

Product Description Document

Experimental Collaborative Decision Making (CDM) Convective Forecast Planning (CCFP) Guidance

Part 1 – Mission Connection

1. Product Description:

The experimental Collaborative Decision Making (CDM) Convective Forecast Planning (CCFP) guidance, or simply experimental CCFP, is a graphical representation of convection meeting specific criteria of coverage, intensity, echo height, and confidence. The experimental CCFP graphics are produced every 2 hours and valid at 2-, 4-, 6-, and 8-hours after issuance time.

The experimental CCFP will be automatically produced from the National Oceanic and Atmospheric Administration (NOAA) Short Range Ensemble Forecast (SREF), High Resolution Rapid Refresh (HRRR), and HIRES Advanced Research WRF (ARW) models, and will share the same format and dissemination method as the previous forecaster-produced Collaborated Convective Forecast Product (CCFP). The experimental CCFP will be made available year-round for user feedback.

2. Purpose/Intended Use:

The purpose of the experimental CCFP guidance is to aid in the reduction of air traffic delays, reroutes, and cancellations influenced by significant convective events. From a user's perspective the experimental CCFP guidance 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. Specifically the experimental CCFP guidance is used to support Federal Aviation Administration (FAA) -Airline CDM planning teleconferences which occur every two hours. It is a general strategic planning 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.

As part of a larger effort to improve FAA and CDM decision making, the FAA has asked the NWS to produce the experimental CCFP guidance to evaluate the need for convective weather information during the Collaborated Convective Forecast Product "off months" of November – February. The purpose is to evaluate the experimental CCFP in support of NAS strategic planning. The FAA/CDM vision is to supplement CDM Convective Forecast Planning (CCFP) with an event-driven, impact-based Collaborated Aviation Weather Statement and a continual meteorological collaboration between NWS and industry meteorologists.

3. Audience/Users:

The primary users of the experimental CCFP guidance are FAA Traffic Flow Management and its CDM airline industry partners. The experimental CCFP guidance is the primary convective

weather forecast product for collaboratively developing a Strategic Plan of Operations (SPO). The SPO is finalized during the collaborative teleconferences hosted by the FAA Air Traffic Control System Command Center Strategic Planning Team and conducted approximately every two hours.

4. Presentation Format:

The experimental CCFP guidance is available via the National Weather Service Telecommunications Gateway (NWSTG) circuit in an ASCII coded text format.

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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Medium	= 2	40-100%
Low	= 3	25-39%

CONFIDENCE	Confidence
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High	= 1	50-100%
Low	= 3	25-49%

GROWTH	Convective Growth Code
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This field will always = 3 (No Growth) (Convective Growth Code is not used in the experimental CCFP)

TOPS	Storm Height Code
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FL400 = 1
FL350-FL390 = 2
FL300-FL340 = 3
FL250-FL290 = 4

SPEED Speed = 0 Knots = 0

DIRECTION = 0
(CCFP polygon movement including speed and direction is not depicted in this CCFP)

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

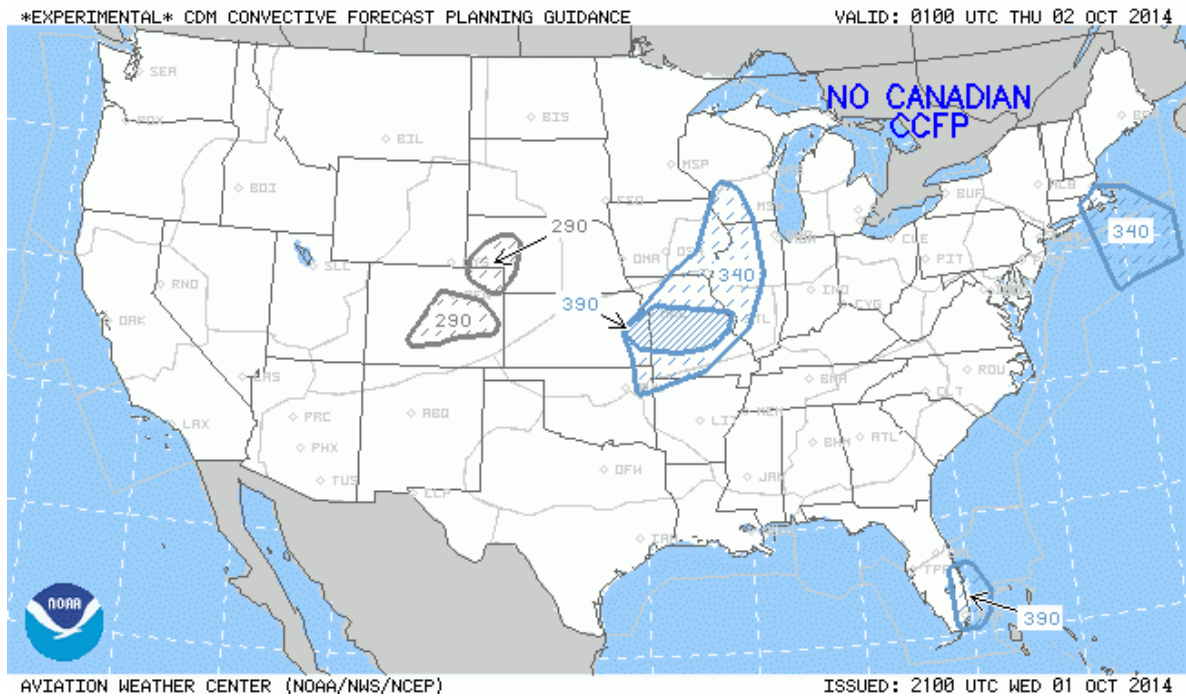
LATT LONT Longitude and Latitude of Left Center of Box

Latitude = LATT * 10.0 degrees
Longitude = LONT * -1 * 10.0 degrees

CANADA_FLAG * CANADA OFF
CANADA ON

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

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



5. Feedback Method:

Feedback will be collected via the survey below

www.nws.noaa.gov/survey/nws-survey.php?code=CCFPG

and via comments provided to the www.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 experimental CCFP guidance 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
- Model agreement of at least 40%.

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 experimental 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 experimental CCFP guidance will be available 7 days a week and is updated every two hours near the bottom of the hour.

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

The ASCII files will be available to users via National Weather Service Telecommunications Gateway Under the following WMO Headers:

FAUS27 KKCI - 2 Hour Forecast
FAUS28 KKCI - 4 Hour Forecast
FAUS29 KKCI - 6 Hour Forecast
FAUS30 KKCI - 8 Hour Forecast