Flight Day Conditions

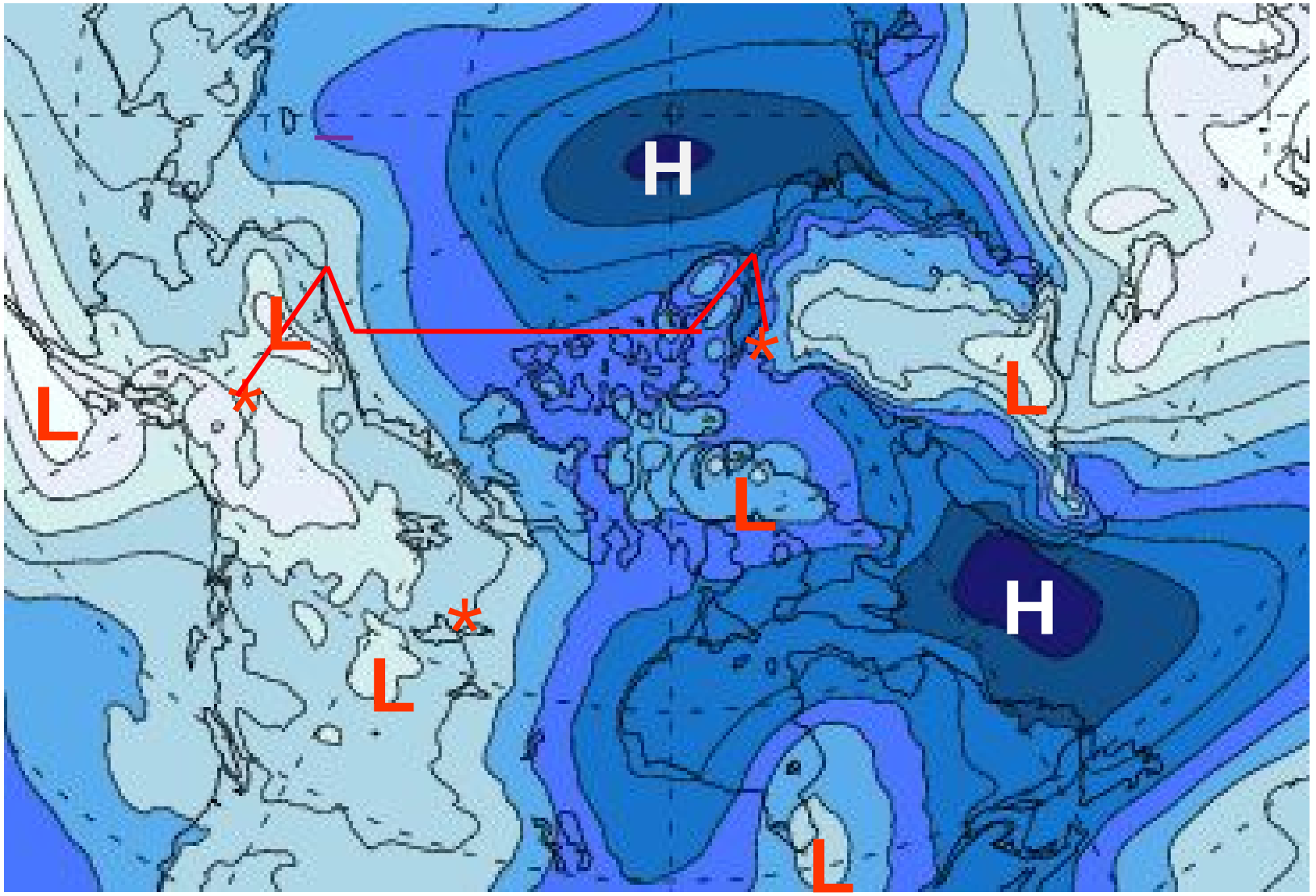
April 8-9, 2008

Andy Latto
Henry Fuelberg

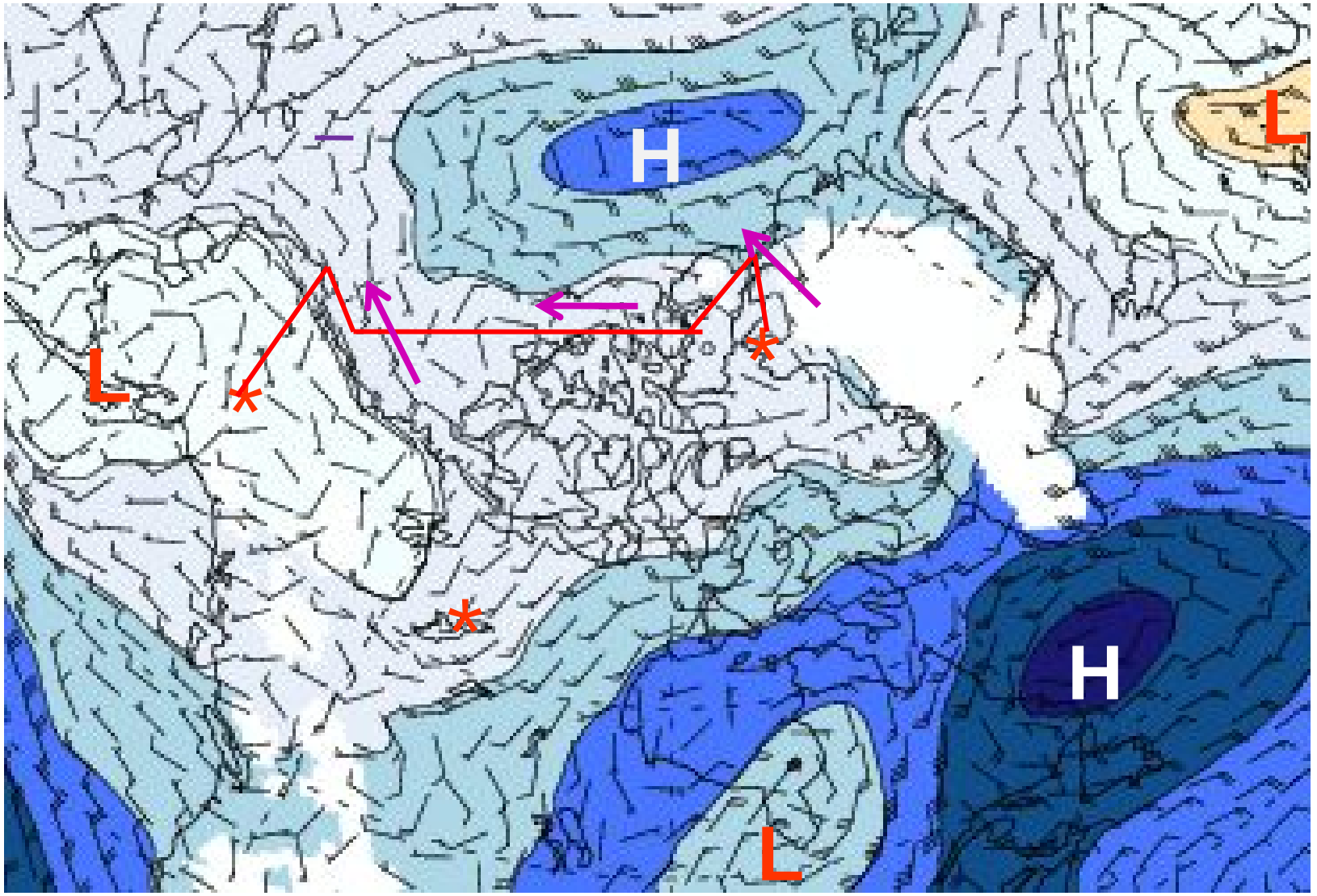
“Your Eyes to the Skies”

Tuesday’s Forecast

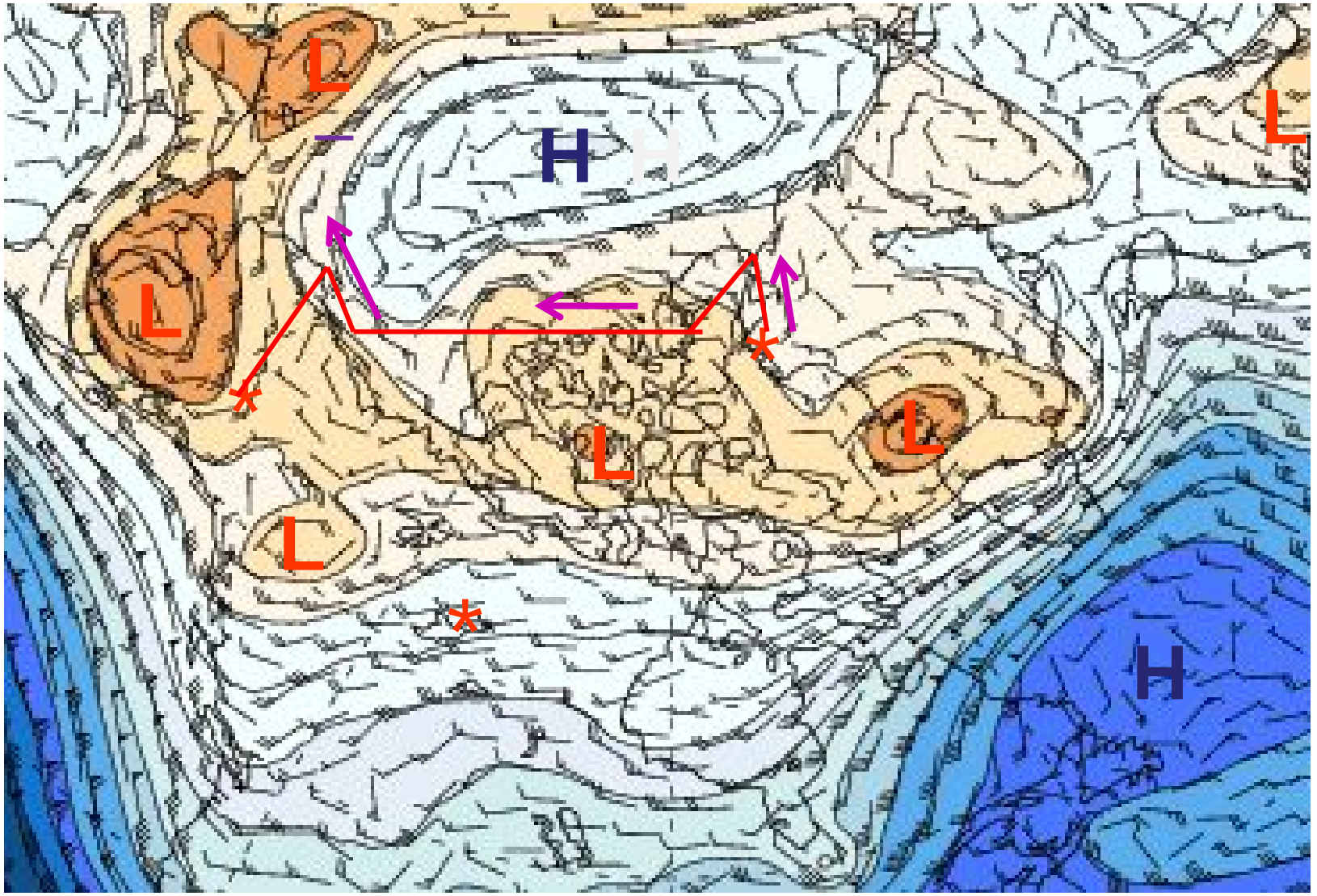
FSU WRF Forecast Valid 1800Z April 8
Sea Level Pressure



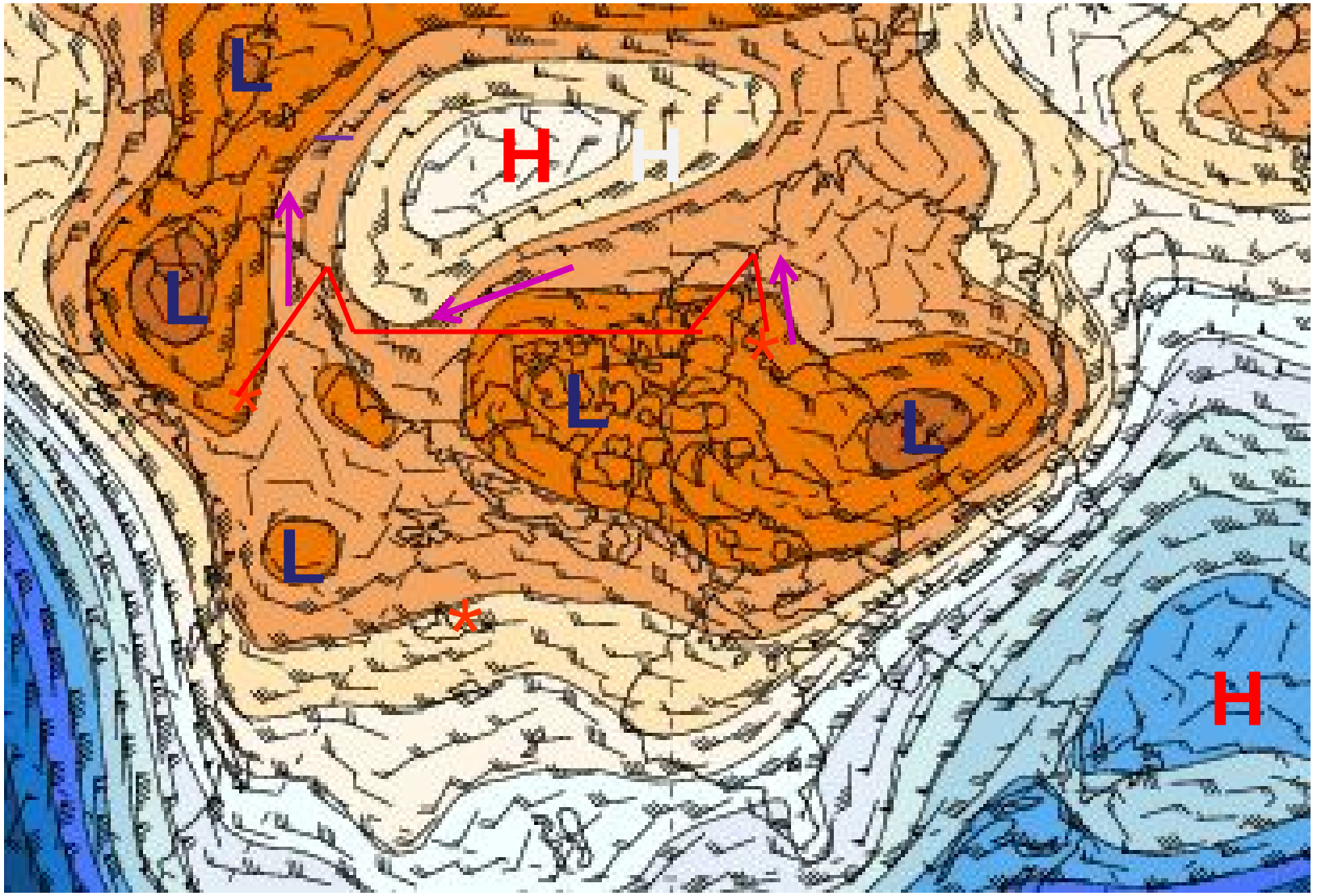
FSU WRF Forecast Valid 1800Z April 8
850 hPa Heights and Winds



FSU WRF Forecast Valid 1800Z April 8
500 hPa Heights and Winds



FSU WRF Forecast Valid 1800Z April 8
300 hPa Heights and Winds



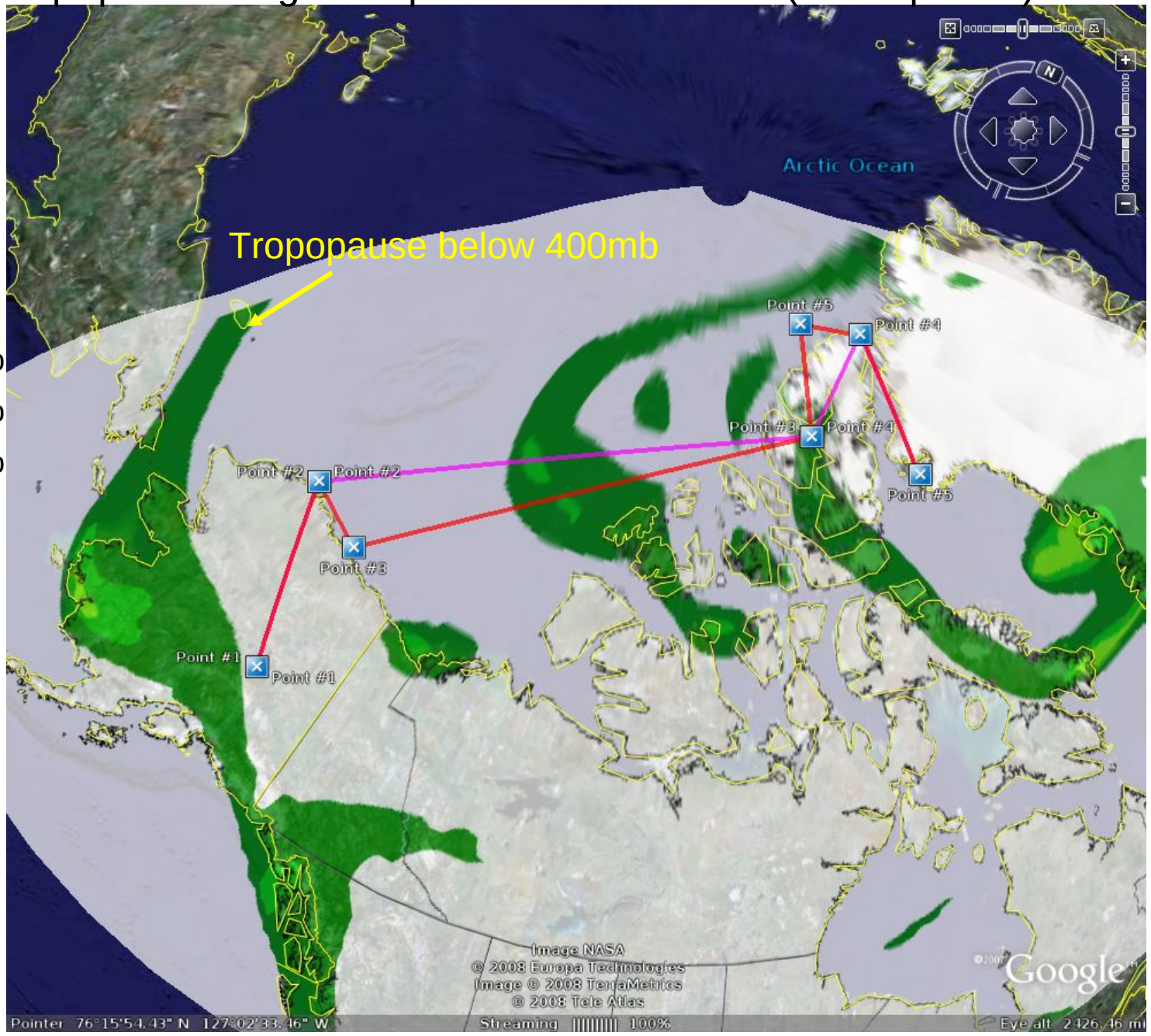
April 8, 2008
Tropopause Height plan view
Cross sections of PV

Fairbanks – Barrow – Eureka – Alert – Thule

Atkinson, Cross, Malingowski
University of Alaska Fairbanks

UNIVERSITY OF ALASKA
FAIRBANKS

Overview – Tropopause height – April 8 0700 local FAI (15Z April 08)



Tropopause height:

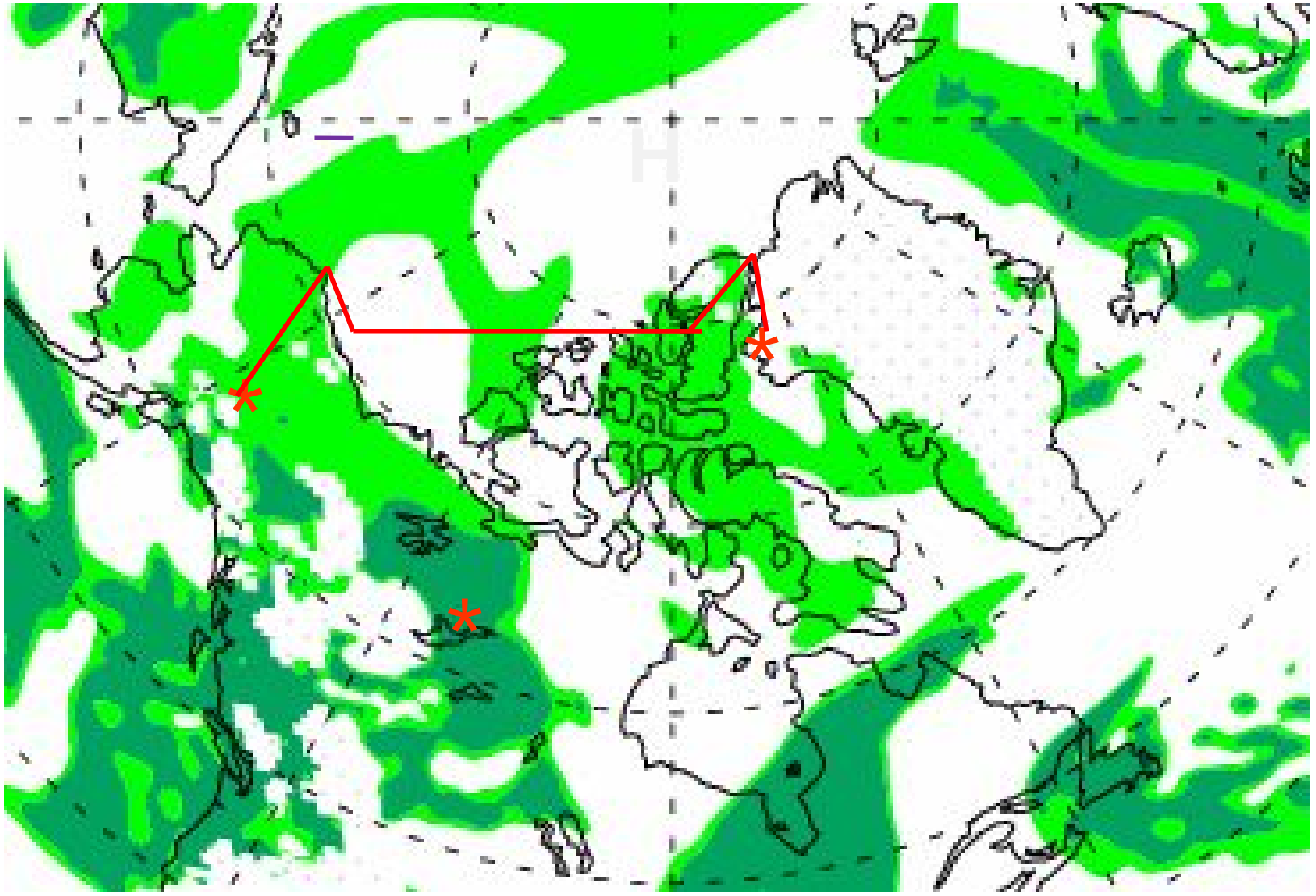
- 400mb – 500mb
- 500mb – 550mb
- 550mb – 600mb
- < 600mb

Flight legs

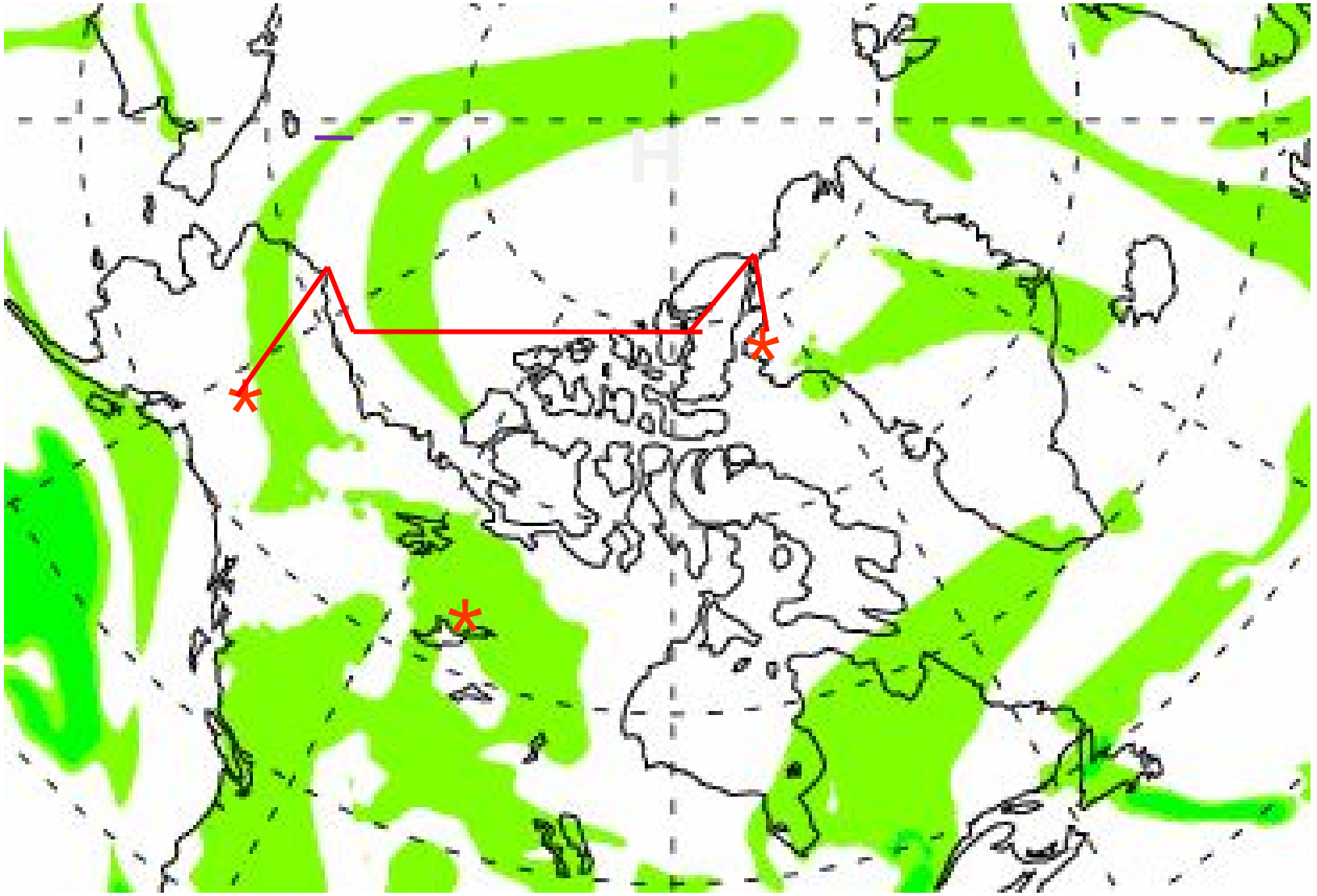
X-sections

What About Clouds for Tuesday??

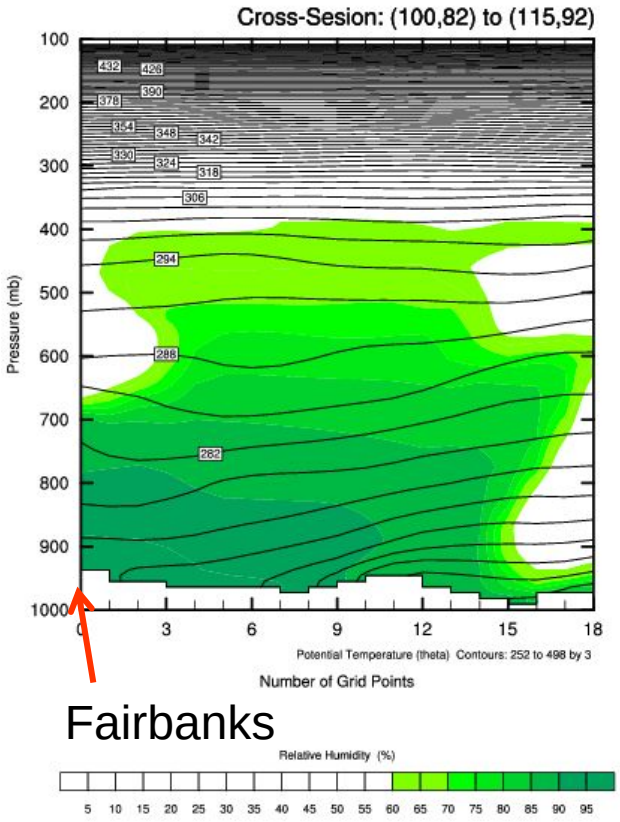
FSU WRF Relative Humidity at 850 hPa Forecast
Valid 1800 Z April 8

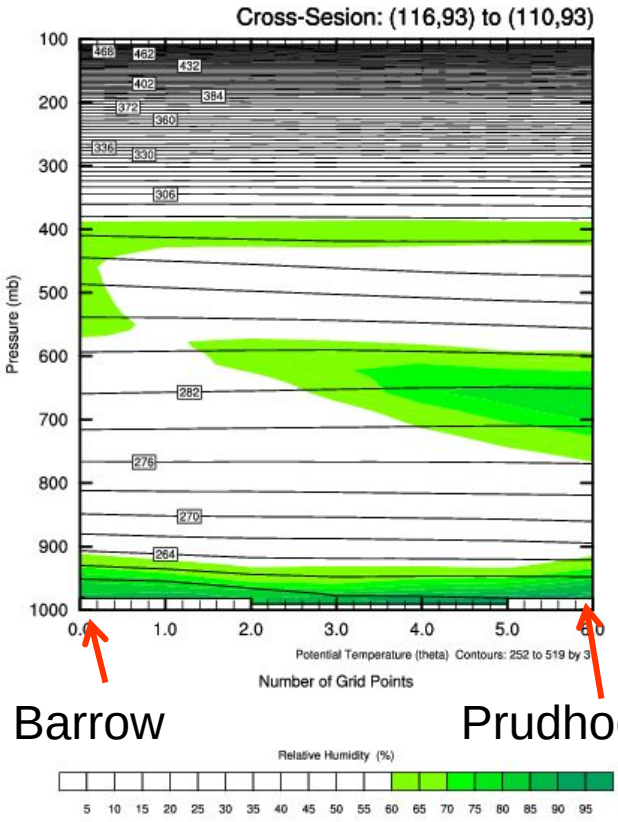


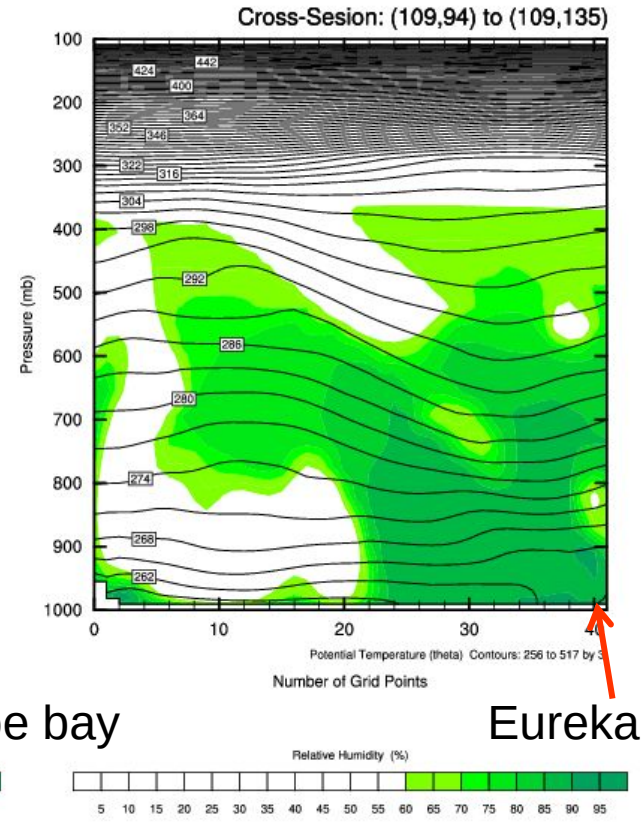
FSU WRF Relative Humidity at 500 hPa Forecast
Valid 1800 Z April 8



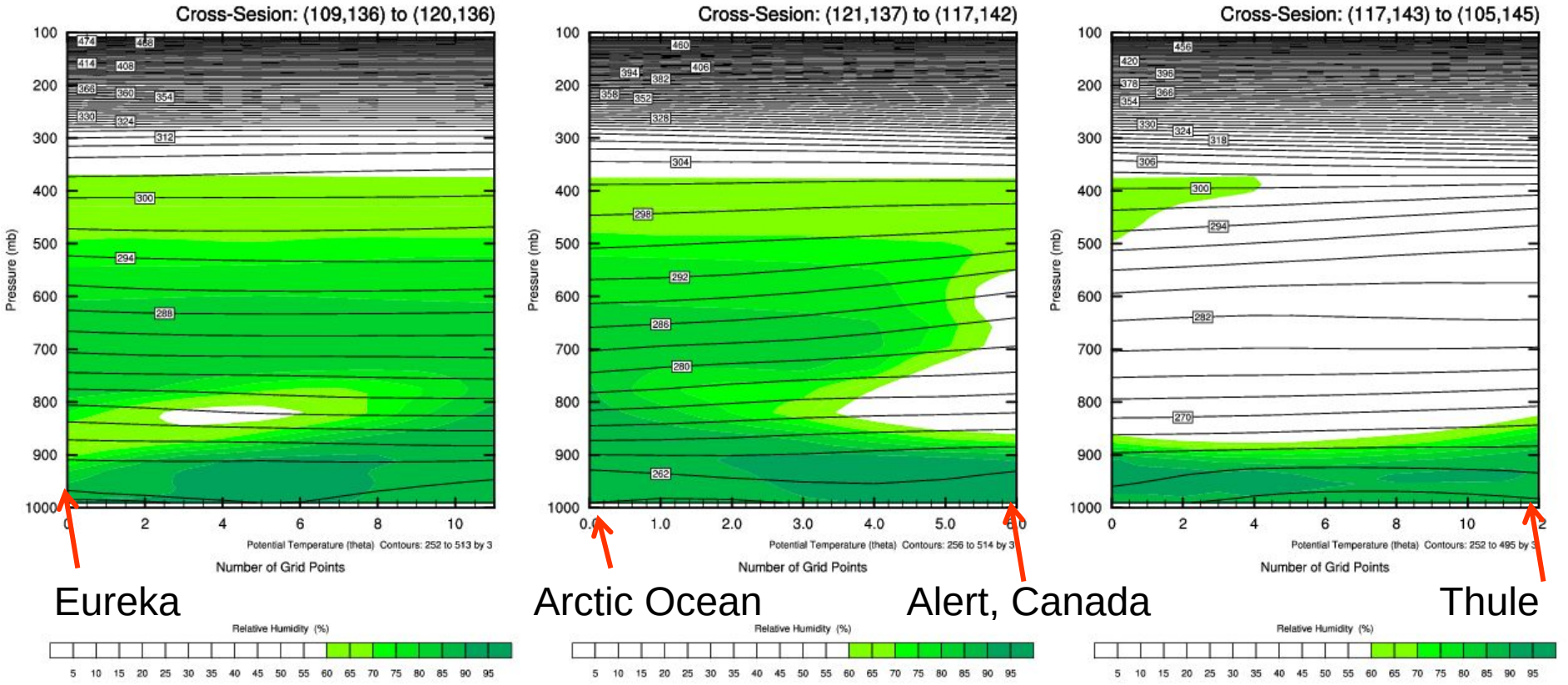
FSU WRF RH Cross Section DC-8 Flight Path Forecast for Suitcase Flight Valid 1800 Z April 8



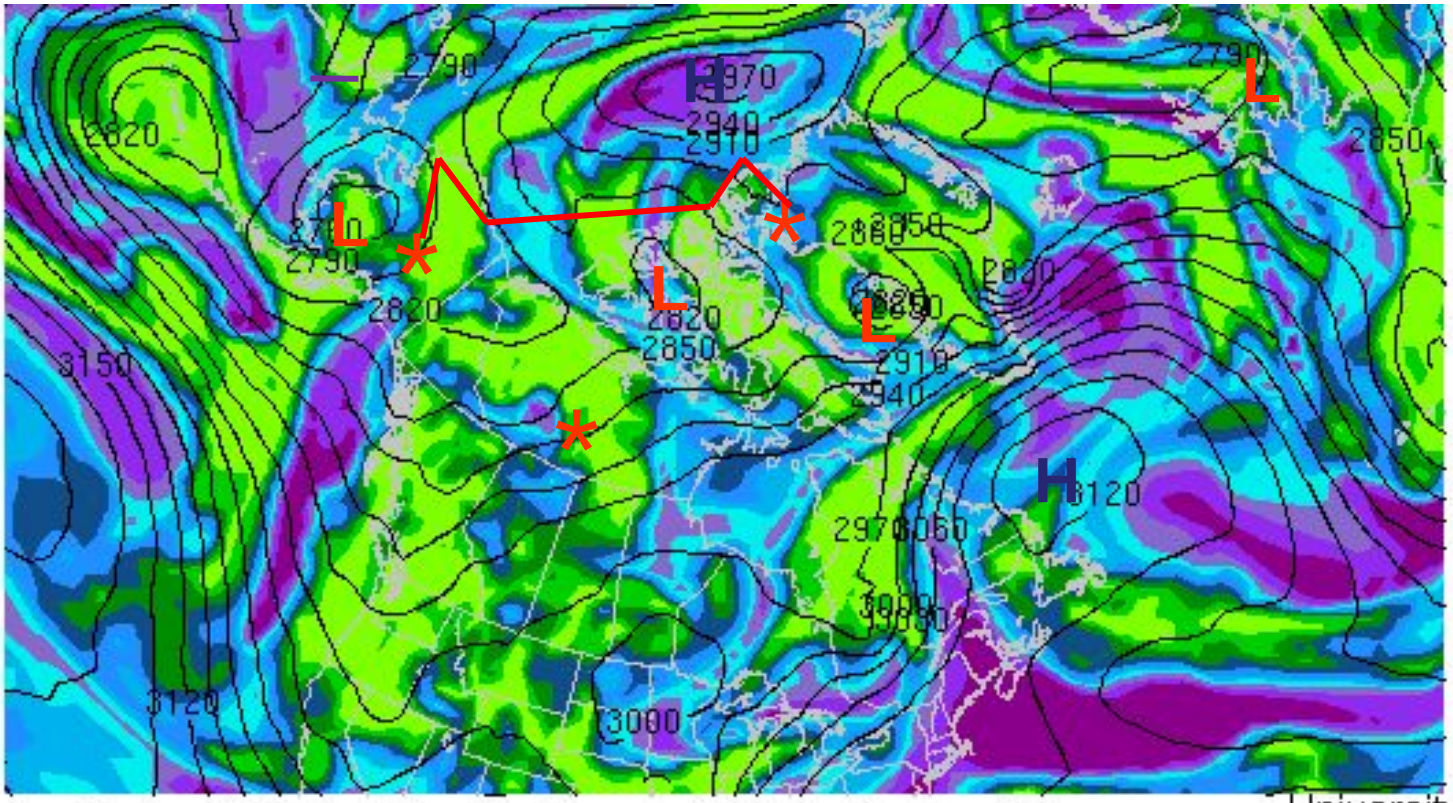




FSU WRF RH Cross Section DC-8 Flight Path Forecast for Suitcase Flight Valid 1800 Z April 8



GFS Forecast Valid 1800Z April 8
300 hPa Relative Humidity and Heights

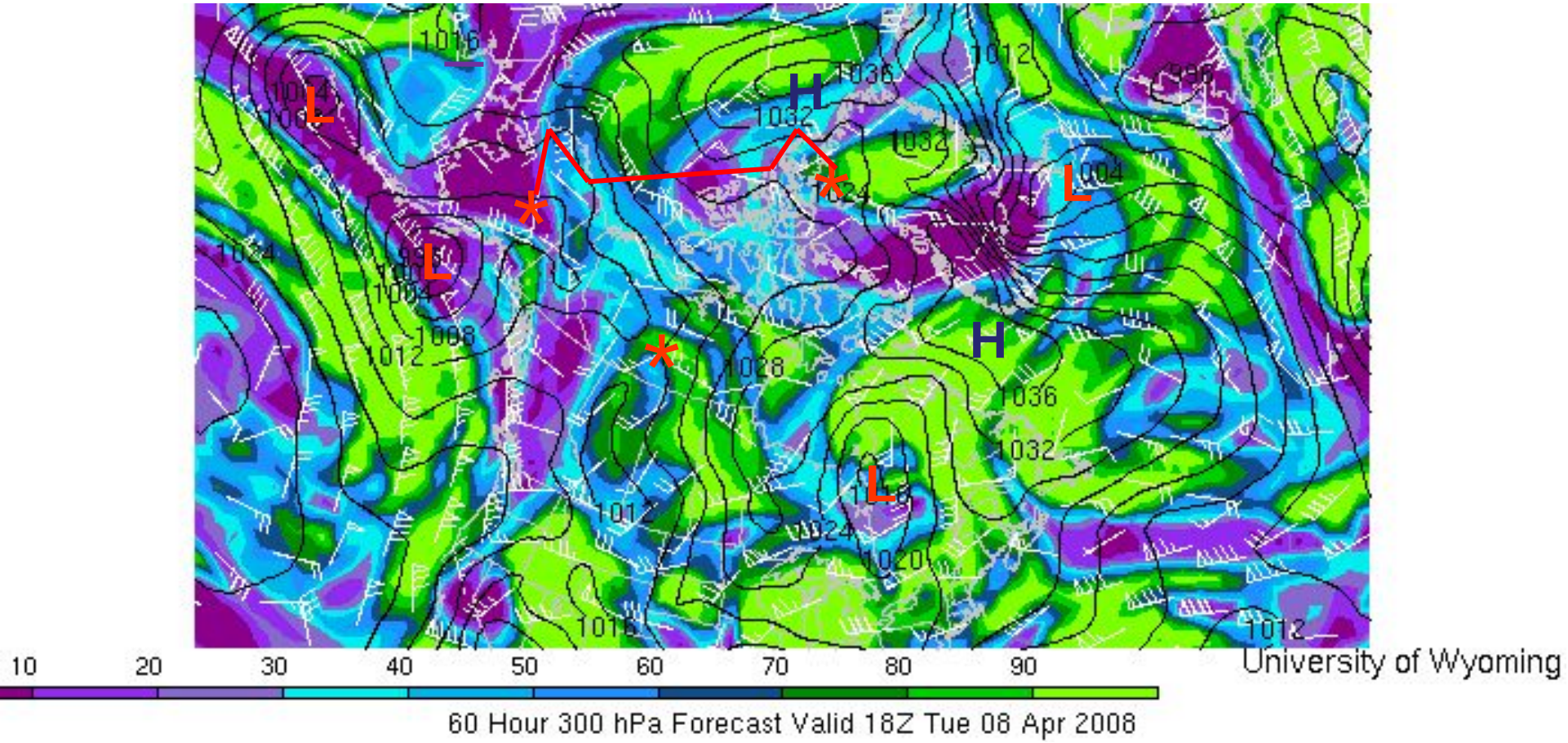


10 20 30 40 50 60 70 80 90

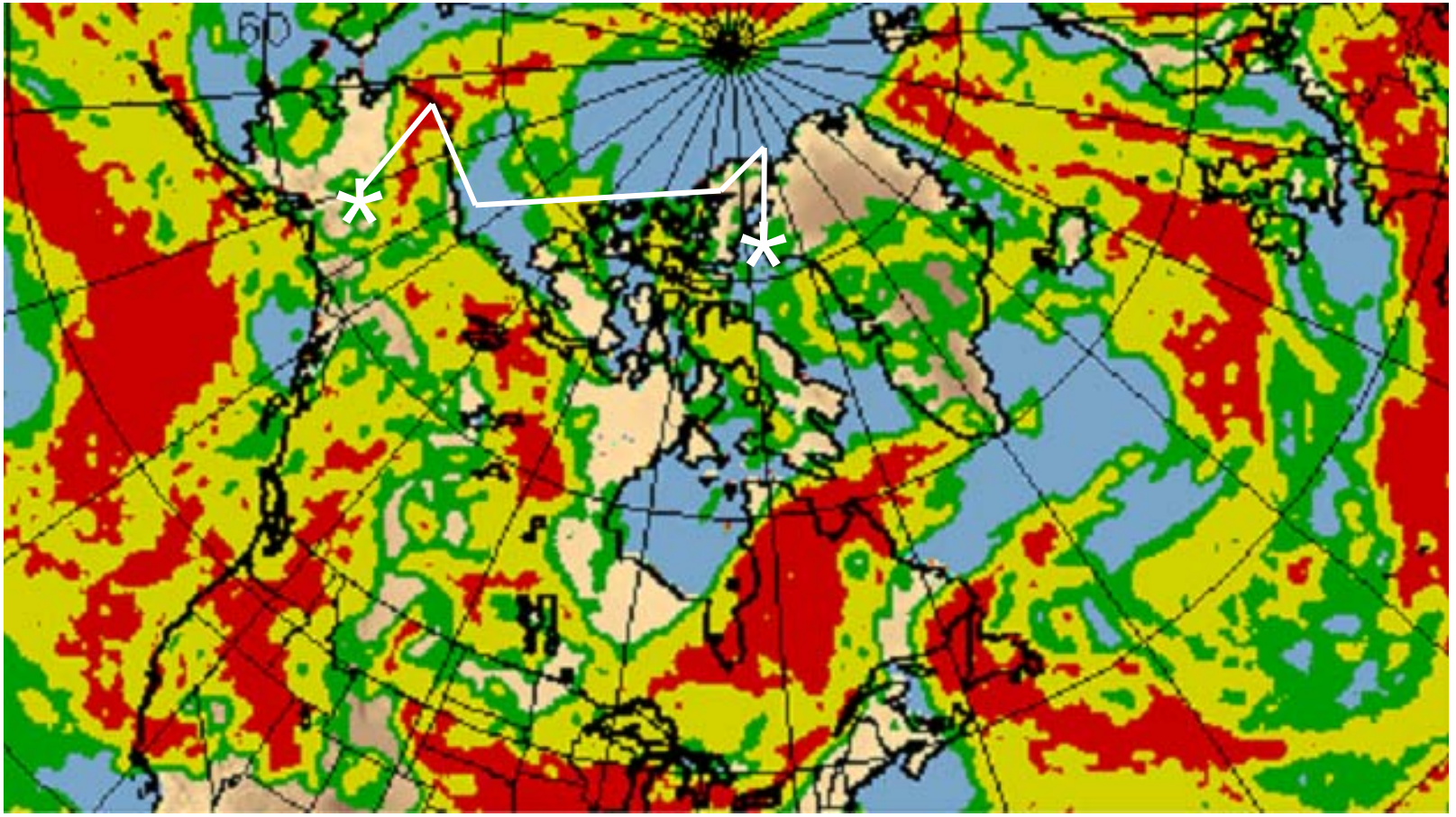
University of Wyoming

36 Hour 700 hPa Forecast Valid 18Z Tue 08 Apr 2008

GFS Forecast Valid 1800Z April 8
300 hPa Relative Humidity and Heights

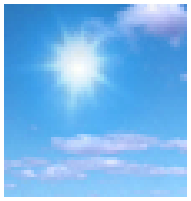
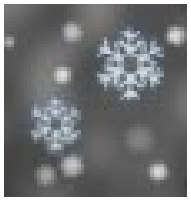
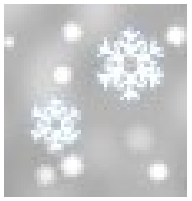


Air Force Total Cloud Cover for comparison
Valid 1800 Z April 8



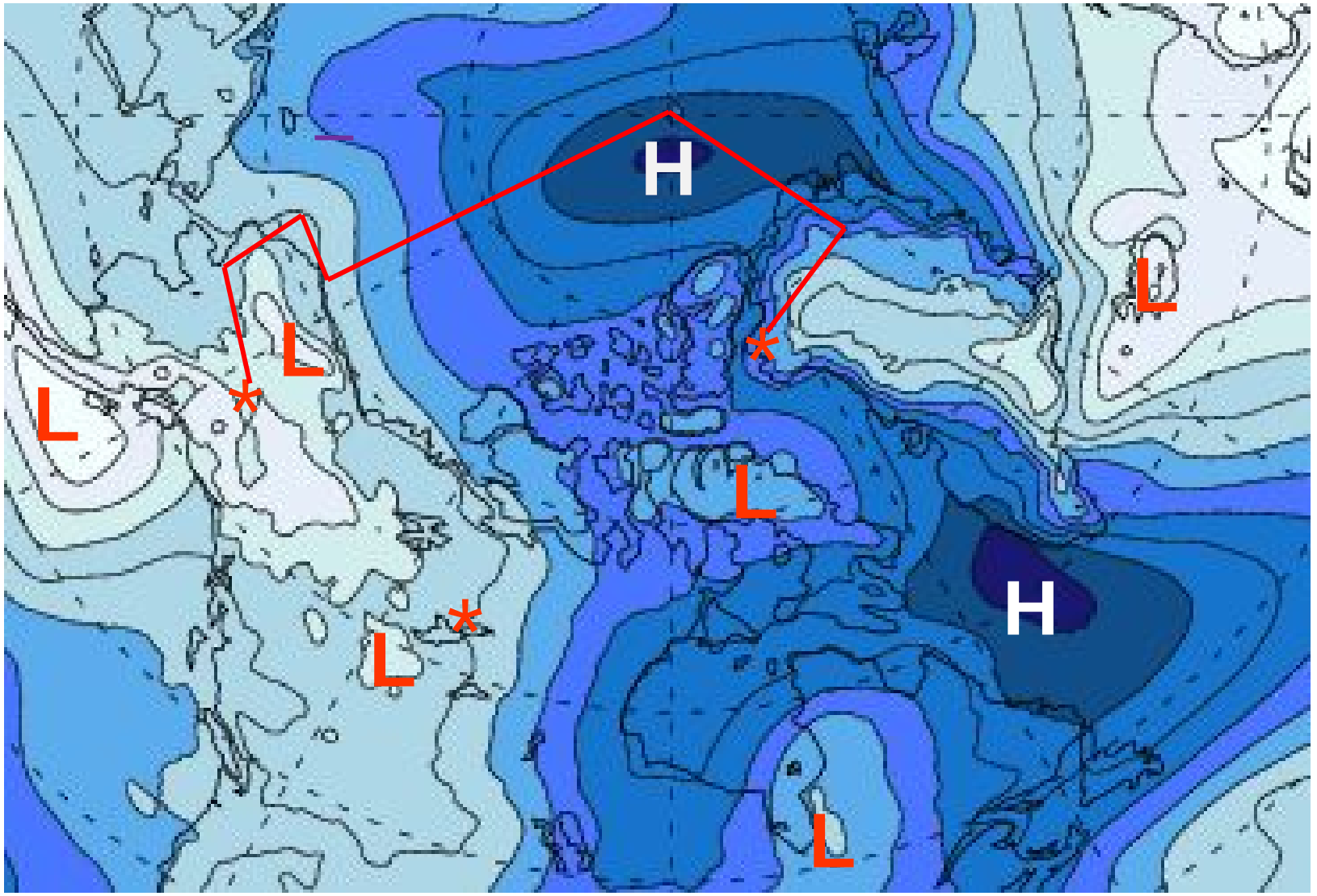
Red = Overcast **Yellow = 0.6-0.9 coverage** **Green = 0.1-0.5 coverage**

Thule Forecast (BGTL)

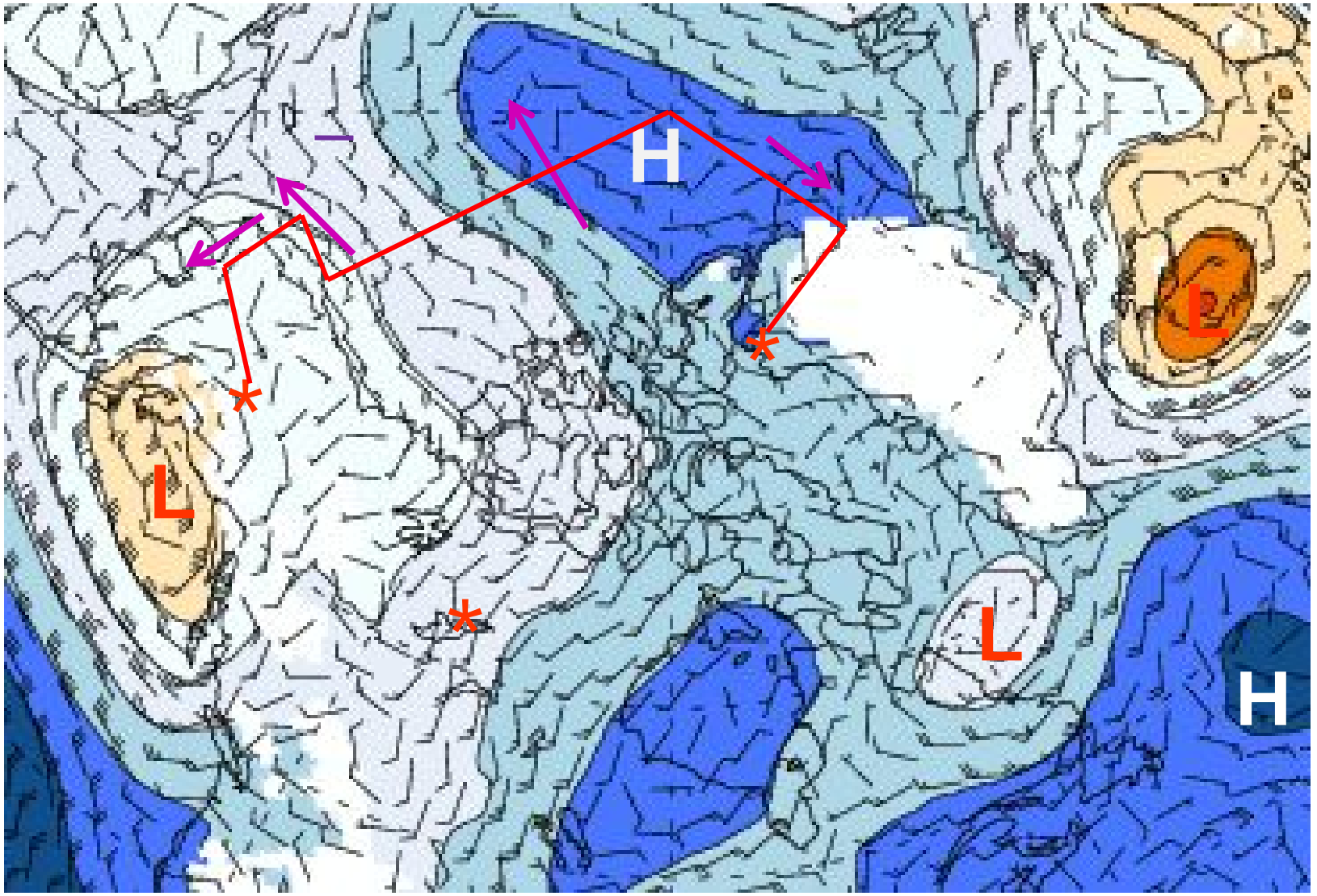
Tuesday	Tue. Night	Wednesday
		
Partly Cloudy Hi: 15F	Snow 3-8 cm, SE Winds 8 mph, gust 14 Lo: -2F	Additional 3 - 5 cm of Snow Winds ESE 3 to 5 mph Hi: 3F

What About Wednesday??

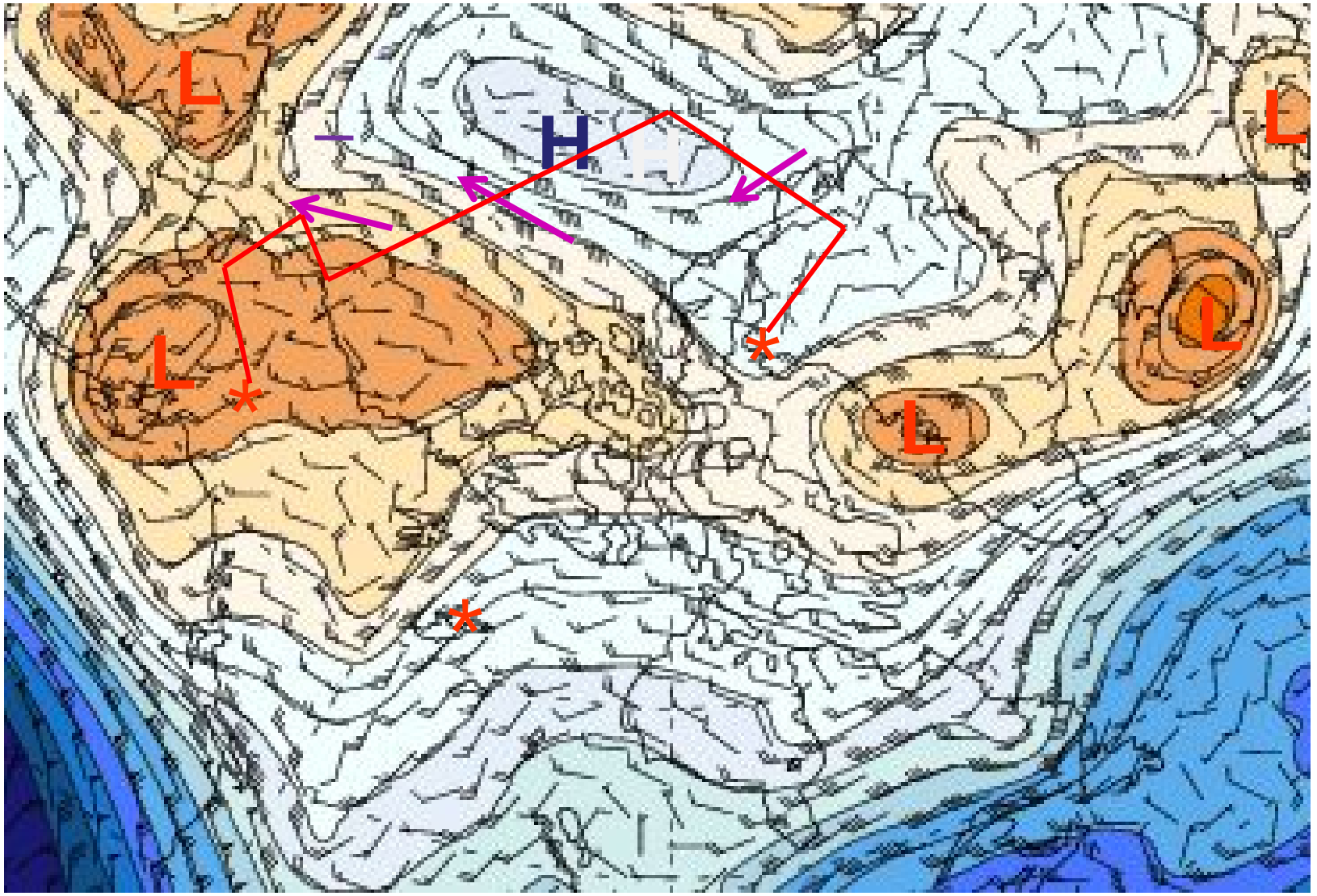
FSU WRF Forecast Valid 1800Z April 9
Sea Level Pressure



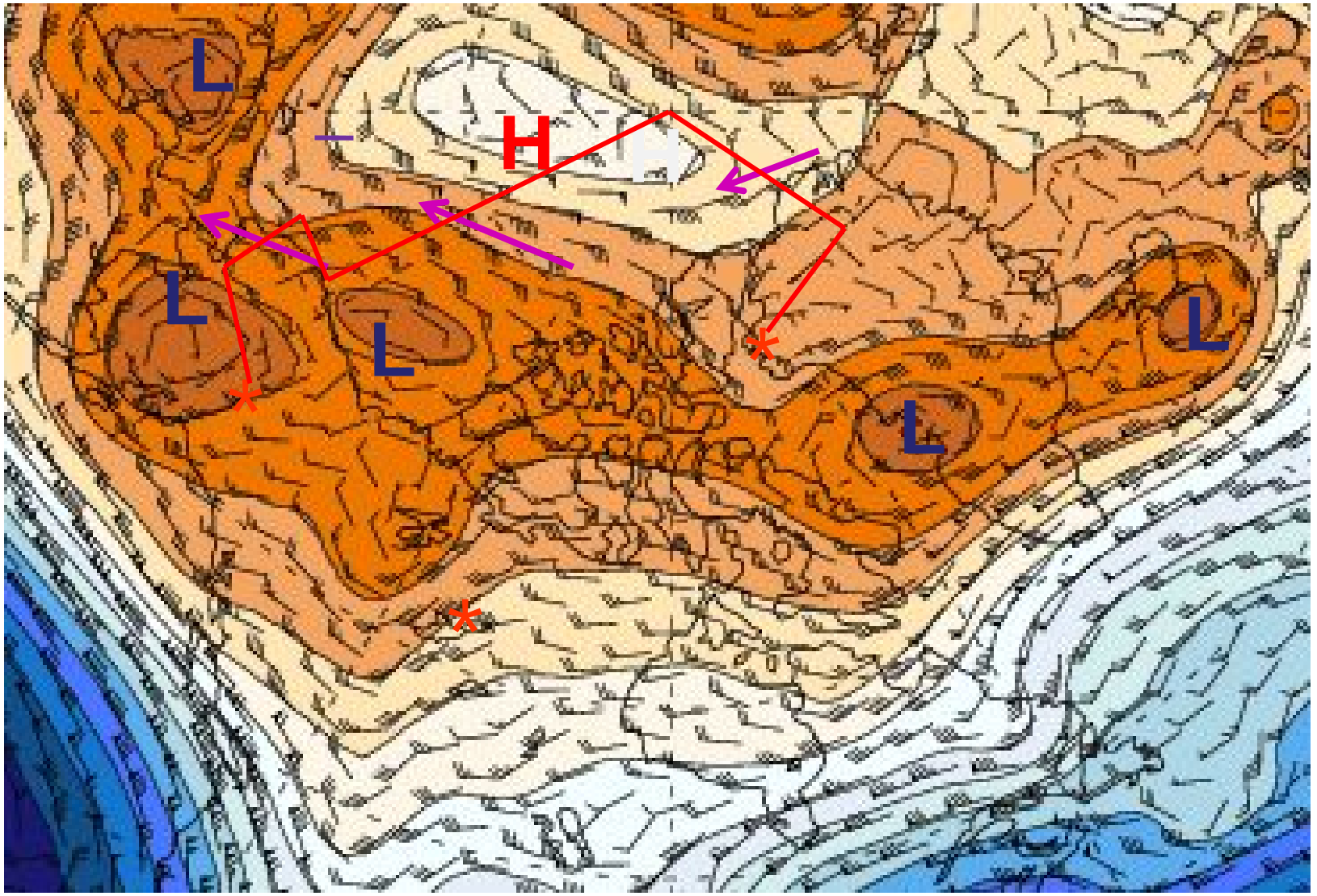
FSU WRF Forecast Valid 1800Z April 9
850 hPa Heights and Winds



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



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

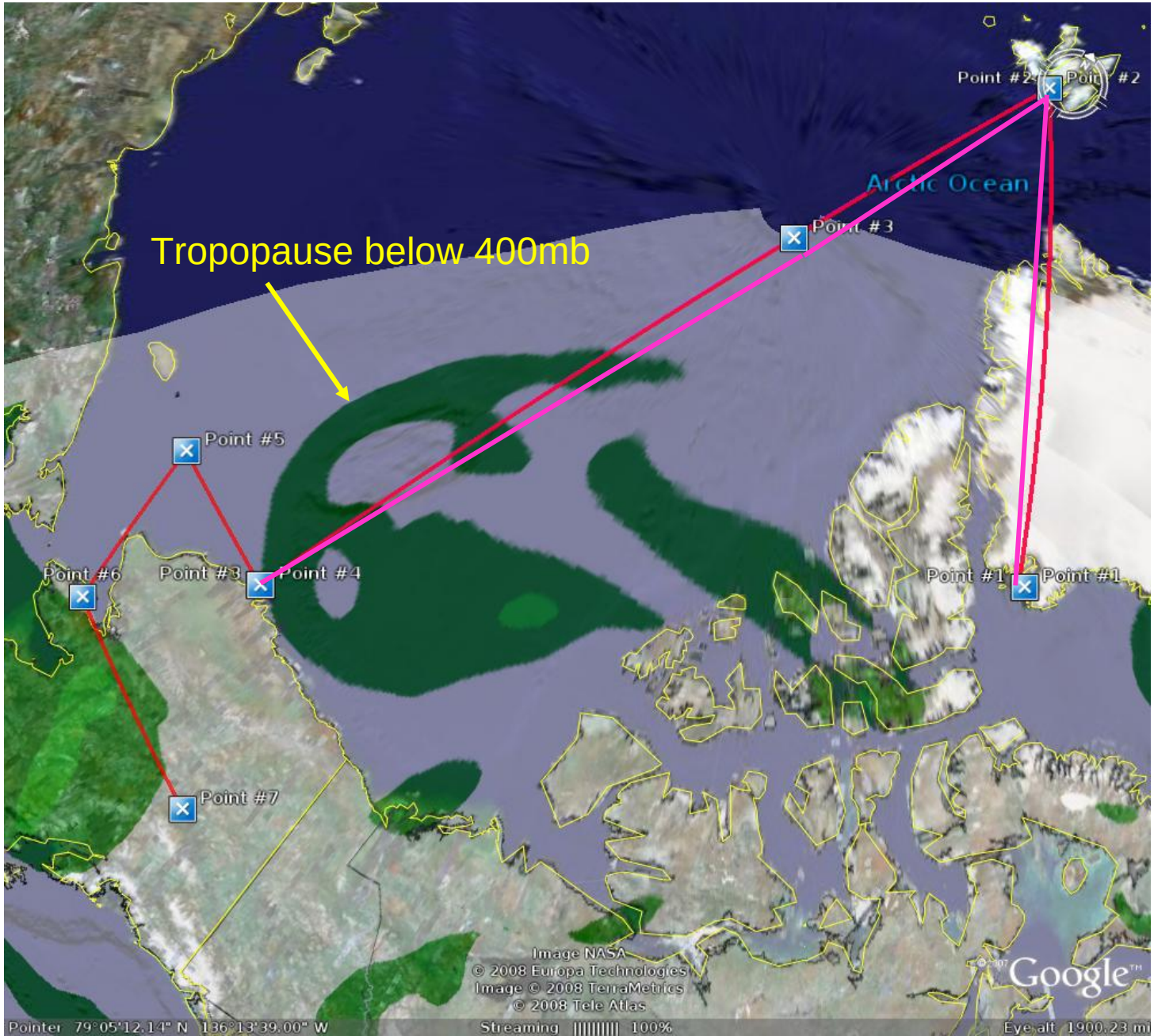


April 9, 2008
Tropopause Height plan view
Cross sections of PV

Thule – Svalbard – North Pole – Barrow

Atkinson, Cross, Malingowski
University of Alaska Fairbanks

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



Tropopause height:

- 400mb – 500mb
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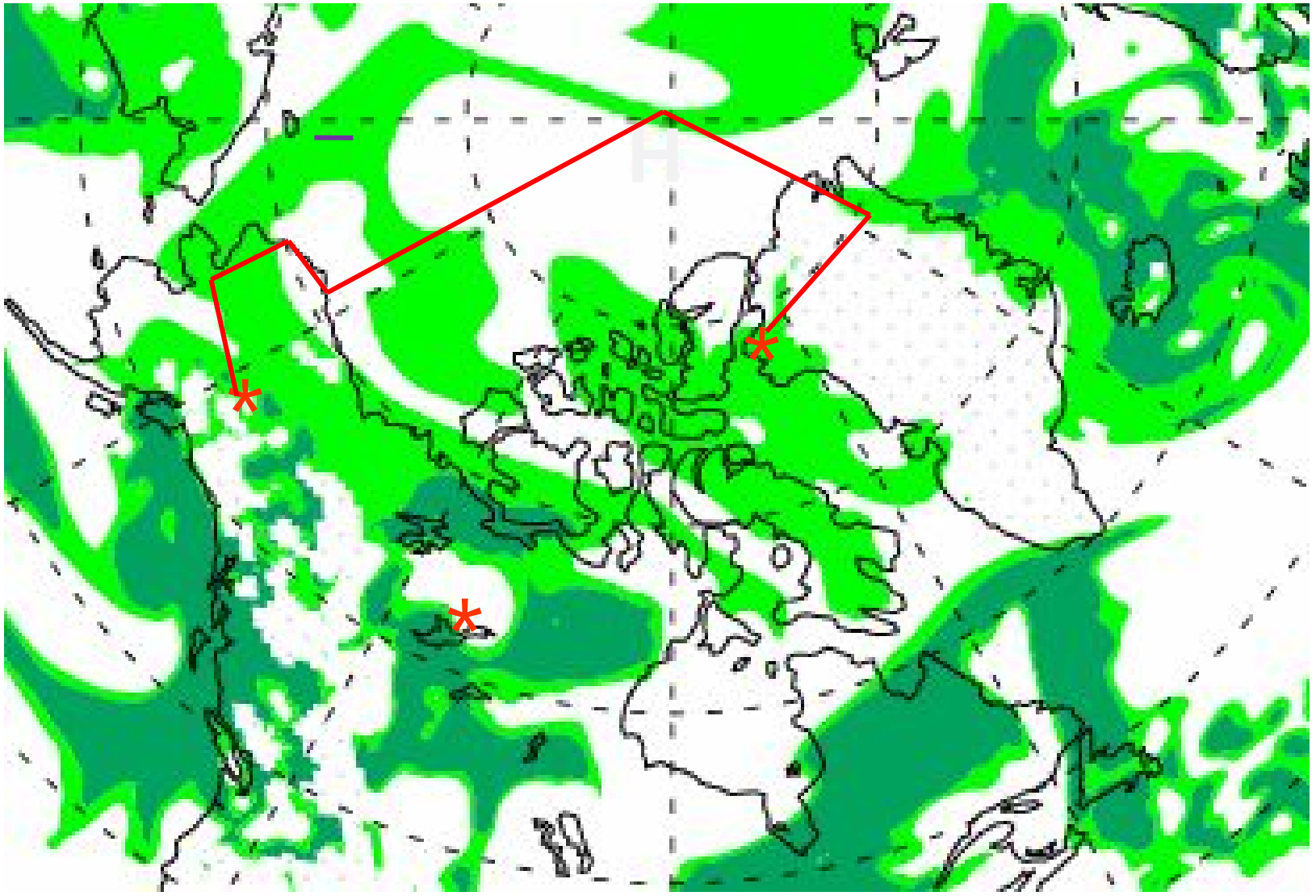
- < 600mb

Flight legs

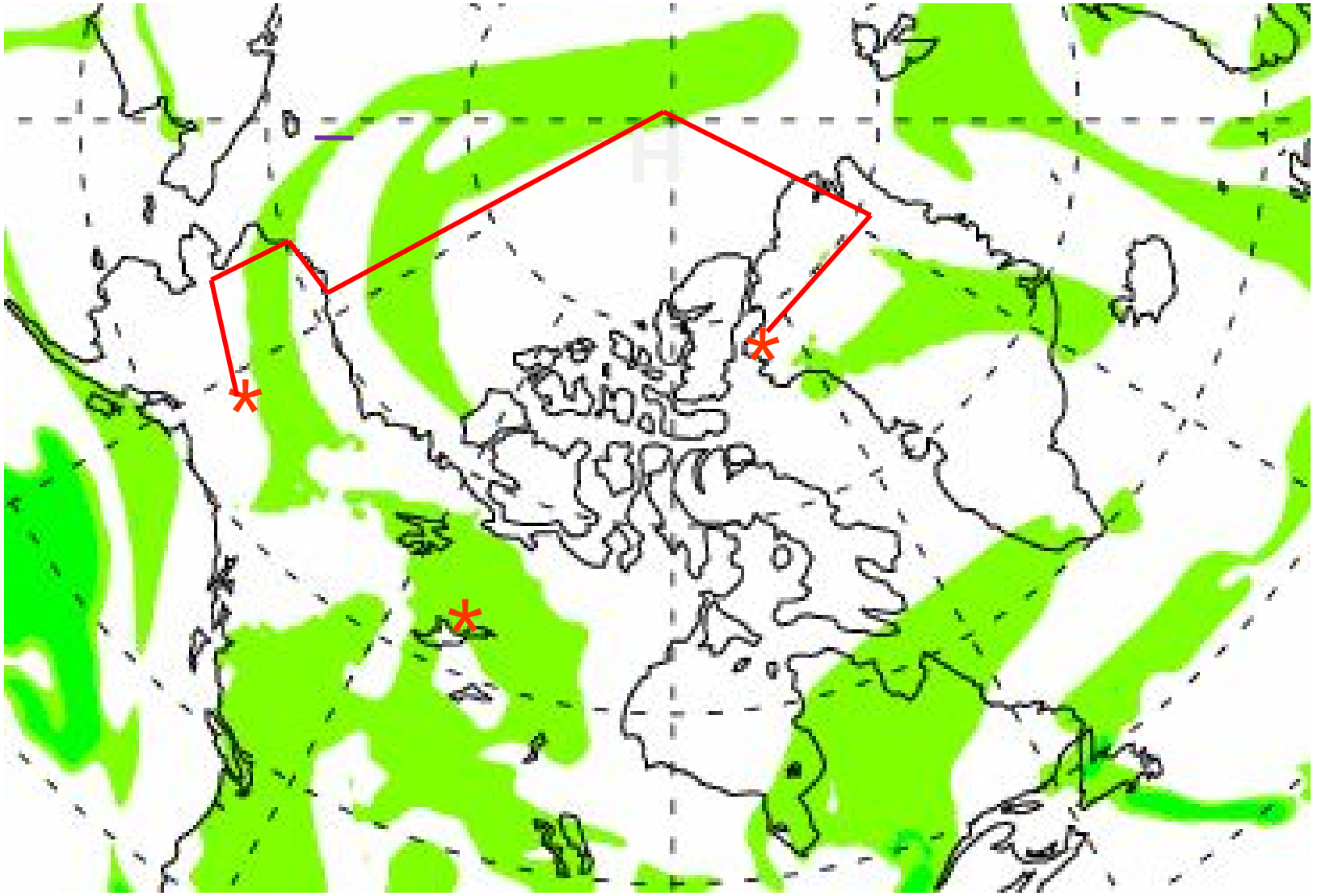
X-sections

What About Clouds for Wednesday??

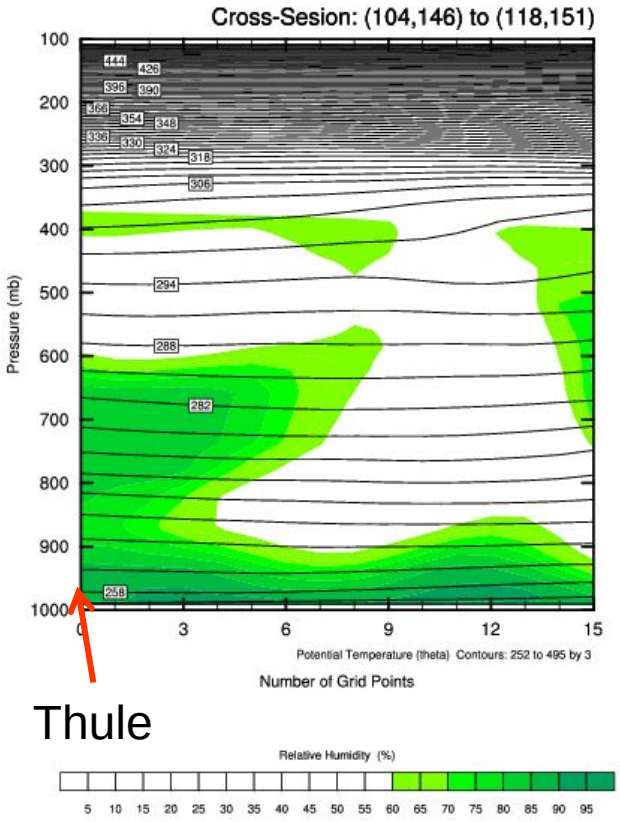
FSU WRF Relative Humidity at 850 hPa Forecast
Valid 1800 Z April 9

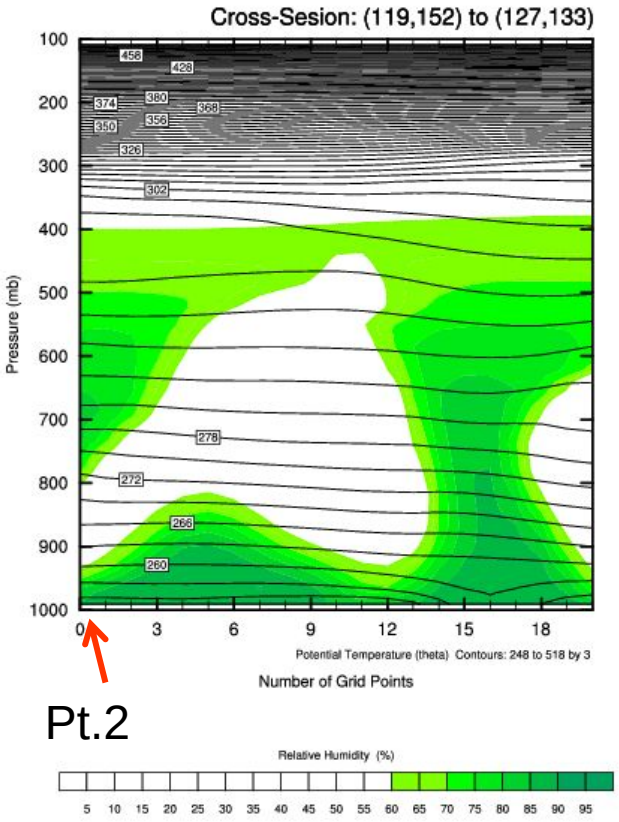


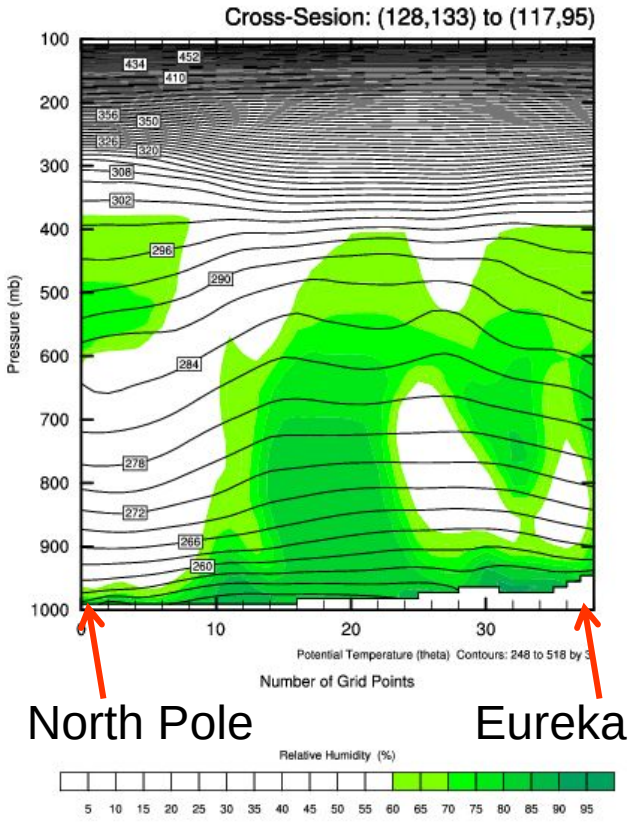
FSU WRF Relative Humidity at 500 hPa Forecast
Valid 1800 Z April 9



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







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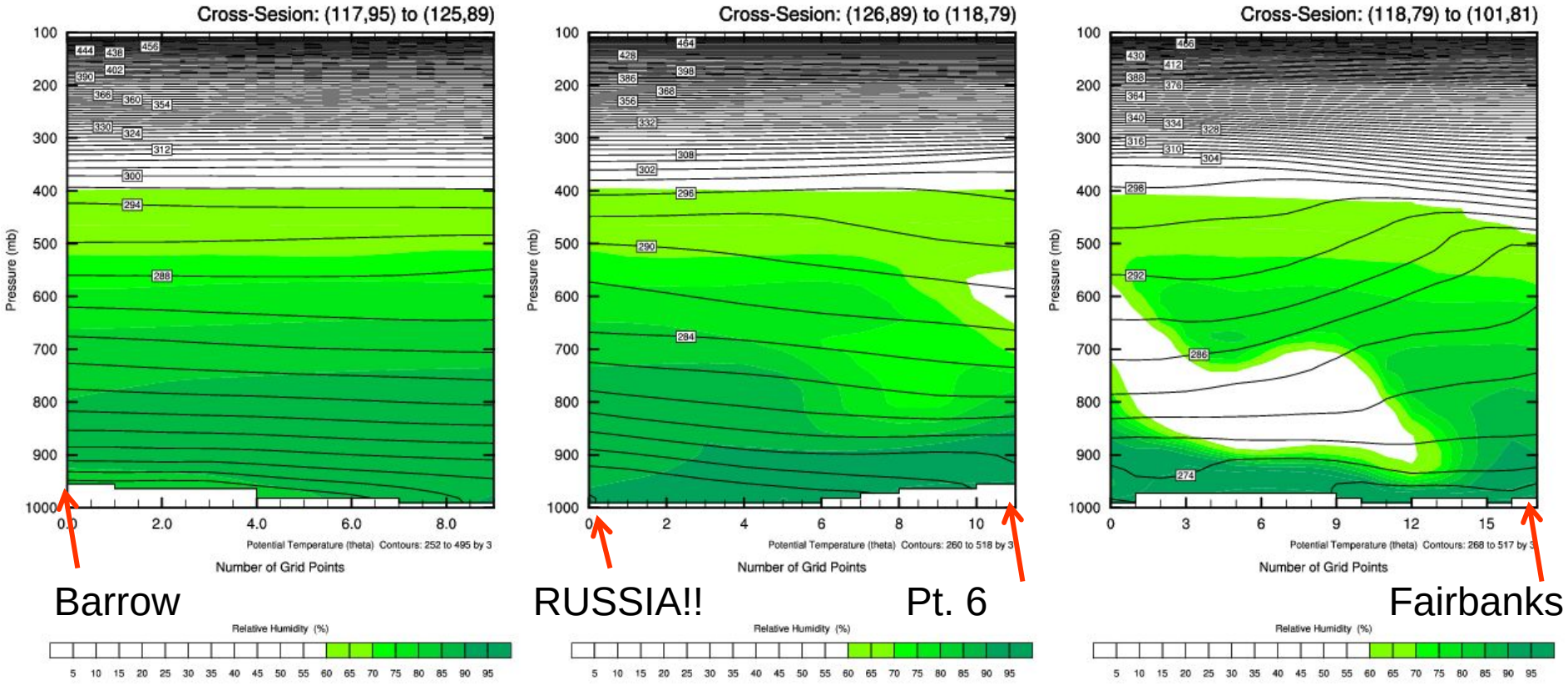
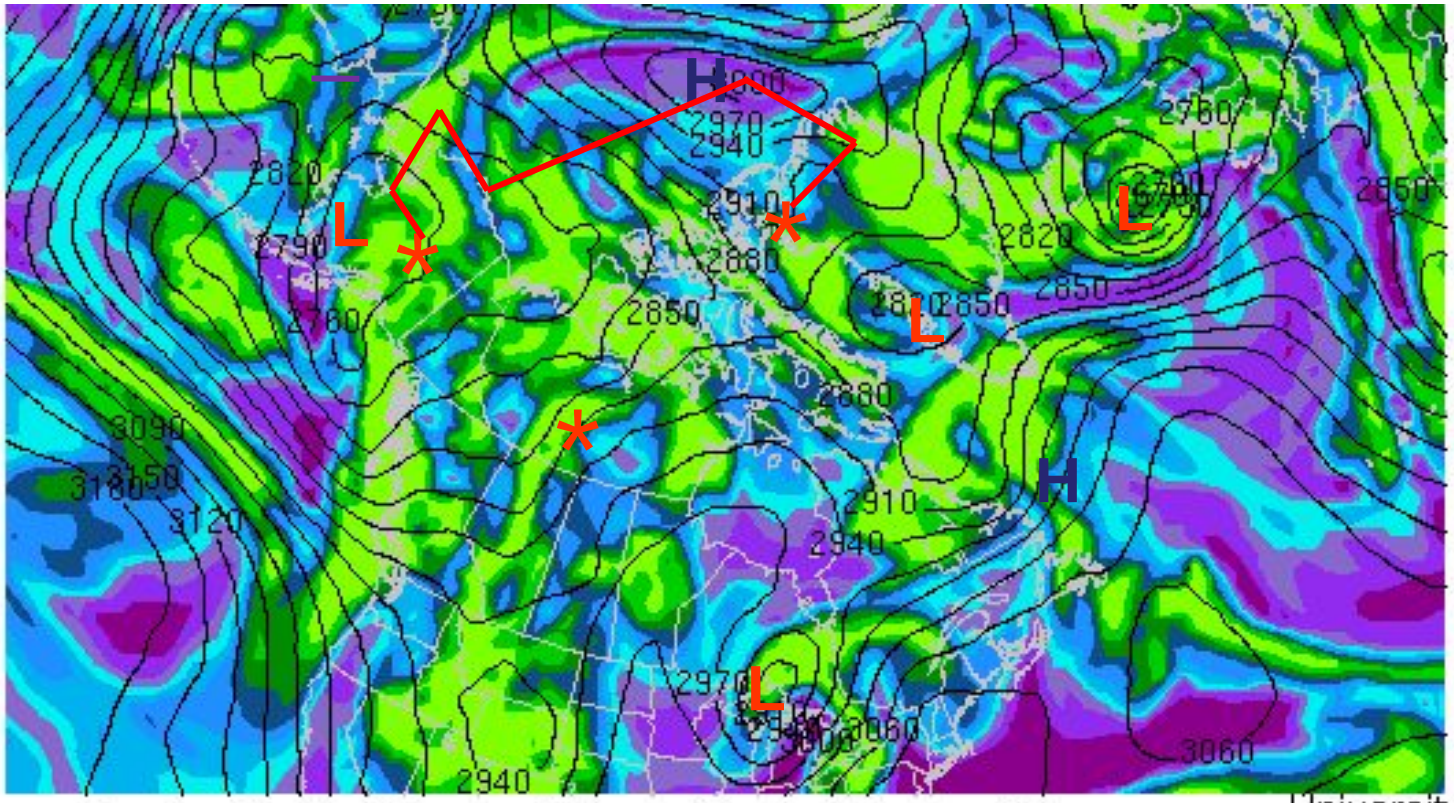


GFS Forecast Valid 1800Z April 9
300 hPa Relative Humidity and Heights



10 20 30 40 50 60 70 80 90

University of Wyoming

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

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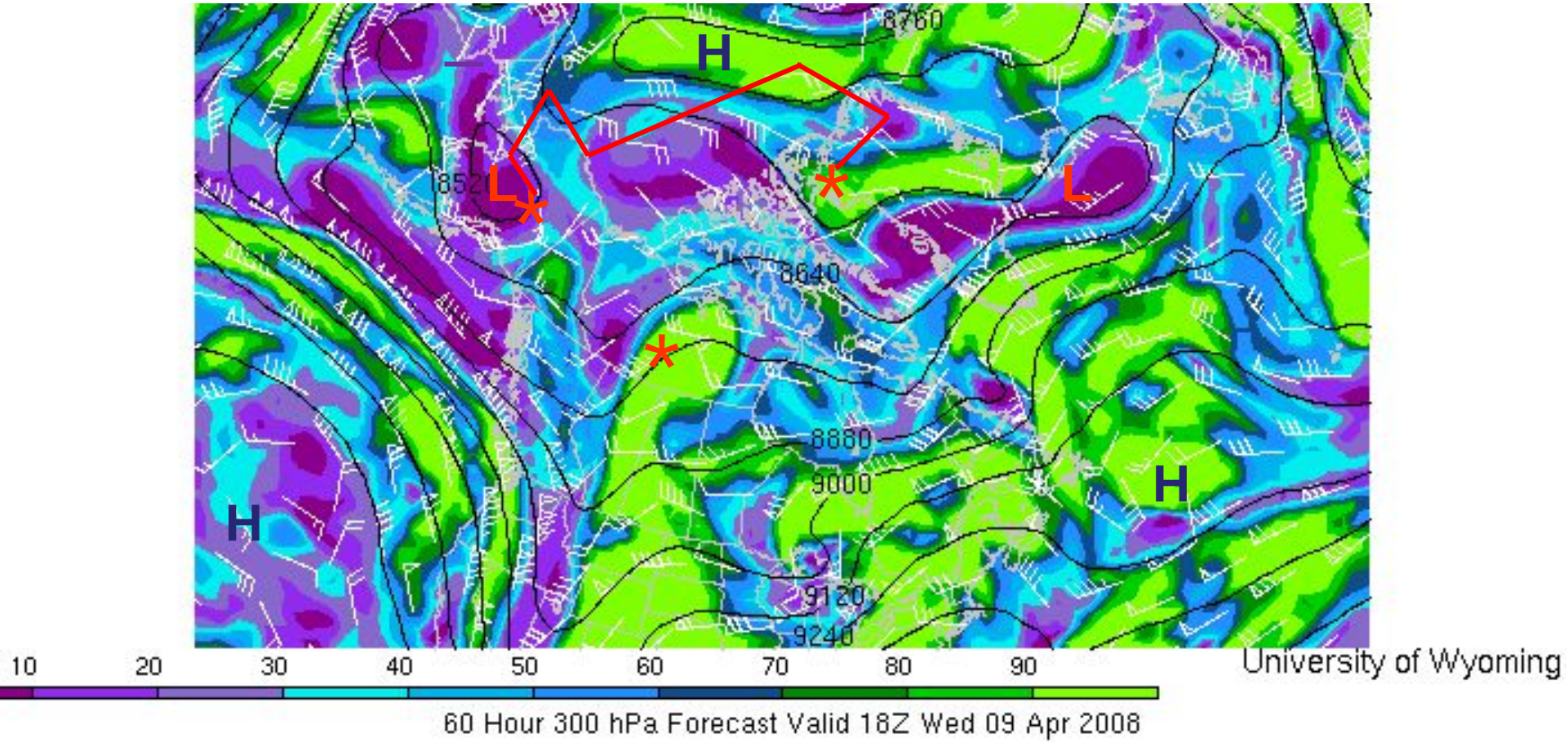
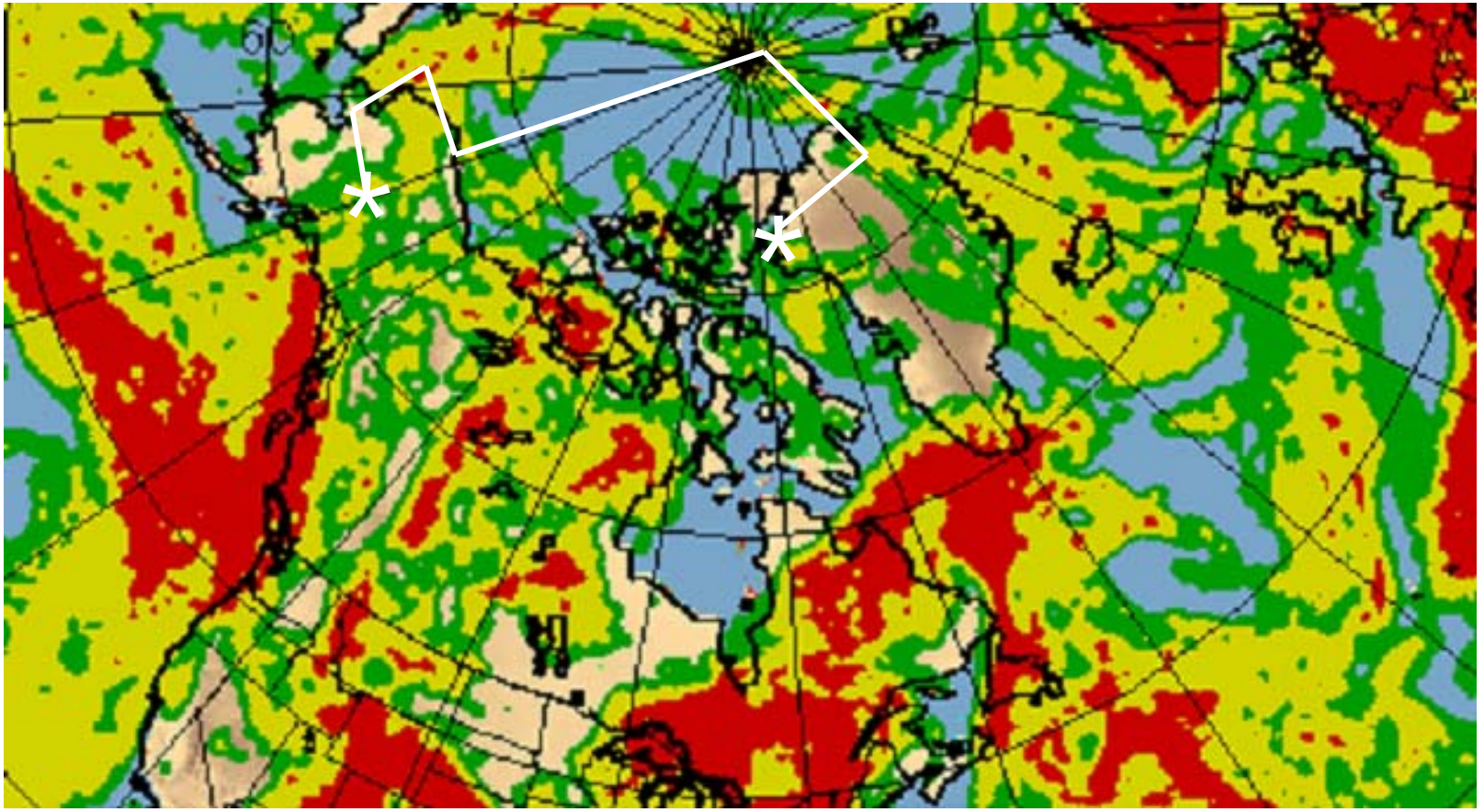
300 hPa Relative Humidity and Heights



Air Force Total Cloud Cover for comparison
Valid 1800 Z April 9



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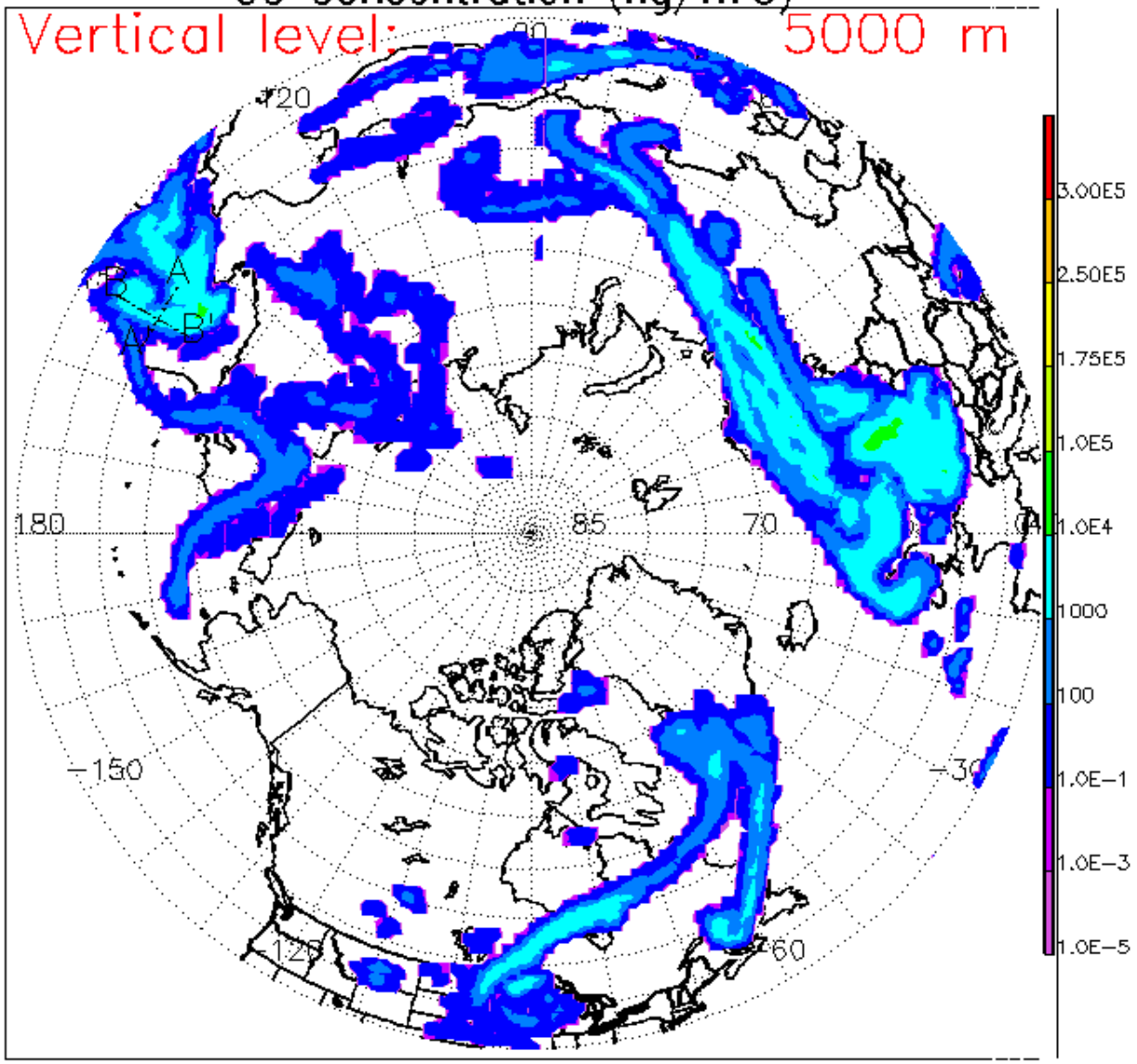
FSU Runs Flexpart

- Met data from FSU WRF run (25 km grid)
- Top10% of emissions are tracked
- 7 day runs
- Color coded by concentration

AdGIF UNREGISTERED - www.gif-animator.com

1800 April 07, 2008

CO Concentration (ng/m^3)

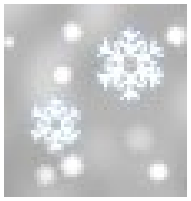


Florida State University Meteorology

Fairbanks AK Forecast

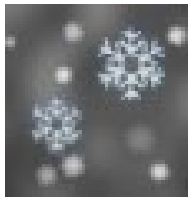
SNOW!!!!!!!!!!!!!!

Today



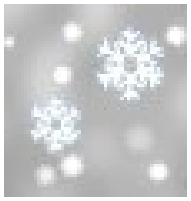
Snow likely
Hi: 28F

Tonight



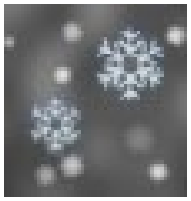
Light
Snow
Showers
Lo: 12F

Tuesday



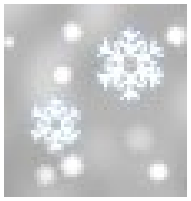
Scattered
Flurries
Hi: 30F

Tue. Night



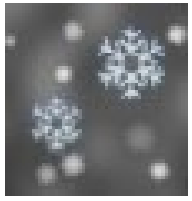
Scattered
Flurries
Lo: 15F

Wednesday



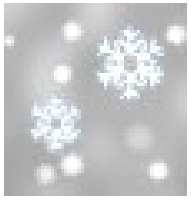
Scattered
Flurries
Hi: 33F

Wed. Night



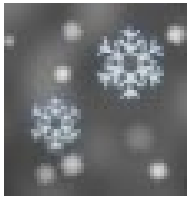
Chance of
Snow
Lo: 15F

Thursday



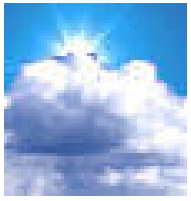
Chance
of Snow
Hi: 35F

Thur. Night



Chance
of Snow
Lo: 20F

Friday



Cloudy
Hi: 35F