNEAU
KANSAS CITY
KEY WEST
KNOXVILLE

ELKINS	GREEN BAY	LAKE CHARLES
ERIE	GREENSBORO	LANSING
EUGENE	HARRISBURG	LAS VEGAS
EVANSVILLE	HARTFORD SPGFLD	LEXINGTON
FAIRBANKS	HELENA	HONOLULU

Cities for SCS03

LINCOLN	NASHVILLE	POCATELLO
LITTLE ROCK	NEW ORLEANS	PORTLAND ME
LOS ANGELES	NEW YORK CITY	PORTLAND OR
LOUISVILLE	NEWARK	PROVIDENCE
LUBBOCK	NORFOLK VA	PUEBLO
MACON	NORTH PLATTE	RALEIGH DURHAM
MADISON	OKLAHOMA CITY	RAPID CITY
MEDFORD	OMAHA	RENO
MEMPHIS	ORLANDO	RICHMOND
MIAMI BEACH	PADUCAH	ROANOKE
MIDLAND ODESSA	PENDLETON	ROCHESTER NY
MILWAUKEE	PEORIA	ROCKFORD
MISSOULA	PHILADELPHIA	SACRAMENTO
MPLS ST PAUL	PHOENIX	ST LOUIS
MOBILE	PITTSBURGH	ST. PETERSBURG
MONTGOMERY		ST THOMAS VI

Cities for SCS04

SALEM OR	SIOUX CITY	TULSA
SALT LAKE CITY	SIOUX FALLS	TUPELO
SAN ANGELO	SOUTH BEND	WACO
SAN ANTONIO	SPOKANE	WASHINGTON DC
SAN DIEGO	SPRINGFIELD IL	W PALM BEACH
SAN FRANCISCO	SPRINGFIELD MO	WICHITA
SAN JOSE	SYRACUSE	WICHITA FALLS
SAN JUAN PR	TALLAHASSEE	WILKES BARRE
SANTA FE	TAMPA	WILMINGTON DE
ST STE MARIE	TOLEDO	YAKIMA
SAVANNAH	TOPEKA	YOUNGSTOWN OH
SEATTLE	TUCSON	YUMA
SHREVEPORT		

17.4 Updates, Amendments, and Corrections. These products are not updated or amended. The TOC will correct for format and grammatical errors as required.

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

18.2 Issuance Guidelines.

18.2.1 Creation Software. The NWS Telecommunications Gateway receives this product and retransmits it to domestic users.

18.2.2 Issuance Criteria. This is a routine, schedule-driven product.

18.2.3 Issuance Time. This product is issued daily at approximately 0730 UTC and1930 UTC.

18.2.4 Valid Time. Through Day 2.

18.2.5 Product Expiration Time. Product expires with the next issuance.

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

18.3.1 MND Broadcast Line. Not applicable.

18.3.2 MND Header. The MND header for this product is ACANADIAN URBAN FORECASTS.@

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

18.3.4 Format.

Example:

```
FPCN12 CWAO 040800
CANADIAN URBAN FORECASTS
TEMPERATURE IN DEGREES CELSIUS
CITY           FORECAST                    FORECAST
               FRIDAY                      SATURDAY
               WEA            HI           WEA                LO/HI
IQALUIT        WINDY          M06          INCRG CLOUDINESS   M12/00
YELLOWKNIFE    MAINLY SUNNY   8            VARIABLE CLOUD     M02/8
WHITEHORSE     MAINLY CLOUDY  8            PARTLY CLOUDY      M03/7
etc.
```

Cities for CSCNMC

CALGARY	OTTAWA	THUNDER BAY
CHARLOTTETOWN	QUEBEC	TORONTO
EDMONTON	REGINA	VANCOUVER
FREDERICTON	SAINT JOHN NB	VICTORIA
HALIFAX	SASKATOON	WINDSOR
IQALUIT	ST JOHNS NFLD	WINNIPEG
KAMLOOPS	SUDBURY	WHITEHORSE
MONTREAL	SYDNEY	YELLOWKNIFE

18.4 Updates, Amendments, and Corrections. Not applicable.

19. Days 3 - 7 Surface Progs (product categories 9JH-9NH).

19.1 Mission Connection. HPC 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.

19.2 Issuance Guidelines.

19.2.1 Creation Software. HPC uses N-AWIPS software to generate these products.

19.2.2 Issuance Criteria. These are routine, schedule-driven products.

19.2.3 Issuance Time. Refer to Table 6.

19.2.4 Valid Time. Refer to Table 6.

HPC Day 3-7 Surface Prog Product Schedule				
Issuance Time (UTC)	***Valid Time (UTC)***	***AWIPS ID***	***(WMO Header)***	***Product Description***
1815	1200 Day 3	RBG9JH	PPHK01 KWBC	Medium Range Day 3 Surface Forecast
1815	1200 Day 4	RBG9KH	PPHM01 KWBC	Medium Range Day 4 Surface Forecast
1815	1200 Day 5	RBG9LH	PPHO01 KWBC	Medium Range Day 5 Surface Forecast
1815	1200 Day 6	RBG9MH	PPTG98 KWBC	Medium Range Day 6 Surface Forecast
1815	1200 Day 7	RBG9NH	PPTR98 KWBC	Medium Range Day 7 Surface Forecast

Table 6. Day 3 - 7 Surface Prog Product Schedule.

19.2.5 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 locations of surface fronts and pressures over North America, the central North Pacific and eastern North Atlantic for Days 3-7.

19.3.4 Format.

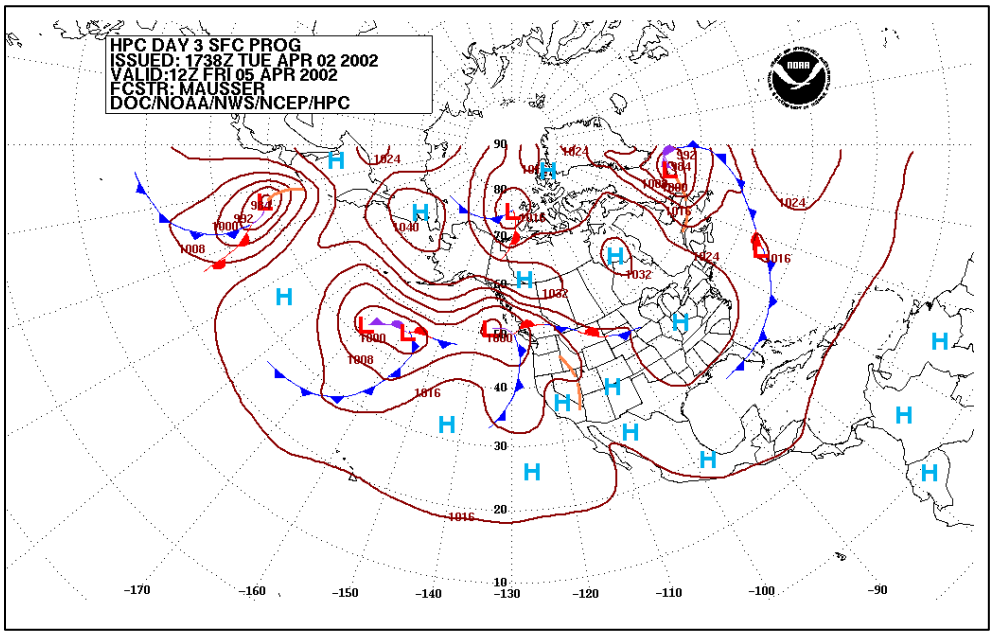

Figure 11. Day 3 Surface Prog

19.4 Updates, Amendments, and Corrections. Products are not updated or amended. Corrections are issued as necessary.

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

20.1 Mission Connection. HPC 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.

20.2 Issuance Guidelines.

20.2.1 Creation Software. HPC uses N-AWIPS software to generate these products.

20.2.2 Issuance Criteria. These are routine, schedule-driven products.

20.2.3 Issuance Time. Refer to Table 7.

20.2.4 Valid Time. Refer to Table 7.

HPC Day 3-7 Temperature/Precipitation Forecast Anomalies Product Schedule				
Issuance Time (UTC)	***Valid Date***	***AWIPS ID***	***(WMO Header)***	***Product Description***
1330	Day 3	RBG93P	PYWK43 KWBC	Day 3 Temp./Precipitation Anomalies Forecast
1330	Day 4	RBG94P	PYWM44 KWBC	Day 4 Temp./Precipitation Anomalies Forecast

1330	Day 5	RBG95P	PYWO45 KWBC	Day 5 Temp./Precipitation Anomalies Forecast
1330	Day 6	RBG96P	PYWQ46 KWBC	Day 6 Temp./Precipitation Anomalies Forecast
1330	Day 7	RBG97P	PYWS98 KWBC	Day 7 Temp./Precipitation Anomalies Forecast

Table 7. Days 3 - 7 Temperature/Precipitation Anomalies Forecast Product Schedule.

20.2.5 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. Not applicable.

20.3.2 MND Header. Not applicable.

20.3.3 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.

20.3.4 Format.

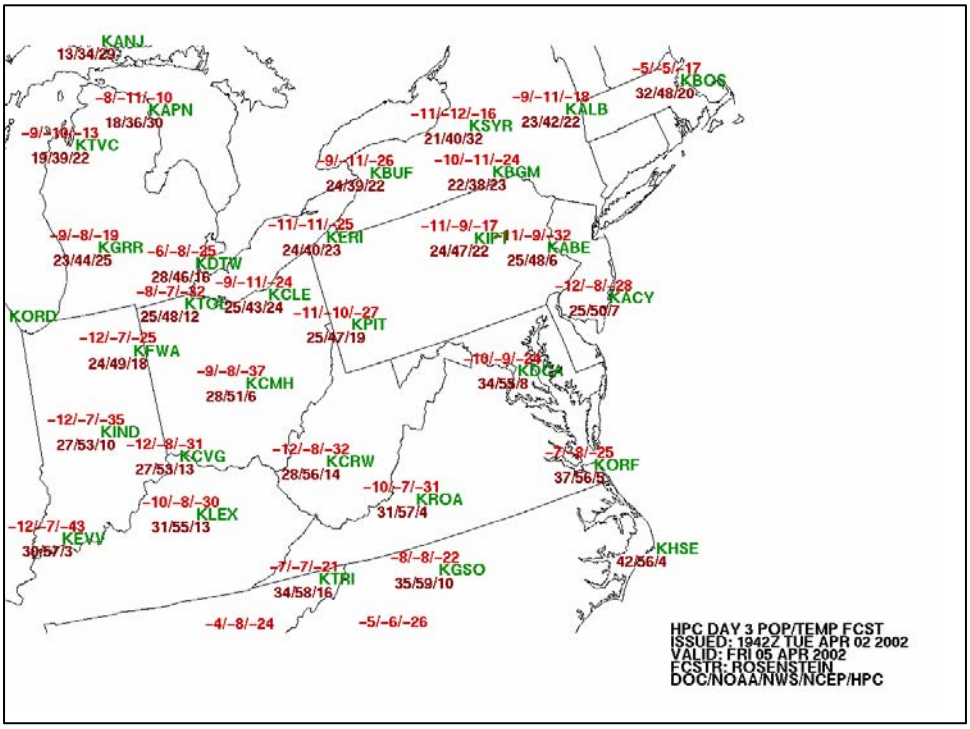

Figure 12. Sample Day 3 NE Region POP/TEMP Anomalies & Forecast

KEY

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

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

20.4 Updates, Amendments, and Corrections. Products are not updated or amended. Corrections are issued as necessary.

21. 5-Day Mean Max/Min Temperature Anomalies (product categories 95A, 95B).

21.1 Mission Connection. HPC 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.

21.2 Issuance Guidelines.

21.2.1 Creation Software. HPC uses N-AWIPS software to generate these products.

21.2.2 Issuance Criteria. These are routine, schedule-driven products.

21.2.3 Issuance Time. Refer to Table 8.

21.2.4 Valid Time. Refer to Table 8.

HPC Mean 5-Day Max/Min Temperature Anomalies Product Schedule				
Issuance Time (UTC)	***Valid Time (UTC)***	***AWIPS ID***	***(WMO Header)***	***Product Description***
1330	1200 Day 1 – 1200 Day 5	RBG95A	PTIO52 KWBC	5 - Day Mean Maximum Temp Anomaly (MOS)
1330	1200 Day 1 – 1200 Day 5	RBG95B	PTIO53 KWBC	5 - Day Mean Minimum Temp Anomaly (MOS)

Table 8. Mean 5 Day Max/Min Temperature Anomaly Product Schedule.

21.2.5 Product Expiration Time. Not applicable.

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

21.3.1 MND Broadcast Line. Not applicable.

21.3.2 MND Header. Not applicable.

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

21.3.4 Format. See Figures 13 and 14.

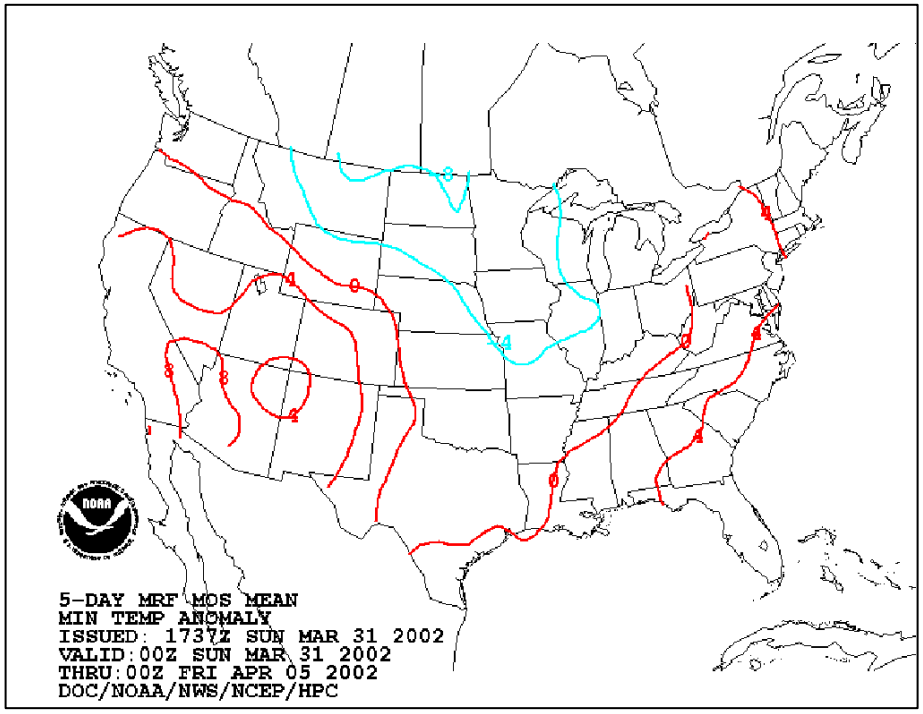

Figure 13. Mean 5-Day Minimum Temperature Anomaly (MOS)

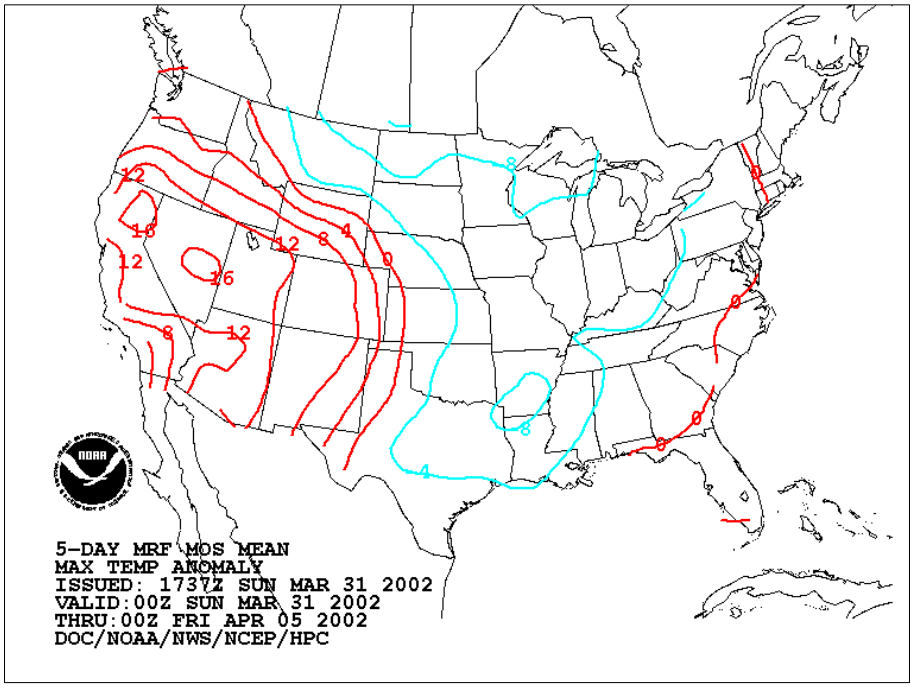

Figure 14. Mean 5-Day Maximum Temperature Anomaly (MOS)

21.4 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.