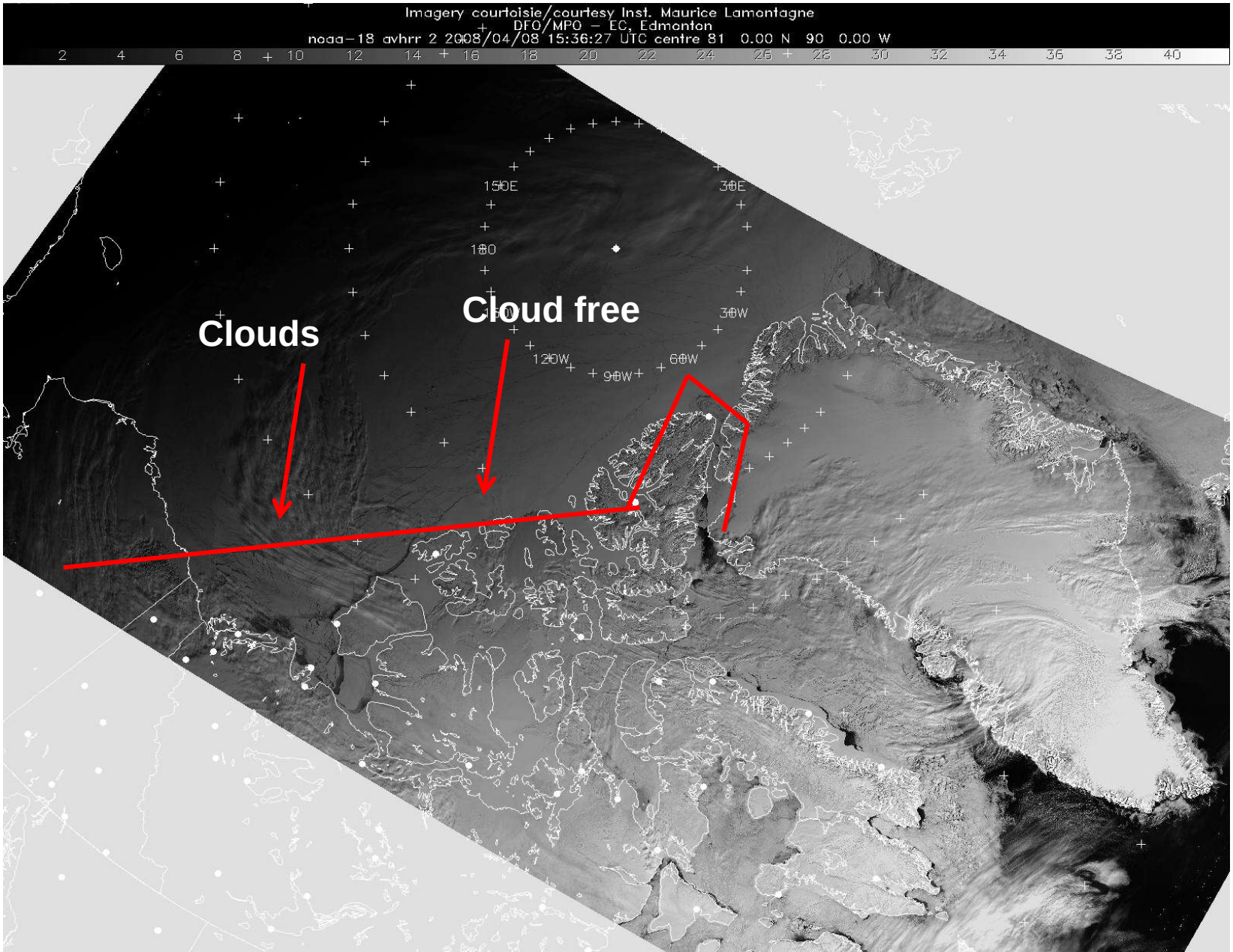
Flight Day Conditions

April 9, 2008

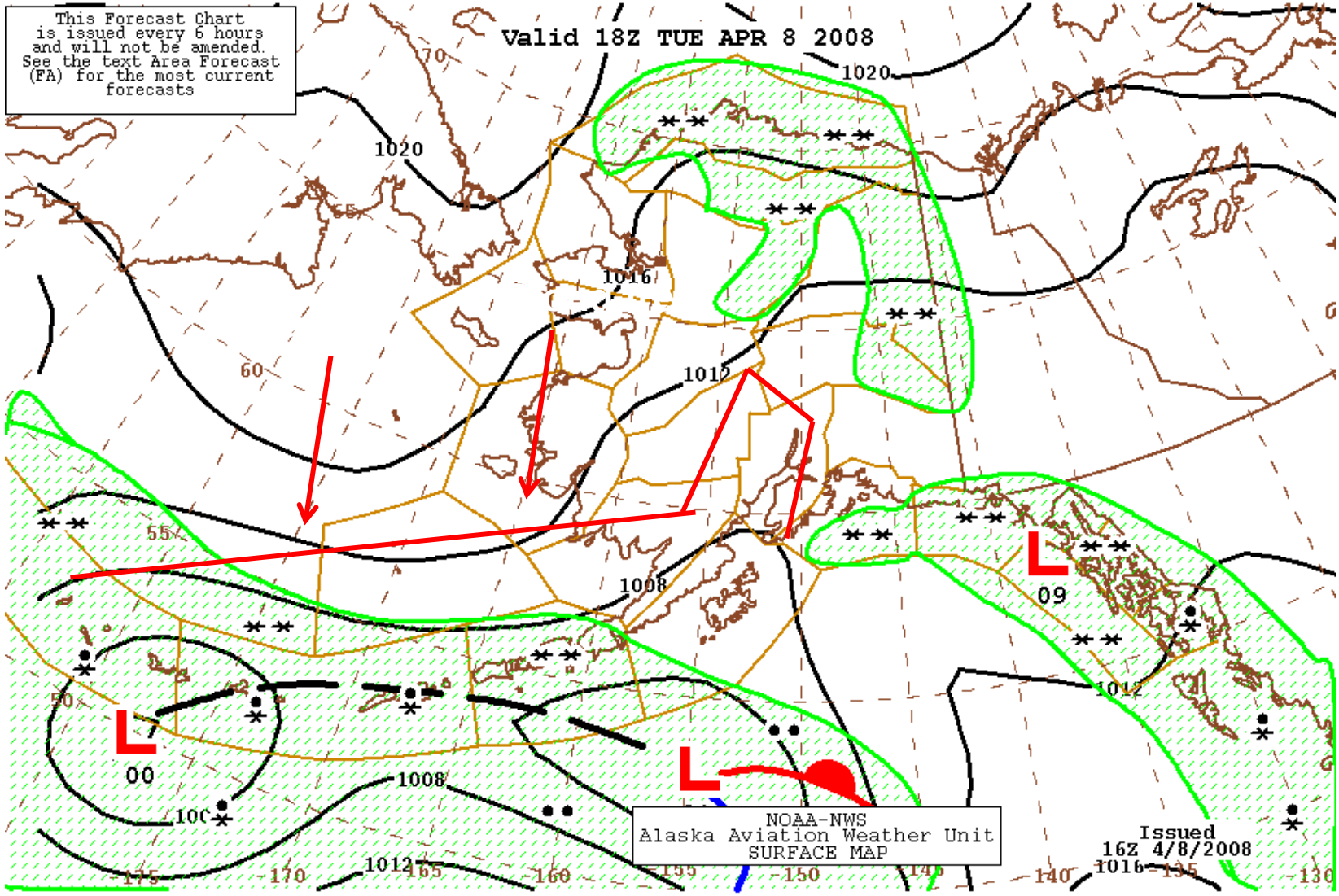
Andy Latto
Henry Fuelberg

“Your Eyes to the Skies”

Current Visible Satellite Image



Current Surface Analysis


This Forecast Chart is issued every 6 hours and will not be amended. See the text Area Forecast (FA) for the most current forecasts
Valid 18Z TUE APR 8 2008
1020
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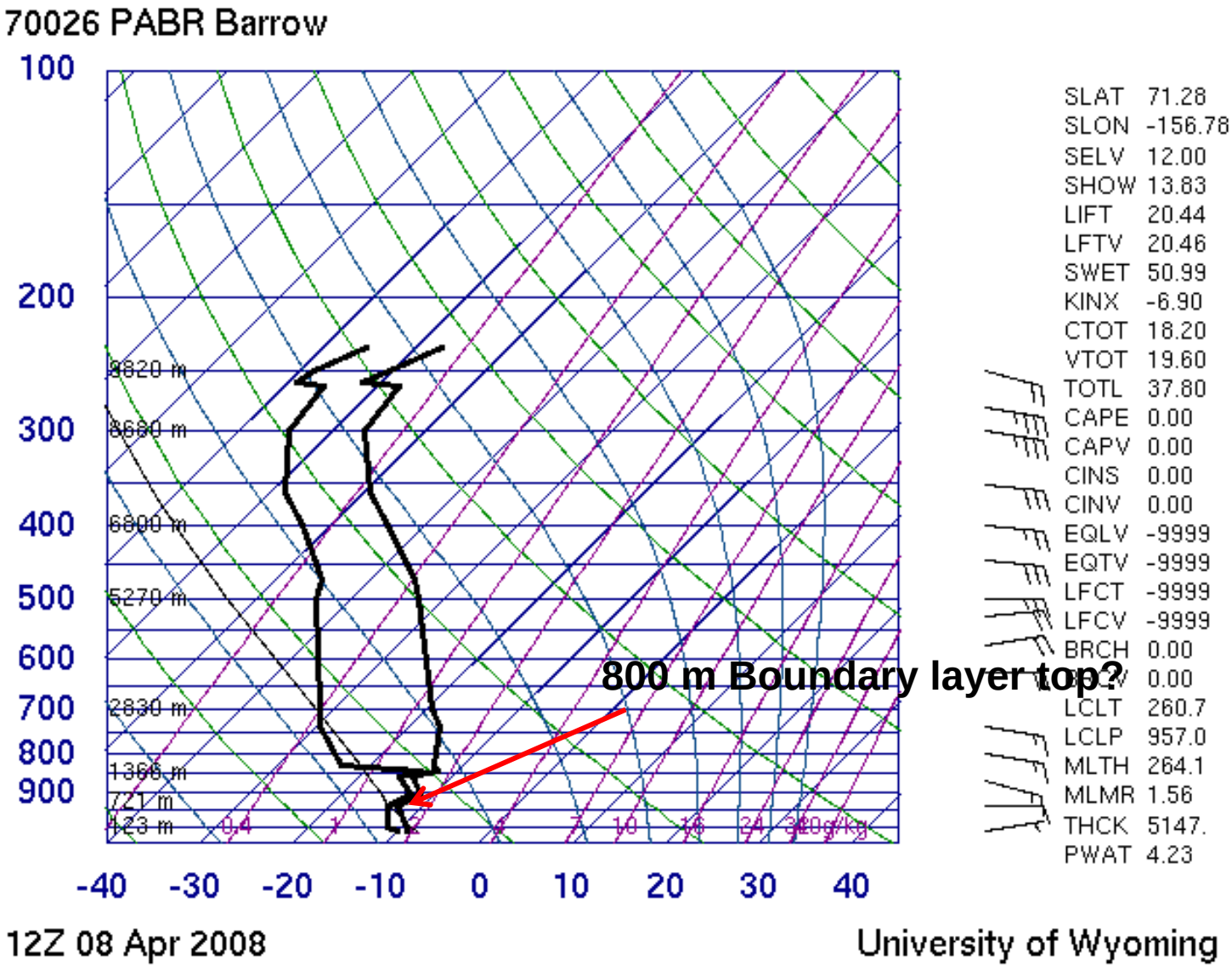
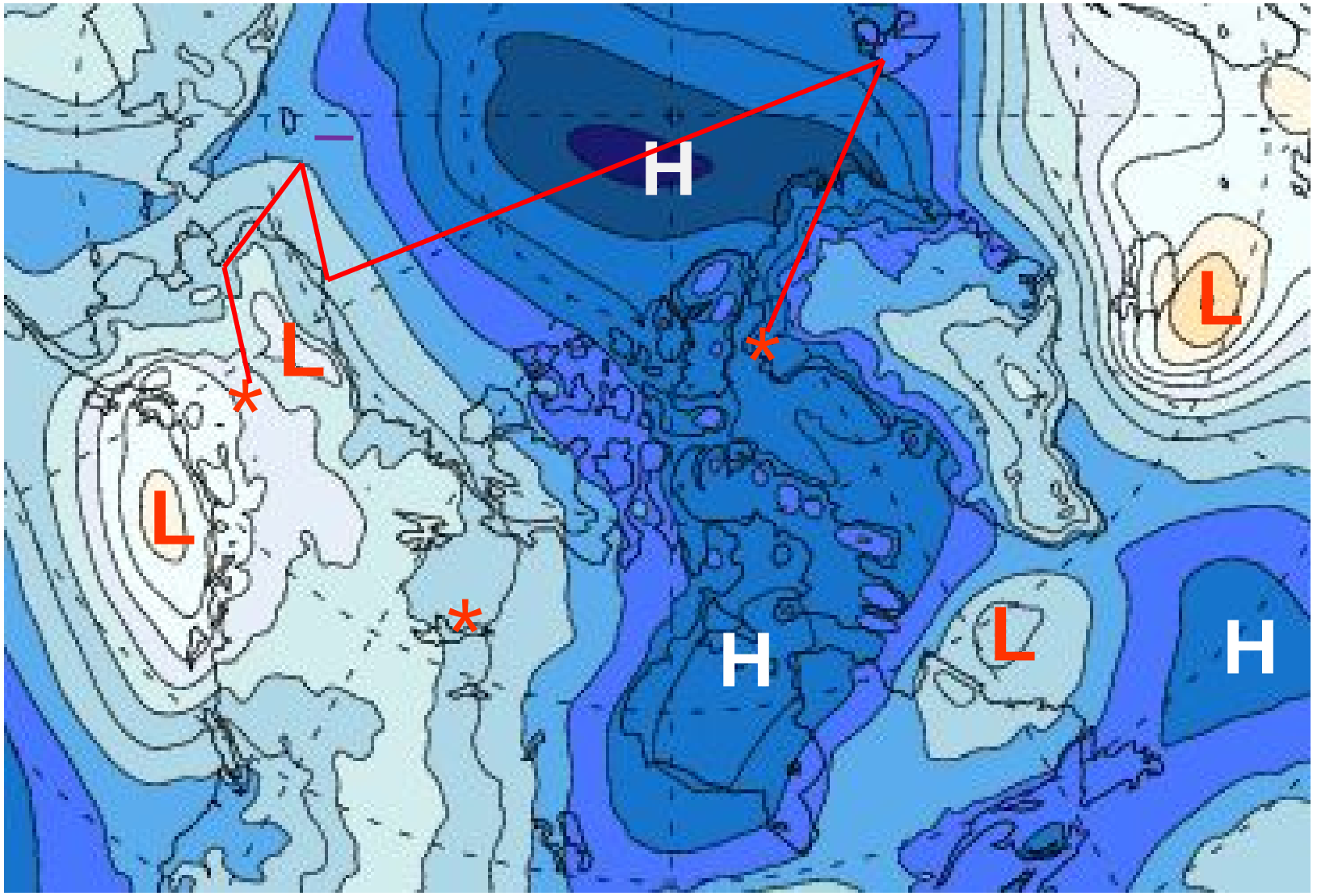
-160

Current Barrow Sounding

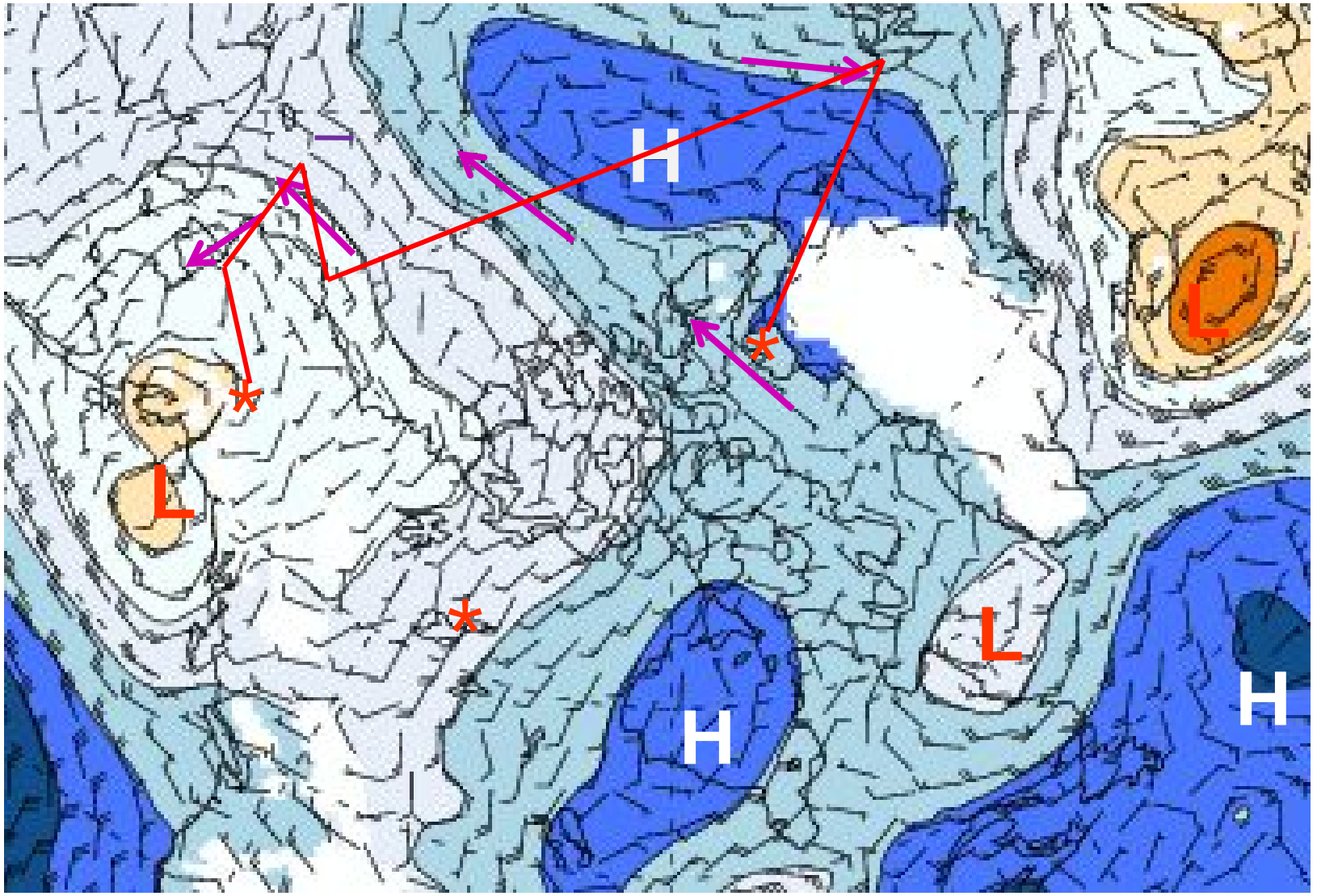


Forecast For Wednesday

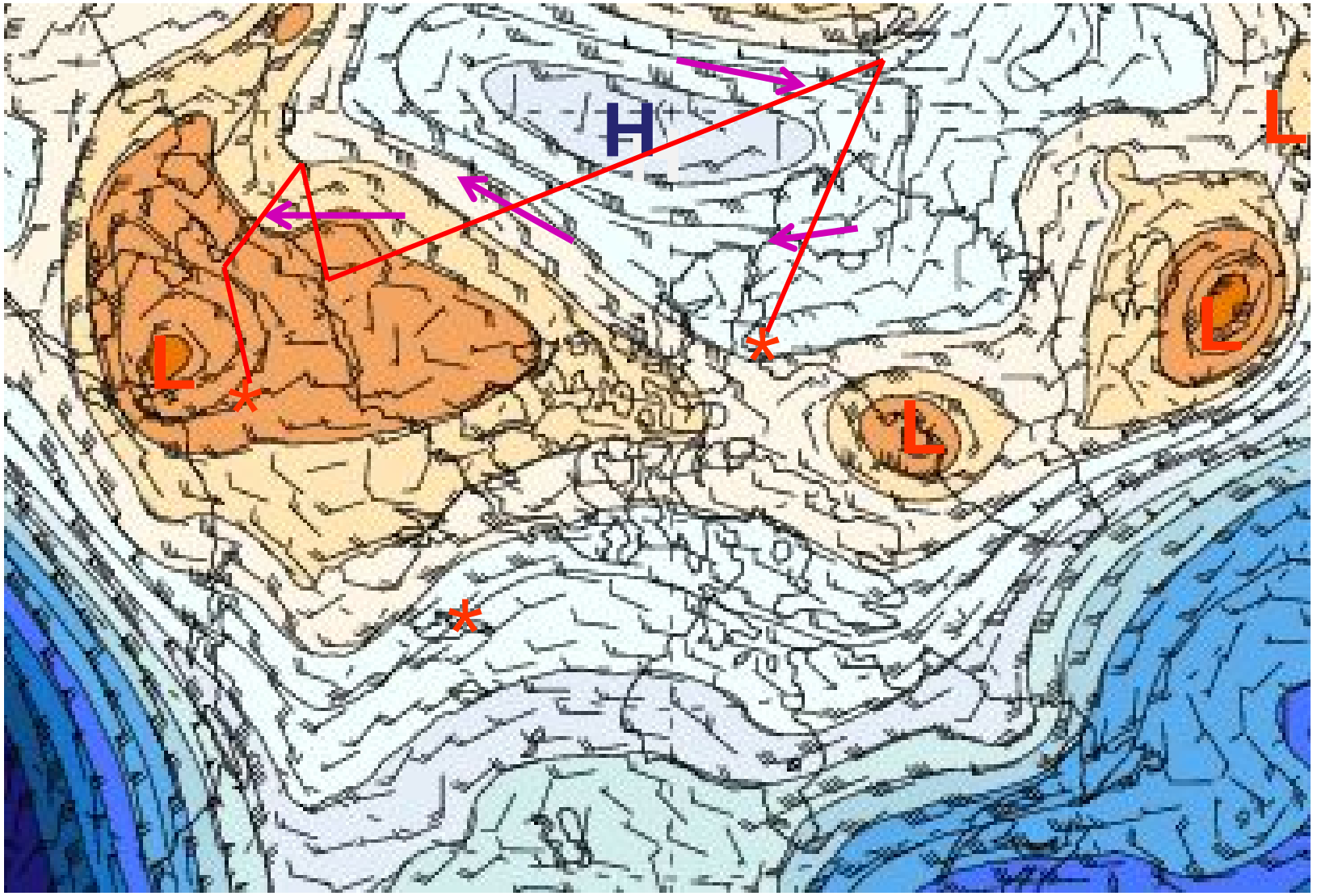
FSU WRF Forecast Valid 1800Z April 9
Sea Level Pressure



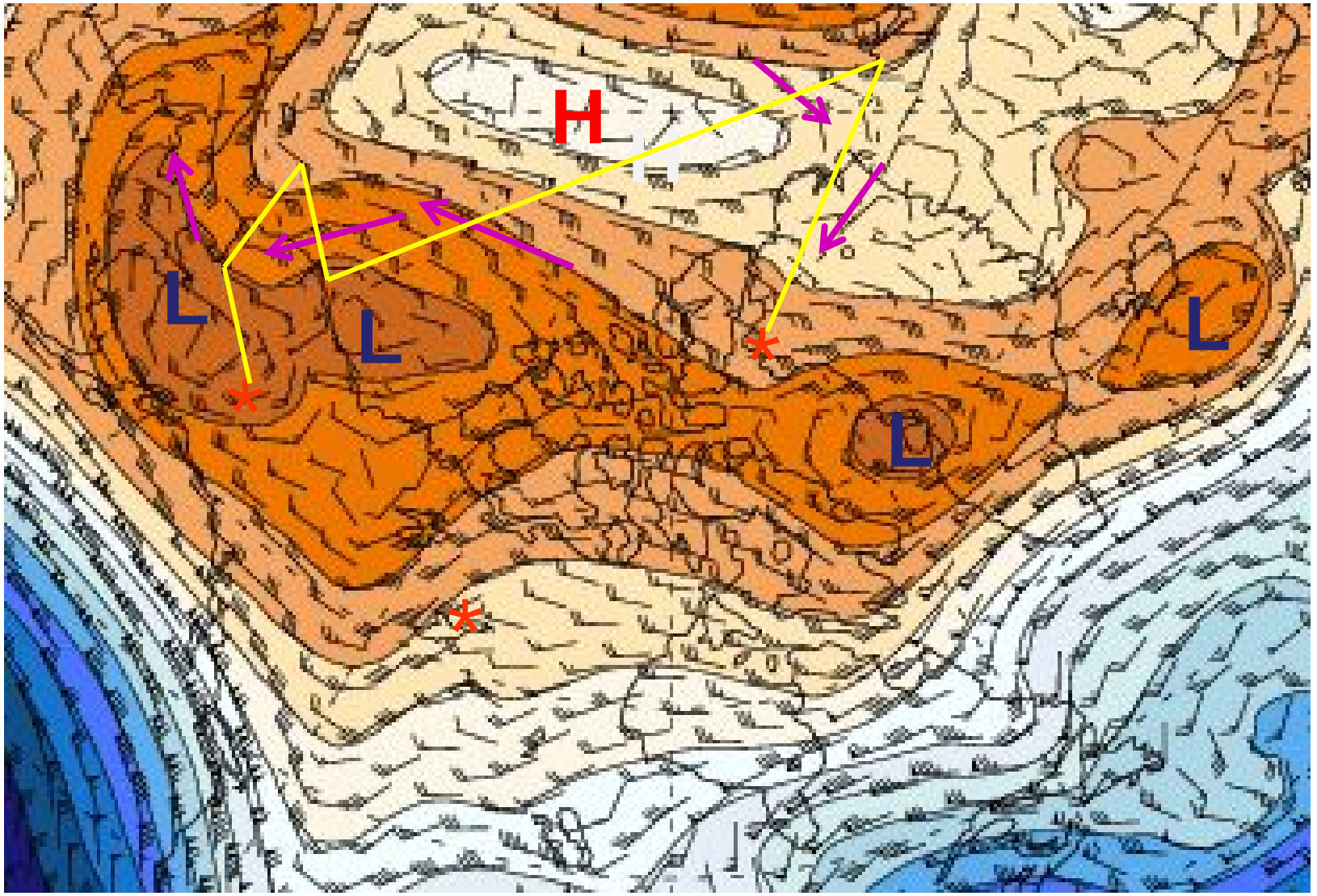
FSU WRF Forecast Valid 1800Z April 9
850 hPa Heights and Winds



FSU WRF Forecast Valid 1800Z April 9
500 hPa Heights and Winds



FSU WRF Forecast Valid 1800Z April 9
300 hPa Heights and Winds



April 9, 2008
Tropopause Height plan view
Cross sections of PV

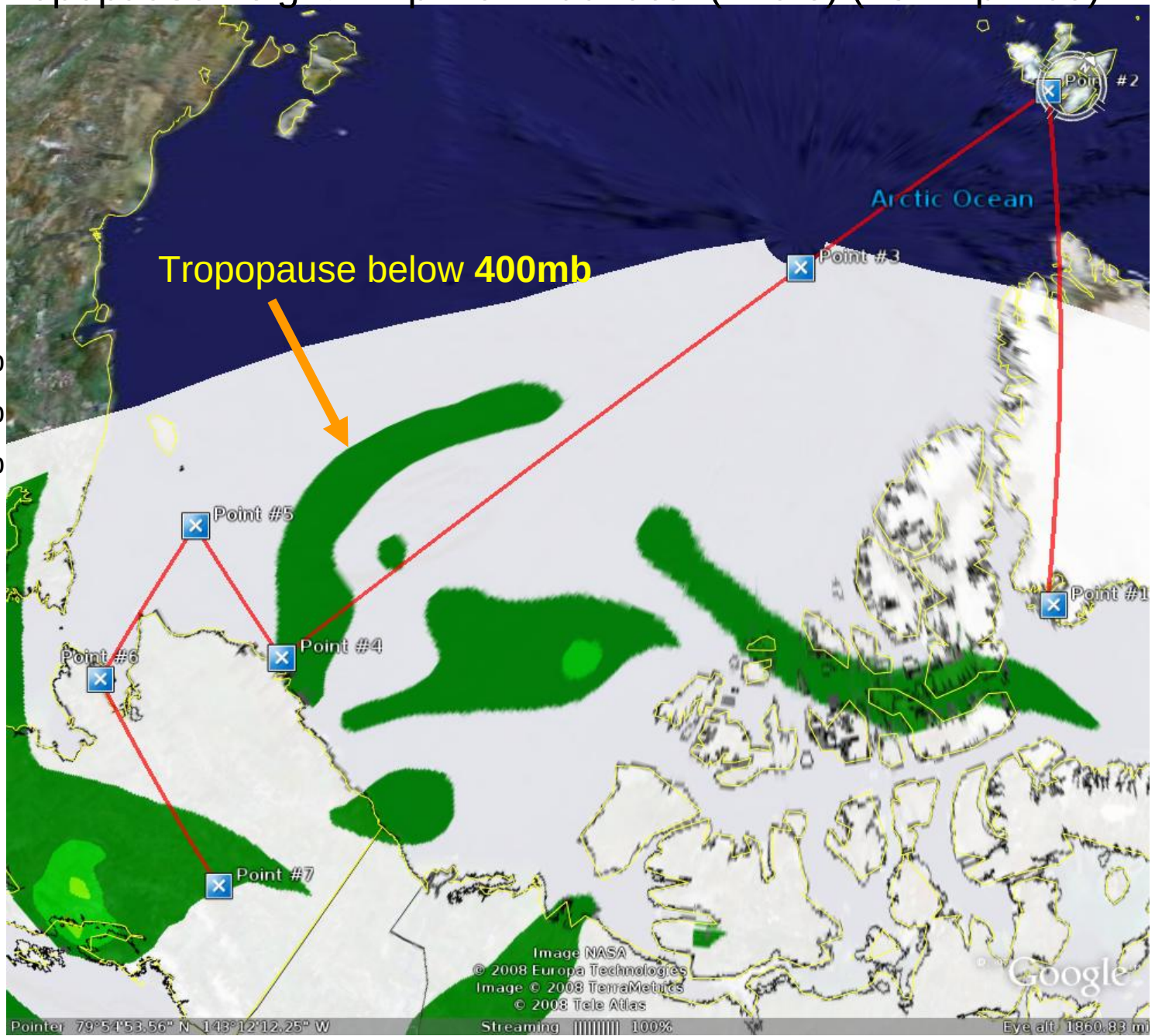
Thule – Svalbard – North Pole – Barrow

Atkinson, Cross, Malingowski
University of Alaska Fairbanks
International Arctic Research Center
Department of Atmospheric Sciences

UNIVERSITY OF ALASKA FAIRBANKS

International Arctic Research Center

Overview – Tropopause height – April 9 1200 local (Thule) (15Z April 09)



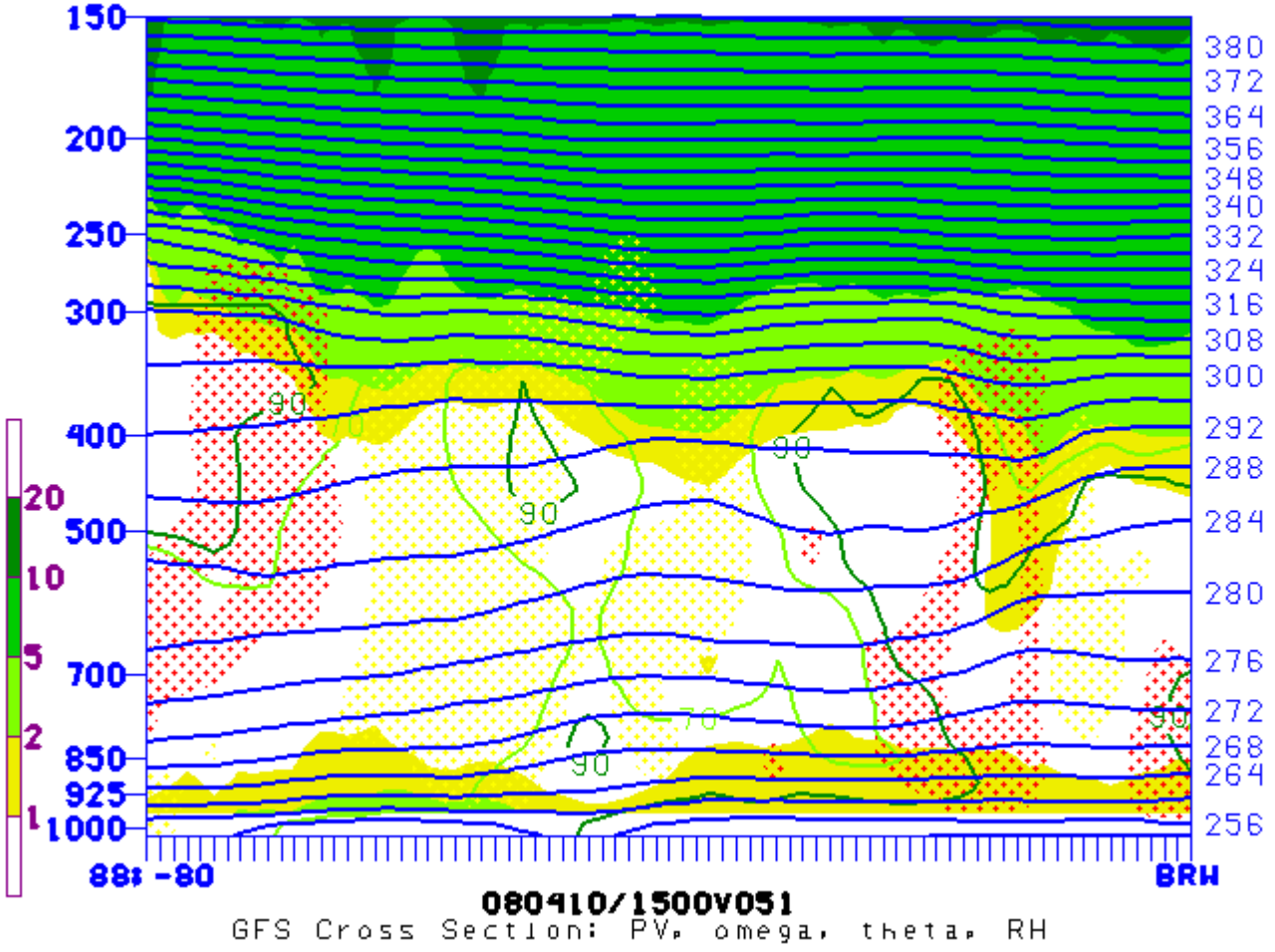
Tropopause height:

- 400mb – 500mb
- 500mb – 550mb
- 550mb – 600mb
- < 600mb

Flight legs

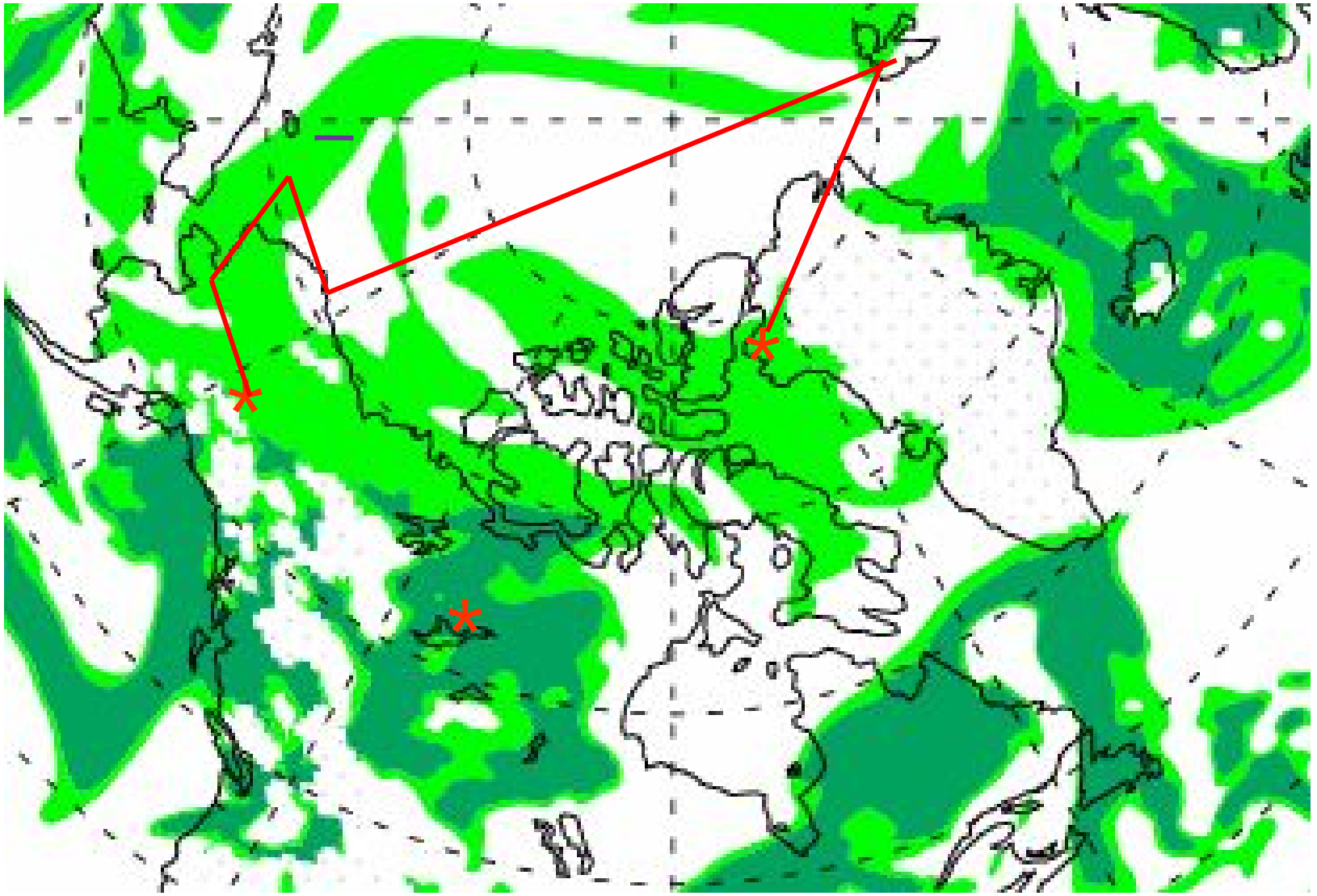
X-sections

North Pole – Barrow

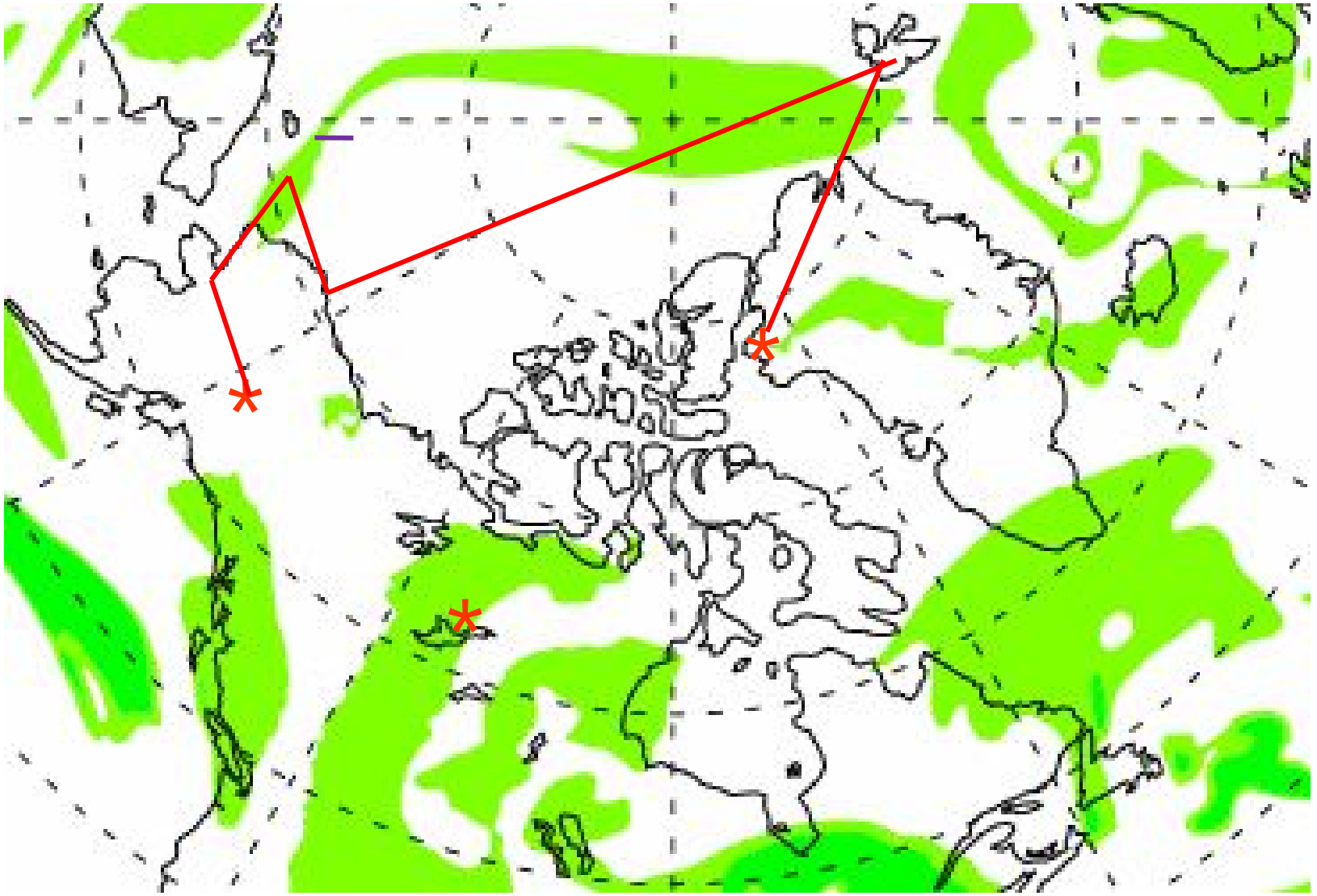


What About Clouds for Wednesday??

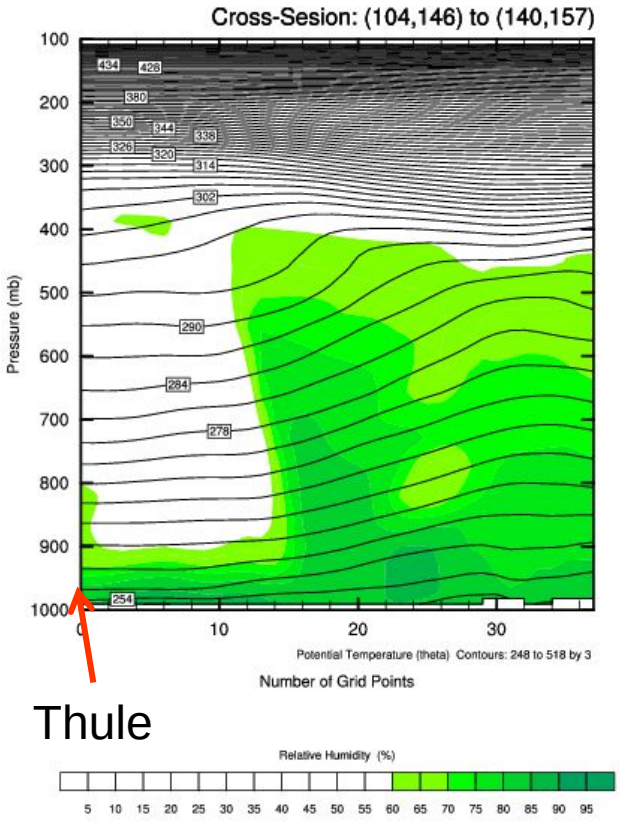
FSU WRF Relative Humidity at 850 hPa Forecast
Valid 1800 Z April 9

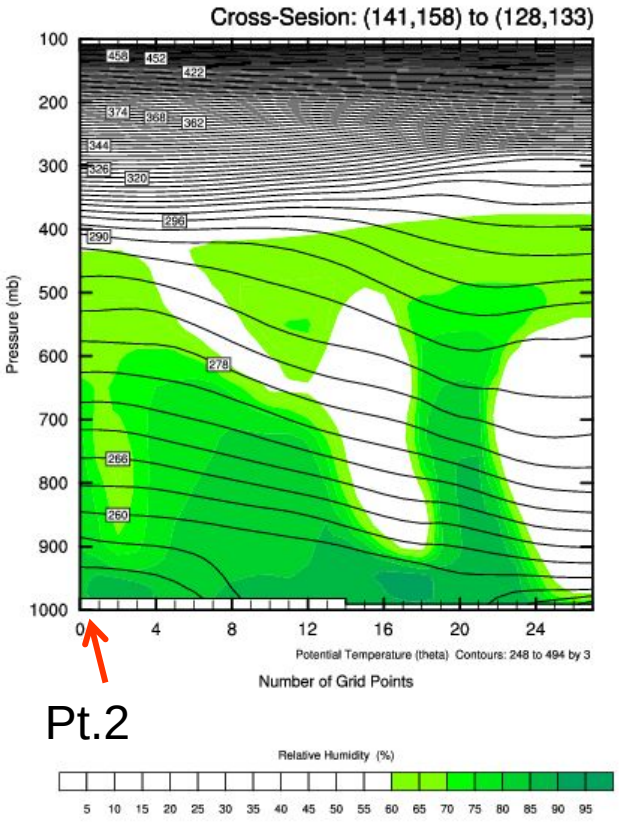


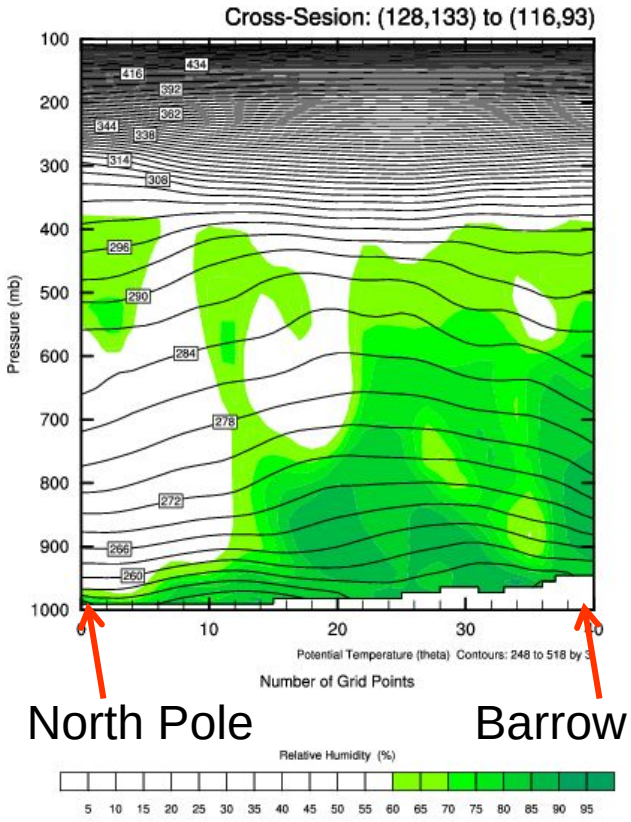
FSU WRF Relative Humidity at 500 hPa Forecast
Valid 1800 Z April 9



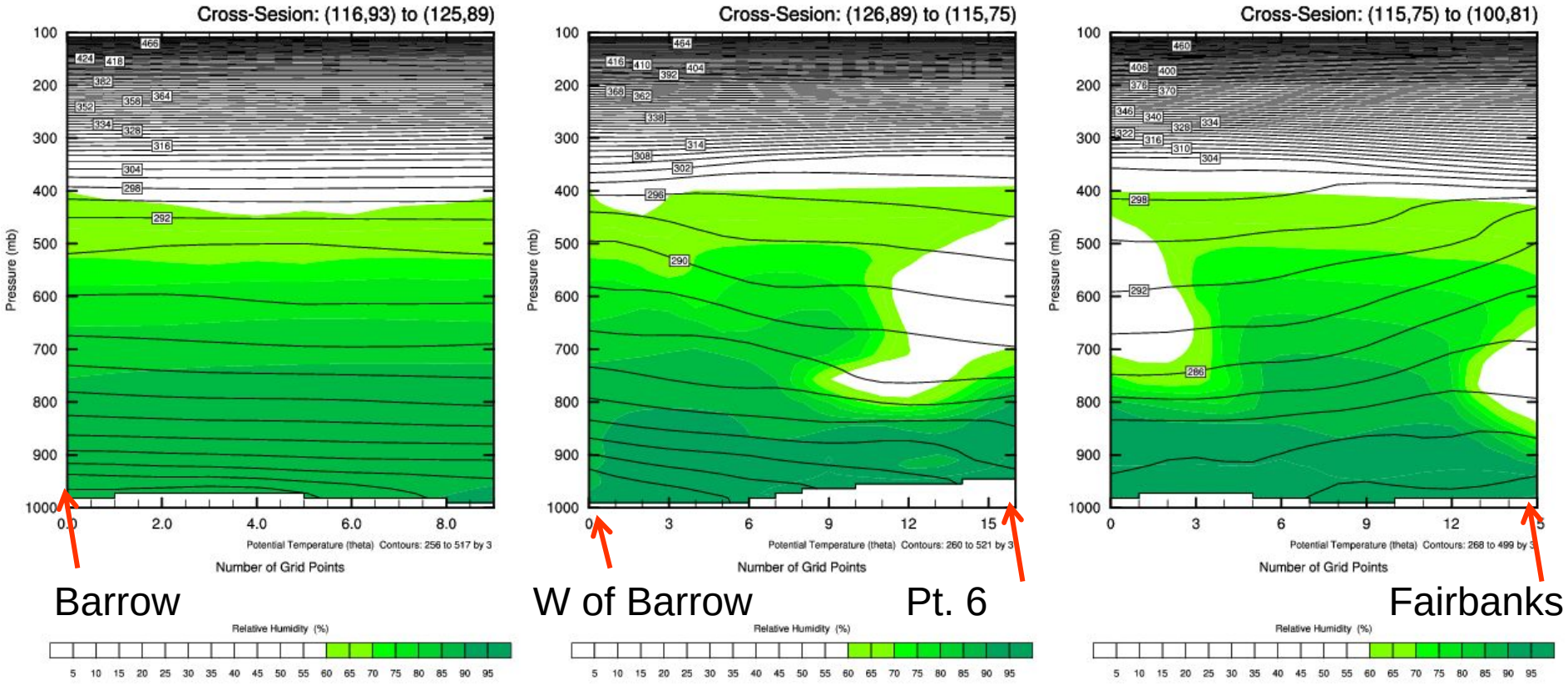
FSU WRF RH Cross Section DC-8 Flight Path Forecast for Suitcase Flight Valid 1800 Z April 9



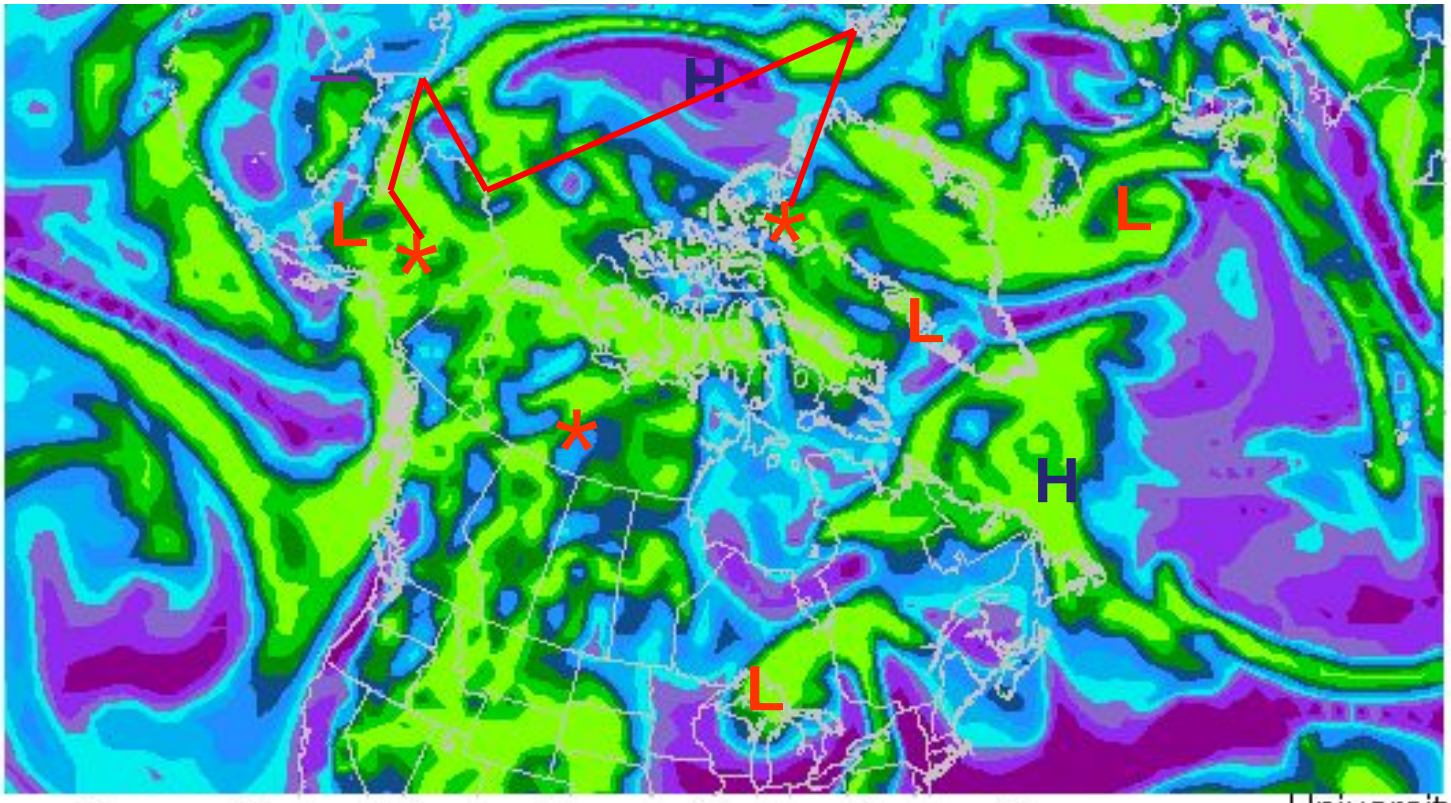




FSU WRF RH Cross Section DC-8 Flight Path Forecast for Suitcase Flight Valid 1800 Z April 9



Let's Compare with GFS Forecast Valid 1800Z April 9 700 hPa Relative Humidity and Heights

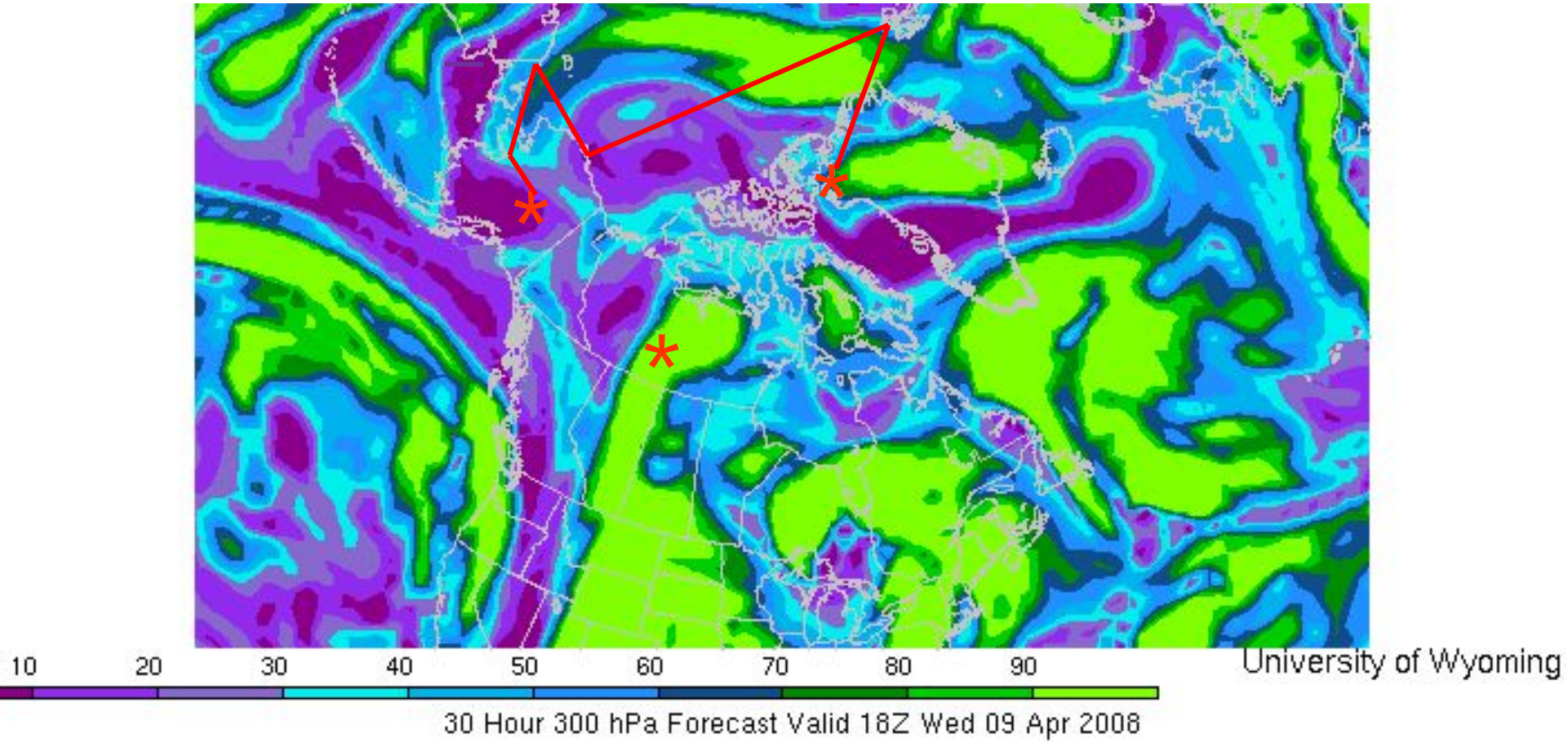


10 20 30 40 50 60 70 80 90

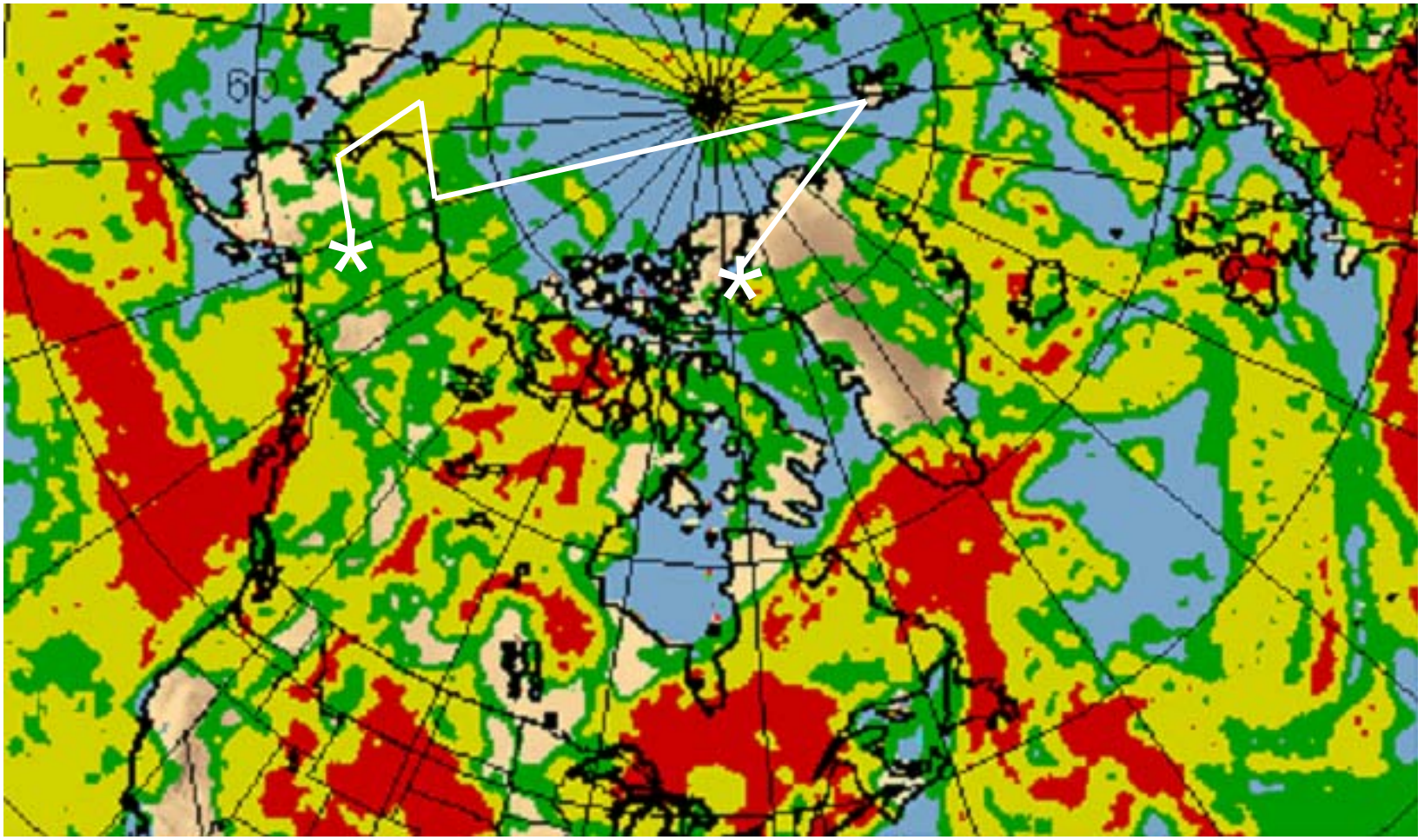
University of Wyoming

30 Hour 700 hPa Forecast Valid 18Z Wed 09 Apr 2008

Let's Compare with GFS Forecast Valid 1800Z April 9 300 hPa Relative Humidity and Heights



Let's Compare with Air Force Total Cloud Cover
Valid 1800 Z April 9



Red = Overcast **Yellow = 0.6-0.9 coverage** **Green = 0.1-0.5 coverage**

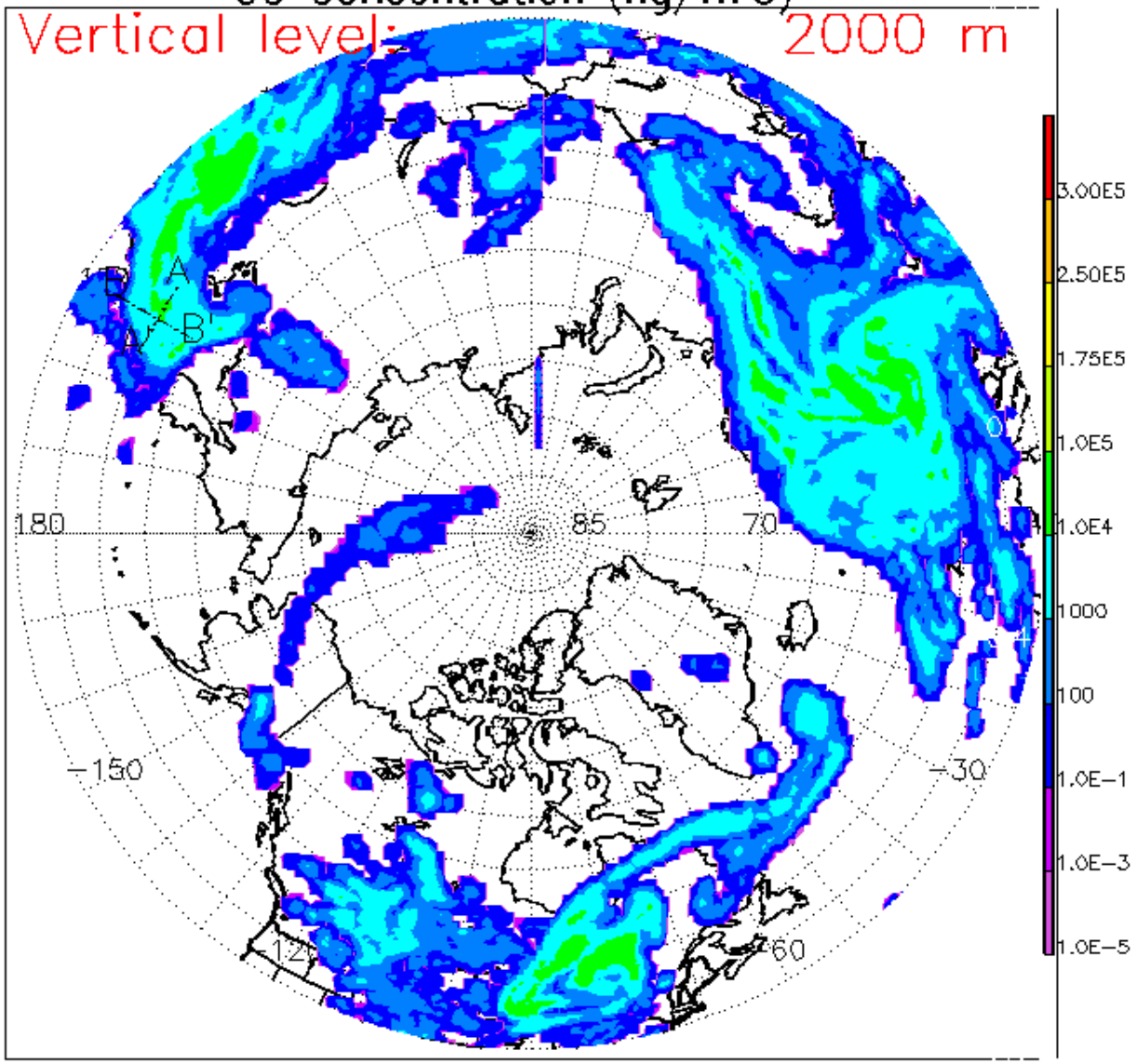
FSU Runs Flexpart

- Met data from FSU WRF run (25 km grid)
- Top10% of emissions are tracked
- 7 day runs
- Color coded by concentration
- Fire Data Not Included

AdGIF UNREGISTERED - www.gif-animator.com

1200 April 08, 2008

CO Concentration (ng/m^3)

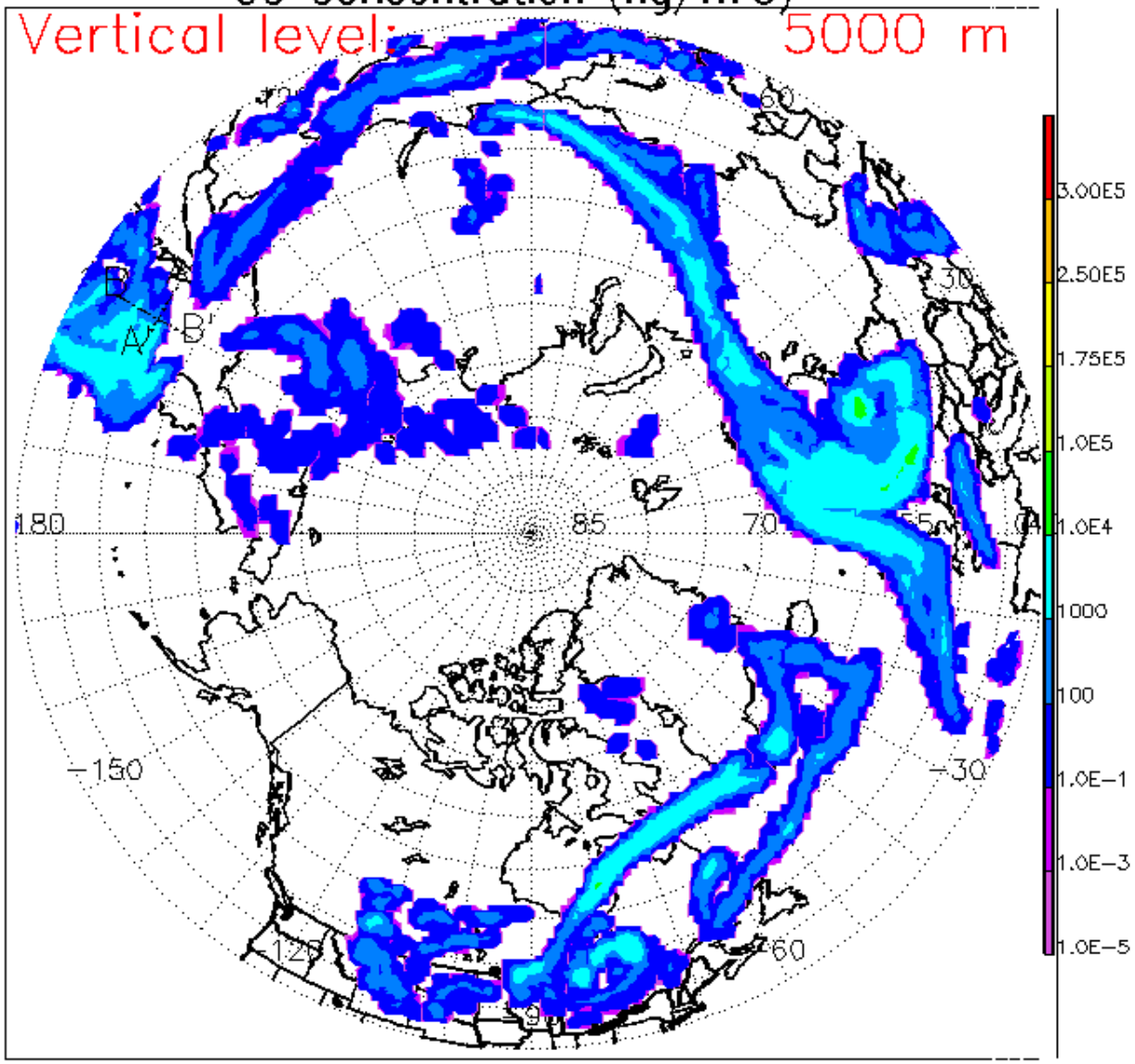


Florida State University Meteorology

AdGIF UNREGISTERED - www.gif-animator.com

1200 April 08, 2008

CO Concentration (ng/m^3)

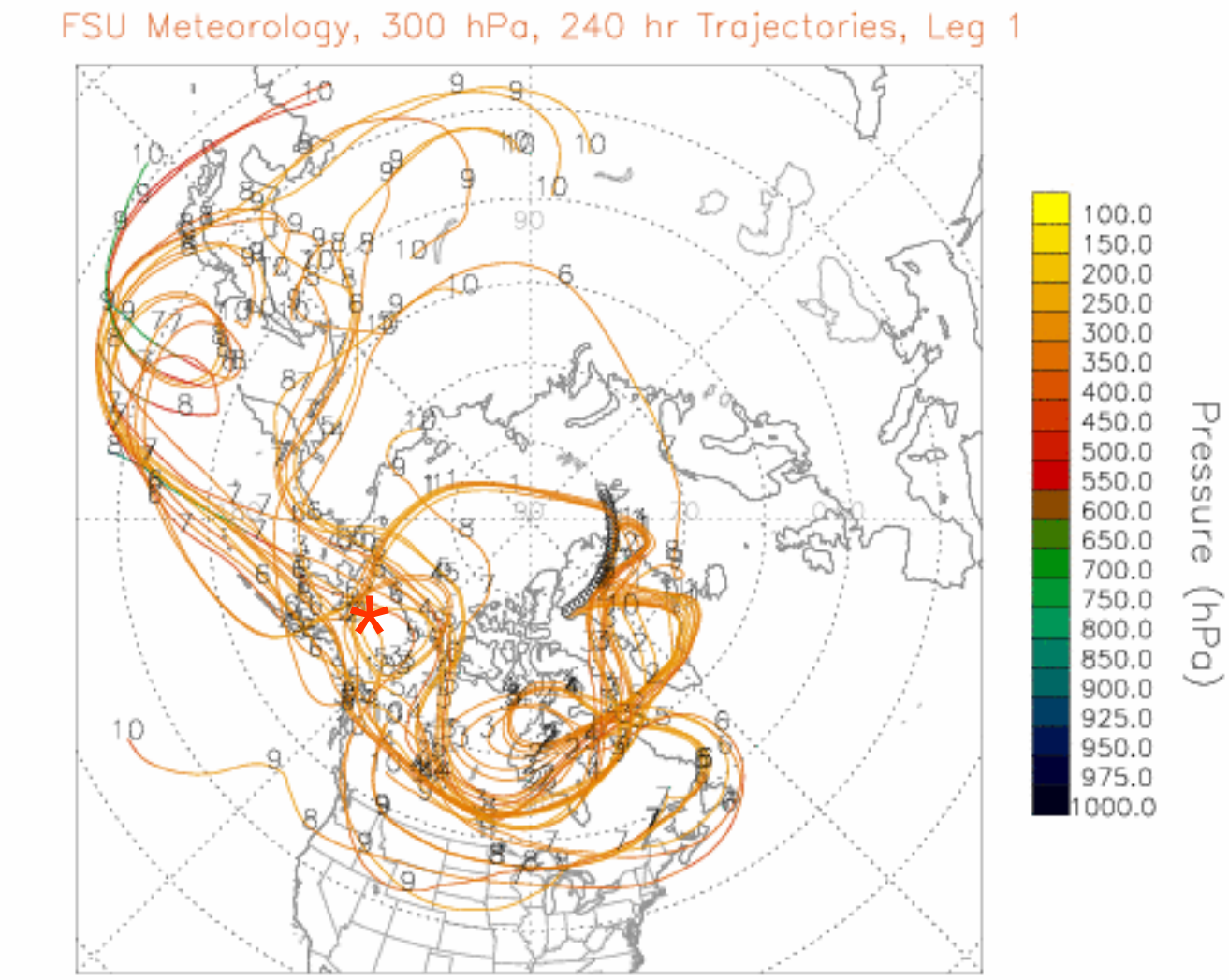


Florida State University Meteorology

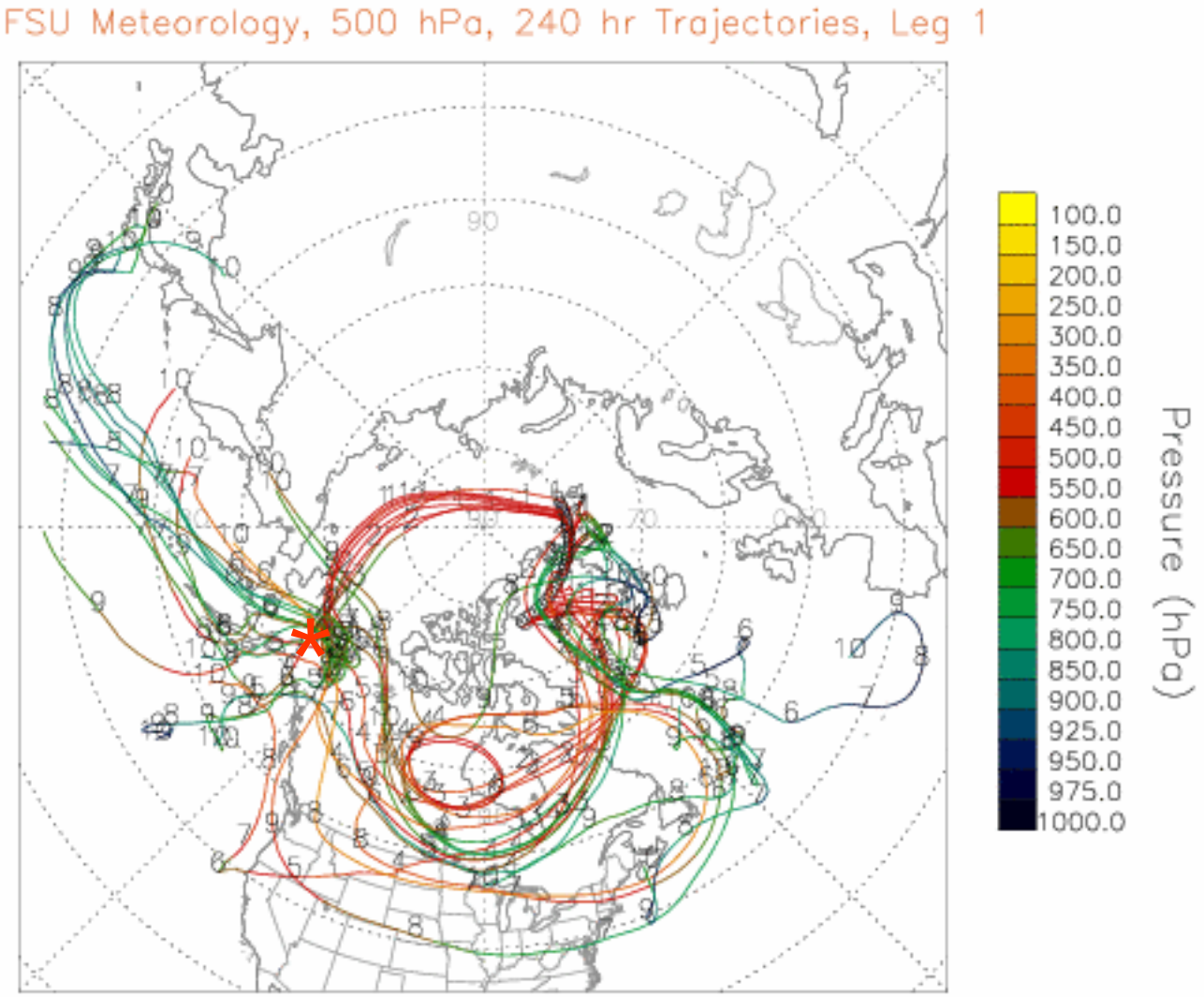
FSU Trajectories for Wednesday

- Met data from FSU WRF run (25 km grid)
- 7 days backwards in time
- Color coded by altitude
- Leg 1: Fairbanks to Eureka
- Leg 2: Eureka to Thule

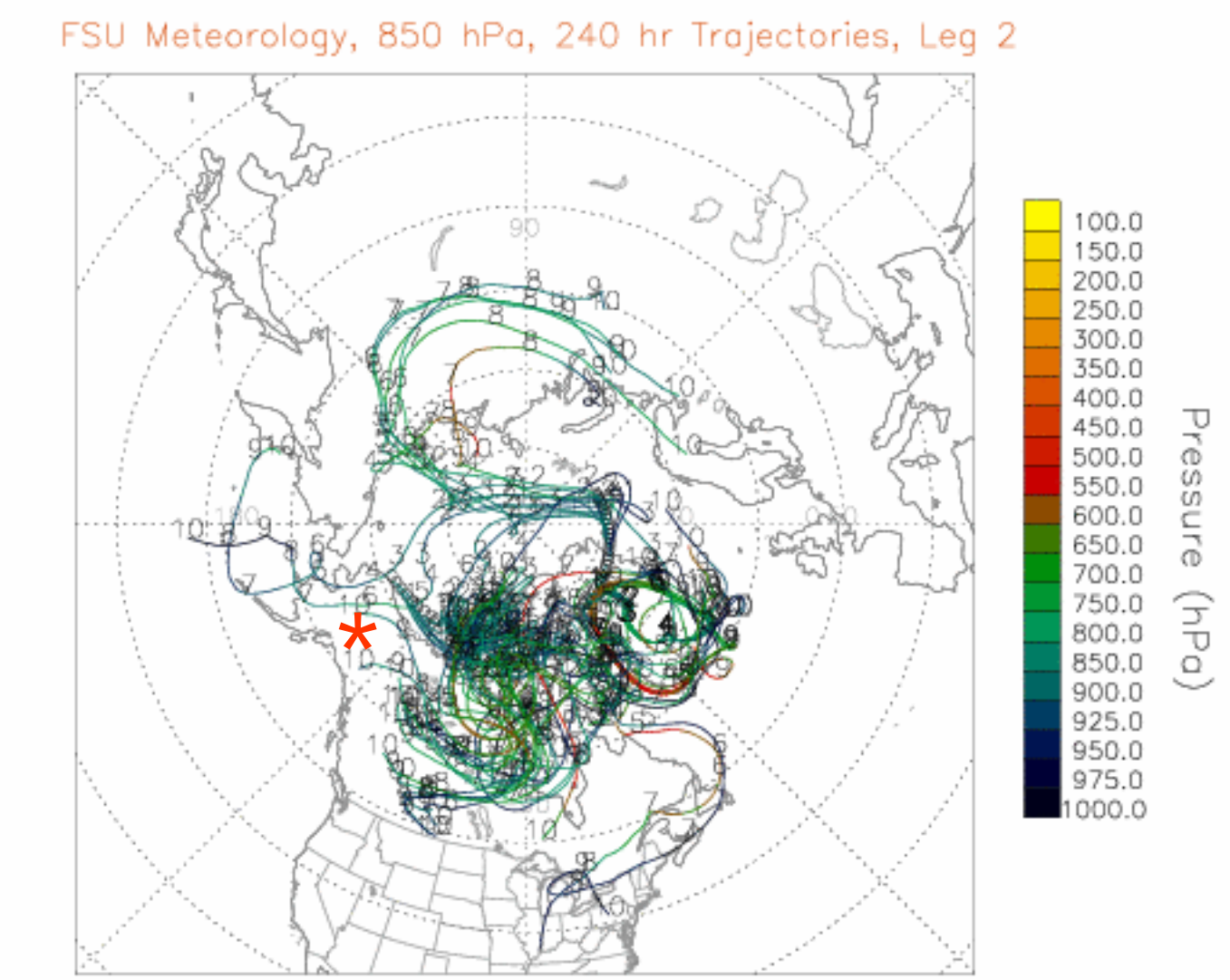
FSU 10 Day Backward Trajectories from 300 hPa Leg 1



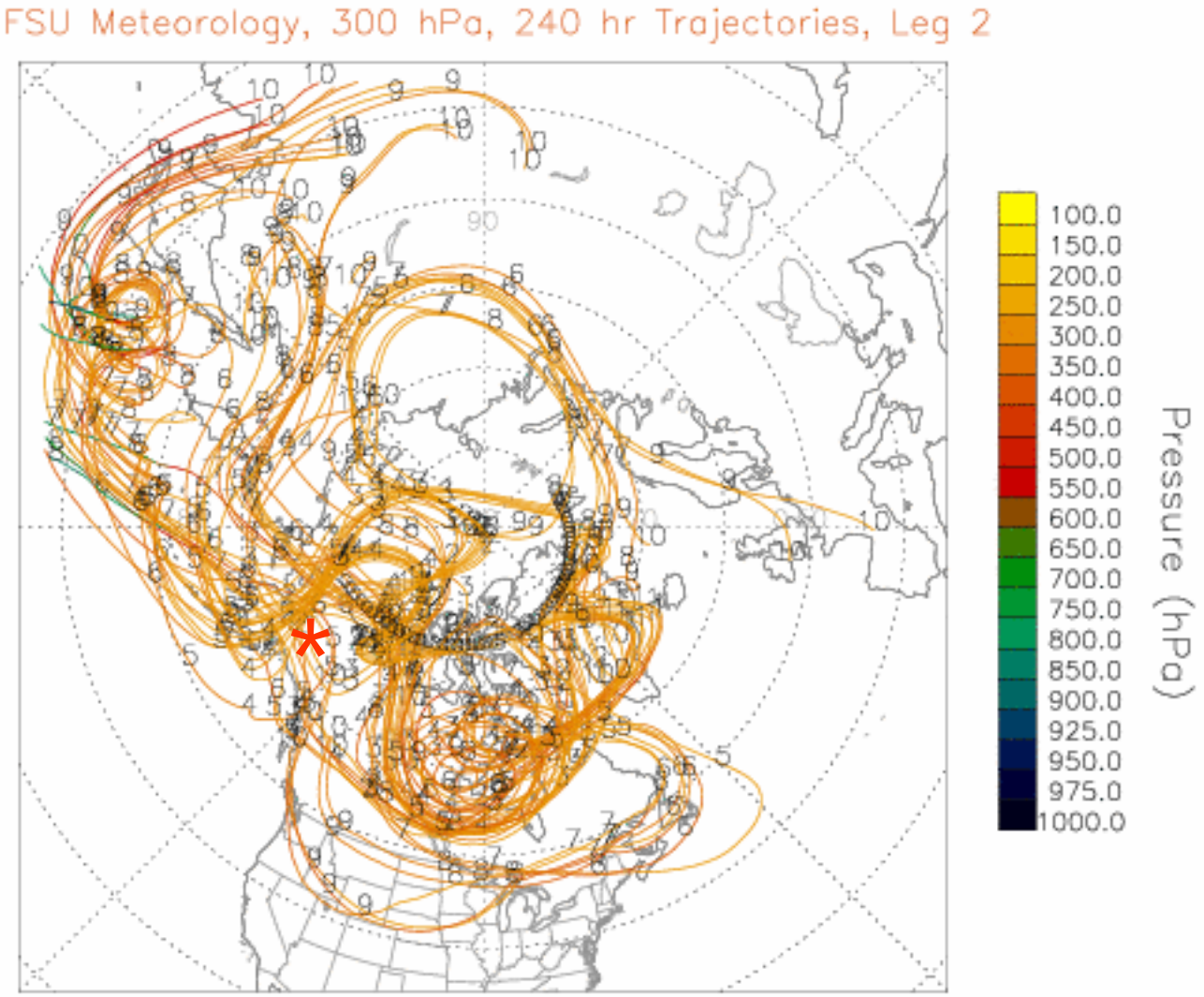
FSU 10 Day Backward Trajectories from 500 hPa Leg 1



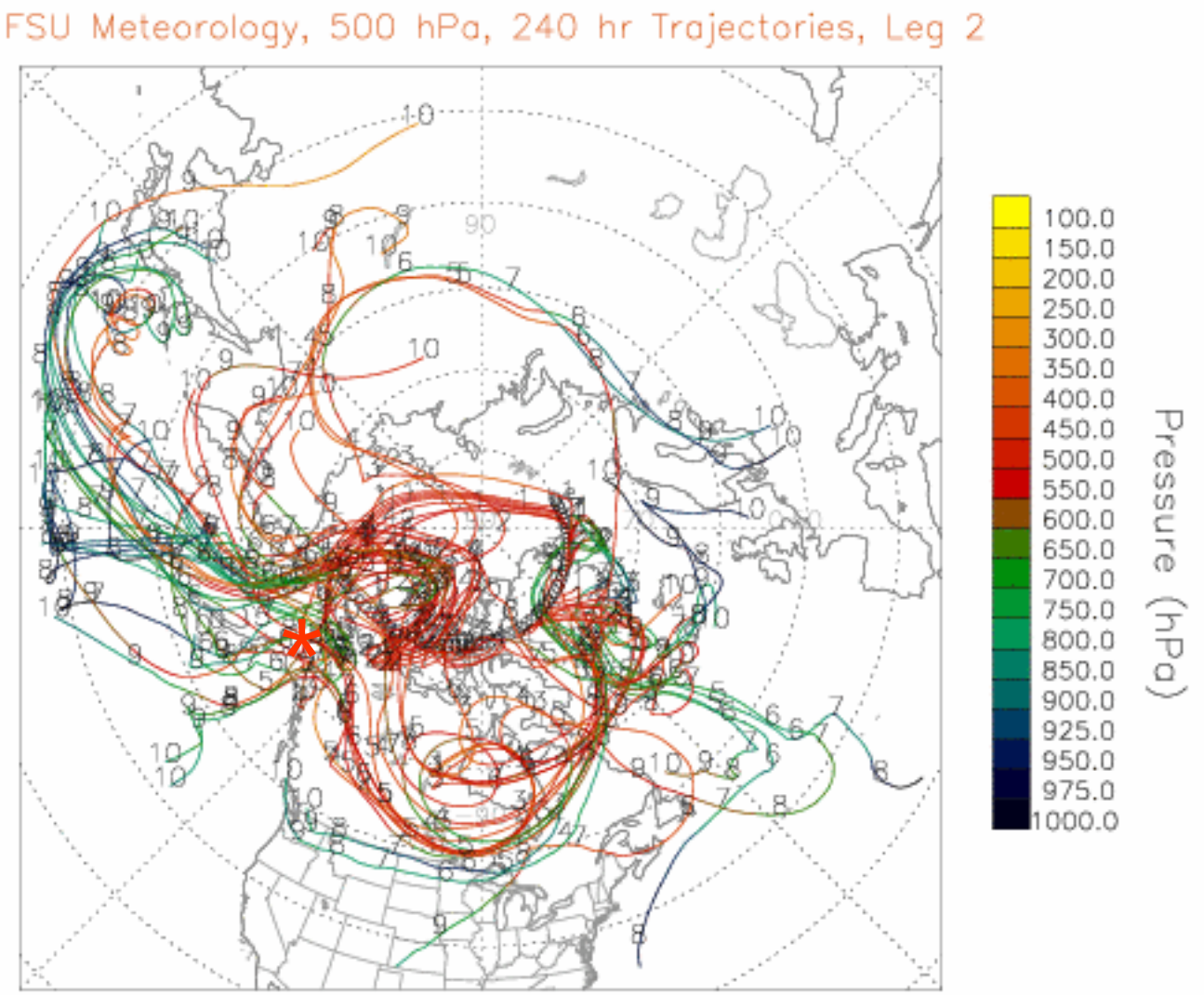
FSU 10 Day Backward Trajectories from 850 hPa Leg 1



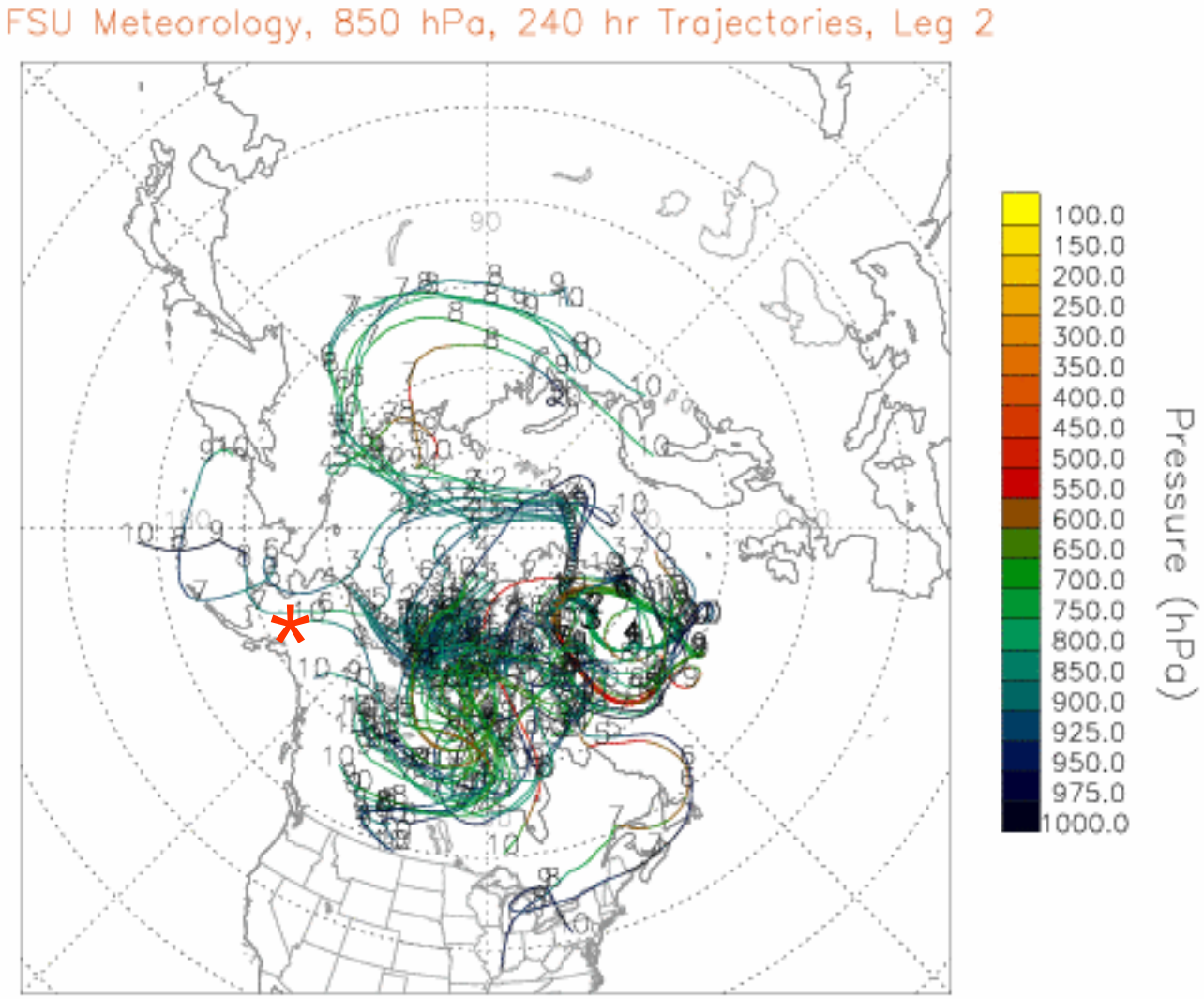
FSU 10 Day Backward Trajectories from 300 hPa Leg 2



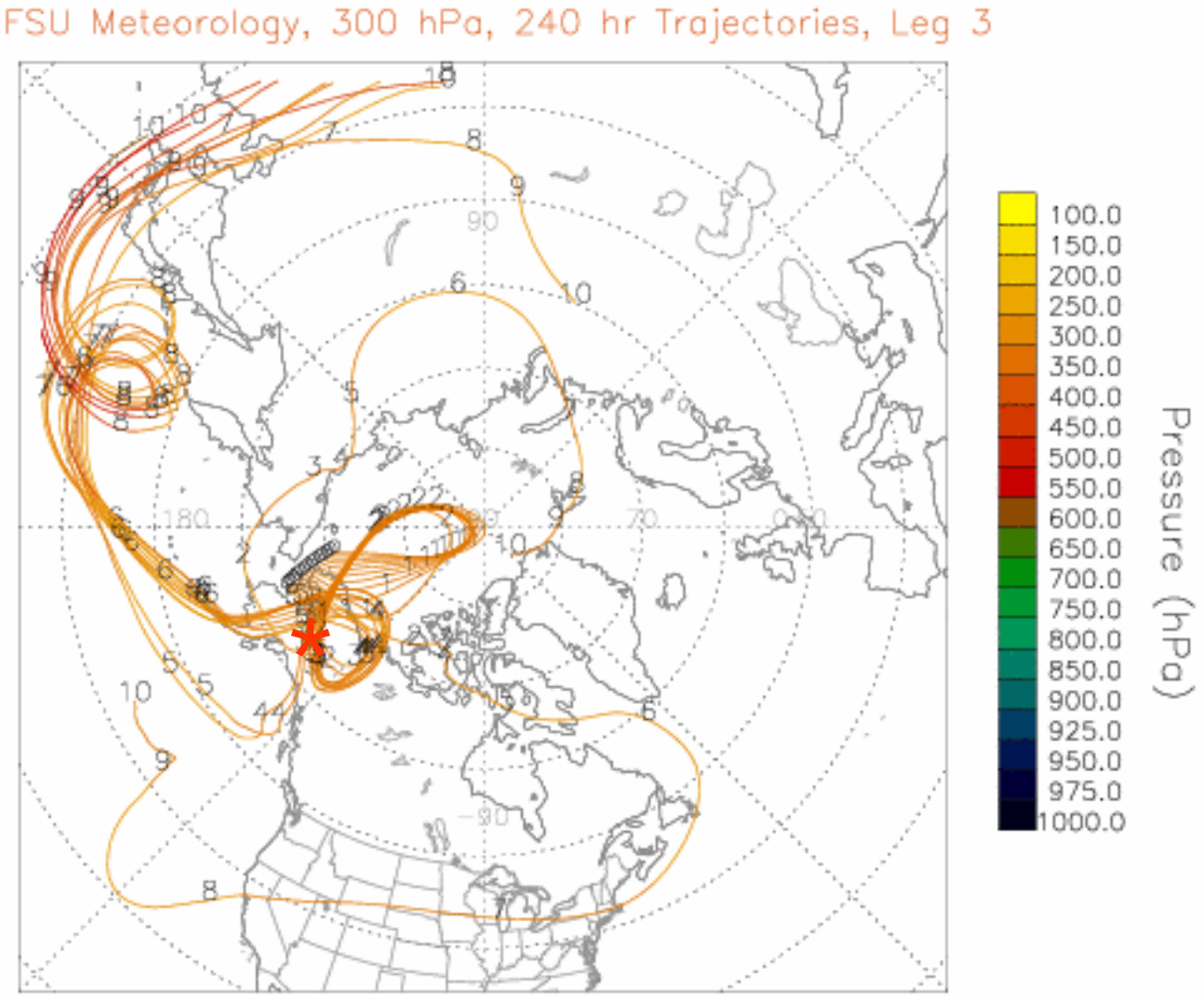
FSU 10 Day Backward Trajectories from 500 hPa Leg 2



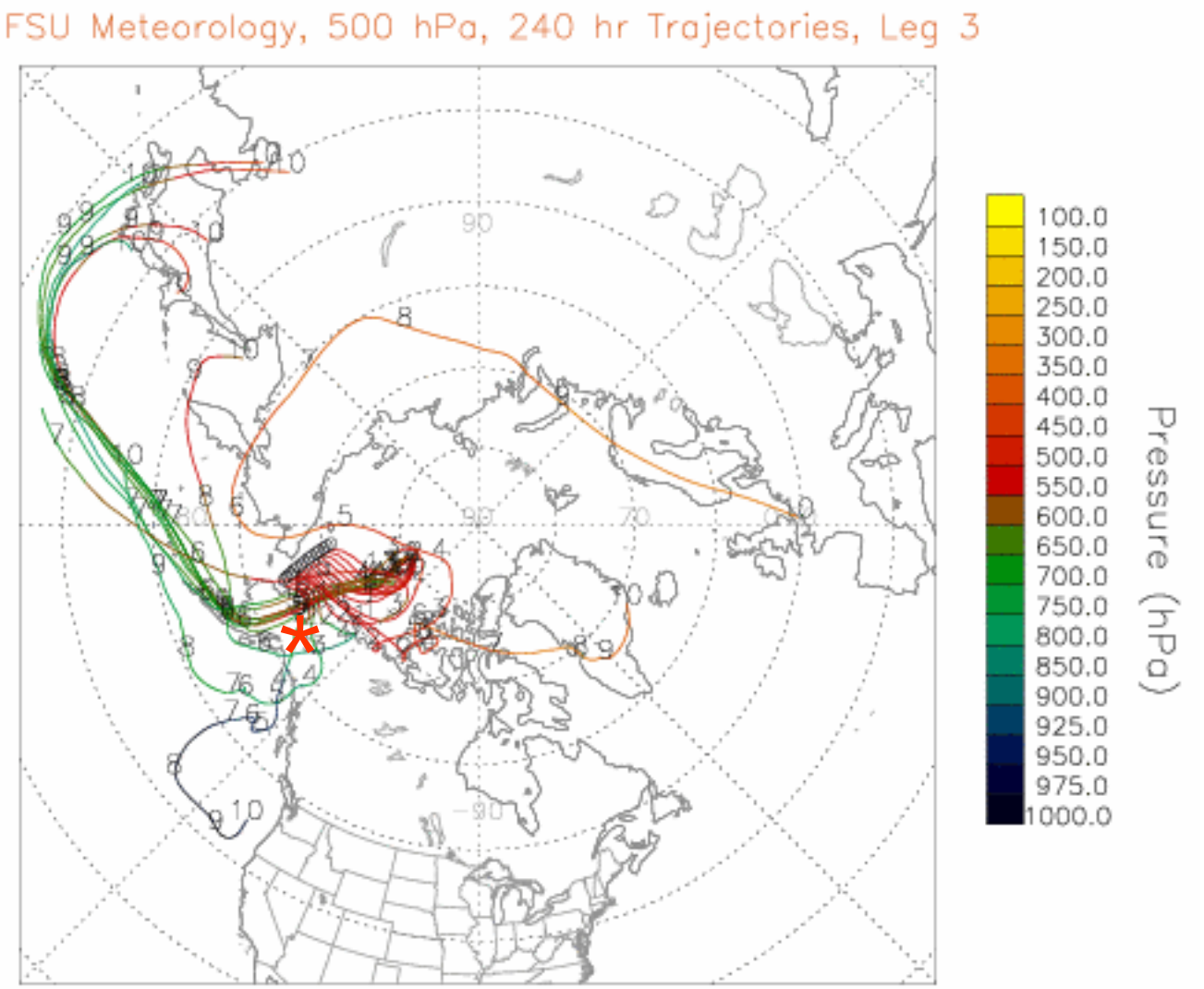
FSU 10 Day Backward Trajectories from 850 hPa Leg 2



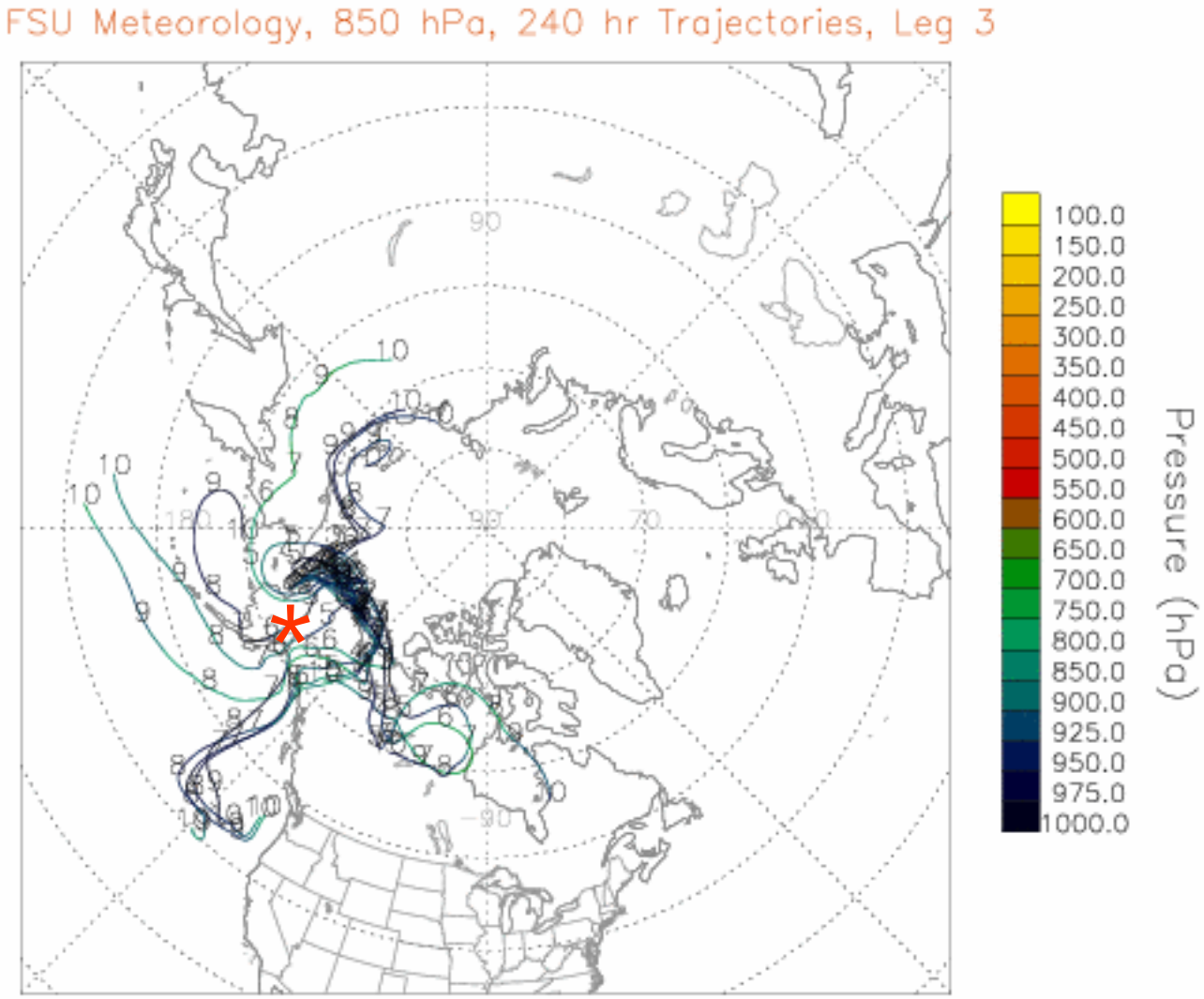
FSU 10 Day Backward Trajectories from 300 hPa Leg 3



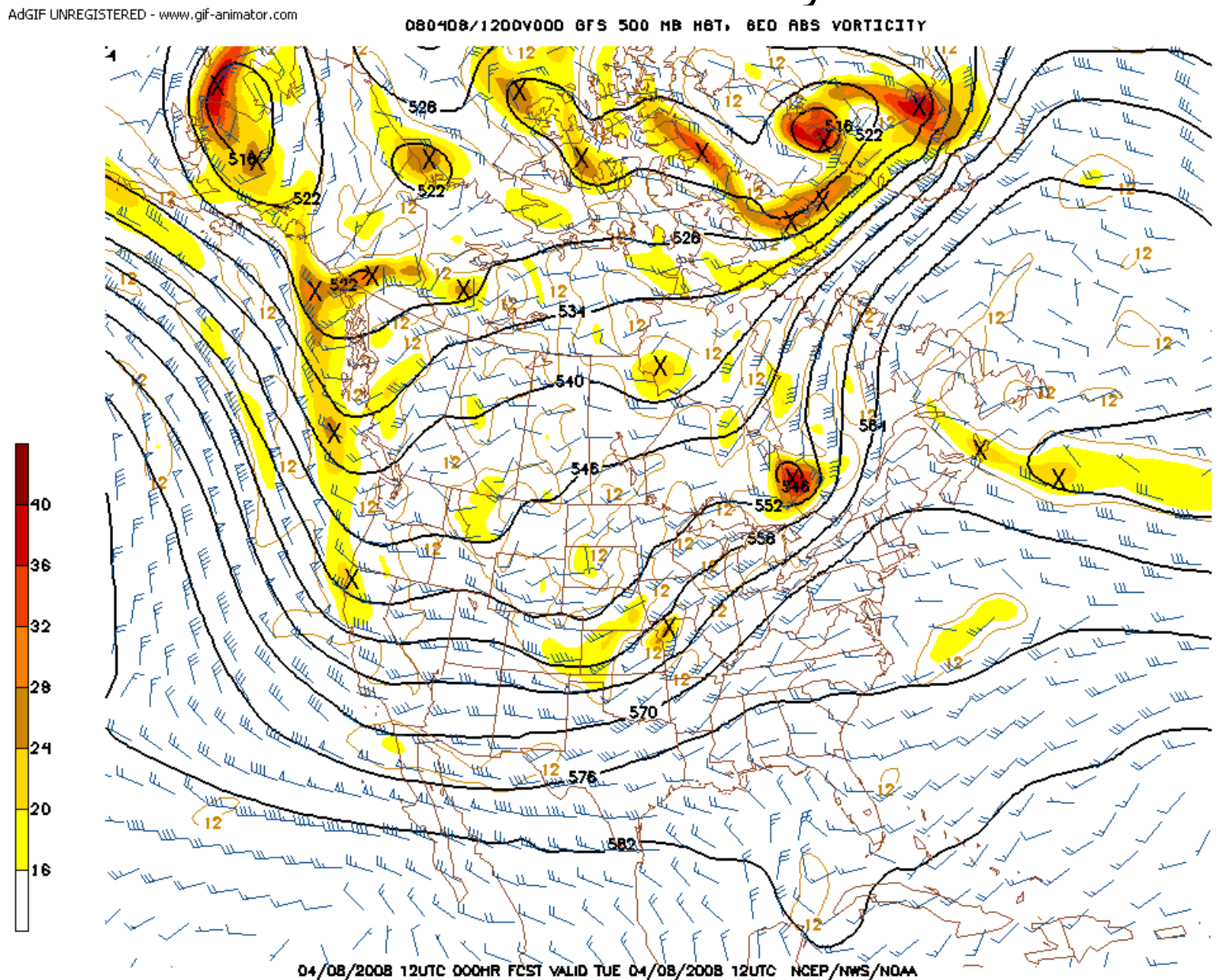
FSU 10 Day Backward Trajectories from 500 hPa Leg 3



FSU 10 Day Backward Trajectories from 850 hPa Leg 3



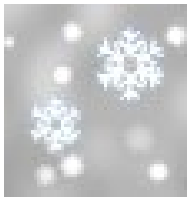
GFS Forecast next 120 hours 500 hPa Heights, Winds and Vorticity



Fairbanks AK Forecast

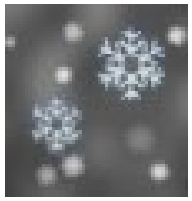
More Snow!!!

Today



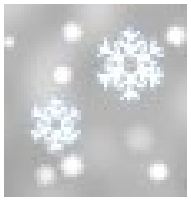
Snow Showers
Hi: 30F

Tonight



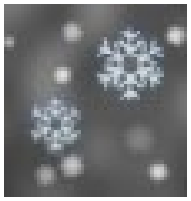
Snow Showers
Lo: 15F

Wednesday



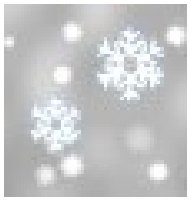
Snow Showers
Hi: 28F

Wed. Night



Snow Showers
Lo: 18F

Thursday

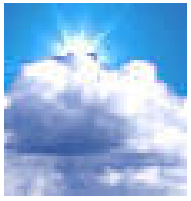


Snow Showers
Hi: 30F

Thu. Night

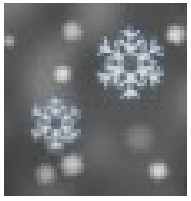
Cloudy
Lo: 15F

Friday



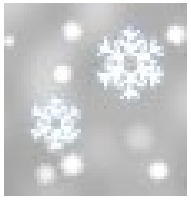
Cloudy
Hi: 35F

Fri. Night



Chance of Snow
Lo: 20F

Saturday



Chance of Snow
Hi: 35F