

## **High Resolution Real Time Weather Forecast**

**Mesoscale Model:** Weather Research and Forecasting Model (Version 3.3)

**Horizontal Resolution:** Nested Domain (45 Km, 15 Km and 5 Km)

**Grid Points:** Domain 1: 260×235 (45 Km)

Domain 2: 352×373 (15 Km)

Domain 3: 676×721 (5 Km)

**Vertical Levels:** 36 (upto 10 hPa)

**Assimilation Method:** 3-Dimensional Variational Data Assimilation (3D-Var)

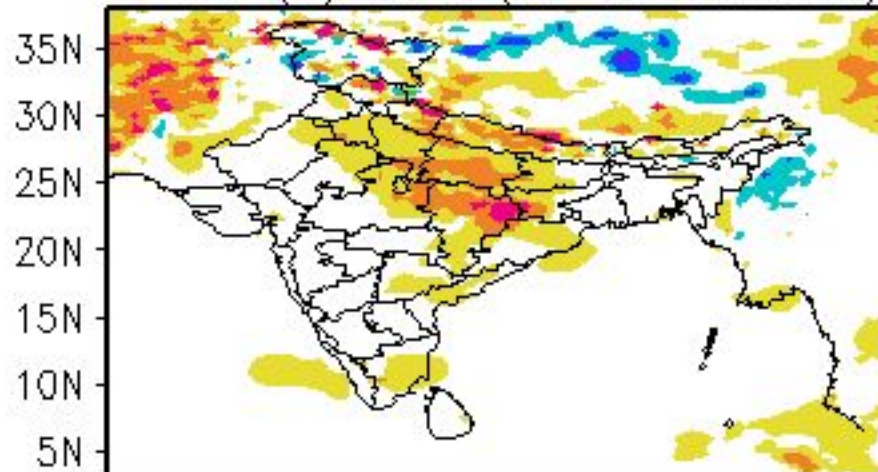
### **Data Used for Assimilation:**

ISRO's AWS, INSAT AMV, Vertical profiles from GTS, Ocean Surface Winds from Oceansat-2 and ASCAT Scatterometer, Temperature and Moisture Profiles from ATOVS and IASI (EUMETCast), Refractivity from GRAS RO (EUMETCast), Conventional observation and AMVs available through GTS.

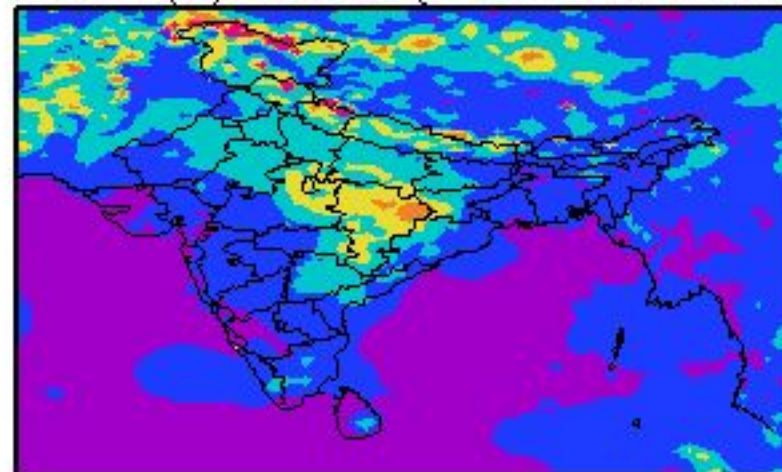
## Error Statistics in Surface Meteorological Parameter

Forecast Hour	Temperature (C)	Relative Humidity (%)	Wind Speed (m/s)
	Rmsd (Bias)	Rmsd (Bias)	Rmsd (Bias)
24 Hour	1.34(0.54)	9.92(-3.26)	1.76(-0.09)
48 Hour	1.43(0.54)	10.66(-3.19)	2.00(-0.24)
72 Hour	1.51(0.51)	11.17(-2.96)	2.15(-0.28)

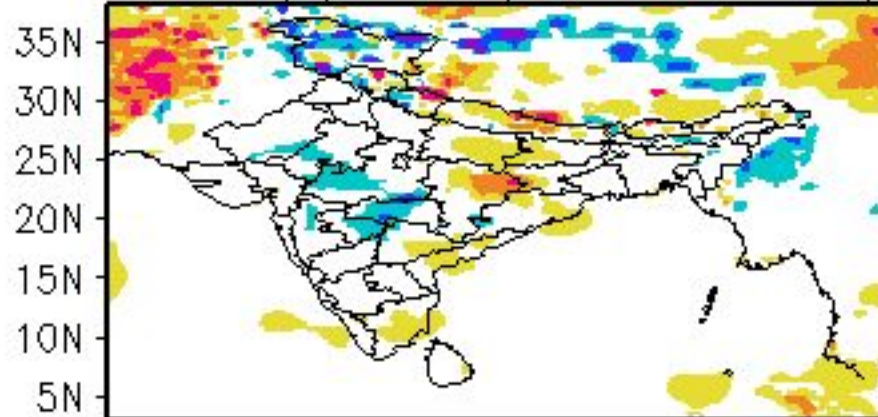
TEMP (C) BIAS (24 hr Forecast)



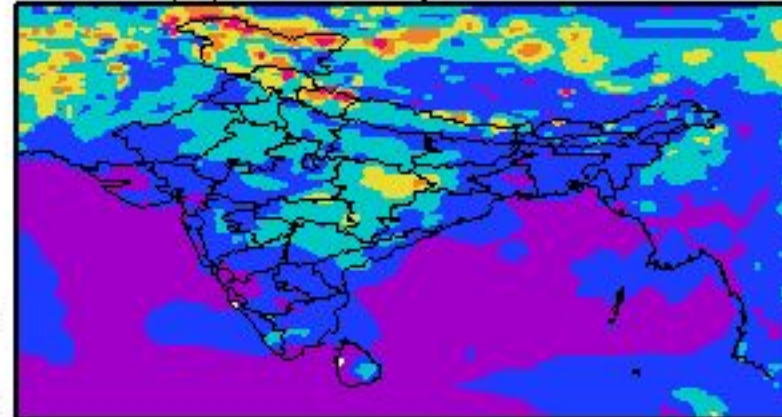
TEMP (C) RMSD (24 hr Forecast)



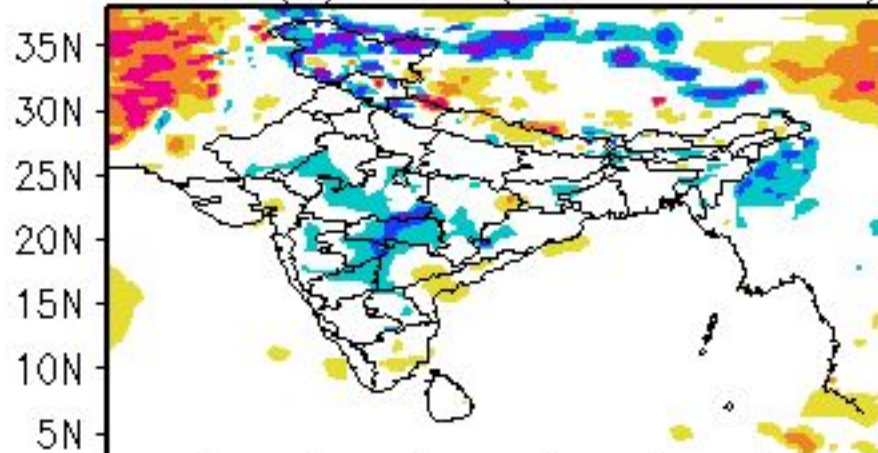
TEMP (C) BIAS (48 hr Forecast)



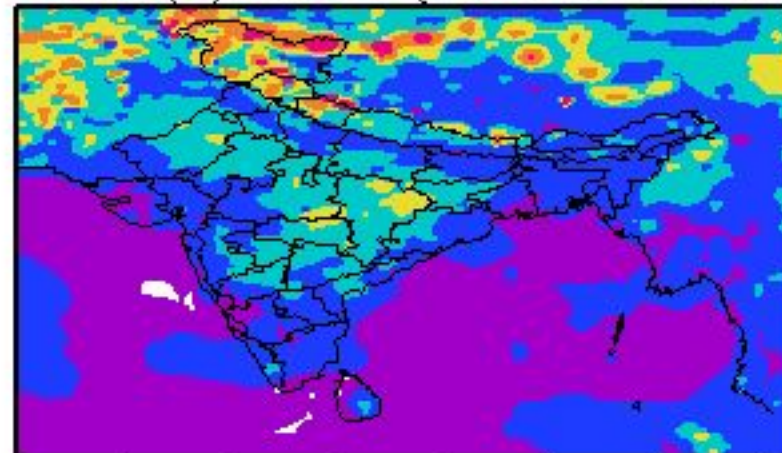
TEMP (C) RMSD (48 hr Forecast)



TEMP (C) BIAS (72 hr Forecast)



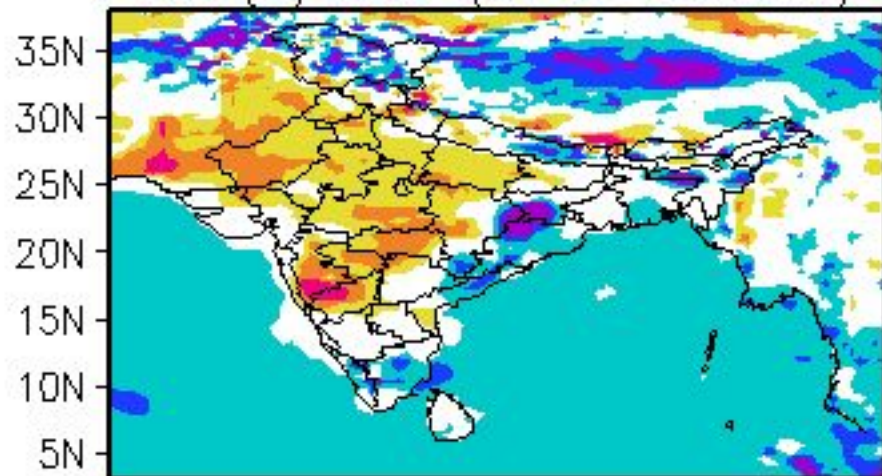
TEMP (C) RMSD (72 hr Forecast)



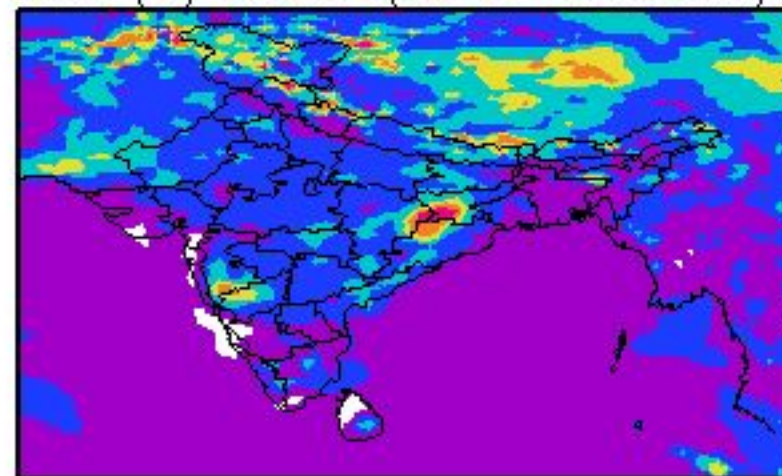
65E 70E 75E 80E 85E 90E 95E 100E

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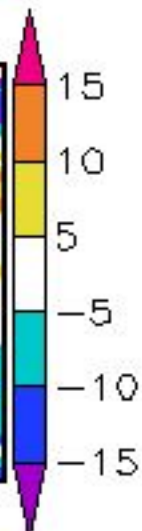
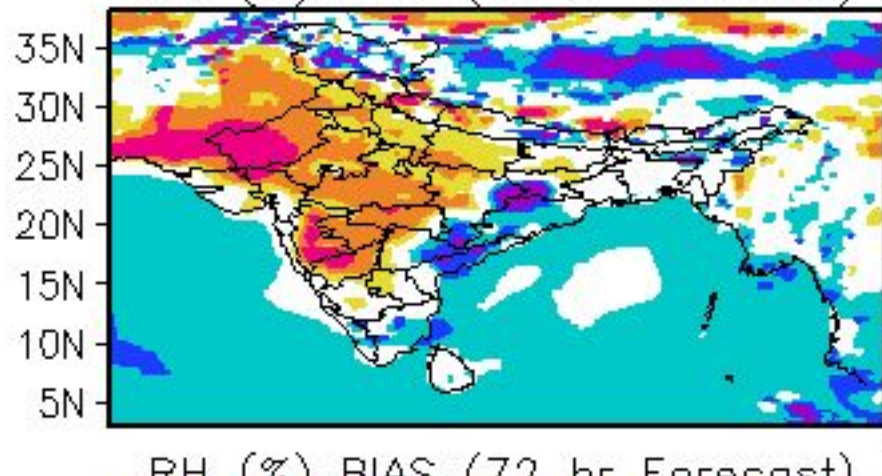
RH (%) BIAS (24 hr Forecast)



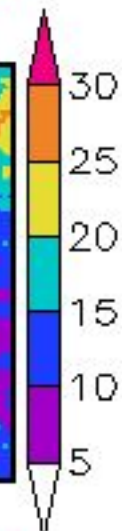
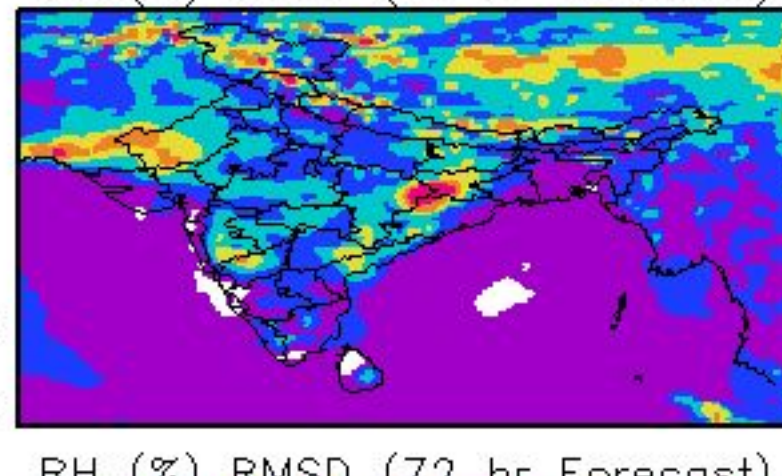
RH (%) RMSD (24 hr Forecast)



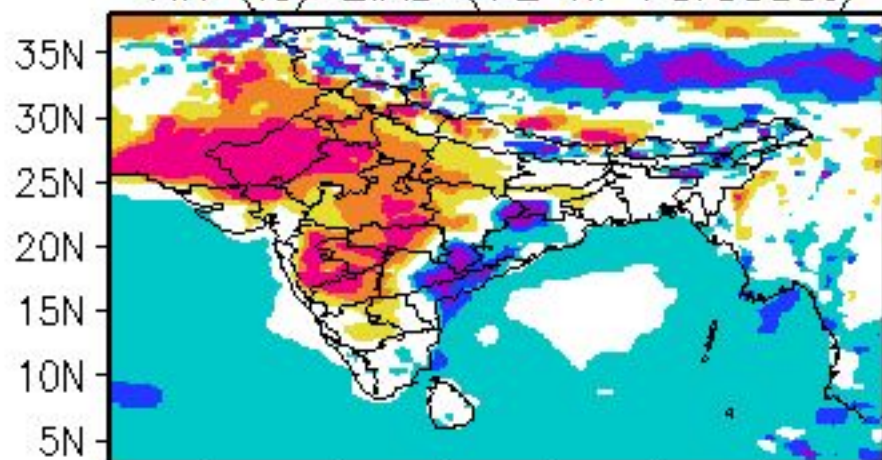
RH (%) BIAS (48 hr Forecast)



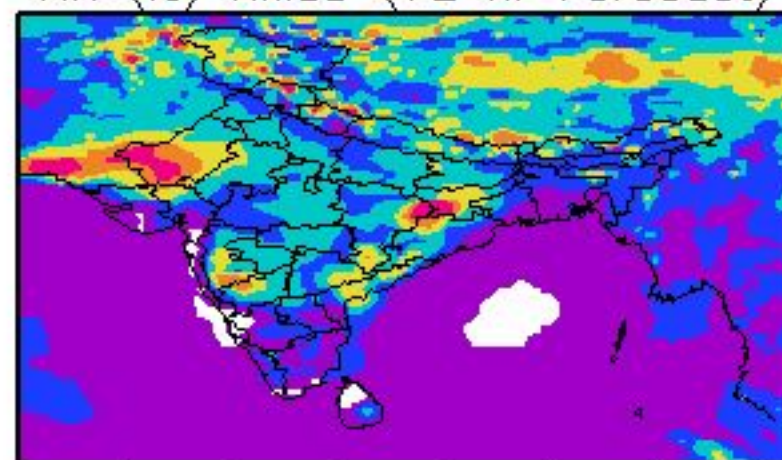
RH (%) RMSD (48 hr Forecast)



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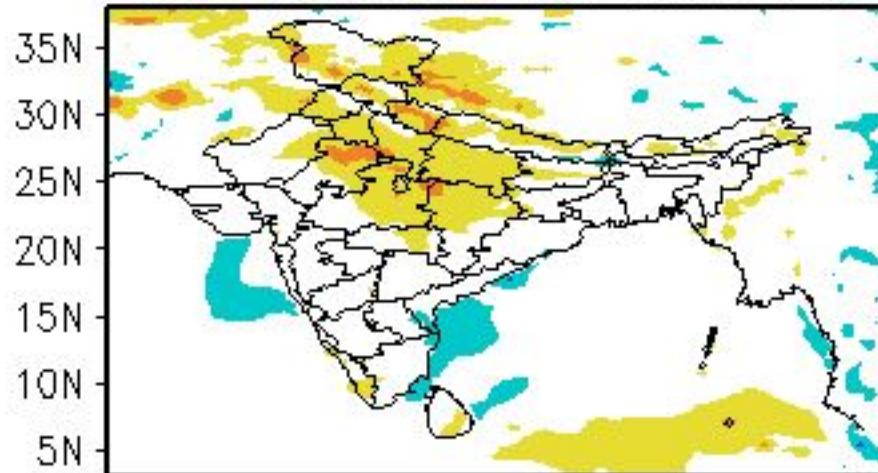
RH (%) RMSD (72 hr Forecast)



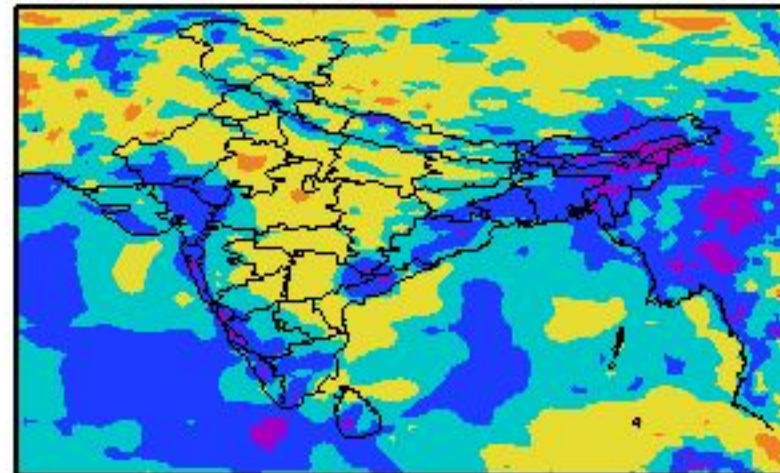
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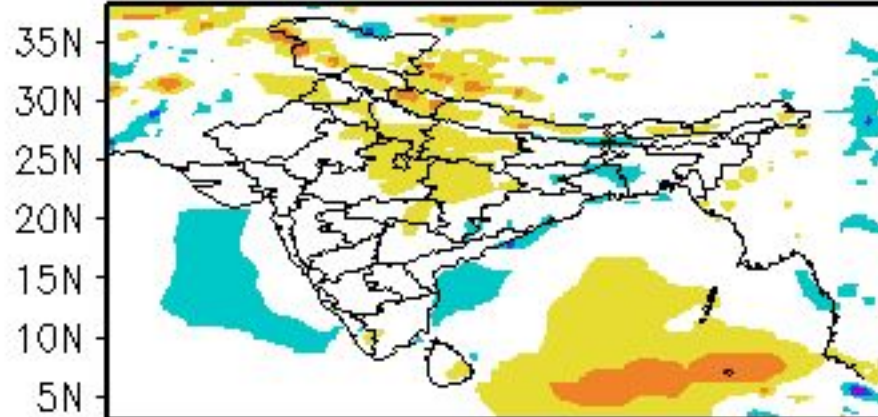
Wind Speed (m/s) BIAS (24 hr FC)



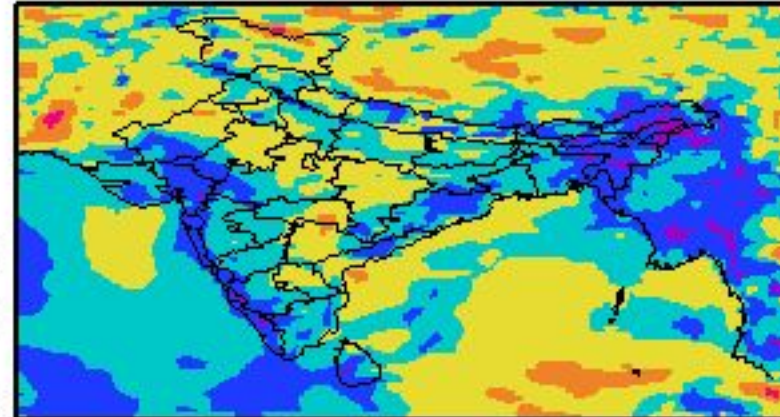
Wind Speed (m/s) RMSD (24 hr FC)



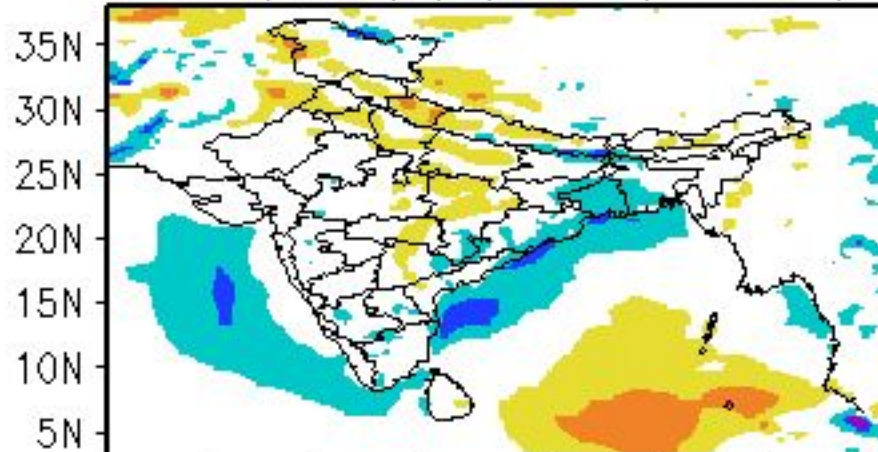
Wind Speed (m/s) BIAS (48 hr FC)



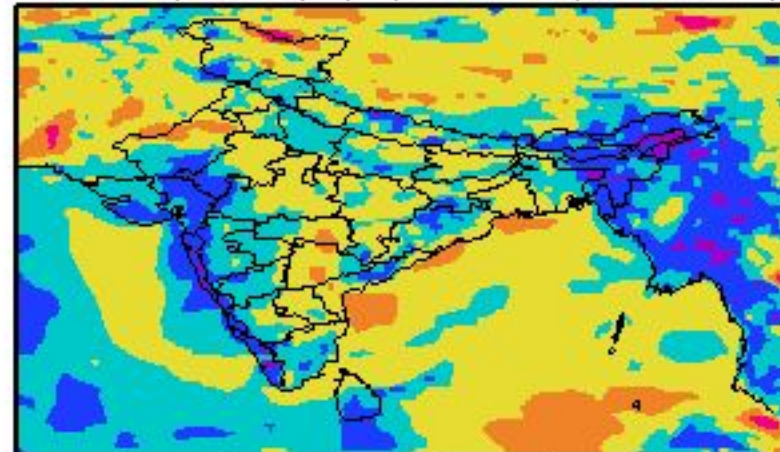
Wind Speed (m/s) RMSD (48 hr FC)



Wind Speed (m/s) BIAS (72 hr FC)



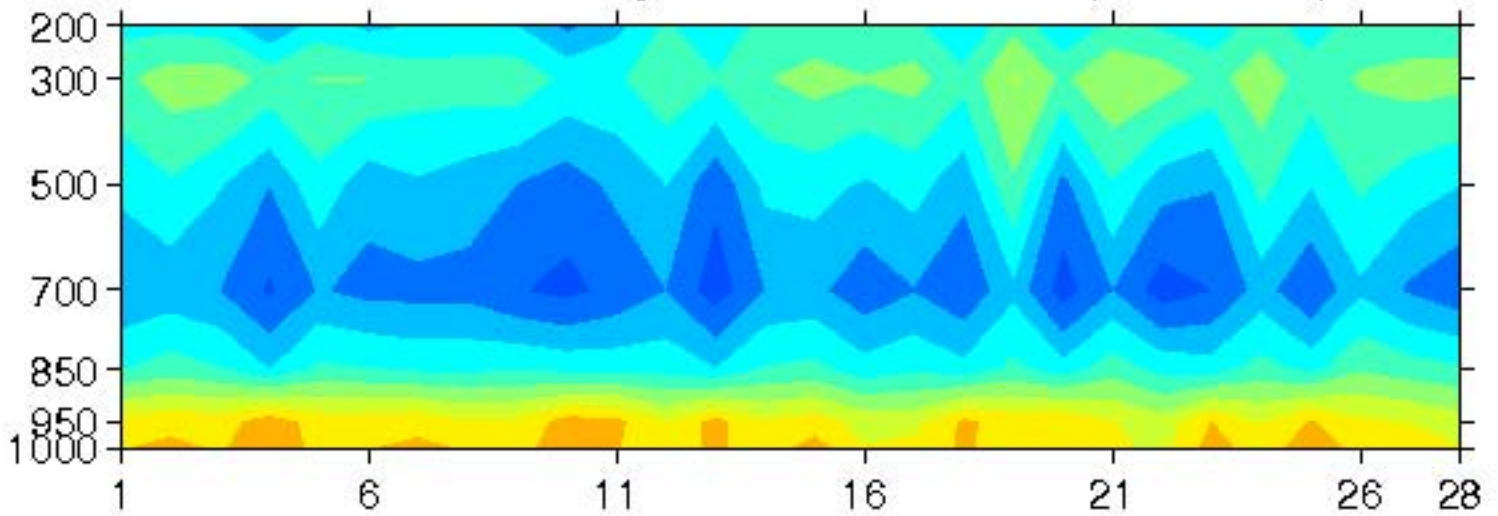
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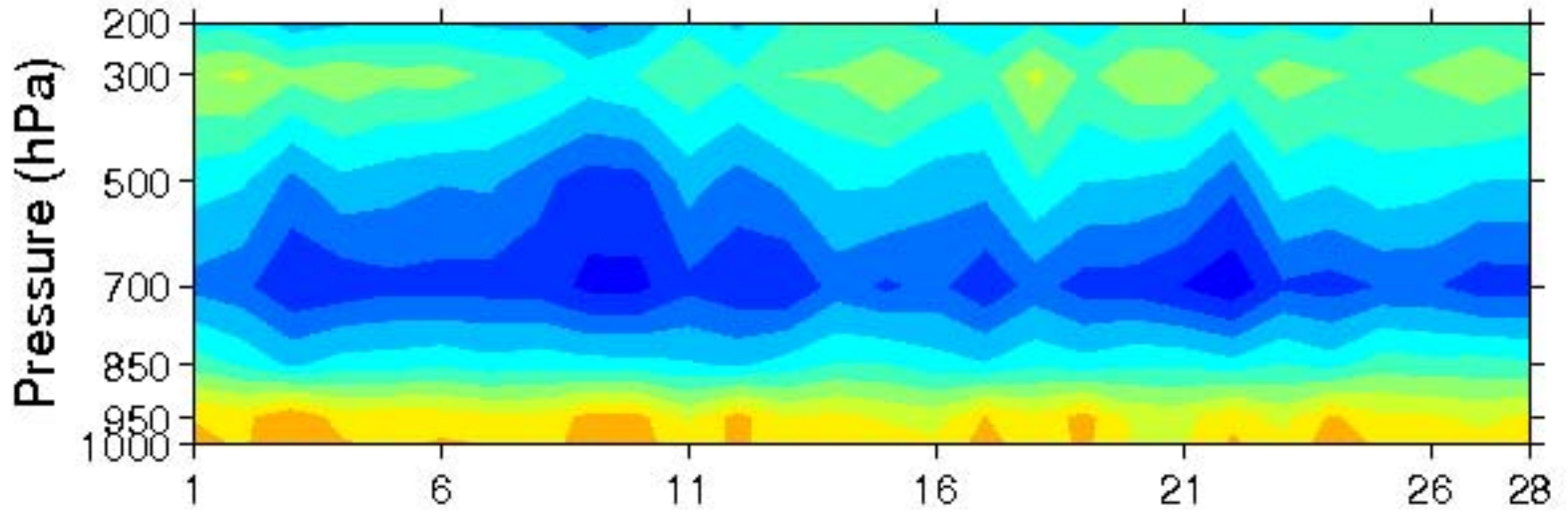
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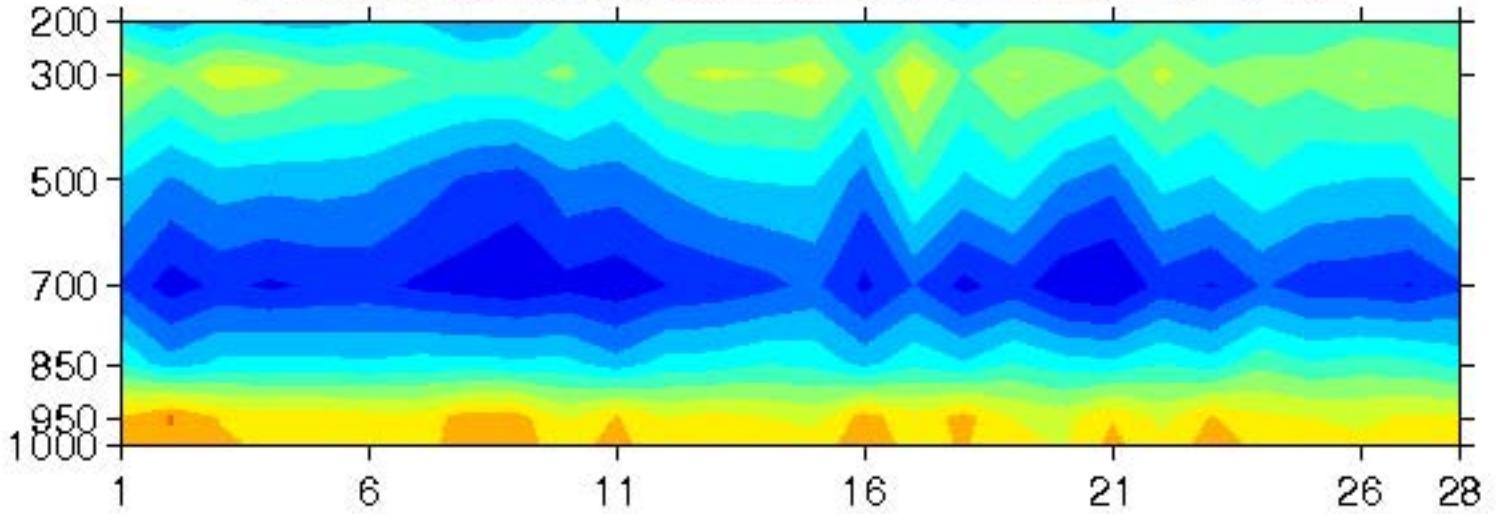
Relative Humidity Mean Difference (24 Hr FC)



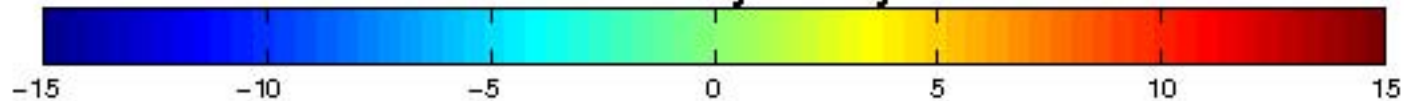
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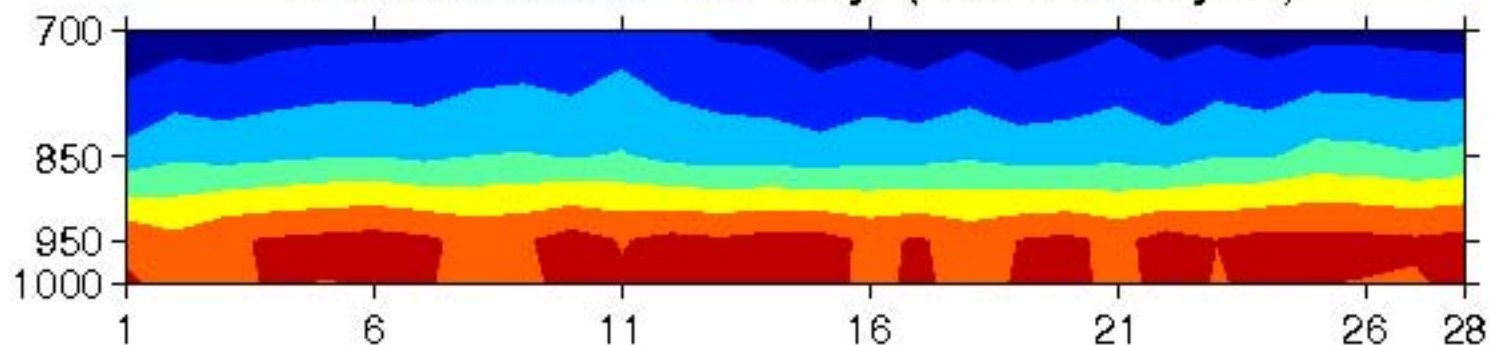
Relative Humidity Mean Difference (72 Hr FC)



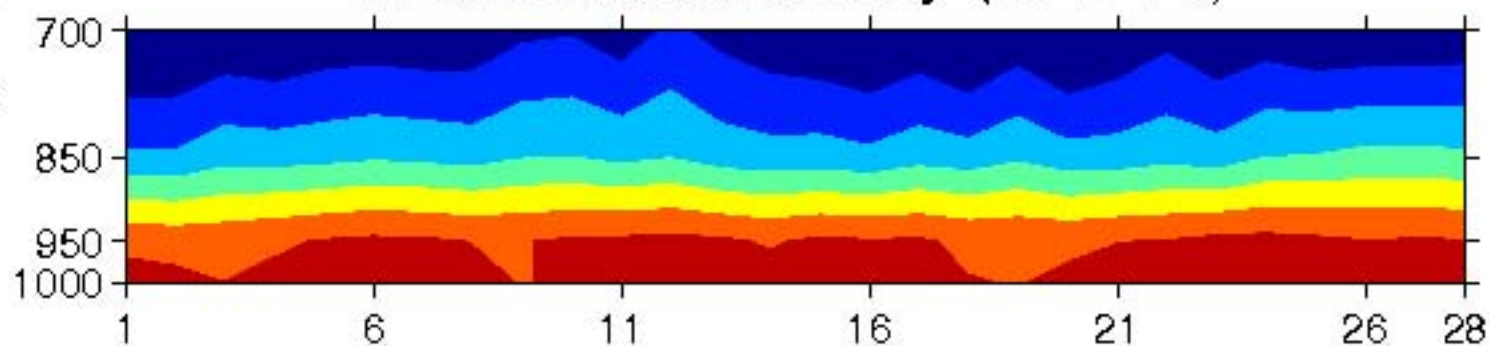
Number of Days May 2012



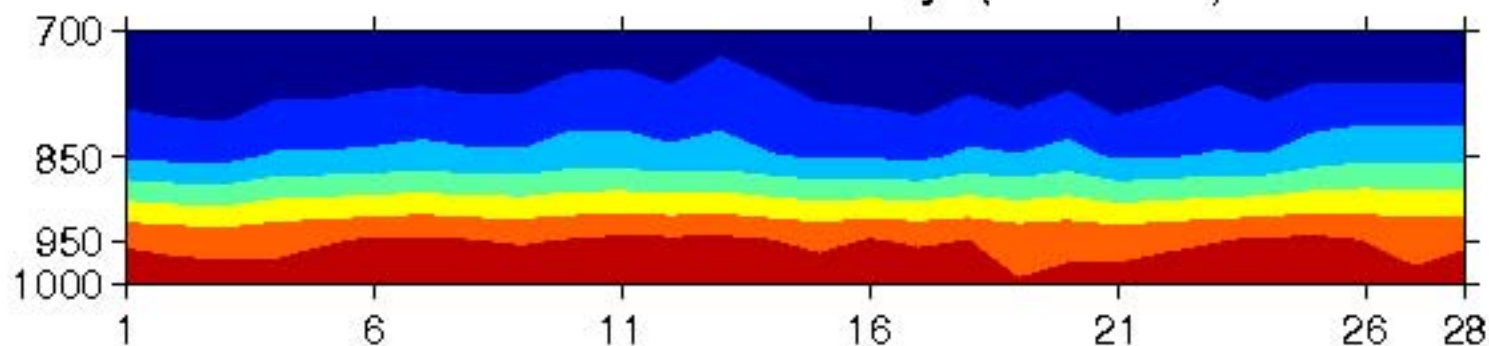
MEAN Relative Humidity (NCEP Analysis)



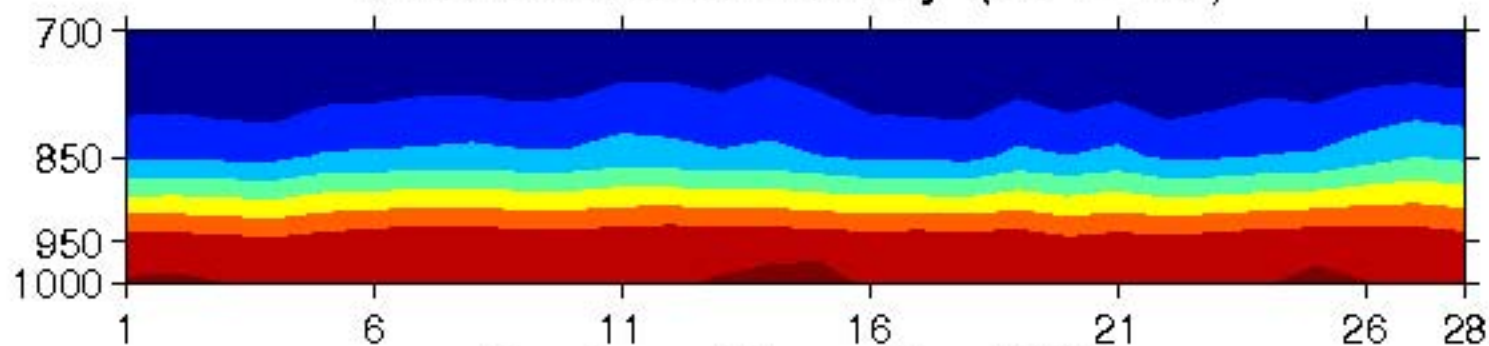
MEAN Relative Humidity (24 Hr FC)



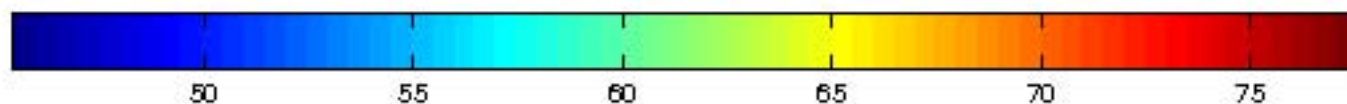
MEAN Relative Humidity (48 Hr FC)



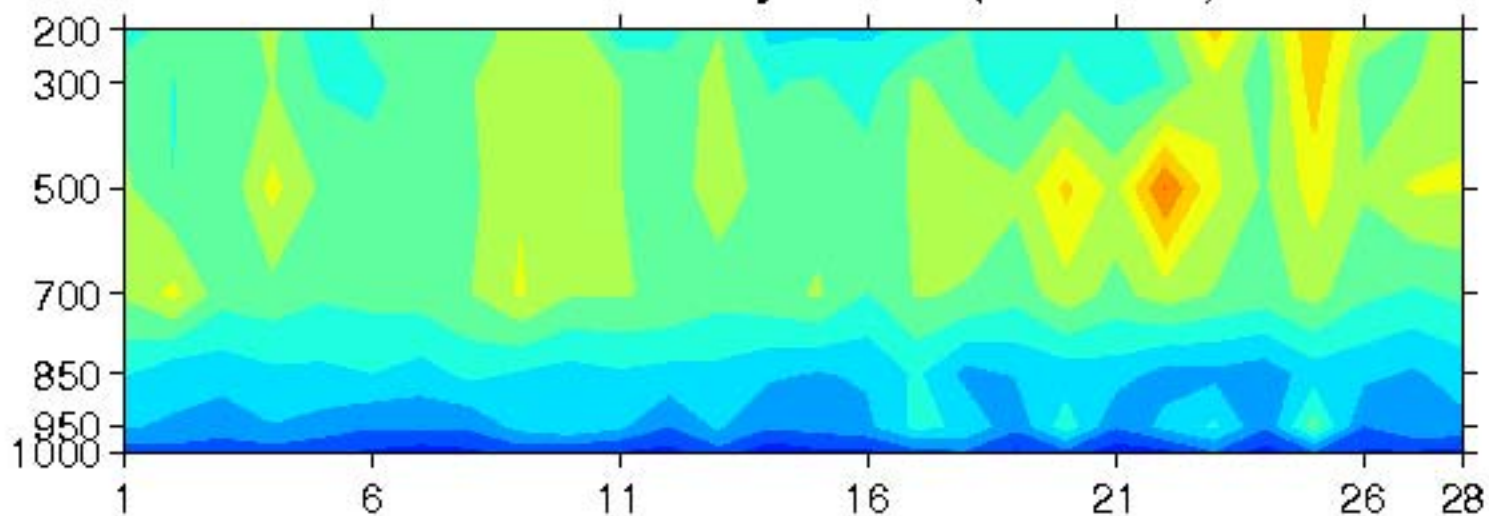
MEAN Relative Humidity (72 Hr FC)



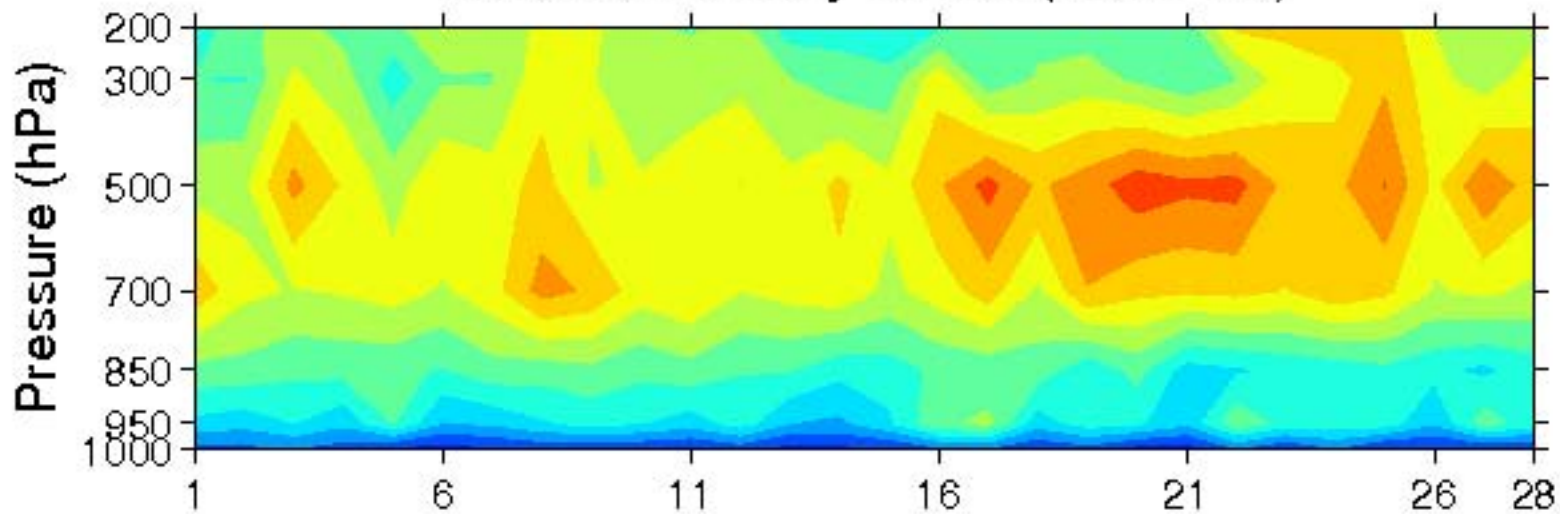
Number of Days May 2012



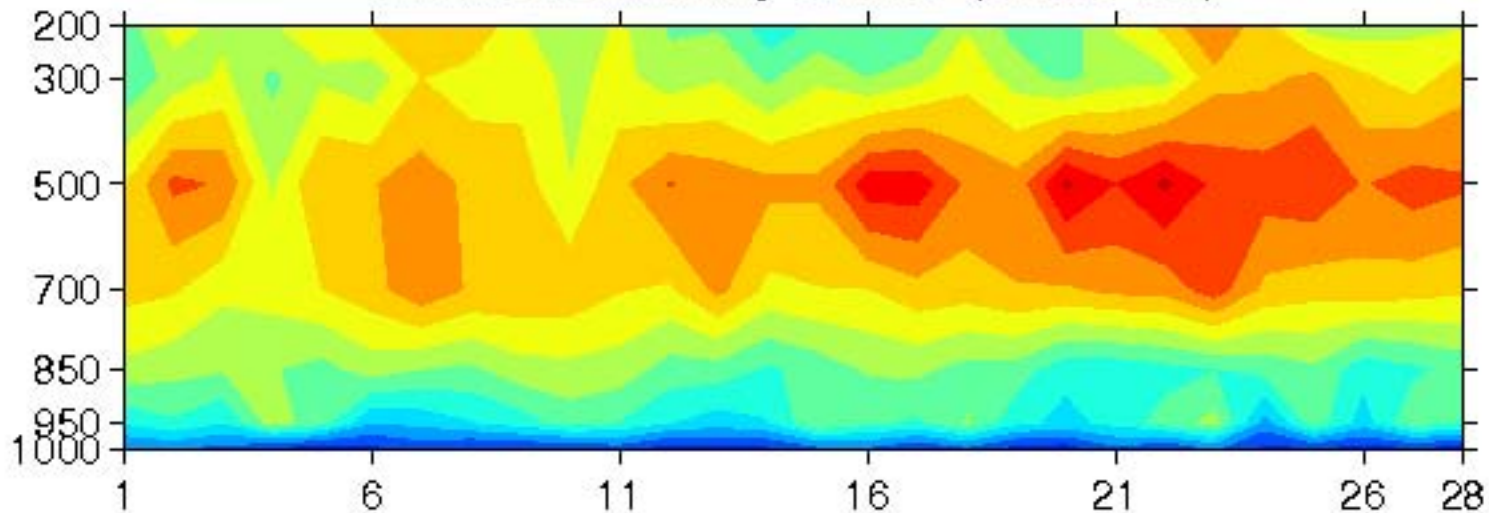
Relative Humidity RMSD (24 Hr FC)



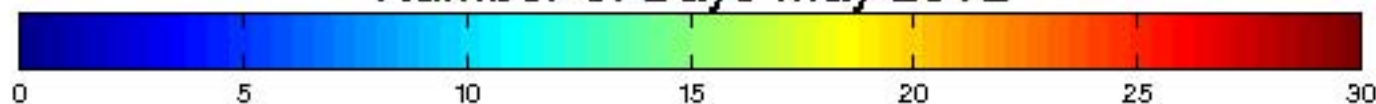
Relative Humidity RMSD (48 Hr FC)



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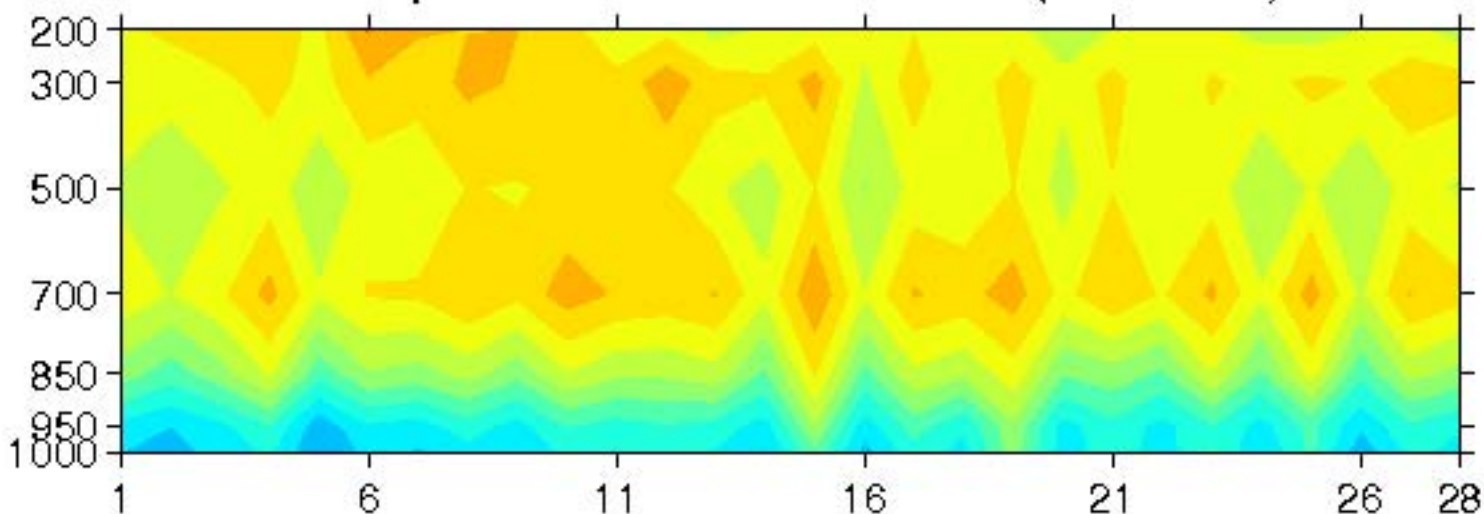


Number of Days May 2012

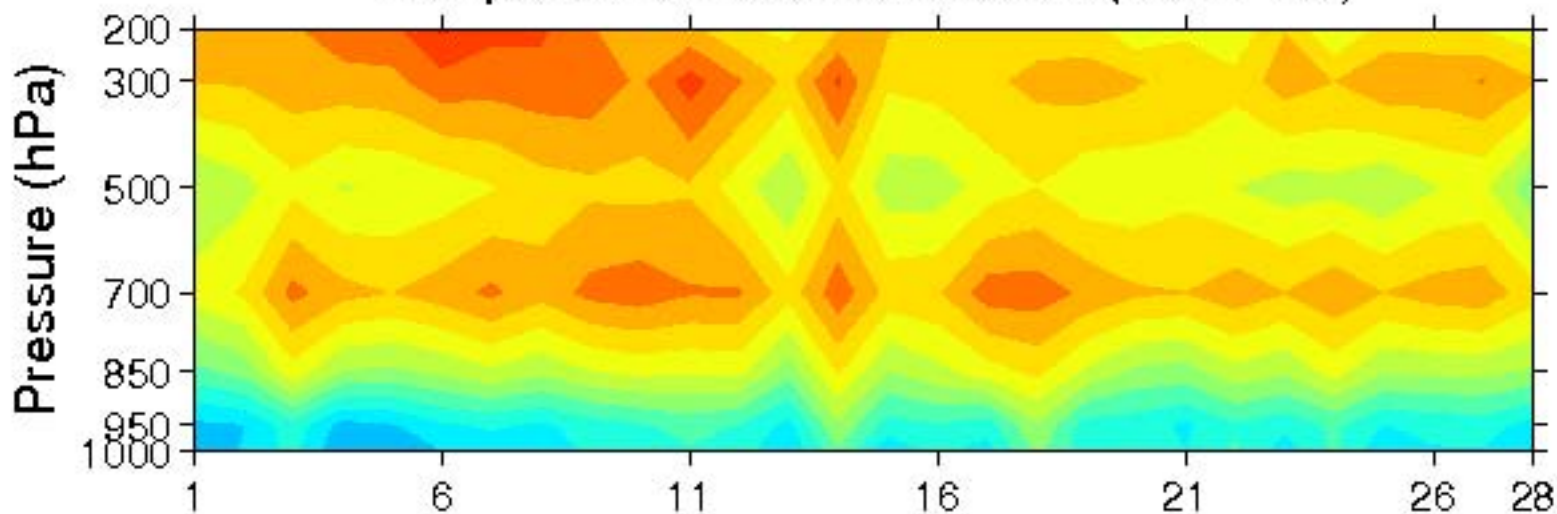




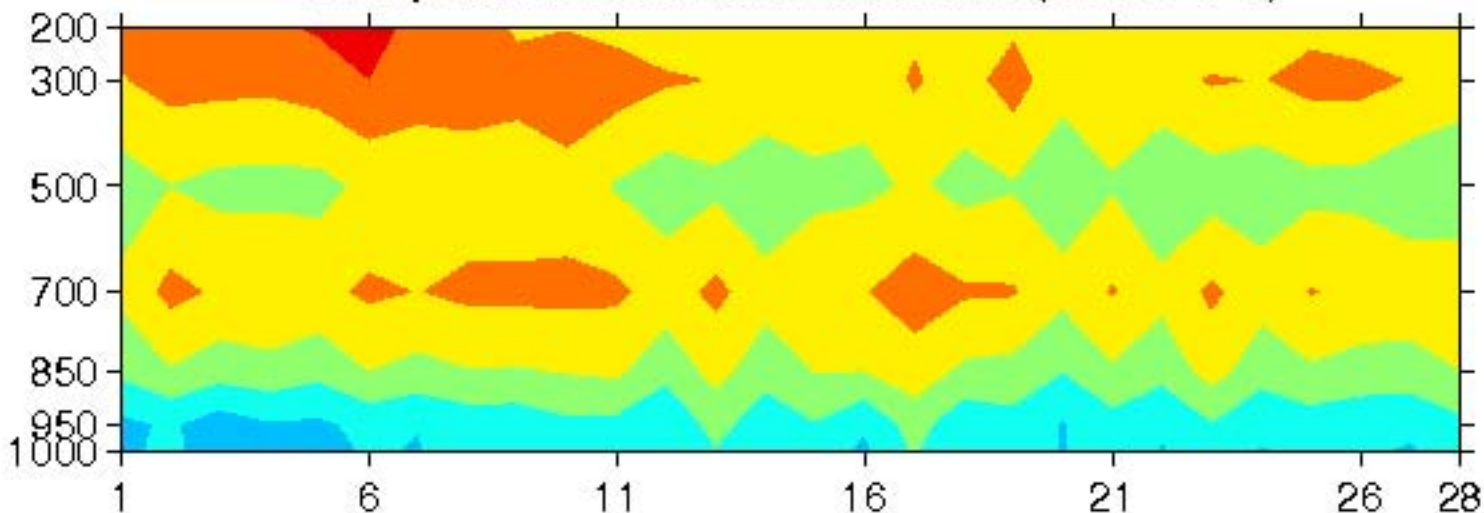
Temperature Mean Difference (24 Hr FC)



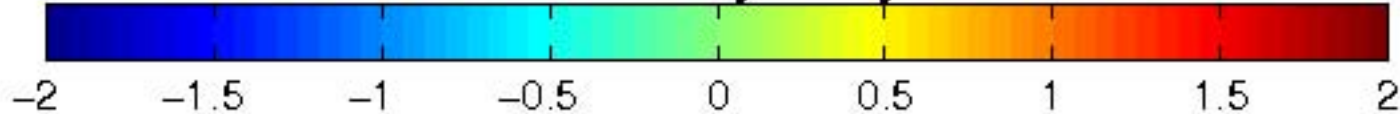
Temperature Mean Difference (48 Hr FC)



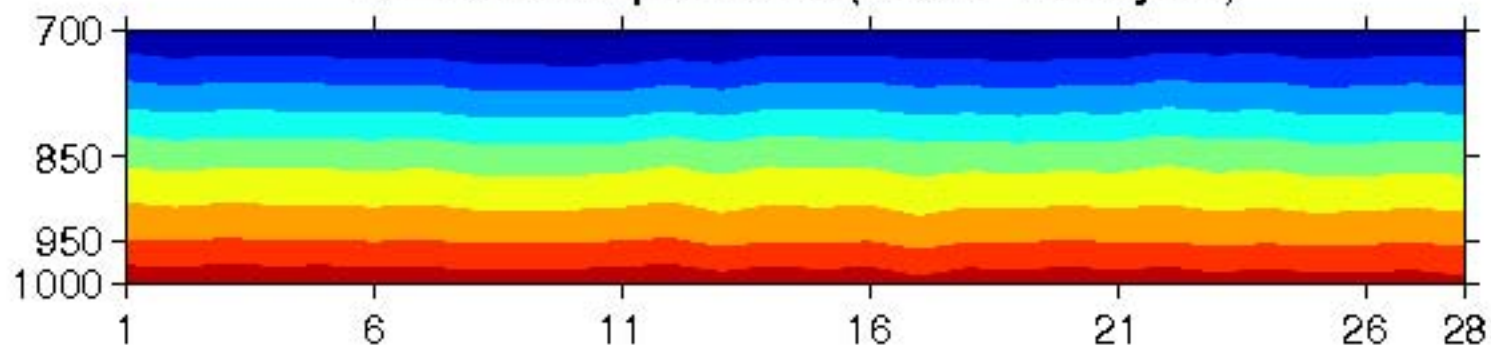
Temperature Mean Difference (72 Hr FC)



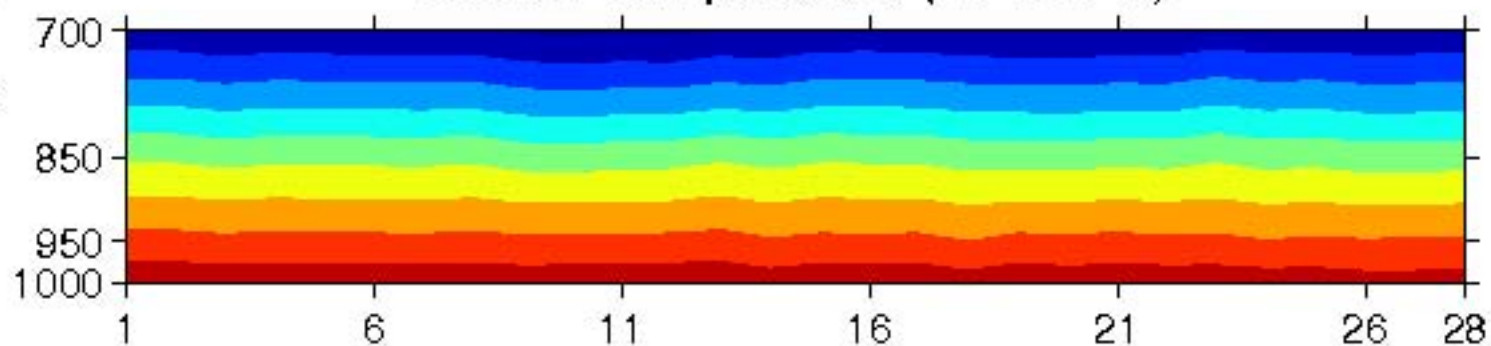
Number of Days May 2012



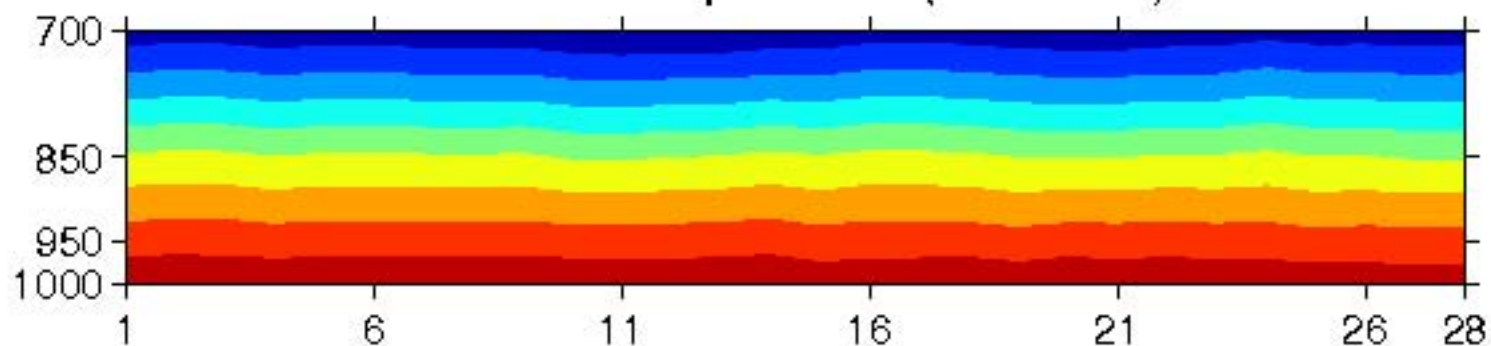
MEAN Temperature (NCEP Analysis)



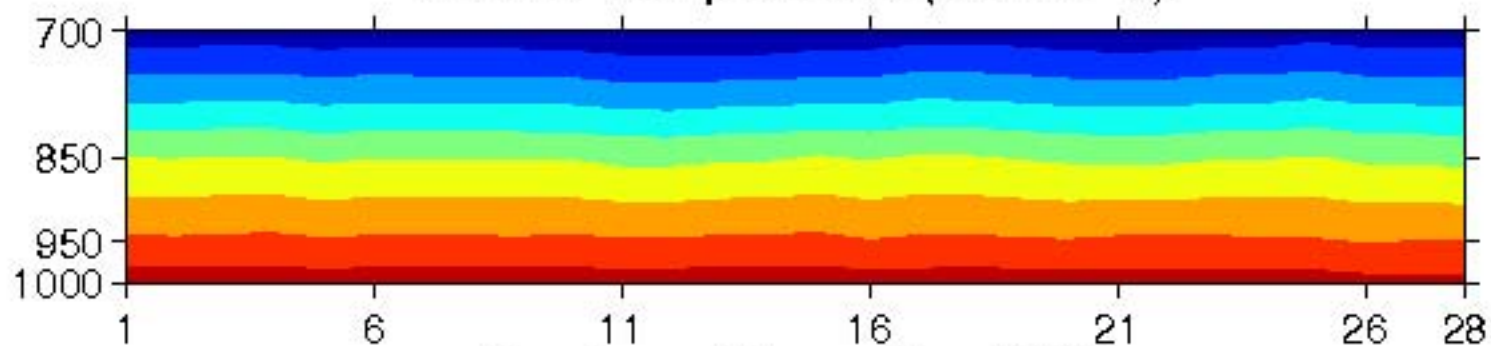
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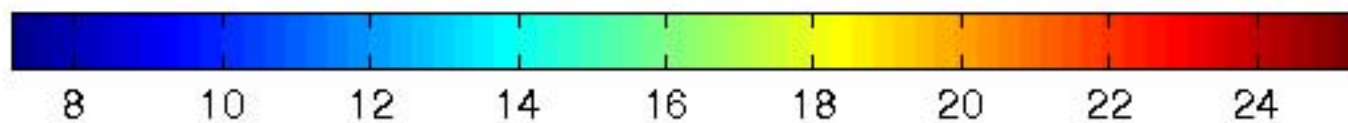
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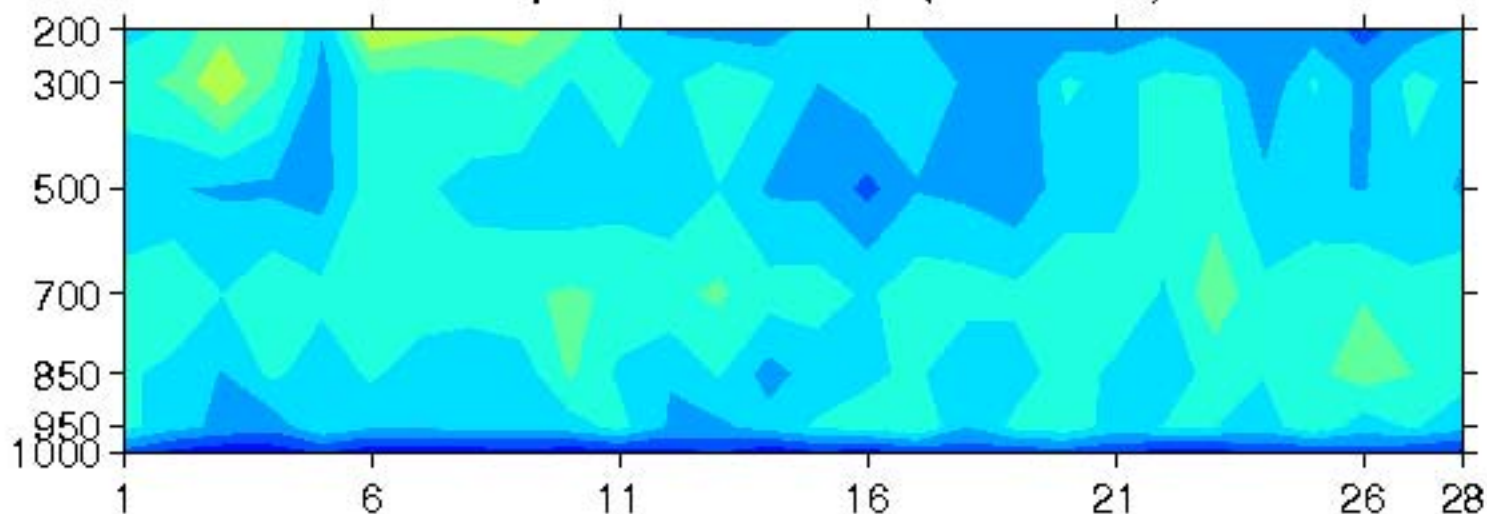
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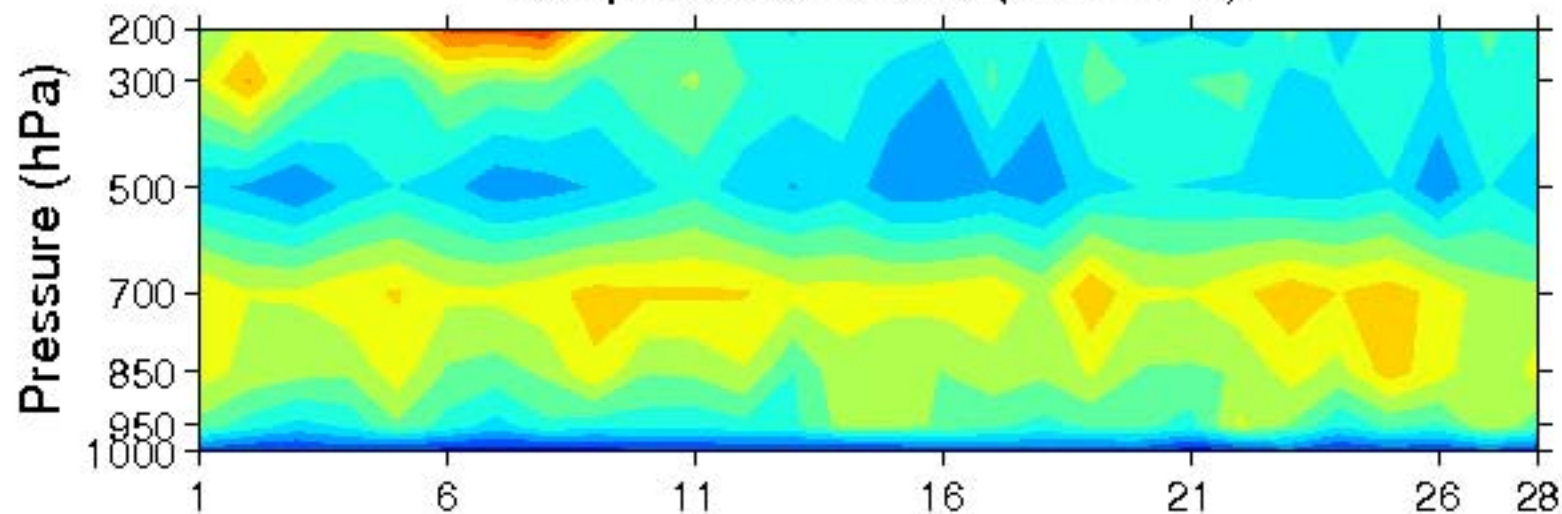
Number of Days May 2012



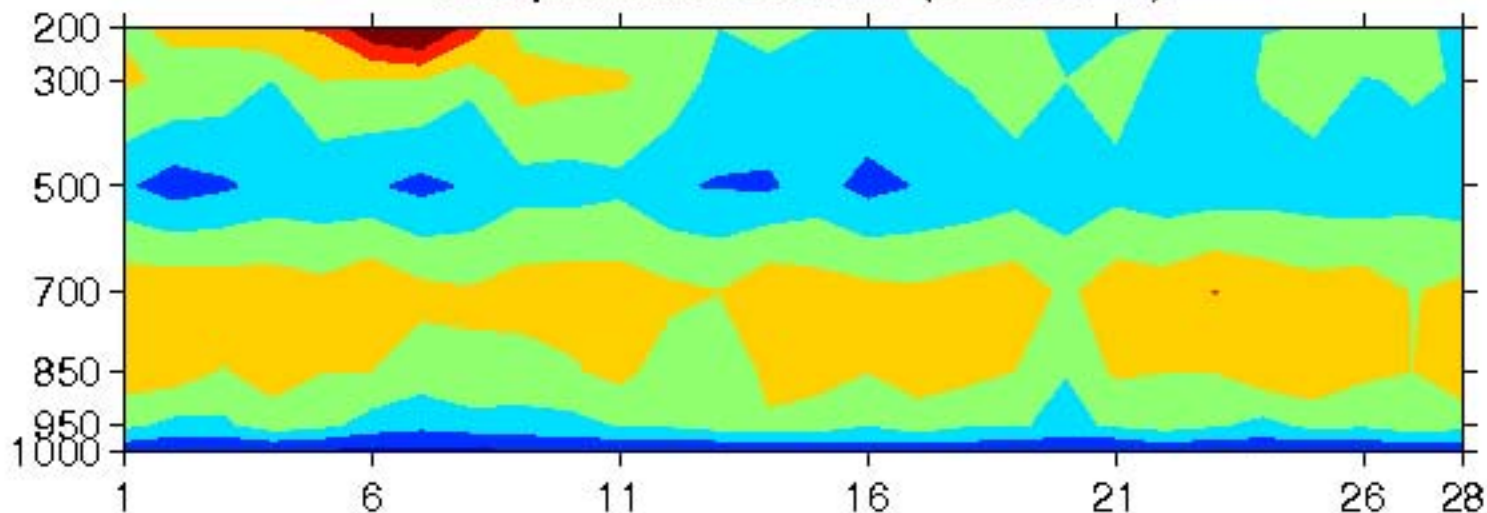
Temperature RMSD (24 Hr FC)



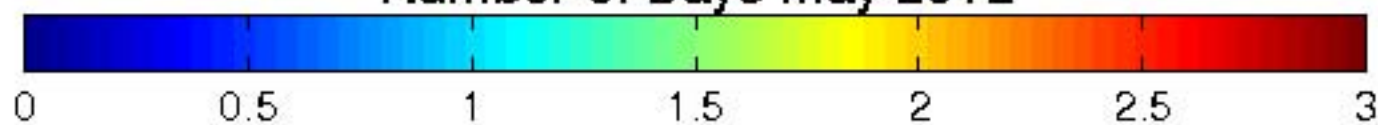
Temperature RMSD (48 Hr FC)



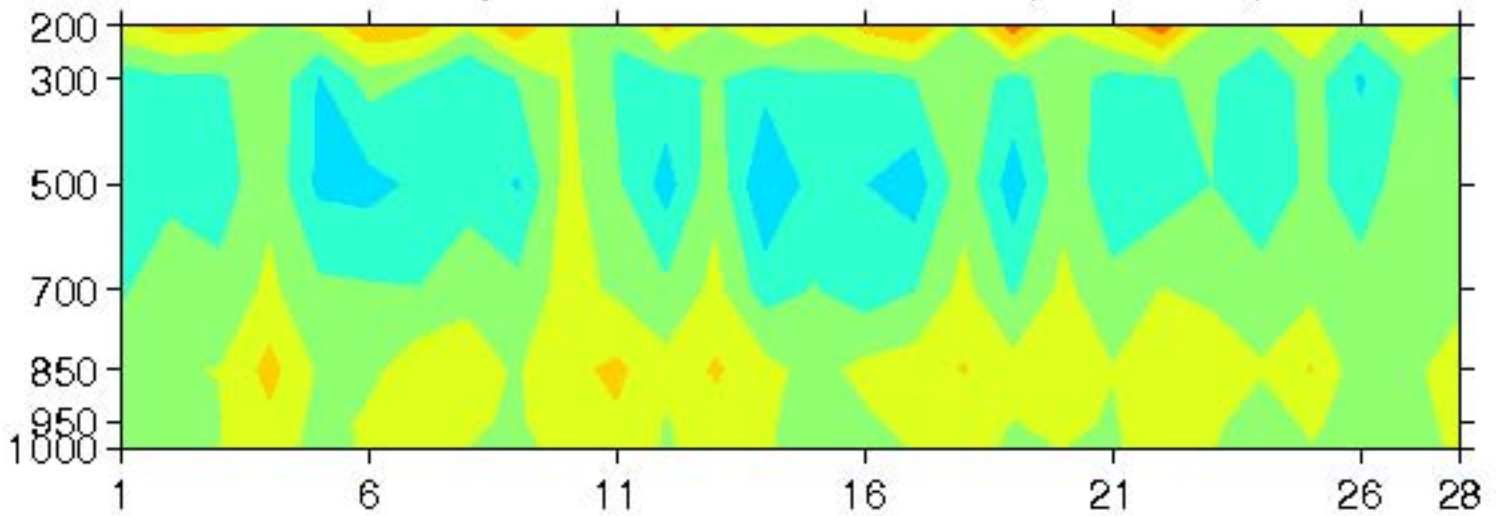
Temperature RMSD (72 Hr FC)



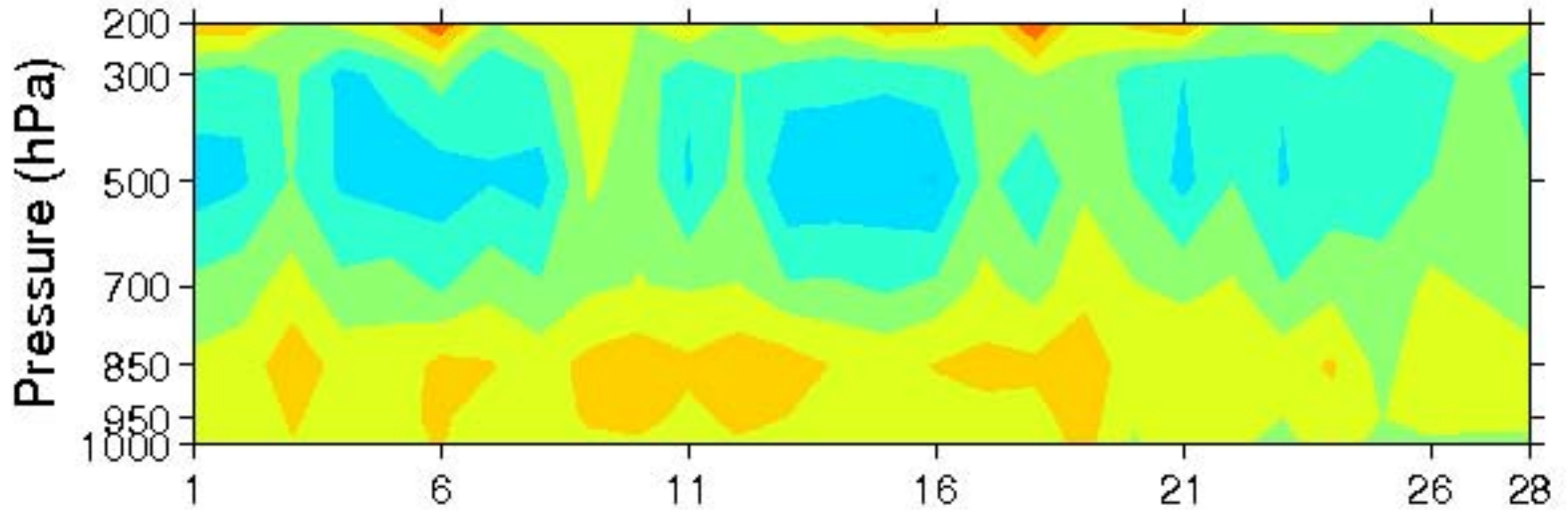
Number of Days May 2012



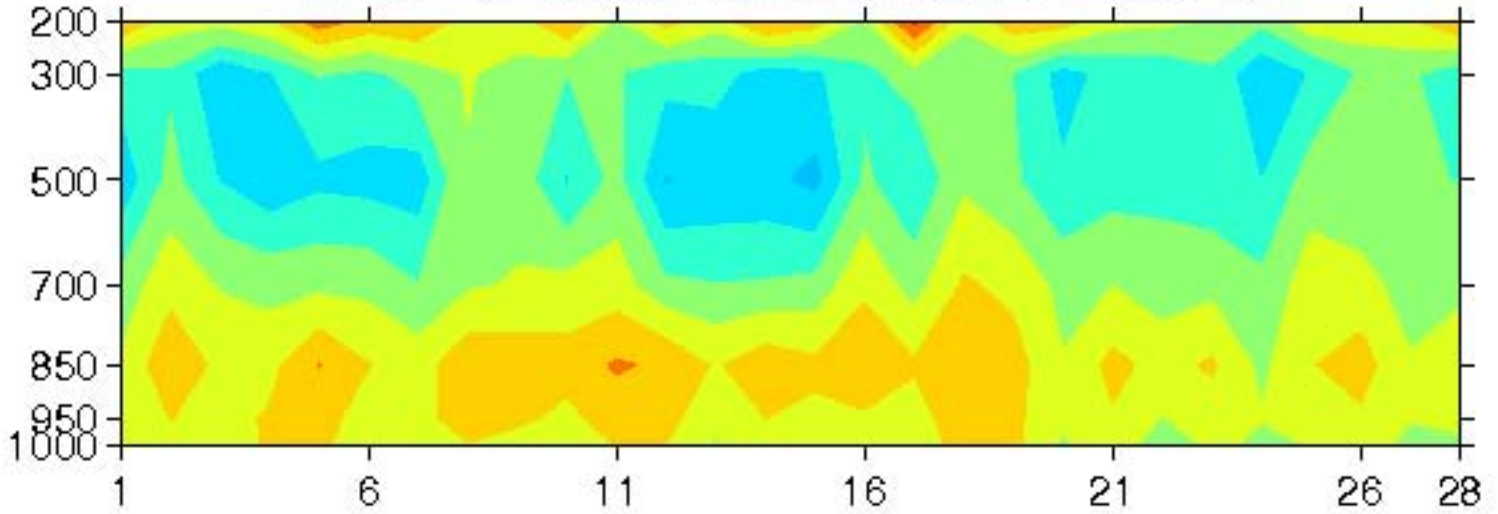
Wind Speed Mean Difference (24 Hr FC)



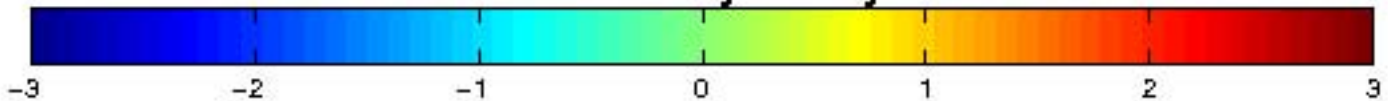
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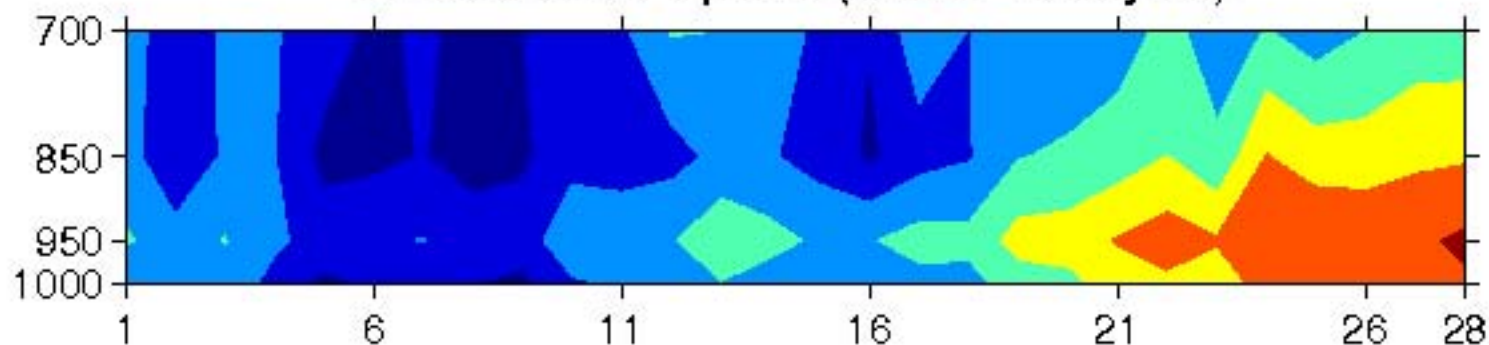
Wind Speed Mean Difference (72 Hr FC)



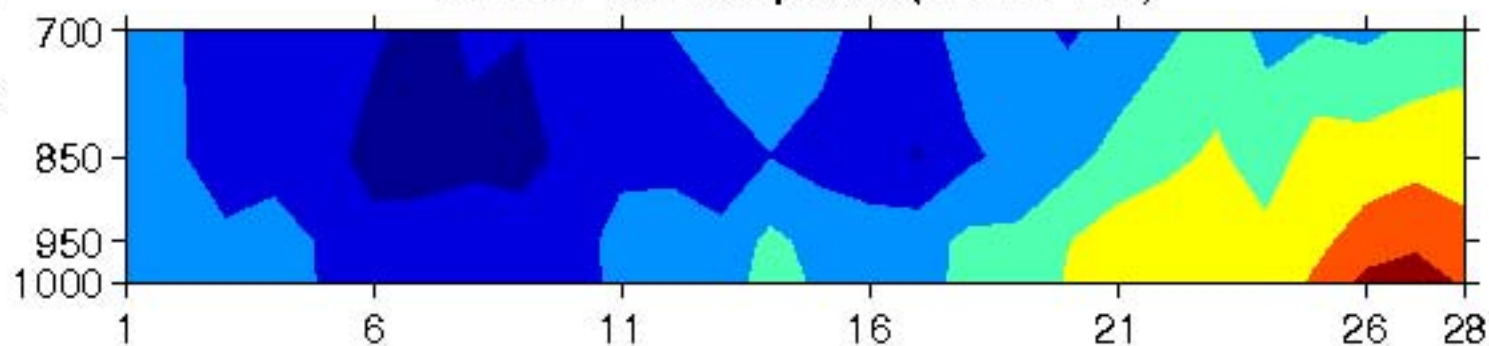
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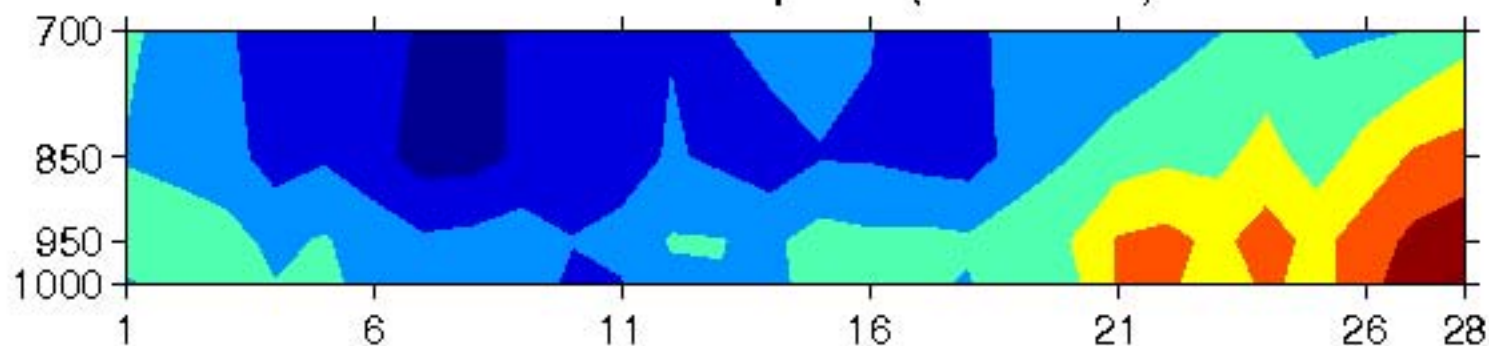
MEAN Wind Speed (NCEP Analysis)



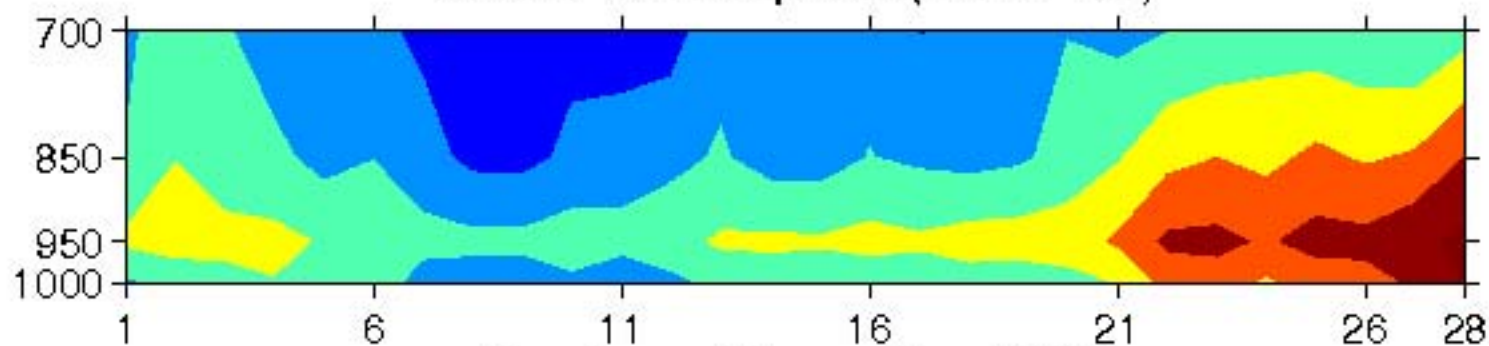
MEAN Wind Speed (24 Hr FC)



MEAN Wind Speed (48 Hr FC)



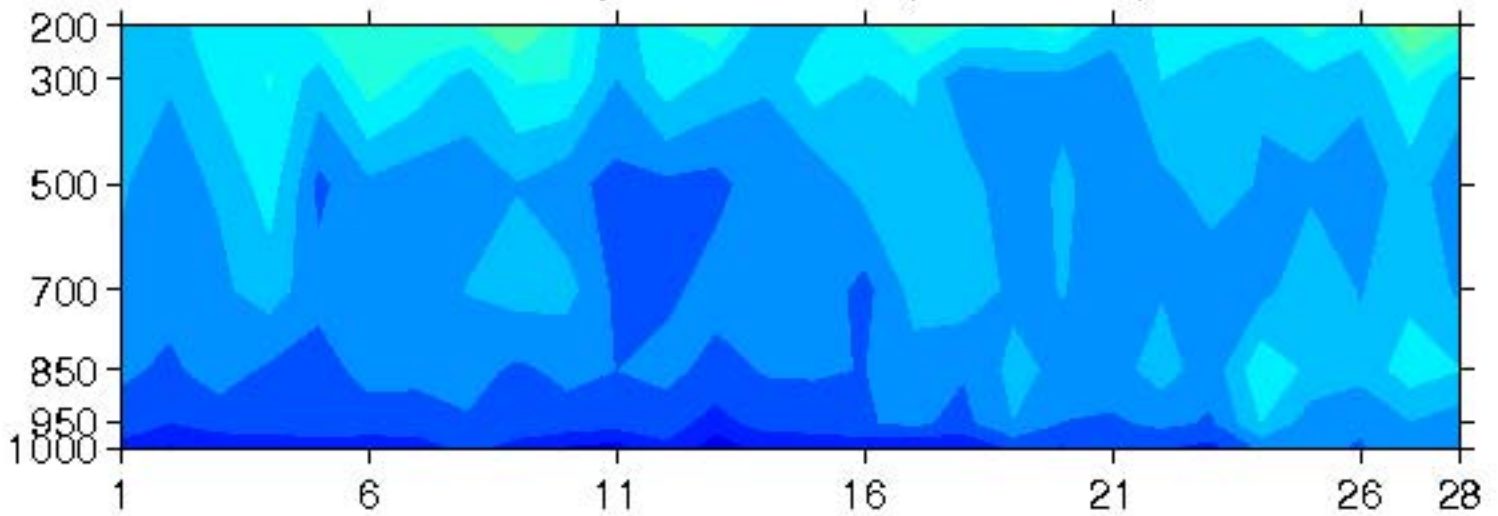
MEAN Wind Speed (72 Hr FC)



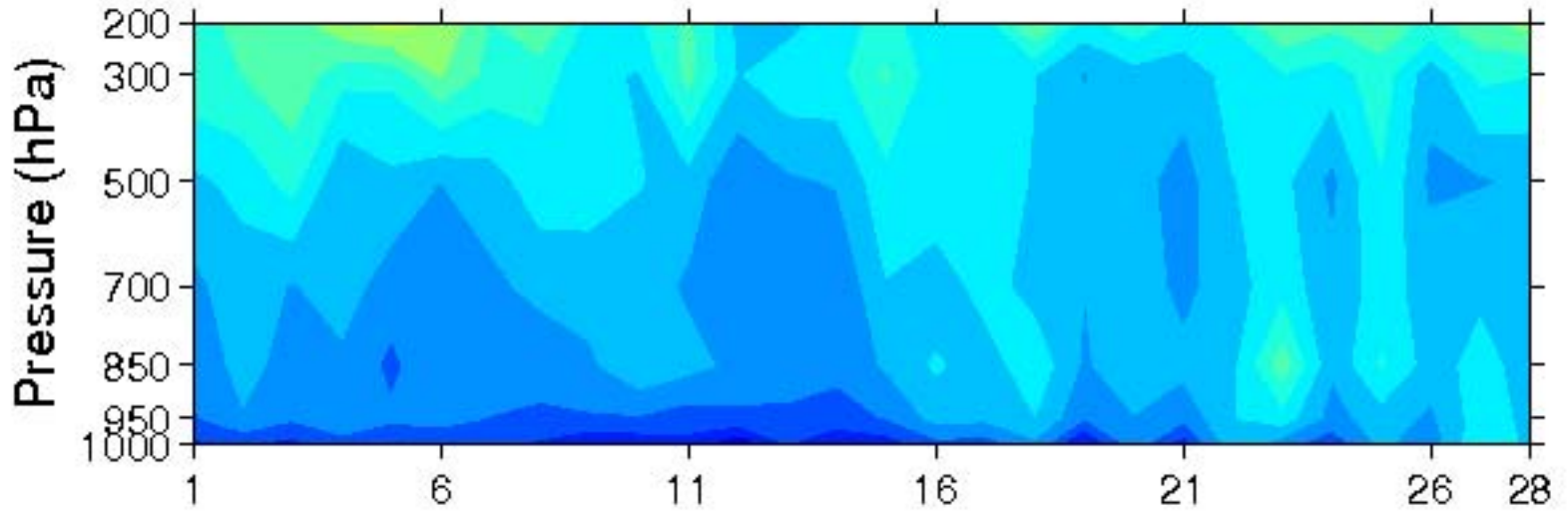
Number of Days May 2012



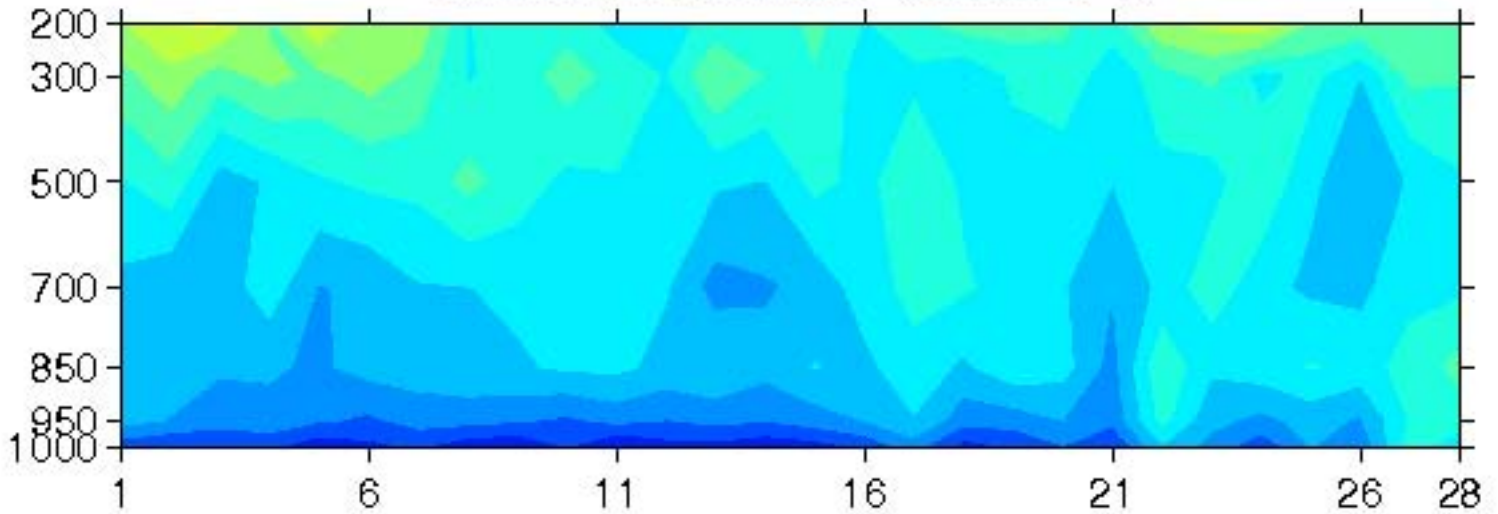
Wind Speed RMSD (24 Hr FC)



Wind Speed RMSD (48 Hr FC)



Wind Speed RMSD (72 Hr FC)



Number of Days May 2012

