

# **Product Description Document**

## **Collaborative Convective Forecast Product (CCFP)**

### **Part 1 – Mission Connection**

#### **1. Product Description:**

The Collaborative Convective Forecast Product (CCFP) is a graphical representation of convection meeting specific criteria of coverage, intensity, echo height, and forecaster confidence. CCFP graphics are produced every 2 hours and valid at 4-, 6-, and 8-hours after issuance time.

#### **2. Purpose/Intended Use:**

The purpose of the CCFP is to aid in the reduction of air traffic delays, reroutes, and cancellations influenced by significant convective events. From a User's perspective the CCFP is designed to be used for strategic planning of air traffic flow management during the en route phase of flight. It is not intended to be used for traffic flow control in the airport terminal environment, nor for tactical traffic flow decisions.

From a Producer's perspective, the CCFP itself is designed to address two major purposes:

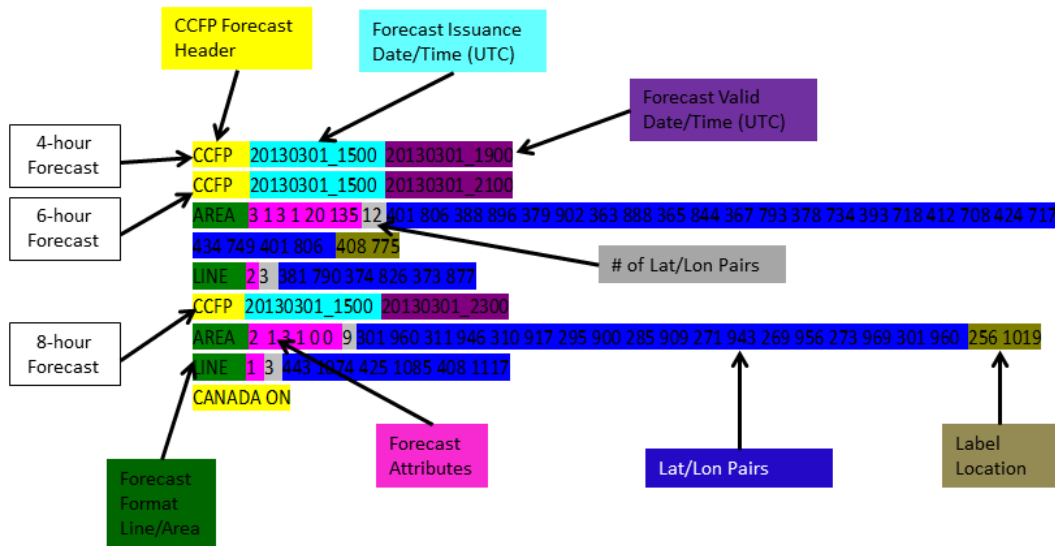
- An accurate representation of the convection of most significance for strategic decisions of air traffic flow management, and
- A common forecast baseline, as consistent as possible, shared among all meteorological organizations responsible for providing forecasts of convection to the air traffic managers within the FAA and/or within commercial aviation organizations.

#### **3. Audience/Users:**

The primary users of CCFP are Federal Aviation Administration Traffic Flow Management and its Collaborative Decision Making airline industry partners. The CCFP is the primary convective weather forecast product for collaboratively developing a Strategic Plan of Operations (SPO). The SPO is finalized during the collaborative TELCONS hosted by the FAA Air Traffic Control System Command Center Strategic Planning Team and conducted approximately every 2 hours immediately after the issuance of the CCFP.

#### **4. 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 CONFIDENCE GROWTH TOPS SPEED DIRECTION VERT# LAT[1]  
 LON[1] .... LAT[VERT#] LON[VERT#] LATT LONT  
 LINE COVERAGE VERT# LAT[1] LON[1] .... LAT[VERT#] LON[VERT#]  
 CANADA\_FLAG {ON/OFF}

### Forecast Header Format

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

### Forecast Area Format

AREA	AREA Type Header	4 Characters
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AREAL COVERAGE	Convective Coverage Code
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High	= 1	75-100%
Medium	= 2	40-74%
Low	= 3	25-39%

CONFIDENCE                      Confidence

High                      = 1                      50-100%

Low                      = 3                      25-49%

GROWTH

Convective Growth Code

Positive                      = 2

No Change                      = 3

Negative                      = 4

TOPS

Storm Height Code

FL400                      = 1

FL350-FL390                      = 2

FL300-FL340                      = 3

FL250-FL290                      = 4

SPEED

Speed

Knots

DIRECTION

Direction moving Towards

Degrees from North

VERT#

Number of LAT / LON Pairs

Integer

LAT[x] LON[x]

Vertical Latitude and Longitude Coverage Polygon

Latitude = LAT \* 10.0 degrees

Longitude = LON \* -1 \* 10.0 degrees

LATT LONT

Longitude and Latitude of Left Center of Box

Latitude = LATT \* 10.0 degrees

Longitude = LONT \* -1 \* 10.0 degrees

Forecast Line Format

LINE

LINE Type Header

4 Characters

LINE COVERAGE

Convective Coverage Code

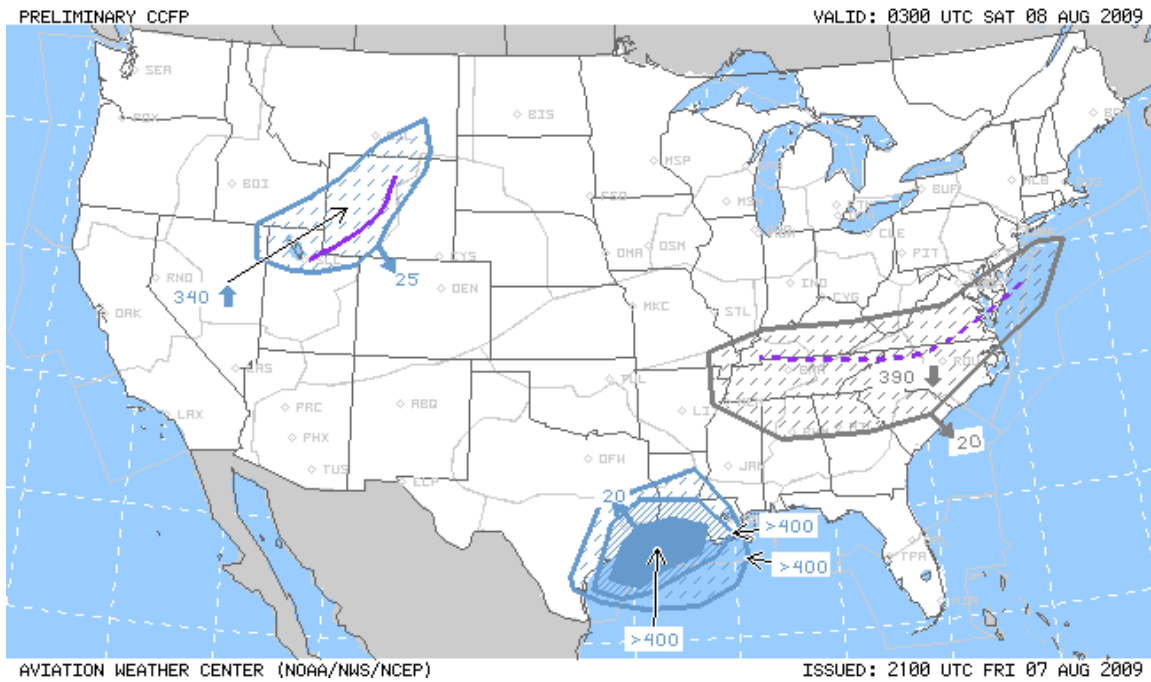
Solid Line      High Coverage      = 1      75-100%

Dashed Line      Medium Coverage      = 2      40-74%

VERT#	Number of Lat / Lon Pairs	Integer
LAT[x] LON[x]	Vertex Latitude and Longitude of Line of Convection	
Latitude = LAT * 10.0 degrees		
Longitude = LON * -1 * 10.0 degrees		
CANADA_FLAG *	CANADA OFF	
	CANADA ON	

\* Indicates Canada's participation in production of the CCFP product.

The CCFP is also made available on the Aviation Weather Center (AWC) web site as an image.



### 5. Feedback Method:

Feedback will typically be collected via comments provided to the AviationWeather.gov webmaster. Opportunities for face-to-face responses will occasionally occur in the context of media workshops, public outreach events, etc.

For further information please contact:

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## **Part 2 – Technical Description**

### **1. Format and Science Basis:**

Convection for the purposes of the CCFP forecast is defined as a polygon of at least 3000 square miles that contains:

- A coverage of at least 25% with echoes of at least 40 dBZ composite reflectivity; and
- A coverage of at least 25% with echo tops of FL250, or greater; and
- A forecaster confidence of at least 25%.

All three of these threshold criteria combined are required for any area of convection of 3000 square miles or greater to be included in a CCFP forecast. This is defined as the minimum CCFP criteria. Any area of convection which is forecasted NOT to meet all three of these criteria will NOT be included in a CCFP forecast.

### **2. Training:**

No additional training is required to generate or use the product.

### **3. Availability:**

The CCFP is available 7 days a week, all day except between 0300 UTC and 0700 UTC . CCFP is updated every 2 hours between 0700 UTC and 0300 UTC.

The CCFP will be available at: <http://www.aviationweather.gov/products/ccfp/>

The ASCII files are available to users via [ NwstG? elsewhere]. Under the following WMO Headers:

FAUS28 KKCI - 4 Hour Forecast

FAUS29 KKCI - 6 Hour Forecast

FAUS30 KKCI - 8 hour Forecast