



Environnement
Canada

Environment
Canada

CCFP

COLLABORATIVE CONVECTIVE FORECAST PRODUCT

TRAINING

SPRING 2005

Course Objectives

- **Overview of CCFP**
- **Identify the upcoming changes for 2005 convective season**
- **Identify strengths and weaknesses, and what the product can and can not do**
- **Address misconceptions and issues encountered in past convective seasons with the product**
- **Review two case studies**

Purpose & Overview of CCFP



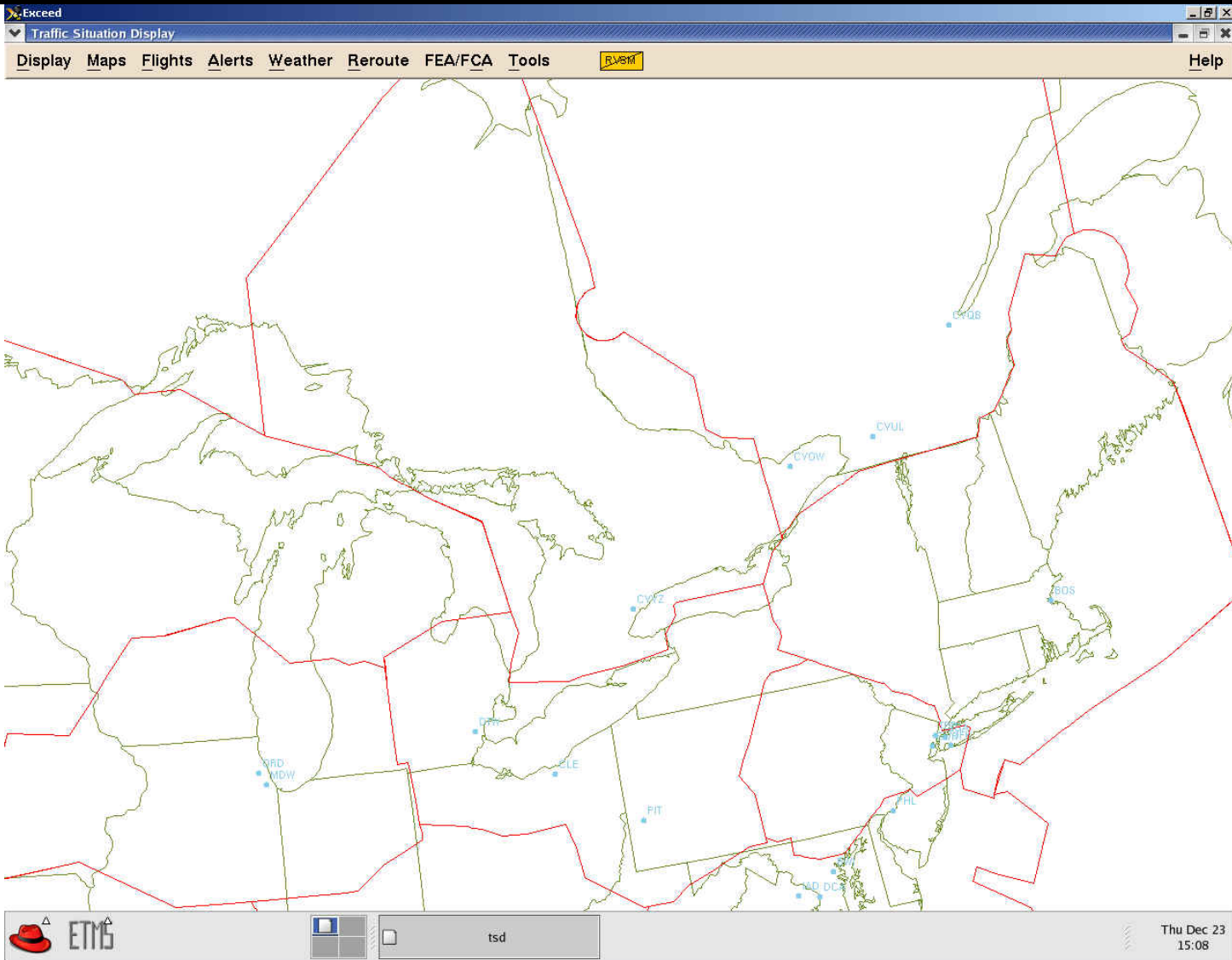
CCFP Background

- **The 2005 convective season will be the start of the 5th season to use CCFP operationally**
- **CCFP is developed through a collaboration process between meteorologists**
- **All stakeholders have agreed that the CCFP is the primary weather forecast product for strategic planning on the Planning TELCON**

CCFP: *What it is*

CCFP

Canadian CCFP



CCFP: *What it is not*



CCFP Collaborators



CCFP Collaborative Process

- **The chat sessions occur every two hours and are completed prior to the planning telcon (PT)**
- **AWC is committed to reading every comment**
- **The previous forecasts (4 and 6 hour forecasts) will be used as preliminary forecasts for the next 2 and 4 hour forecast**
 - **Except for the 1 a.m. forecast, which a new preliminary forecast will be issued for the 6-hr lead time.**

CCFP Forecast Issuance Example

Collaboration Session Open (Eastern Time)	CCFP Issue (Eastern Time)	Supported Telcon (Eastern Time)	Valid Times (Eastern Time)	Comments
0215 - 0245	0300	-----	05 - 07 - 09	2, 4, 6 hour forecasts
0415 - 0445	0500	0515	07 - 09 - 11	2, 4, 6 hour forecasts
0615 - 0645	0700	0715	09 - 11 - 13	2, 4, 6 hour forecasts
0815 - 0845	0900	0915	11 - 13 - 15	2, 4, 6 hour forecasts

Note: The previous 4 and 6 hour forecasts will be used as preliminary forecasts for the 2 and 4 hour forecast

CCFP Collaborative Process, cont.

→ The final package is completed by AWC and includes the 2, 4 and 6 hour forecasts and posted on the TSD and CCSD, as well as the AWC and ATCSCC websites.



New 2005 TSD CCFP Graphic

COLLABORATIVE CONVECTIVE FORECAST PRODUCT

VALID: 1800 UTC MON 07 MAR 2005



AVIATION WEATHER CENTER (NOAA/NWS/NCEP)

ISSUED: 1400 UTC MON 07 MAR 2005

TOPS:
HEIGHT OF MAX ECHO
100's OF FEET MSL

GROWTH RATES:
++ = FAST POSITIVE
+ = POSITIVE
NC = NO CHANGE
-- = NEGATIVE

CONVECTIVE COVERAGE:
SPARSE
25 - 49%
MEDIUM
50 - 74%
SOLID
75 - 100%
LINE

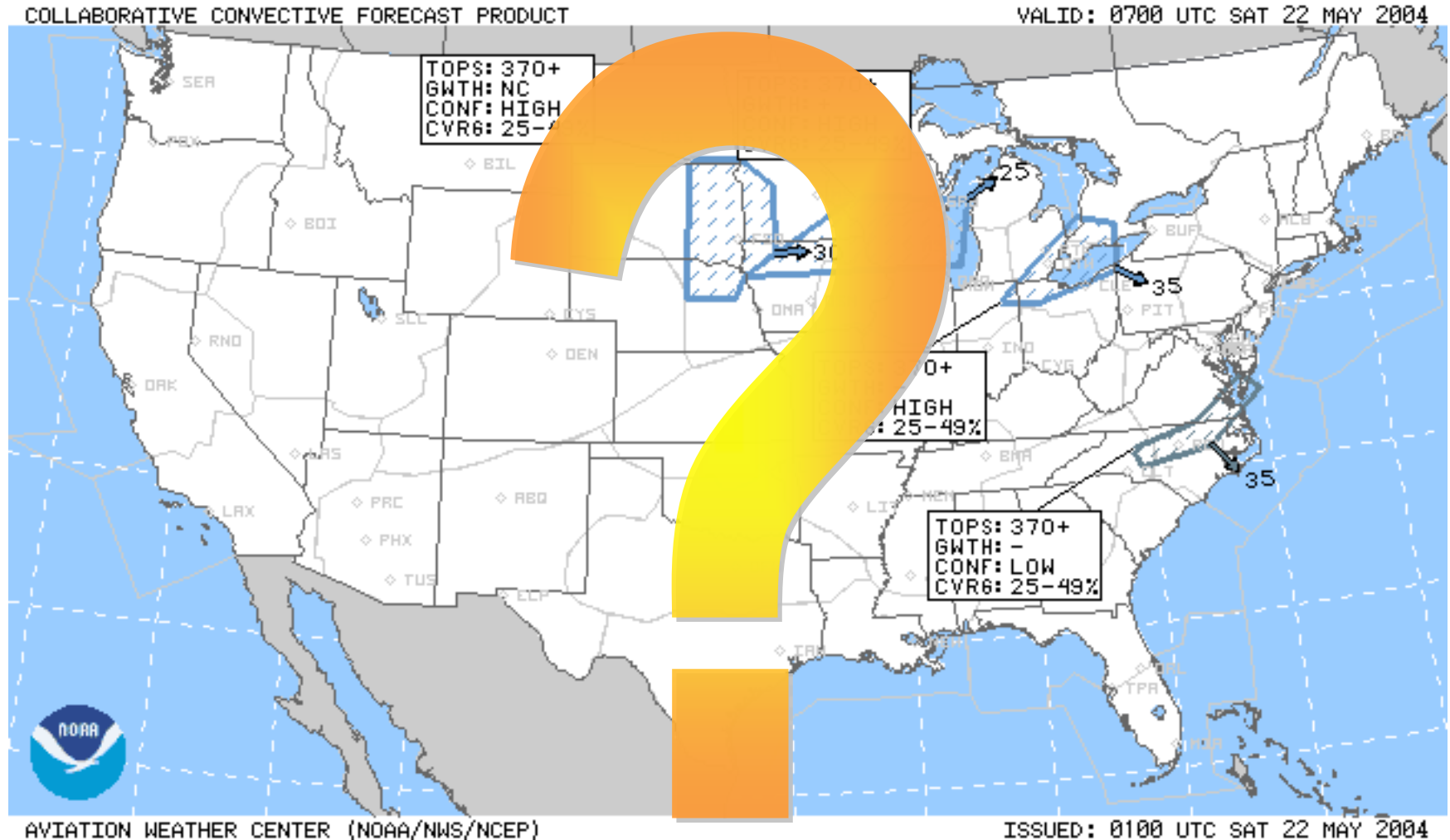
CONFIDENCE:

HIGH 50 - 100%	LOW 25 - 49%

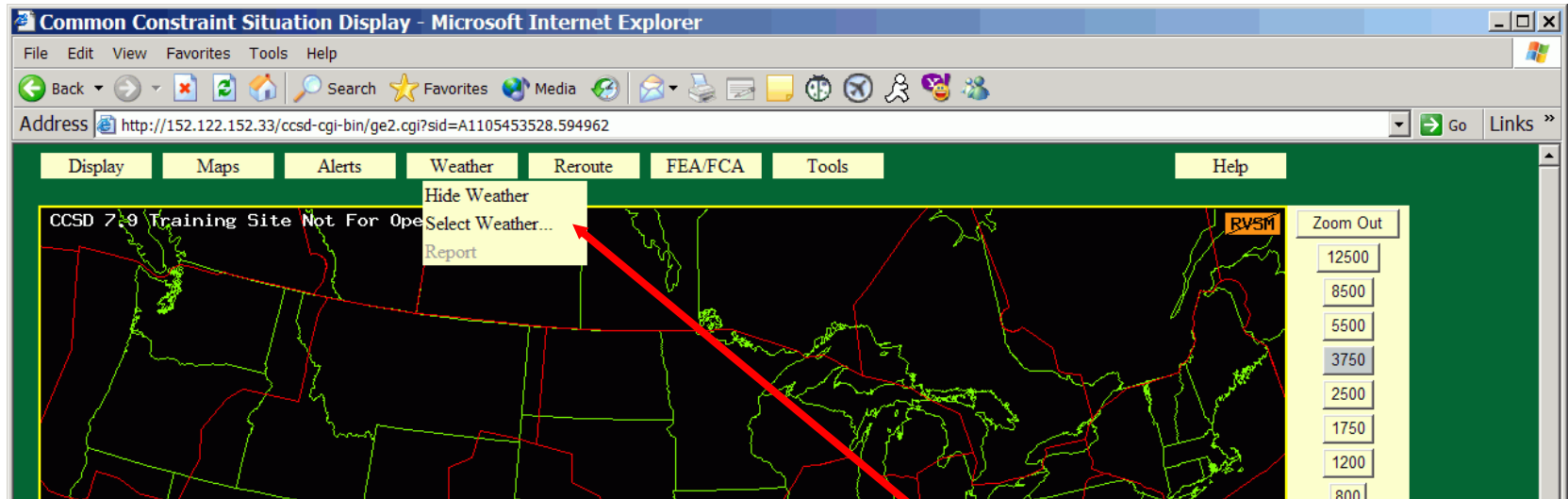
MOVEMENT:

DIR
SPD (KTs)

Why Change the Graphic?



CCFP Display on CCSD



On the menu bar of the CCSD, click the weather pull-down menu and choose “select weather”

Select weather dialog on CCSD

CCFP forecast map selection for the 2, 4 or 6 hour forecast overlay

Weather - Microsoft Internet Explorer

NOWRAD

CONUS Off 2 KM 8 KM

Canada Off 2 KM 8 KM

San Juan Off 2 KM 8 KM

Weather Levels

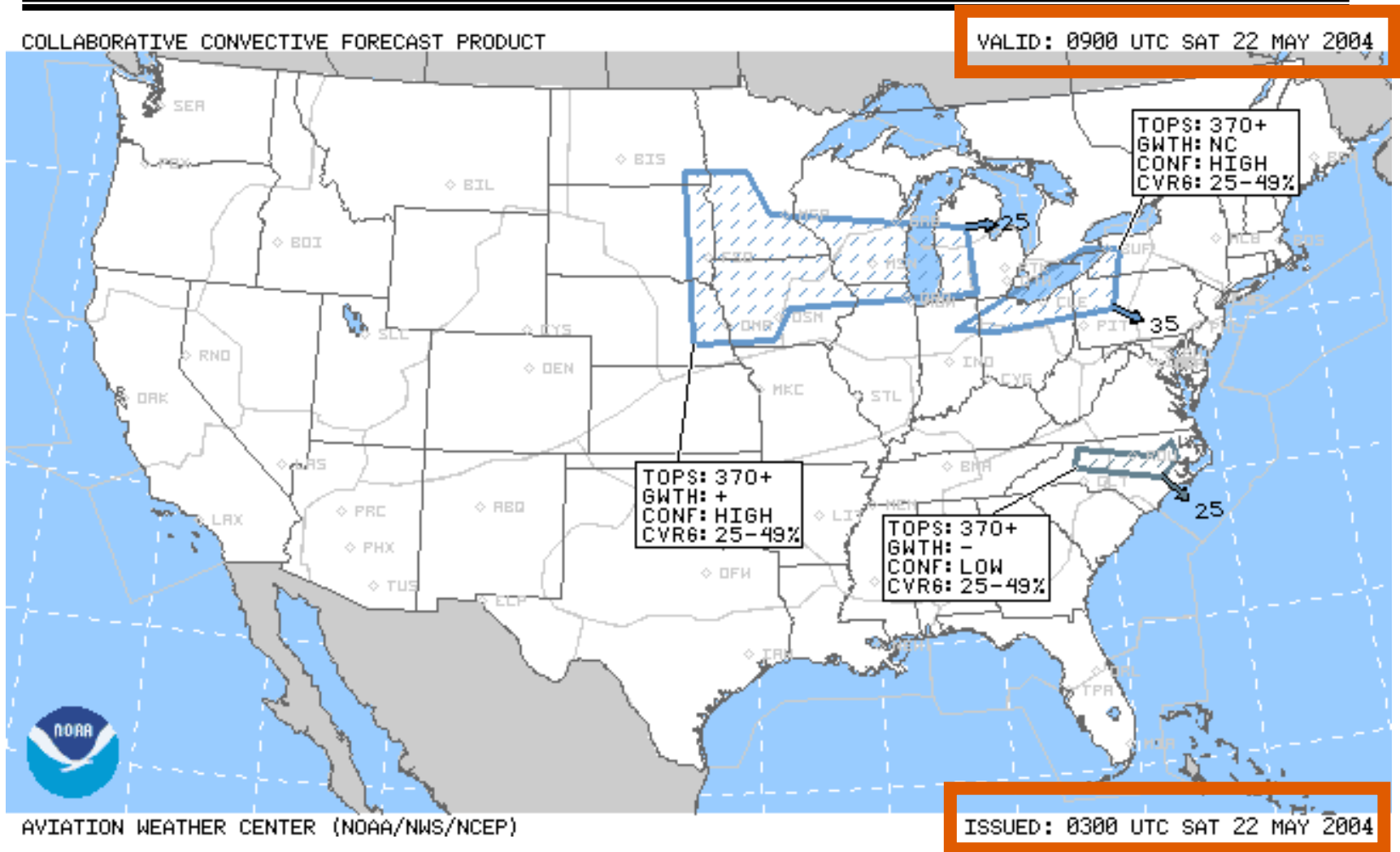
CCFP

Off 2hr 4hr 6hr

NCWF

Off On

New 2005 TSD CCFP Graphic (with detail)

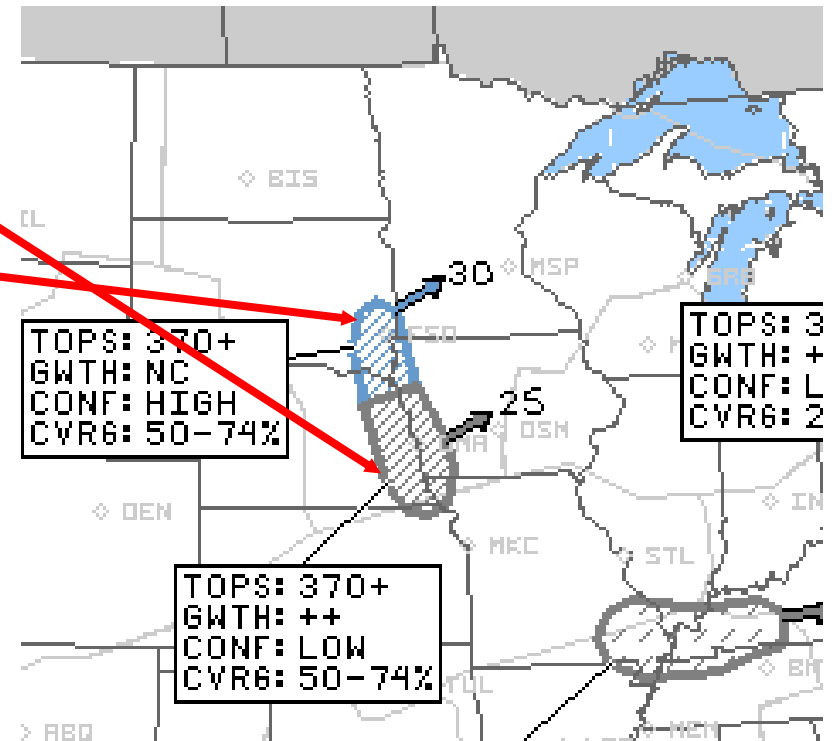


Forecaster Confidence of Occurrence

Confidence (CONF)

- Confidence value is identified by color in one of 2 classes:
 - Low: 25 - 49% (GRAY)
 - High: 50 - 100% (BLUE)

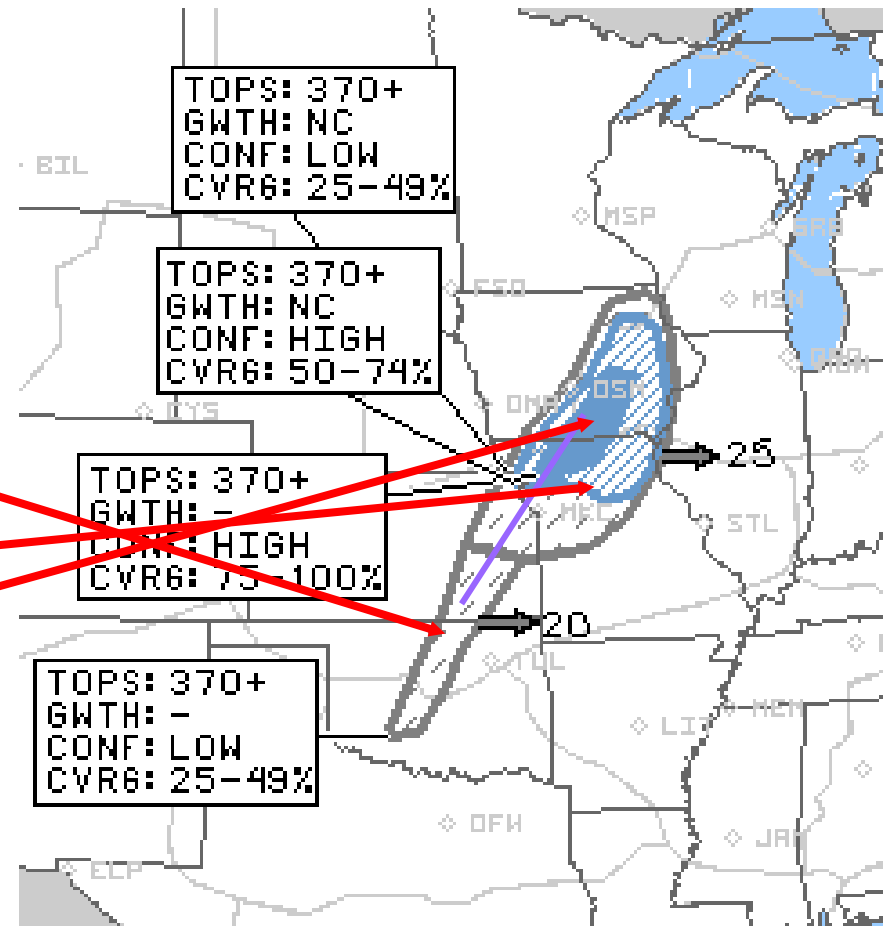
- Confidence level is the subjective forecaster confidence in the *occurrence* of the minimum threshold criteria: at least 3,000 sq. mi area with coverage greater than 25%, and echo tops greater than 25,000 ft.



CCFP Coverage Criteria

Coverage (CVRG):
Identify by degree of fill in one of 3 categories for areas:

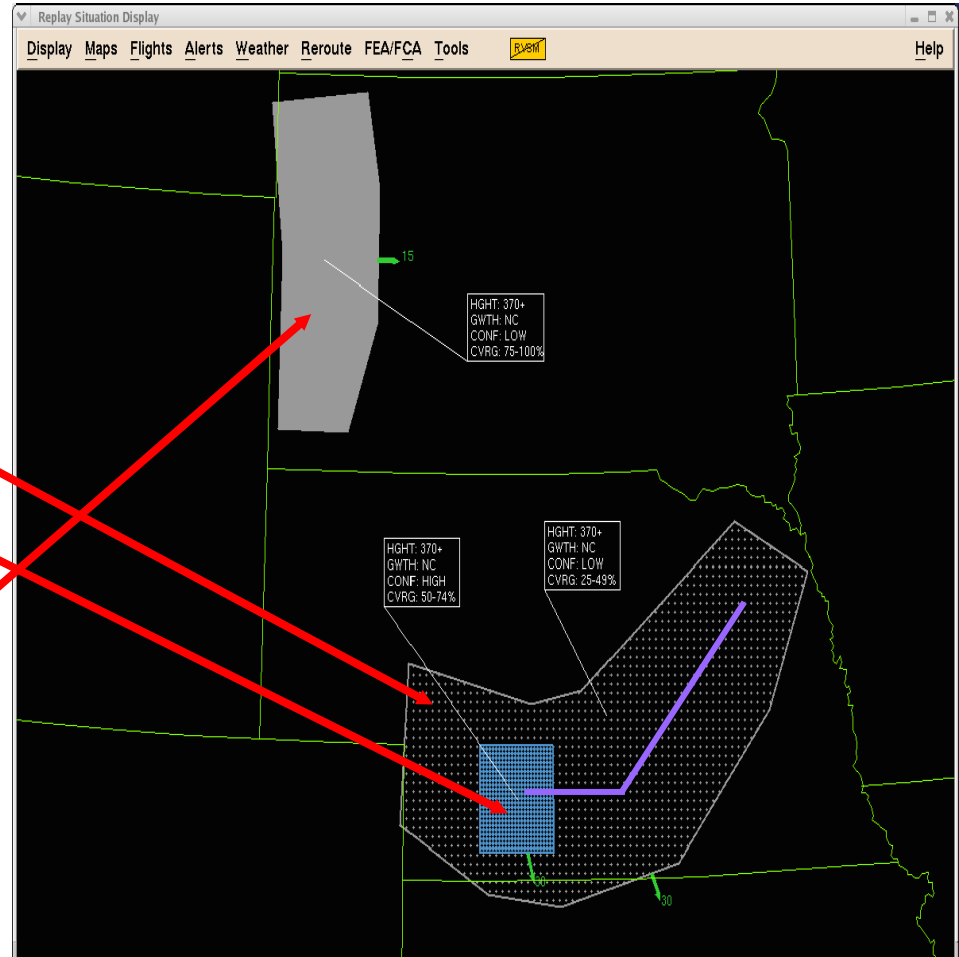
- Low 25-49% (Sparse Fill)
- Med 50-74% (Medium Fill)
- High 75-100% (Solid Fill)
- Solid line of convection (Purple)



CCFP Coverage Criteria

Coverage (CVRG):
Identify by degree of fill in one of 3 categories for areas:

- Low 25-49% (Sparse Fill)
- Med 50-74% (Medium Fill)
- High 75-100% (Solid Fill)
- Solid line of convection (Purple)



Coverage Criteria Points to Remember

- **An area, or single cell of convection with a coverage of less than 25% will not be forecast on the CCFP but may still impact the airspace, but is normally handled as a tactical issue**
 - **Remember the criteria for an area of convection on the CCFP is at least 3,000 sq. mi area with coverage greater than 25%, and echo tops greater than 25,000 ft.**

Coverage Criteria Points to Remember

→ Coverage is NOT the chance of thunderstorm development, but the percentage of area covered by the convective activity

Review

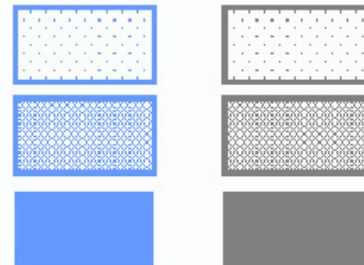
→ Two major changes to the 2005 CCFP

→ Confidence is Color

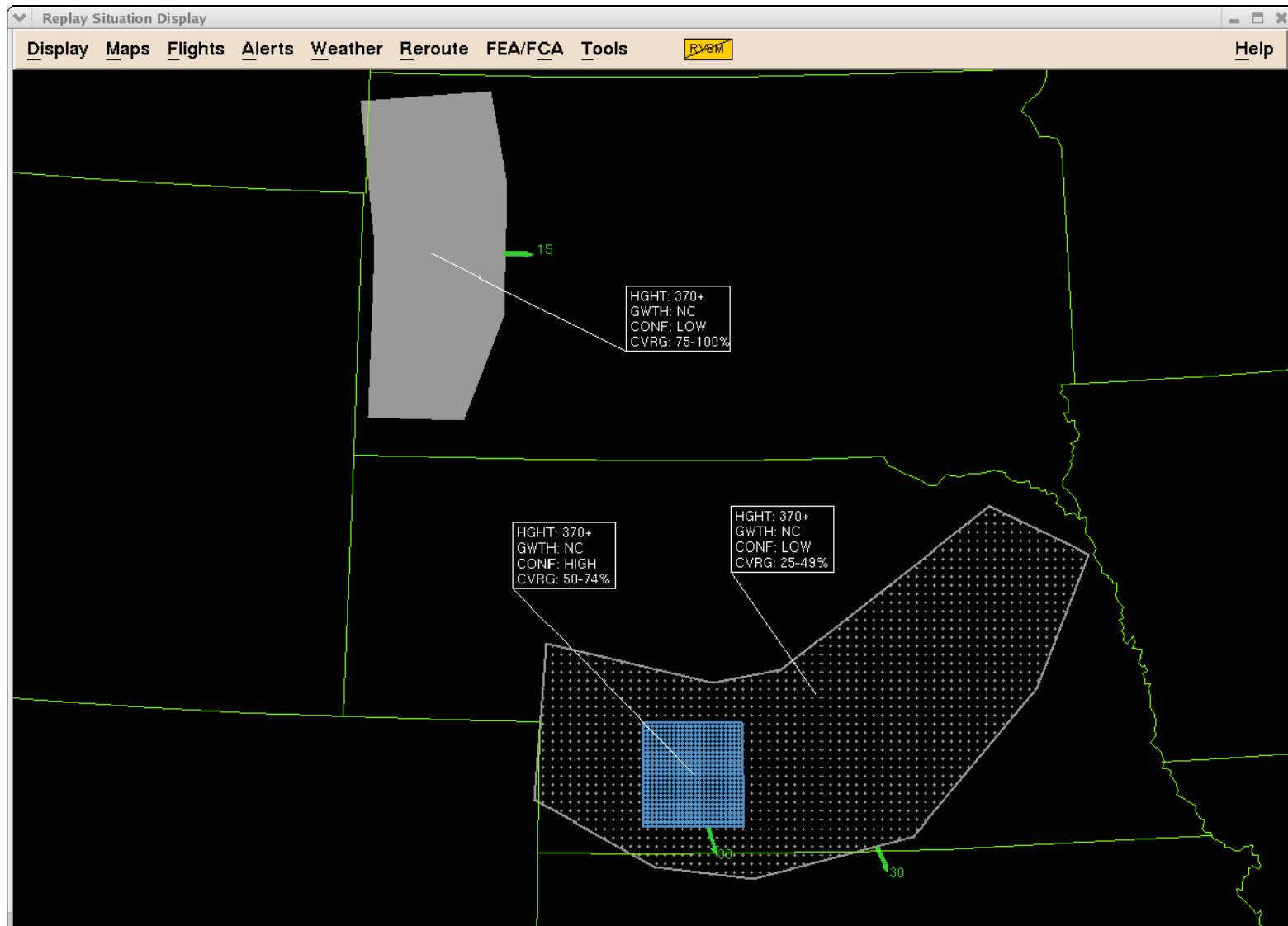
- Low (GRAY) 25-49%
- High (BLUE) 50-100%

→ Coverage is Fill

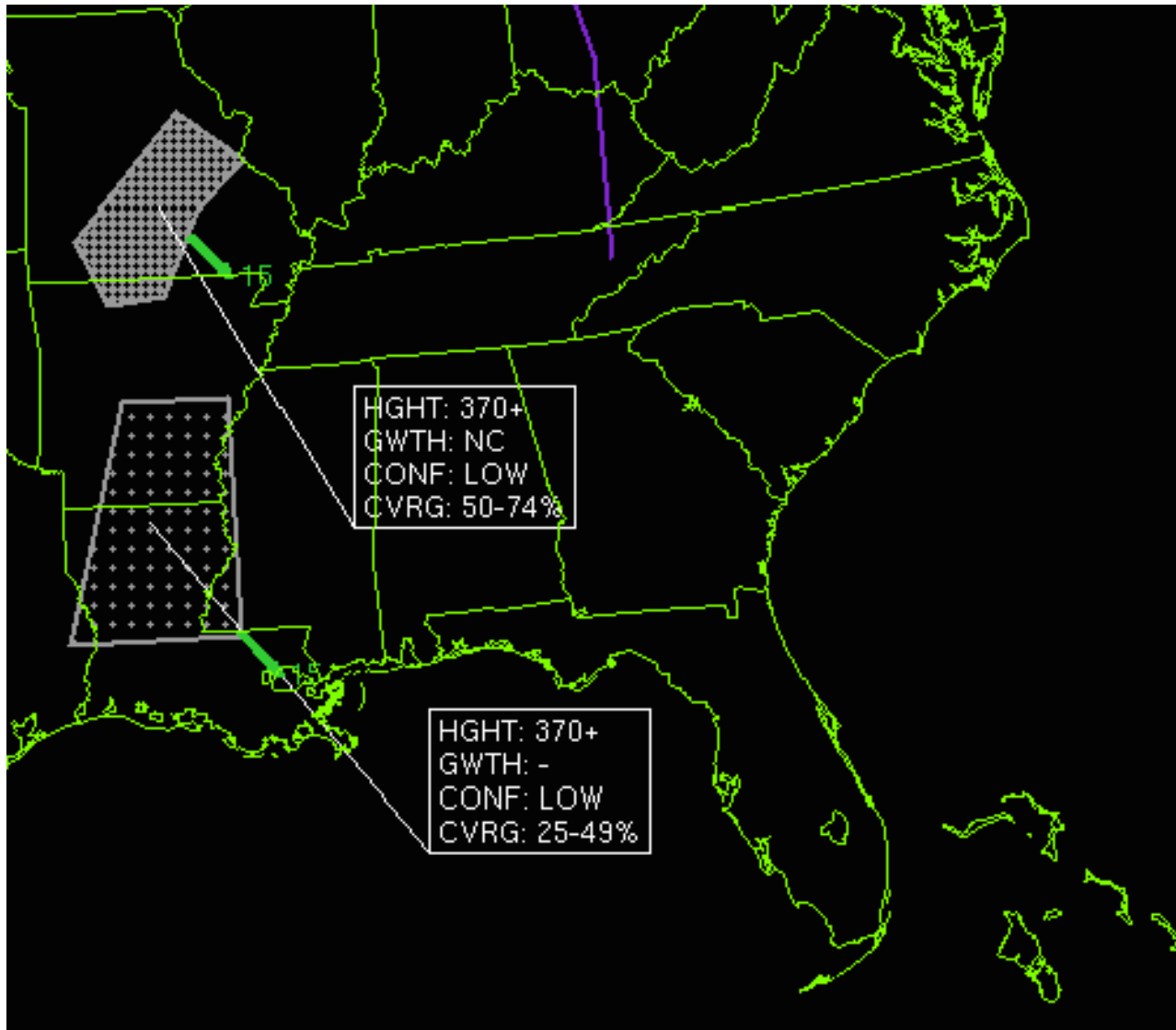
- Low 25-49% (Sparse Fill)
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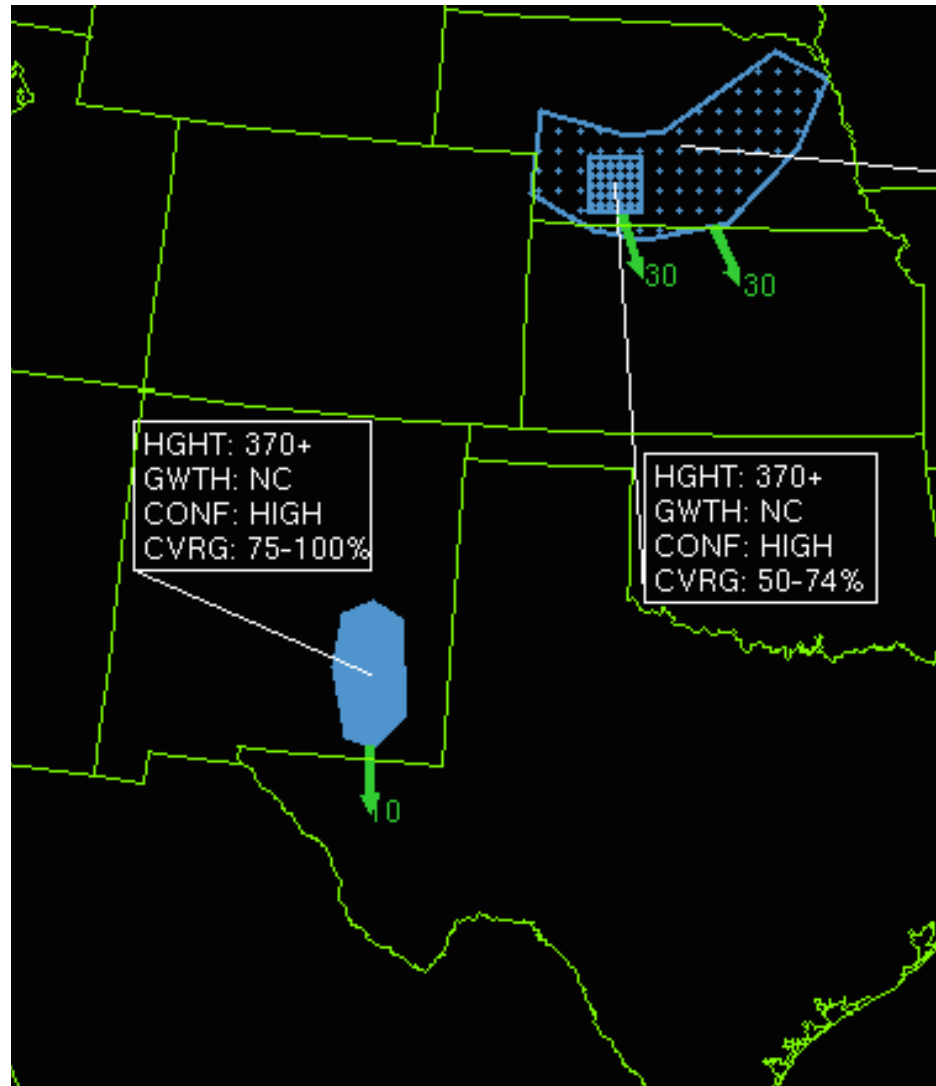
CCFP Interpretation - 1



CCFP Interpretation - 2



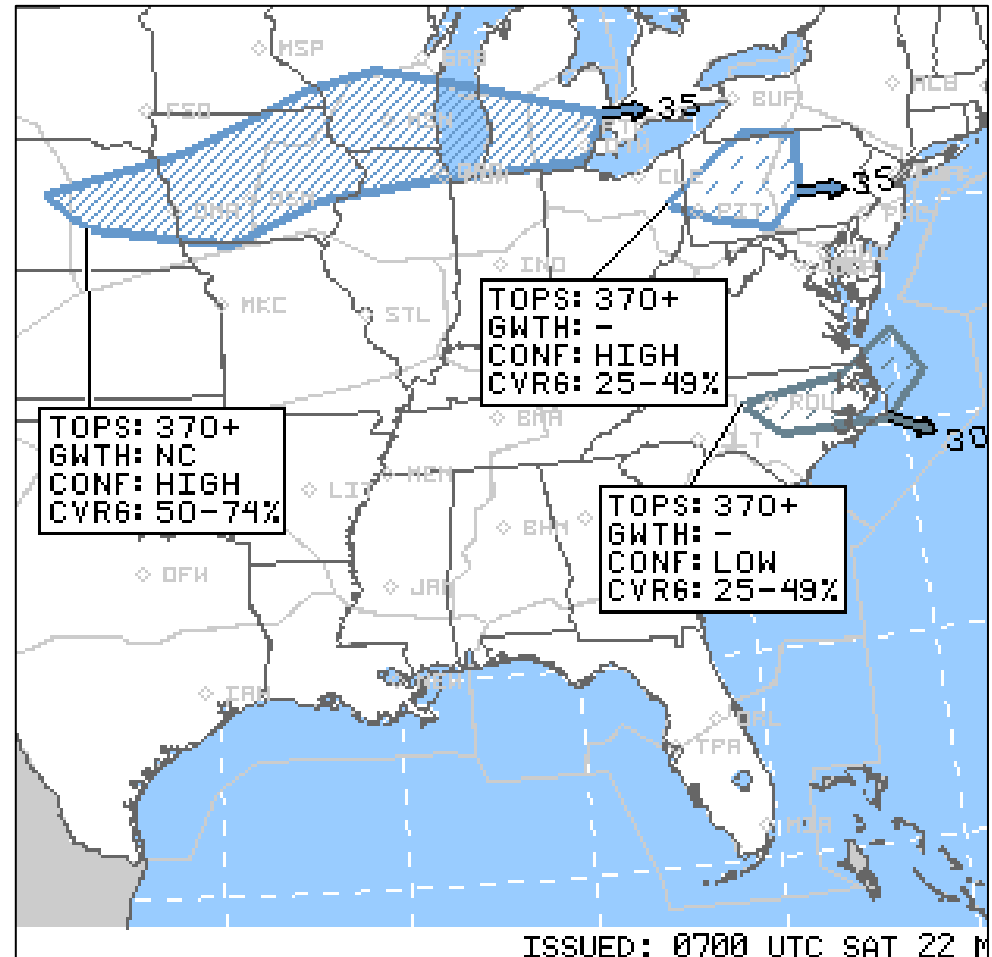
CCFP Interpretation - 3



CCFP Data Block

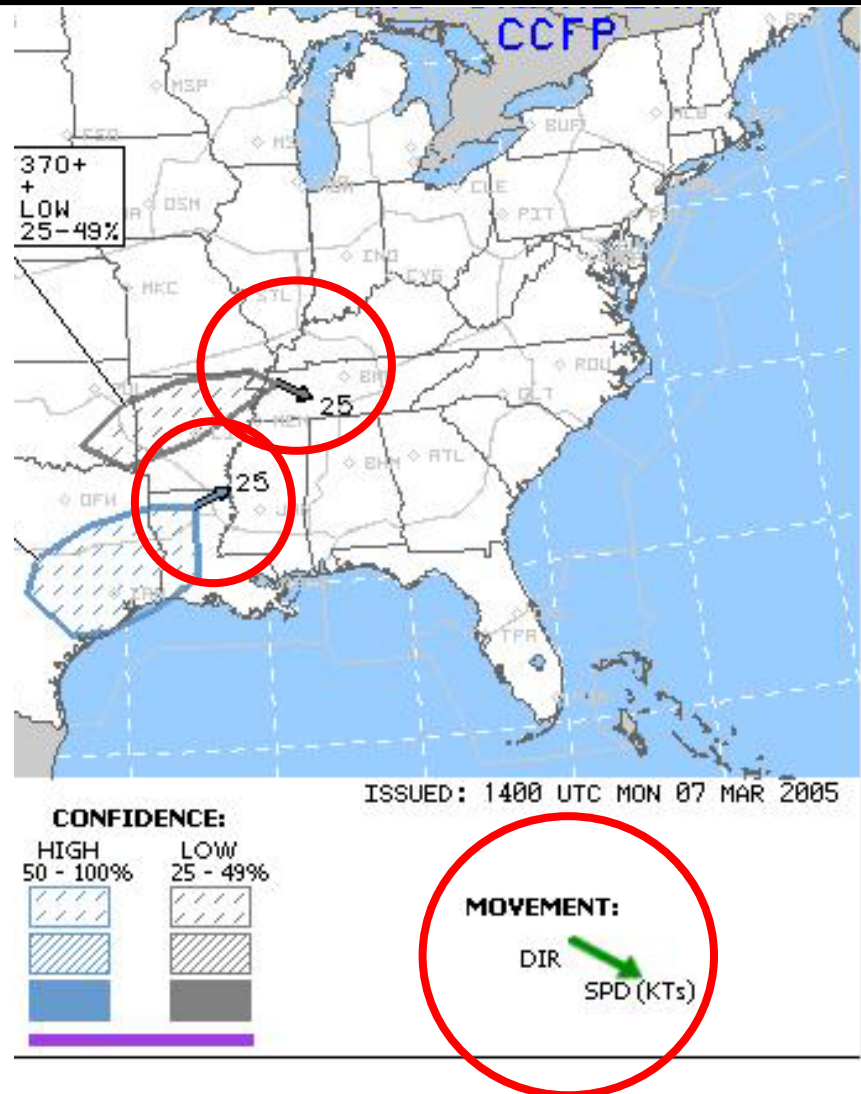
DATA BLOCK

- TOPS =** Height of Max Echo
Tops expressed in feet
MSL
- GWTH =** Growth rate of area or
line
- CONF =** Forecaster confidence of
Minimum Criteria
- CVRG =** Area coverage



CCFP Movement

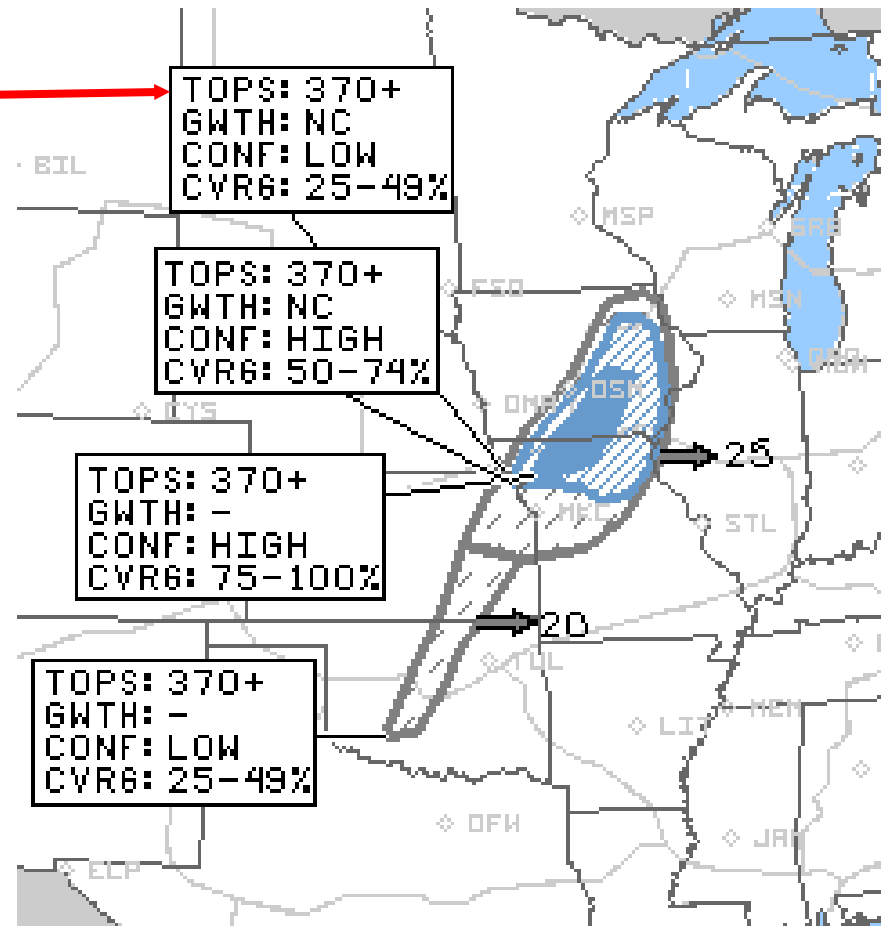
Note: MOVEMENT Indicated on graphic for each polygon and line as an arrow (showing direction) and a number (showing speed in kts)



CCFP Tops Criteria:

TOPS :

- Echo tops within the forecast area are reported in the following three categories:
- 25,000-31,000 feet MSL
 - 31,000-37,000 feet MSL
 - Above 37,000
- Echo top of 25,000 feet Mean Sea Level (MSL), or greater, are expected to cover at least 25% of the forecast area

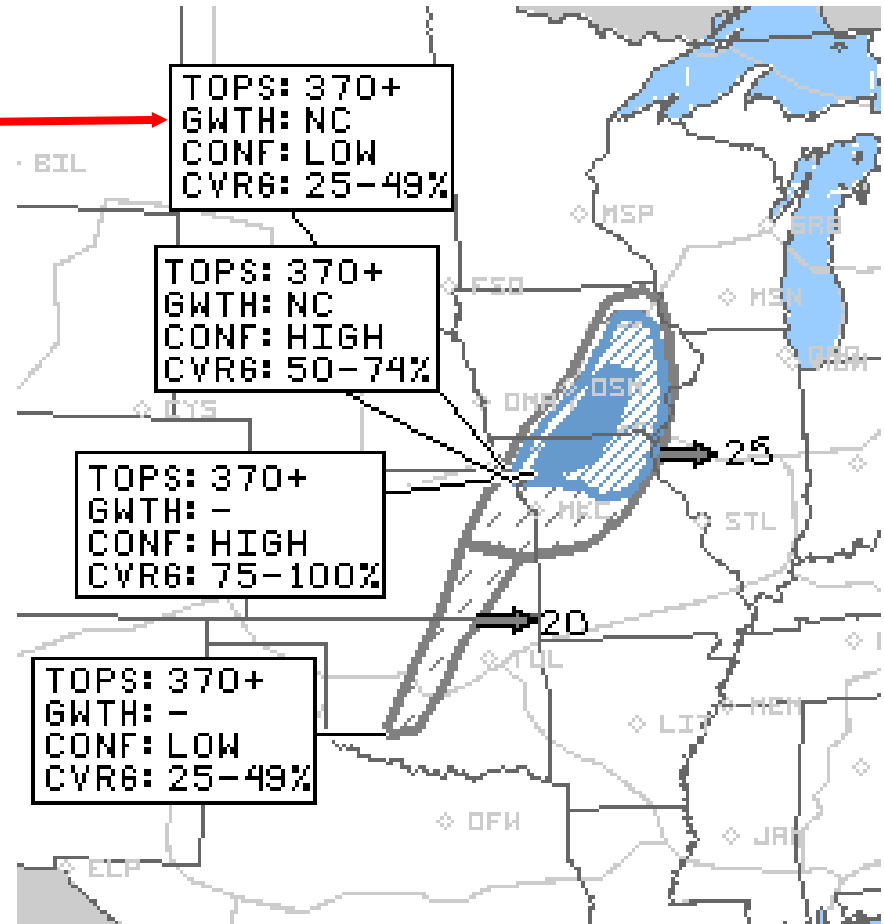


CCFP Growth

GWTH (Avg. growth rate of area/tops): →

- Growth of TSTM is three dimensional
- Growth rate changes over period of time
- Legend indicators:

- ++** Fast, Positive Growth
- +** Moderate Growth
- NC** No Change
- Negative Growth
(Area/Tops Decreasing)



2005 CCFP Schedule

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0815 - 0845	0900	0915	11 - 13 - 15	2, 4, 6 hour forecasts
1015 - 1045	1100	1115	13 - 15 - 17	2, 4, 6 hour forecasts
1215 - 1245	1300	1315	15 - 17 - 19	2, 4, 6 hour forecasts
1415 - 1445	1500	1515	17 - 19 - 21	2, 4, 6 hour forecasts
1615 - 1645	1700	1715	19 - 21 - 23	2, 4, 6 hour forecasts
1815 - 1845	1900	1915	21 - 23 - 01	2, 4, 6 hour forecasts
2015 - 2045	2100	2115	23 - 01 - 03	2, 4, 6 hour forecasts
2215 - 2245	2300	-----	01 - 03 - 05	2, 4, 6 hour forecasts

Note: UTC is +5 hours ahead of Eastern before Daylight Savings (April 3, 2005), and +4 hours ahead of Eastern time during Daylight Savings

CCFP DATA VERIFICATION

Collaborative
Convective
Forecast
Product
Final

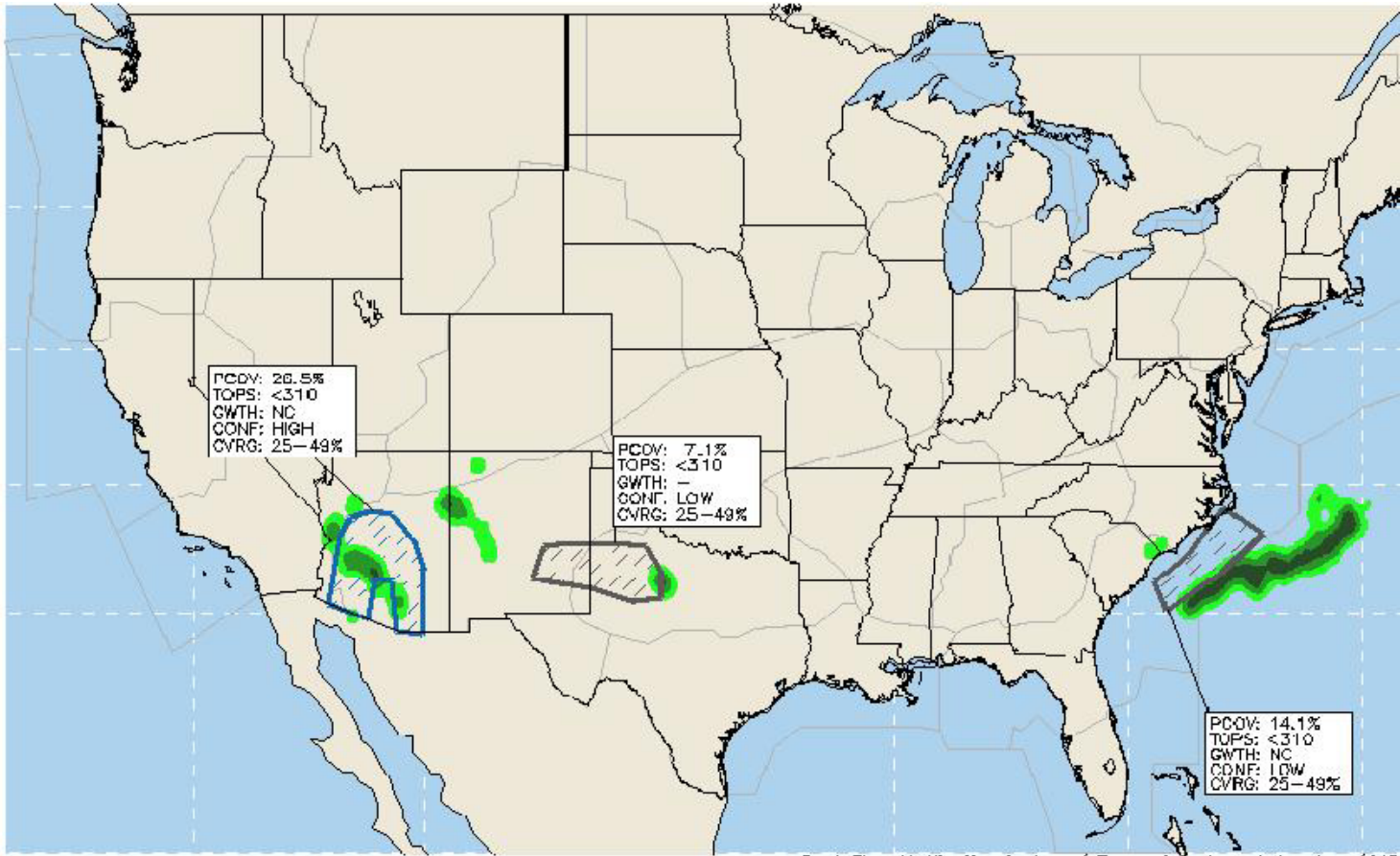
Valid Time:
Mar 06, 2005 00Z

Issuance Time:
Mar 05, 2005 22Z

Forecast Length:
2 hours

**RTVS
Verification**
PODy: 0.37
Bias: 2.12
CSI: 0.14
HSS: 0.23
% Area: 2.36
Area Eff: 15.8

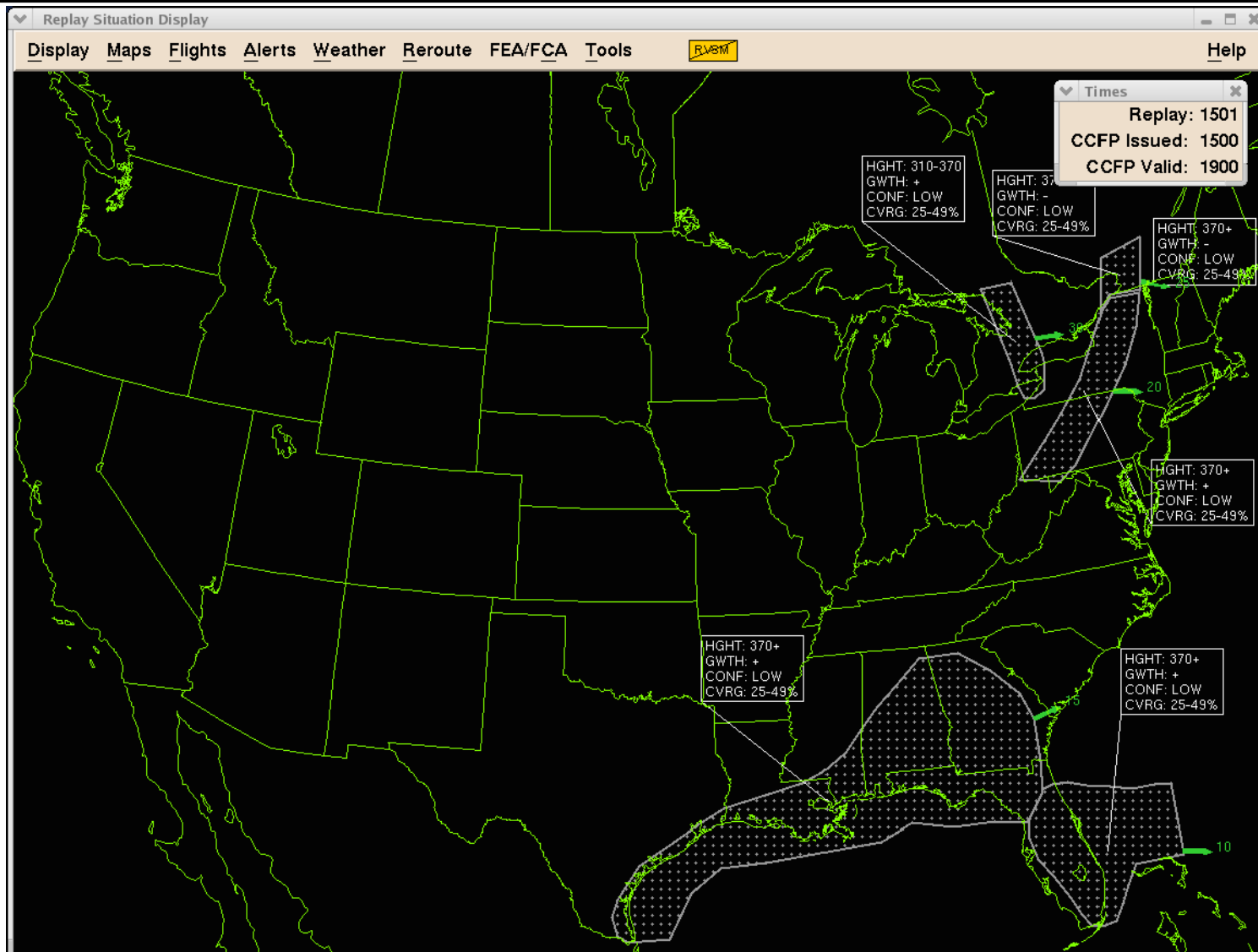
Forecast Coverage
Solid = 75-100%
Medium = 50-74%
Sparse = 25-49%
Forecast Confidence
High
Low
Observed Coverage
75-100%
50-74%
25-49%



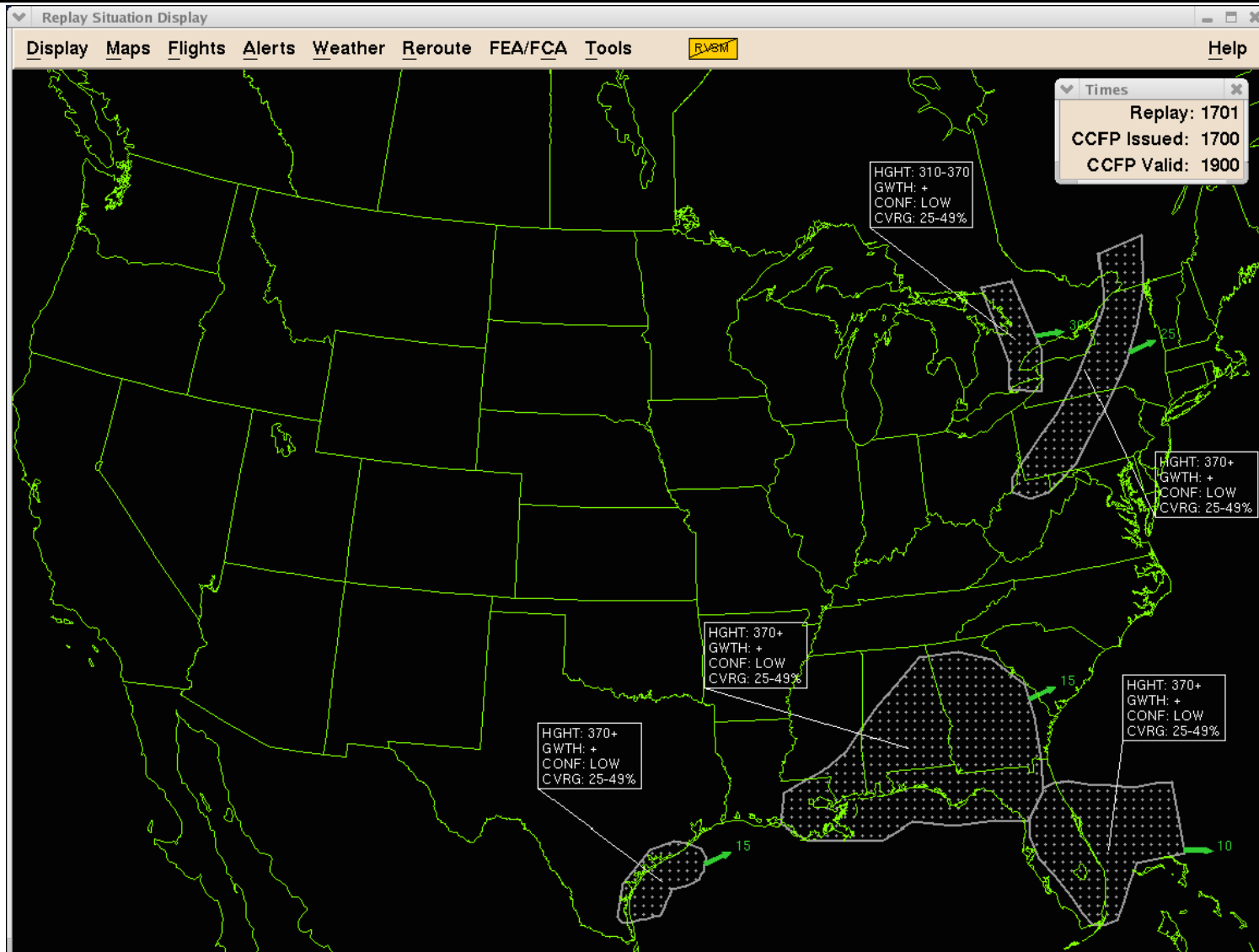
Real-Time Verification System / Forecast Systems Laboratory (OAR)

<http://www-ad.fsl.noaa.gov/fvb/rtvs/conv/index.html>

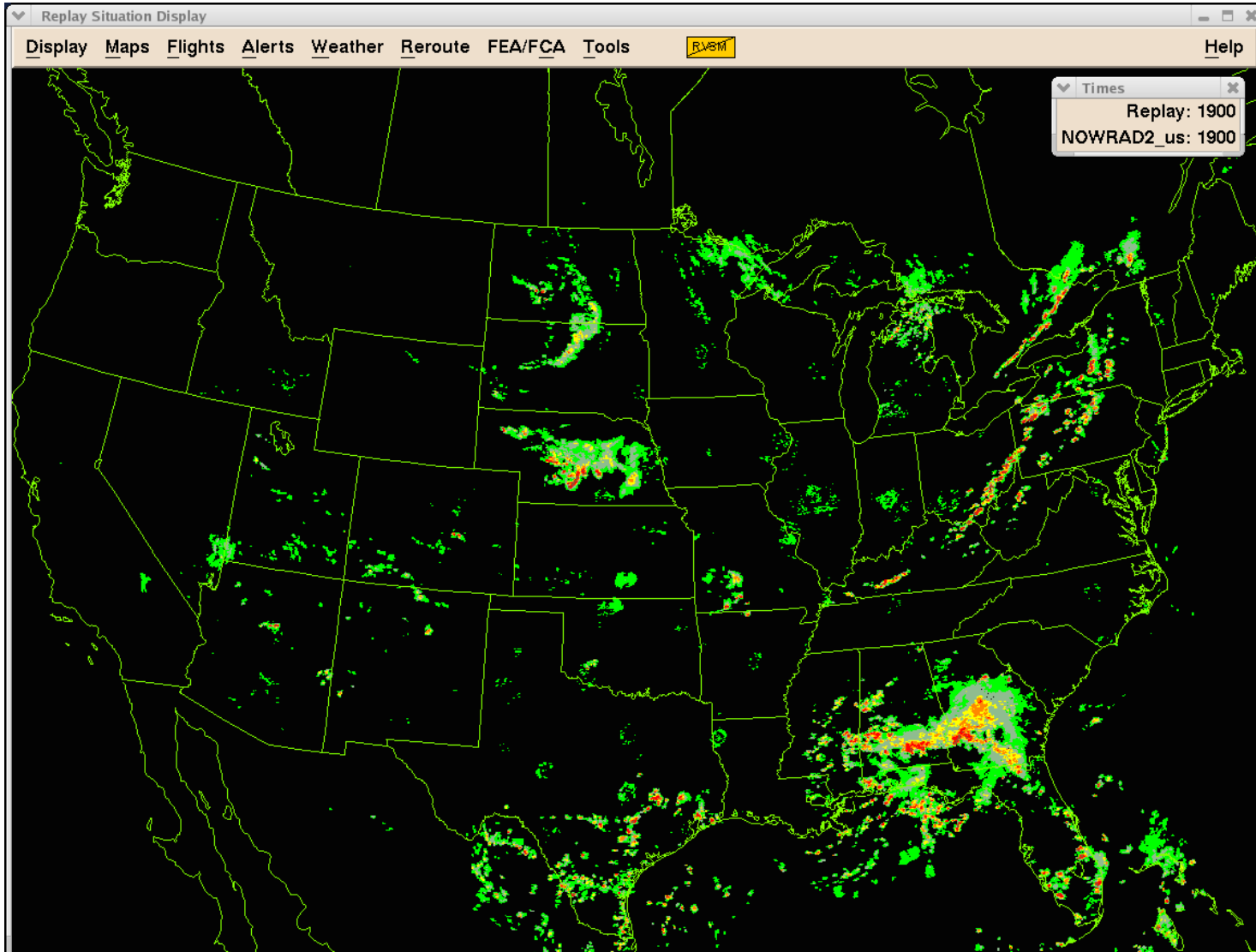
Scenario 1: Aug 10, 2004



Scenario 1: Aug 10, 2004



Scenario 1: Aug 10, 2004



Chat Log Area

- Remember - the chat logs and the PT telcons are a great resource if you have time to gather that extra information
- The chat logs can be found on the AWC website at: <http://aviationweather.gov/products/ccfp/logs>
- You may want to have your supervisors print the logs if you know there will be significant weather to deal with

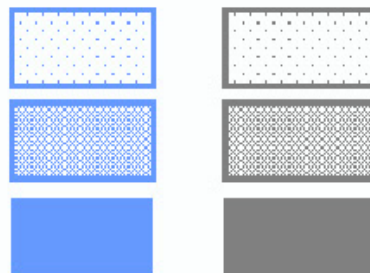
CONCLUSIONS

- **CCFP intended as a long range (2-6 hour) strategic forecast not as a tactical tool**
- **The graphic was changed to give TMCs a more of a quick glance overview of the weather forecast**
- **Confidence is Color**
 - **Low (GRAY) 25-49%**
 - **High (BLUE) 50-100%**

CONCLUSIONS

→ Coverage is Fill

- Low 25-49% (Sparse Fill)
- Med 50-74% (Medium Fill)
- High 75-100% (Solid Fill)



→ **CVRG is the percentage of area coverage NOT the chance of thunderstorm (TSTM) development**