

# Collaborative Convective Forecast Product Product Description Document

## Part I - Mission Connection

- a. Product Description - The Collaborative Convective Forecast Product (CCFP) is a graphical representation of expected convective occurrence at 2-, 4-, and 6-hours after issuance time. Convection is defined as a polygon of at least 3,000 square miles with coverage of at least 25% with echoes of at least 40 dbZ composite reflectivity and at least one echo top of 25,000 feet or greater. CCFP covers the contiguous 48 states and portions of Ontario and Quebec south of 48 degrees north latitude.
- b. Purpose - The purpose of the CCFP is to aid in the reduction of air traffic delays, reroutes, and cancellations influenced by significant convective events.
- c. Audience - The primary audience for this product is the Federal Aviation Administration's (FAA) Air Traffic Control System Command Center (ATCSCC) and associated nationwide air traffic centers. This product is also used by the Center Weather Service Units (CWSU), Meteorological Services of Canada (MSC), and private sector dispatchers, primarily commercial airlines.
- d. Presentation Format - The CCFP is available via the National Weather Service Telecommunications Gateway circuit in an ASCII coded text format. An example of the CCFP ASCII coded text product is shown in the following graphic:



The format of the fields in the above graphic are described below.

General Format

CCFP ISSUED VALID  
AREA COVERAGE PROB GROWTH TOPS SPEED DIRECTION VERT#  
LAT[1] LON[1] .... LAT[VERT#] LON[VERT#] LATT LONT  
LINE VERT# LAT[1] LON[1] .... LAT[VERT#] LON[VERT#]

Forecast Header Format

CCFP	CCFP Forecast Header (UTC)	4 Characters
ISSUED	Forecast Issuance Time (UTC)	CCYYMMDD_hhmm
VALID	Forecast Valid Time (UTC)	CCYYMMDD_hhmm

Coverage Area Format

AREA	AREA Type Header	4 Characters
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COVERAGE	Convective Coverage Code	
High	= 1	75-100%
Medium	= 2	50-74%
Low	= 3	25-49%

CONF	Confidence	
High	= 1	> 70%
Medium	= 2	40-70%
Low	= 3	< 40%

GROWTH	Convective Growth Code	
++	= 1	Fast Positive
+	= 2	Positive
NC	= 3	No Change
-	= 4	Negative

TOPS	Storm Height Code	
High	= 1	> 37,000 Feet
Medium	= 2	31,000 - 37000 Feet
Low	= 3	25,000 - 31,000 Feet

SPEED	Speed	Knots
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DIRECTION	Direction Towards	Degrees
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**VERT#**                    Number of LAT / LON Pairs            Integer

**LAT[x] LON[x]**        Vertical Latitude and Longitude Coverage Polygon

                              Latitude = LAT \* 0.1 degrees

                              Longitude = LON \* 0.1 degrees

**LATT LONT**            Longitude and Latitude of Left Center of Box

                              Latitude = LATT \* 0.1 degrees

                              Longitude = LONT \* - 1\* 0.1 degrees

Solid Line Format

**LINE**                    Line Type Header                    Integer

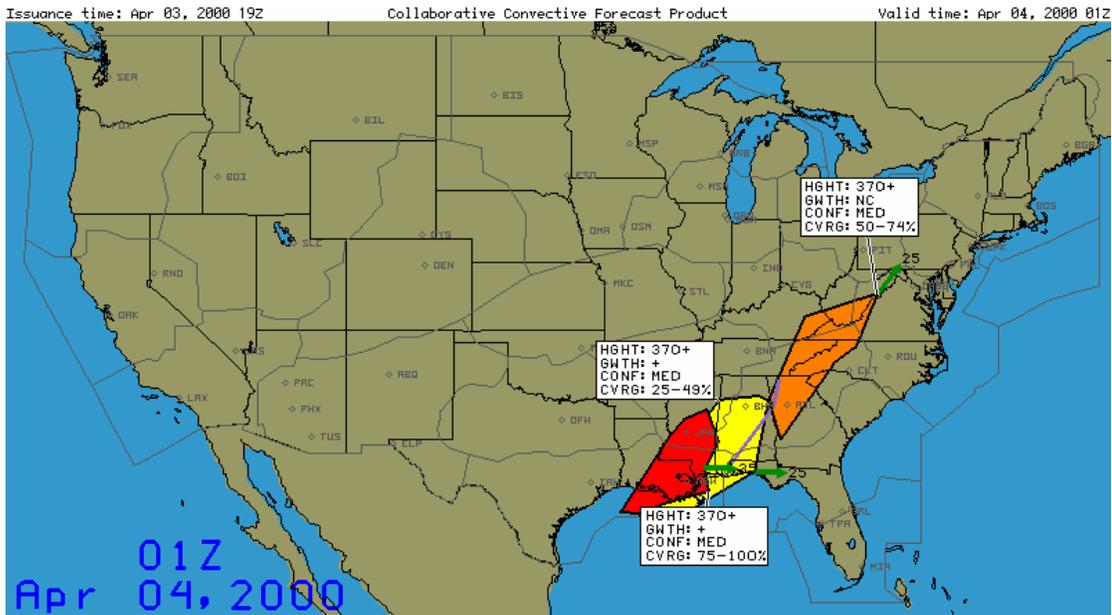
**VERT#**                    Number of Lat / Lon Pairs            Integer

**LAT[x] LON[x]**        Vertex Latitude and Longitude of Solid Line Of Convection

                              Latitude = LAT \* 0.1 degrees

                              Longitude = LON \* 0.1 degrees

The CCFP is also made available on the Aviation Weather Center (AWC) web site as an image. The following image was created using the ASCII coded text message shown above.



- e. Feedback Method - Feedback is built into the development process for this product. A 30-minute interactive chat room session is conducted prior to the issuance of each forecast that allows both public and private sector meteorological expertise, and the Meteorological Service of Canada, to contribute to the final forecast. In addition, the Statement of User Needs for CCFP specifies several methods of feedback as part of the overall CCFP effort.

Technical and policy questions, and comments concerning the CCFP may be addressed to:

Aviation Weather Center  
Attn: Fred Johnson  
7220 N.W. 101 Terrace  
Kansas City, Missouri 64153-2371  
Fred.Johnson@noaa.gov

## **Part II - Technical Description**

- a. Format & Science Basis - The Collaborative Convective Forecast Product is created as an image. The graphic contains forecasts of either areas or lines of convection. Areas are defined in term of areal coverage (low:25-49%; medium:50-74%; or high:75-100%), maximum cloud tops (25,000-31,000 feet, 31,000-37,000 feet, or more than 37,000 feet), growth rates (negative, no change, moderate positive, fast positive), forecaster confidence (low, medium, or high), and area movement (as a vector). Convective lines are at least 100 nm line, 40 nm wide, with 75% coverage.

Meteorologists at the AWC combine mesoscale and synoptic scale analysis and model forecasts with personal experience to produce the CCFP.

- b. Product Availability - The AWC issues the CCFP eleven times a day, every two hours, from 08Z through 04Z during standard time, and from 07Z through 03Z during daylight time. No amendments are issued. Customers receive this product via the Internet at: <http://aviationweather.gov/products/ccfp/>. The ASCII coded text CCFP product will be available over the NOAAPort / Satellite Broadcast Network. Additional information on NWS aviation product dissemination is available at: <http://weather.gov/om/disemsys.shtml>

The WMO Headers and PIL Identification numbers for the CCFP ASCII Coded text message are:

WMO Headings

PIL Id

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FAUS27 KPCI  
FAUS28 KPCI  
FAUS29 KPCI

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CFP01  
CFP02  
CFP03

- c. Additional Information - The requirement for the Collaborative Convective Forecast Product is contained in National Weather Service Instruction 10-810 which is available via the Internet at <http://www.nws.noaa.gov/directives/010/pd01008010a.pdf>.

Additional guidance on CCFP is available from the **Statement of User Needs, Collaborative Convective Forecast Product**. A copy of this document can be obtained from the AWC.