Blast from the Past!

Today's goal:
Practice utilizing meteorological concepts learned so far to produce a 13 Z and subsequent Severe Weather Watch(es) (if needed)
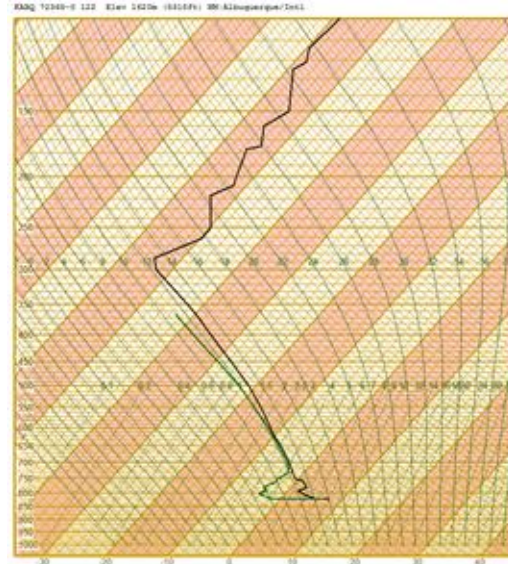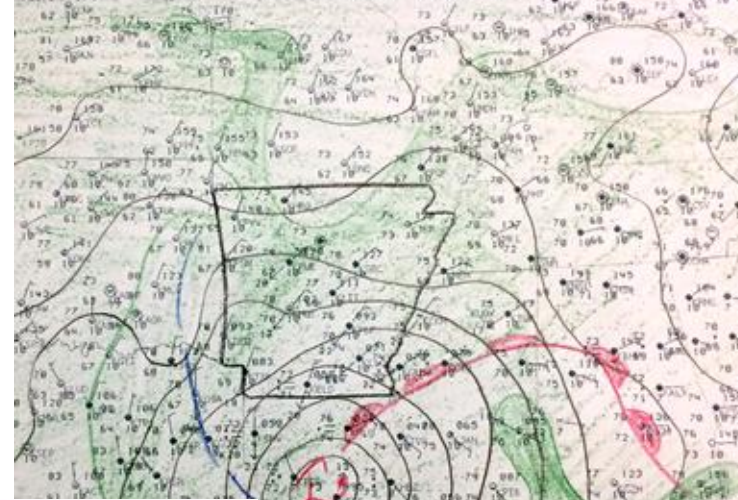
Secondary Goal:
Get additional practice:
- creating an outlook
- hand analysis
- writing discussions before the final!

Keep in mind:
During a real-time weather watch, you'll have to filter through and analyze a LOT of information to come to the right conclusion - today will try to simulate that.

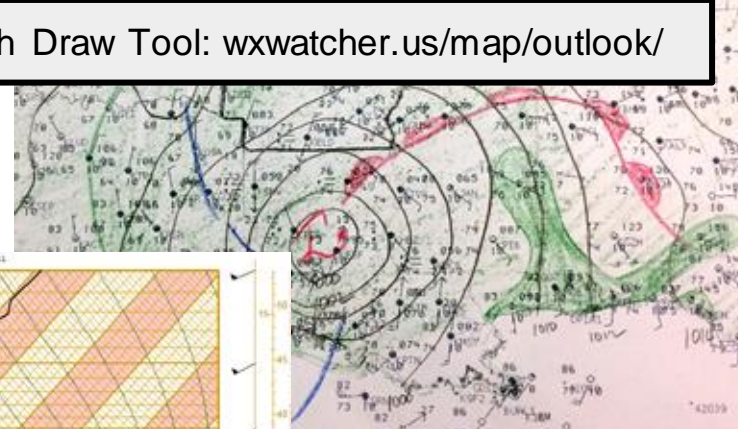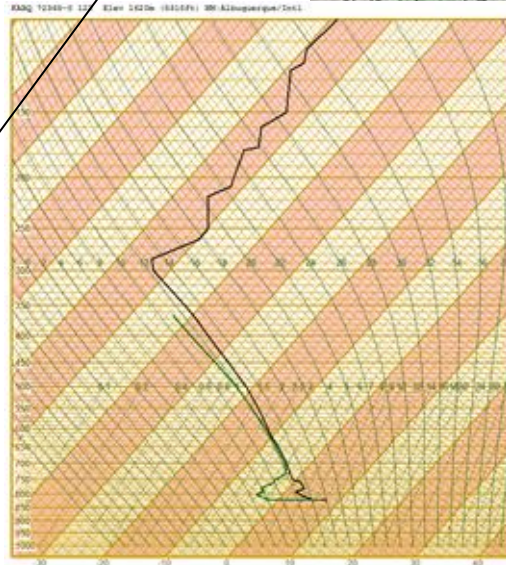# Blast from the Past!

How today will work:
- Create a 13Z Outlook (20 minutes):
    - Analyze 12Z Data
    - Draw an outlook

- Monitor Hourly Trends
    - Complete hourly analyses (5 min each)

- Update our outlook at 1630 (10 minutes)

- Issue a Watch (if needed)
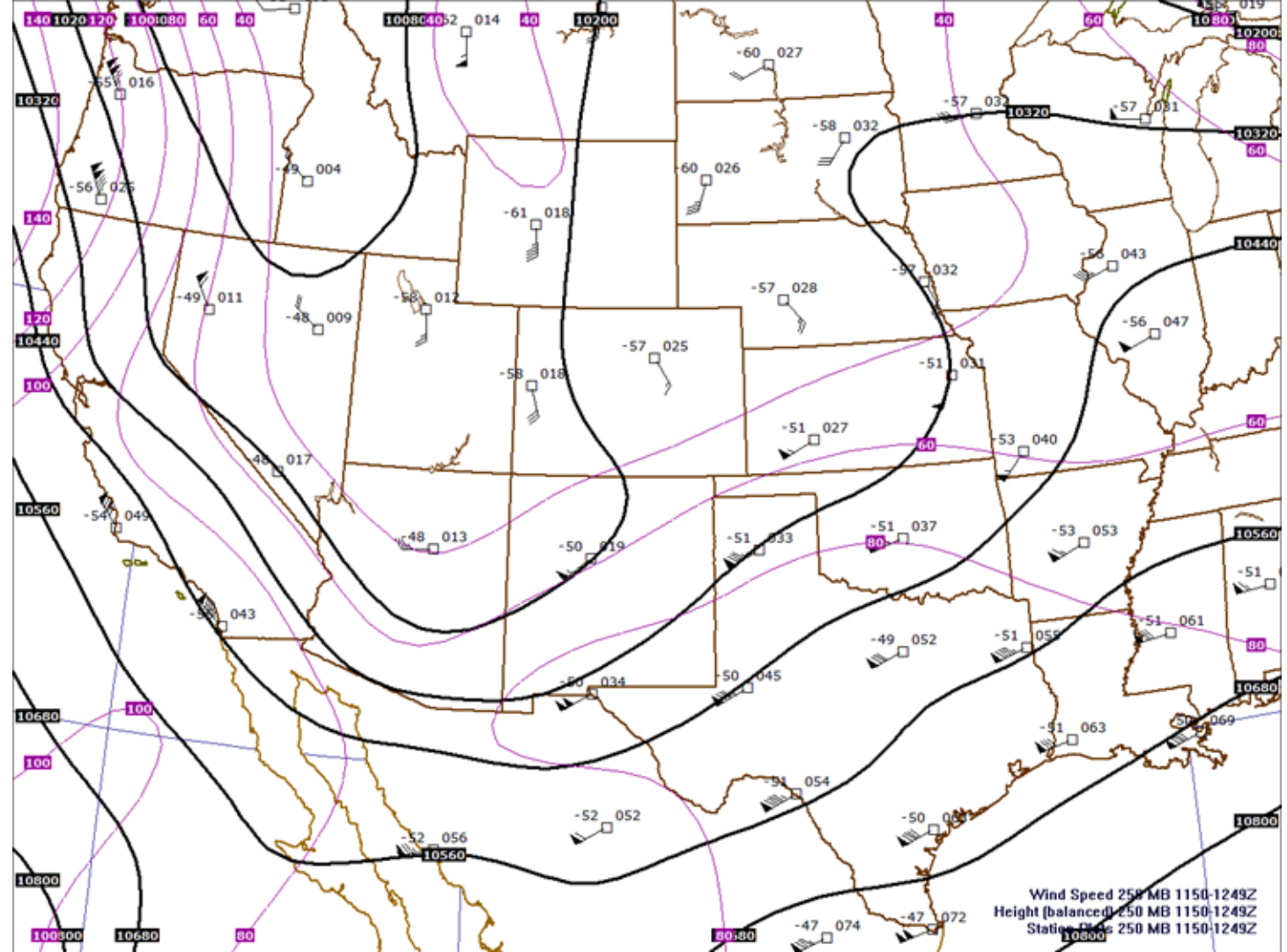   - Determine *when* to issue (group)
    - Determine *what type* (group)

Remember!

A watch should have 1-2 hours of lead time before the first report.

Outlook/Watch Draw Tool: wxwatcher.us/map/outlook/

250 mb

500 mb
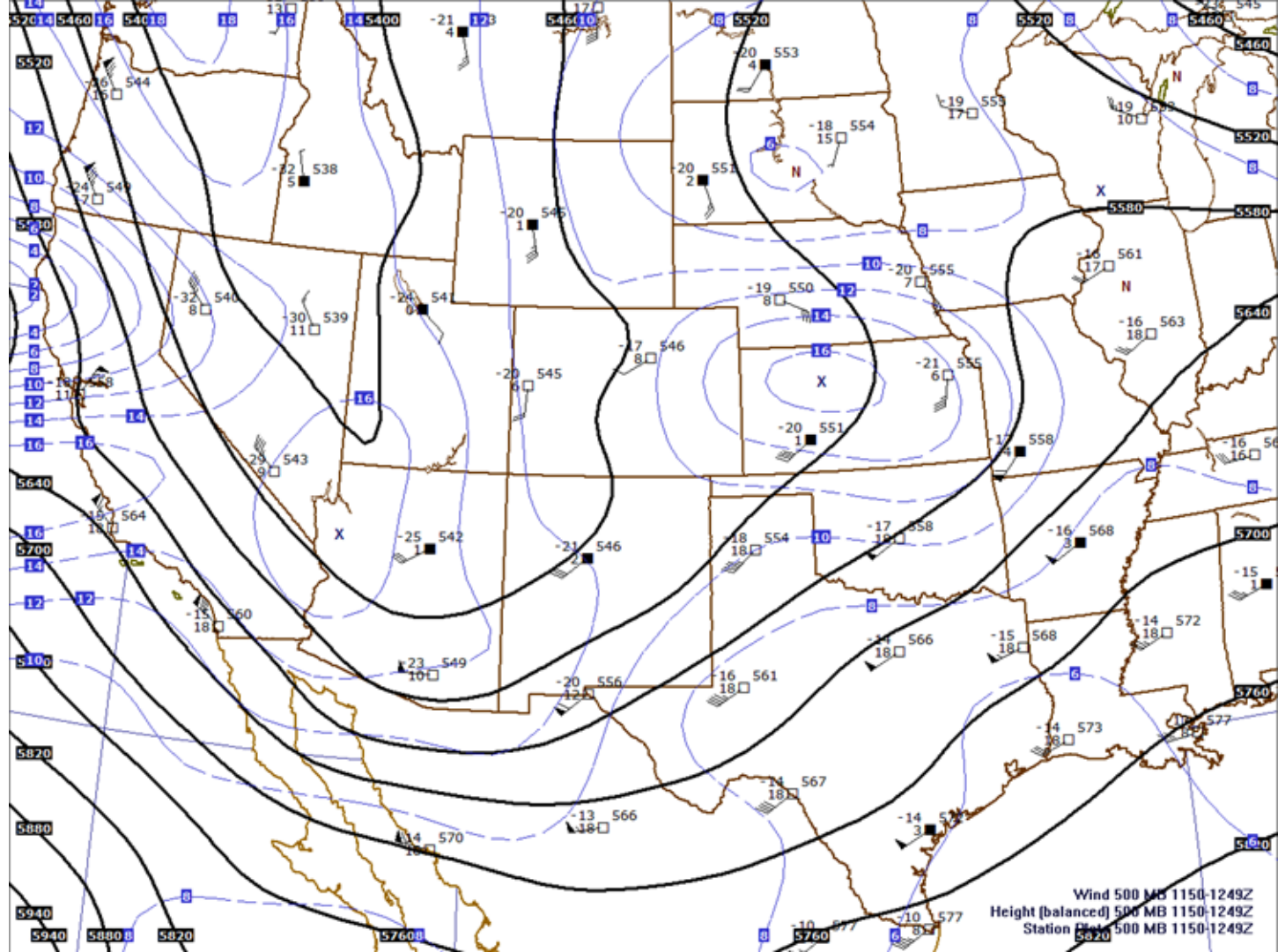
700 mb
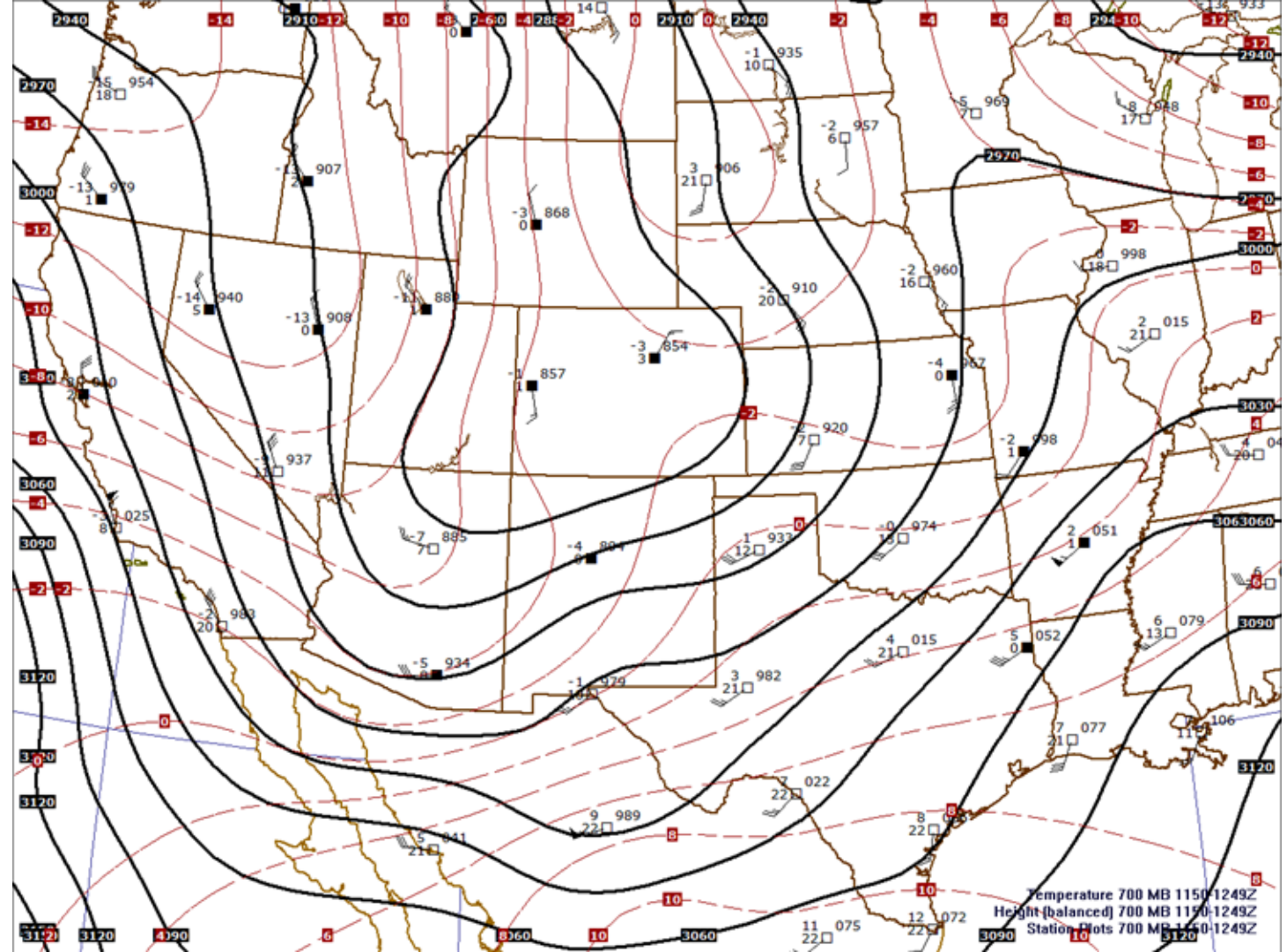
850 mb

12 Z Glasgow, MT
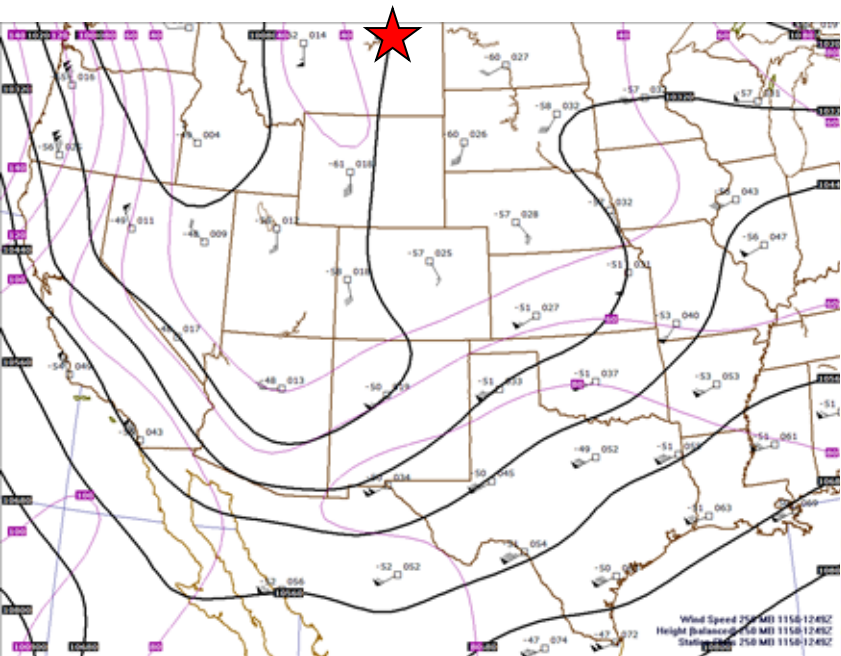
12 Z Rapid City, SD

KRAP 72662-0 12Z   Elev 965m (3166ft) SD:Rapid City/Regional

12 Z Omaha, NE

.... 72553-0 12Z Elev 377m (1237ft) NE:Omaha

12 Z North Platte, NE

KLBF 72562-0 12Z Elev 849m (2785ft) NE:North Platte/Lee Bird/NWSFO
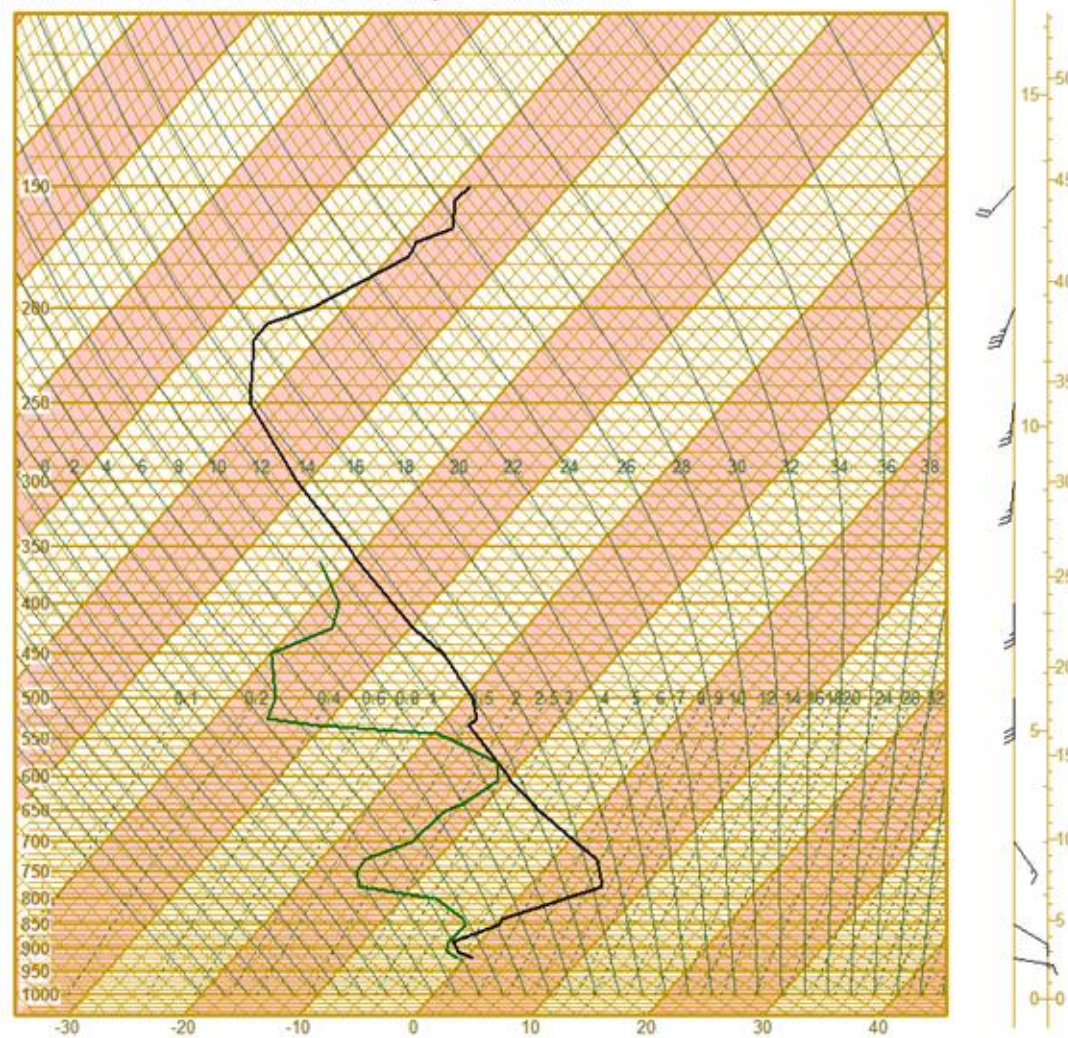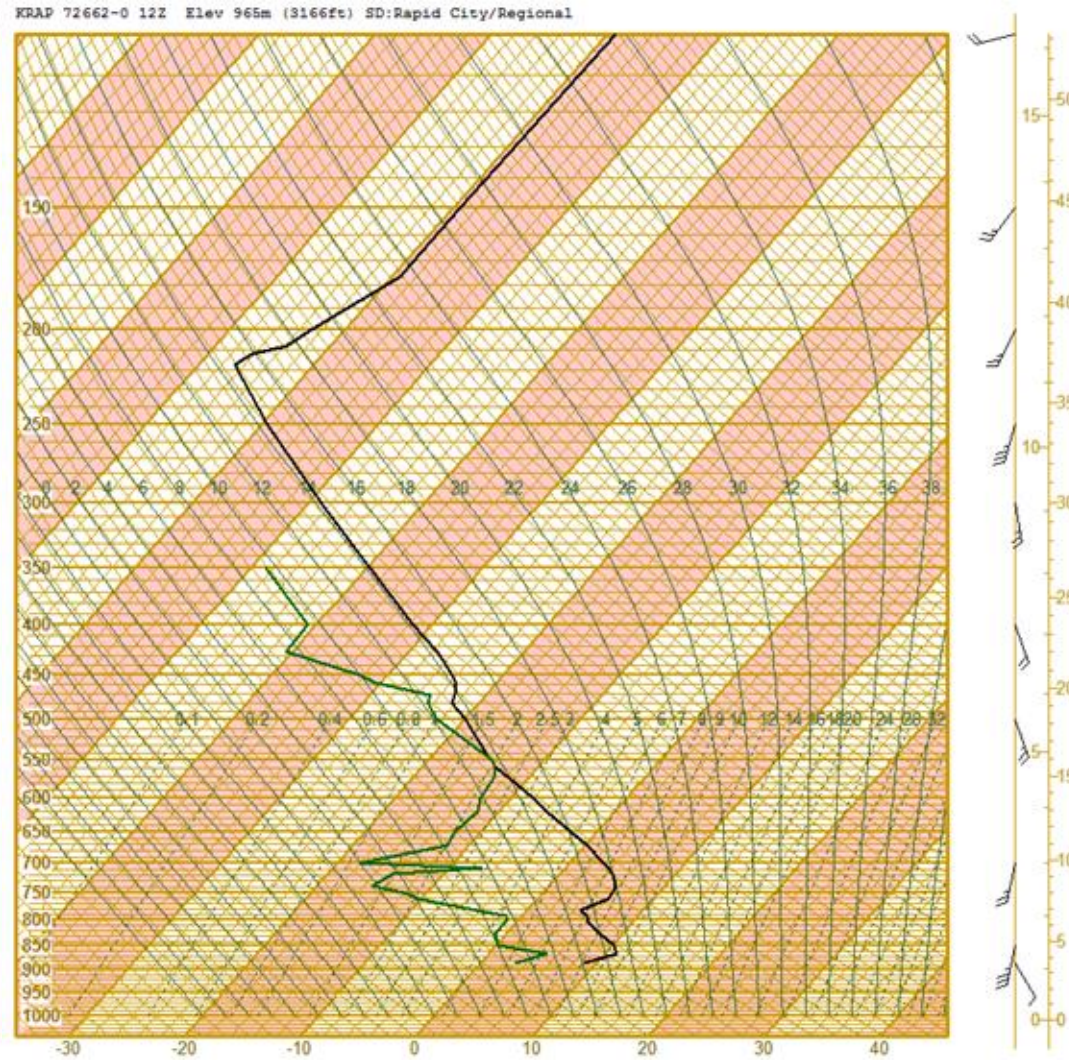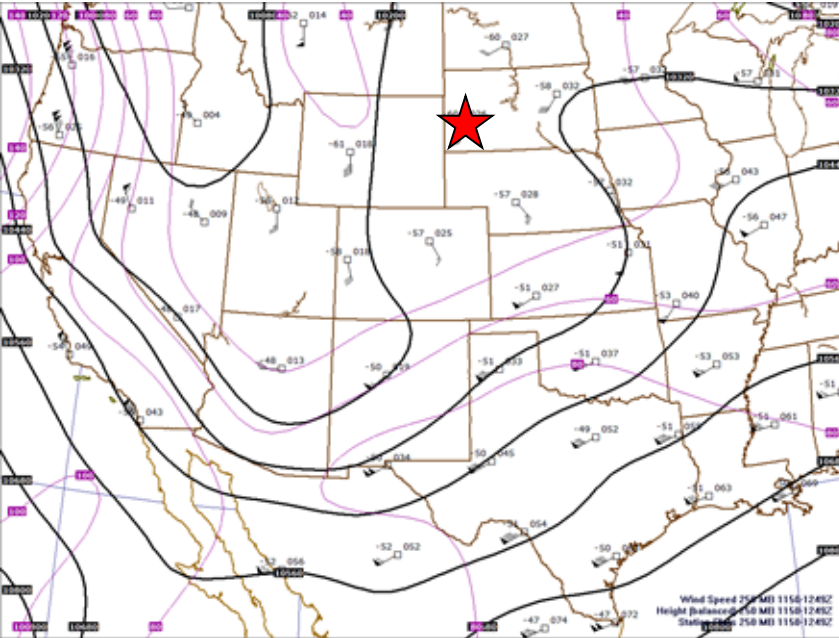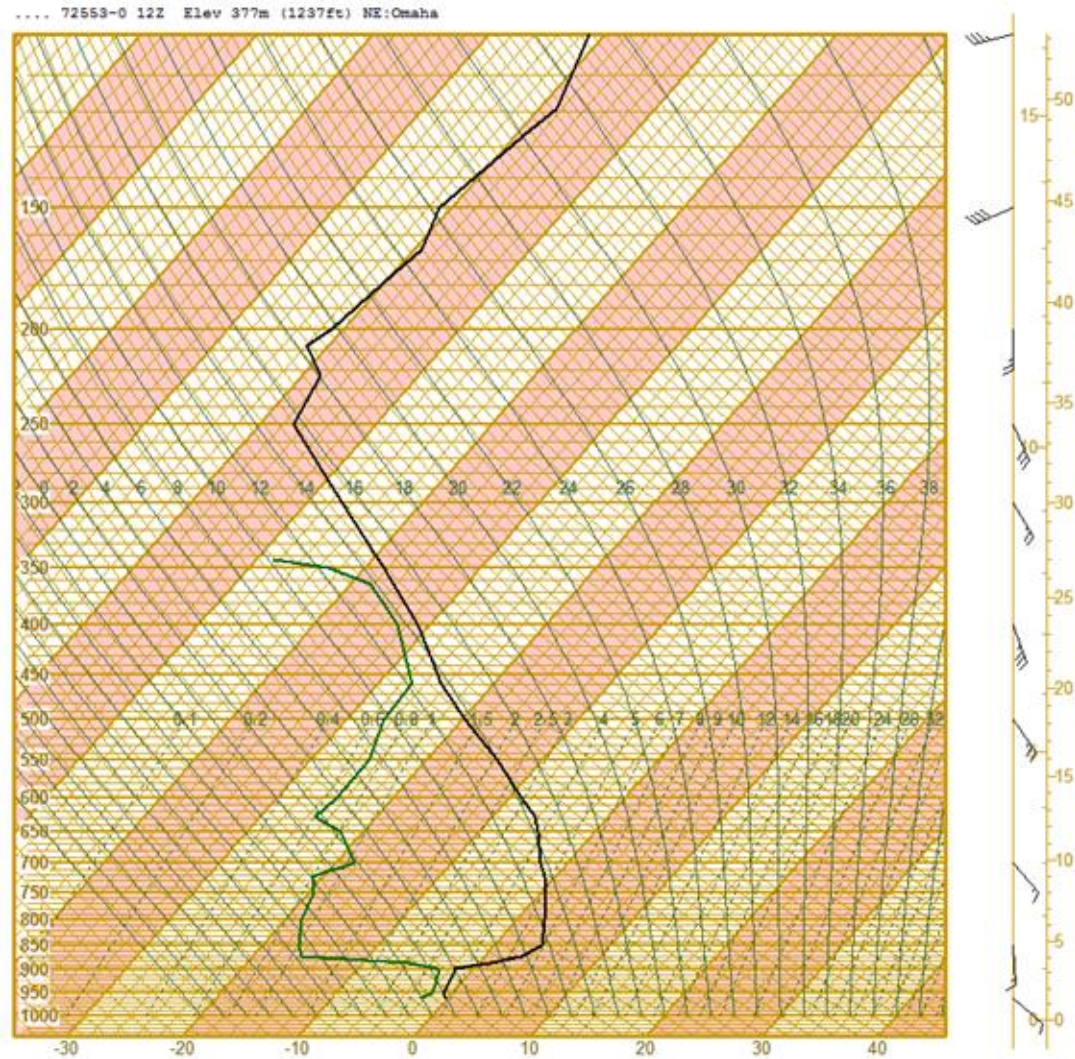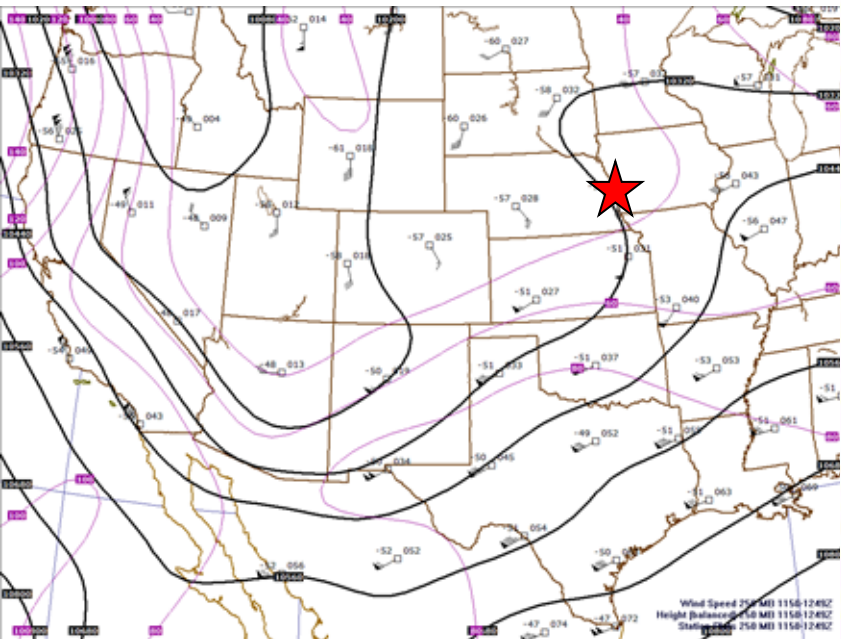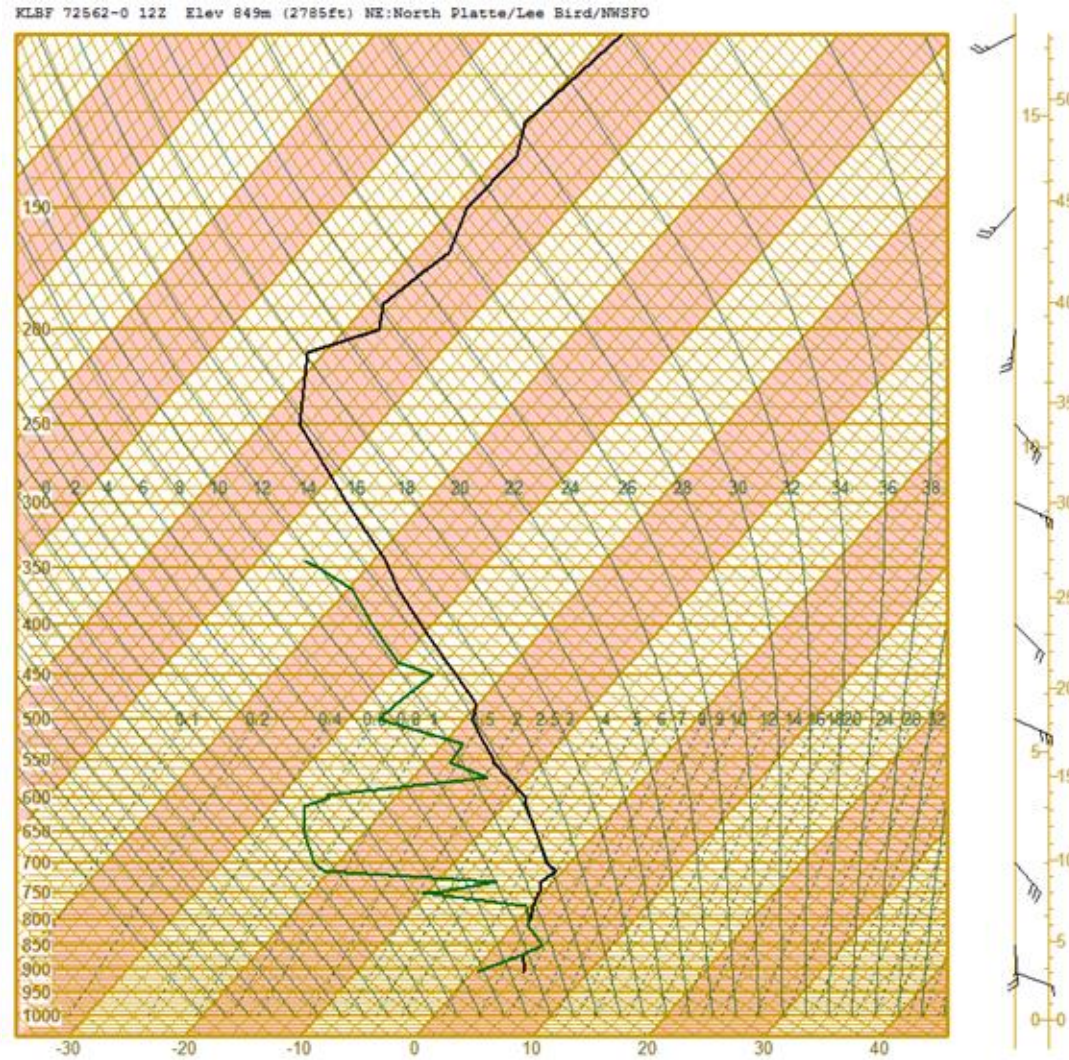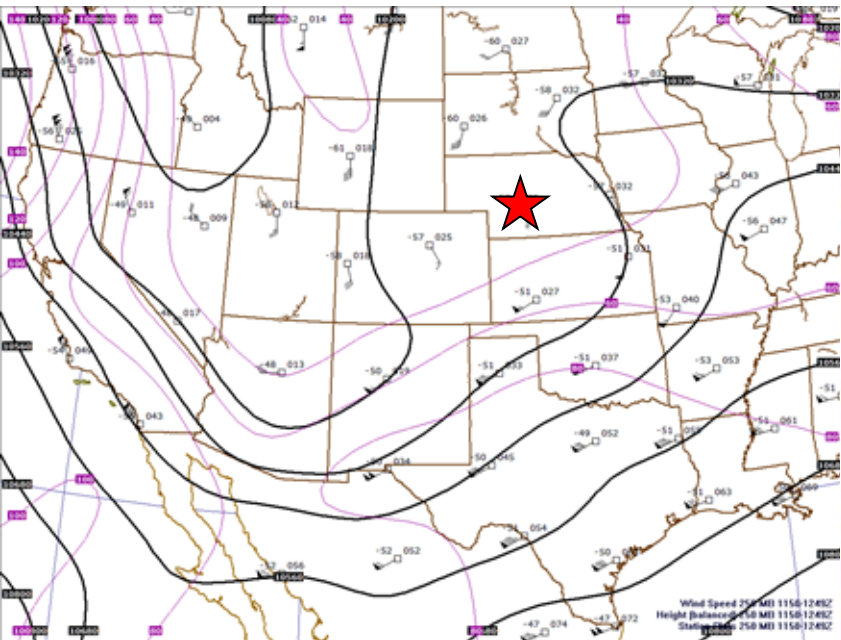
12 Z Denver, CO
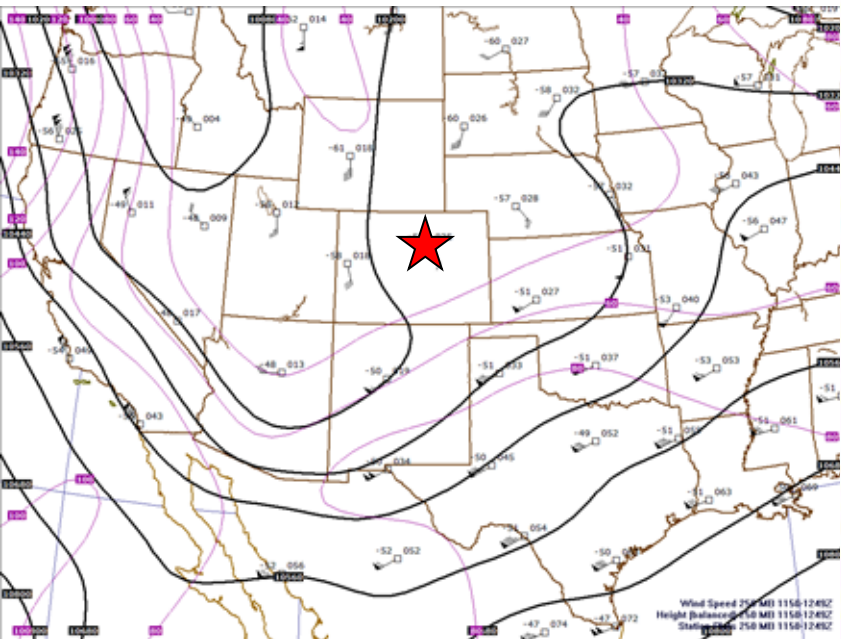
.... 72469-0 12Z   Elev 1633m (5358ft) CO:Denver
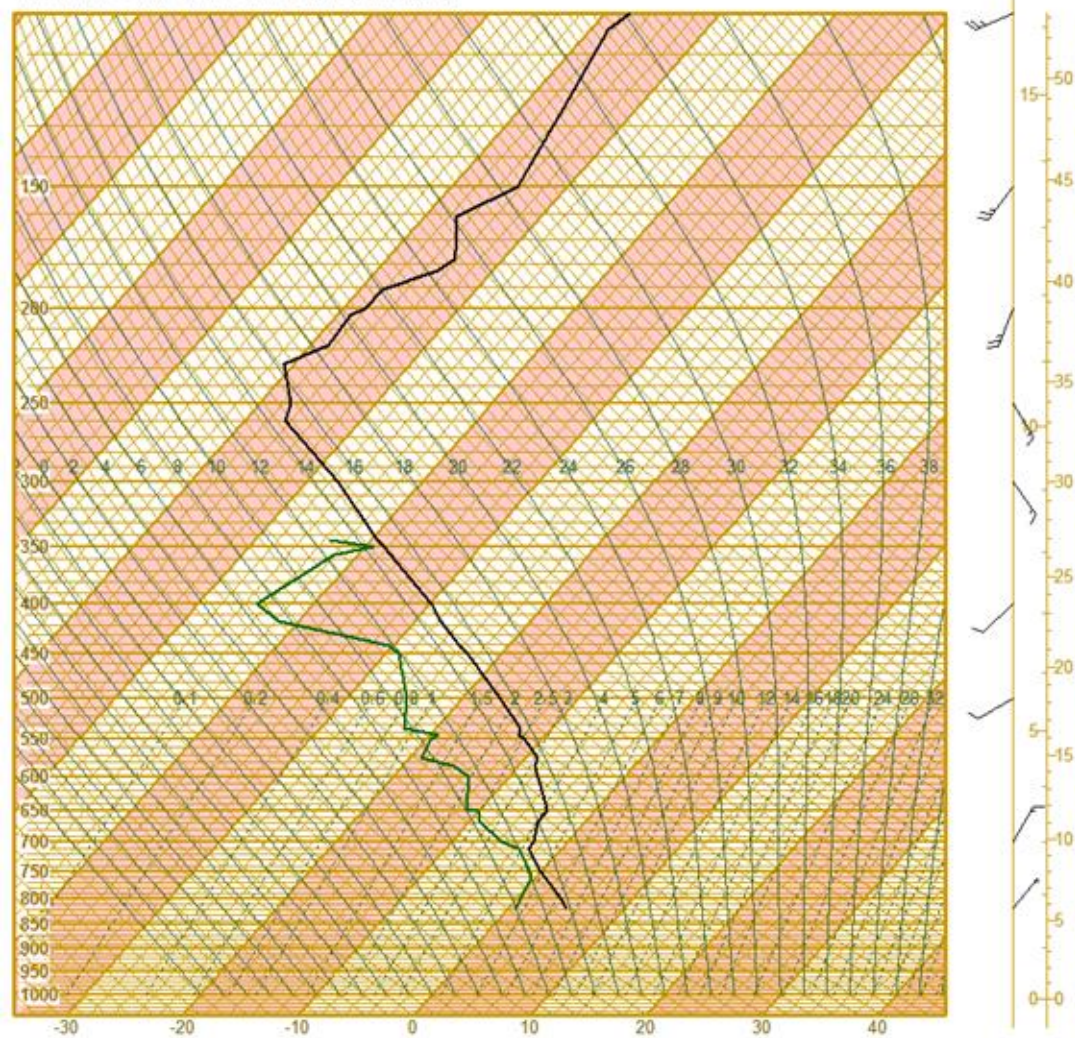
12 Z Dodge City, KS
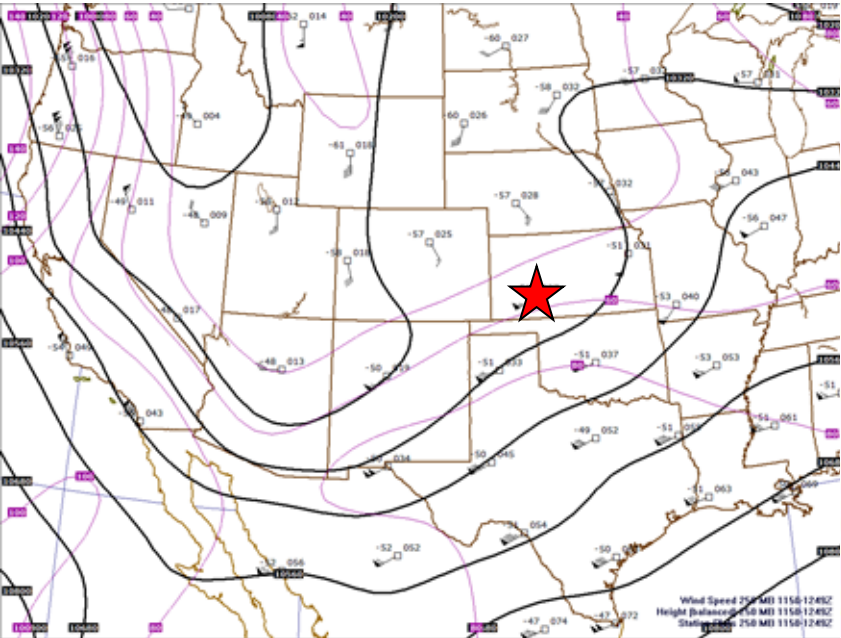
KDDC 72451-0 12Z   Elev 790m (2592ft) KS:Dodge City/NWSFO/%0350
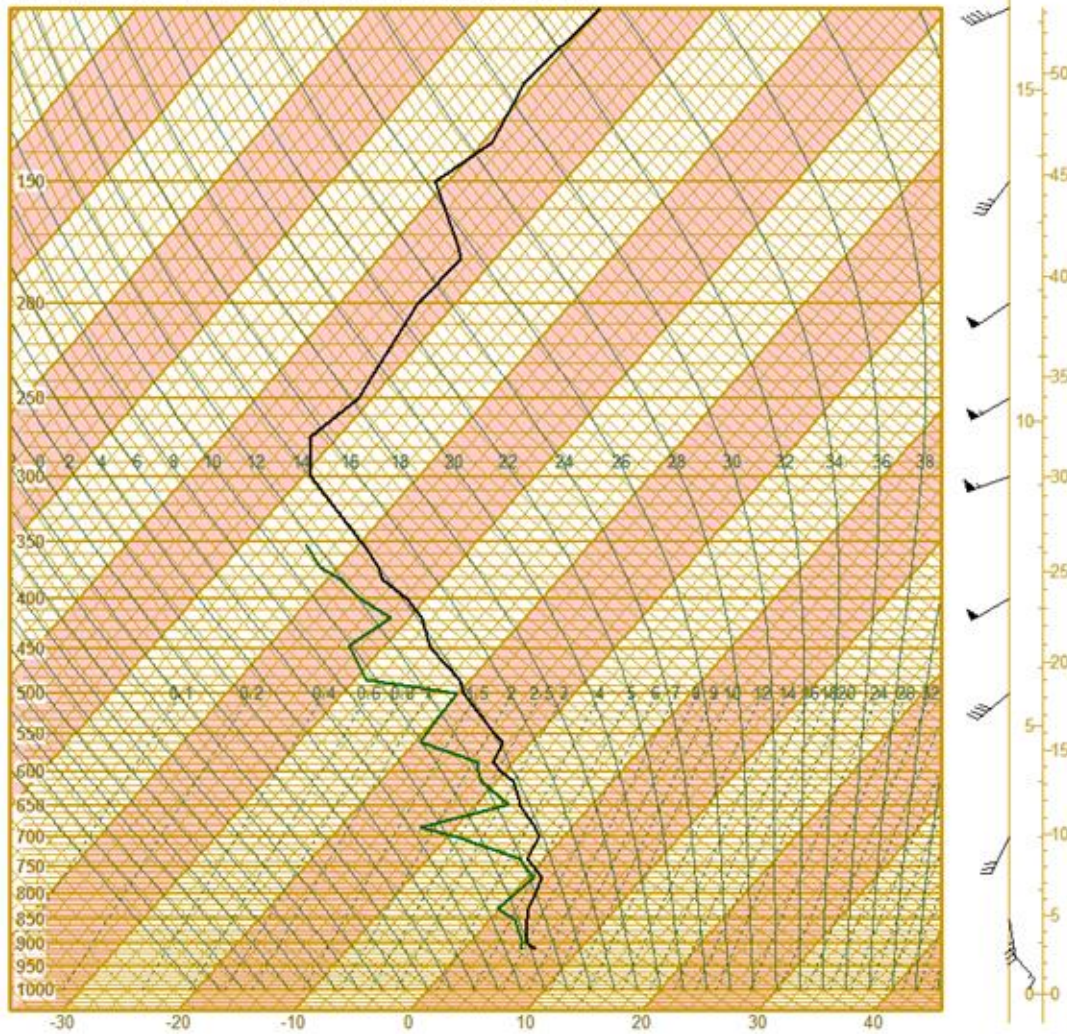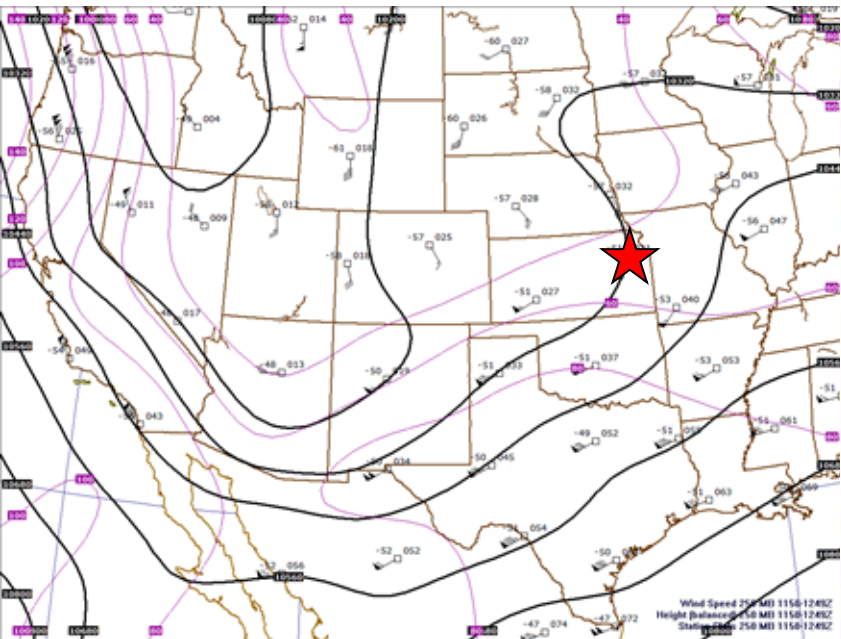
12 Z Topeka, KS

KTOP 72456-0 12Z Elev 270m (886ft) KS:Topeka/Billard Municipal
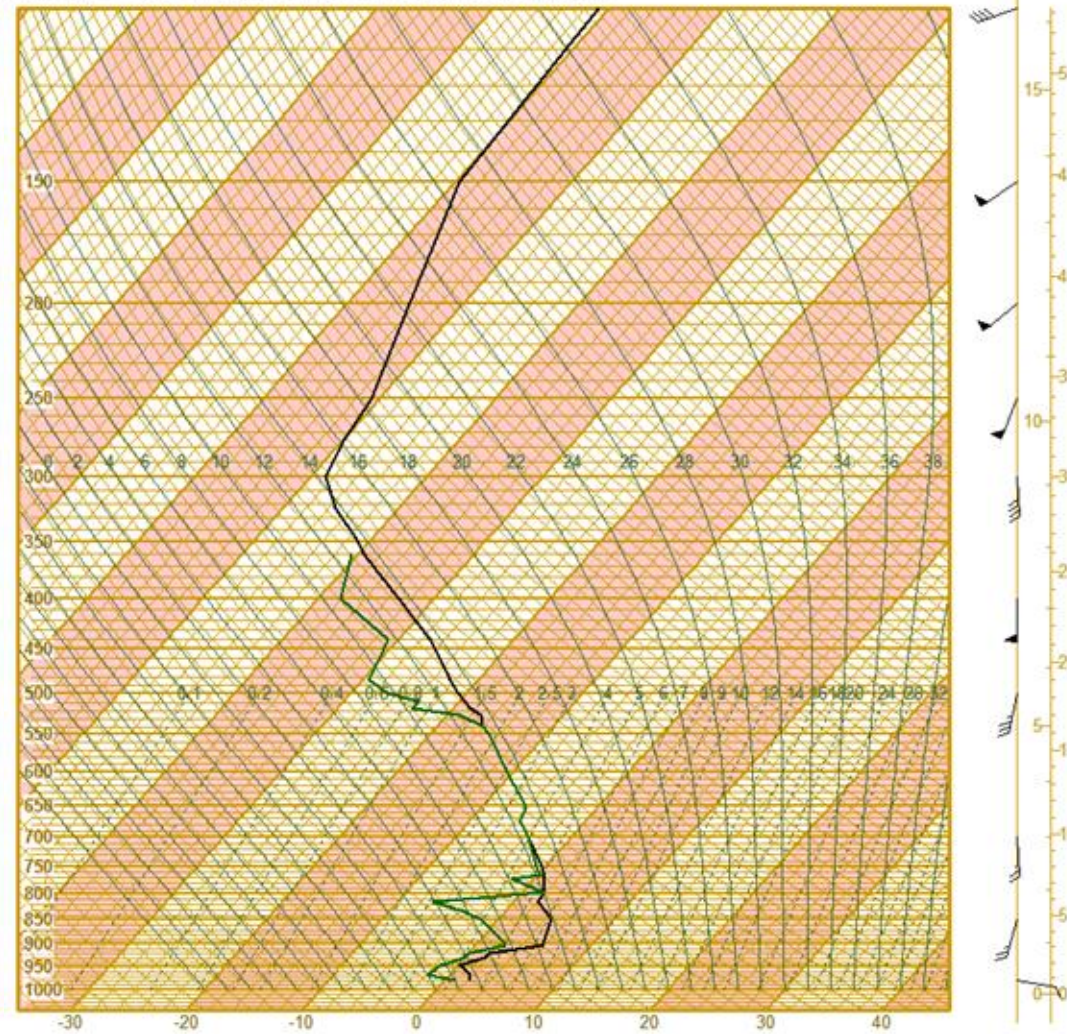
12 Z Albuquerque, NM
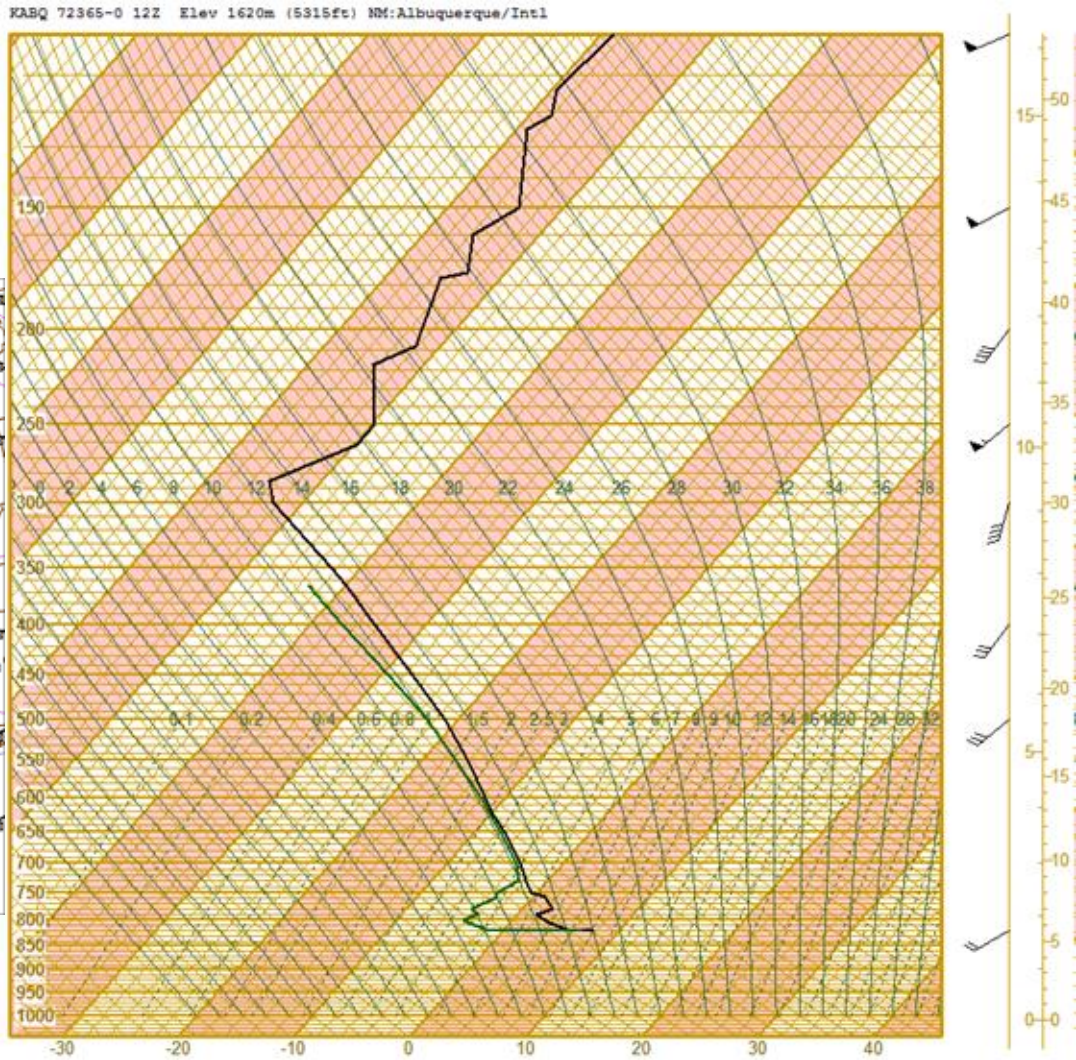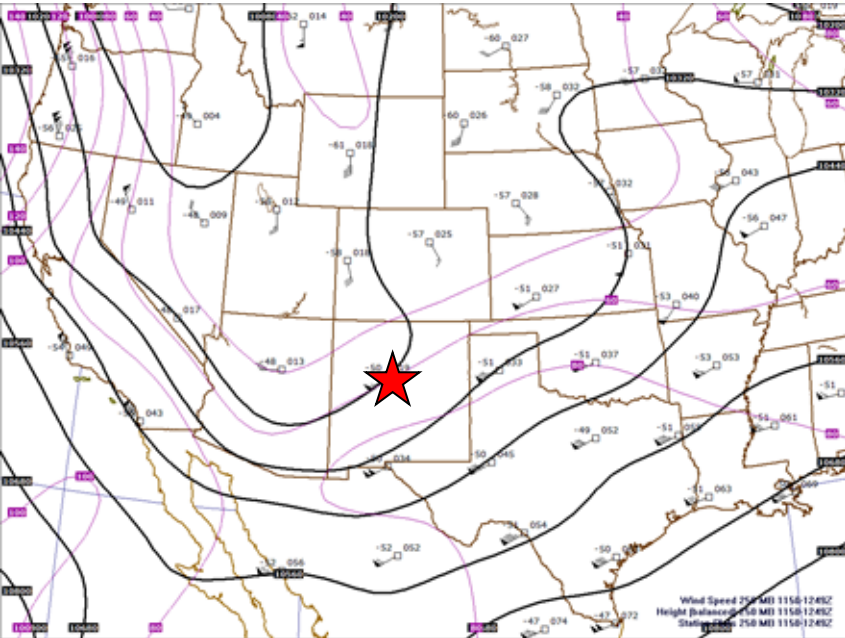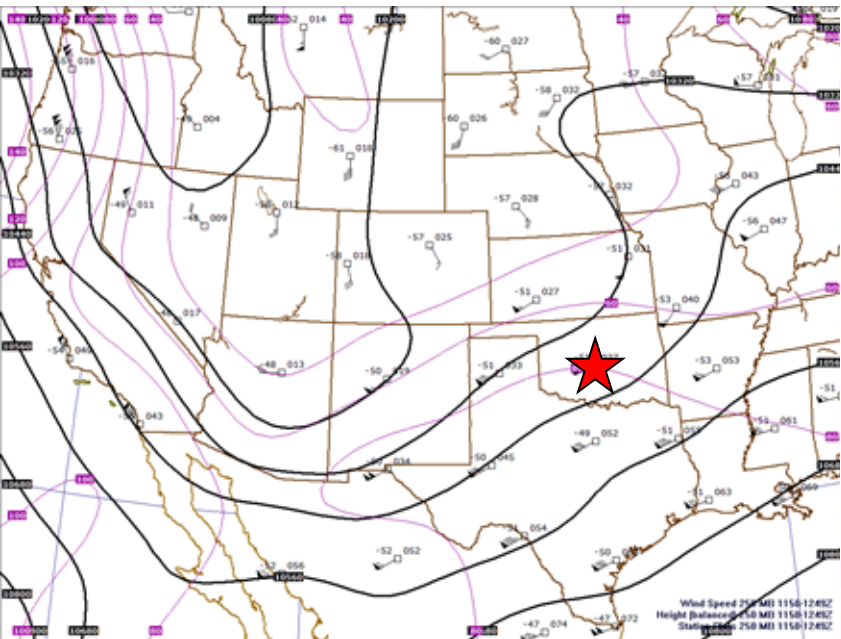
KABQ 72365-0 12Z Elev 1620m (5315ft) NM:Albuquerque/Intl

12 Z Amarillo, TX

12 Z Norman, OK

12 Z Little Rock, AR

KLZK 72340-0 12Z   Elev 78m (256ft) AR:North Little Rock/40395

12 Z Lake Charles, LA

KLCH 72240-0 12Z   Elev 10m (33ft) LA:Lake Charles/NWSFO/40391

12 Z Fort Worth, TX

72260-0 12Z Elev 299m (981ft) TX:Fort Worth or Stephenville

12 Z Del Rio, TX

KDRT 72261-0 12Z   Elev 313m (1027ft) TX:Del Rio/Intl
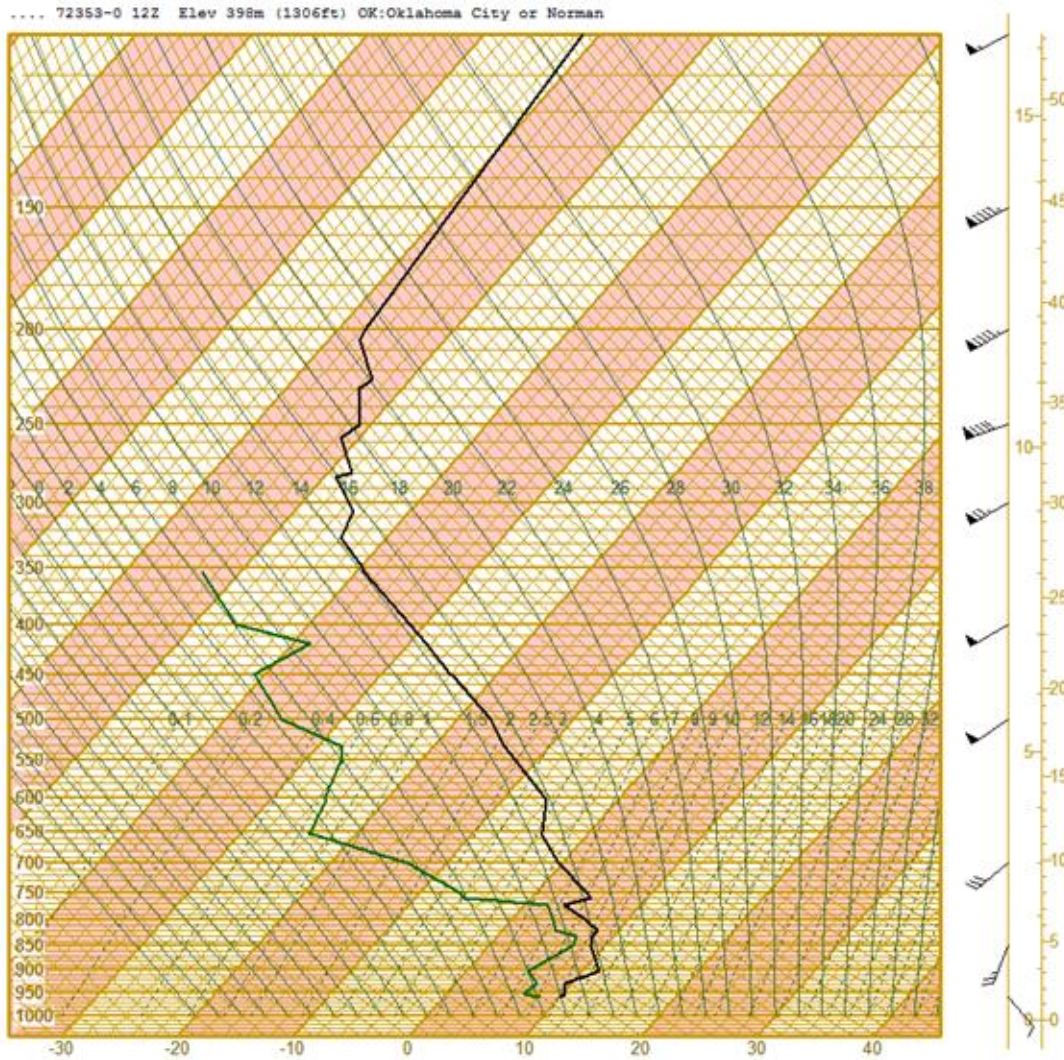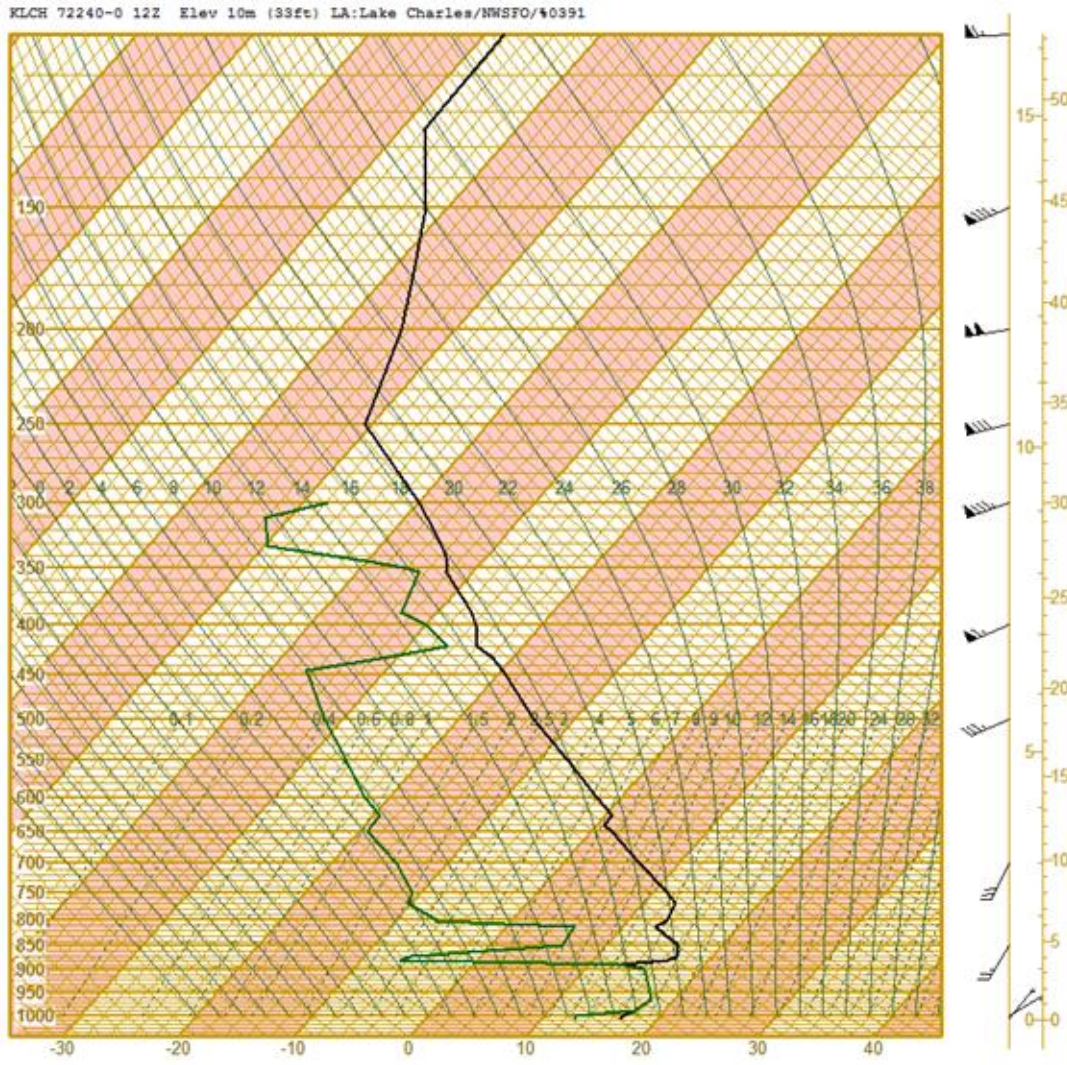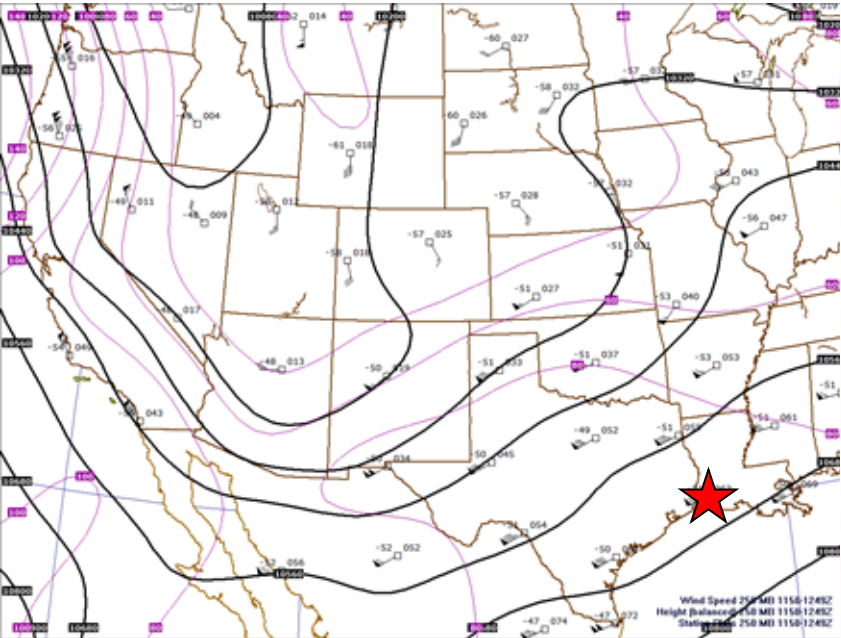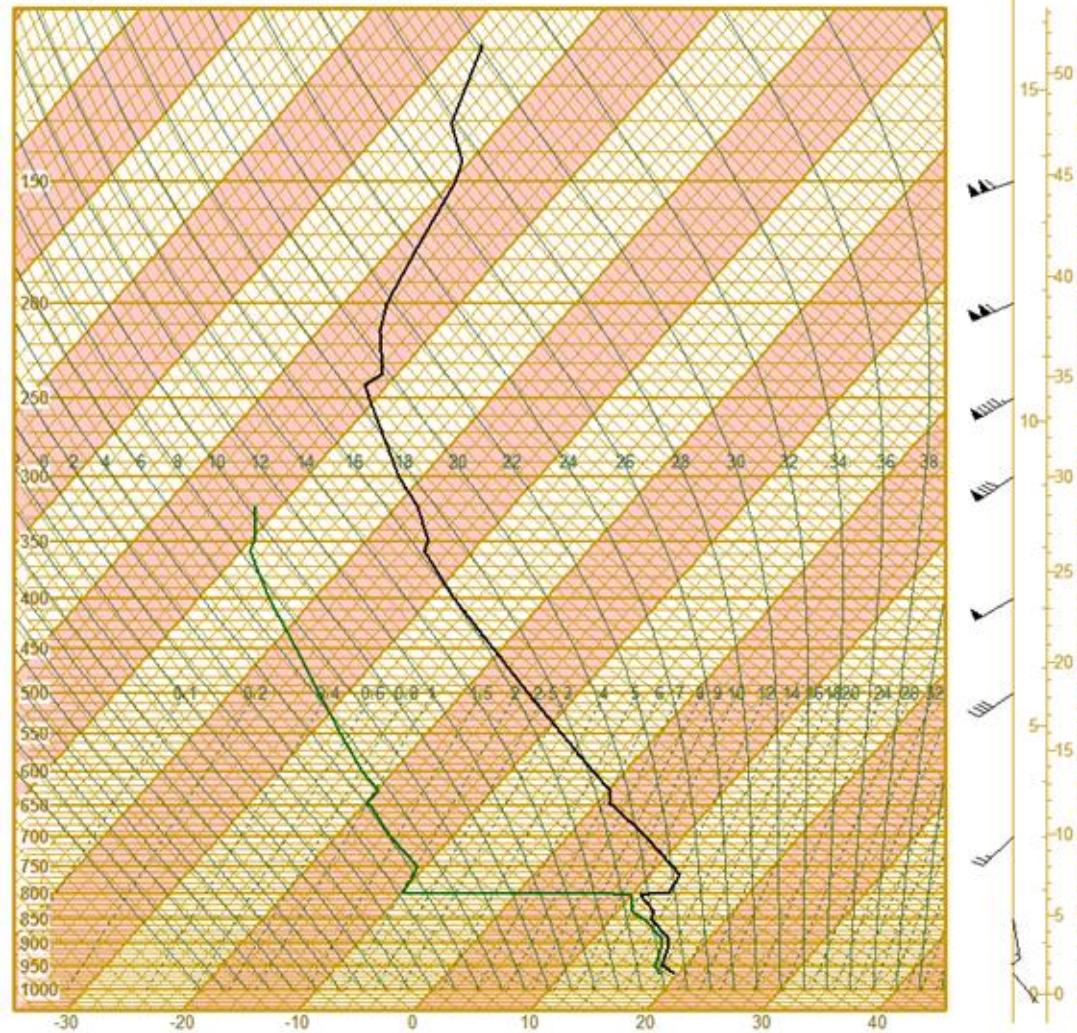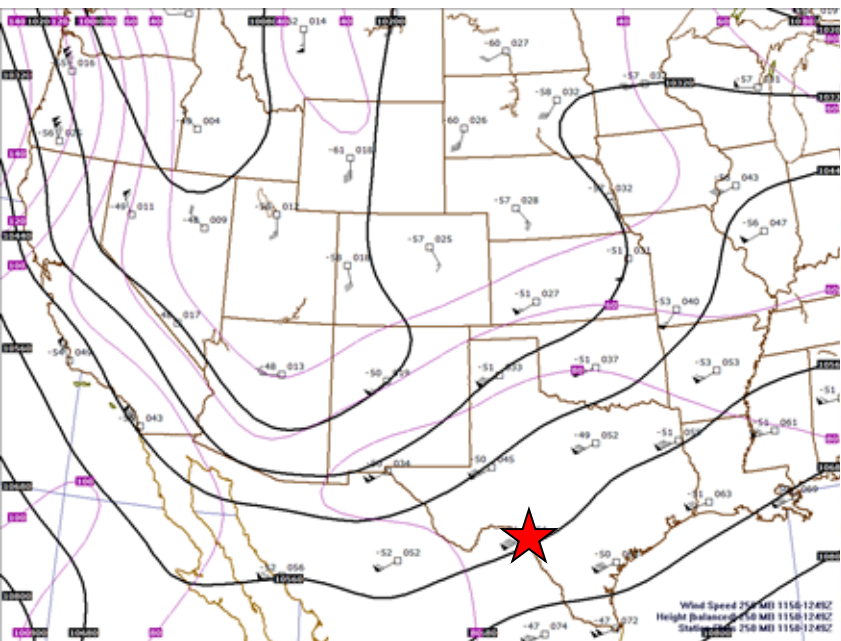
12 Z Midland, TX

12 Z El Paso, TX

.... 72270-0 12Z   Elev 1124m (3688ft) TX:El Paso

12:00 UTC

Station Plots SFC 1150-1249Z
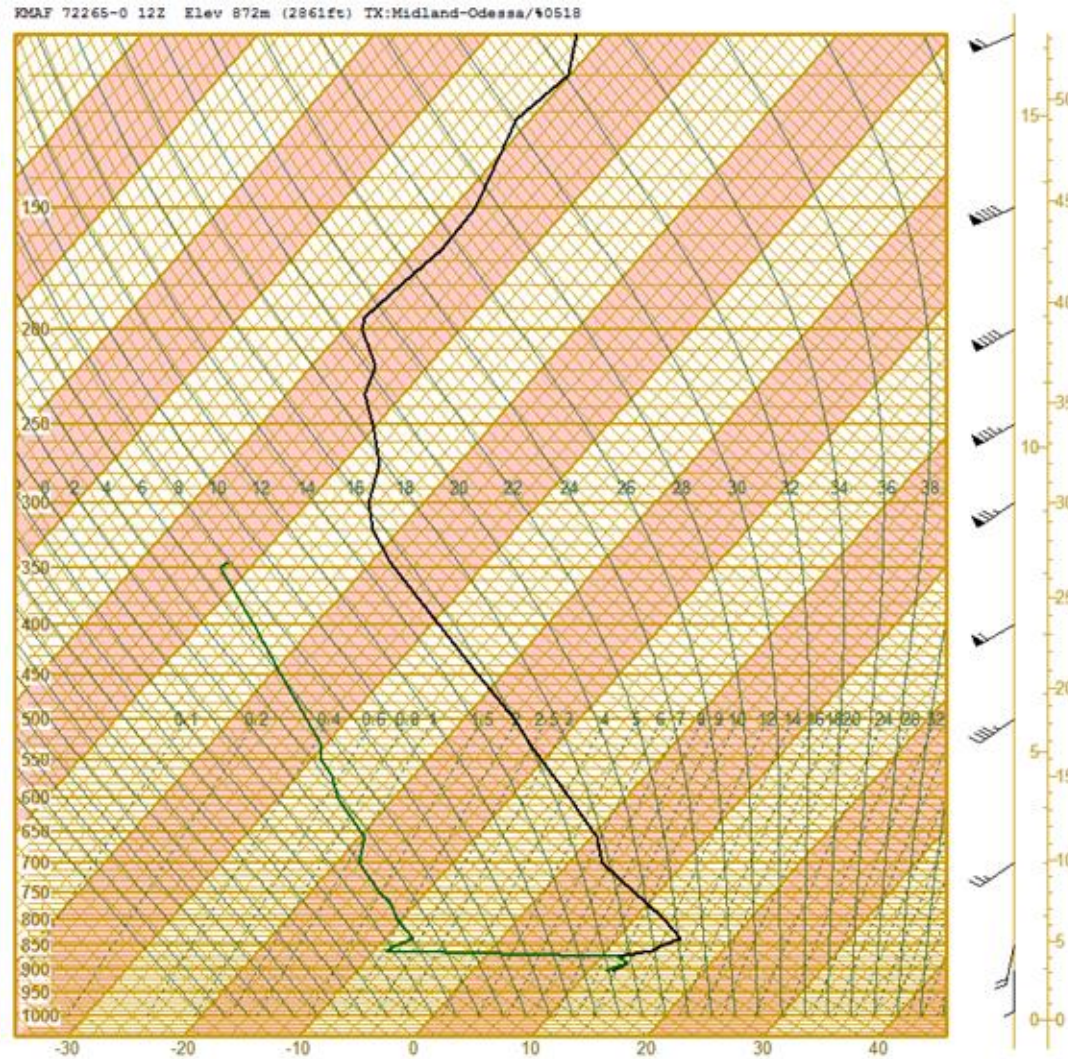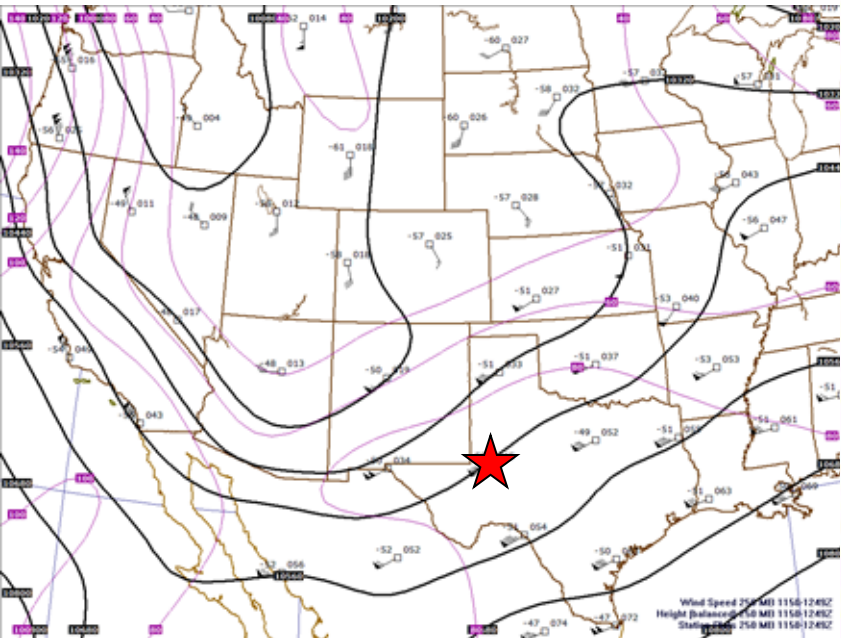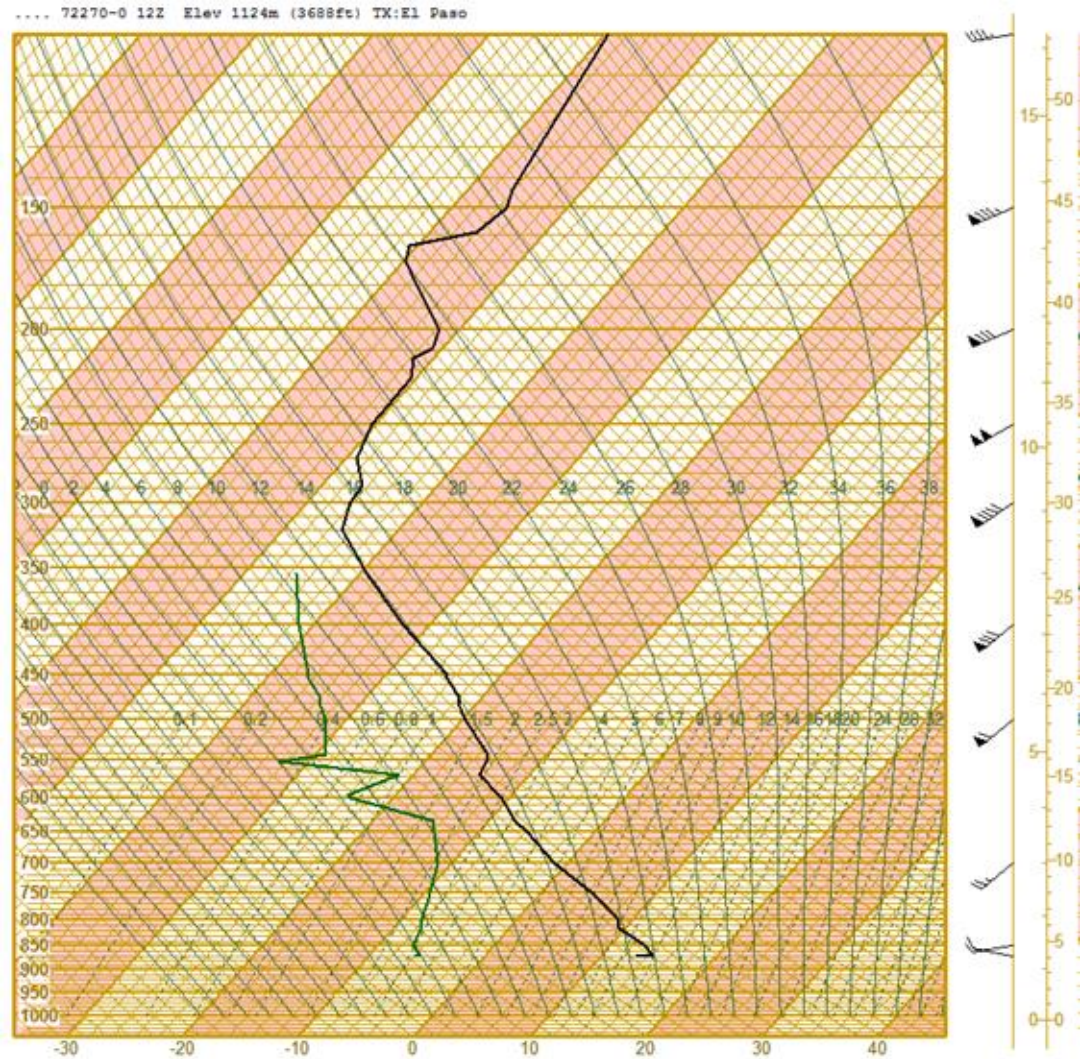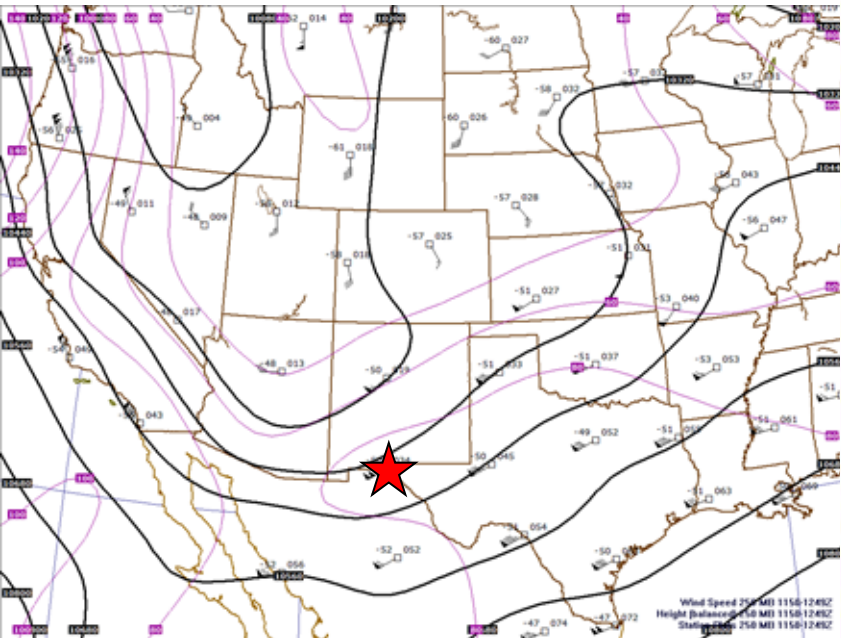
12:45 UTC

Initial Thoughts?

- Where will there be strong upper-level lift?

- Will the 850 mb low deepen? Move?

- Where are the best lapse rates?

- Where is the best low-level moisture?

- Where is favorable instability likely?

- Where do you expect the strongest deep-layer shear?

- Where do you expect the best low-level shear?

Create a 13Z Outlook

- What is the areal coverage of the threat?

- Are there more than one areas of concern?

- What is the most likely storm mode?

- What is the most likely hazard?

- What will the highest category be?

- How confident are we?

HAND ANALYSIS TIME!

Let's take the next 10-15 to do a rough hand analysis

Priorities:
1) Boundaries
2) Moisture
3) Temperature
4) Surface Pressure

13:00 UTC

Station Plots SFC 1250-1349Z
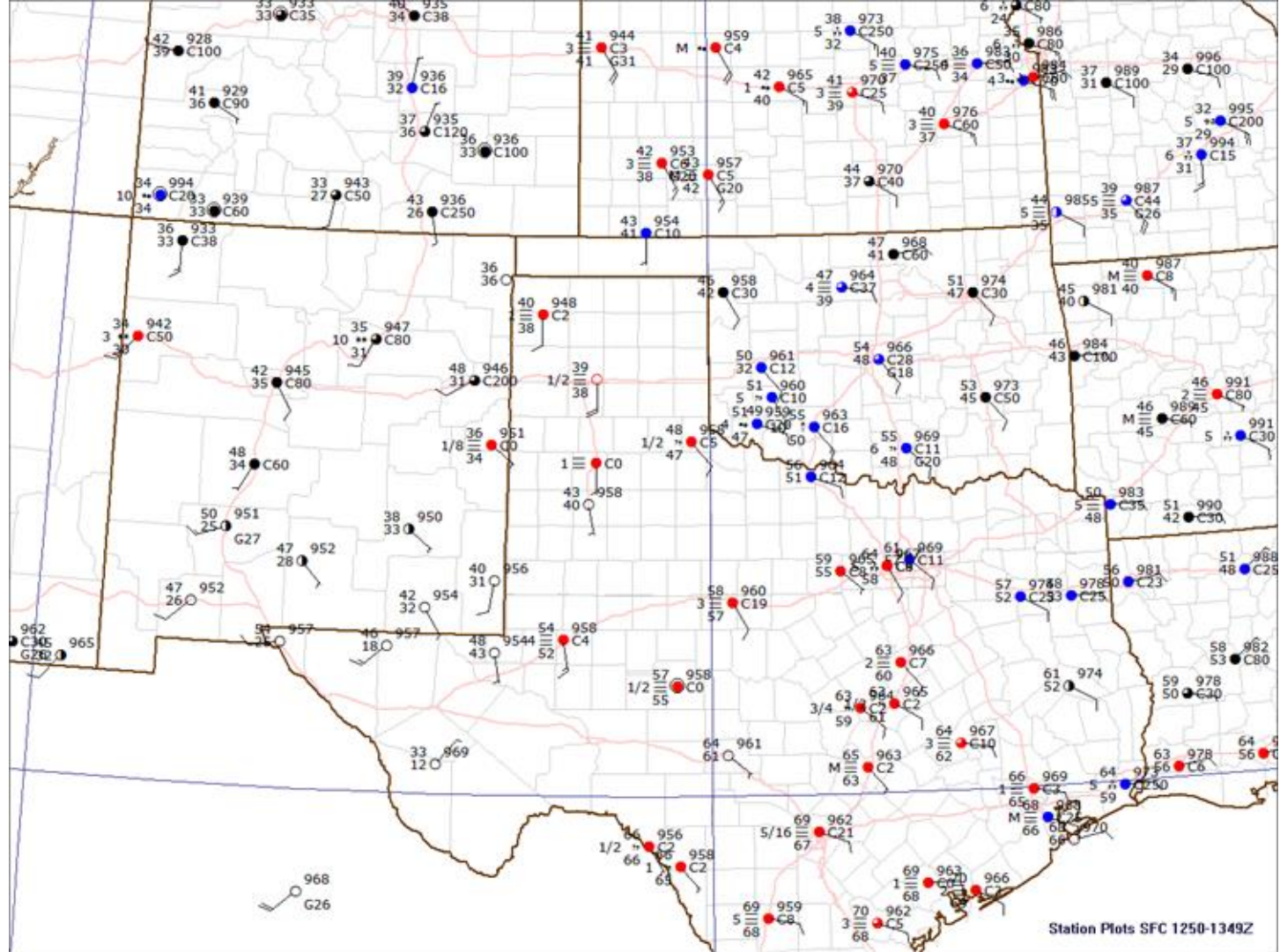
13:45 UTC

14 Z Update

Watch Consideration:

- When to start?
- When to end?
- What Type?

If it's time, let's write a mesoscale discussion!

14:00 UTC

Station Plots SFC 1350-1449Z

14:45 UTC

15 Z Update

Watch Consideration:

- When to start?
- When to end?
- What Type?

If it's time, let's write a mesoscale discussion!

15:00 UTC

Station Plots SFC 1450-1549Z

15:45 UTC

16 Z Update

Watch Consideration:
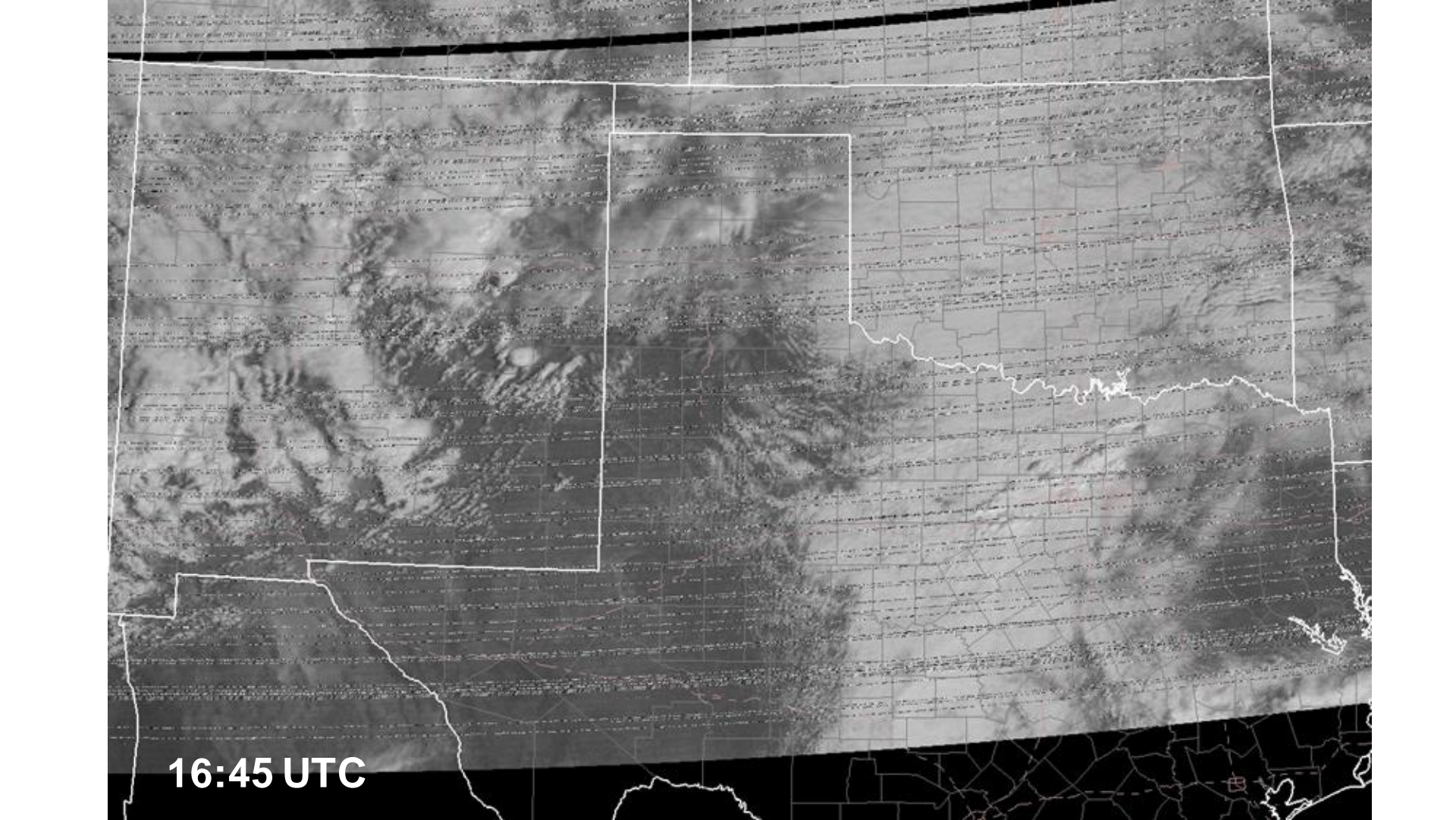
- When to start?
- When to end?
- What Type?

If it's time, let's write a mesoscale discussion!

16:00 UTC

Station Plots SFC 1550-1649Z
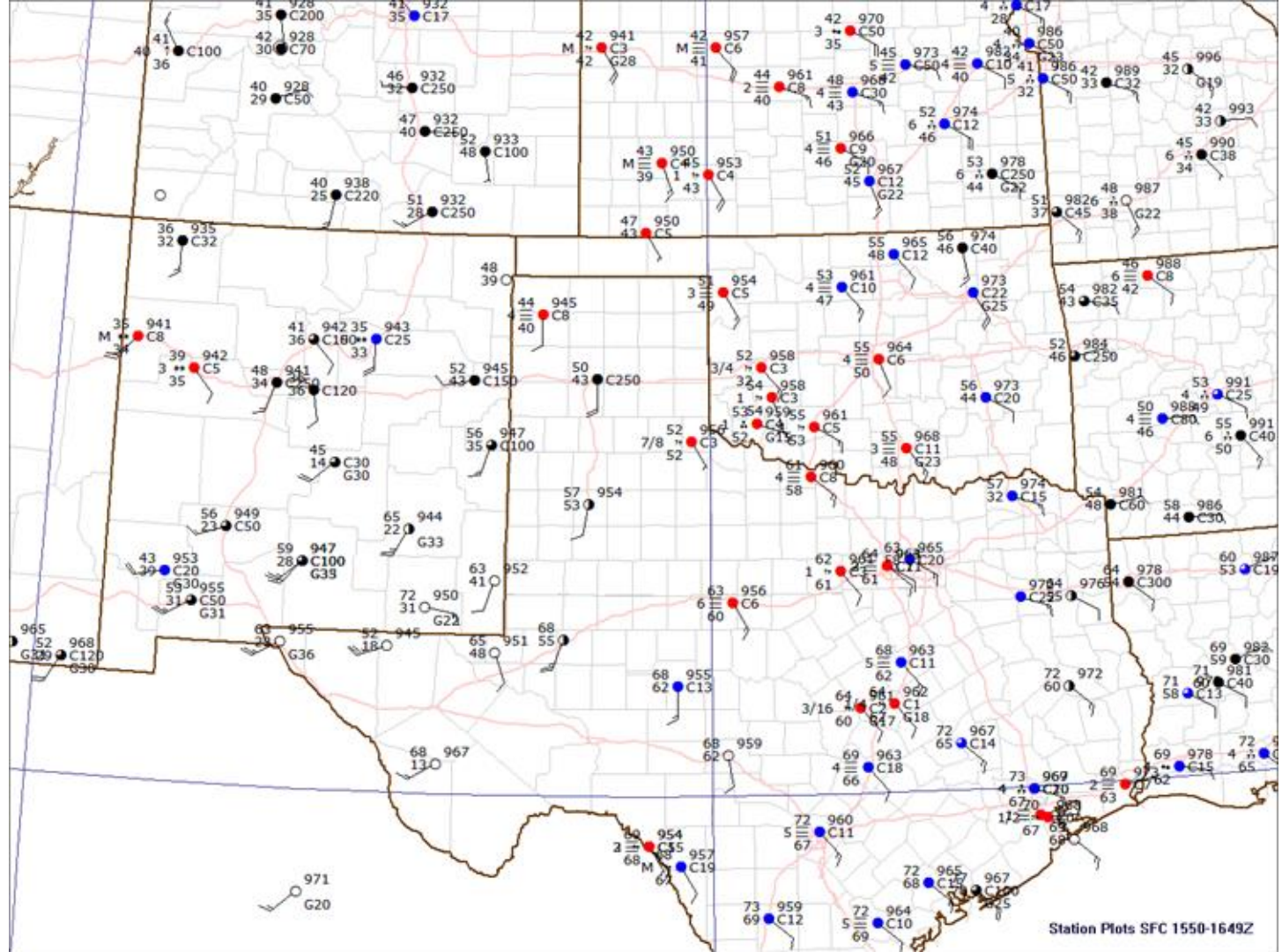
16:45 UTC

1630 Outlook Update

Based off the recent trends, do we need to adjust the outlook?

17 Z Update

Watch Consideration:

- When to start?
- When to end?
- What Type?

If it's time, let's write a mesoscale discussion!

17:00 UTC

Station Plots SFC 1650-1749Z

17:45 UTC

18 Z Update

Watch Consideration:

- When to start?
- When to end?
- What Type?

If it's time, let's write a mesoscale discussion!

18:00 UTC

Station Plots SFC 1750-1849Z

18:45 UTC

19 Z Update

<u>Watch Consideration:</u>

- When to start?
- When to end?
- What Type?

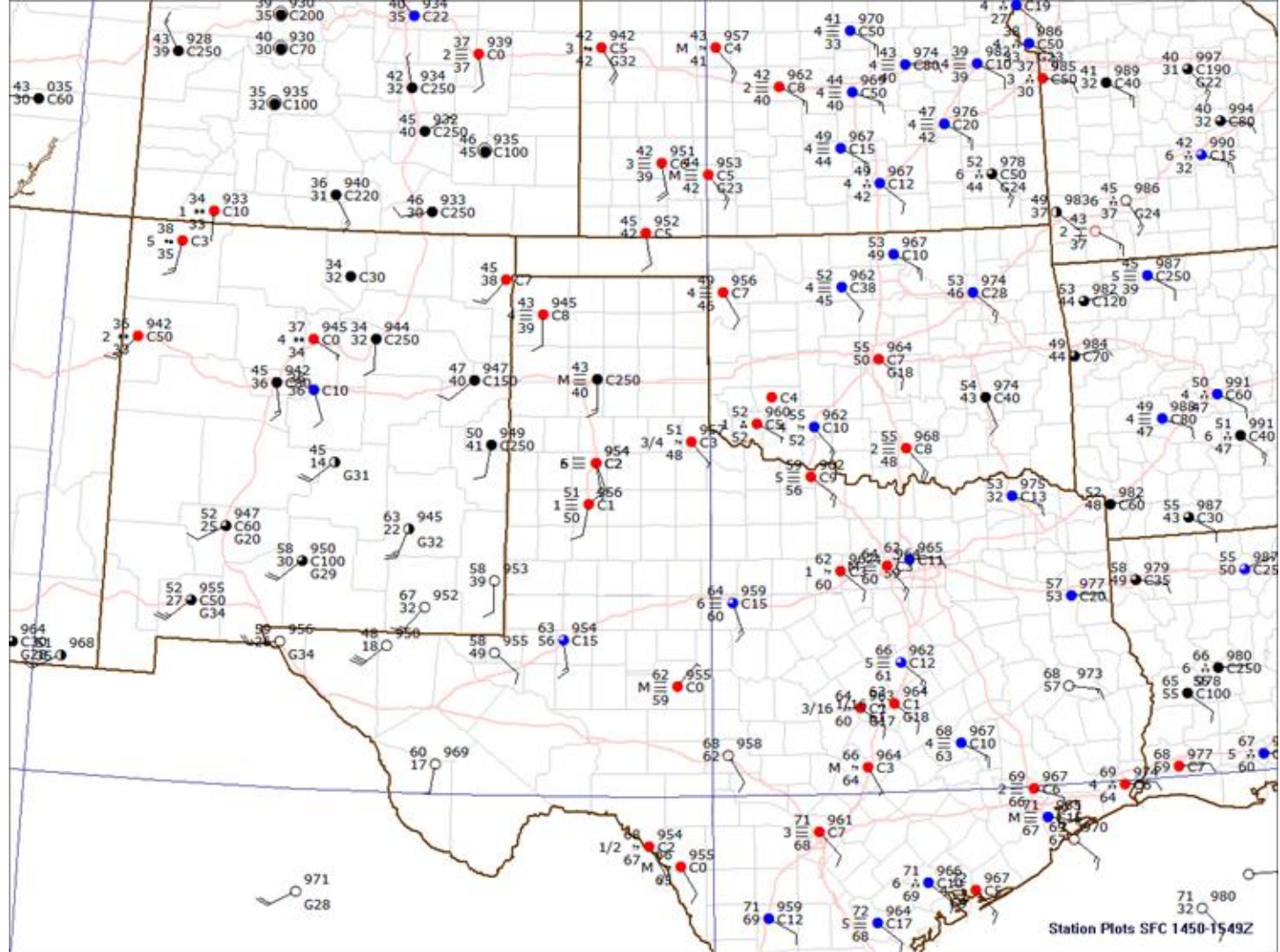**If it's time, let's write a mesoscale discussion!**

19:00 UTC

Station Plots SFC 1850-1949Z
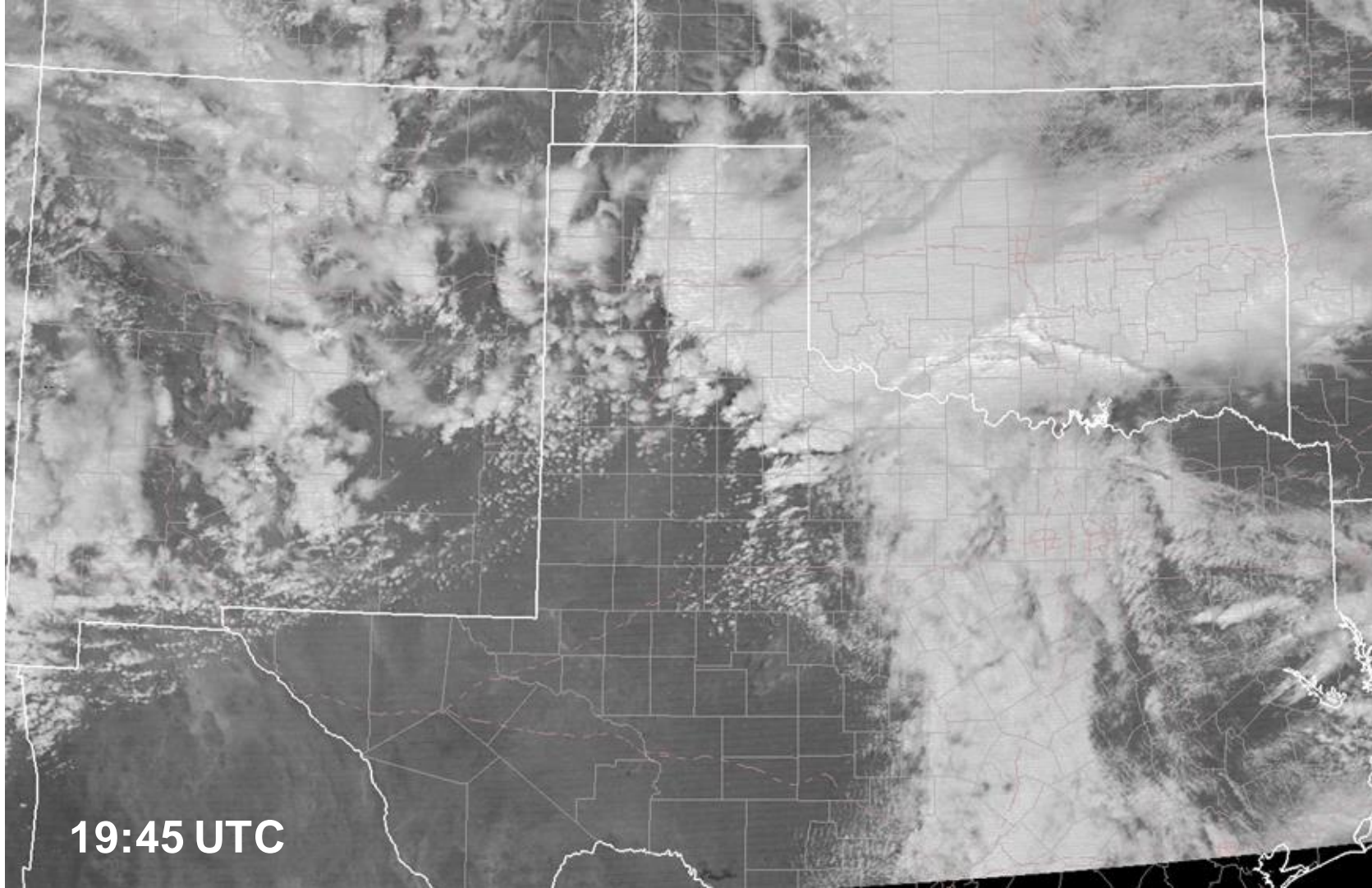
19:45 UTC

1938 UTC (~10 min before image)
Plainview, TX Tornado
Rated F0

1908 UTC (~35 min before image)
Crosby, TX Tornado
Rated F0

19:45 UTC
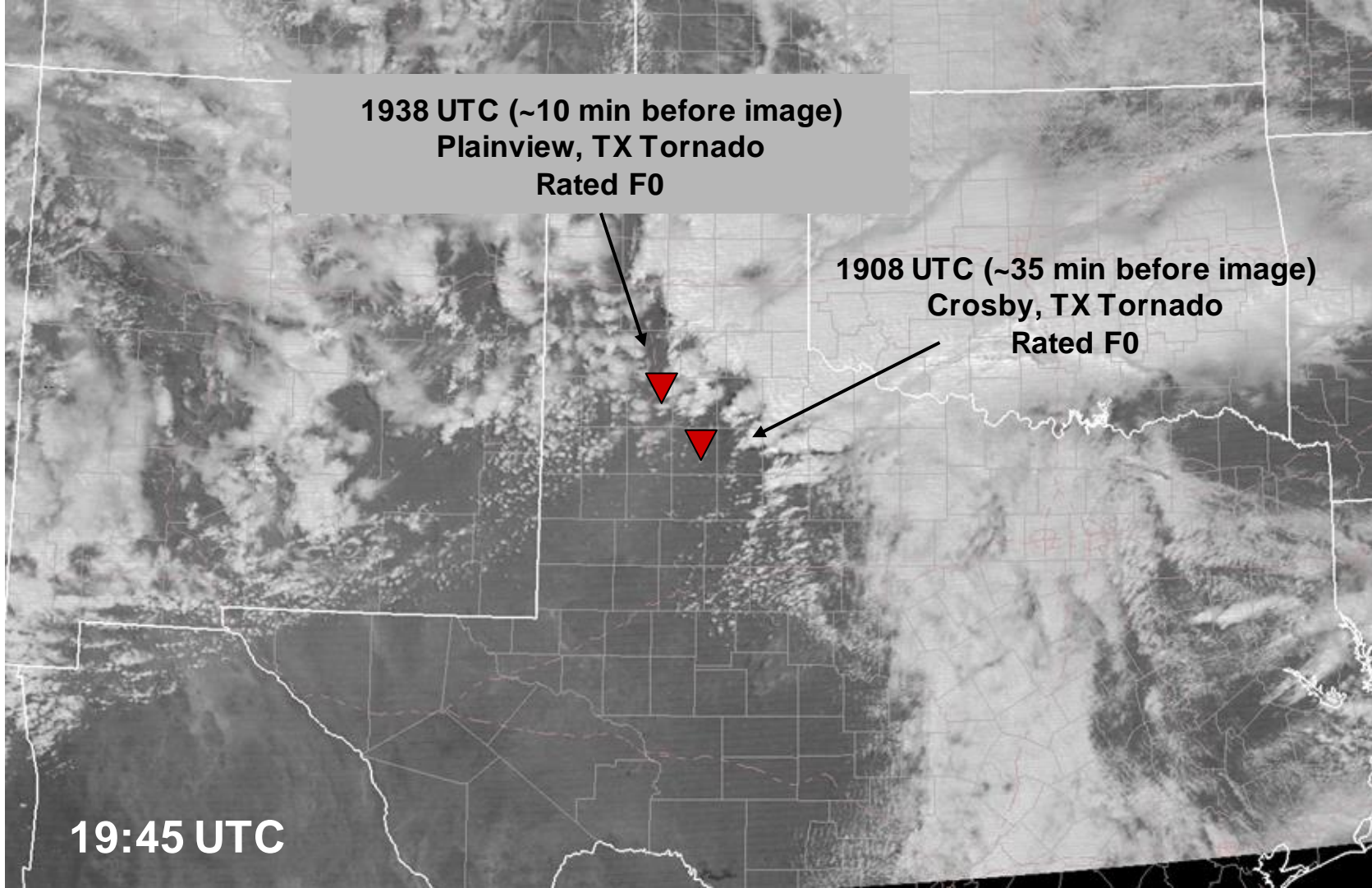
20 Z Update

Watch Consideration:

- When to start?
- When to end?
- What Type?

If it's time, let's write a mesoscale discussion!

20:00 UTC

Station Plots SFC 1950-2049Z
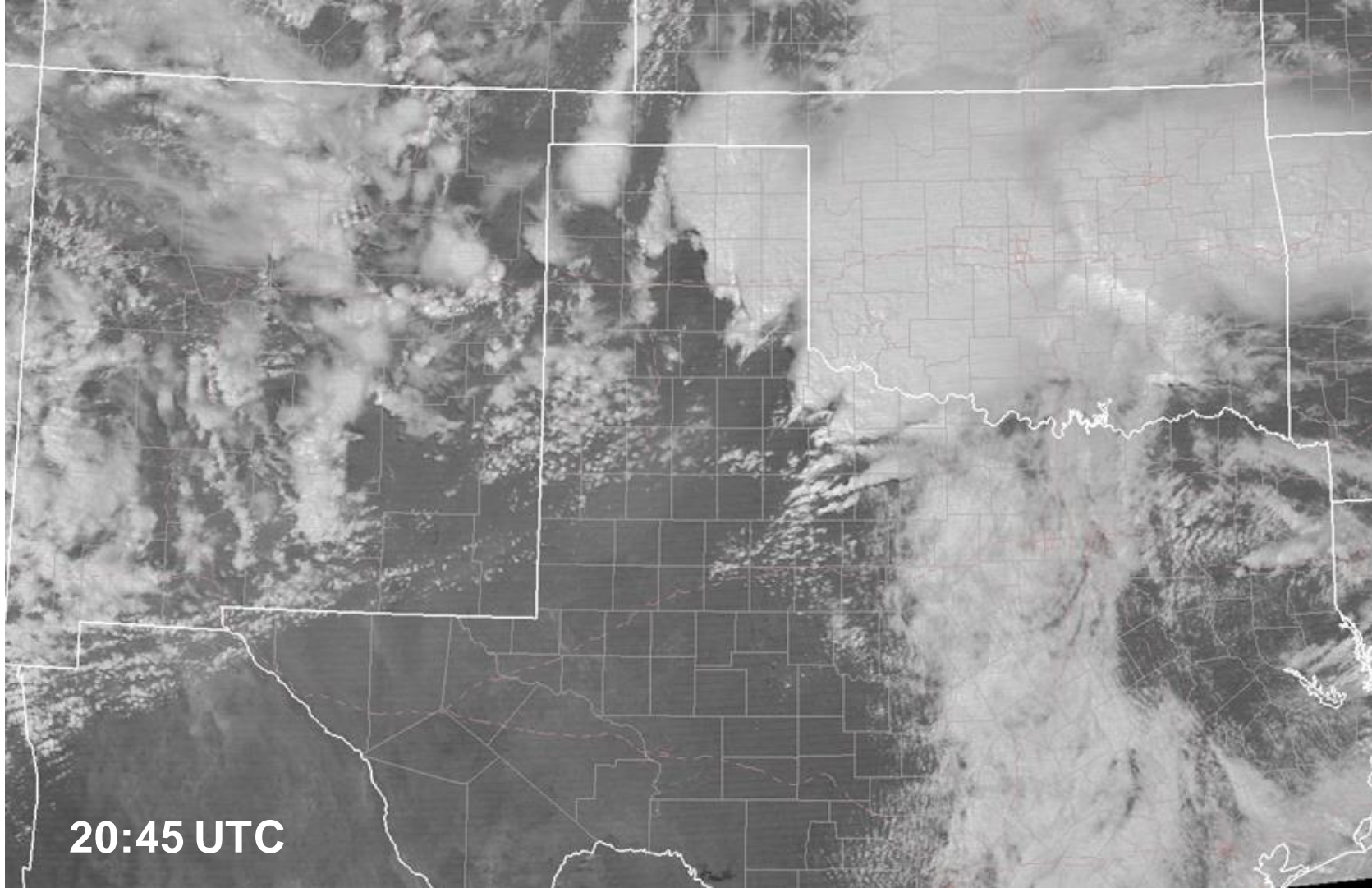
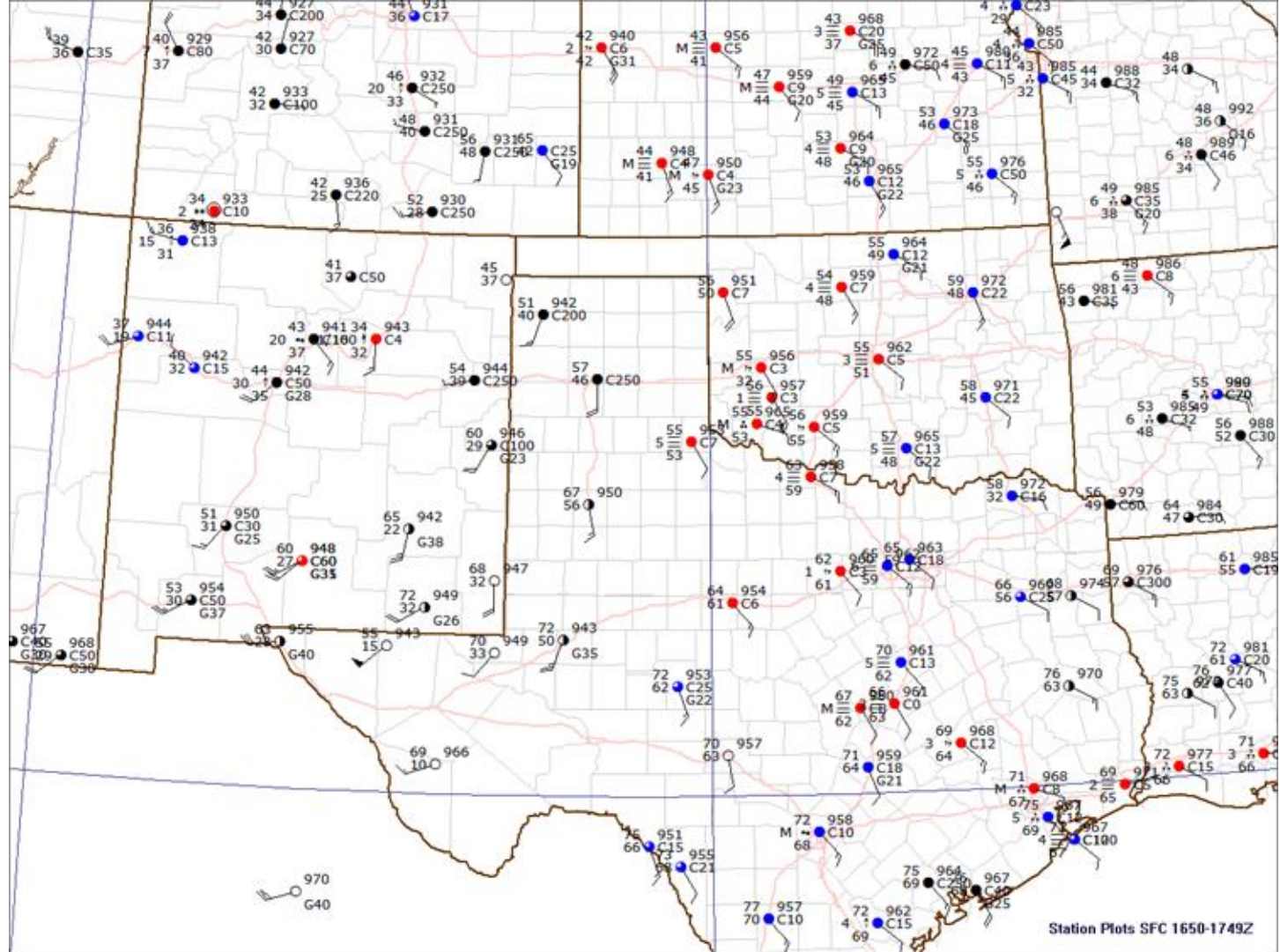20:45 UTC

21:20 UTC (~35 min after image)
Vernon, TX Tornado
Rated F4
11 Fatalities

20:45 UTC

21 Z Update

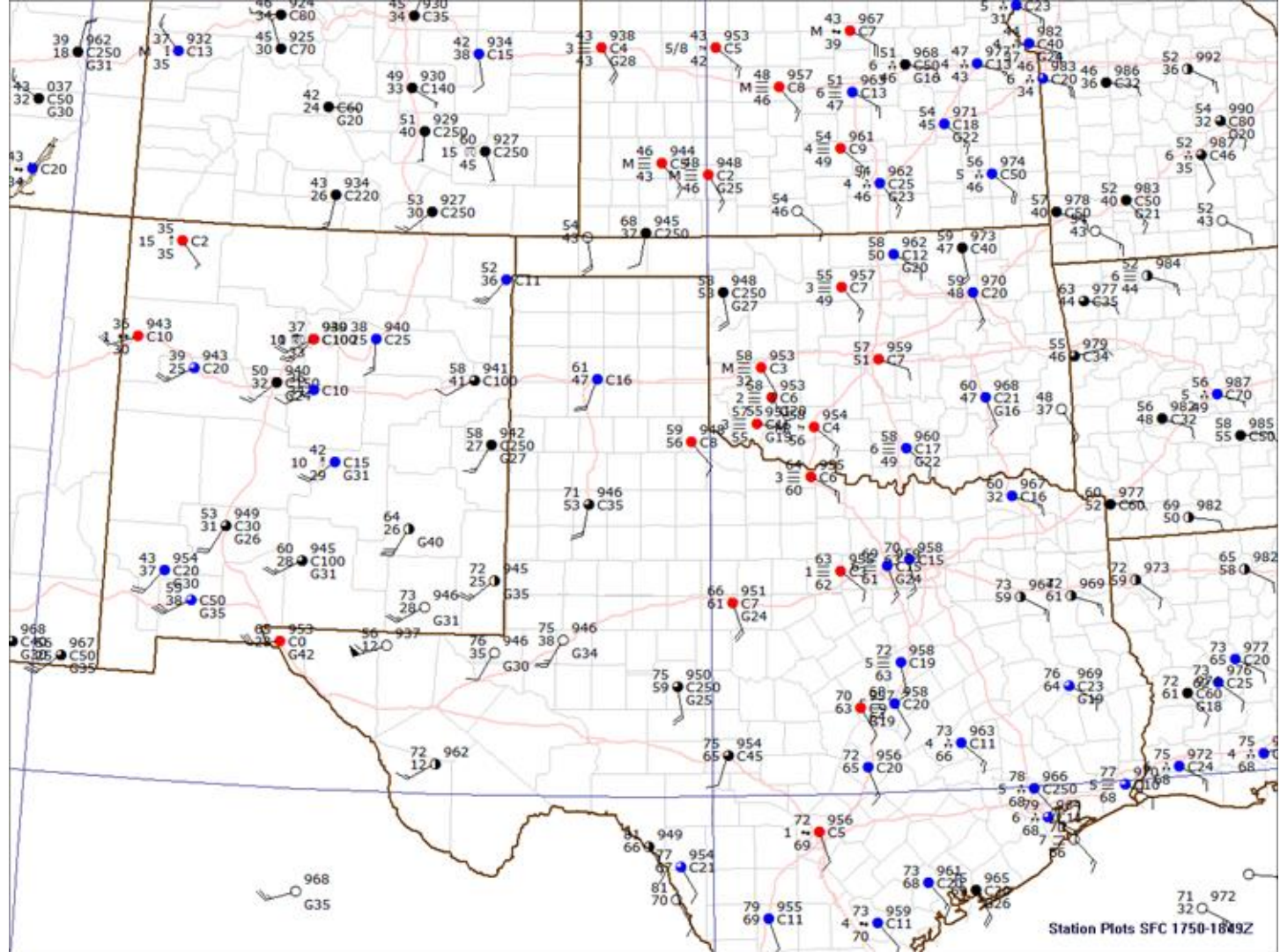**Watch Consideration:**

- When to start?
- When to end?
- What Type?

If it's time, let's write a mesoscale discussion!

21:00 UTC

Station Plots SFC 2050-2149Z
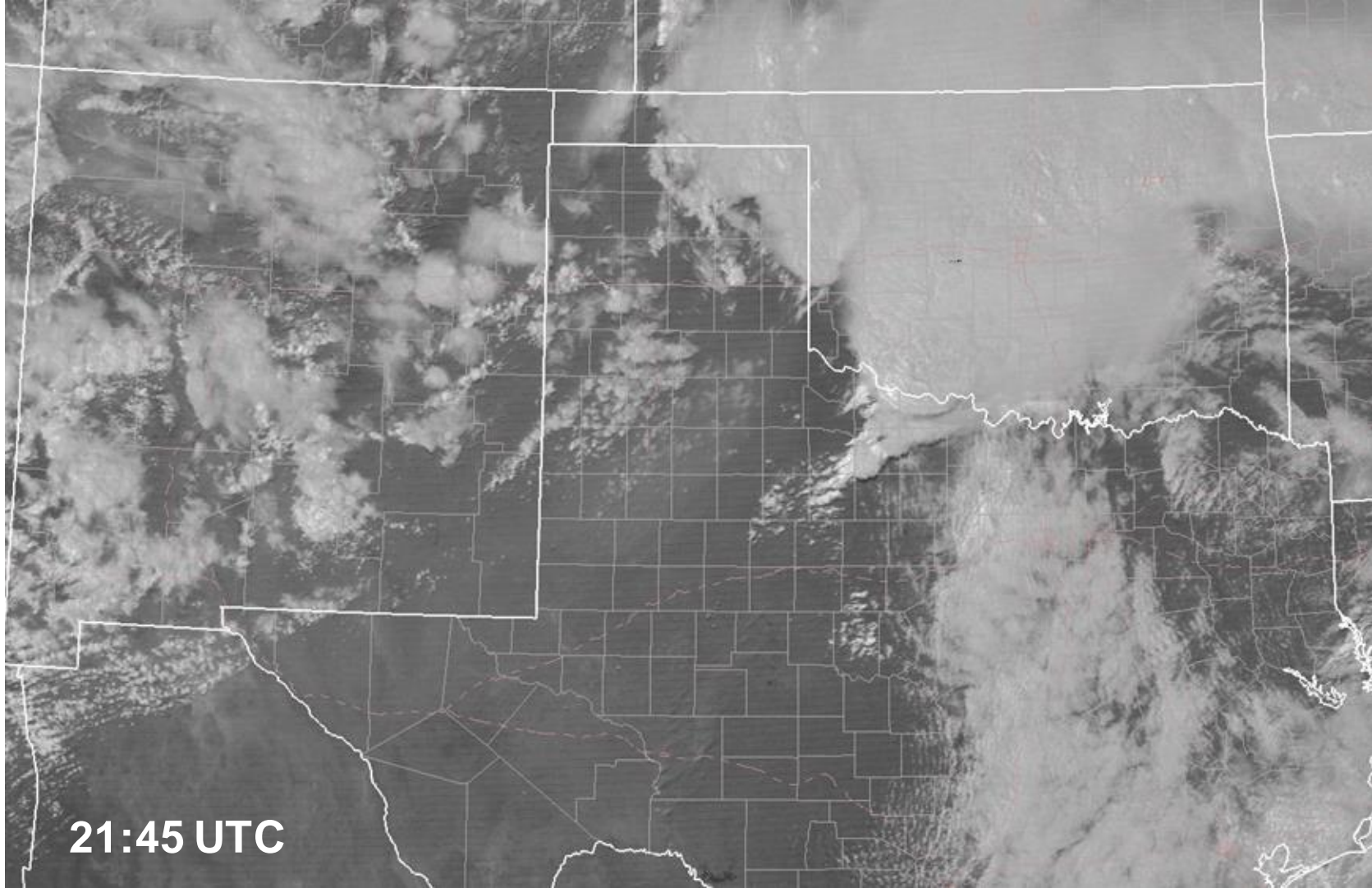
21:45 UTC

21:55 UTC (~10 min after image)
Harrold, TX - Marlow, OK Tornado
Rated F2
1 Fatality

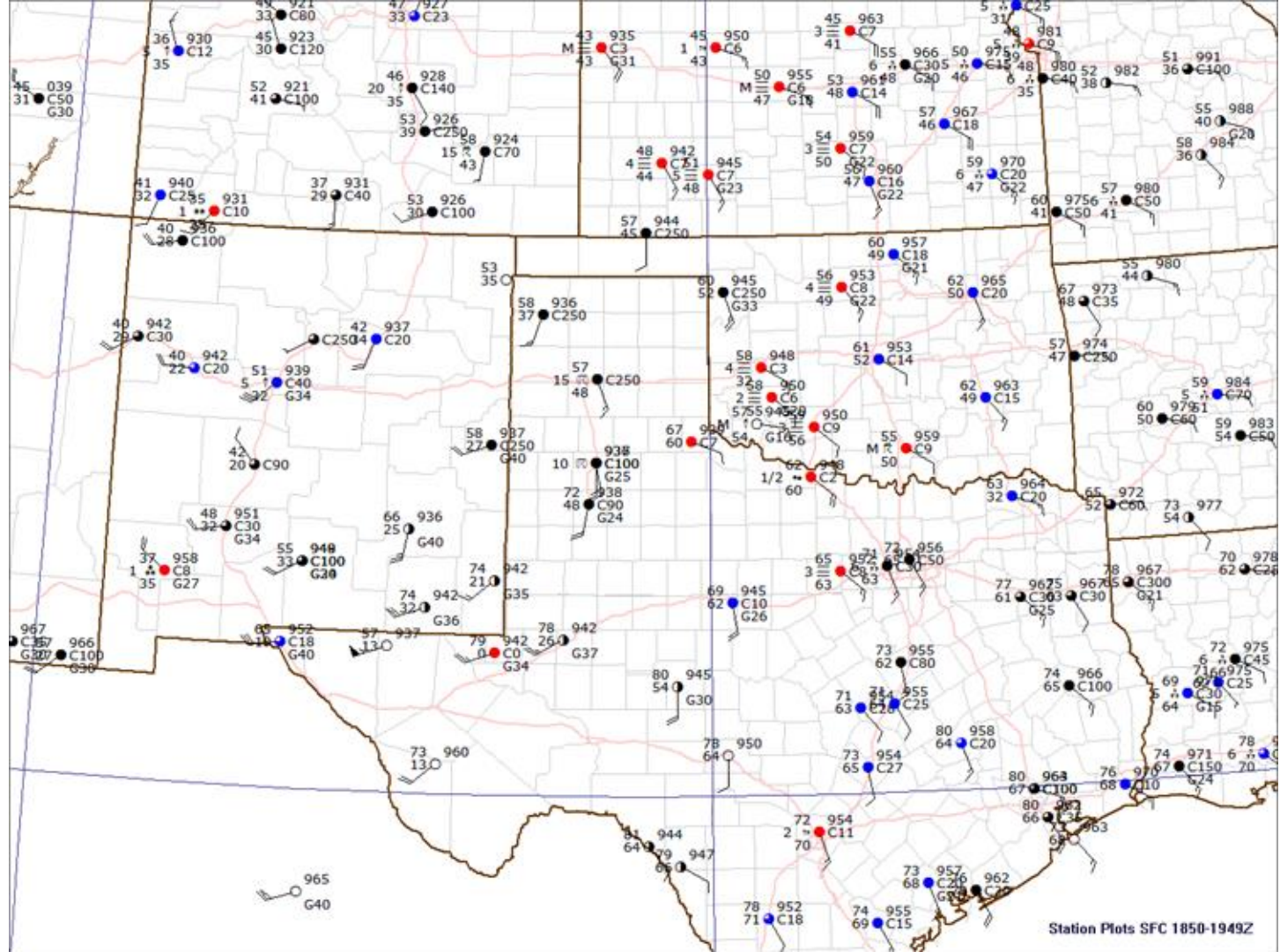21:45 UTC

22 Z Update

Watch Consideration:

- When to start?
- When to end?
- What Type?

If it's time, let's write a mesoscale discussion!
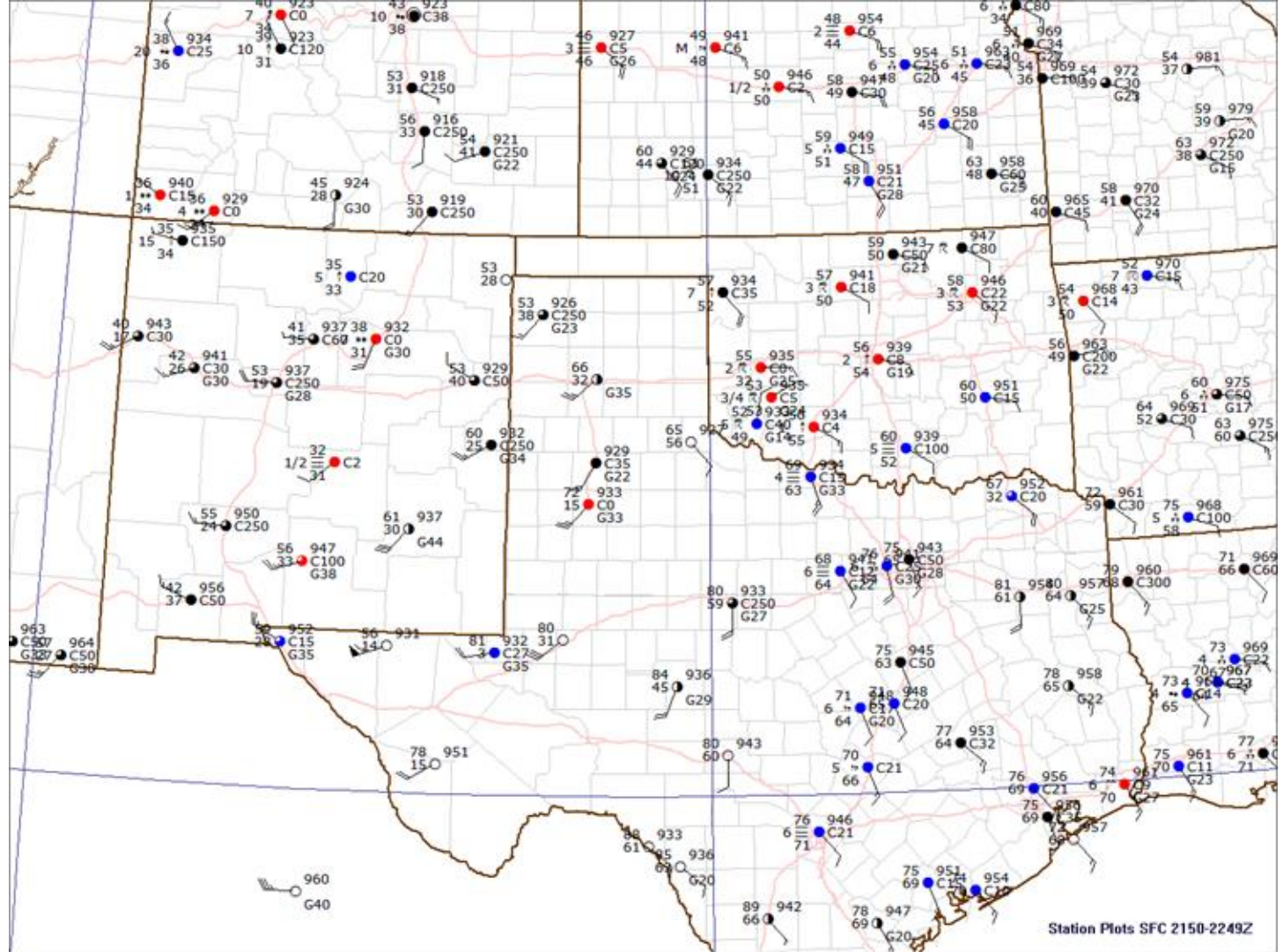
**22:00 UTC**

Station Plots SFC 2150-2249Z
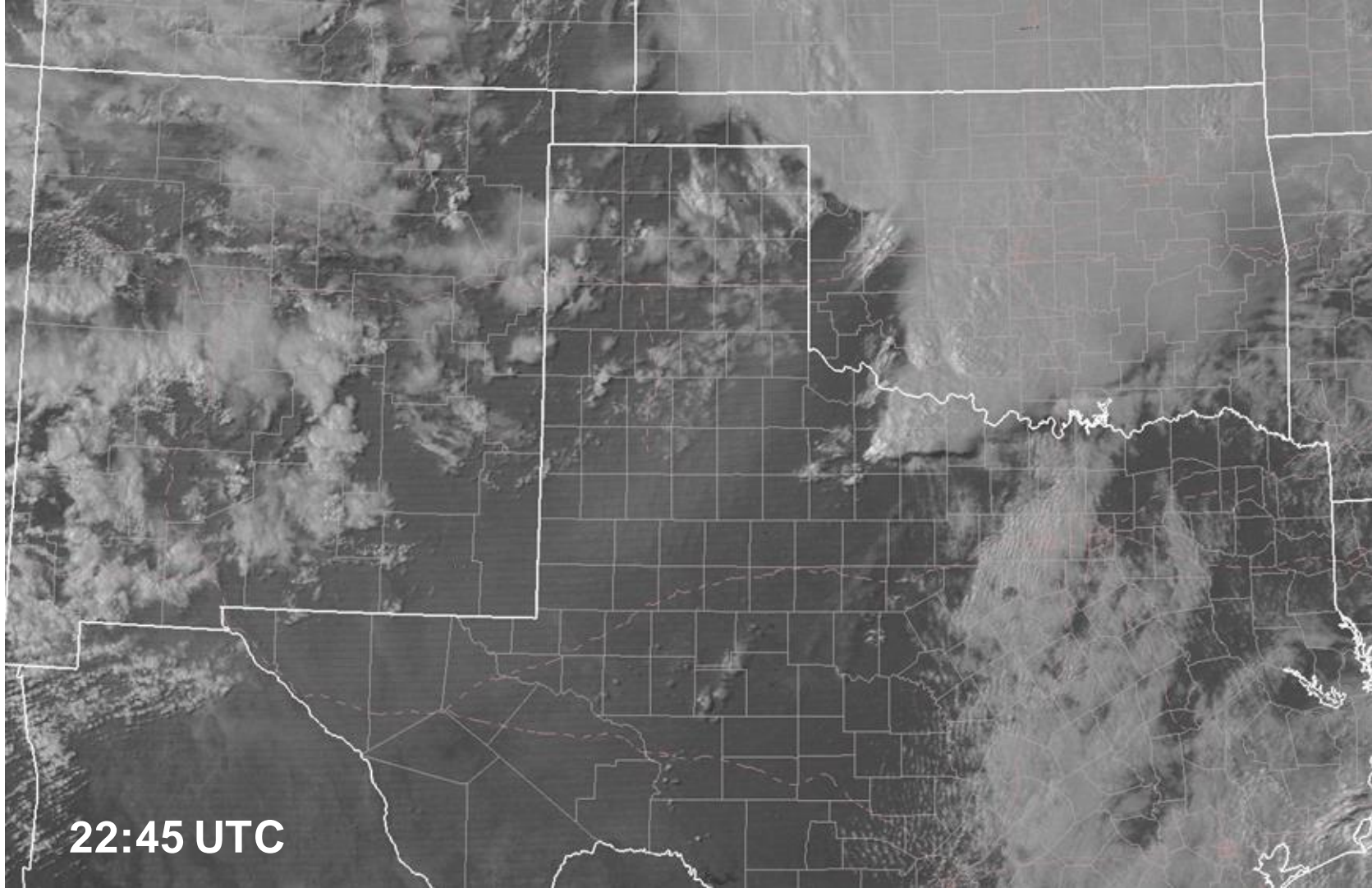
22:45 UTC

23:05 UTC (~20 min after image)
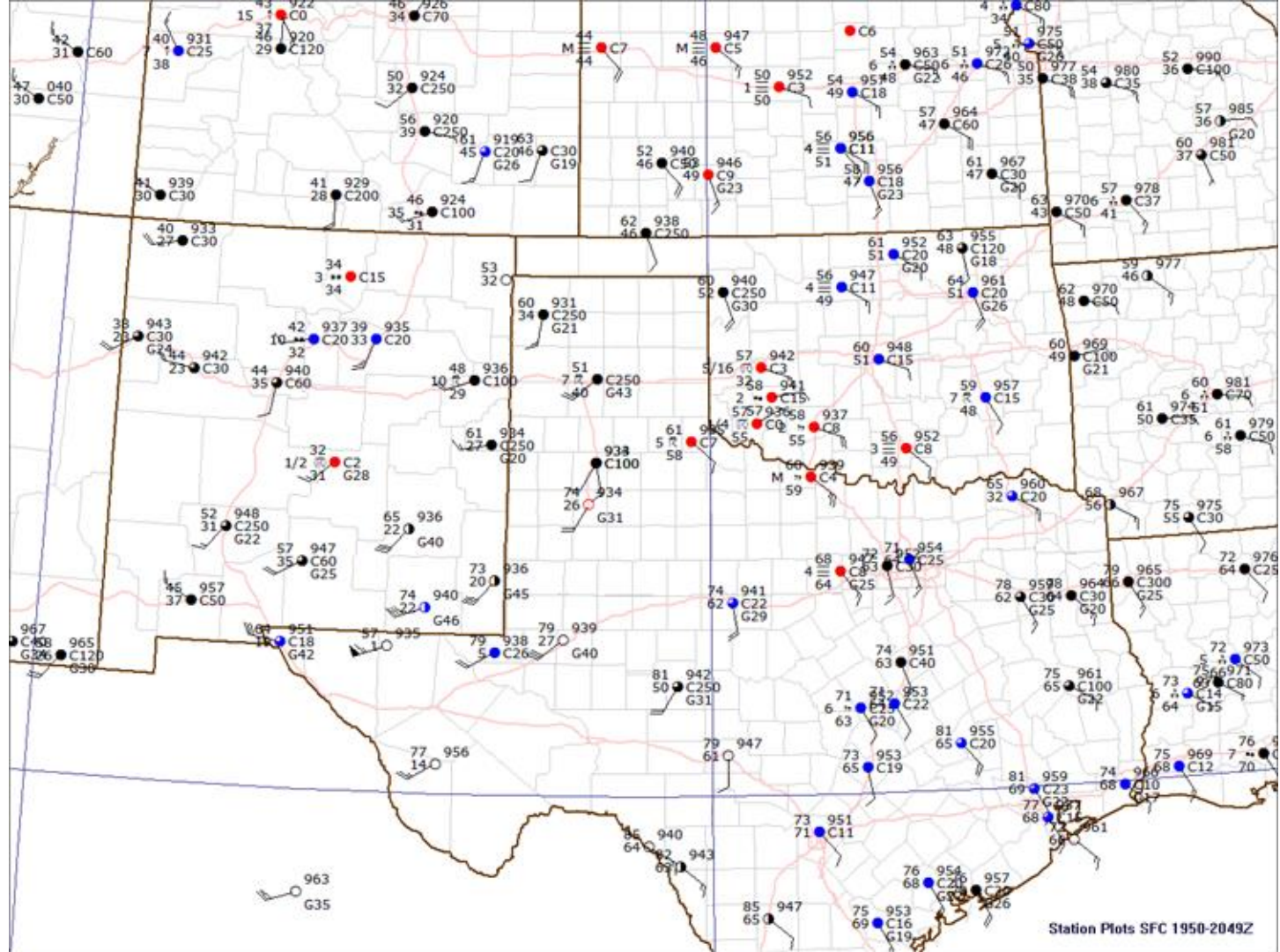Lawton, OK Tornado
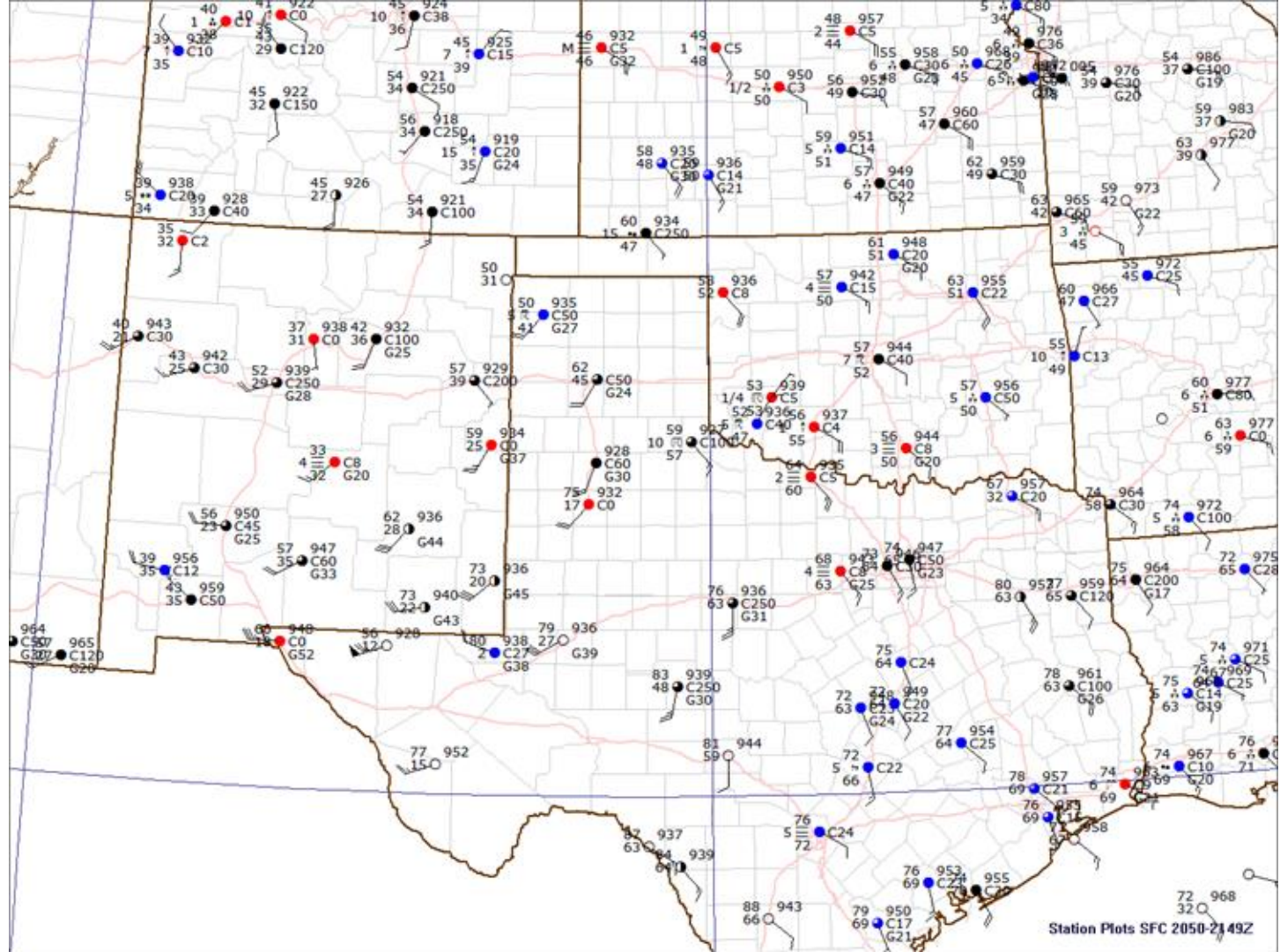Rated F3
3 Fatalities
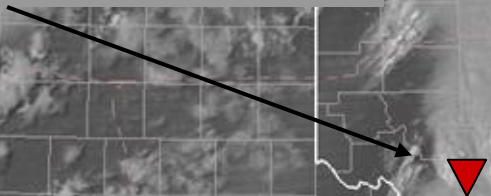
22:45 UTC
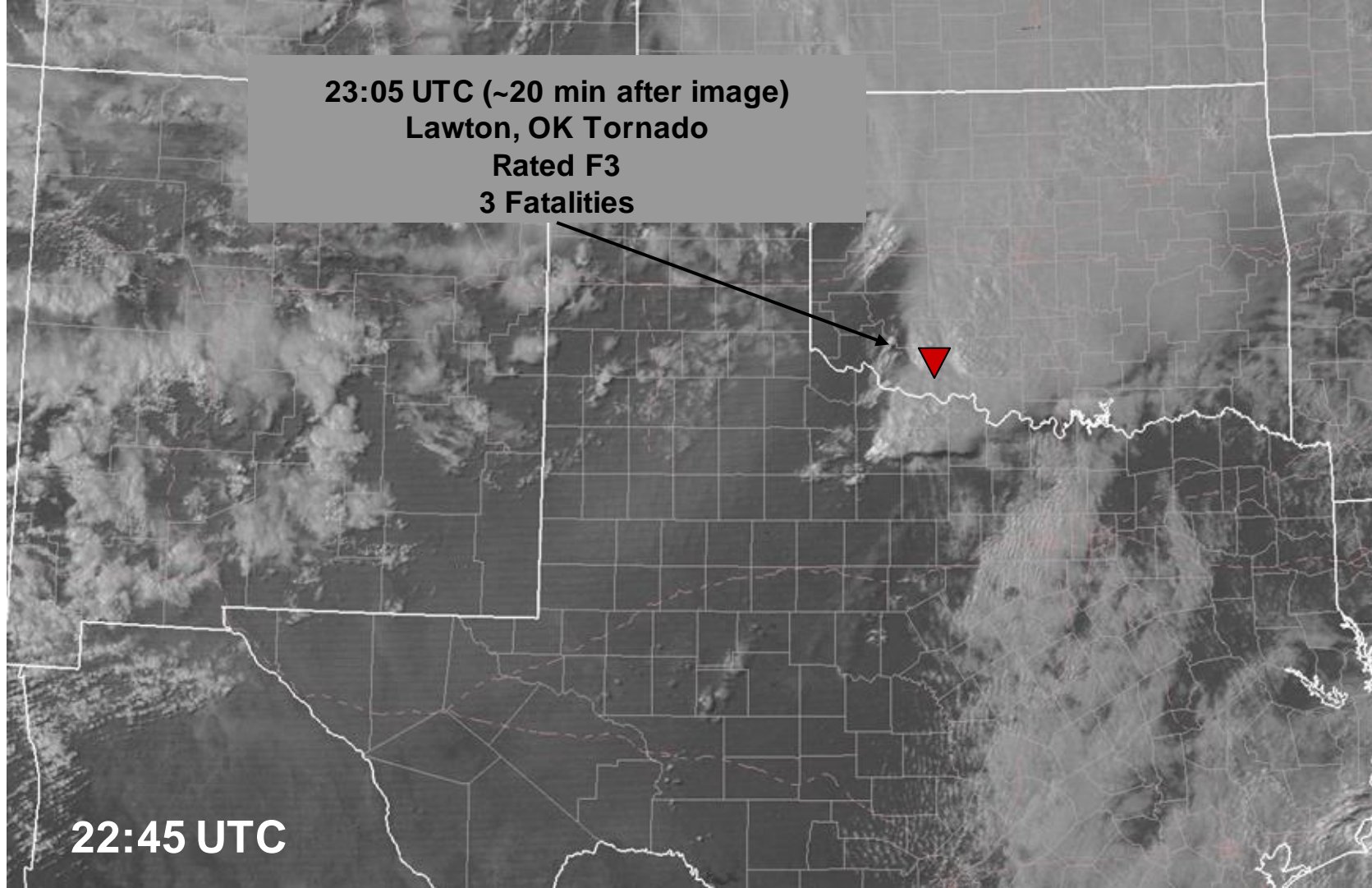
23 Z Update

<u>Watch Consideration:</u>

- When to start?
- When to end?
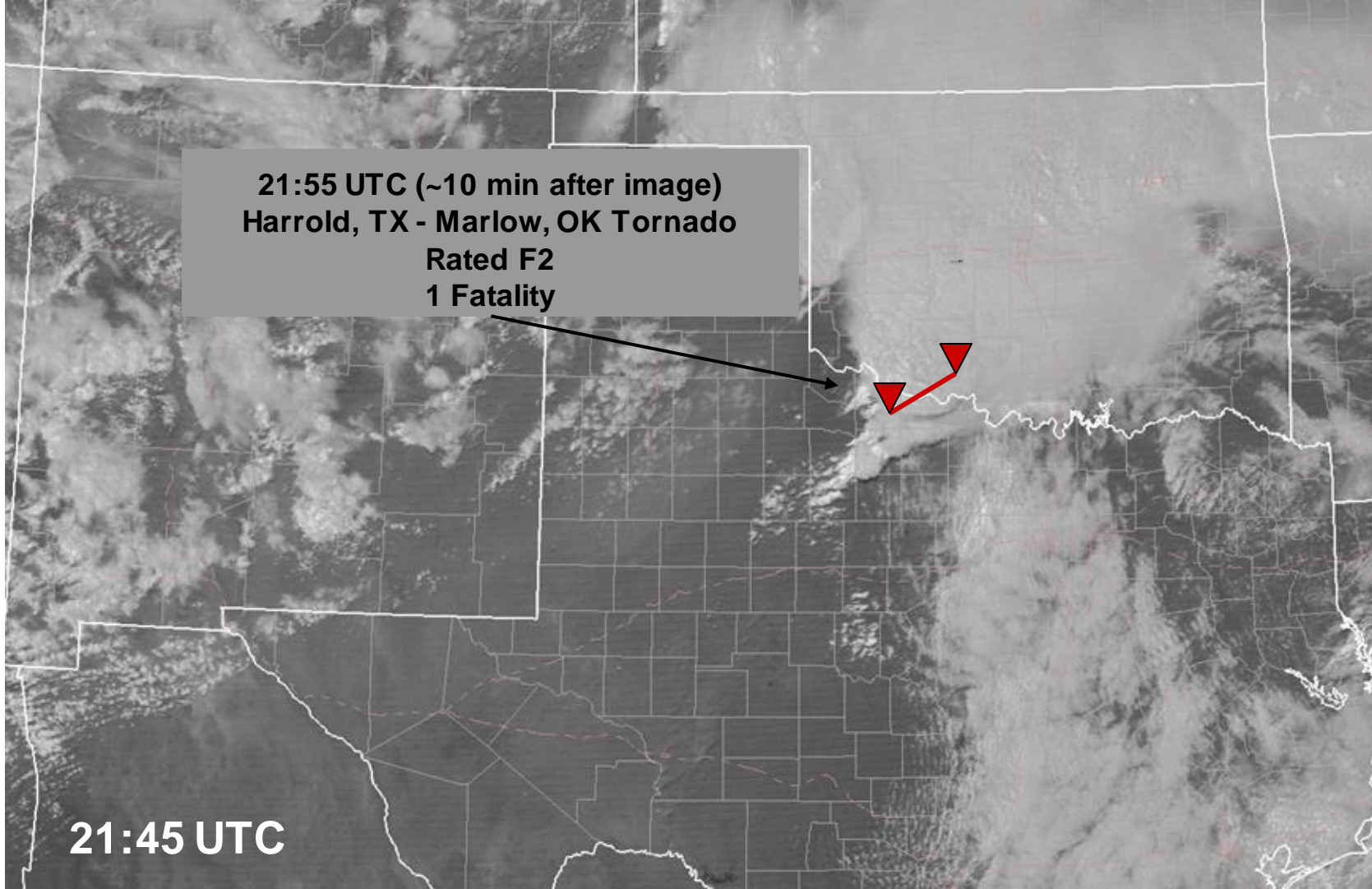- What Type?

If it's time, let's write a mesoscale discussion!

23:00 UTC

Station Plots SFC 2250-2349Z
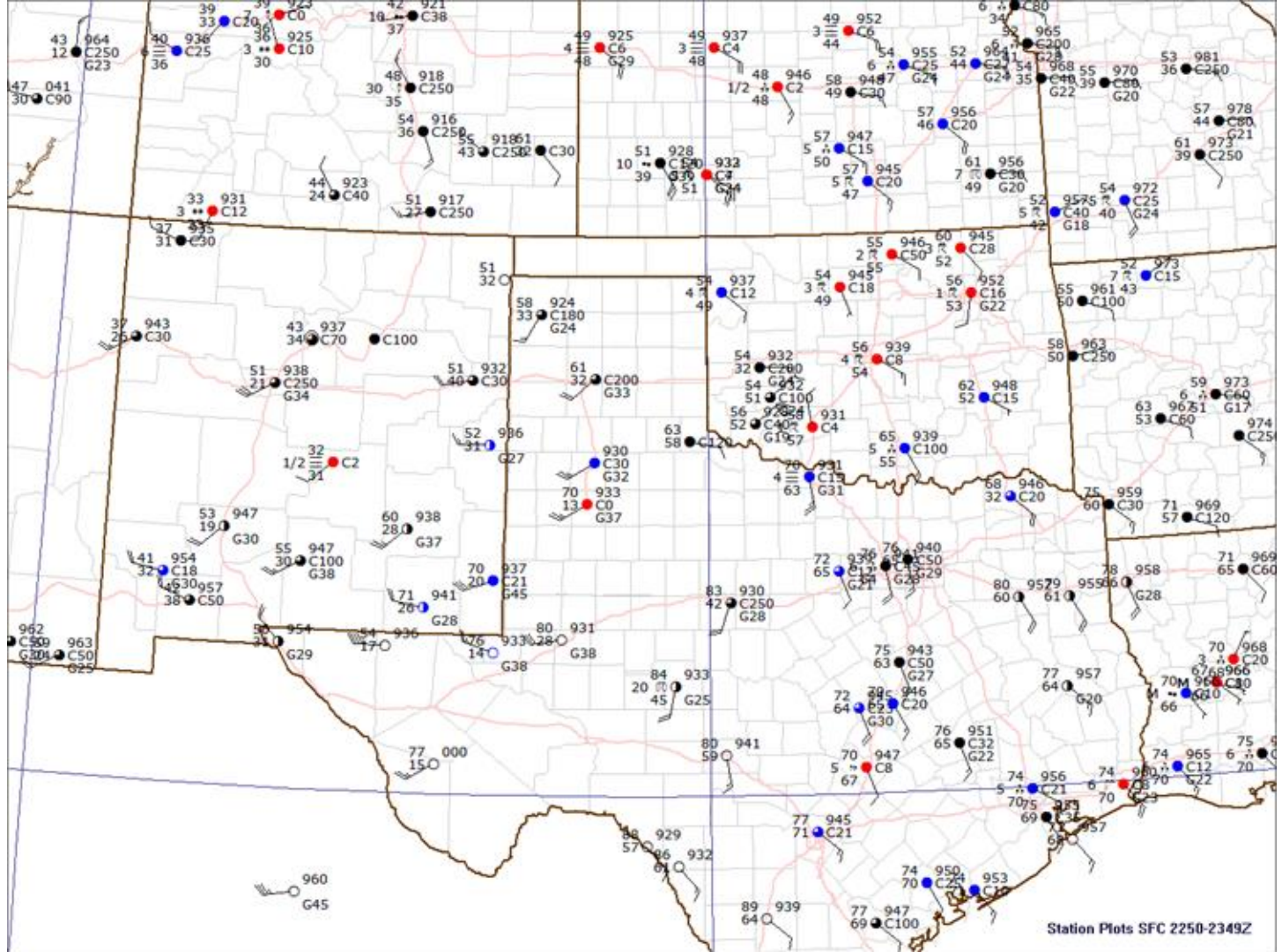
23:50 UTC (~5 min after image)
Wichita Falls, TX Tornado
Rated F4
42 Fatalities

23:45 UTC
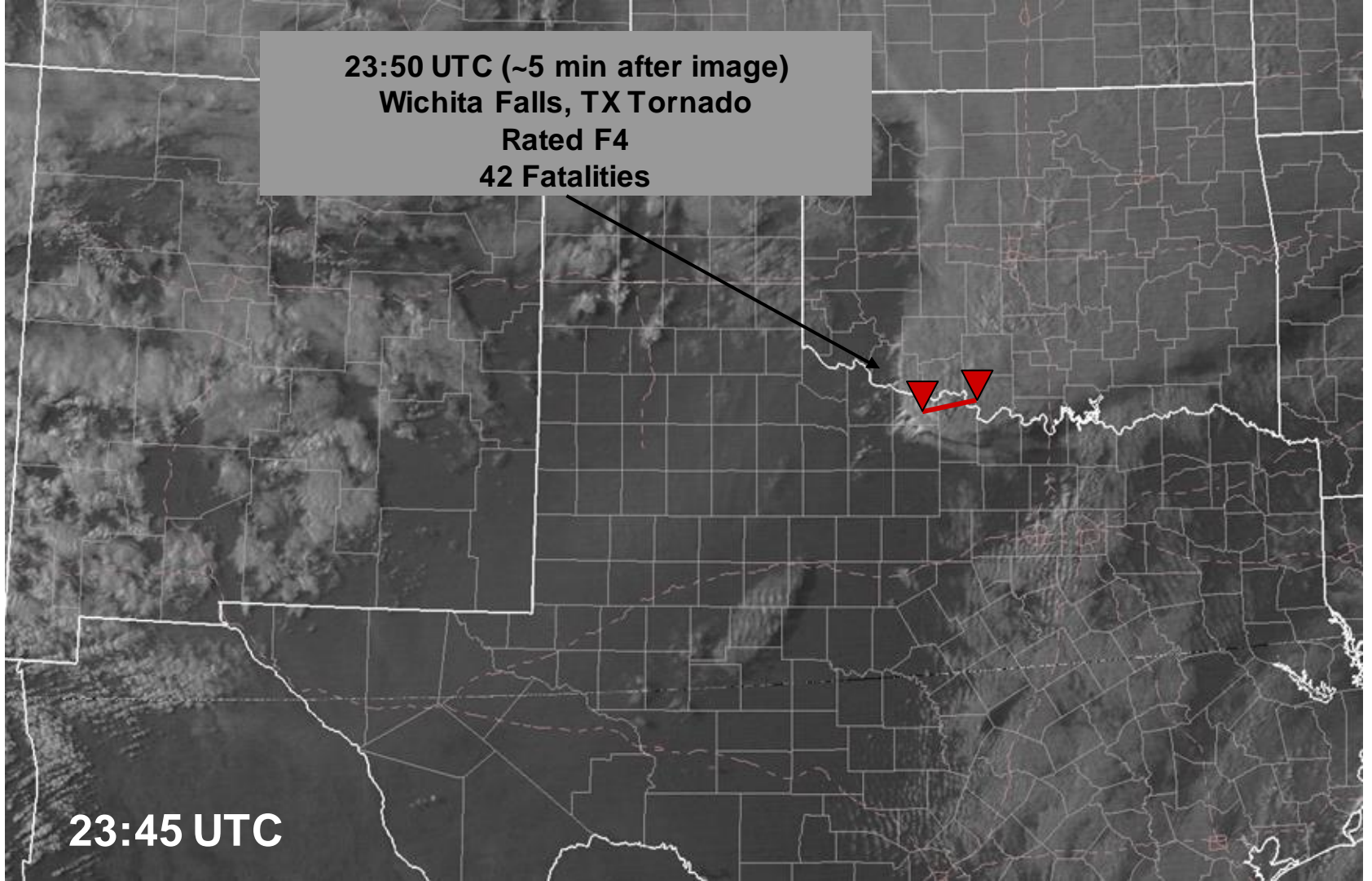
Tornado Watch Box #67
Valid 2:30 p.m. to 7:00 p.m., April 10, 1979

The cities of Wichita Falls and Vernon, Texas
and Lawton, Oklahoma are within the Watch Area.

Terrible Tuesday!
April 10, 1979

Red River Valley Tornado Outbreak
59 Tornadoes
56 Fatalities

Red River Valley Tornado Outbreak of APRIL 10, 1979

Mapped by FUJITA & WAKIMOTO
THE UNIVERSITY OF CHICAGO
(Based on data as of May 5, '79)

Mapping for "SESAME", 1979

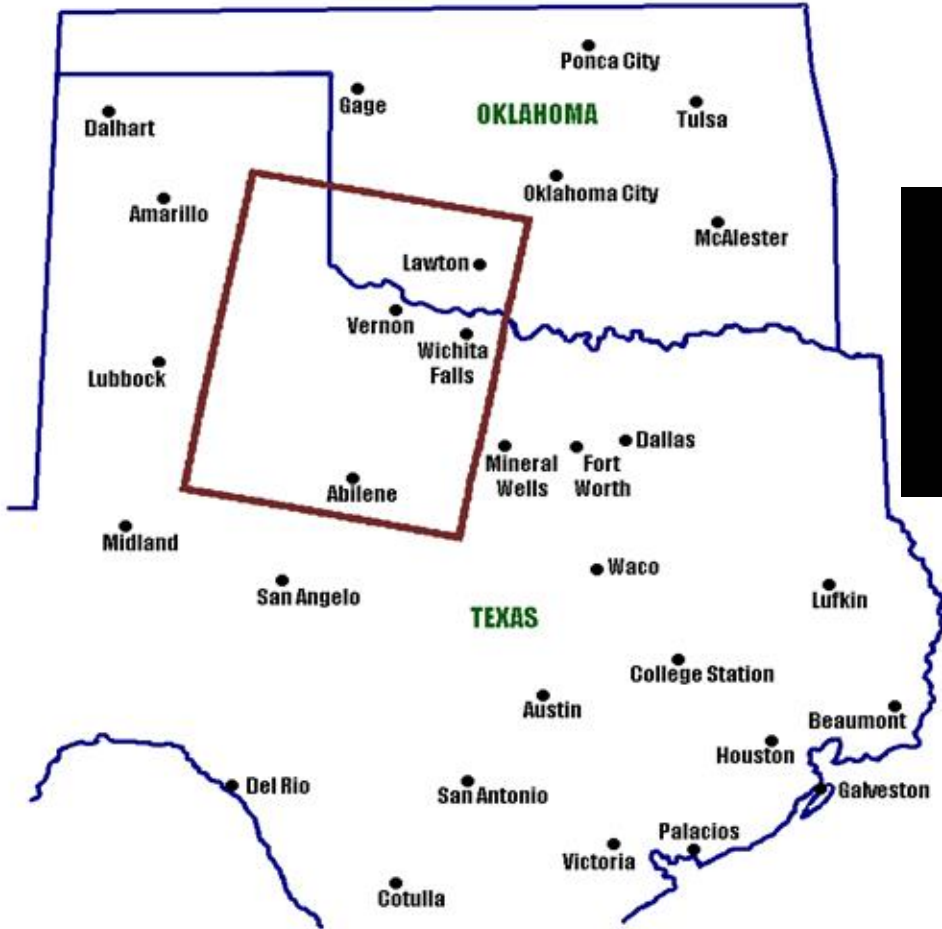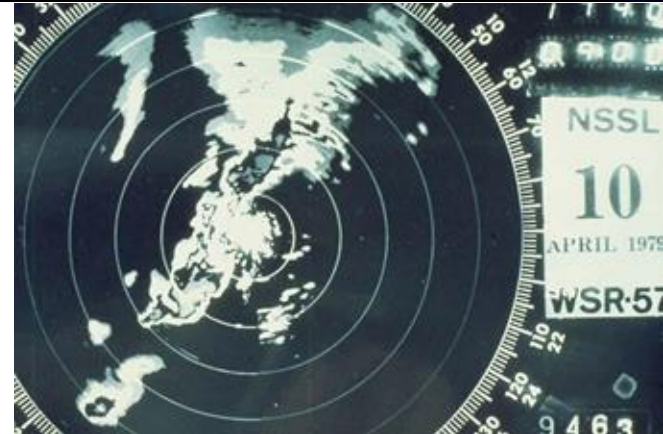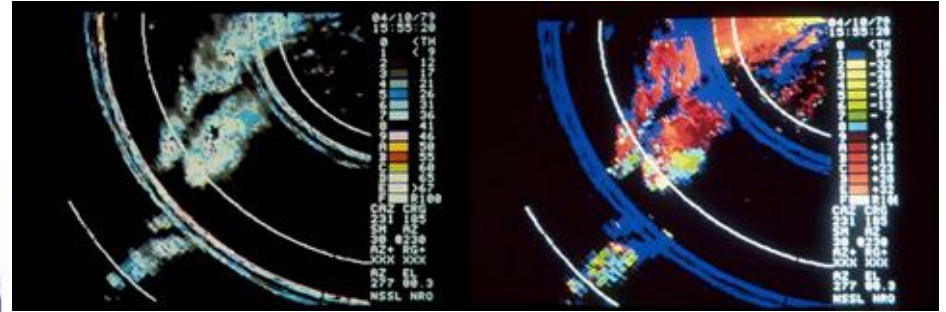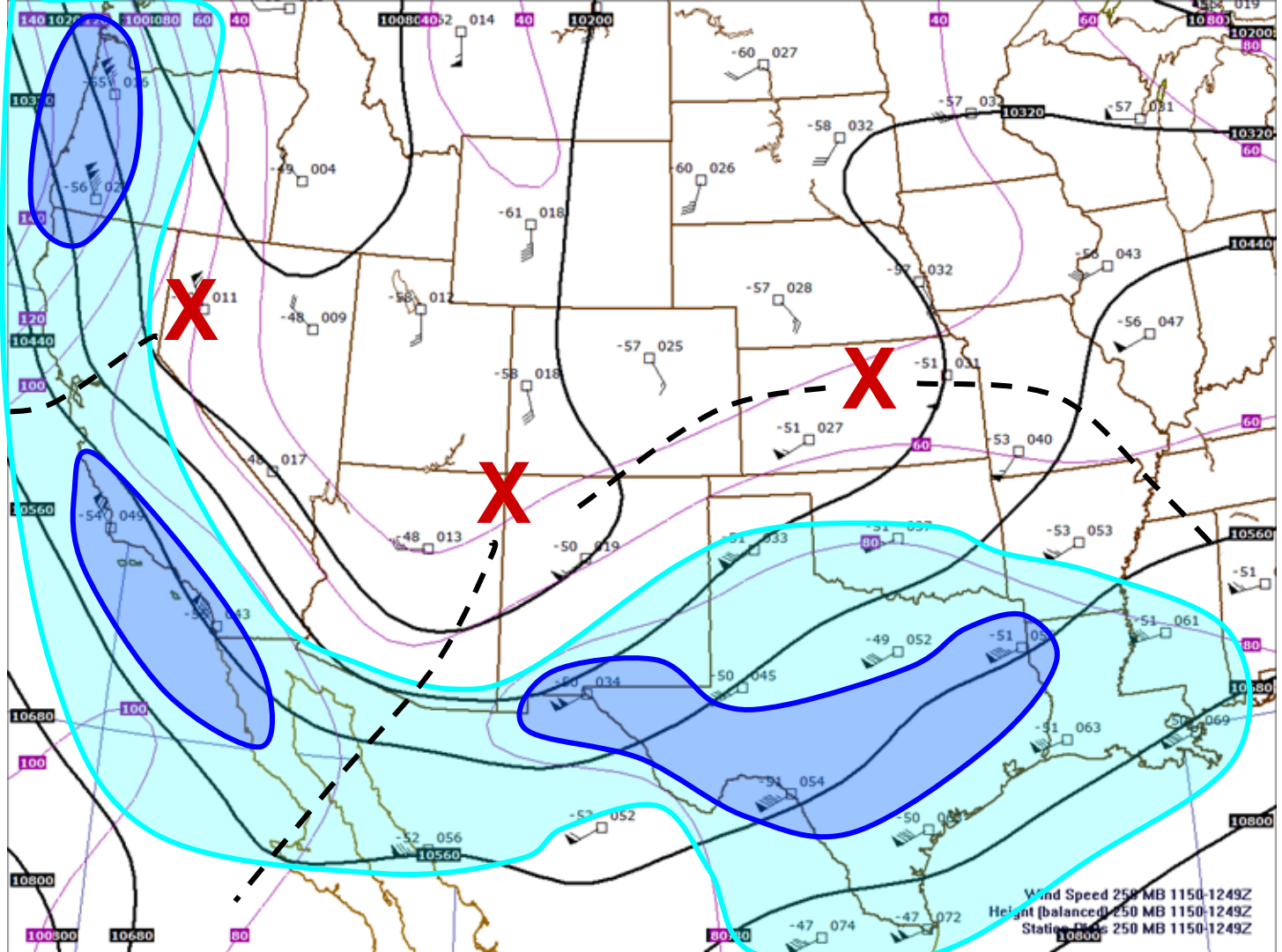| NO.	Name and Storm Type	Length	F, P, P	Killed/Injured	Based on survey by
1.	Crowell Tornado	23mi	2,3,2	0	1	U of C, NSSL
2.	Vernon Tornado	39	4,4,3	10	70	U of C, NASA, NSSL
3.	Hollister Tornado	8	2,2,1	0	0	U of C, NSSL
4.	Faxon Tornado	7	1,2,1	0	2	U of C, NSSL
5.	Lawton Tornado	4	3,2,2	3	100	U of C, NASA, NSSL
6.	Grandfield Tornado	64	2,4,5	1	5	U of C
7.	Marlow Twg Downburst	18	1,3,6	0	0	U of C
8.	Purcell (west of) High Wind	8	0,2,5	0	0	U of C
9.	Noble Tornado	2	2,1,1	0	0	NSSL
10.	Prague Tornado	3	2,2,2	0	1	NWS-OKC(48E OKC)
11.	Seymour Tornado	11	2,3,3	0	0	NSSL, U of C
12.	Wichita Falls Tornado	47	4,4,4	45	850	U of C, NASA
13.	Pruitt Tornado	27mi	3,3,3	0	0	U of C

0 1 2 3 4 5 = Fujita Scale

TORNADO   HIGH WINDS

2,100 aerial photos of damage areas filed at U of C

Tornadoes on Apr 10, 1979

Number of Tornadoes: 29
Fatalities: 57   Injuries: 1919

© MapTiler © OpenStreetMap contributors

Rating:
(E)F5
(E)F4
(E)F3
(E)F2
(E)F1
(E)F0
(E)FU

# of Tornadoes

1979-04-10   1979-04-11

Terrible Tuesday Documentary:

Excellent review by WFO Norman:
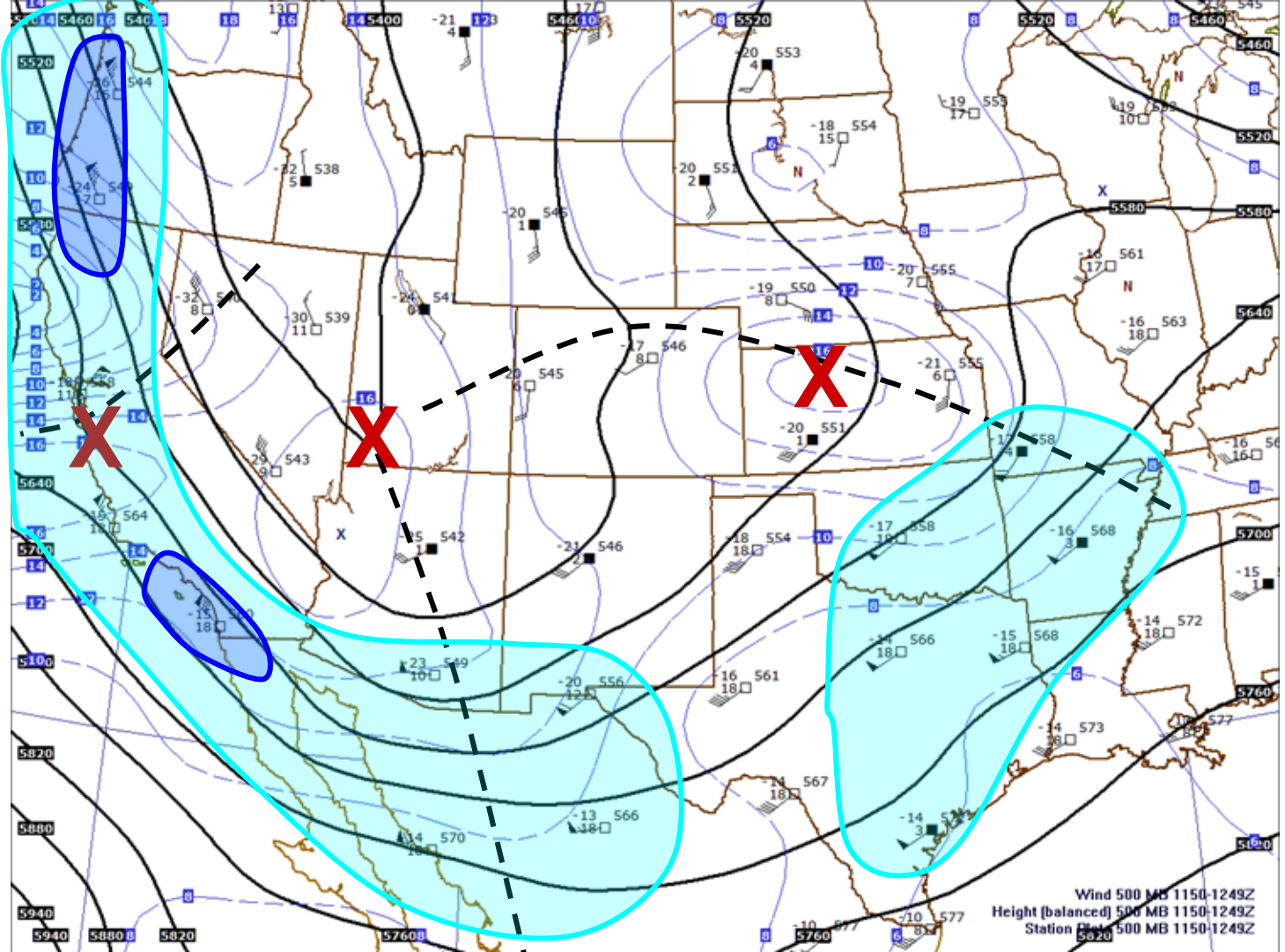https://www.weather.gov/oun/events-19790410

250 mb

75 knots

90 knots

500 mb

50 knots

75 knots

700 mb

WAA

CAA
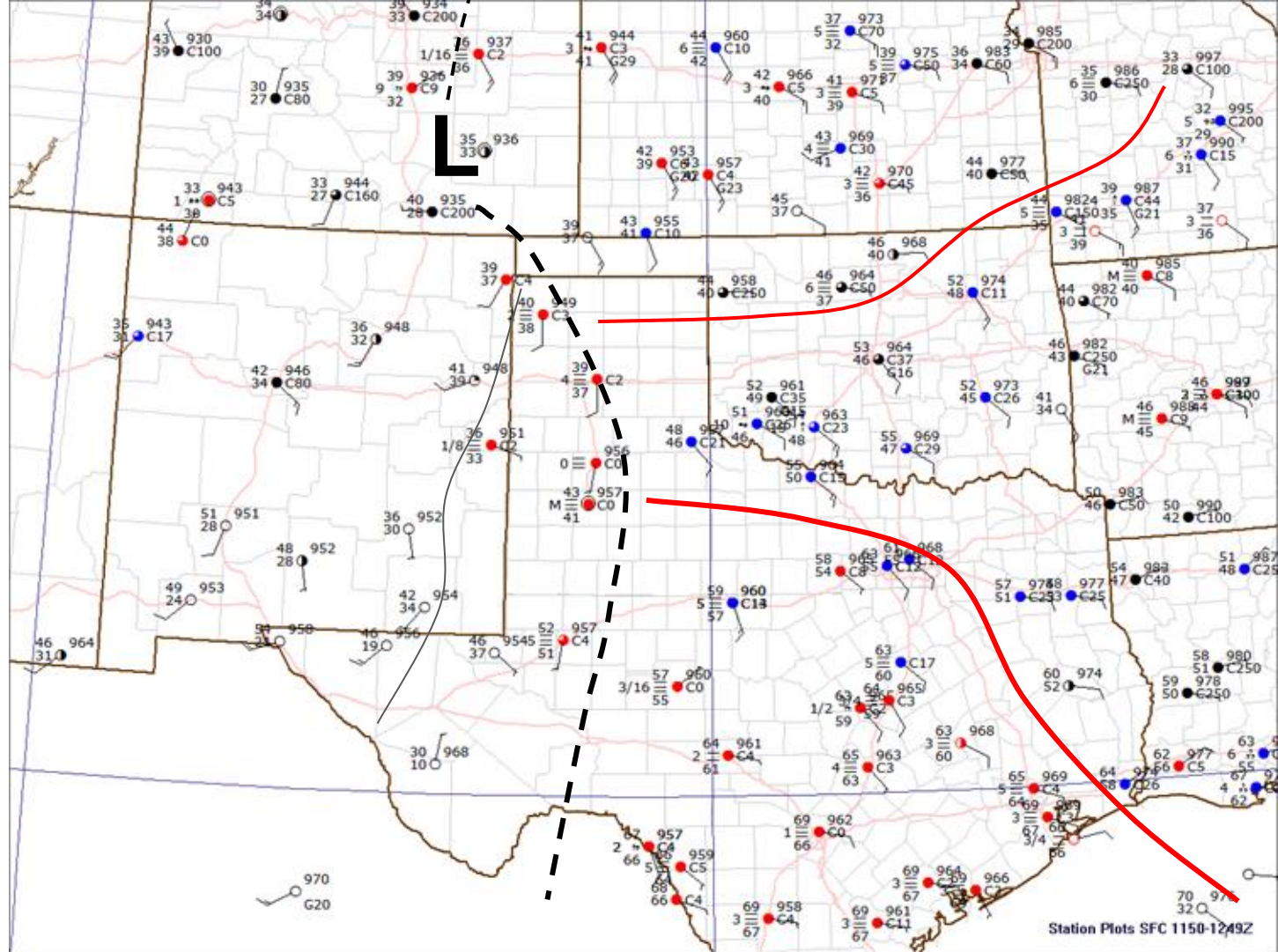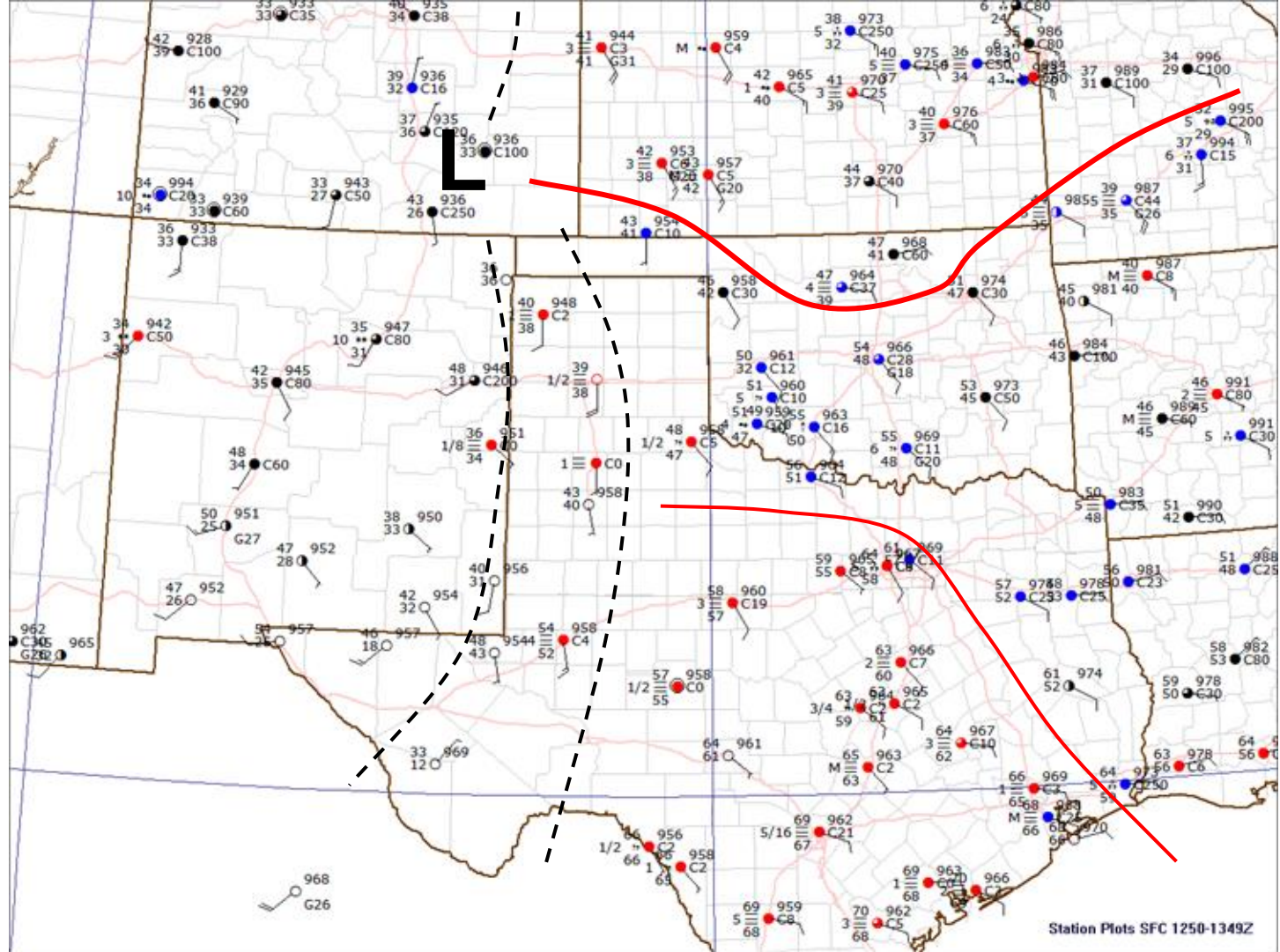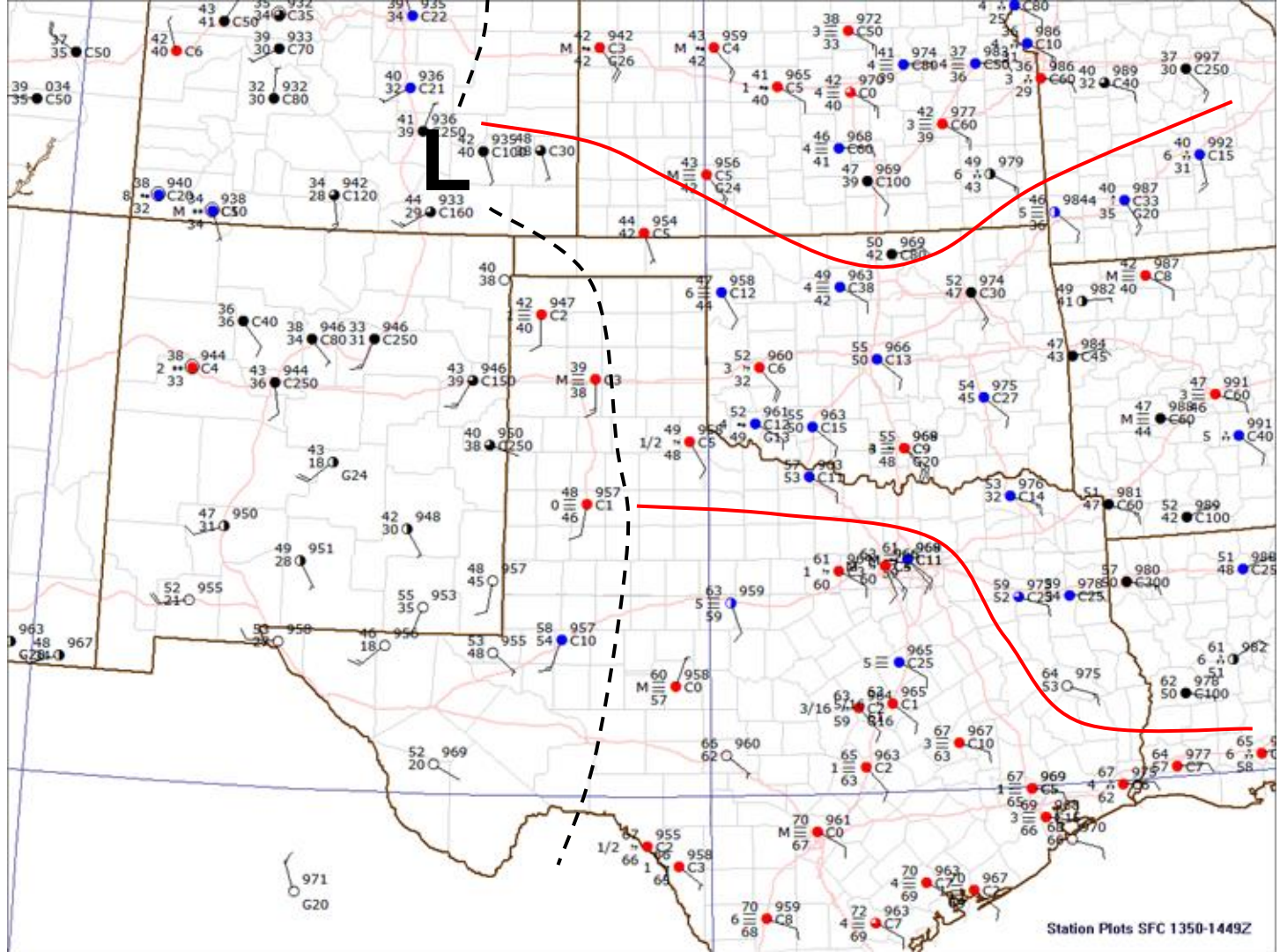
850 mb

WAA

CAA

12:00 UTC

Station Plots SFC 1150-1249Z

13:00 UTC

Station Plots SFC 1250-1349Z

14:00 UTC

Station Plots SFC 1350-1449Z

15:00 UTC

Station Plots SFC 1450-1549Z
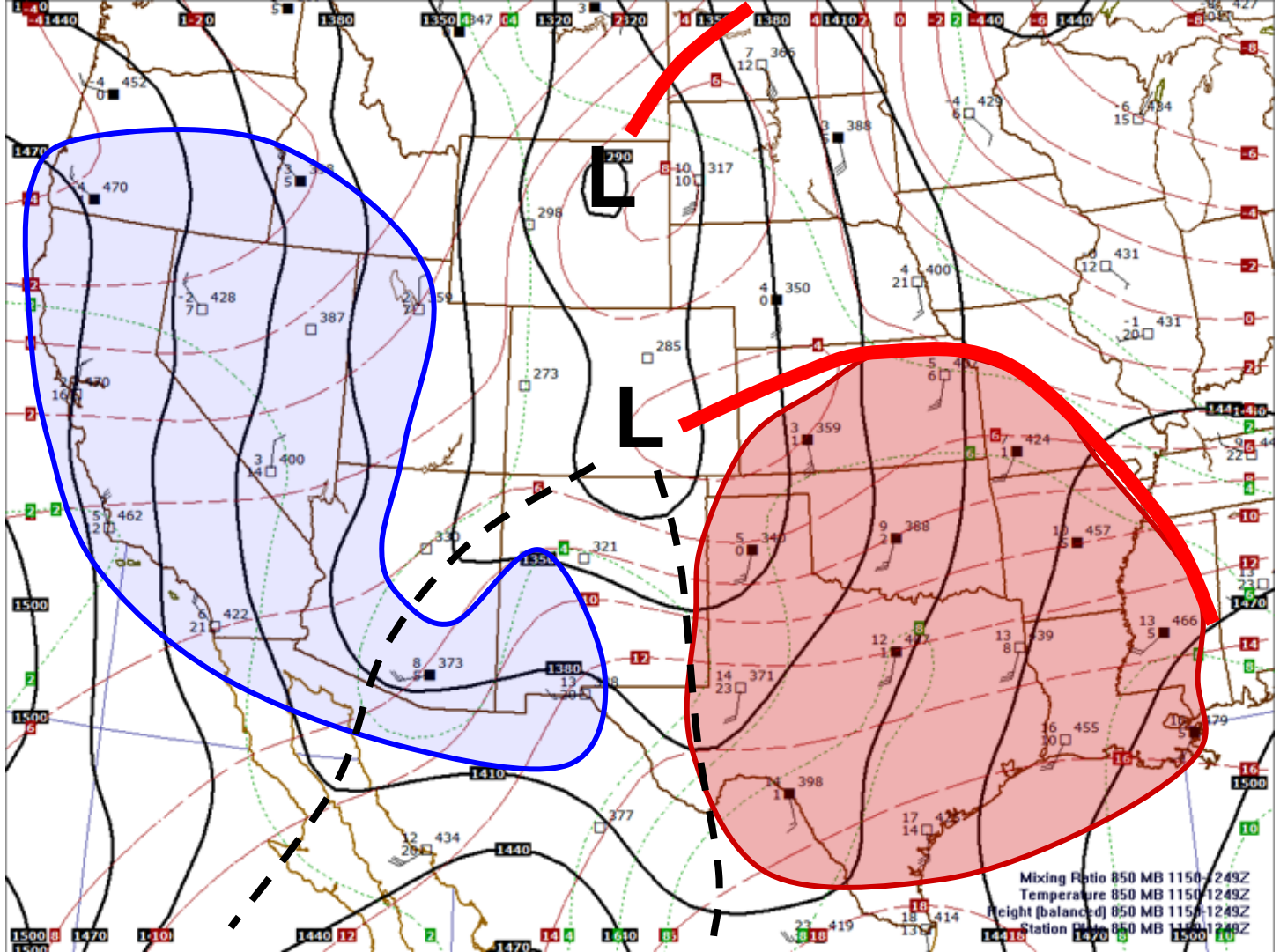
16:00 UTC

Station Plots SFC 1550-1649Z
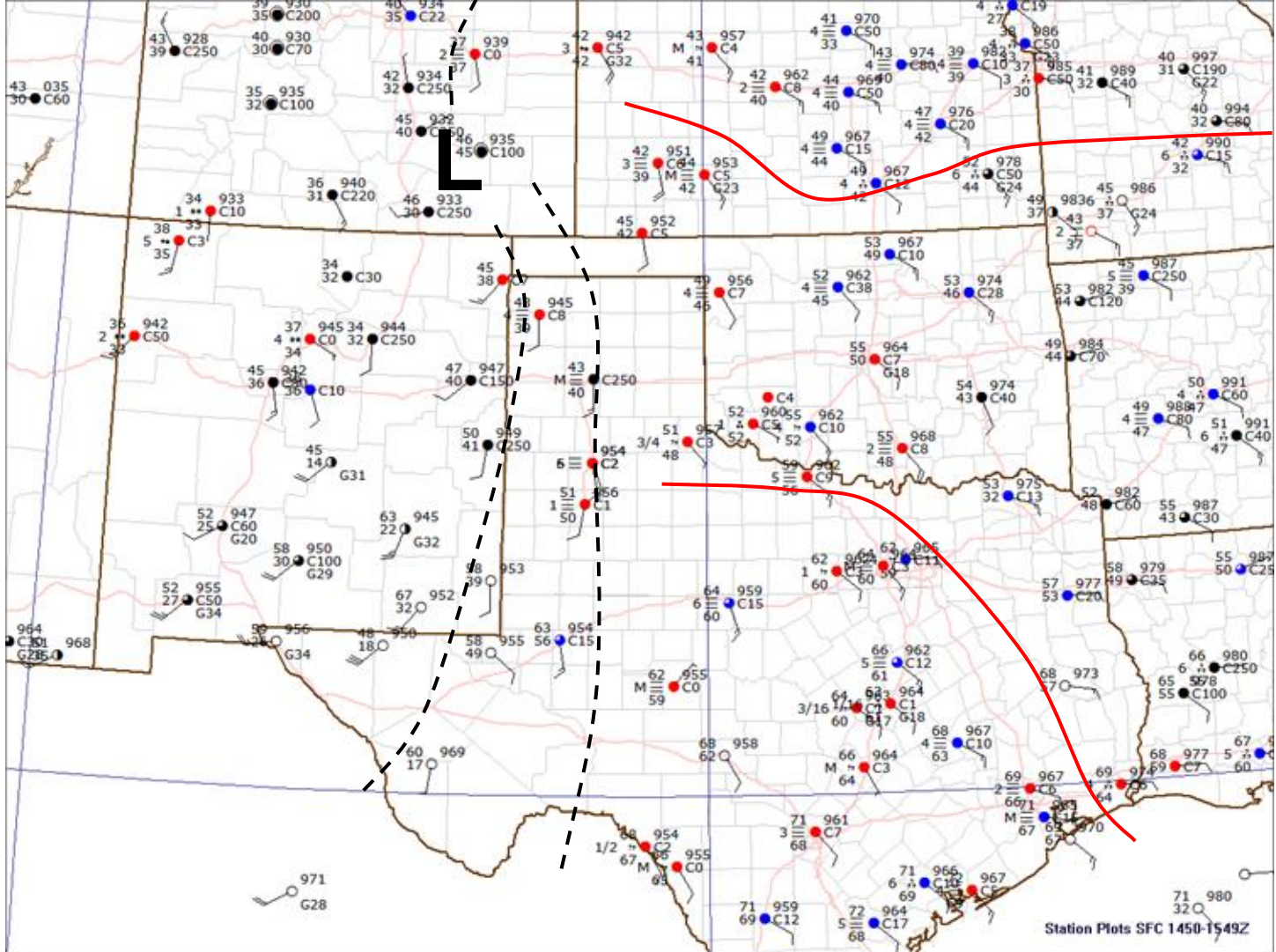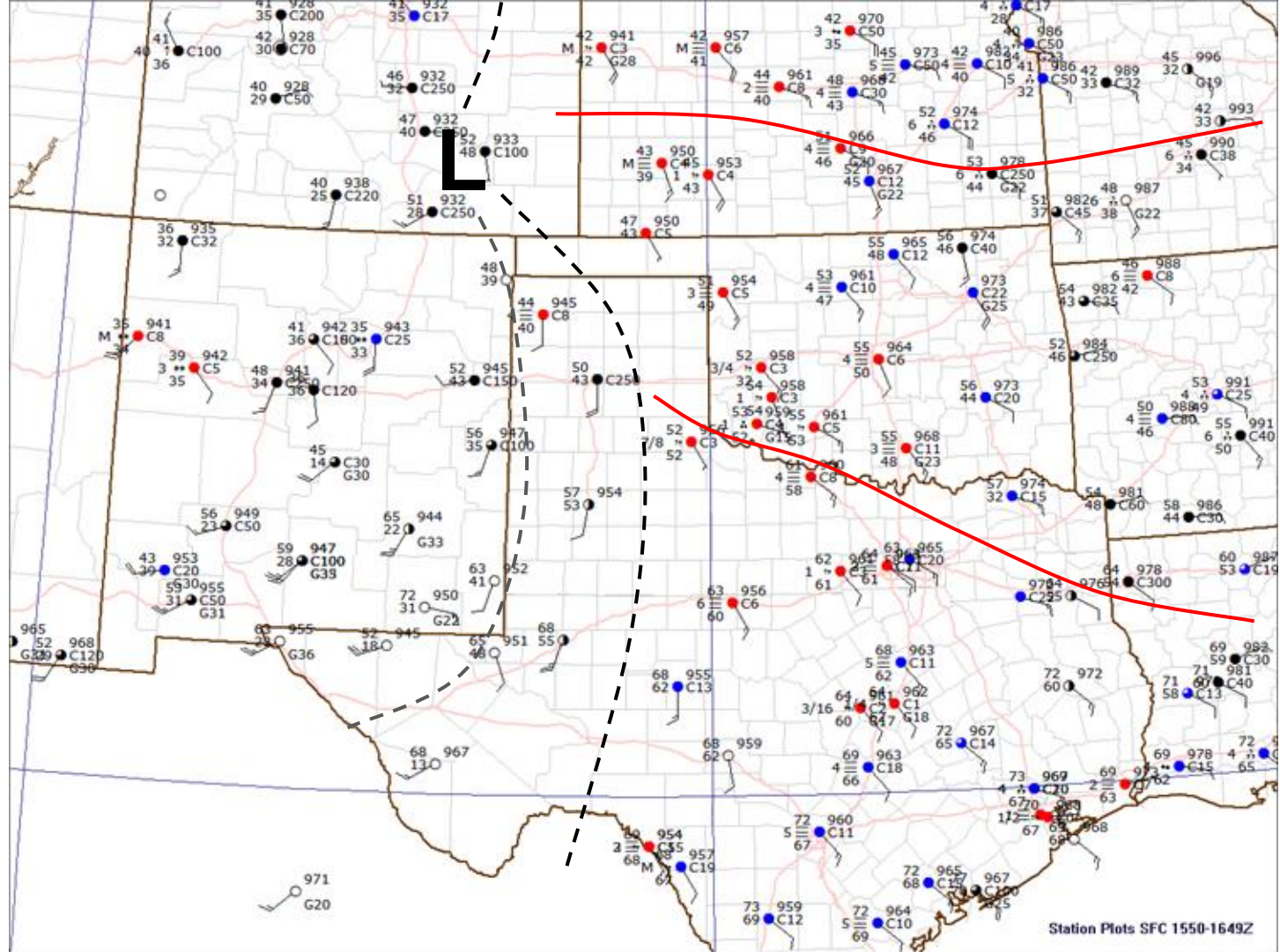
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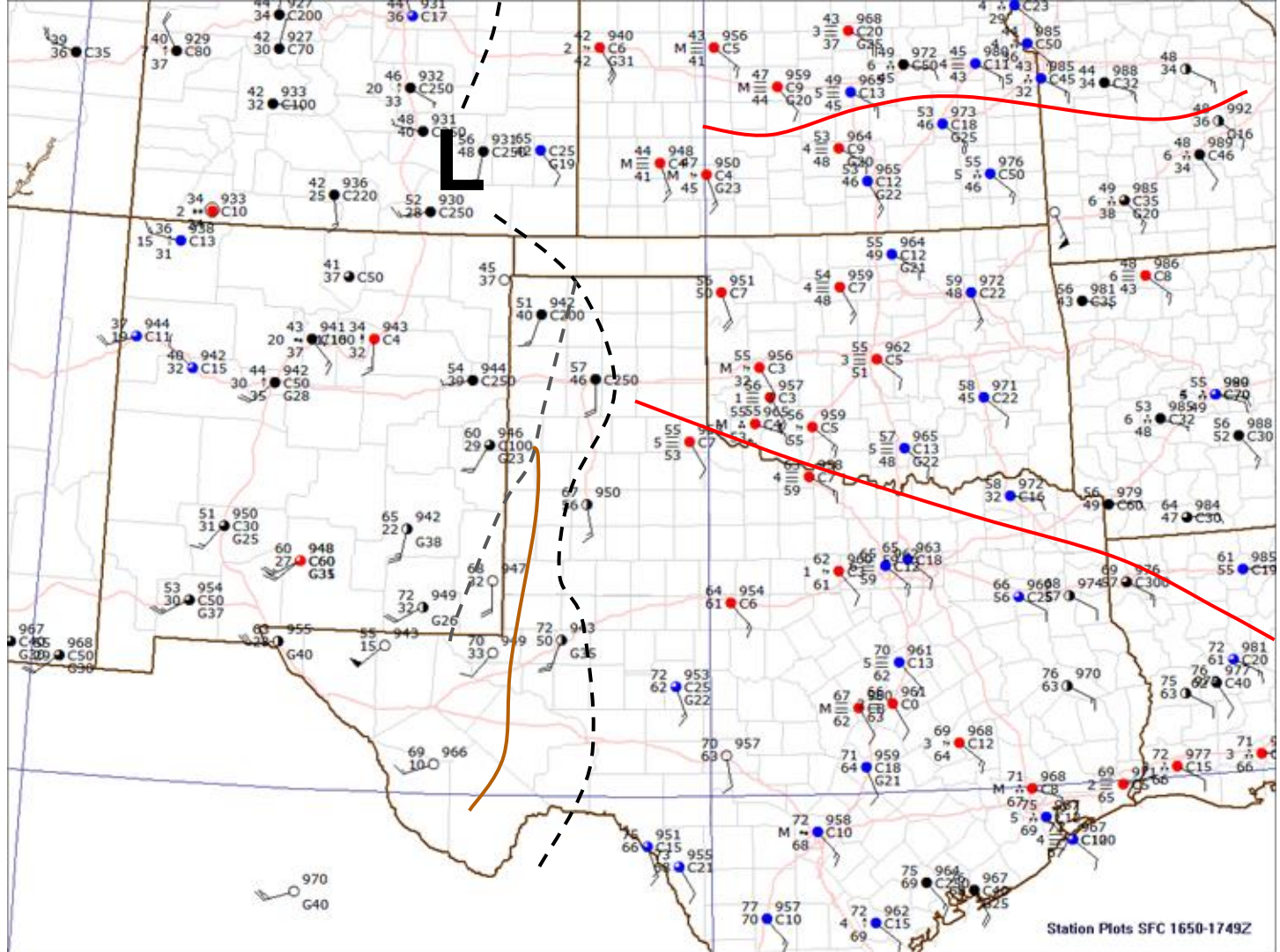
Station Plots SFC 1650-1749Z

18:00 UTC

Station Plots SFC 1750-1849Z

19:00 UTC

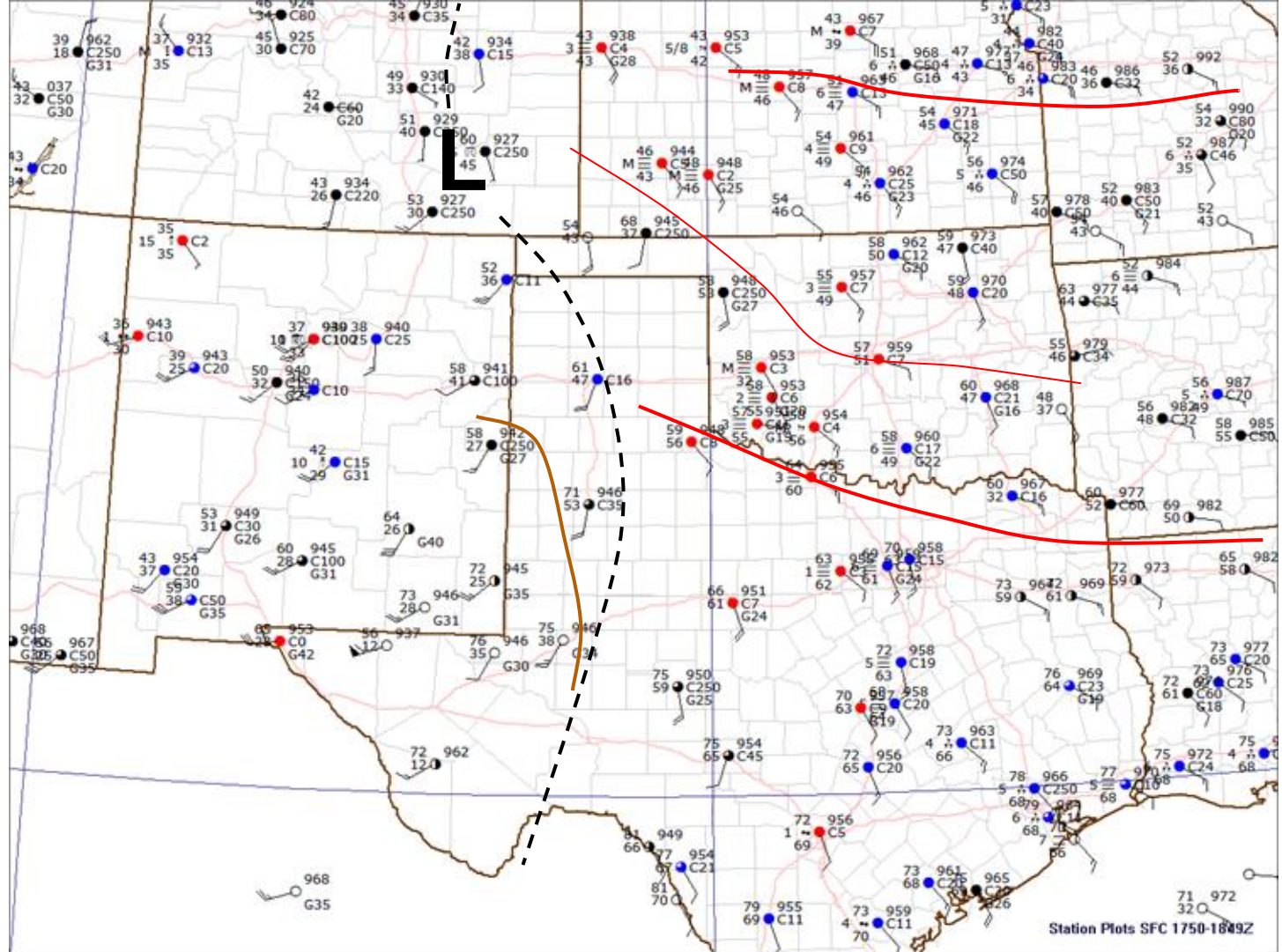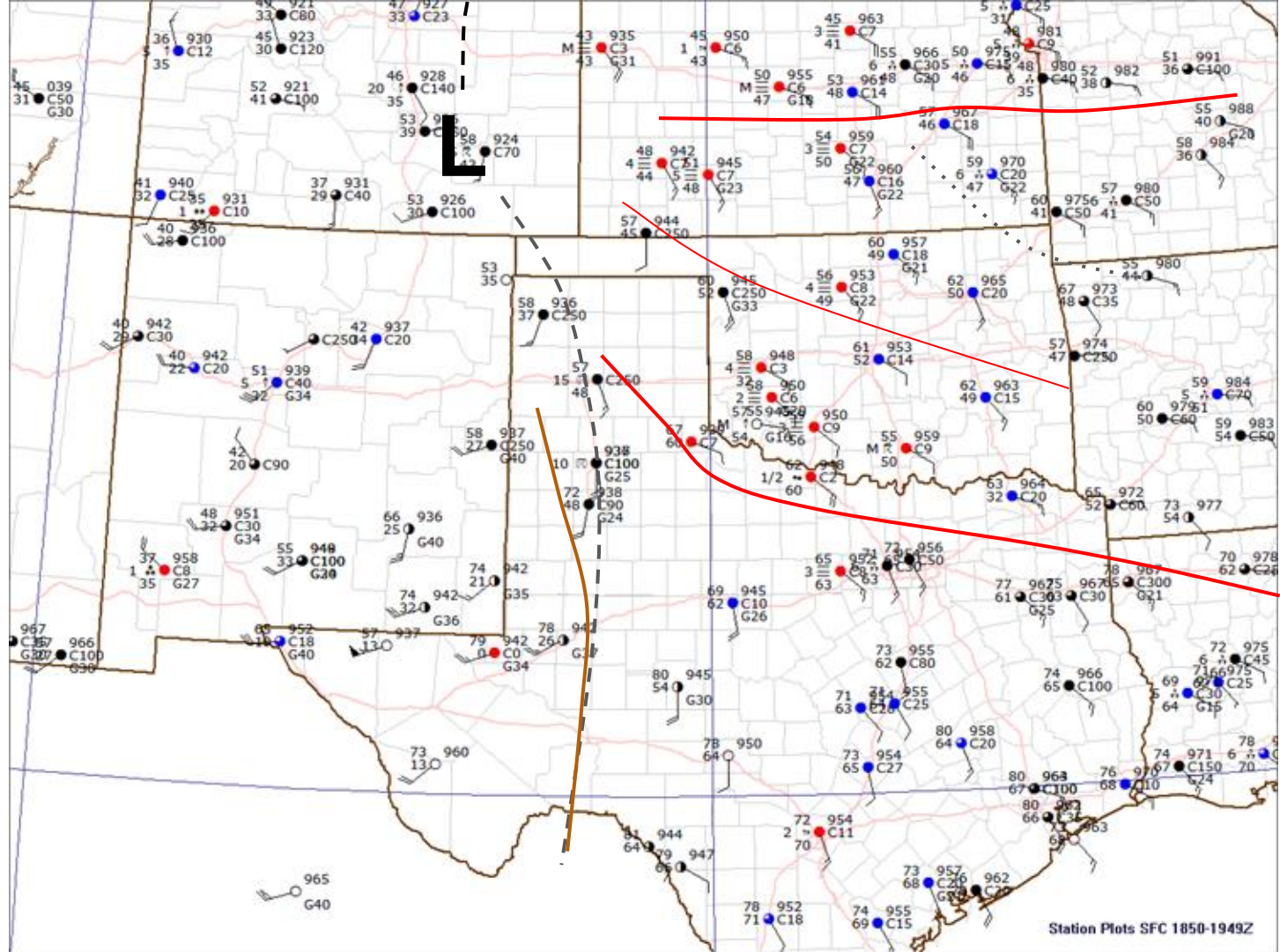Station Plots SFC 1850-1949Z

L

20:00 UTC

Station Plots SFC 1950-2049Z

21:00 UTC

L

22:00 UTC

Station Plots SFC 2150-2249Z

23:00 UTC

Station Plots SFC 2250-2349Z