



# EMPOWERING DECISION MAKERS 24/7®

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Since 1946



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847-987-3536



# Introduction To Weather Forecasting

# TOPICS

**Weather Analysis**

**Weather Models**

**Meteorologists**



# STORMCAST SNOW TOTALS

9:00 PM WEDNESDAY NORTH AMERICA













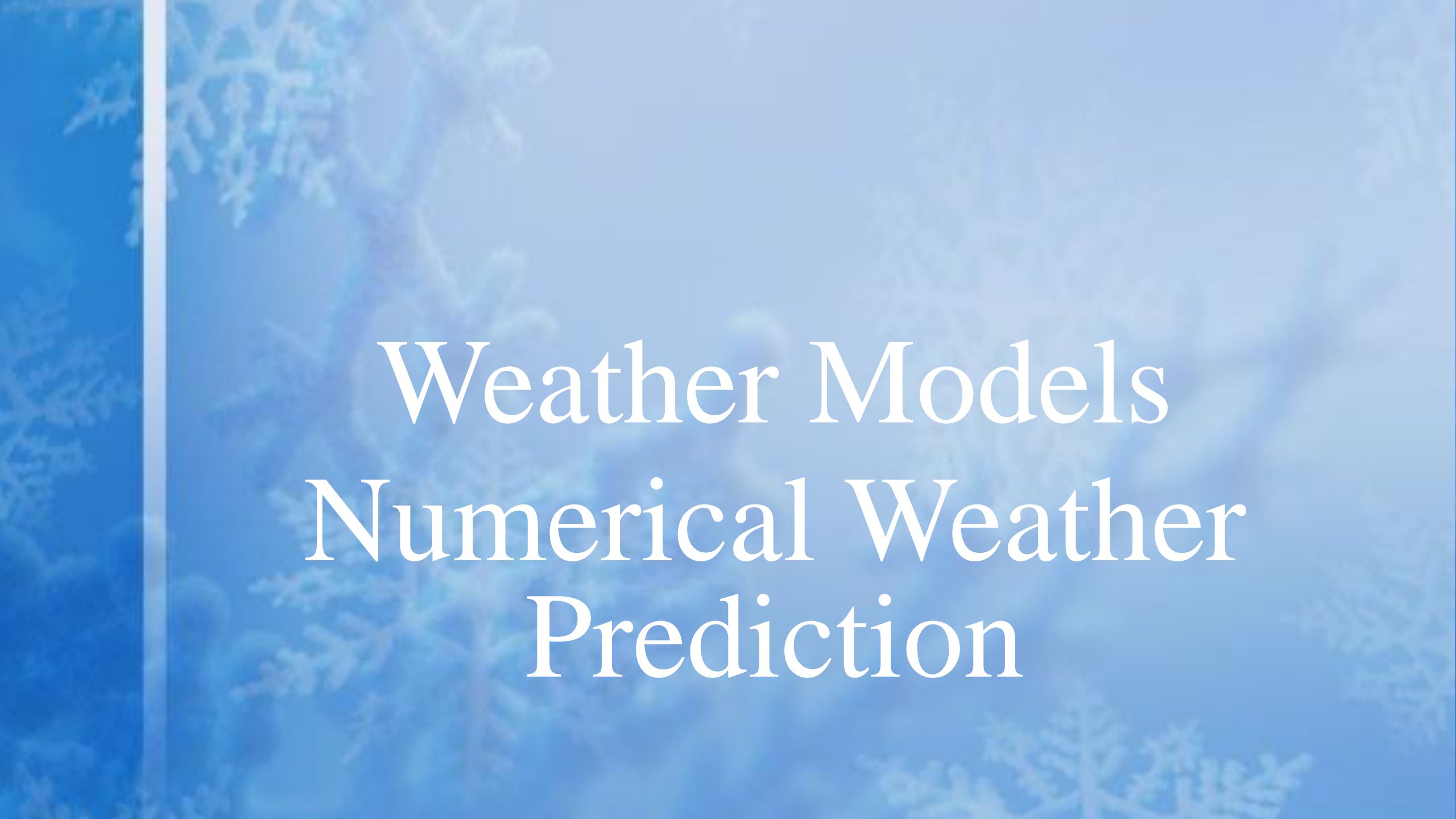






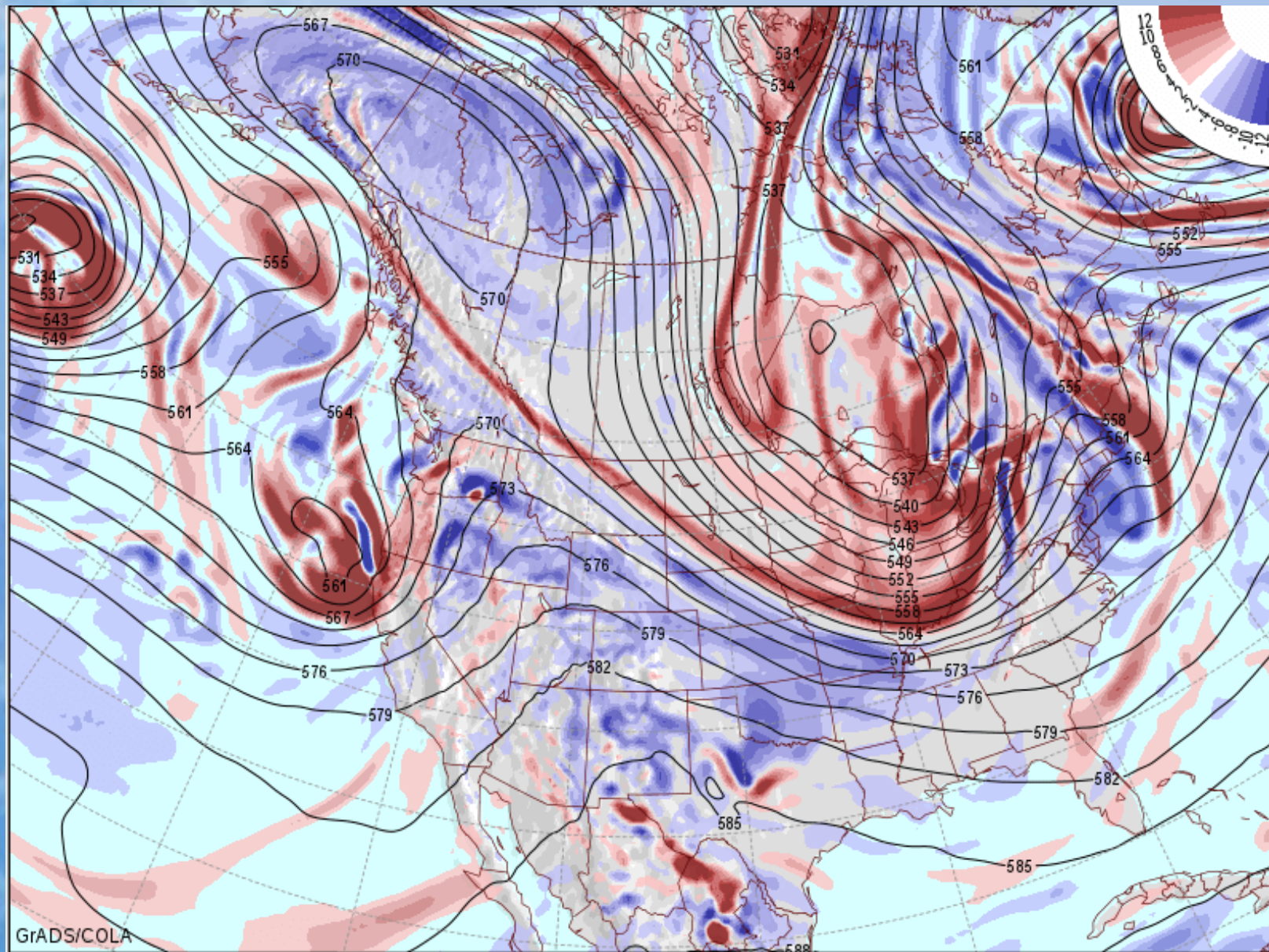
# Weather Analysis





# Weather Models

## Numerical Weather Prediction



36Hr GFS Issued: 00Z13MAY2016 Valid: 12Z Sat 14 MAY 2016

500mb Heights (dam), Vorticity ( $1e^5/sec$ )



# Meteorologist







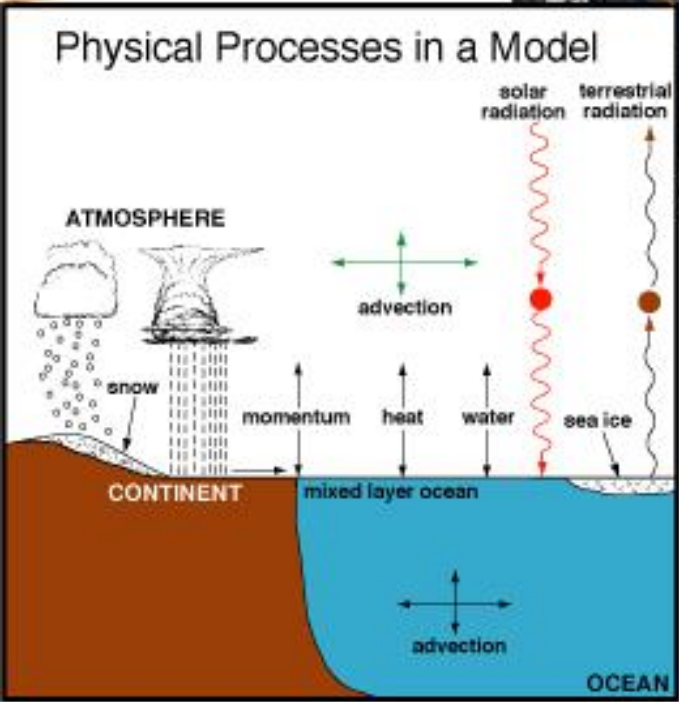
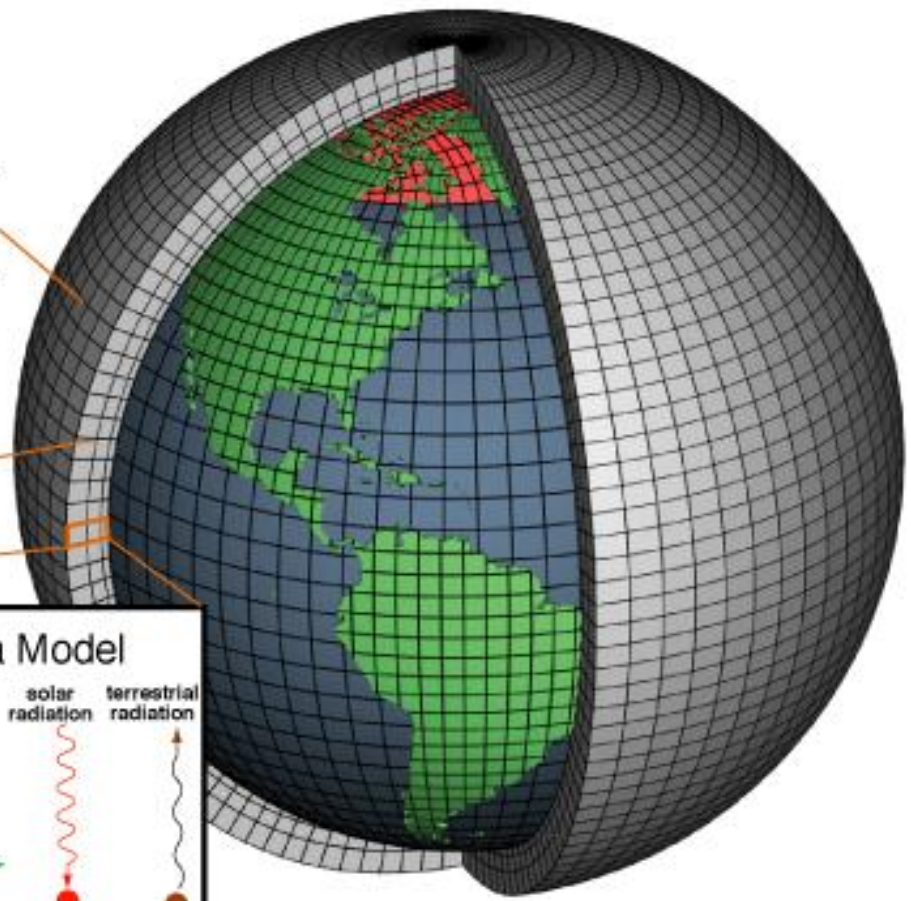
# › Weather Analysis

› When looking at the weather we must look both horizontal and vertical!



Horizontal Grid  
(Latitude-Longitude)

Vertical Grid  
(Height or Pressure)



› We must start by looking at the current weather conditions at the surface.







SpecMaster 903

1000001

11:03:58 01/20/16 1603Z

KENNEDY INTERNATIONAL ARPT

SKY = CLR

VISIBILITY = 10SM

RUR = B04R/P6000FT

PRESENT WX =

REMARKS = RPK A02

TEMP/DEWPT = 17.2 /-11.1 C 63 /12 F

WIND DIR/SPD = 350/14619

ALTIMETER = 30.27

METAR KJFK 201551Z 35012619KT 10SM CLR 17/M11 A3027 RPK A02 PK WND 35026/1510  
SLP250 T01671111

MAG WIND: 360/14619  
RELATIVE HUMIDITY: 13  
SEA LVL PRESSURE: 1024.9

STATION PRESSURE: 30.24  
PRESSURE ALTITUDE: -300  
DENSITY ALTITUDE: 0

PRINT	GENOB	CMD
REWE	TMR	
SIGN	EDIT	AUX





- › Surface Weather Data is only augmented by humans at 109 airports.
- › ~900 just automated.

- › Good at Temp/DP, Winds, Sky Below 12000ft. (Slow to react)
- › Can't Report Clouds Above 12000ft.



›Fair at Visibility, Rain  
Intensity.

- › Poor at Snow/Freezing  
Rain/Sleet, T-storms,  
Hail & Rapid Changes.
- › Can't Measure Snow!

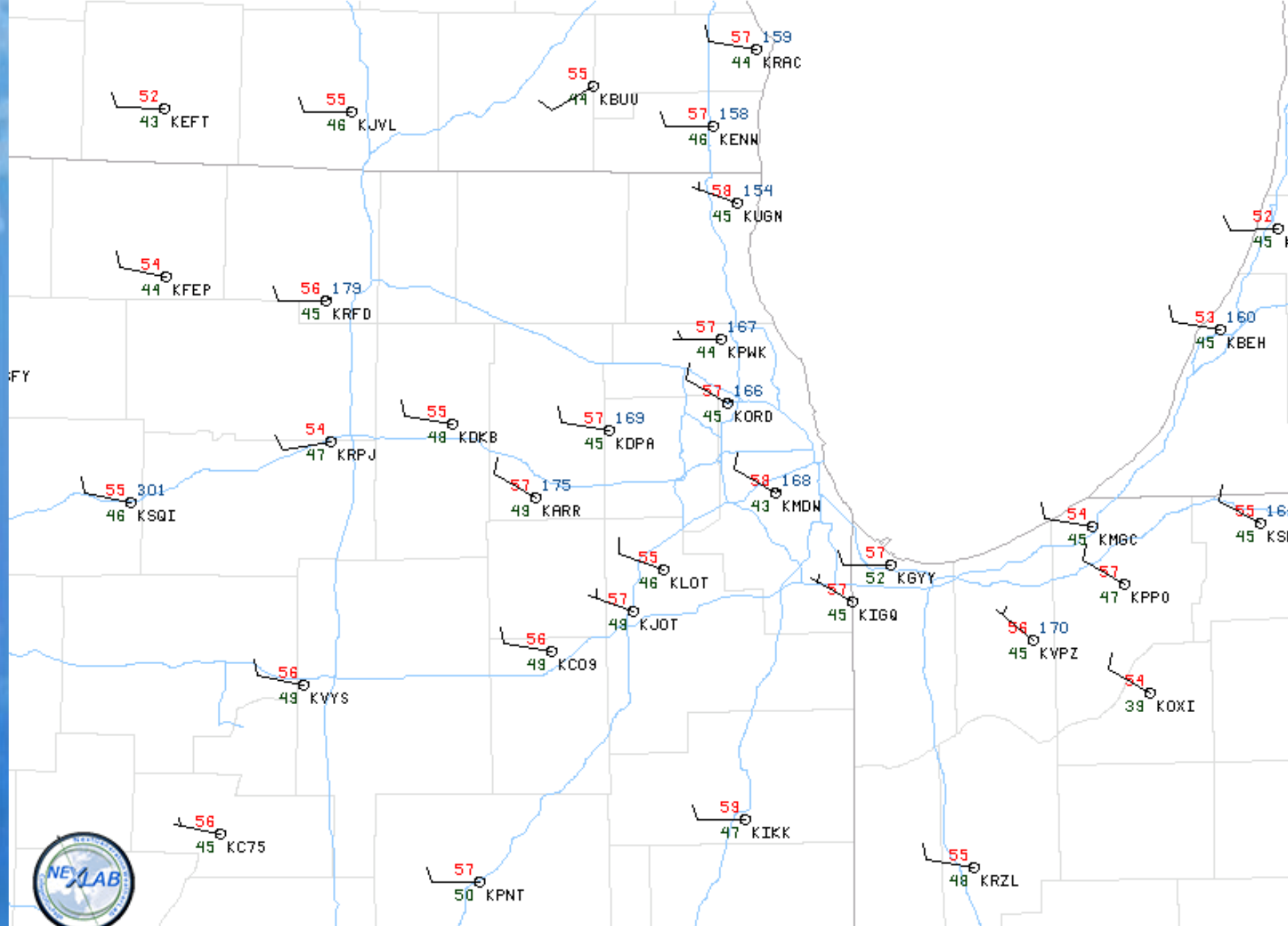
› METAR Reports once  
per hour or SPECI  
Reports as necessary.

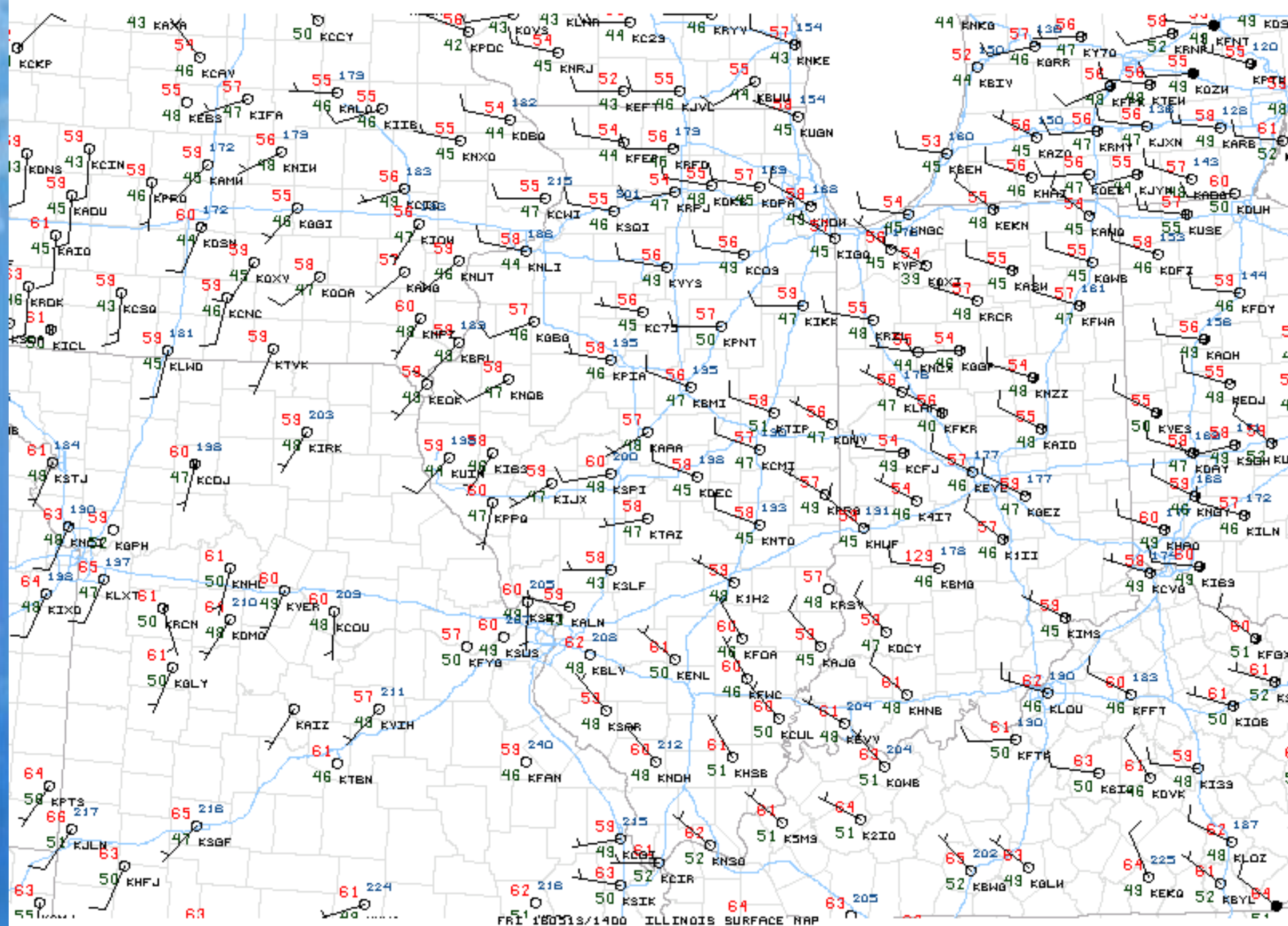


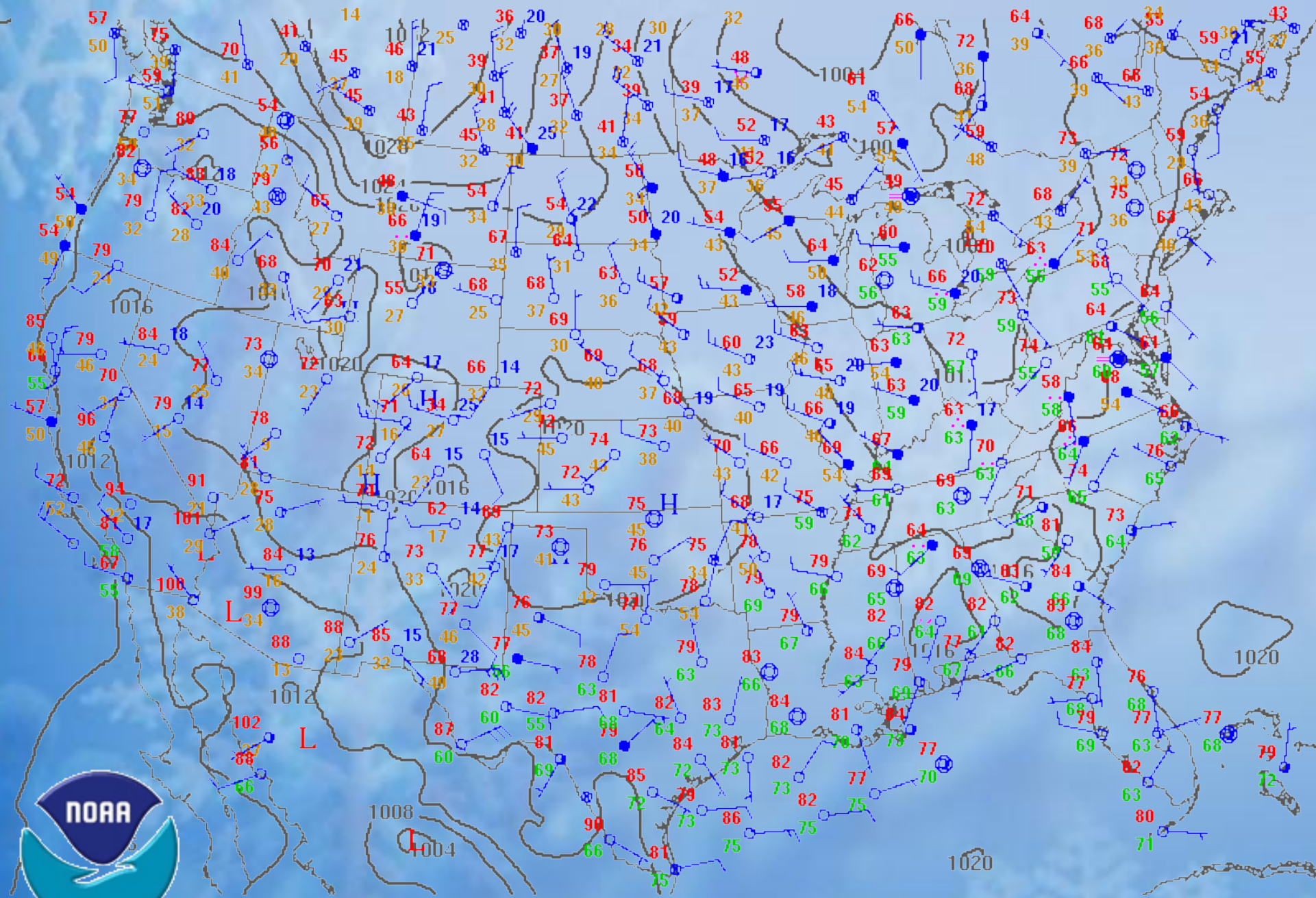
## NCAR-RAP Real-Time Weather Data

Output produced by METARs form (13 May 2016 18:21 UTC)  
found at <http://weather.rap.ucar.edu/surface/>

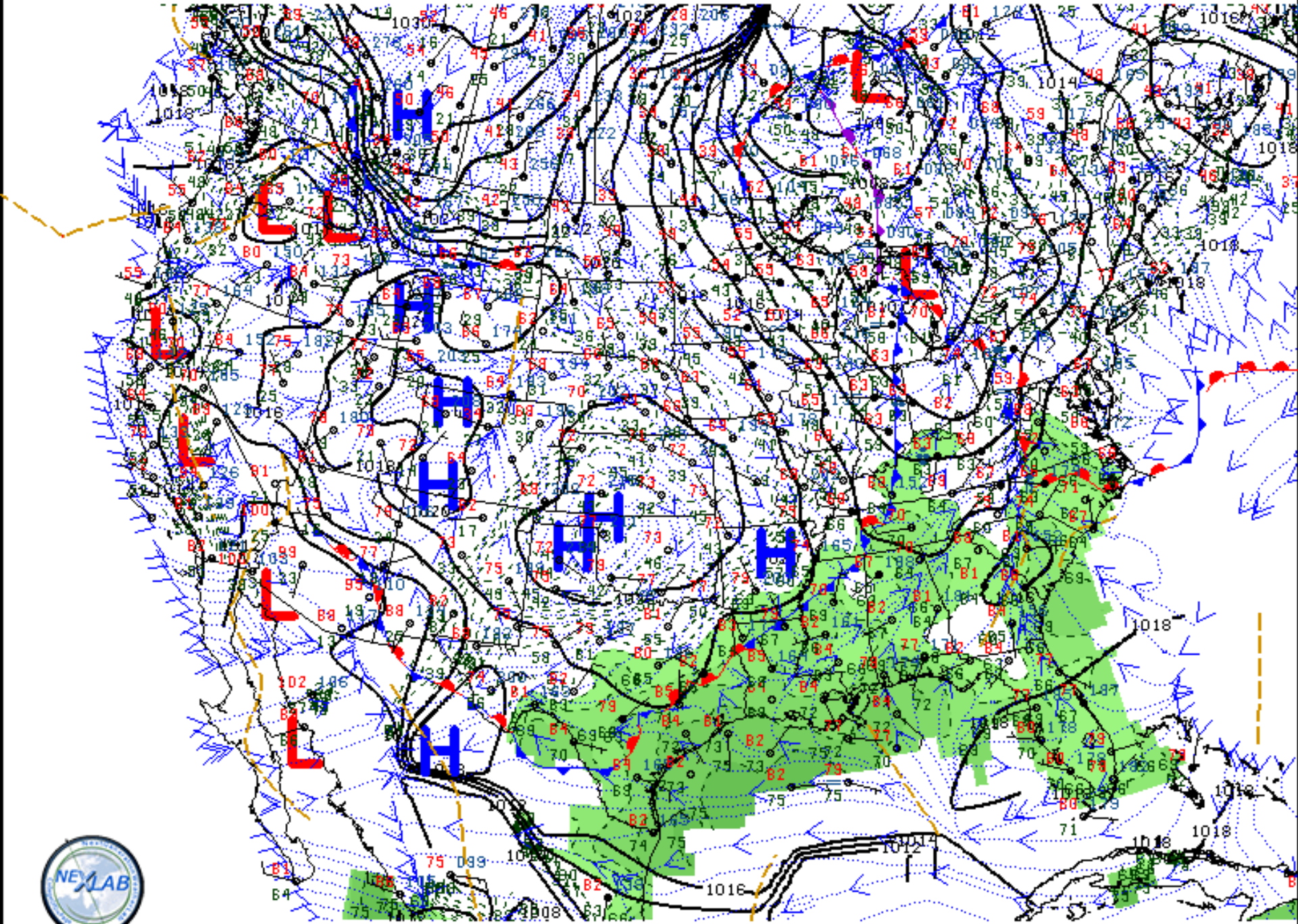
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KORD 131551Z 25013KT 10SM FEW040 FEW250 16/06 A3001 RMK AO2 SLP161 T01560061  
KORD 131451Z 26012G16KT 10SM FEW038 FEW250 15/06 A3002 RMK AO2 SLP163 T01500061 50002  
KORD 131351Z 30009KT 10SM FEW250 14/07 A3002 RMK AO2 SLP166 T01390072  
KORD 131251Z 26008KT 10SM FEW250 12/07 A3000 RMK AO2 SLP160 T01170072  
KORD 131151Z 27009KT 10SM FEW250 10/07 A3001 RMK AO2 SLP163 T01000067 10122 20089 51012  
KORD 131051Z 28007KT 10SM FEW250 09/06 A3000 RMK AO2 SLP158 T00940061  
KORD 130951Z 29010KT 10SM CLR 09/06 A2999 RMK AO2 SLP153 T00940061  
KORD 130851Z 28008KT 10SM FEW039 10/06 A2997 RMK AO2 SLP149 T01000061 53006  
KORD 130751Z 28009KT 10SM SCT039 11/07 A2996 RMK AO2 SLP145 T01060067  
KORD 130651Z 29011KT 10SM CLR 11/07 A2996 RMK AO2 SLP144 T01110067







160513/0000, Surface OA Pressure and Obs  
 weather, Temp, Dvpt, Gusts





› We must also look at the vertical profile of the atmosphere by use of 69 US weather balloons

› Over 800 weather balloons launched worldwide!  
(Radiosondes)



- › These balloons are launched twice a day worldwide at 00Z & 12Z GMT
- › (7P & 7A CDT)

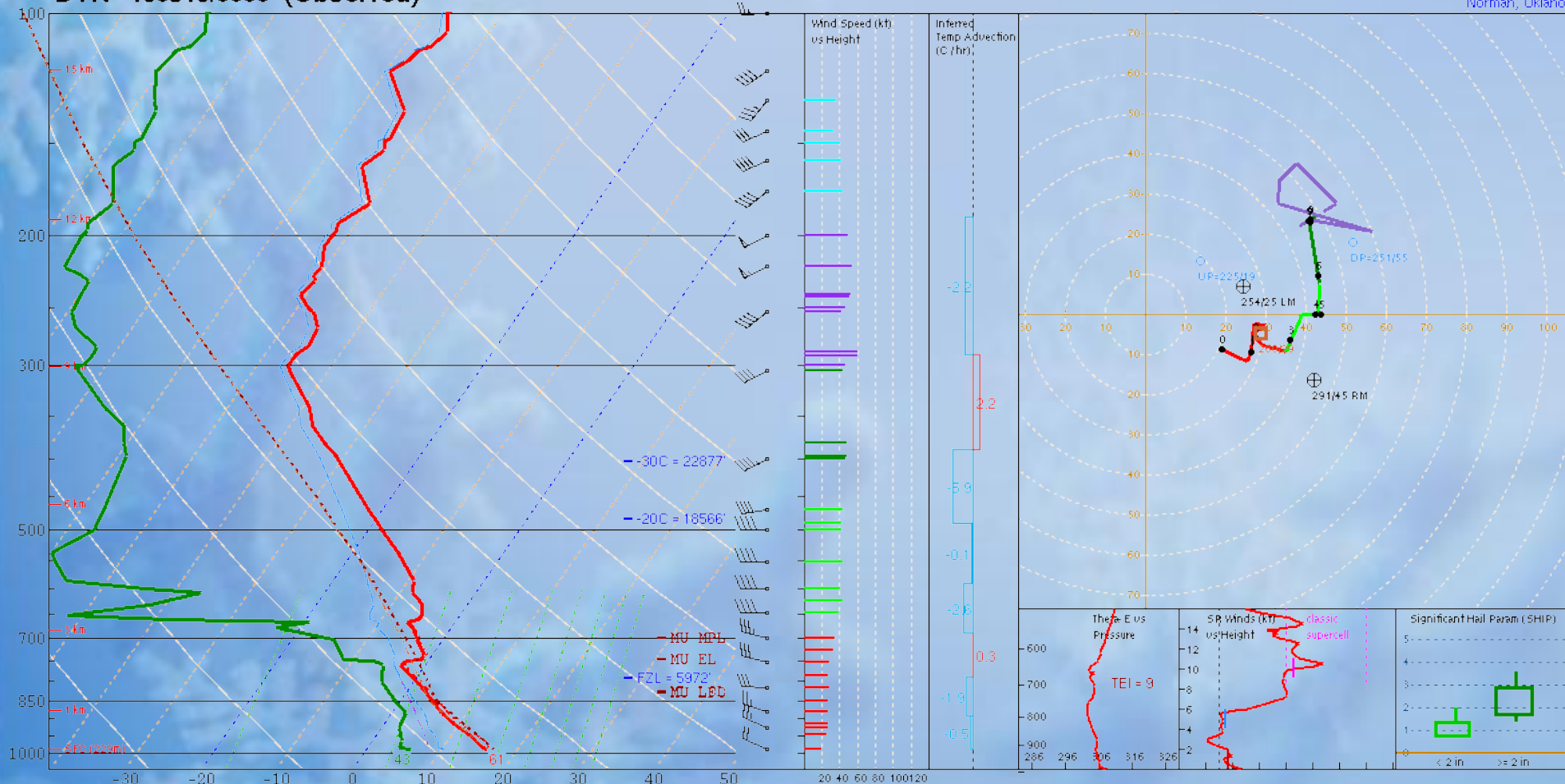
› Takes about an hour to get all the data processed and ready for use.





# DVN 160513/0000 (Observed)

NOAA/NWS Storm Prediction Center  
Norman, Oklahoma



PARCEL	CAPE	CINH	LCL	LI	LFC	EL
SURFACE	29	-1	1254m	6	1455m	7541'
MIXED LAYER	6	-17	1478m	7	1905m	7367'
FCST SURFACE	27	0	1735m	6	1735m	7541'
MU (889 mb)	29	-1	1254m	6	1455m	7541'

PW = 0.50 in	3CAPE = 6 J/kg	WBZ = 5153'	WWDG = 0.0
K = 10	DCAPE = 254 J/kg	FZL = 5972'	ESP = 0.0
MidRH = 30%	Downt = 48 F	ConvT = 63F	MMP = 0.42
LowRH = 59%	MeanW = 5.3 g/kg	MaxT = 65F	NCAPE = 0.03
SigSevere = 88 m3/3			

3-6km Agl Lapse Rate = 7.2 C/km	<b>Supercell = 0.0</b>
3-6km Agl Lapse Rate = 6.1 C/km	<b>Left Supercell = 0.0</b>
850-500mb Lapse Rate = 5.6 C/km	<b>STP (eff layer) = 0.0</b>
700-500mb Lapse Rate = 5.8 C/km	<b>STP (fix layer) = 0.0</b>
	<b>Sig Hail = 0.0</b>

	SRH(m2/s2)	Shear(kt)	MnWind	SRW
SFC - 1 km	7	7	294/26	108/19
SFC - 3 km	39	17	286/28	120/17
SFC - 6 km		30	279/32	136/15
SFC - 8 km		39	274/33	145/16
LCL - EL (Cloud Layer)		6	279/29	132/18

BRN Shear = 16 m/s <sup>2</sup>	
4-6km SR Wind = 184/18 kt	

..... Storm Motion Vectors .....

Bunkers Right = 291/45 kt

Bunkers Left = 254/25 kt

Corfidi Downshear = 251/55 kt

Corfidi Upshear = 225/19 kt

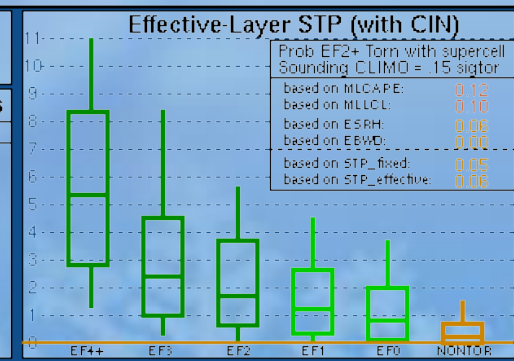
\*\*\* BEST GUESS PRECIP TYPE \*\*\*

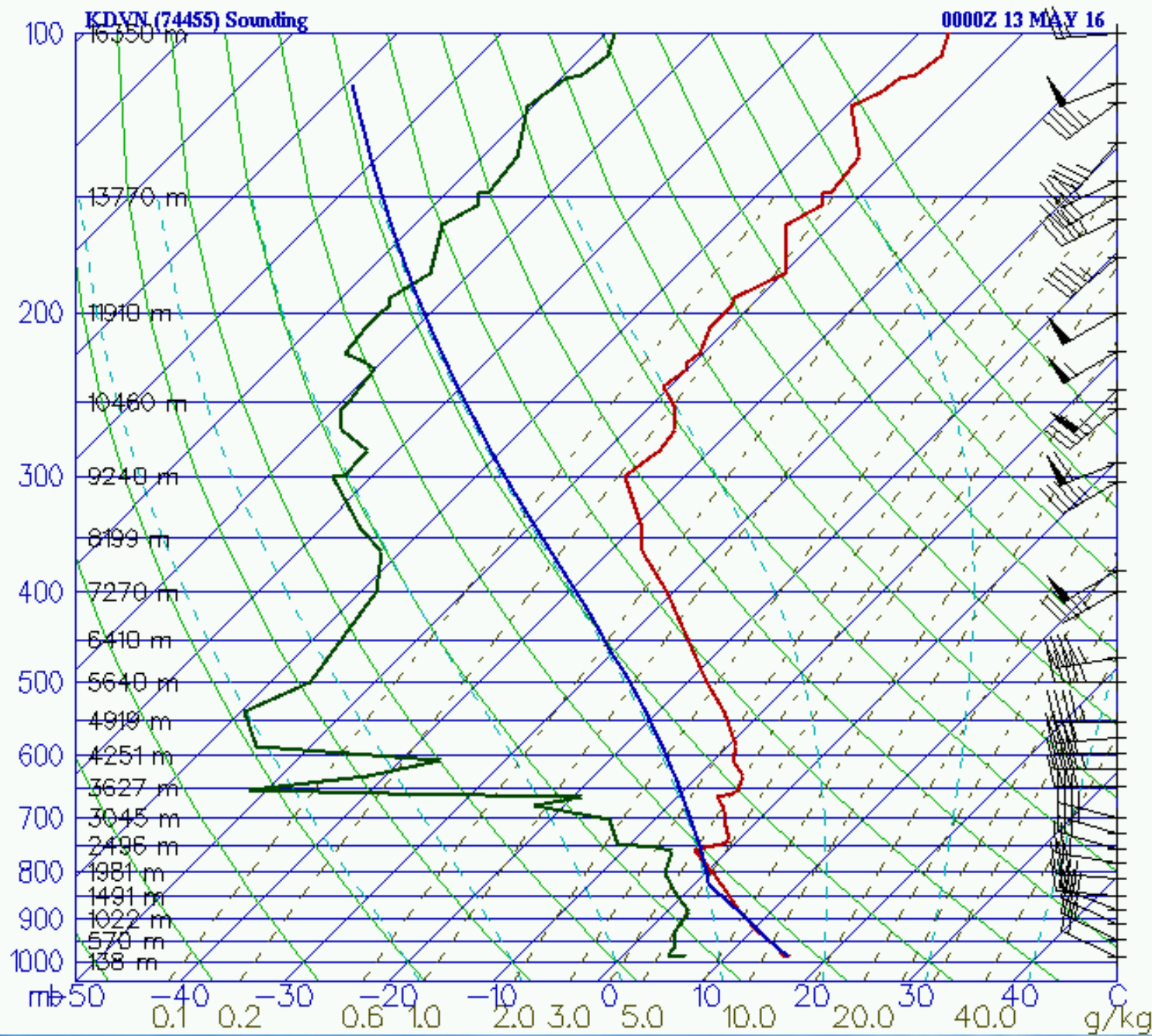
**None.**

Based on sfc temperature of 61.2 F.

**SARS - Sounding Analogs**

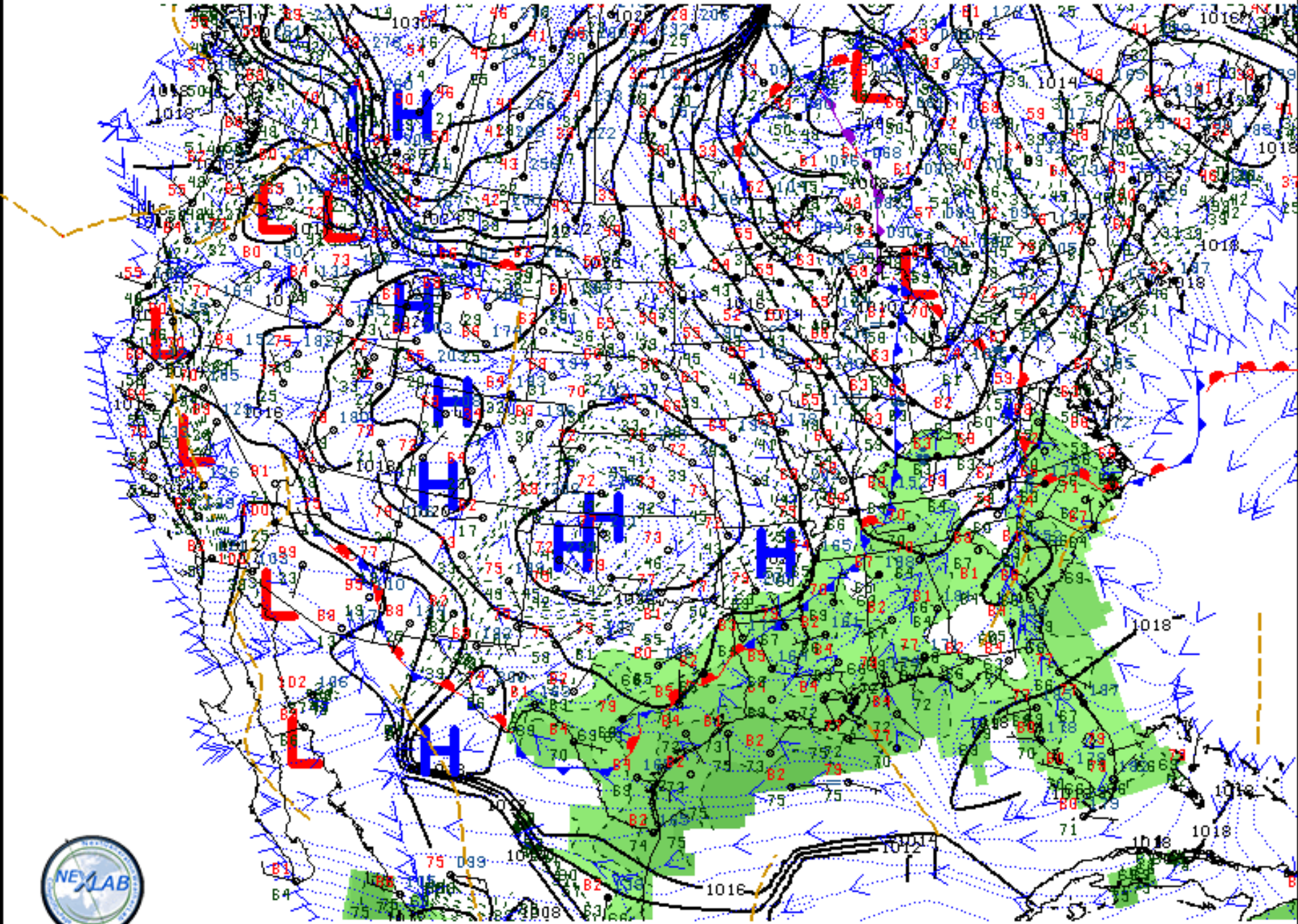
SUPERCCELL	SGFNT HAIL
No Quality matches	No Quality matches



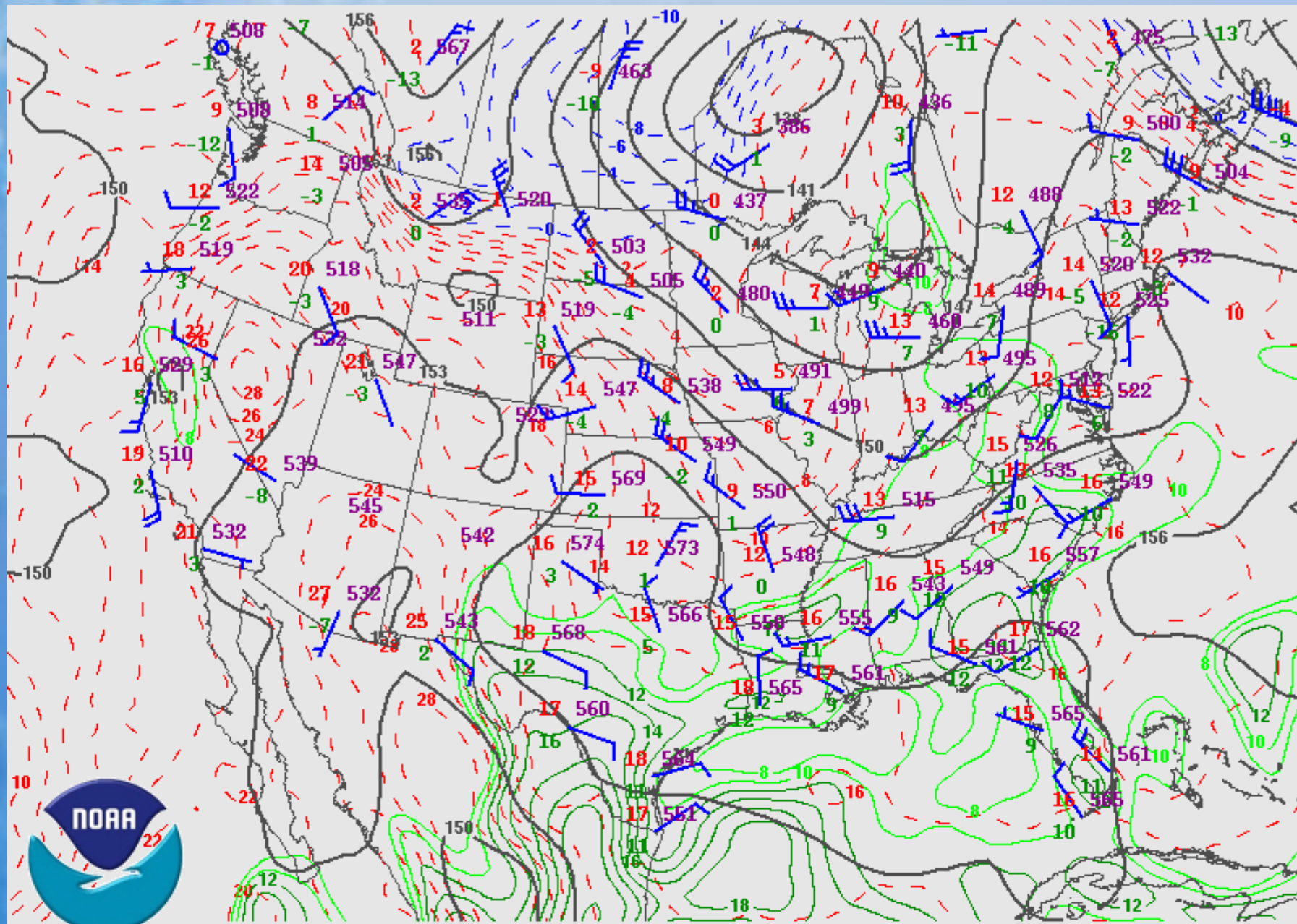


**WMO:74455**  
**TP:240**  
**MW:287**  
**FRZ:793**  
**WB0:819**  
**PW:0.49**  
**RH:35.1**  
**MAXT:17.1**  
**TH:5502**  
**L57:5.7**  
**LCL:851**  
**LI:7.4**  
**SI:8.4**  
**TT:40**  
**KI:10**  
**SW:97**  
**EI:1.6**  
**-PARCEL-**  
**CAPE:3**  
**CINH:24**  
**LCL:825**  
**CAP:7.6**  
**LFC:780**  
**EL:750**  
**MPL:750**  
**-WIND-**  
**STM:305/27**  
**HEL:23**  
**SHR+:0.0**  
**SRDS:82**  
**EHI:0.0**  
**BRN:0.1**  
**BSHR:31**

› Now we have the current state of the atmosphere horizontally and vertically.

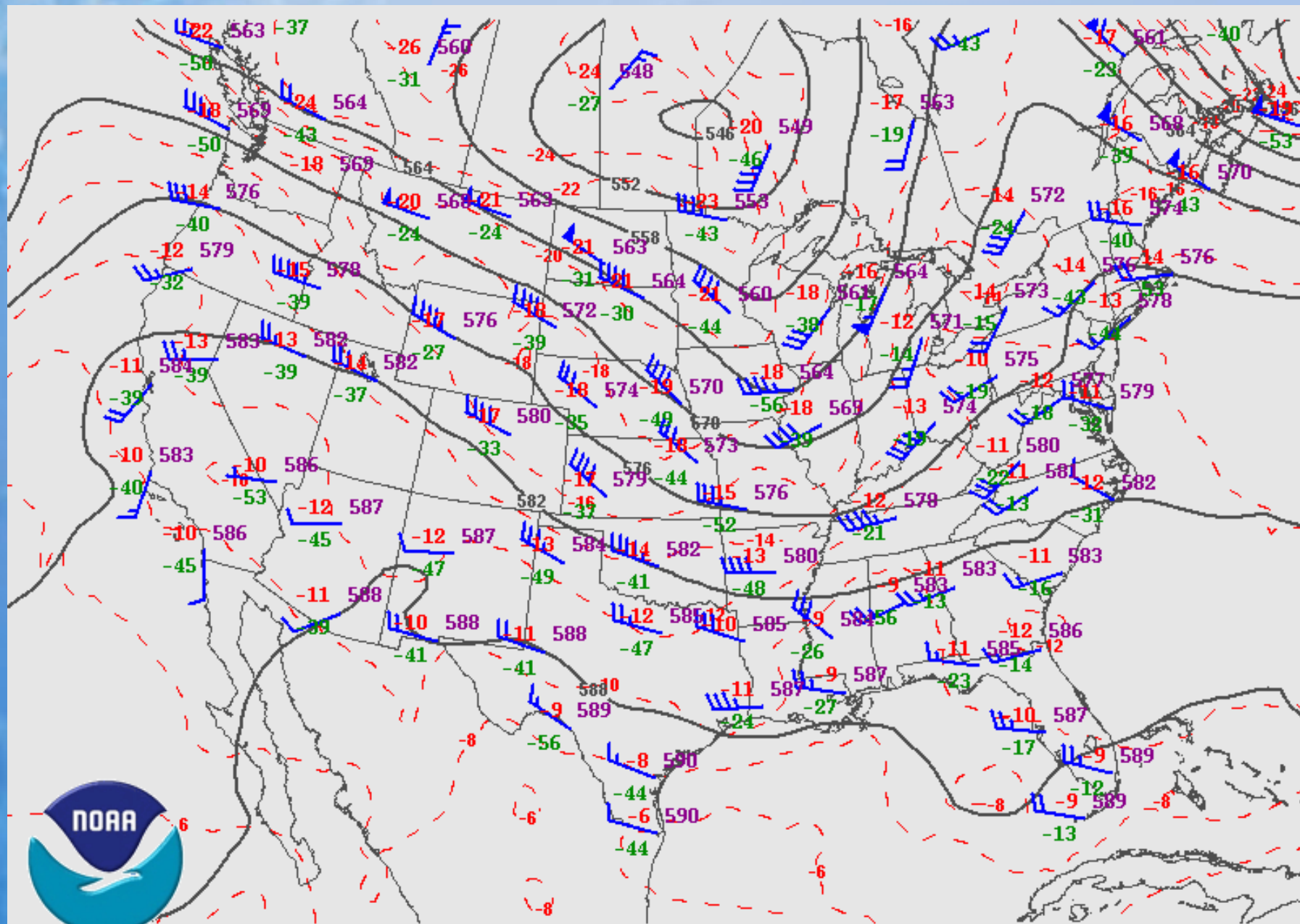






National Weather Service  
Storm Prediction Center

160513/0000 850 MB UA OBS, HGHTS, TEMPS, Td>=8

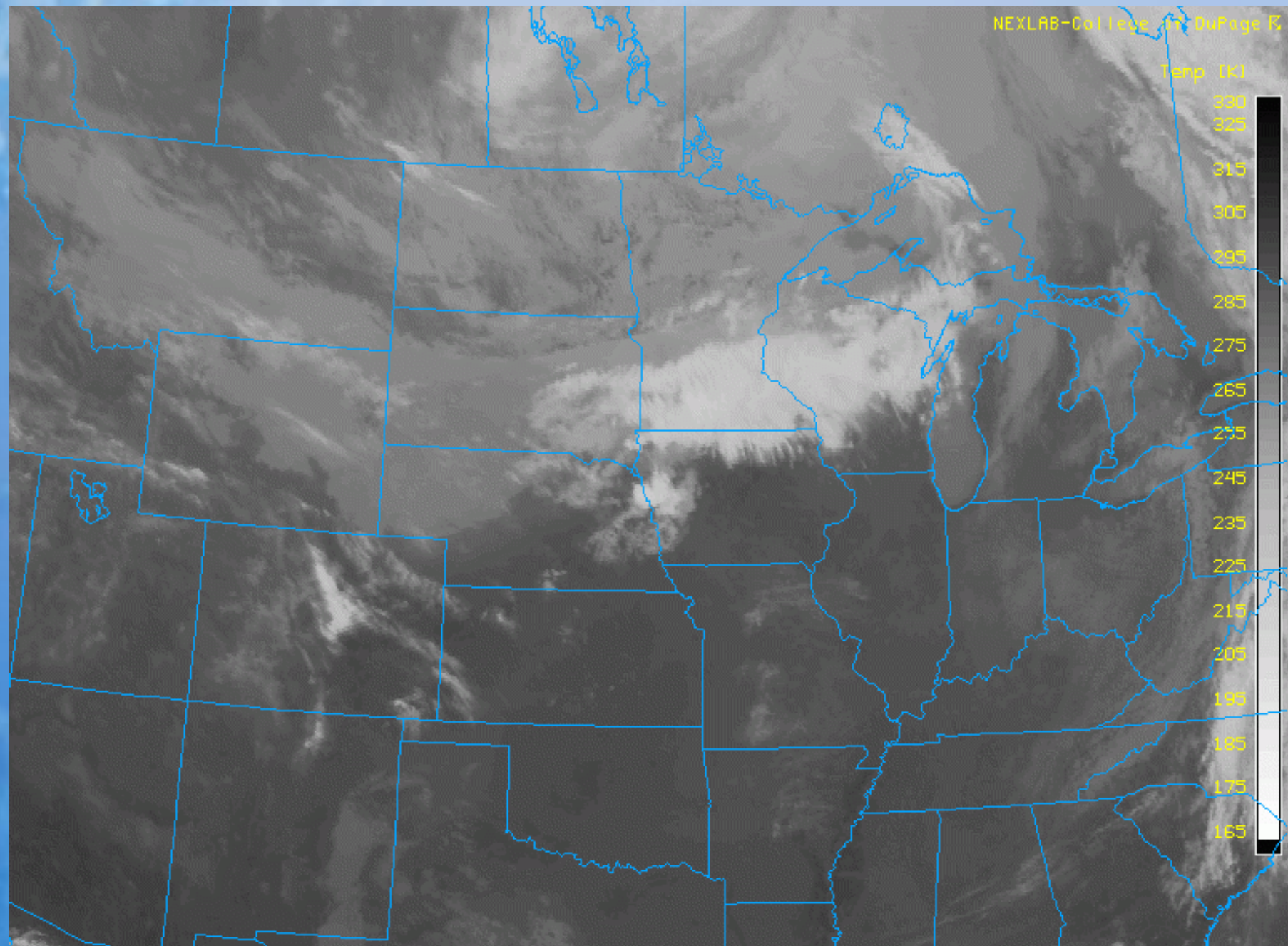


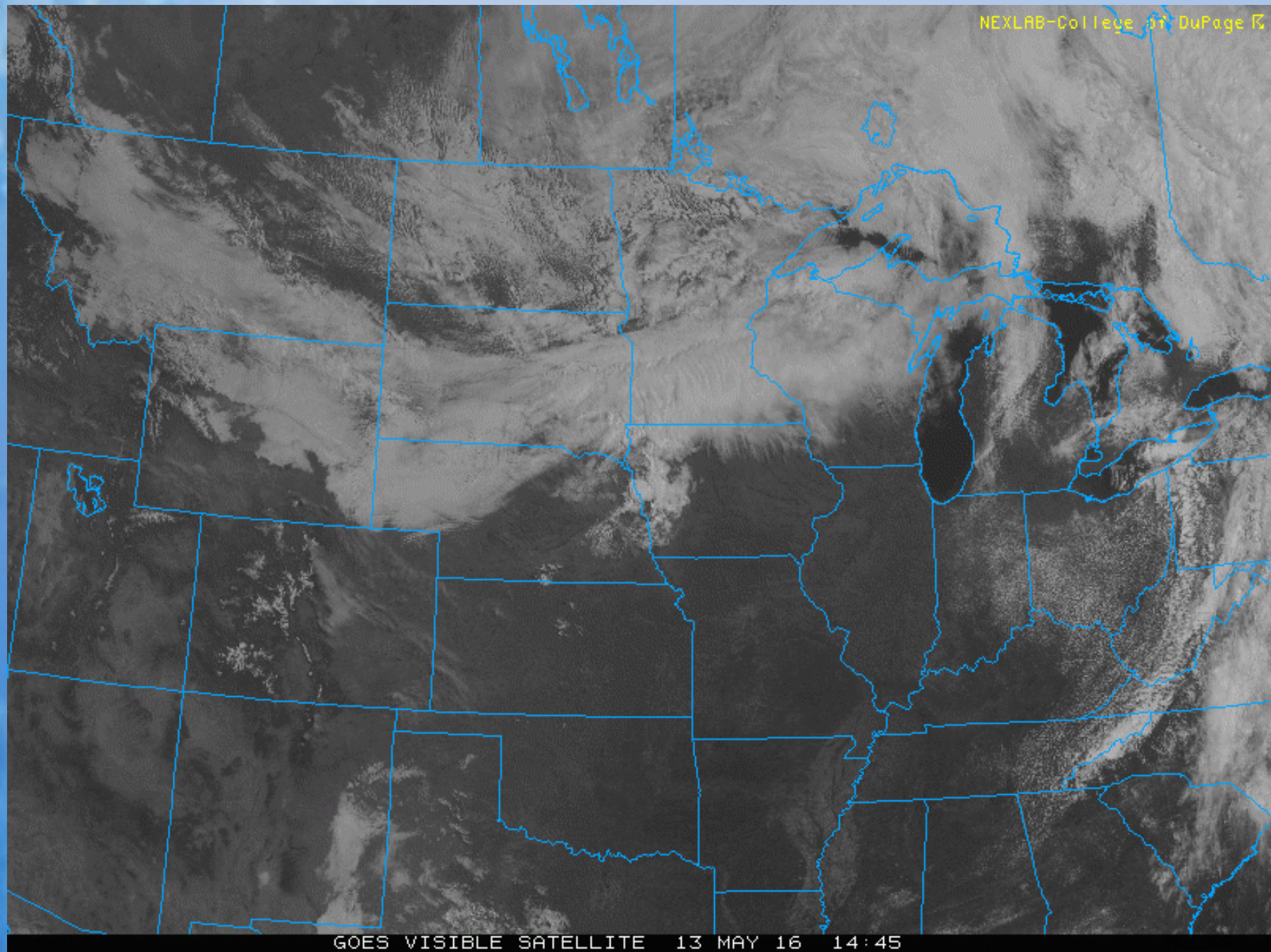
National Weather Service  
Storm Prediction Center

160513/0000 500 MB UA OBS, HGHTS, and TEMPS

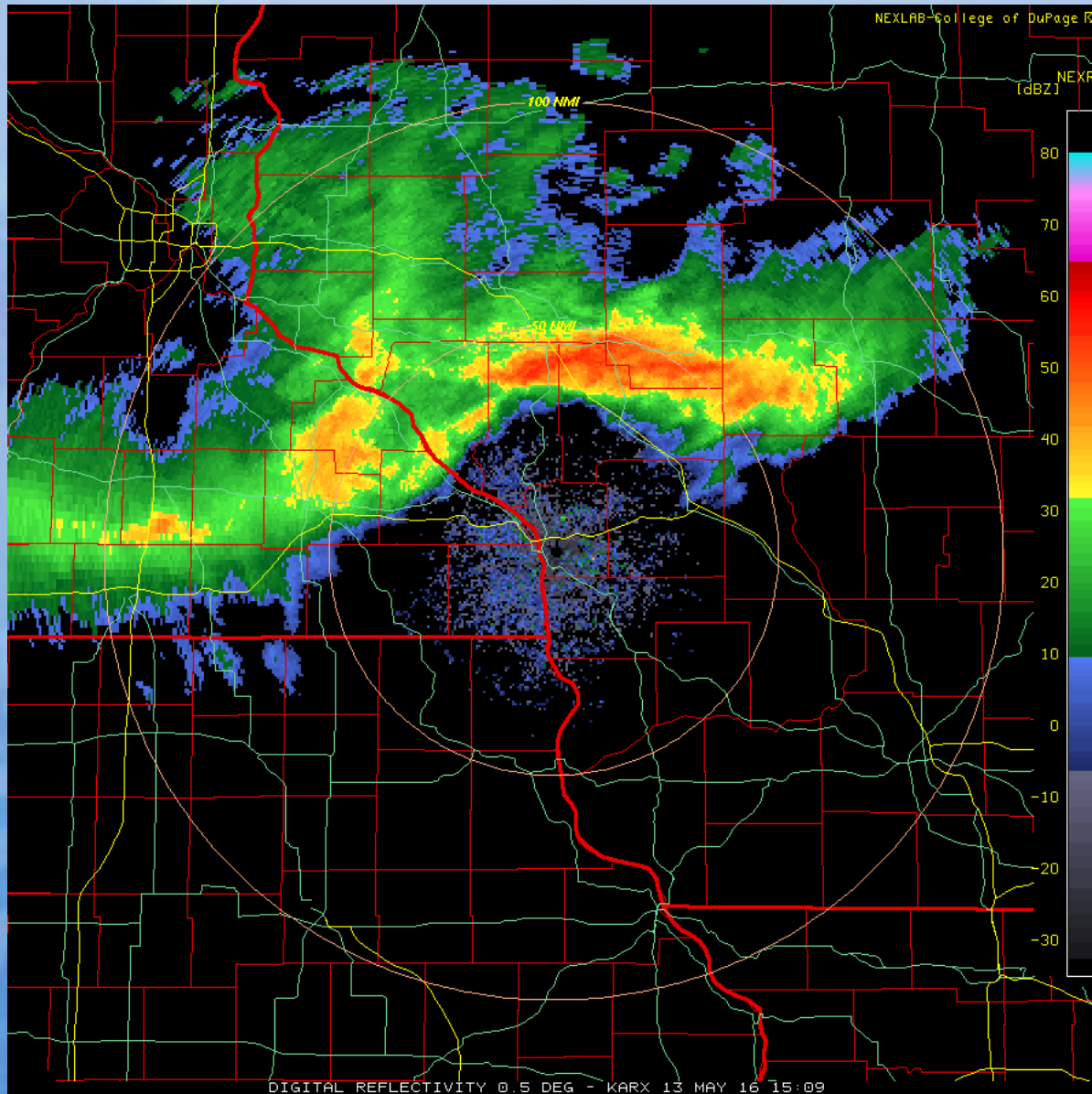
› Other tools that are used include satellite and radar imagery.



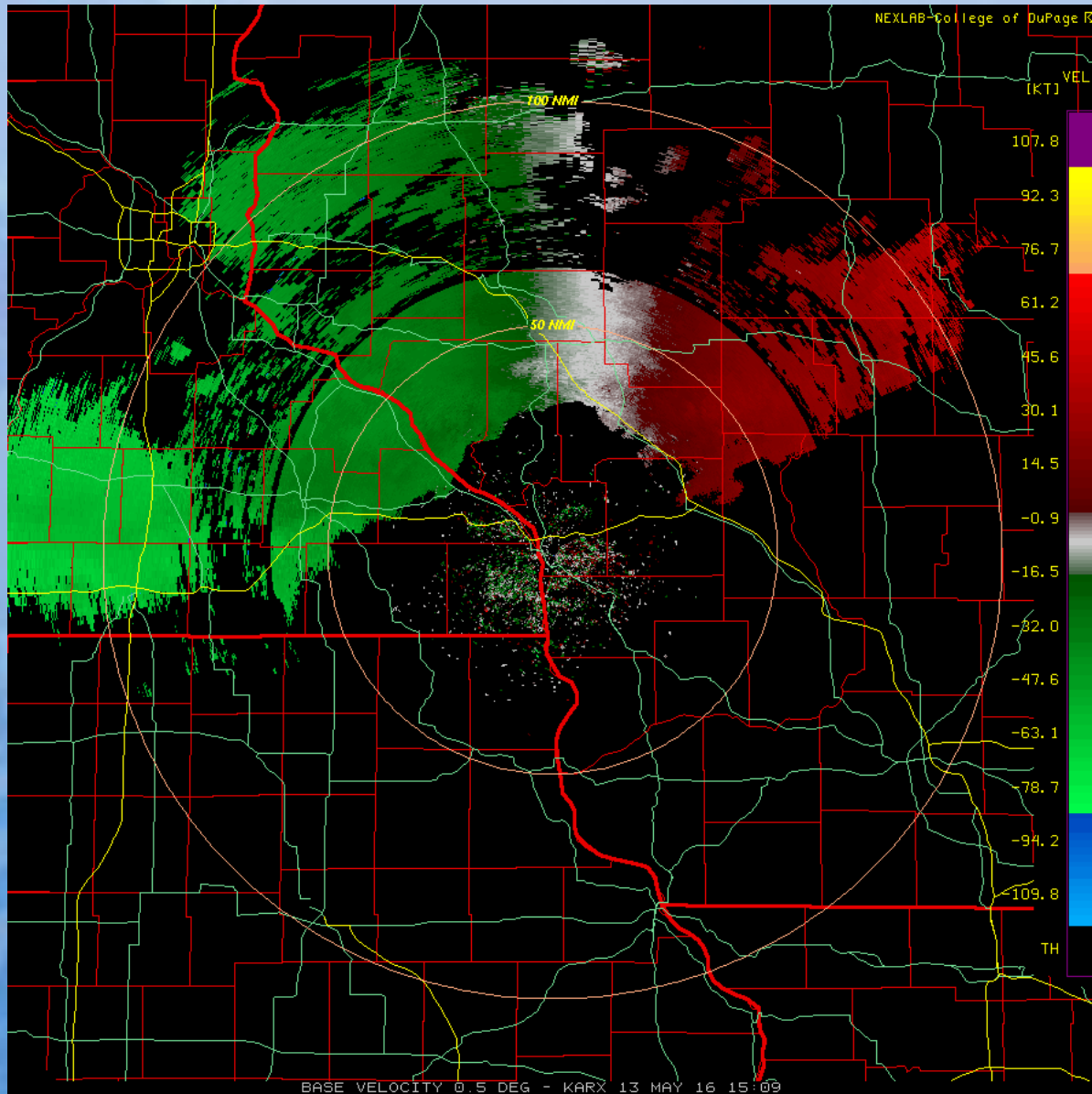


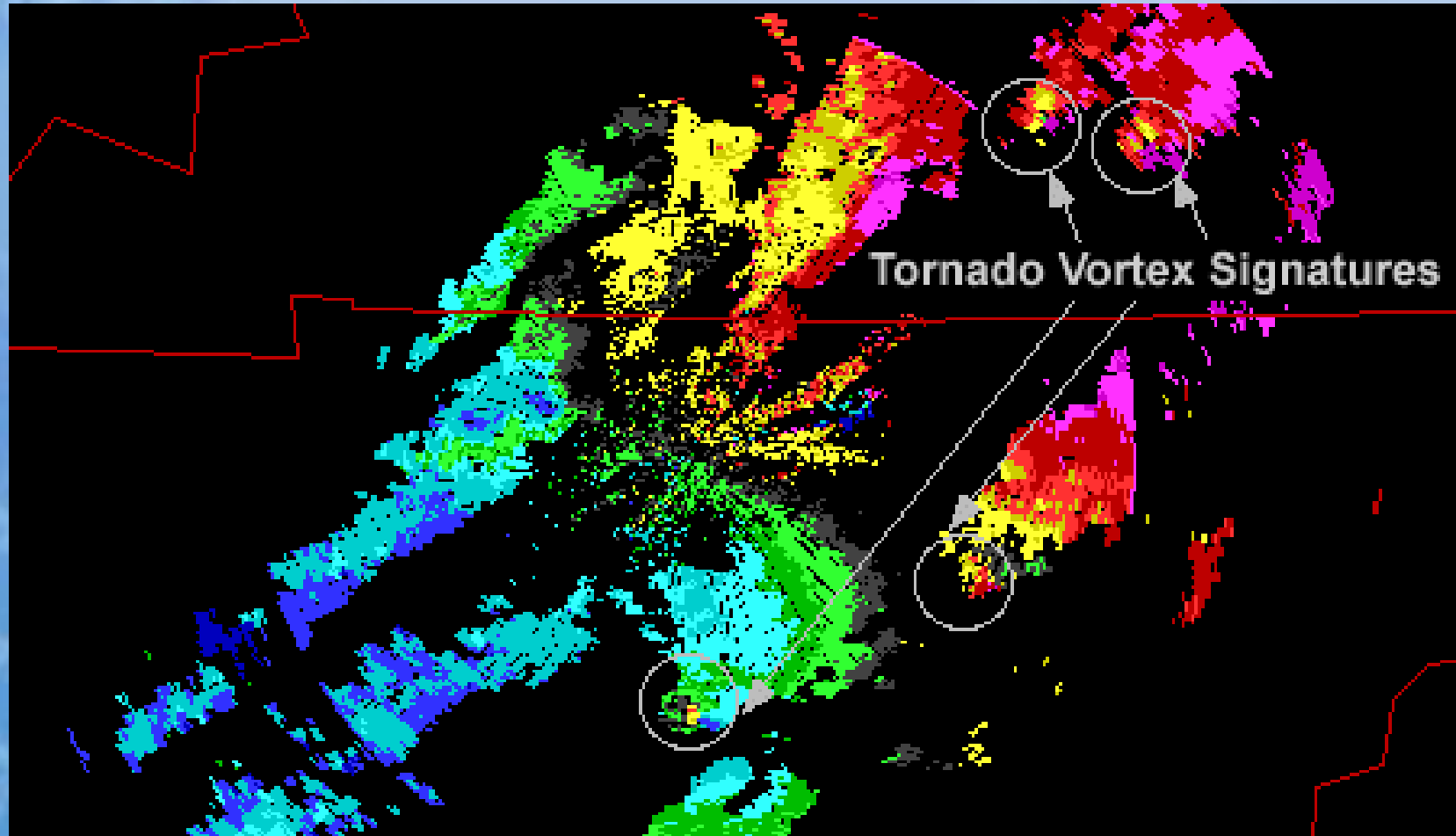












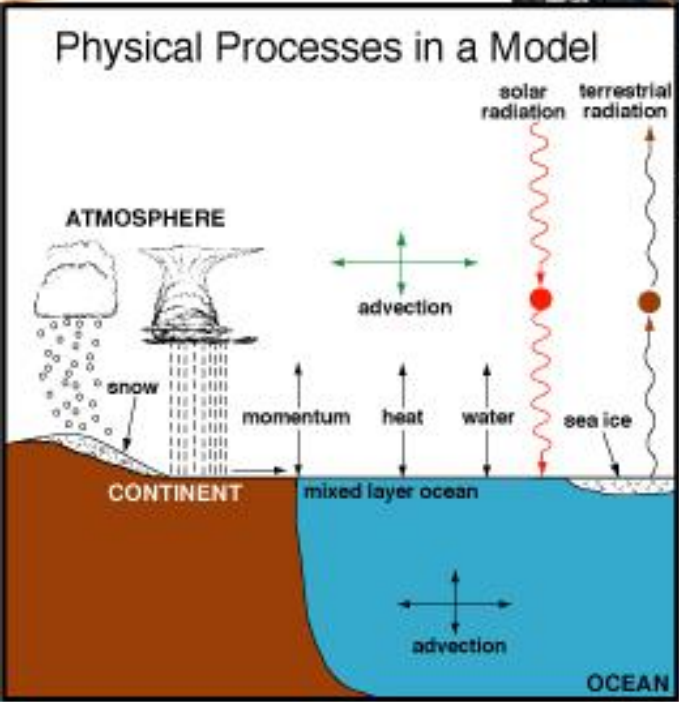
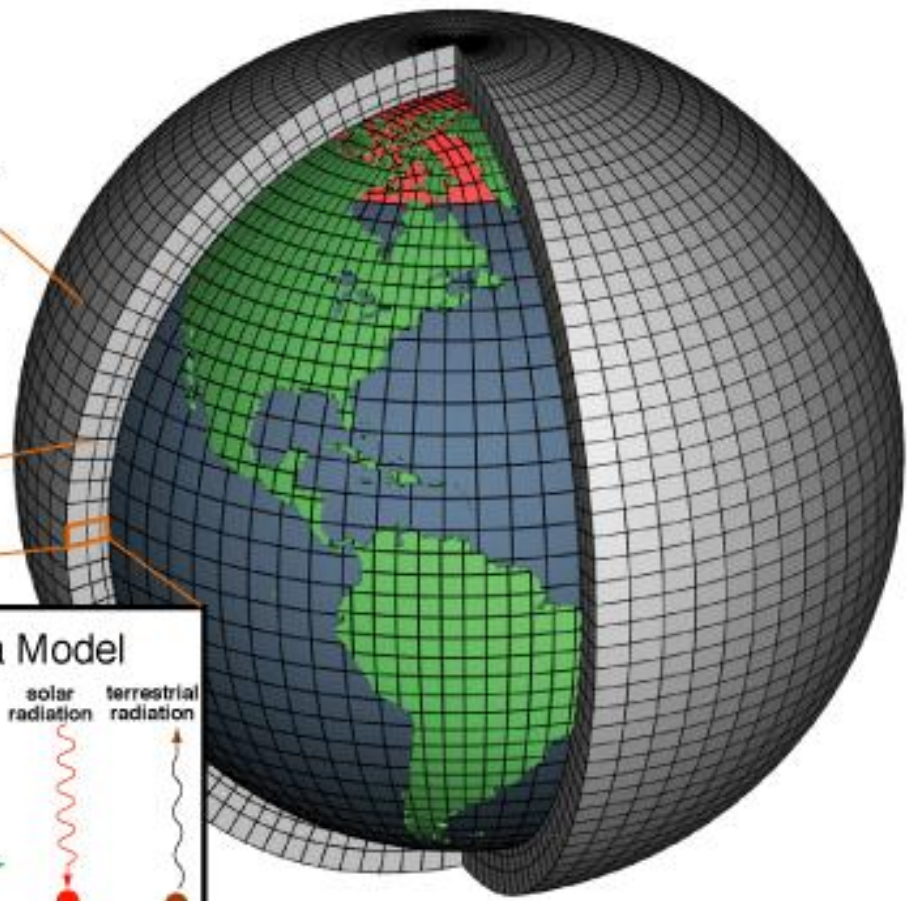
›Once the current state of the atmosphere is known we can start to predict the future!

› Computer Modeling  
of the atmosphere  
usually starts after all  
upper air data is in!



Horizontal Grid  
(Latitude-Longitude)

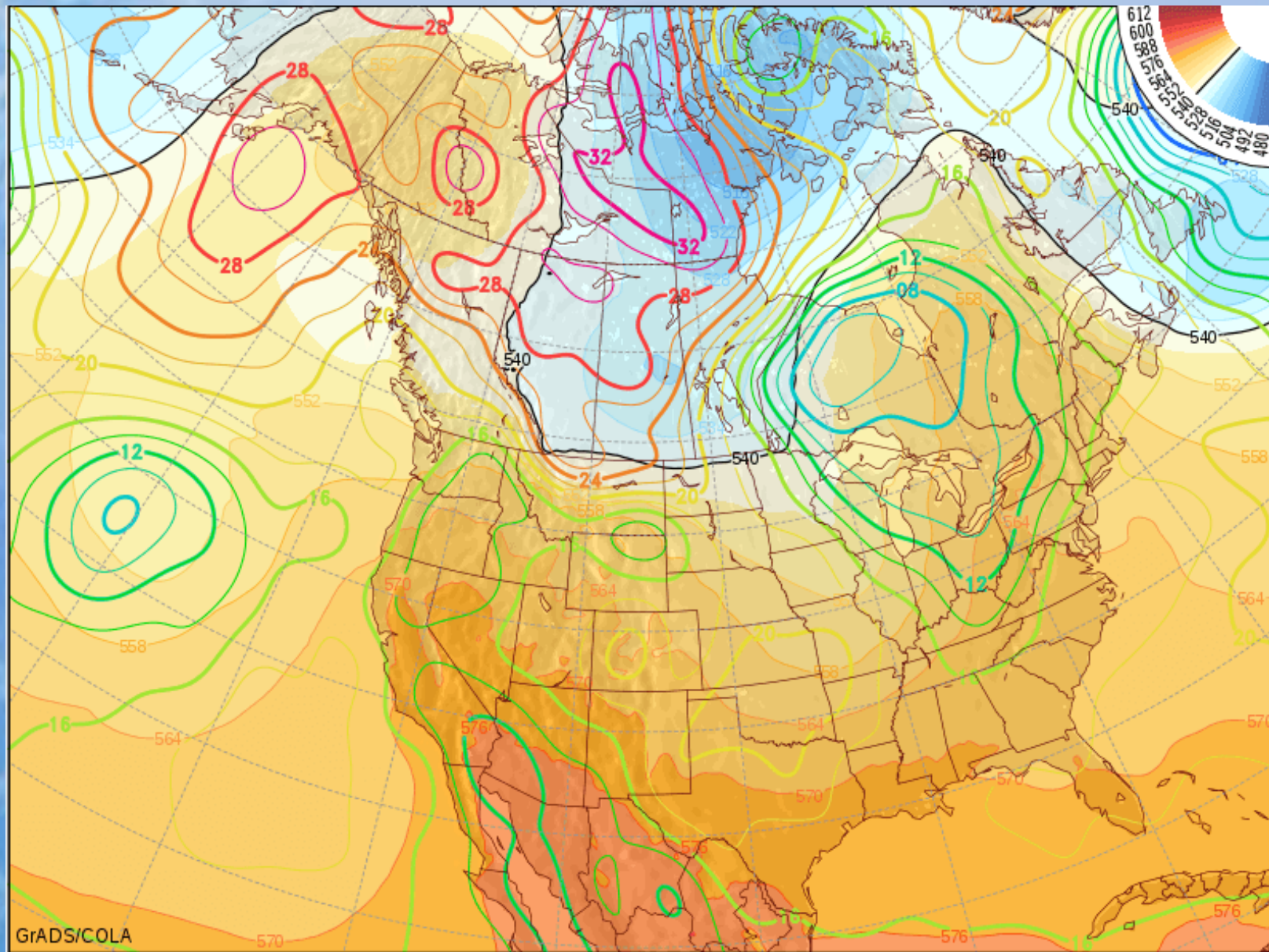
Vertical Grid  
(Height or Pressure)



- › Weather Model Data  
for Friday May 13<sup>th</sup>
- › 0Z Model Run

- › Surface Weather Forecasts: Pressure & Weather Fronts.
- › 1000-500mb Thickness

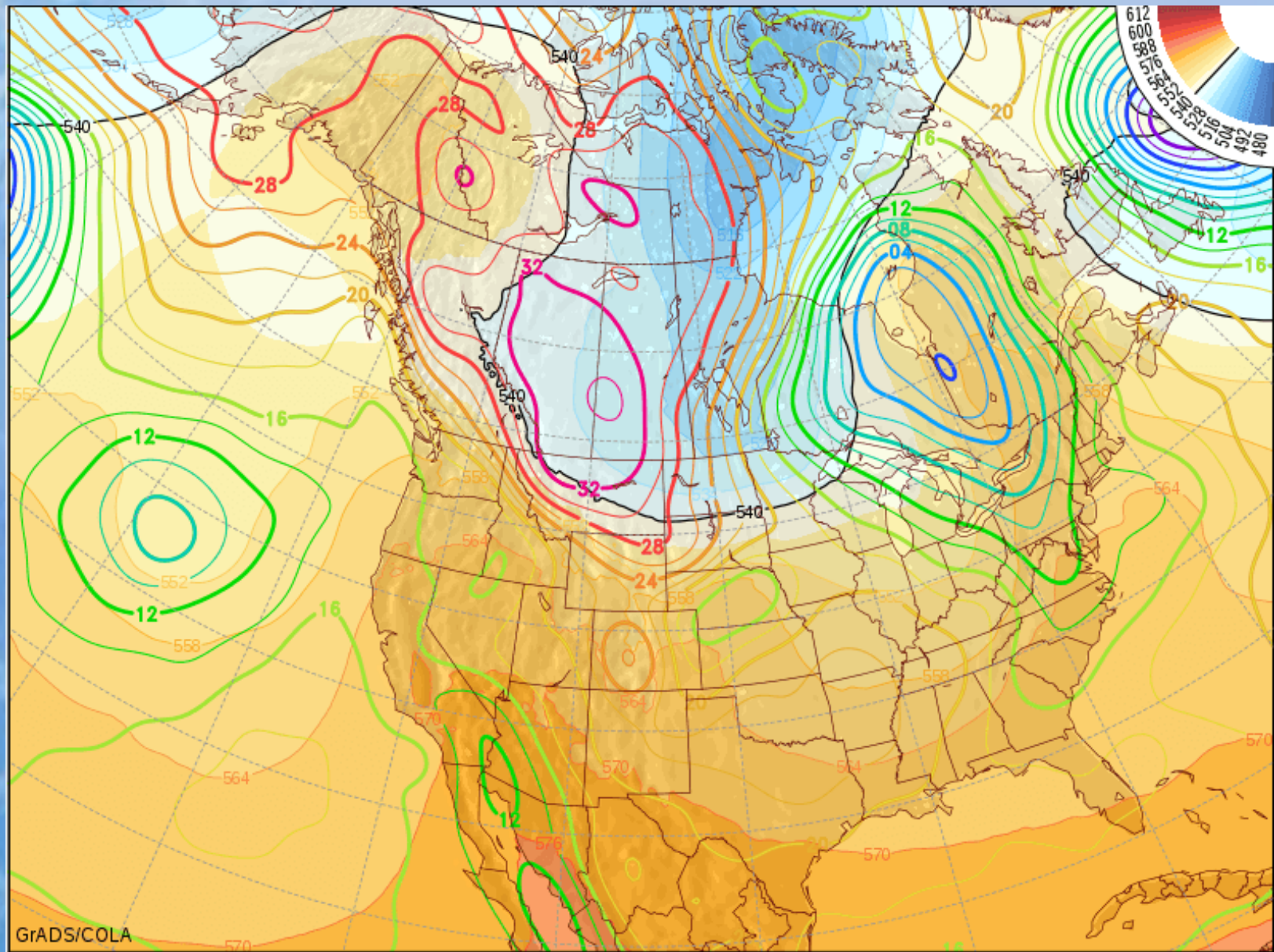




GrADS/COLA

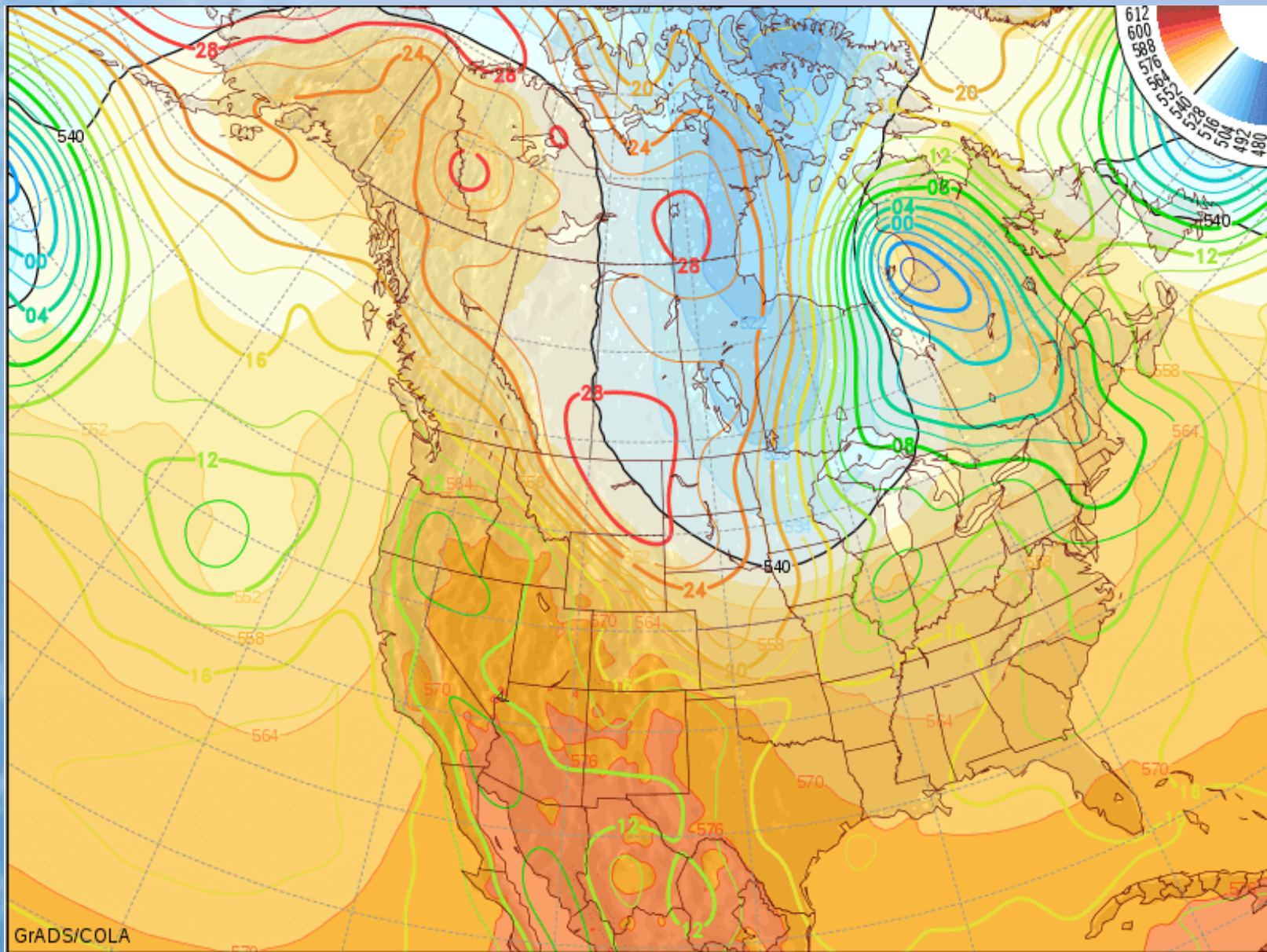
GFS Analysis: 00Z Fri 13 MAY 2016

SLP (mb-1000), 1000-500mb Thickness (dam)



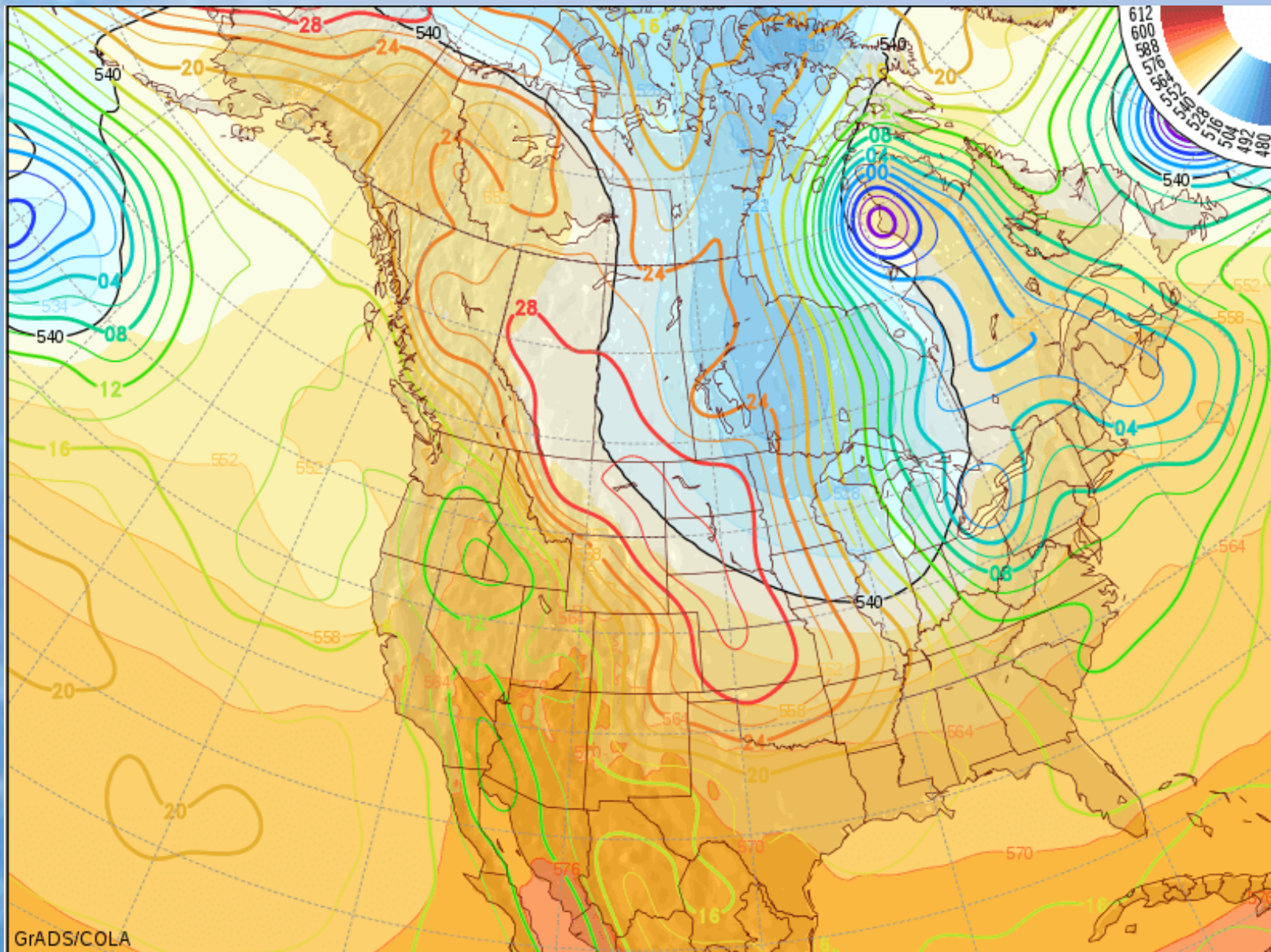
12Hr GFS Issued: 00Z13MAY2016 Valid: 12Z Fri 13 MAY 2016

SLP (mb-1000), 1000-500mb Thickness (dam)



24Hr GFS Issued: 00Z13MAY2016 Valid: 00Z Sat 14 MAY 2016

SLP (mb-1000), 1000-500mb Thickness (dam)



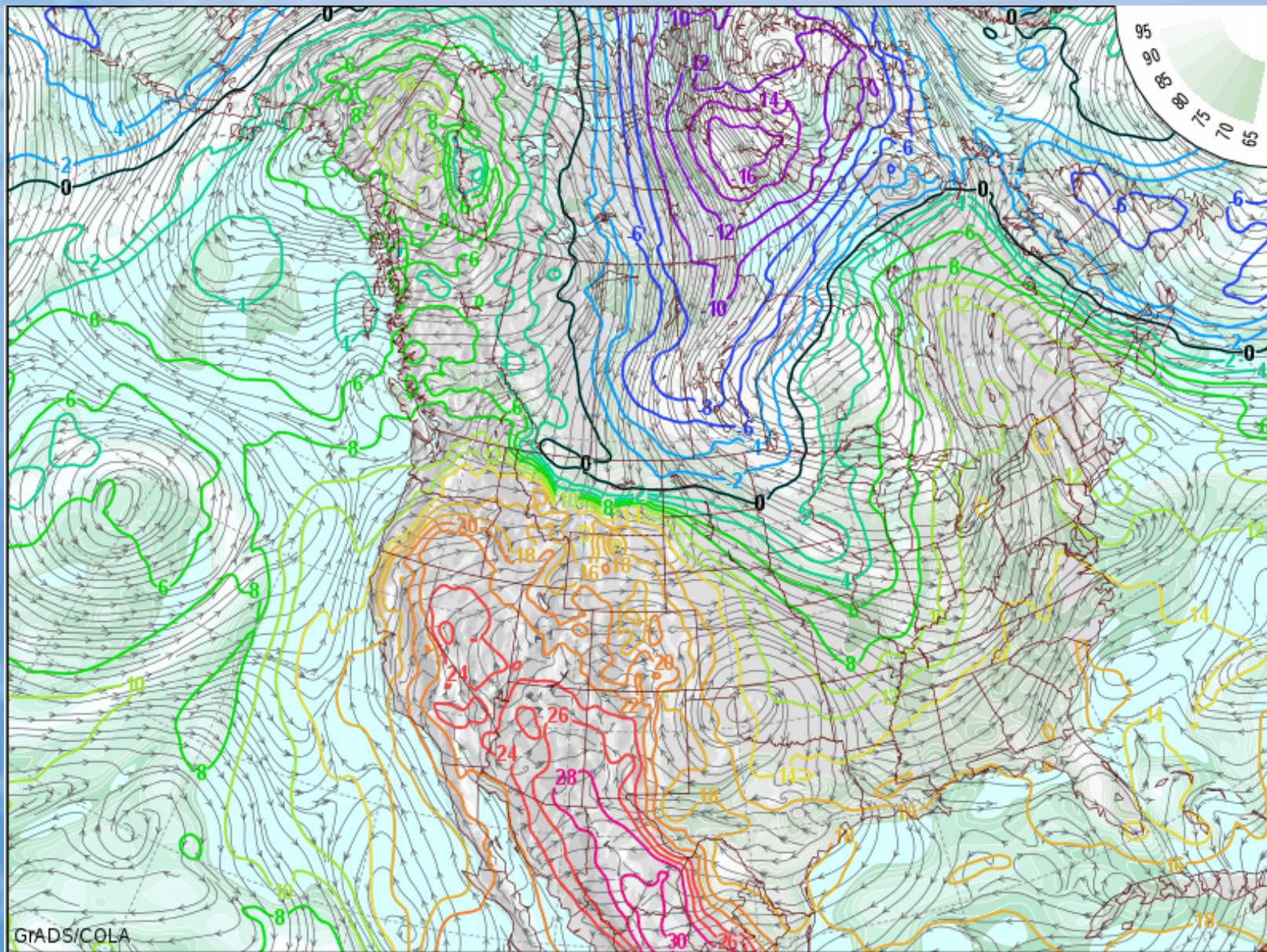
GrADS/COLA

36Hr GFS Issued: 00Z13MAY2016 Valid: 12Z Sat 14 MAY 2016

SLP (mb-1000), 1000-500mb Thickness (dam)

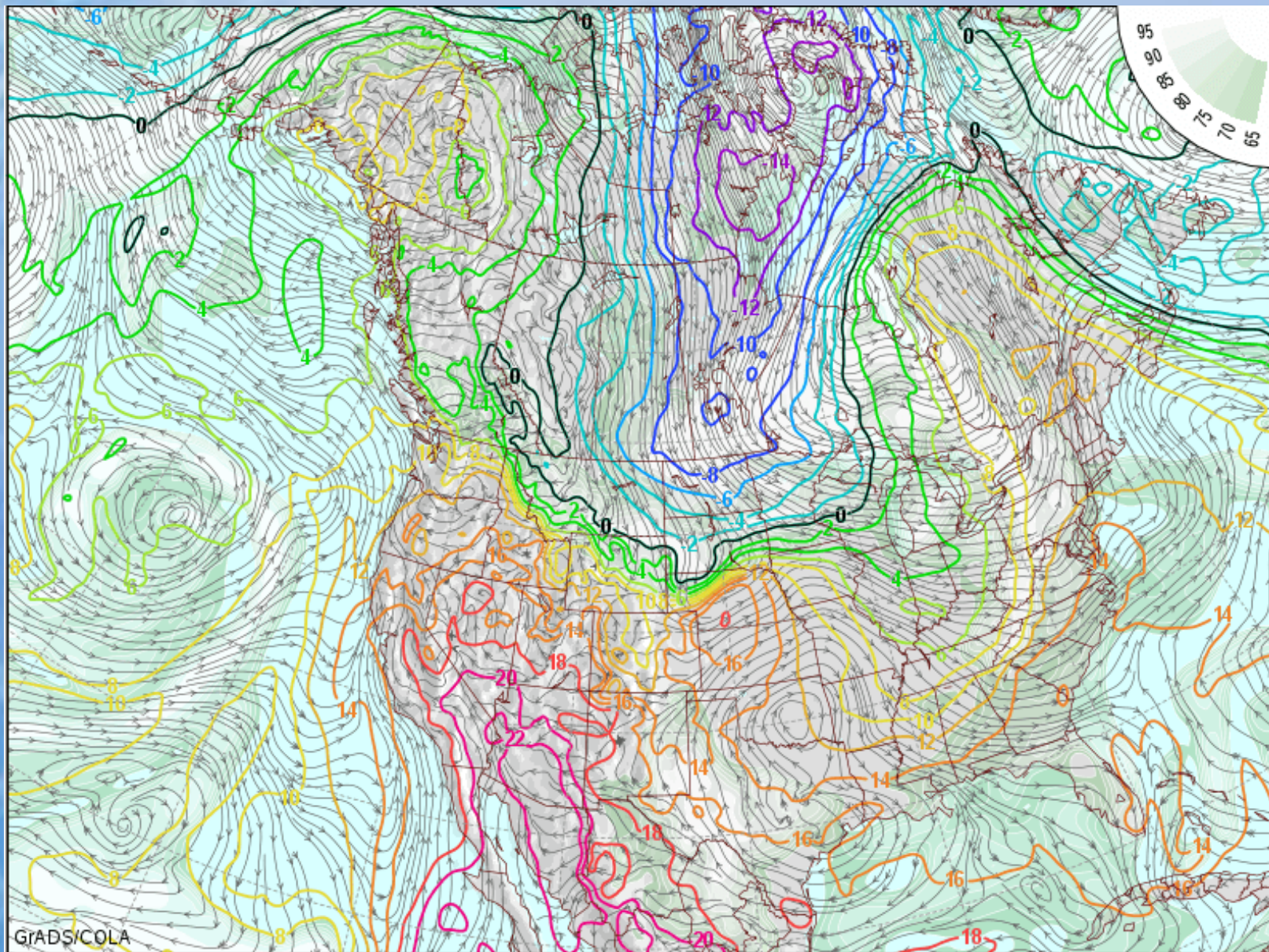
›850mb Temperatures  
and Streamlines.

›Useful for High Temps  
and Rain vs Snow.



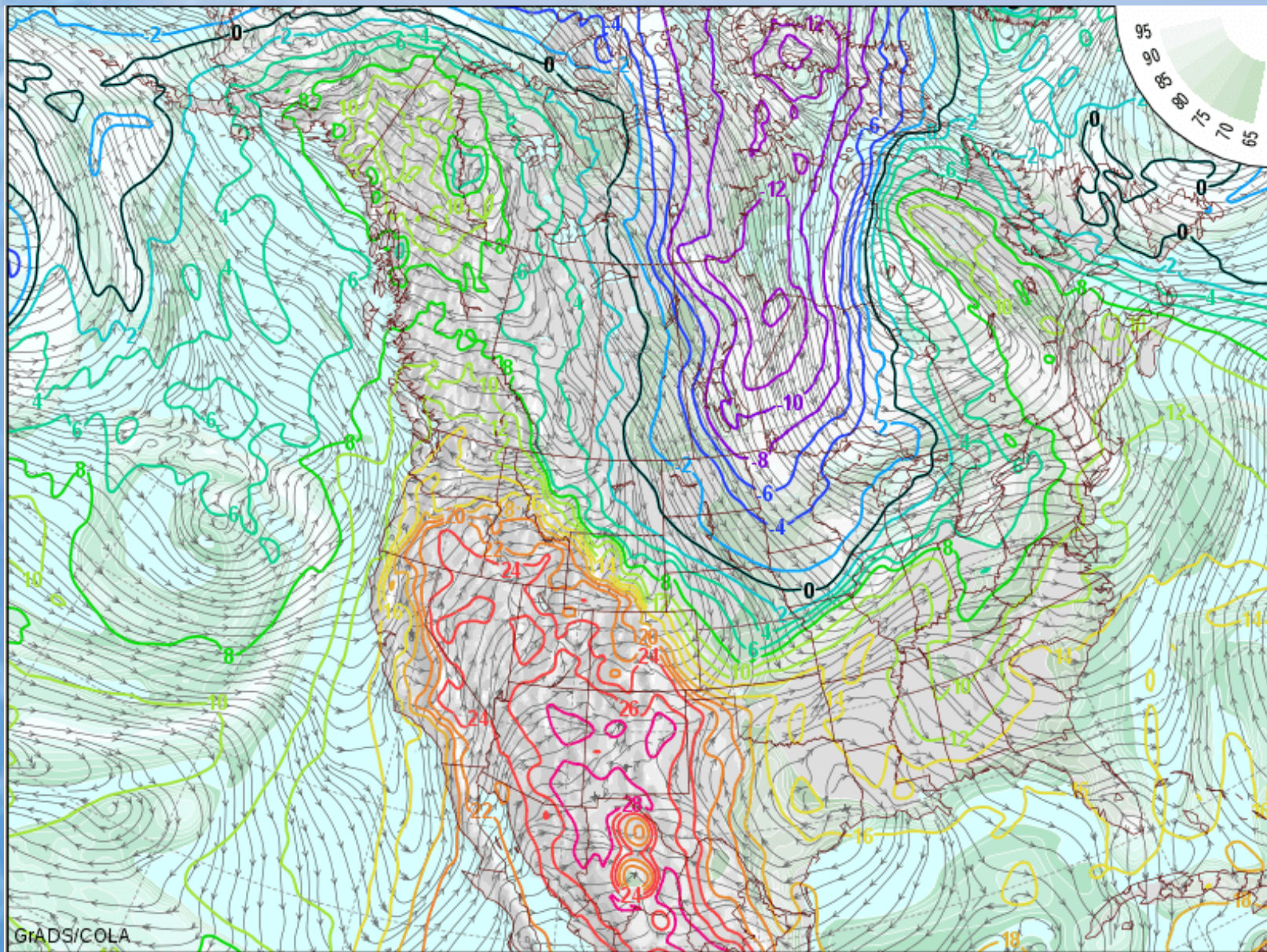
GFS Analysis: 00Z Fri 13 MAY 2016

850mb Temperature (C), RH (%), Streamlines



12Hr GFS Issued: 00Z13MAY2016 Valid: 12Z Fri 13 MAY 2016

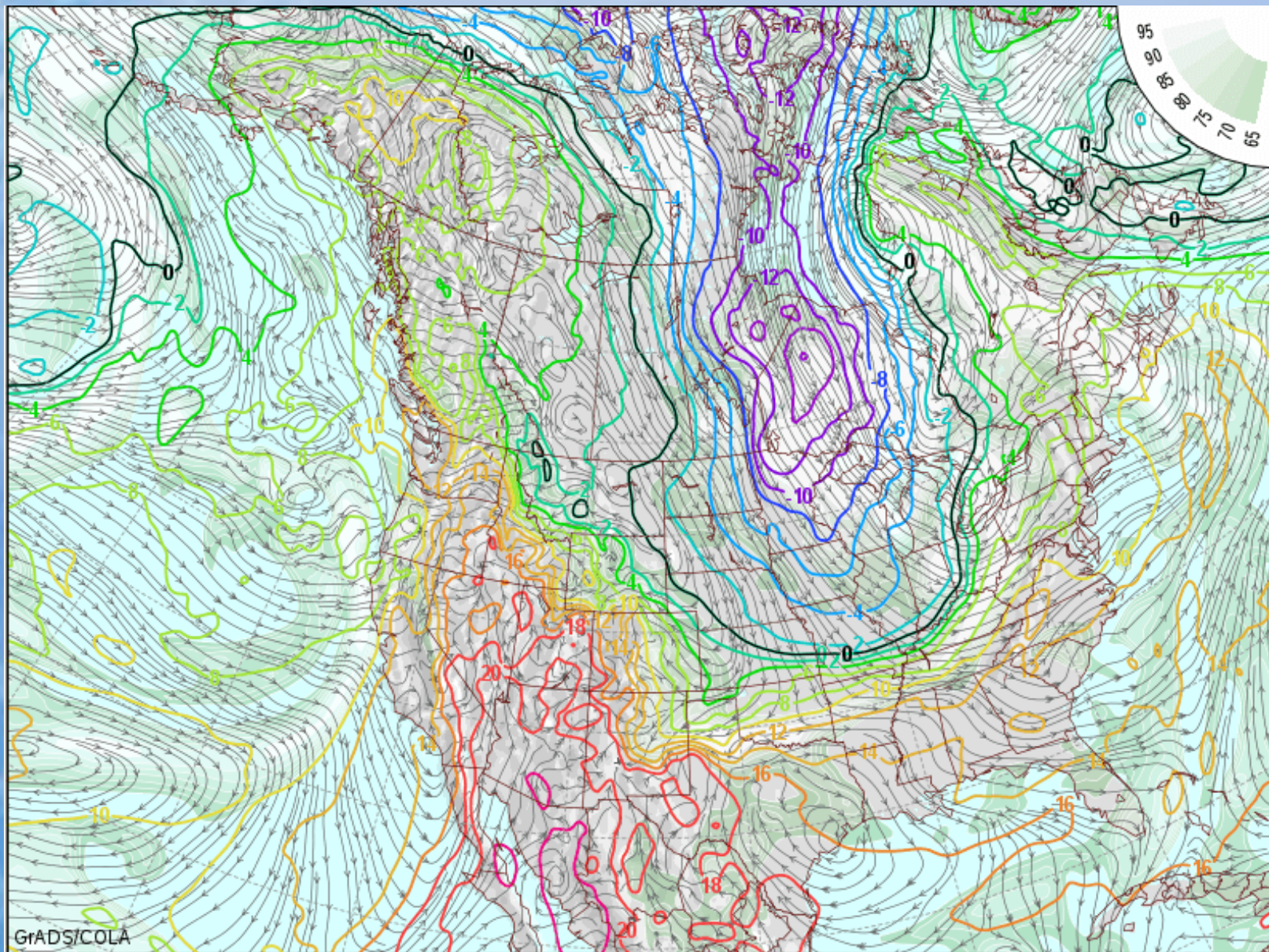
850mb Temperature (C), RH (%), Streamlines



24Hr GFS Issued: 00Z13MAY2016 Valid: 00Z Sat 14 MAY 2016

850mb Temperature (C), RH (%), Streamlines



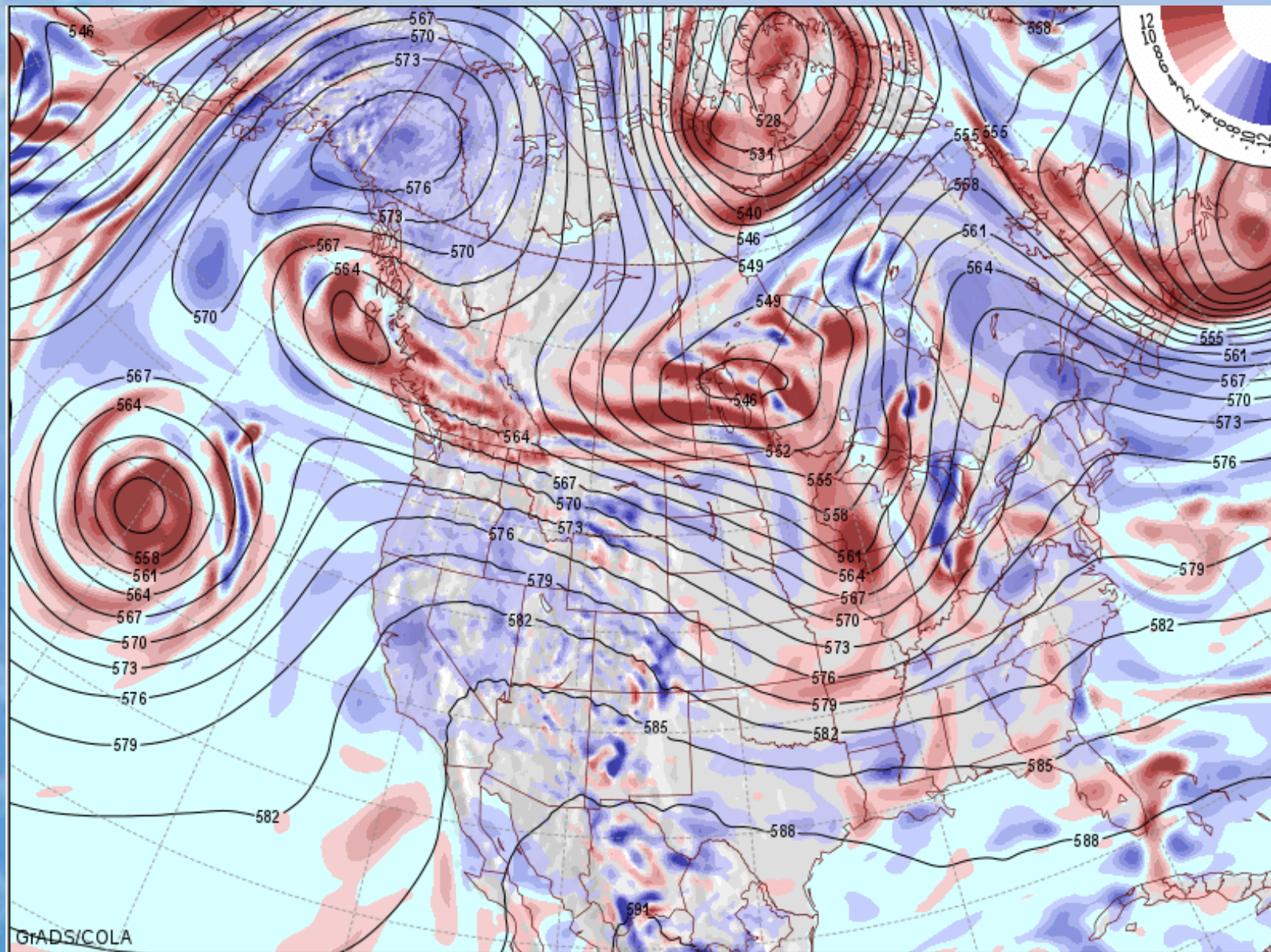


36Hr GFS Issued: 00Z13MAY2016 Valid: 12Z Sat 14 MAY 2016

850mb Temperature (C), RH (%), Streamlines

›500mb Heights and  
Vorticity.

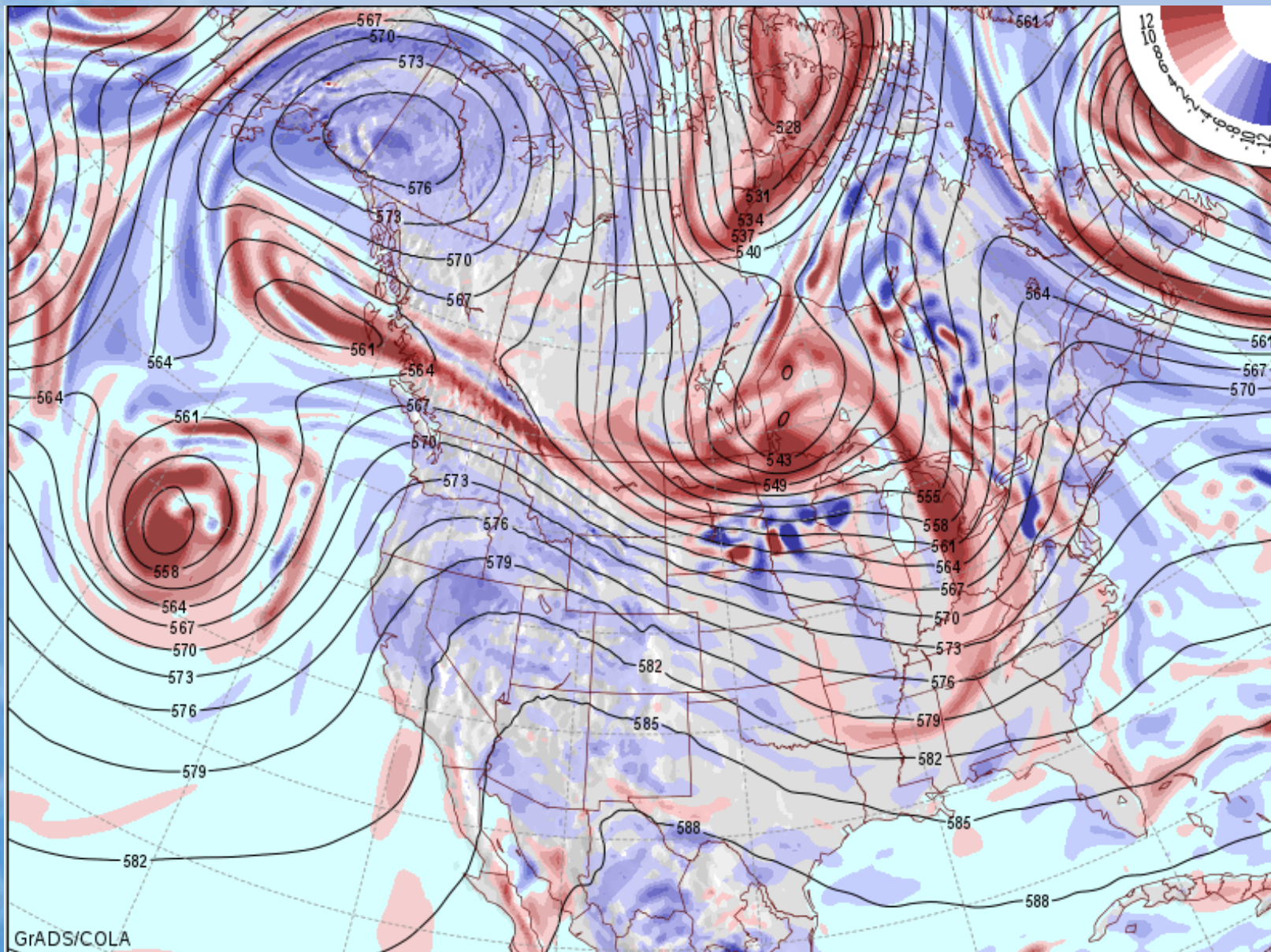
›Jet Stream Level



GRADS/COLA

GFS Analysis: 00Z Fri 13 MAY 2016

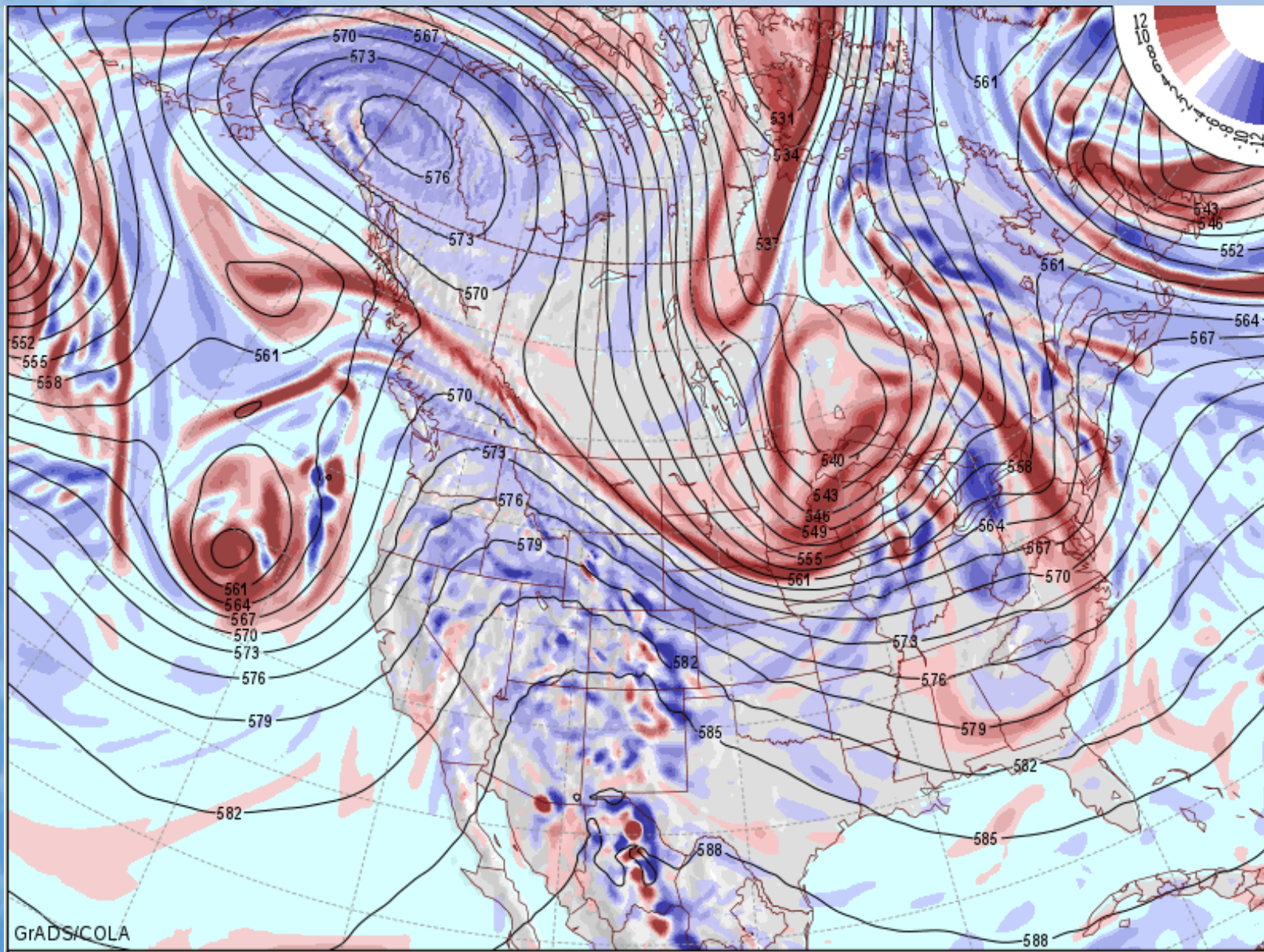
500mb Heights (dam), Vorticity ( $1e^5/\text{sec}$ )



GrADS/COLA

12Hr GFS Issued: 00Z13MAY2016 Valid: 12Z Fri 13 MAY 2016

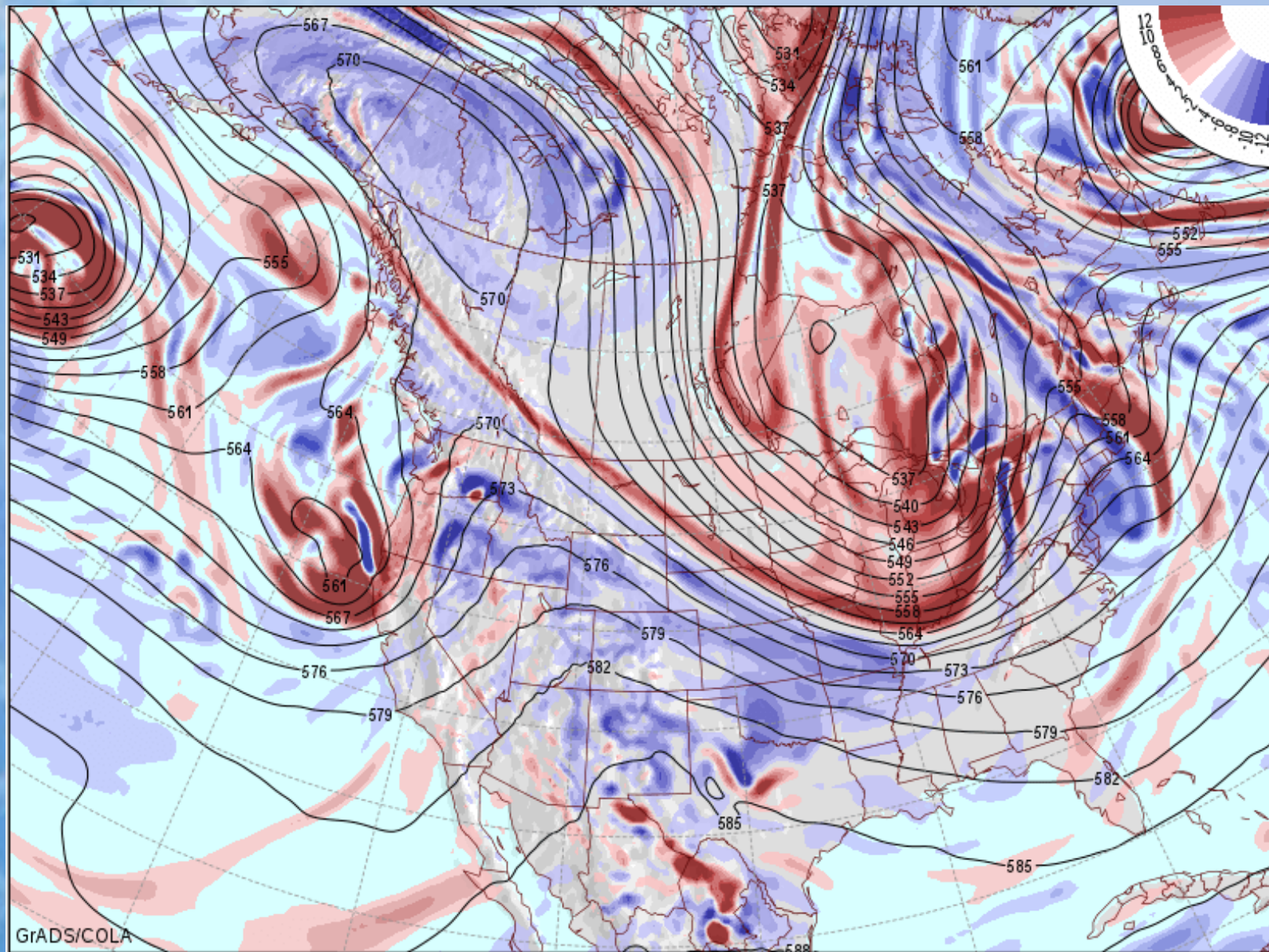
500mb Heights (dam), Vorticity (1e<sup>5</sup>/sec)



GrADS/COLA

24Hr GFS Issued: 00Z13MAY2016 Valid: 00Z Sat 14 MAY 2016

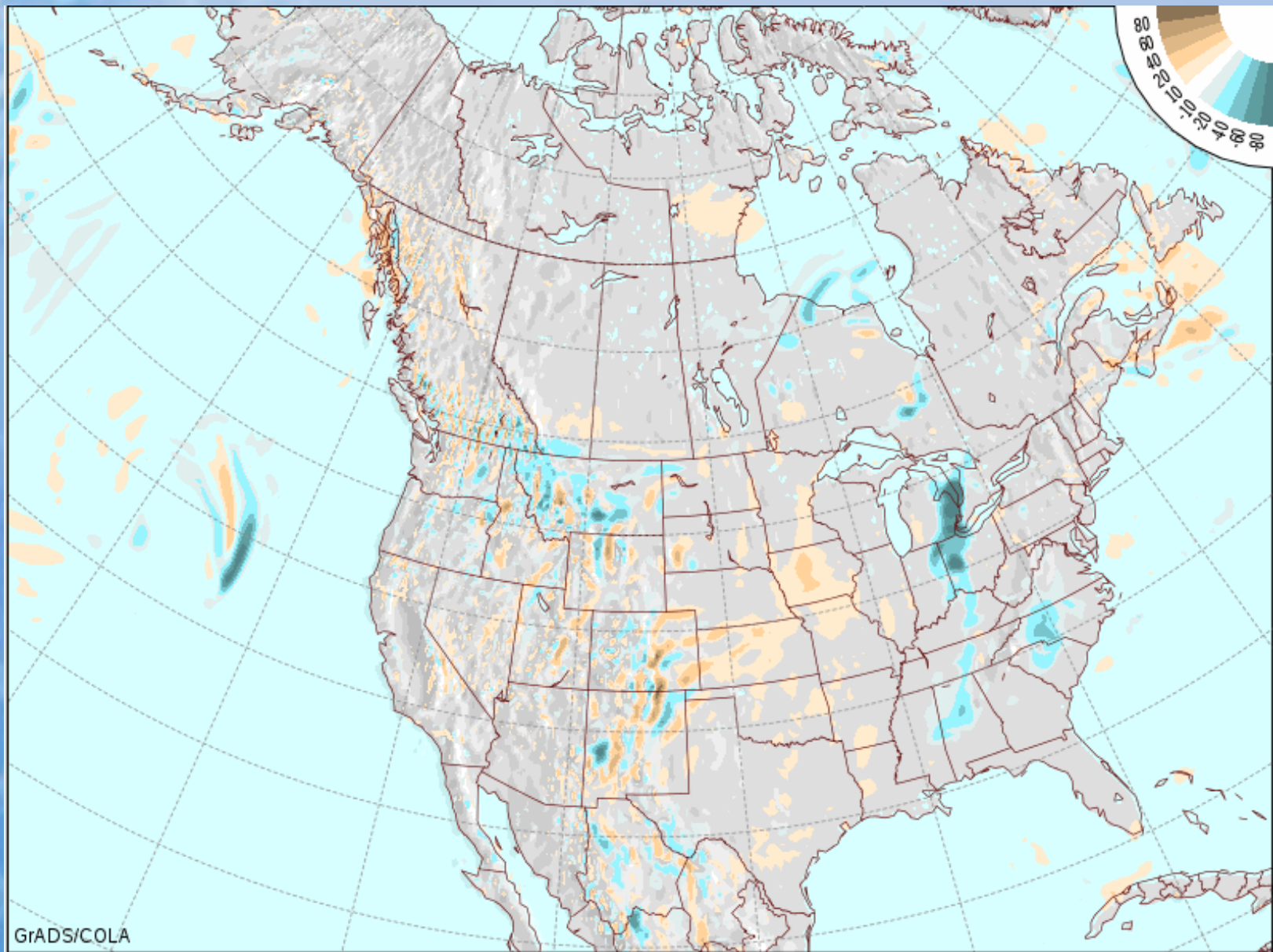
500mb Heights (dam), Vorticity ( $1e^5/sec$ )



36Hr GFS Issued: 00Z13MAY2016 Valid: 12Z Sat 14 MAY 2016

500mb Heights (dam), Vorticity ( $1e^5/sec$ )

› 12 Hour Liquid  
Precipitation Amounts  
in MM.

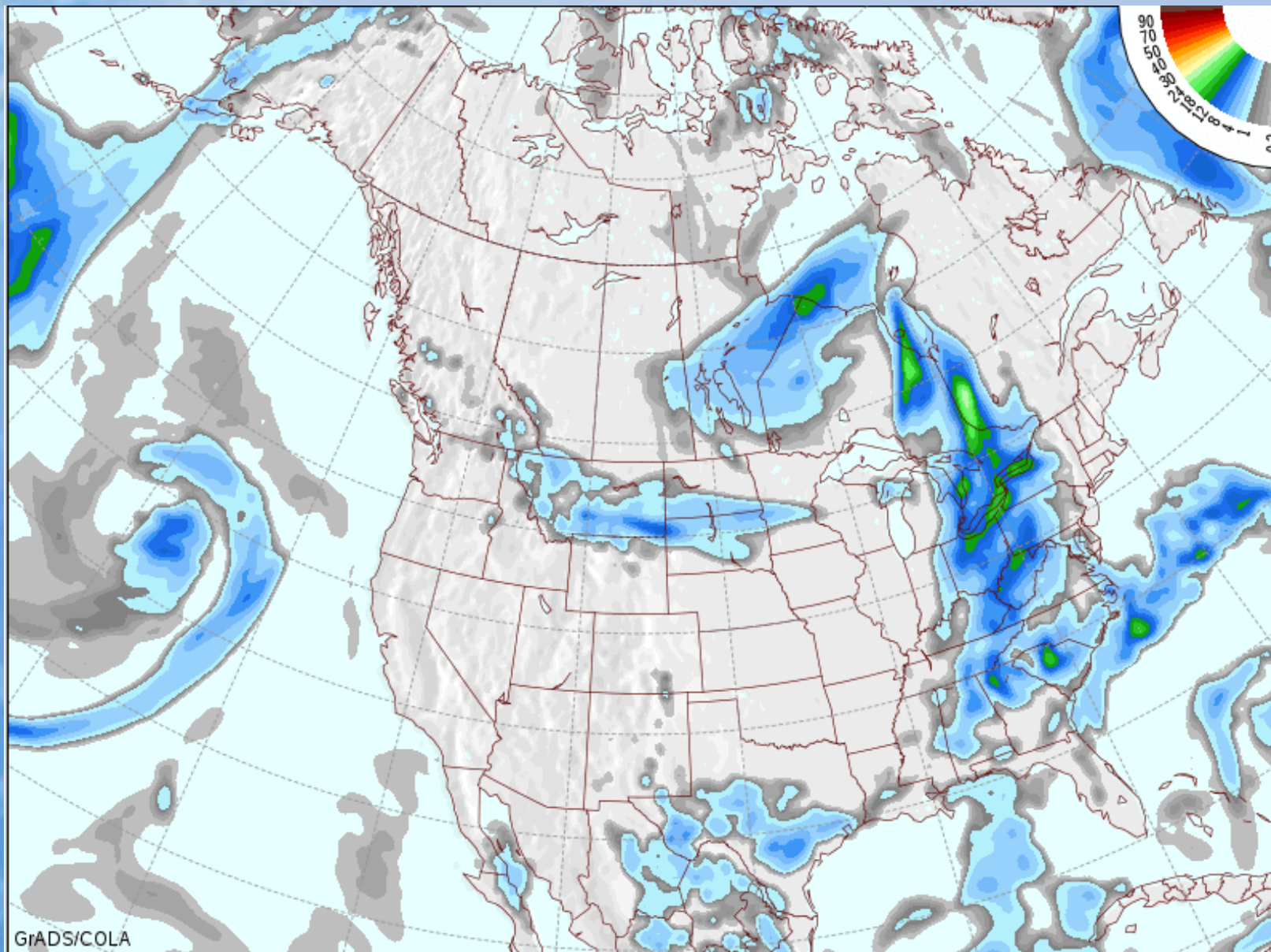


GrADS/COLA

GFS Analysis: 00Z Fri 13 MAY 2016

700mb Vertical Velocity (mb/hr)

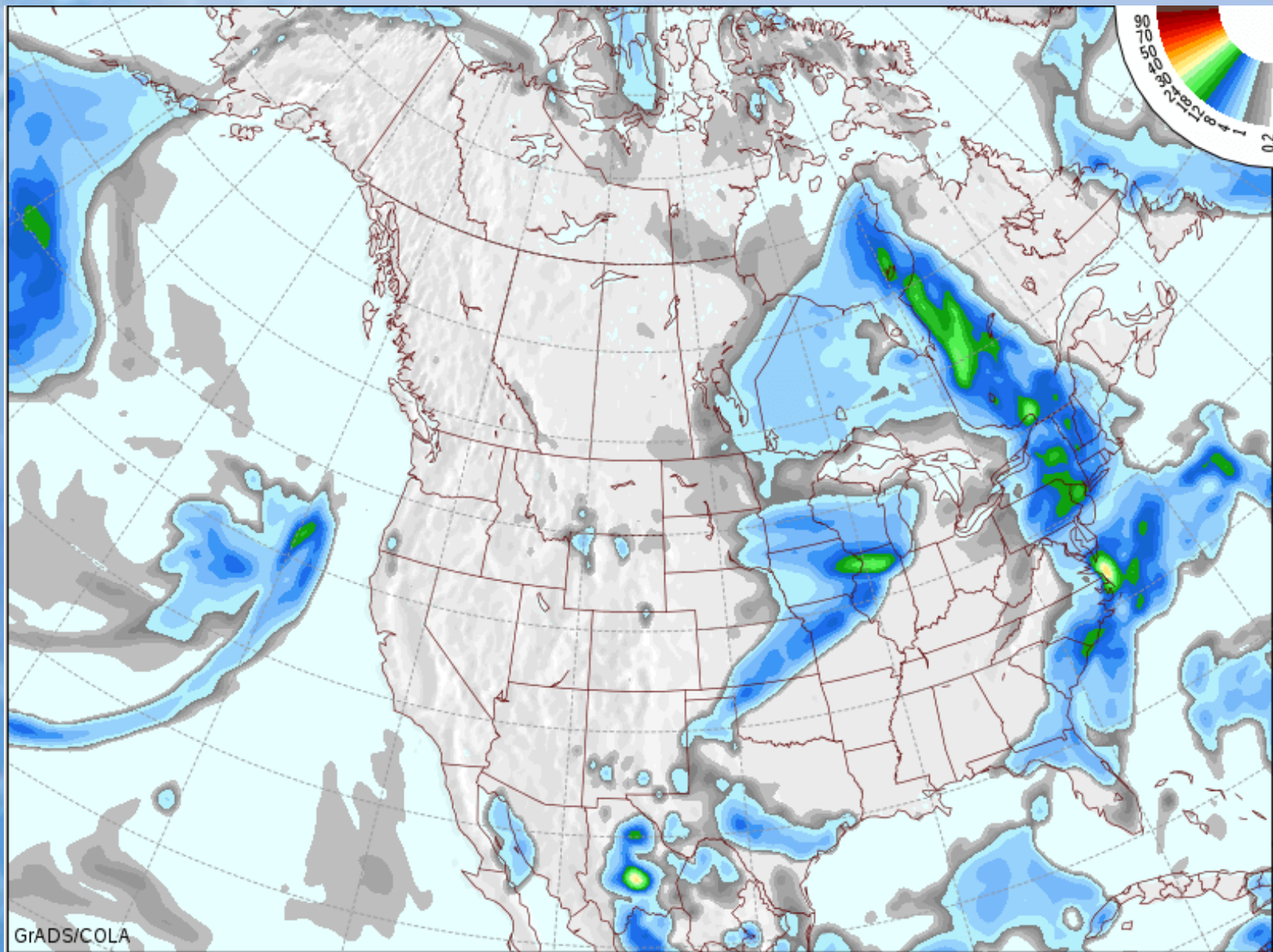




GRADS/COLA

12Hr GFS Issued: 00Z13MAY2016 Valid: 12Z Fri 13 MAY 2016

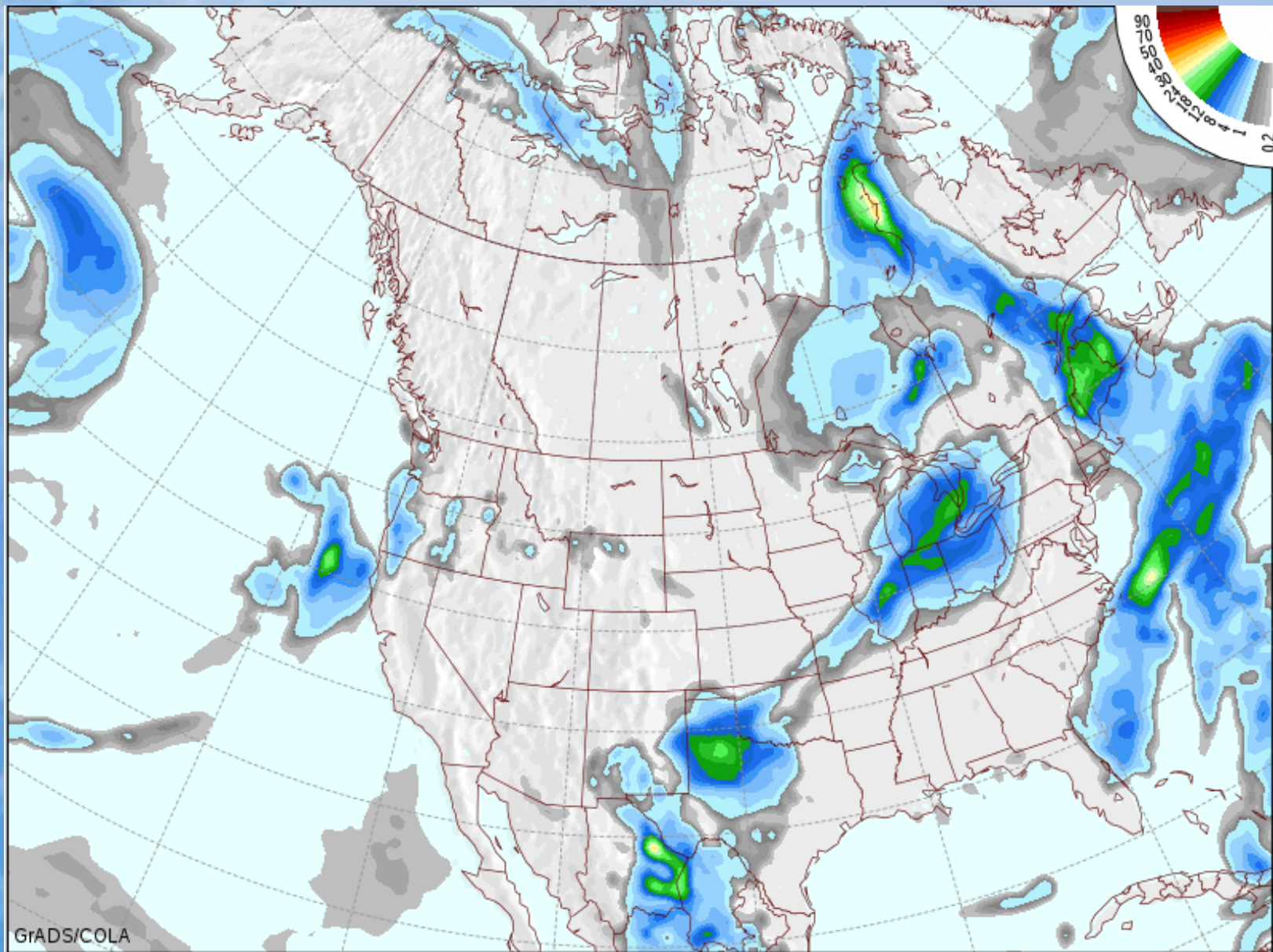
12hr Precipitation (mm)



GrADS/COLA

24Hr GFS Issued: 00Z13MAY2016 Valid: 00Z Sat 14 MAY 2016

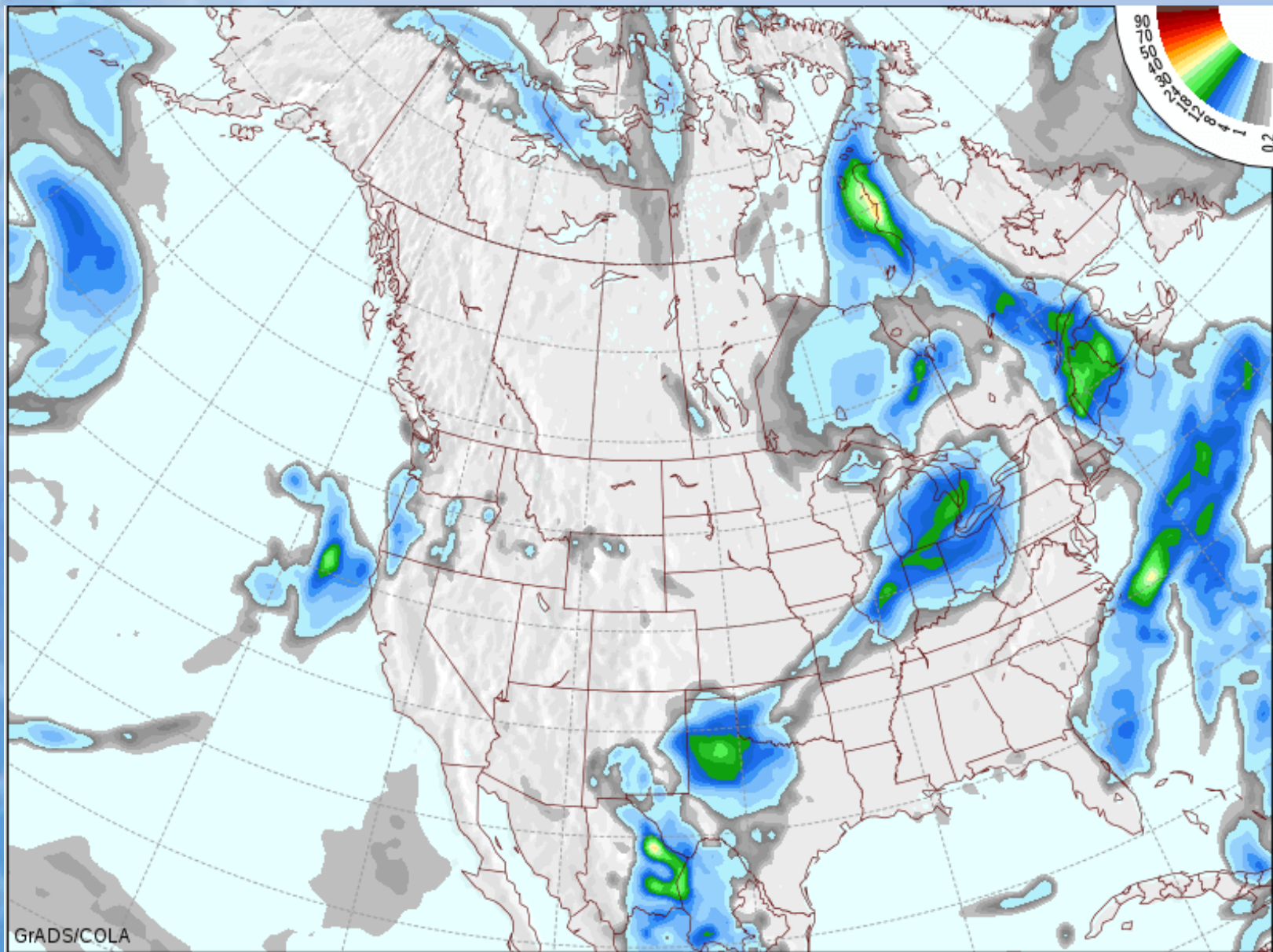
12hr Precipitation (mm)



GrADS/COLA

36Hr GFS Issued: 00Z13MAY2016 Valid: 12Z Sat 14 MAY 2016

12hr Precipitation (mm)



36Hr GFS Issued: 00Z13MAY2016 Valid: 12Z Sat 14 MAY 2016

12hr Precipitation (mm)



›How does a  
Meteorologist fit in?



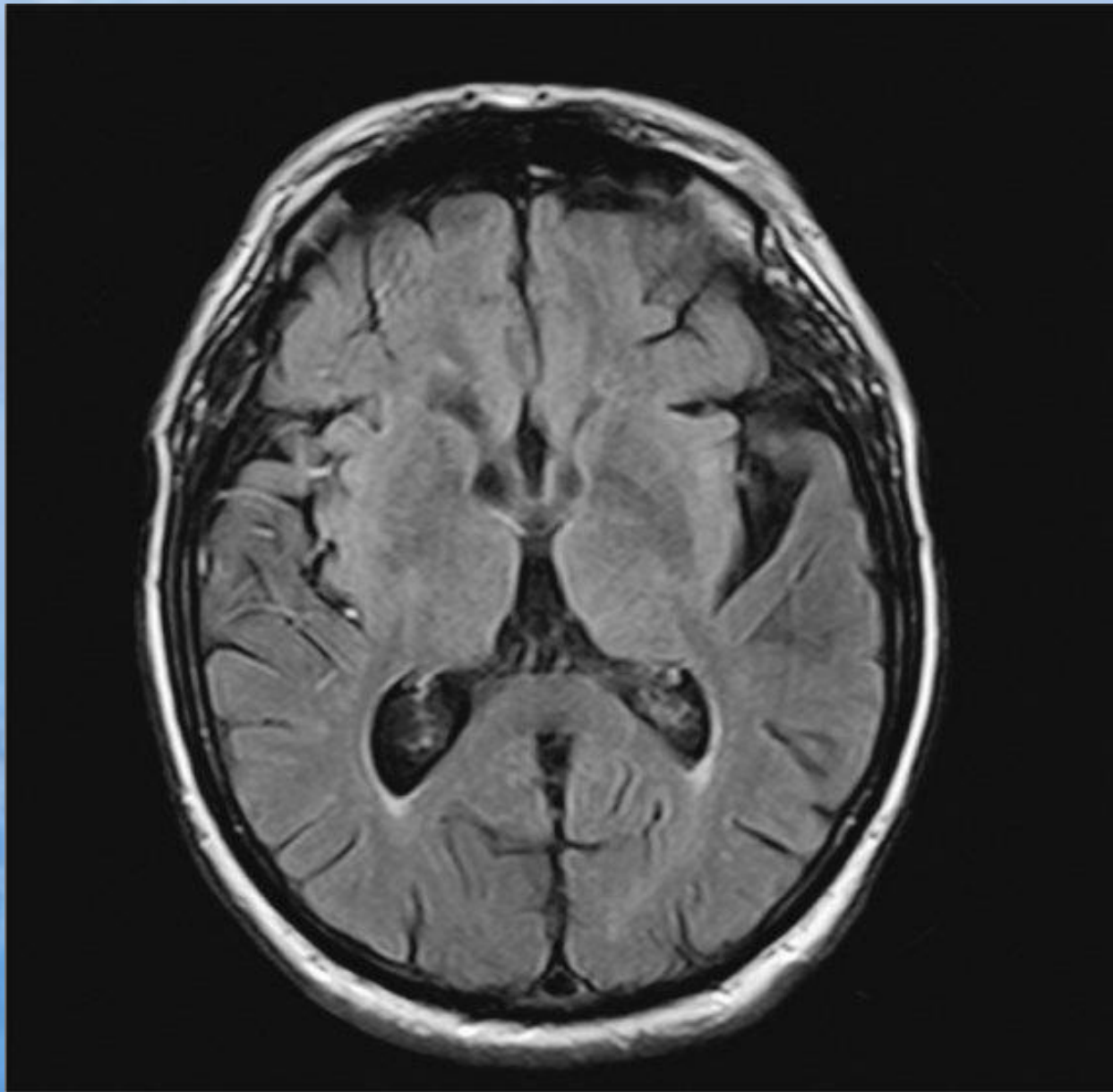
Im: 4

R  
1  
2  
8



R  
1  
0  
0

IA





›From the Computer Models Meteorologists can start to formulate a weather forecast.

- › Raw Output is just that... Raw Output.
- › Take it for what its worth.

›How I would look at  
OZ Computer Weather  
Models

## NCAR-RAP Real-Time Weather Data

Output produced by METARs form (14 May 2016 13:50 UTC)  
found at <http://weather.rap.ucar.edu/surface/>

KORD 141251Z 31013G21KT 10SM SCT030 OVC060 06/00 A2996 RMK AO2 SLP147 T00560000  
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KORD 140941Z 32015KT 10SM BKN029 BKN034 OVC055 06/01 A2989 RMK AO2 PK WND 32026/0902 T00560011  
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KORD 140203Z 00000KT 2 1/2SM +RA BR BKN008 BKN011 OVC045 13/12 A2981 RMK AO2 P0004 T01280117  
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KORD 132351Z 30005KT 10SM -RA BKN048 OVC065 14/11 A2986 RMK AO2 SLP113 P0004 60005 T01440106 10189 20144 56020  
KORD 132251Z 00000KT 5SM -RA OVC070 16/10 A2988 RMK AO2 RAB10 SLP120 P0001 T01560100  
KORD 132151Z 26007KT 10SM FEW090 BKN110 OVC130 17/07 A2990 RMK AO2 SLP124 T01670072  
KORD 132051Z 25011G19KT 10SM FEW045 BKN170 OVC250 18/07 A2993 RMK AO2 SLP134 T01780072 56018

## Department of Atmospheric Sciences

## Weather Interface

NAM 0Z

Station: KORD Lat: 41.98 Lon: -87.93 Elev: 200 Closest grid pt: 23.2 km.  
 Initialization Time: 16-05-13 0000 UTC

PARAMETER/TIME	000	006	012	018	024	030	036	042	048
DAY / HOUR	13/00	13/06	13/12	13/18	14/00	14/06	14/12	14/18	15/00
<b>TEMPS</b>									
2 M (F)	59	49	46	59	56	46	40	48	48
850 MB (C)	6	3	3	5	6	0	-4	-4	-2
700 MB (C)	-1	-3	-1	-1	-3	-5	-8	-10	-12
500 MB (C)	-17	-20	-20	-19	-19	-23	-22	-23	-24
1000-500 THCK	554	548	549	551	551	542	537	536	535
<b>MOISTURE</b>									
2 M DEW POINT (F)	49	45	43	46	49	44	35	37	36
850 MB DP(C)/RH	3/80	-1/76	-4/62	-6/47	5/93	-1/91	-5/93	-4/95	-4/89
700 MB DP(C)/RH	-19/24	-16/37	-27/11	-10/52	-3/97	-8/80	-17/49	-16/59	-23/40
500 MB DP(C)/RH	-47/06	-43/11	-35/27	-28/46	-19/95	-35/32	-35/30	-41/18	-42/18
PRCPABLE WTR (IN)	0.63	0.54	0.45	0.61	0.95	0.62	0.43	0.41	0.38
CONV PRECIP (IN)		0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
TOTAL PRECIP (IN)		0.00	0.00	0.00	0.02	0.53	0.01	0.00	0.00
<b>WIND DD/FFF (Kts)</b>									
10 M	28/010	28/011	28/011	26/009	28/002	33/014	31/016	32/013	30/009
850 MB	28/022	30/019	30/027	29/020	22/017	34/026	34/018	31/022	30/023
700 MB	26/031	29/022	30/033	29/026	25/048	25/034	31/029	31/029	31/032
500 MB	23/041	28/037	30/042	28/043	27/059	26/051	30/046	30/044	30/054
250 MB	20/080	24/047	29/046	30/066	27/083	26/064	29/051	30/068	29/105
<b>PRESS/HEIGHTS</b>									
MSL PRESSURE	1013.0	1015.5	1016.9	1015.1	1011.9	1011.9	1014.2	1015.7	1016.0
850 MB HGT	147	147	147	147	145	142	142	144	145
700 MB HGT	304	302	304	305	301	296	293	295	296
500 MB HGT	565	561	563	564	561	552	548	549	548
250 MB HGT	1051	1039	1037	1038	1038	1028	1023	1021	1023
<b>VERTICAL VEL (uB/S)</b>									
850 MB	9	-9	-6	-1	66	14	7	6	21
700 MB	8	-23	-20	-10	38	41	-14	-5	-2
500 MB	-13	-39	-31	-30	44	-5	-23	-12	-19
<b>CONVECTION PARAMS</b>									
LIFT INX SFC	3	7	9	6	4	6	15	11	9
LIFT INX 4LYR	3	7	8	6	3	5	13	11	8
CAPE SFC	67	10	0	0	47	49	0	78	91
CAPE 4LYR	48	19	0	0	38	19	20	59	70
CIN SFC	-1	-13	-1	-1	-5	-1	3	-1	-4
CIN 4LYR	-2	-5	-1	1	-5	0	0	0	-1

# Department of Atmospheric Sciences

## Weather Interface

*NAM 5Z*

Station: KORD Lat: 41.98 Lon: -87.93 Elev: 200 Closest grid pt: 23.2 km.  
 Initialization Time: 16-05-13 0000 UTC

PARAMETER/TIME	000	006	012	018	024	030	036	042	048
DAY / HOUR	13/00	13/06	13/12	13/18	14/00	14/06	14/12	14/18	15/00
<b>TEMPS</b>									
2 M (F)	59	49	46	59	56	46	40	48	48
850 MB (C)	6	3	3	5	6	0	-4	-4	-2
700 MB (C)	-1	-3	-1	-1	-3	-5	-8	-10	-12
500 MB (C)	-17	-20	-20	-19	-19	-23	-22	-23	-24
1000-500 THCK	554	548	549	551	551	542	537	536	535
<b>MOISTURE</b>									
2 M DEW POINT (F)	49	45	43	46	49	44	35	37	36
850 MB DP(C)/RH	3/80	-1/76	-4/62	-6/47	5/93	-1/91	-5/93	-4/95	-4/89
700 MB DP(C)/RH	-19/24	-16/37	-27/11	-10/52	-3/97	-8/80	-17/49	-16/59	-23/40
500 MB DP(C)/RH	-47/06	-43/11	-35/27	-28/46	-19/95	-35/32	-35/30	-41/18	-42/18
PRCPABLE WTR (IN)	0.63	0.54	0.45	0.61	0.95	0.62	0.43	0.41	0.38
CONV PRECIP (IN)		0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
TOTAL PRECIP (IN)		0.00	0.00	0.00	0.02	0.53	0.01	0.00	0.00
<b>WIND DD/FFF (Kts)</b>									
10 M	28/010	28/011	28/011	26/009	28/002	33/014	31/016	32/013	30/009
850 MB	28/022	30/019	30/027	29/020	22/017	34/026	34/018	31/022	30/023
700 MB	26/031	29/022	30/033	29/026	25/048	25/034	31/029	31/029	31/032
500 MB	23/041	28/037	30/042	28/043	27/059	26/051	30/046	30/044	30/054
250 MB	20/080	24/047	29/046	30/066	27/083	26/064	29/051	30/068	29/105
<b>PRESS/HEIGHTS</b>									
MSL PRESSURE	1013.0	1015.5	1016.9	1015.1	1011.9	1011.9	1014.2	1015.7	1016.0
850 MB HGT	147	147	147	147	145	142	142	144	145
700 MB HGT	304	302	304	305	301	296	293	295	296
500 MB HGT	565	561	563	564	561	552	548	549	548
250 MB HGT	1051	1039	1037	1038	1038	1028	1023	1021	1023
<b>VERTICAL VEL (uB/S)</b>									
850 MB	9	-9	-6	-1	66	14	7	6	21
700 MB	8	-23	-20	-10	38	41	-14	-5	-2
500 MB	-13	-39	-31	-30	44	-5	-23	-12	-19
<b>CONVECTION PARAMS</b>									
LIFT INX SFC	3	7	9	6	4	6	15	11	9
LIFT INX 4LYR	3	7	8	6	3	5	13	11	8
CAPE SFC	67	10	0	0	47	49	0	78	91
CAPE 4LYR	48	19	0	0	38	19	20	59	70
CIN SFC	-1	-13	-1	-1	-5	-1	3	-1	-4
CIN 4LYR	-2	-5	-1	1	-5	0	0	0	-1

## OTHER

TROP PRES (MB)	205	209	207	267	251	235	266	288	265	256	3
MSL PRES (MB)	1014	1013	1015	1017	1016	1010	1011	1015	1017	1017	10
500 MB HGT (DM)	569	565	561	563	564	560	550	548	548	548	5
500 MB ABS VORT	7.6	12.7	21.5	12.5	12.7	12.9	21.5	13.0	16.8	14.2	13

Station: KORD Lat: 41.98 Lon: -87.93 Elev: 200 Closest grid pt: 23.2 km.

Initialization Time: 16-05-13 0000 UTC

PARAMETER/TIME	000	006	012	018	024	030	036	042	048	054	060
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6P5 DAY / HOUR	13/00	13/06	13/12	13/18	14/00	14/06	14/12	14/18	15/00	15/06	15/12
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## TEMPS

SFC (2 M) (F)	58	49	46	57	51	43	38	45	44	40	3
850 MB (C)	6	3	3	5	5	-2	-4	-5	-5	-5	3
700 MB (C)	-1	-3	-1	-2	-2	-7	-10	-11	-10	-13	3
500 MB (C)	-17	-20	-20	-19	-17	-22	-21	-24	-24	-26	3
1000-500 THCK	554	548	549	551	551	540	536	534	534	530	5

## MOISTURE

30 M AVG RH	61	79	87	61	93	86	79	63	58	52	3
850 MB DP/RH	4/87	0/78	-2/69	-3/57	4/89	-4/87	-8/75	-5/98	-6/91	-9/72	-9/72
700 MB DP/RH	-17/29	-15/37	-24/16	-8/62	-3/98	-18/41	-18/54	-19/51	-36/10	-35/14	-16/10
500 MB DP/RH	-41/11	-42/13	-32/34	-27/49	-17/99	-34/34	-30/46	-42/18	-39/24	-35/41	-38/10
CONV PRECIP (IN)											
TOTAL PRECIP (IN)		0.00	0.00	0.00	0.44	0.11	0.00	0.01	0.01	0.00	0.00

## WIND DD/FFF (Kts)

30 M AVG	29/018	30/020	30/016	27/011	01/008	32/026	31/024	30/020	31/019	30/018	29/018
850 MB	29/023	30/021	31/022	29/019	22/013	33/029	32/031	31/024	31/027	32/024	30/018
700 MB	26/029	30/027	31/034	28/028	25/040	27/031	31/031	31/033	31/036	31/037	31/018
500 MB	23/042	29/036	30/040	27/039	26/070	27/052	30/047	30/053	30/057	30/065	31/018
250 MB	20/075	24/045	29/048	29/062	27/080	27/058	29/052	30/073	29/102	29/092	30/018

## VERTICAL VEL (uB/S)

850 MB		-6	-13	-23	-86	-14	-10	3	-15	-15	3
700 MB		-13	-16	-3	-20	-7	-10	1	-6	-21	3
500 MB		-23	-28	-17	234	-14	-15	-27	-12	-13	3

## OTHER

TROP PRES (MB)	208	243	268	244	237	262	287	276	272	297	3
MSL PRES (MB)	1013	1016	1017	1016	1010	1012	1015	1017	1017	1018	10
500 MB HGT (DM)	565	561	563	564	560	550	548	548	547	545	5
500 MB ABS VORT	10.2	22.7	11.6	7.2	17.2	19.9	11.6	14.1	14.2	12.7	16

OTHER

TROP PRES (MB)	205	209	207	267	251	235	266	288	265	256	3
MSL PRES (MB)	1014	1013	1015	1017	1016	1010	1011	1015	1017	1017	10
500 MB HGT (DM)	569	565	561	563	564	560	550	548	548	548	5
500 MB ABS VORT	7.6	12.7	21.5	12.5	12.7	12.9	21.5	13.0	16.8	14.2	13

Station: KORD Lat: 41.98 Lon: -87.93 Elev: 200 Closest grid pt: 23.2 km.

Initialization Time: 16-05-13 0000 UTC

PARAMETER/TIME	000	006	012	018	024	030	036	042	048	054	060
<b>6PS</b> DAY / HOUR	13/00	13/06	13/12	13/18	14/00	14/06	14/12	14/18	15/00	15/06	15/12
<b>TEMPS</b>											
SFC (2 M) (F)	58	49	46	57	51	43	38	45	44	40	
850 MB (C)	6	3	3	5	5	-2	-4	-5	-5	-5	
700 MB (C)	-1	-3	-1	-2	-2	-7	-10	-11	-10	-13	
500 MB (C)	-17	-20	-20	-19	-17	-22	-21	-24	-24	-26	
1000-500 THCK	554	548	549	551	551	540	536	534	534	530	5
<b>MOISTURE</b>											
30 M AVG RH	61	79	87	61	93	86	79	63	58	52	
850 MB DP/RH	4/87	0/78	-2/69	-3/57	4/89	-4/87	-8/75	-5/98	-6/91	-9/72	-9/72
700 MB DP/RH	-17/29	-15/37	-24/16	-8/62	-3/98	-18/41	-18/54	-19/51	-36/10	-35/14	-16/10
500 MB DP/RH	-41/11	-42/13	-32/34	-27/49	-17/99	-34/34	-30/46	-42/18	-39/24	-35/41	-38/41
CONV PRECIP (IN)											
TOTAL PRECIP (IN)		0.00	0.00	0.00	0.44	0.11	0.00	0.01	0.01	0.00	0.0
<b>WIND DD/FFF (Kts)</b>											
30 M AVG	29/018	30/020	30/016	27/011	01/008	32/026	31/024	30/020	31/019	30/018	29/018
850 MB	29/023	30/021	31/022	29/019	22/013	33/029	32/031	31/024	31/027	32/024	30/018
700 MB	26/029	30/027	31/034	28/028	25/040	27/031	31/031	31/033	31/036	31/037	31/018
500 MB	23/042	29/036	30/040	27/039	26/070	27/052	30/047	30/053	30/057	30/065	31/018
250 MB	20/075	24/045	29/048	29/062	27/080	27/058	29/052	30/073	29/102	29/092	30/018
<b>VERTICAL VEL (uB/S)</b>											
850 MB		-6	-13	-23	-86	-14	-10	3	-15	-15	
700 MB		-13	-16	-3	-20	-7	-10	1	-6	-21	
500 MB		-23	-28	-17	234	-14	-15	-27	-12	-13	
<b>OTHER</b>											
TROP PRES (MB)	208	243	268	244	237	262	287	276	272	297	3
MSL PRES (MB)	1013	1016	1017	1016	1010	1012	1015	1017	1017	1018	10
500 MB HGT (DM)	565	561	563	564	560	550	548	548	547	545	5
500 MB ABS VORT	10.2	22.7	11.6	7.2	17.2	19.9	11.6	14.1	14.2	12.7	16



OTHER												
TROP PRES (MB)	205	207	251	266	265	309	229	211	197	197	20	
MSL PRES (MB)	1014	1015	1016	1011	1017	1018	1020	1019	1017	1017	101	
500 MB HGT (DM)	569	561	564	550	548	544	550	556	561	562	56	
500 MB ABS VORT	7.6	21.5	12.7	21.5	16.8	13.3	9.4	12.3	6.5	7.2	7.	

Station: KORD Lat: 41.98 Lon: -87.93 Elev: 200 Closest grid pt: 23.2 km.

Initialization Time: 16-05-13 0000 UTC

PARAMETER/TIME	000	012	024	036	048	060	072	084	096	108	120
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6P  
5PM

DAY / HOUR	13/00	13/12	14/00	14/12	15/00	15/12	16/00	16/12	17/00	17/12	18/00
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TEMPS											
SFC (2 M) (F)	58	46	51	38	44	39	50	46	56	49	
850 MB (C)	6	3	5	-4	-5	-4	0	4	5	5	
700 MB (C)	-1	-1	-2	-10	-10	-14	-8	-6	-4	-5	
500 MB (C)	-17	-20	-17	-21	-24	-28	-23	-21	-18	-16	
1000-500 THCK	554	549	551	536	534	529	540	545	550	549	

MOISTURE											
SFC (2M) DP (F)	51	43	50	34	33	30	42	42	49	47	
850 MB DP/RH	4/87	-2/69	4/89	-8/75	-6/91	-9/72	-4/71	-2/68	2/77	3/84	
700 MB DP/RH	-17/29	-24/16	-3/98	-18/54	-36/10	-16/83	-21/35	-16/43	-6/89	-5/96	
500 MB DP/RH	-41/11	-32/34	-17/99	-30/46	-39/24	-38/37	-40/21	-33/33	-28/41	-46/06	
CONV PRECIP (IN)											
TOTAL PRECIP (IN)		0.00	0.44	0.00	0.01	0.00	0.01	0.00	0.04	0.01	

WIND DD/FFF (Kts)											
10 M	28/010	29/011	01/006	31/018	31/013	28/013	29/007	23/013	26/007	05/008	
850 MB	29/023	31/022	22/013	32/031	31/027	30/027	30/027	28/025	26/020	35/004	
700 MB	26/029	31/034	25/040	31/031	31/036	31/051	31/038	28/026	29/016	29/013	
500 MB	23/042	30/040	26/070	30/047	30/057	31/071	31/065	29/055	29/045	27/045	
250 MB	20/075	29/048	27/080	29/052	29/102	30/080	30/107	29/111	27/097	26/095	

VERTICAL VEL (uB/S)										
850 MB		-13	-86	-10	-15	17	8	3	24	-7
700 MB		-16	-20	-10	-6	5	-24	21	5	-3
500 MB		-28	234	-15	-12	-30	-27	-21	-31	3

OTHER											
TROP PRES (MB)	208	268	237	287	272	311	223	197	204	189	
MSL PRES (MB)	1013	1017	1010	1015	1017	1019	1017	1018	1016	1019	
500 MB HGT (DM)	565	563	560	548	547	544	553	559	563	564	
500 MB ABS VORT	10.2	11.6	17.2	11.6	14.2	16.8	14.4	9.4	8.5	8.0	

OTHER	205	207	251	266	265	309	229	211	197	197	20
TROP PRES (MB)	1014	1015	1016	1011	1017	1018	1020	1019	1017	1017	101
MSL PRES (MB)	569	561	564	550	548	544	550	556	561	562	56
500 MB HGT (DM)	7.6	21.5	12.7	21.5	16.8	13.3	9.4	12.3	6.5	7.2	7.
500 MB ABS VORT											

Station: KORD Lat: 41.98 Lon: -87.93 Elev: 200 Closest grid pt: 23.2 km.

Initialization Time: 16-05-13 0000 UTC

PARAMETER/TIME 000 012 024 036 048 060 072 084 096 108 120

DAY / HOUR	13/00	13/12	14/00	14/12	15/00	15/12	16/00	16/12	17/00	17/12	18/00
TEMP											
SFC (2 M) (F)	58	46	51	38	44	39	50	46	56	49	
850 MB (C)	6	3	5	-4	-5	-4	0	4	5	5	
700 MB (C)	-1	-1	-2	-10	-10	-14	-8	-6	-4	-5	
500 MB (C)	-17	-20	-17	-21	-24	-28	-23	-21	-18	-16	-
1000-500 THCK	554	549	551	536	534	529	540	545	550	549	5
MOISTURE											
SFC (2M) DP (F)	51	43	50	34	33	30	42	42	49	47	
850 MB DP/RH	4/87	-2/69	4/89	-8/75	-6/91	-9/72	-4/71	-2/68	2/77	3/84	-1/
700 MB DP/RH	-17/29	-24/16	-3/98	-18/54	-36/10	-16/83	-21/35	-16/43	-6/99	-5/96	-13/
500 MB DP/RH	-41/11	-32/34	-17/99	-30/46	-39/24	-38/37	-40/21	-33/33	-28/41	-46/06	-44/
CONV PRECIP (IN)			0.44	0.00	0.01	0.00	0.01	0.00	0.04	0.01	0
TOTAL PRECIP (IN)			0.00	0.44	0.01	0.00	0.01	0.00	0.04	0.01	0
WIND DD/FFF (Kts)											
10 M	28/010	29/011	01/006	31/018	31/013	28/013	29/007	23/013	26/007	05/008	03/
850 MB	29/023	31/022	22/013	32/031	31/027	30/027	30/027	28/025	26/020	35/004	04/
700 MB	26/029	31/034	25/040	31/031	31/036	31/051	31/038	28/026	29/016	29/013	28/
500 MB	23/042	30/040	26/070	30/047	30/057	31/071	31/065	29/055	29/045	27/045	27/
250 MB	20/075	29/048	27/080	29/052	29/102	30/080	30/107	29/111	27/097	26/095	26/
VERTICAL VEL (uB/S)											
850 MB		-13	-86	-10	-15	17	8	3	24	-7	
700 MB		-16	-20	-10	-6	5	-24	21	5	-3	
500 MB		-28	234	-15	-12	-30	-27	-21	-31	3	
OTHER											
TROP PRES (MB)	208	268	237	287	272	311	223	197	204	189	
MSL PRES (MB)	1013	1017	1010	1015	1017	1019	1017	1018	1016	1019	
500 MB HGT (DM)	565	563	560	548	547	544	553	559	563	564	
500 MB ABS VORT	10.2	11.6	17.2	11.6	14.2	16.8	14.4	9.4	8.5	8.0	





- › Look for accurate start to model run.
- › Look for run to run consistency.

› Look for best recent track record at forecasting previous storms.



Murray&Trettel/Weather Command® Empowering Decision Makers 24/7™

CHICAGO METRO AREA FORECAST

DATE: FRIDAY, MAY 13, 2016 TIME: 7:34 AM FCSTR: ASW (847-963-9000 ext 2) www.weathercommand.com

CHICAGO CLIMATOLOGY Normals High/Low: 69/47

Yesterday's High 70/Low 53

Yesterday's Rain 0.48/Snow 0

Records High 89/1991 Low 34/1996

GENERAL FORECAST DISCUSSION

THE APPROACH OF A NEW STORM SYSTEM WILL RESULT IN A PERIOD OF RAIN SHOWERS, ALONG WITH A FEW THUNDERSTORMS, LATE THIS AFTERNOON INTO THIS EVENING. MUCH COOLER TEMPERATURES WILL FOLLOW FOR THE UPCOMING WEEKEND, WITH HIGH TEMPERATURES NEARLY 15 DEGREES BELOW SEASONAL NORMALS. A WEAK WEATHER SYSTEM MAY RESULT IN A FEW VERY LIGHT RAIN SHOWERS ON SUNDAY; OTHERWISE, TEMPERATURES SLOWLY REBOUND FOR THE START OF THE NEW WORK WEEK.

TEMPERATURES		SHORT TERM FORECAST	PRECIPITATION
<b>TODAY</b>	<b>G10</b>	INCREASING CLOUDS AND NOT AS WARM. RAIN SHOWERS DEVELOP IN THE AFTERNOON.	LT RAIN < .1 in POP=70% Start:4PM End:NITE
High: 67 O'Hare			
High: 68 Loop			
<b>RAIN</b>		Wind: W 8 to 13 mph	
<b>TONIGHT</b>	<b>G10</b>	RAIN SHOWERS DURING THE EVENING. ISOLATED THUNDERSTORM POSSIBLE. OTHERWISE PARTLY TO MOSTLY CLOUDY, BREEZY AND COOLER.	RAIN WITH THUNDER .3-.6 in POP=90% Start:DAY End:12AM
Low: 44 O'Hare			
Low: 47 Loop			
<b>RAIN/THUNDERSTORM</b>		Wind: NW 13 to 18 mph	
Gusts 25			
<b>SATURDAY</b>	<b>G10</b>	MOSTLY CLOUDY, BREEZY AND UNSEASONABLY COOL.	NONE
High: 52 O'Hare			
High: 53 Loop			
		Wind: NW 13 to 18 mph Gusts 25	
<b>SAT NIGHT</b>	<b>G10</b>	DECREASING CLOUDS AND COOL.	NONE
Low: 37 O'Hare			
Low: 41 Loop			
		Wind: W 6 to 11 mph	
<b>MEDIUM RANGE FORECAST</b>			
<b>SUNDAY</b>	<b>G10</b>	VARIABLY CLOUDY AND UNSEASONABLY COOL. CHANCE OF A FEW LIGHT RAIN SHOWERS OR SPRINKLES.	LT RAIN SHWR TR-.02 POP=30% Start:9AM End:3PM
High: 56 O'Hare			
High: 56 Loop			
		Wind: W 8 to 13 mph	
<b>MONDAY</b>	<b>G10</b>	INCREASING CLOUDS AND A FEW DEGREES WARMER.	NONE
Low/High: 41/63 O'Hare			
Low/High: 45/62 Loop			
		Wind: SW 6 to 11 mph	
<b>TUESDAY</b>	<b>G10</b>	MOSTLY CLOUDY WITH A CHANCE OF RAIN SHOWERS.	LT RAIN SHWR < .1 in POP=40% Start:10AM End:6PM
Low/High: 47/64 O'Hare			
Low/High: 49/54 Loop			
		Wind: NE 8 to 13 mph	
<b>WEDNESDAY</b>	<b>G10</b>	PARTLY CLOUDY AND A FEW DEGREES COOLER.	NONE
Low/High: 43/60 O'Hare			
Low/High: 45/54 Loop			
		Wind: NE 6 to 11 mph	

Murray & Trettel, Inc 600 N. 1st Bank Dr Palatine, IL 60067 847-963-9000 ext 2 Timestamp: 06:19:34

FCSTR: BS

DAY1: FRI 13-MAY-16	MAX/HR	MIN/HR	AVGT	AVGW	DD																		
ORD=OHARE	67/15	44/06	54.5	11.1	10.5																		
HOUR	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
TEMP	57	59	61	63	65	67	66	64	62	60	58	56	53	51	50	48	47	46	45	45	44	45	47
SPD	8	9	10	10	11	11	11	10	9	8	8	8	9	10	11	12	12	13	13	14	14	15	17
WC	55	57	60	62				63	61	59	57	54	50	47	46	43	42	40	39	39	37	38	41
DAY2: SAT 14-MAY-16	MAX/HR	MIN/HR	AVGT	AVGW	DD																		
ORD	52/14	37/05	45.1	10.5	19.9																		
HOUR	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
TEMP	50	50	51	51	52	52	51	50	49	47	46	45	43	42	41	40	40	39	38	37	38	40	42
SPD	16	16	15	15	15	14	14	14	13	13	12	11	9	8	7	7	6	6	6	6	6	7	8
WC	44	44	46	46	47	47	46	45	44	41	40	39	38	37	36	35	36	35	33	32	33	35	38
DAY3: SUN 15-MAY-16	MAX/HR	MIN/HR	AVGT	AVGW	DD																		
ORD	56/15	41/05	49.3	7.1	15.8																		
HOUR	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
TEMP	48	50	52	54	55	56	56	55	55	54	53	51	49	48	46	45	44	43	42	41	42	44	47
SPD	9	9	10	10	10	10	10	9	9	8	7	7	6	6	6	5	5	4	4	4	4	4	6
WC	44	46	49	51	52	53	53	53	53	52	51	48	46	45	43	42	41	41	40	38	40	42	47
DAY4: MON 16-MAY-16	MAX/HR	MIN/HR	AVGT	AVGW	DD																		
ORD	63/15	47/05	55.5	10.4	9.5																		
HOUR	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
TEMP	54	56	59	60	62	63	63	62	62	61	60	58	55	54	53	52	50	49	48	47	48	49	52
SPD	10	12	13	14	14	14	14	13	13	12	12	11	10	9	9	9	7	7	6	6	6	8	9
WC	51	53	57	58	60	61	61	60	60	59	58	56	52	51	50	49	47	46	45	44	45	46	49
DAY5: TUE 17-MAY-16	MAX/HR	MIN/HR	AVGT	AVGW	DD																		
ORD	64/15	43/05	54.4	10.5	10.6																		
HOUR	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
TEMP	57	59	61	62	63	64	64	63	62	61	59	57	54	52	50	49	47	46	44	43	44	45	48
SPD	12	12	13	14	14	14	14	13	13	12	12	11	10	9	9	9	7	7	6	6	6	8	9
WC	54	57	59	60	61	63	63	62	60	59	57	54	51	49	46	45	44	42	41	39	41	41	44
DAY6: WED 18-MAY-16	MAX/HR	MIN/HR	AVGT	AVGW	DD																		
ORD	60/15	44/05	52.9	10.5	12.1																		
HOUR	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
TEMP	53	55	57	58	59	60	60	59	59	58	57	55	52	51	50	49	47	46	45	44	45	47	50
SPD	12	12	13	14	14	14	14	13	13	12	12	11	10	9	9	9	7	7	6	6	6	8	9
WC	49	52	54	55	56	58	58	57	57	55	54	52	49	48	46	45	44	42	42	41	42	43	46
DAY7: THU 19-MAY-16	MAX/HR	MIN/HR	AVGT	AVGW	DD																		
ORD	63/15	47/05	55.8	10.4	9.3																		
HOUR	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
TEMP	55	57	59	61	62	63	63	62	62	61	60	58	55	54	53	52	50	49	48	47	48	50	53
SPD	12	12	13	14	14	14	14	13	13	12	12	11	10	9	9	9	7	7	6	6	6	8	8
WC	52	54	57	59	60	61	61	60	60	59	58	56	52	51	50	49	47	46	45	44	45	47	50
DAY8: FRI 20-MAY-16	MAX/HR	MIN/HR	AVGT	AVGW	DD																		
ORD	66/15	50/05	58.8	8.5	6.2																		
HOUR	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8
TEMP	58	60	62	64	65	66	66	65	65	64	63	61	58	57	56	55	53	52	51	50	51	53	57
SPD	10	11	11	12	12	12	12	11	11	10	10	9	8	7	7	7	5	5	4	4	4	6	7
WC	56	58	61	63				63	62	60	57	56	54	53	52	51	50	49	50	51	51	56	



› Meteorologists look at all available data.  
Eliminate all the noise from all sources.

› May blend computer guidance together to smooth out forecast details.

## NCAR-RAP Real-Time Weather Data

Output produced by METARs form (14 May 2016 13:50 UTC)  
found at <http://weather.rap.ucar.edu/surface/>

KORD 141251Z 31013G21KT 10SM SCT030 OVC060 06/00 A2996 RMK AO2 SLP147 T00560000  
KORD 141151Z 31014KT 10SM FEW027 OVC060 06/00 A2994 RMK AO2 SLP139 70068 T00560000 10072 20050 53020  
KORD 141051Z 32012KT 10SM FEW027 BKN060 05/01 A2991 RMK AO2 SLP130 T00500006  
KORD 141013Z 32012KT 10SM FEW027 BKN060 06/01 A2989 RMK AO2 T00560006  
KORD 140951Z 33016G21KT 10SM BKN029 BKN034 OVC060 06/01 A2989 RMK AO2 PK WND 32026/0902 SLP124 T00560011  
KORD 140941Z 32015KT 10SM BKN029 BKN034 OVC055 06/01 A2989 RMK AO2 PK WND 32026/0902 T00560011  
KORD 140851Z 31014KT 10SM FEW027 OVC055 06/02 A2988 RMK AO2 SLP118 T00610022 53008  
KORD 140751Z 31013KT 10SM FEW044 BKN055 07/03 A2986 RMK AO2 SLP113 T00670028  
KORD 140727Z 32015G22KT 10SM FEW027 BKN039 BKN055 07/03 A2986 RMK AO2 T00670033  
KORD 140651Z 32016G25KT 10SM FEW020 BKN029 OVC034 07/04 A2985 RMK AO2 SLP109 T00670039  
KORD 140649Z 31015G25KT 10SM FEW022 BKN029 OVC034 07/04 A2985 RMK AO2  
KORD 140551Z 32008KT 10SM SCT047 BKN055 OVC070 07/05 A2985 RMK AO2 PK WND 33027/0502 RAE37 SLP108 P0004 60063 T00670050  
10144 20061 401890061 50019  
KORD 140522Z 34012KT 8SM -RA FEW014 OVC055 07/04 A2986 RMK AO2 PK WND 33027/0502 P0004 T00670044  
KORD 140451Z 33017G32KT 6SM -RA BR SCT014 BKN028 OVC047 07/05 A2986 RMK AO2 PK WND 34032/0444 SLP110 P0004 T00720050  
KORD 140432Z 33017G23KT 5SM -RA SCT010 BKN026 OVC047 08/07 A2984 RMK AO2 PK WND 32032/0418 P0003 T00830067  
KORD 140423Z 34017G32KT 5SM -RA BR SCT010 BKN024 OVC045 08/07 A2983 RMK AO2 PK WND 32032/0418 P0002 T00830067  
KORD 140403Z 35014KT 10SM -RA BKN011 OVC016 09/07 A2983 RMK AO2 P0000 T00890072  
KORD 140351Z 35015G23KT 10SM -RA BKN009 OVC016 09/08 A2983 RMK AO2 PK WND 35026/0312 SLP101 P0009 T00940078  
KORD 140333Z 35013G23KT 9SM -RA FEW005 BKN008 OVC025 09/08 A2982 RMK AO2 PK WND 35026/0312 P0009 T00940083  
KORD 140317Z 35016G26KT 3SM RA BR BKN005 OVC011 10/09 A2981 RMK AO2 PK WND 35026/0312 P0007 T01000094  
KORD 140305Z 33008KT 2 1/2SM RA BR BKN006 OVC011 12/12 A2980 RMK AO2 P0004 T01170117  
KORD 140251Z 35004KT 3SM -RA BR BKN006 BKN014 OVC026 12/12 A2979 RMK AO2 SLP089 P0028 60046 T01220117 58018  
KORD 140203Z 00000KT 2 1/2SM +RA BR BKN008 BKN011 OVC045 13/12 A2981 RMK AO2 P0004 T01280117  
KORD 140151Z 00000KT 4SM RA BR SCT011 BKN041 OVC048 13/12 A2982 RMK AO2 SLP097 P0013 T01280117  
KORD 140132Z 00000KT 4SM -RA BR FEW029 BKN036 OVC049 13/12 A2983 RMK AO2 P0010 T01280117  
KORD 140122Z 00000KT 2SM +RA BR SCT029 BKN036 OVC047 13/12 A2984 RMK AO2 P0007 T01280117  
KORD 140106Z 20003KT 4SM RA BR SCT032 SCT039 OVC060 13/12 A2985 RMK AO2 P0001 T01330117  
KORD 140051Z 00000KT 9SM -RA OVC060 13/11 A2985 RMK AO2 SLP107 P0005 T01330111  
KORD 140045Z 00000KT 7SM -RA FEW043 BKN060 OVC070 13/11 A2985 RMK AO2 P0005  
KORD 140018Z 28004KT 4SM RA BKN042 OVC065 14/11 A2987 RMK AO2 P0001 T01390111  
KORD 132351Z 30005KT 10SM -RA BKN048 OVC065 14/11 A2986 RMK AO2 SLP113 P0004 60005 T01440106 10189 20144 56020  
KORD 132251Z 00000KT 5SM -RA OVC070 16/10 A2988 RMK AO2 RAB10 SLP120 P0001 T01560100  
KORD 132151Z 26007KT 10SM FEW090 BKN110 OVC130 17/07 A2990 RMK AO2 SLP124 T01670072  
KORD 132051Z 25011G19KT 10SM FEW045 BKN170 OVC250 18/07 A2993 RMK AO2 SLP134 T01780072 56018

## NCAR-RAP Real-Time Weather Data

Output produced by METARs form (15 May 2016 12:44 UTC)  
found at <http://weather.rap.ucar.edu/surface/>

**Conditions at:** KORD observed 15 May 2016 11:51 UTC

**Temperature:** 3.9°C (39°F)

**Dewpoint:** 0.0°C (32°F) [RH = 76%]

**Pressure (altimeter):** 30.08 inches Hg (1018.7 mb)  
[Sea-level pressure: 1019.1 mb]

**Winds:** from the WNW (290 degrees) at 5 MPH (4 knots; 2.1 m/s)

**Visibility:** 10 or more miles (16+ km)

**Ceiling:** at least 12,000 feet AGL

**Clouds:** scattered clouds at 8000 feet AGL

**Present Weather:** no significant weather observed at this time

KORD 151151Z 29004KT 10SM SCT080 04/00 A3008 RMK AO2 SLP191 T00390000 10050 20017 53009

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**Conditions at:** KORD observed 15 May 2016 10:51 UTC

**Temperature:** 2.2°C (36°F)

**Dewpoint:** -0.6°C (31°F) [RH = 82%]

**Pressure (altimeter):** 30.06 inches Hg (1018.0 mb)  
[Sea-level pressure: 1018.5 mb]

**Winds:** from the W (270 degrees) at 3 MPH (3 knots; 1.6 m/s)

**Visibility:** 10 or more miles (16+ km)

**Ceiling:** at least 12,000 feet AGL

**Clouds:** scattered clouds at 8000 feet AGL

**Present Weather:** no significant weather observed at this time

KORD 151051Z 27003KT 10SM SCT080 02/M01 A3006 RMK AO2 SLP185 T00221006

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**Conditions at:** KORD observed 15 May 2016 09:51 UTC

**Temperature:** 2.8°C (37°F)

ORD Verification					Weather Command Forecast			
TIME	ORD Sky	ORD Temp	ORD Precip	Amount	Sky	Temps	Precip	POP
14z/9A	FEW250	57	None		Sunny			
15z/10A	FEW038 FEW250	59	None		Sunny	57		
16z/11A	FEW040 FEW250	60	None		Sunny	59		
17z/12P	FEW043 SCT250	63	None		Sunny	61		
18z/1P	FEW046 BKN250	64	None		PS	63		
19z/2P	FEW046 BKN250	65	None		PS	65		
20z/3P	FEW046 BKN250	66	None		Cloudy	67	Start 4P	
21z/4P	FEW045 BKN170 OVC250	64	None		Cloudy	66	Rain	70%
22z/5P	FEW090 BKN110 OVC130	62	None	Start 5:10	Cloudy	64	Rain	90%
23z/6P	OVC070	60	LT Rain/B10	0.01	Cloudy	62	Rain	90%
00z/7P	BKN048 OVC065	58	LT Rain	0.04	Cloudy	60	Rain	90%
01z/8P	OVC060	56	LT Rain	0.05	Cloudy	58	Rain	90%
02z/9P	SCT011 BKN041 OVC048	55	Rain	0.13	Cloudy	56	Rain	90%
03z/10P	BKN006 BKN014 OVC026	54	LT Rain	0.28	Cloudy	53	Rain	90%
04z/11P	BKN009 OVC016	49	LT Rain	0.09	Cloudy	51	Rain	90%
05z/12A	SCT014 BKN028 OVC047	45	LT Rain	0.04	Cloudy	50	Rain	
06z/1A	SCT047 BKN055 OVC070	44	None/E37	0.04	Cloudy	48	End 12A	
07z/2A	FEW020 BKN029 OVC034	44	None	End 12:37	Cloudy	47		
				0.68 Total			.4-.7	

- › Model & Apps are just single data source.
- › Meteorologists look at all available data.





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**847-987-3536**





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