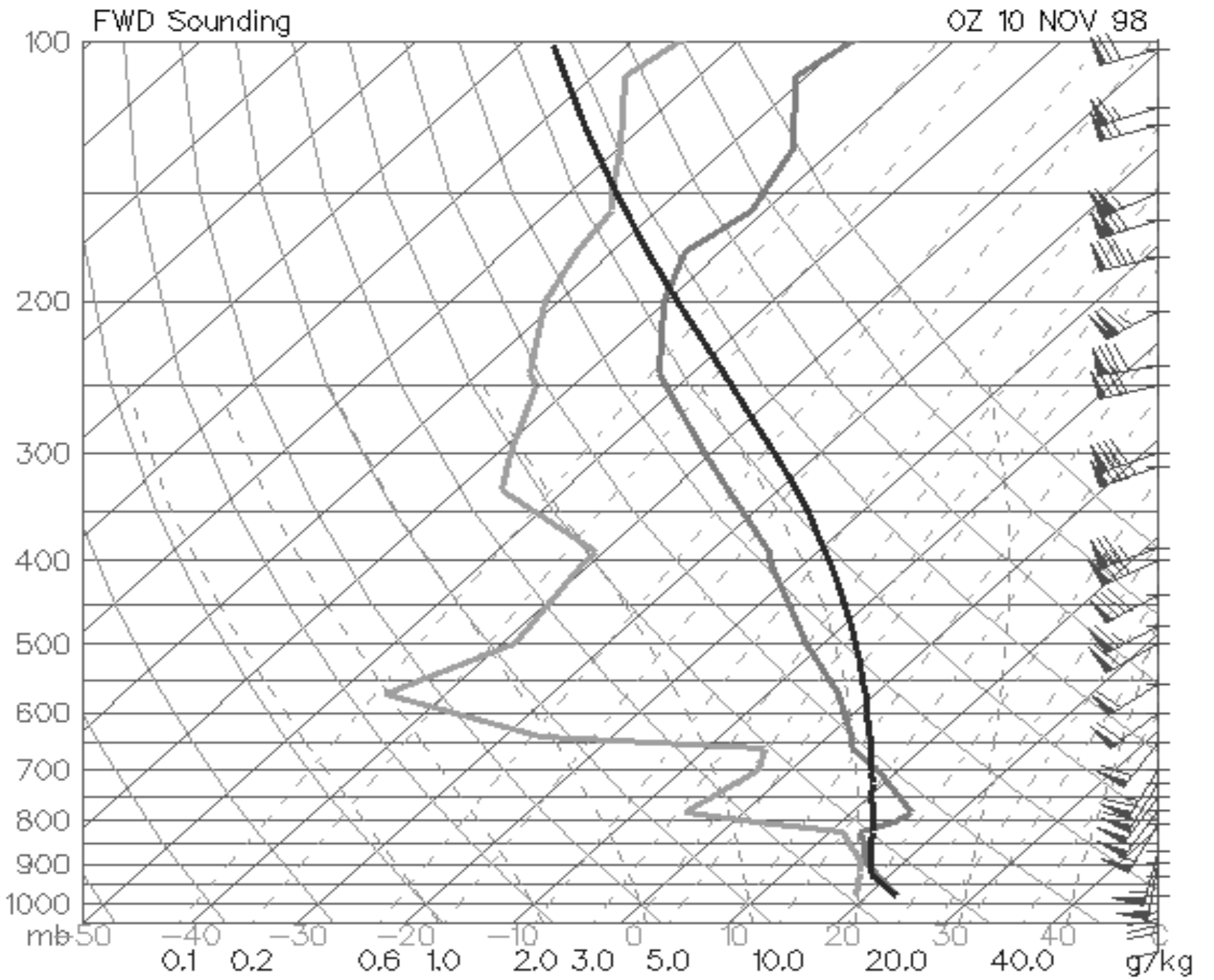
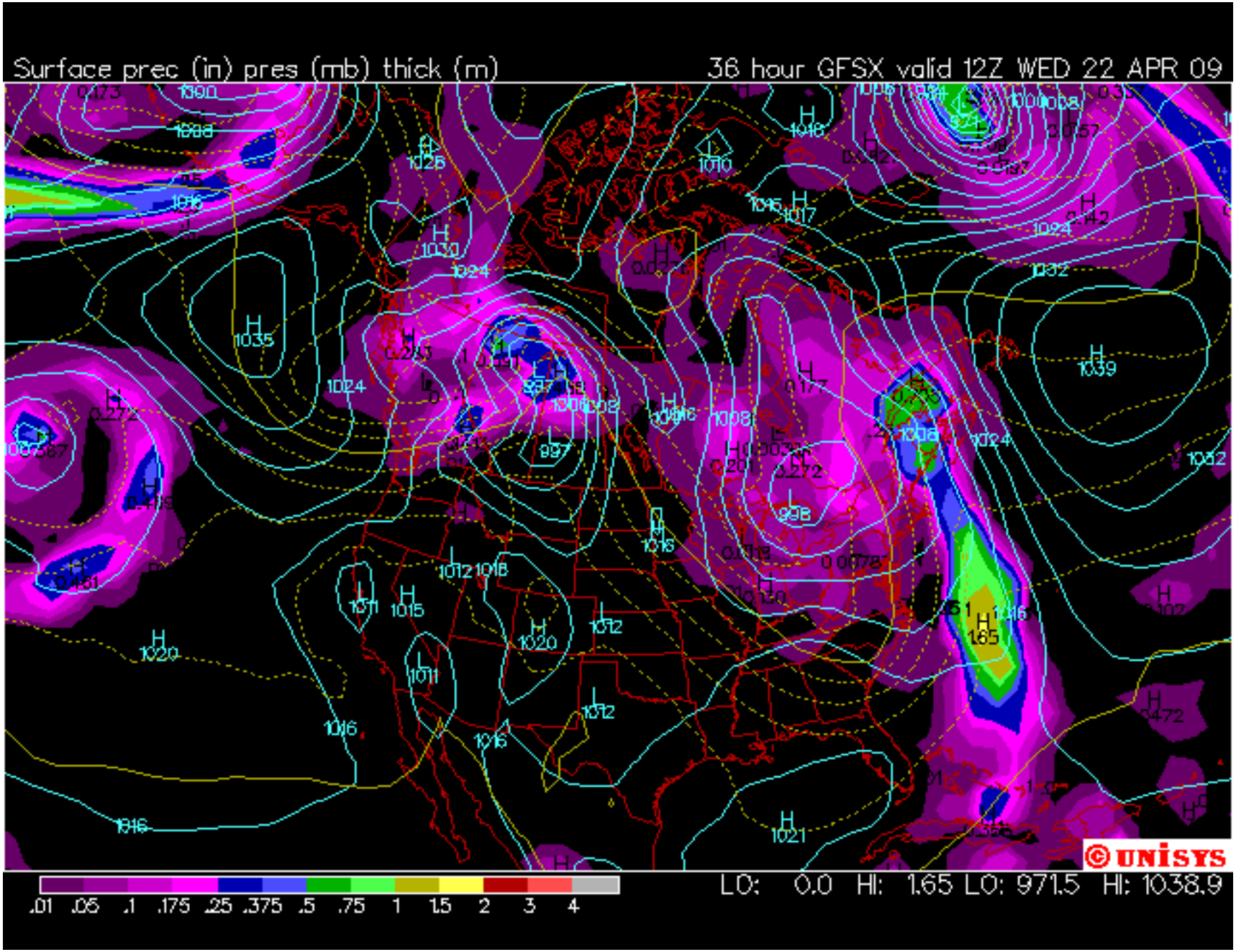
Severe Weather Forecasting Using Forecast Soundings


FWD Sounding
OZ 10 NOV 98
100
200
300
400
500
600
700
800
900
1000
mb
-50
-40
-30
-20
-10
0
10
20
30
40
C
0.1
0.2
0.6
1.0
2.0
3.0
5.0
10.0
20.0
40.0
g/kg
TP:175
MW:203
FRZ:612
WB0:664
PW:1.13
RH:40.5
MAXT:27.
TH:5704
L57:7.4
LCL:926
LI:-3.9
SI:-2.3
TT:50
KI:28
SW:471
EI:-2.7
-PARCEL
CAPE:166
CINH:8
LCL:926
CAP:3.4
LFC:901
EL:811
MPL:791
-WIND-
STM:249/
HEL:608
SHR+:0.0
SRDS 87
EHI:6.2
BRN:9.6
BSHR:174


Surface prec (in) pres (mb) thick (m)
36 hour GFSX valid 12Z WED 22 APR 09
.01 .05 .1 .175 .25 .375 .5 .75 1 1.5 2 3 4
LO: 0.0 HI: 1.65 LO: 971.5 HI: 1038.9
©UNISYS

Storm Prediction Center - Mozilla Firefox

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http://www.spc.noaa.gov/

7-Day Forecast for L... Zimbra: Inbox WebCT The Weather Foreca... TwisterData.com | ... Stormtrack MesoWest Surface ... Unisys Weather

Site Map News Organization Search for: NCEP All NOAA Go

Local forecast by "City, St" or "ZIP"

City, St Go

UTC/GMT/Zulu Time

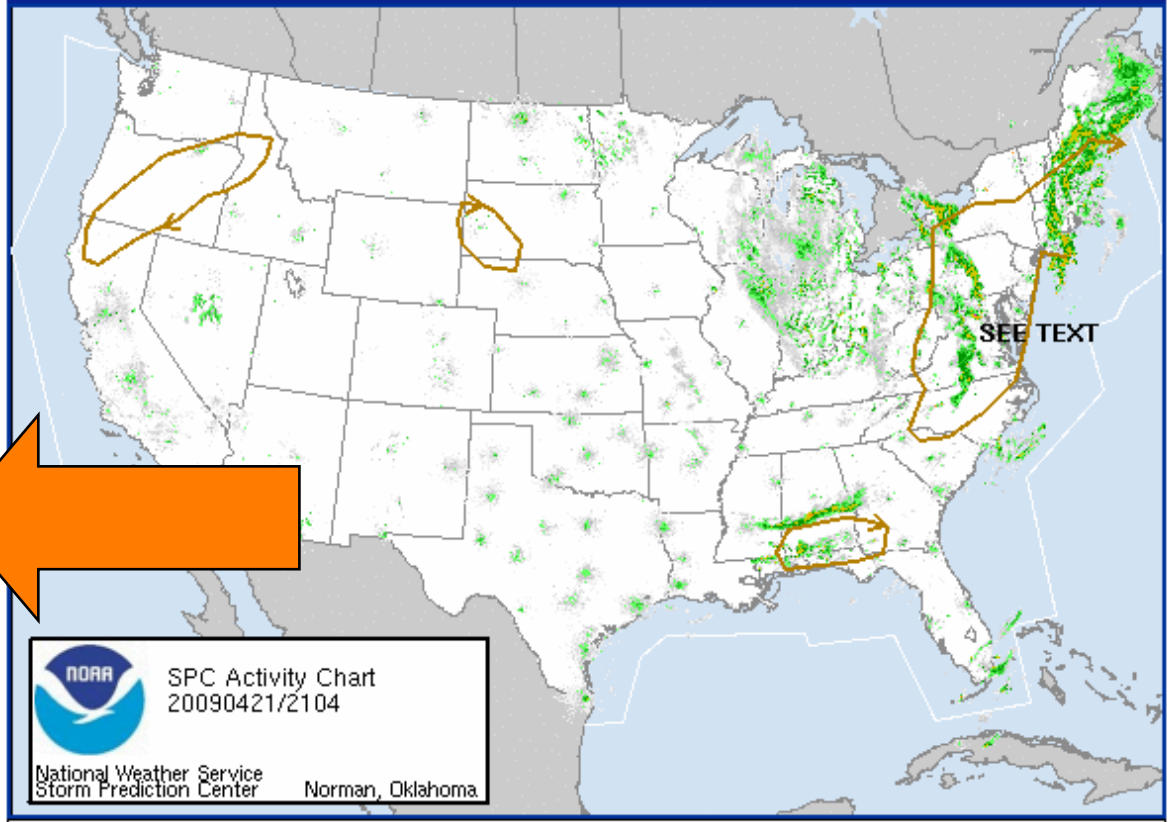
22:10:25

- Overview
- SPC Products
  - All SPC Forecasts
  - Current Watches
  - Meso. Discussions
  - Conv. Outlooks
  - Fire Wx Forecasts
  - RSS Feeds
- Weather Information
  - Storm Reports
  - Watch/Warning Map
  - National RADAR
  - Product Archive
  - Norman, OK WX
- Research
  - Non-op. Products
  - Forecast Tools
  - Svr. Tstm. Events
  - SPC Publications
- Education & Outreach
  - About the SPC
  - SPC FAQ
  - About Tornadoes
  - About Derechos
  - WCM Page
  - Enh. Fujita Page
  - Cool Images
  - Our History
  - Public Affairs
- Misc.
  - Staff
  - Links

Top News of the Day

More news items below the overview graphic. Updated: 2009-04-21 22:08:08 GMT

Overview | Conv. Outlooks | Watches | MDs | WWA | Reports | Mesoanalysis | Fire



Hazard	Tue (04/21)	Wed (04/22)	Thu (04/23)	Fri (04/24)	Sat (04/25)	Sun (04/26)	Mon (04/27)	Tue (04/28)
Severe	See Text	See Text	See Text	No Area	No Area	No Area	No Area	No Area
Fire	See Text	See Text	Critical	Critical	Critical	No Area	No Area	No Area

Click on the hazard matrix cell to navigate to the specific forecast.

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Done

start AIM Microsoft PowerPoint ... Storm Prediction Cent...

Storm Prediction Center Forecast Tools - Mozilla Firefox

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http://w1.spc.woc.noaa.gov/exper/

7-Day Forecast for L... Zimbra: Inbox WebCT The Weather Foreca... TwisterData.com | ... Stormtrack MesoWest Surface ... Unisys Weather

Local forecast by "City, St" or "ZIP"

City, St Go

- Overview
- SPC Products
  - All SPC Forecasts
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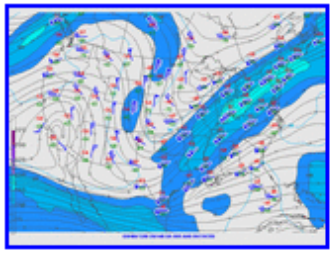
  - About Tornadoes
  - About Derechos
  - WCM Page
  - Enh. Fujita Page
  - Cool Images
  - Our History
  - Public Affairs
- Misc.
  - Staff
  - Links
- Contact Us
  - SPC Feedback

USA.gov

Forecast Tools

Upper Air | Soundings | Mesoanalysis | SREF | FireWX Compmaps | Compmaps

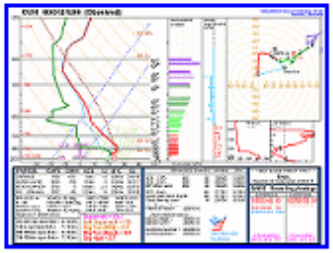
Upper Air Maps



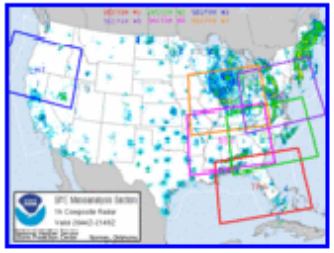
Maps and derived fields based on twice daily (00 and 12 UTC) radiosonde data over the continental U.S.

Observed Sounding Analysis

Skew-T charts for all observed soundings across the United States. Many experimental forecast tools and parameters are shown.

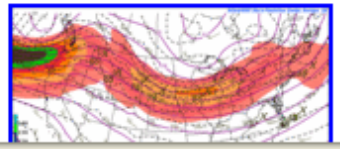


Mesoanalysis Graphics



Severe weather analyses updated hourly and usually centered on an SPC risk area.

Short-Range Ensemble Forecast (SREF)



The SPC Short-Range Ensemble Forecast (SREF) is produced by postprocessing the 21 members NCEP SREF plus the operational WRF-NAM for a total of 22

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Done

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Storm Prediction Center - Sounding Analysis Archive - Mozilla Firefox

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http://w1.spc.woc.noaa.gov/exper/soundings/

7-Day Forecast for L... Zimbra: Inbox WebCT The Weather Foreca... TwisterData.com | ... Stormtrack MesoWest Surface ... Unisys Weather

All SPC Forecasts
Current Watches
Meso. Discussions
Conv. Outlooks
Fire Wx Forecasts
RSS Feeds
Weather Information
Storm Reports
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Norman, OK WX
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Forecast Tools
Svr. Tstm. Events
SPC Publications
Education & Outreach
About the SPC
SPC FAQ
About Tornadoes
About Derechos
WCM Page
Enh. Fujita Page
Cool Images
Our History
Public Affairs
Misc.
Staff
Links
Contact Us
SPC Feedback

USA.gov Government Made Easy

data will always be available. The images are created using a sounding analysis program called NSHARP. Sounding data will flow to this site as early as HH:30 after the hour, and will also re-run old hours to fill in late data.

NOTE: This data is experimental and may not always be available in a timely fashion.

Contacts for this resource: John Hart and Rich Thompson

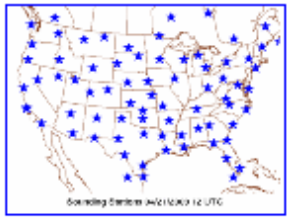
NEW!! - Sounding Help Page Available

Today - Tuesday April 21, 2009

04/21/2009 1800 UTC

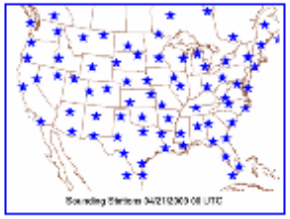
04/21/2009 1700 UTC

04/21/2009 1300 UTC


04/21/2009 1200 UTC

04/21/2009 1000 UTC

04/21/2009 0500 UTC


04/21/2009 0000 UTC

Monday April 20, 2009

04/20/2009 1800 UTC - OBS
04/20/2009 1700 UTC - OBS
04/20/2009 1200 UTC - OBS
04/20/2009 1000 UTC - OBS
04/20/2009 0600 UTC - OBS
04/20/2009 0000 UTC - OBS

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SPC Sounding Analysis Page - 04/21/2009 12 UTC - Mozilla Firefox

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http://w1.spc.woc.noaa.gov/exper/soundings/09042112_OBS/

7-Day Forecast for L... Zimbra: Inbox WebCT The Weather Foreca... TwisterData.com | ... Stormtrack MesoWest Surface ... Unisys Weather

ysis Page

ion Center

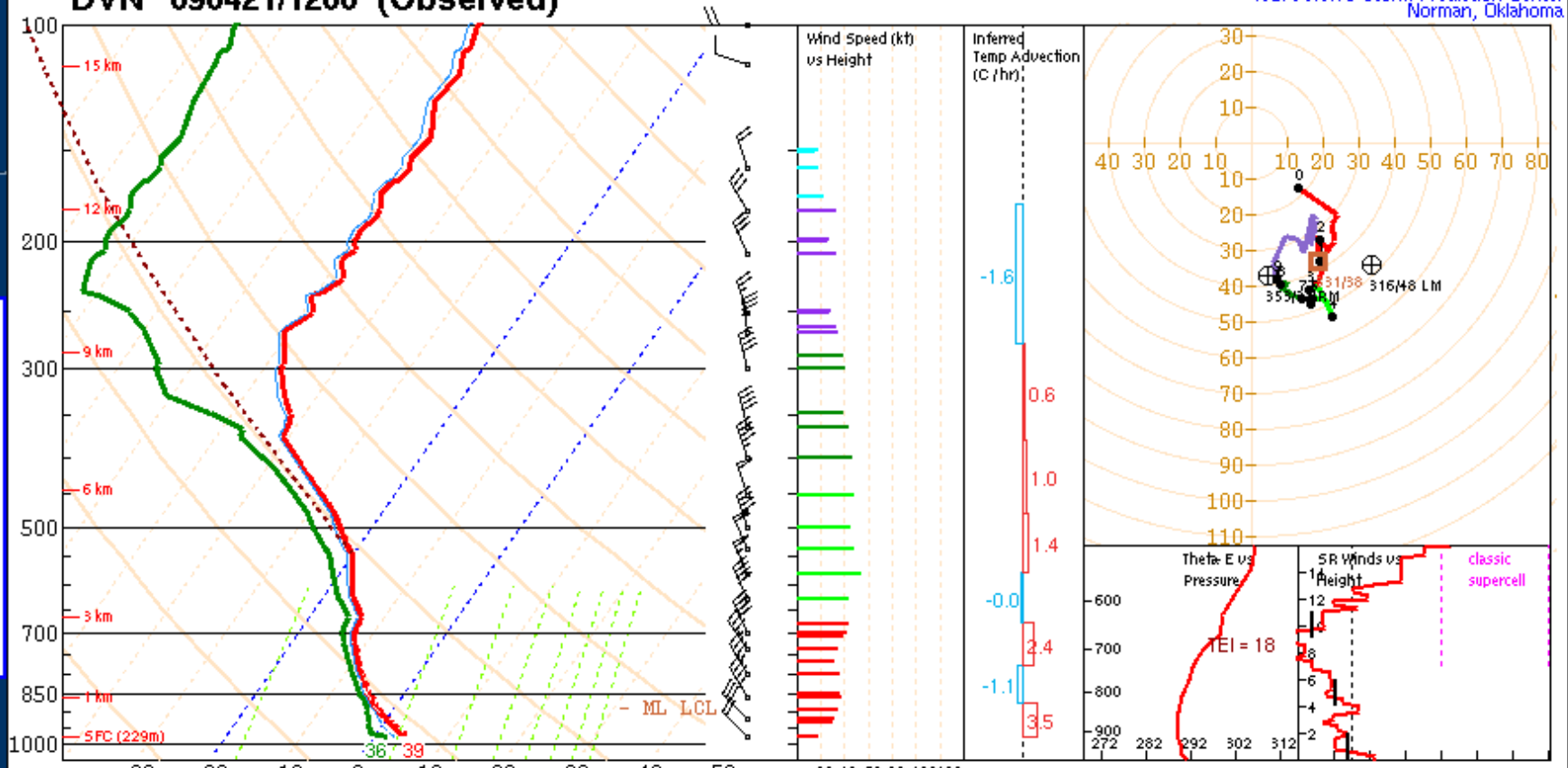
osonde Data
12 UTC

21/2009 12 UTC

ate/time period

DVN 090421/1200 (Observed)

NOAA/NWS Storm Prediction Center
Norman, Oklahoma



PARCEL	CAPE	CINH	LCL	LI	LFC	EL
SURFACE	27	-5	188m	11	424m	5567'
MIXED LAYER	0	0	731m	12	M	2397'
FCST SURFACE	32	0	1044m	10	1044m	6748'
MU (978 mb)	27	-5	188m	11	424m	5567'

PW = 0.45 .in	3CAPE = 0 J/kg	WBZ = 1163'	WNDG = 0.0
K = 12	DCAPE = 21 J/kg	FZL = 1555'	ESP = 0.0
MidRH = 89%	DownT = 37 F	ConvT = 42F	MMP = 0.24
LowRH = 87%	MeanW = 3.6 g/kg	MaxT = 45F	NCAPE = 0.00

	SRH(m2/s2)	Shear(kt)	MnWind	SRW
SFC - 1 km	135	20	319/33	235/21
SFC - 3 km	171	28	326/35	242/17
SFC - 6 km		32	331/39	257/15

BRN Shear = 27 m²/s²
4-6km SR Wind = 297/15 kt

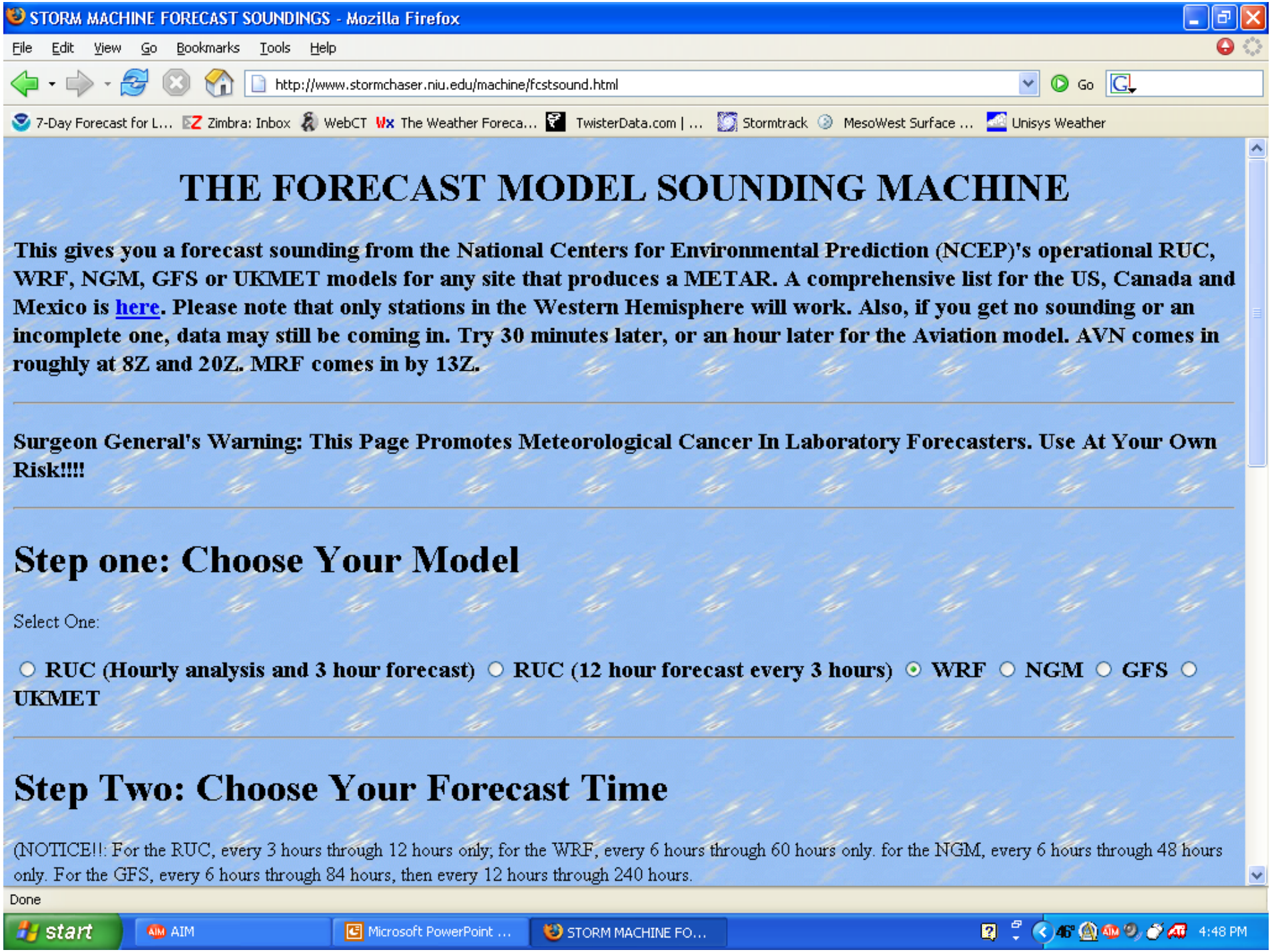
*** BEST GUESS PRECIP TYPE ***
Snow.
Based on sfc temperature of 38.8 F.

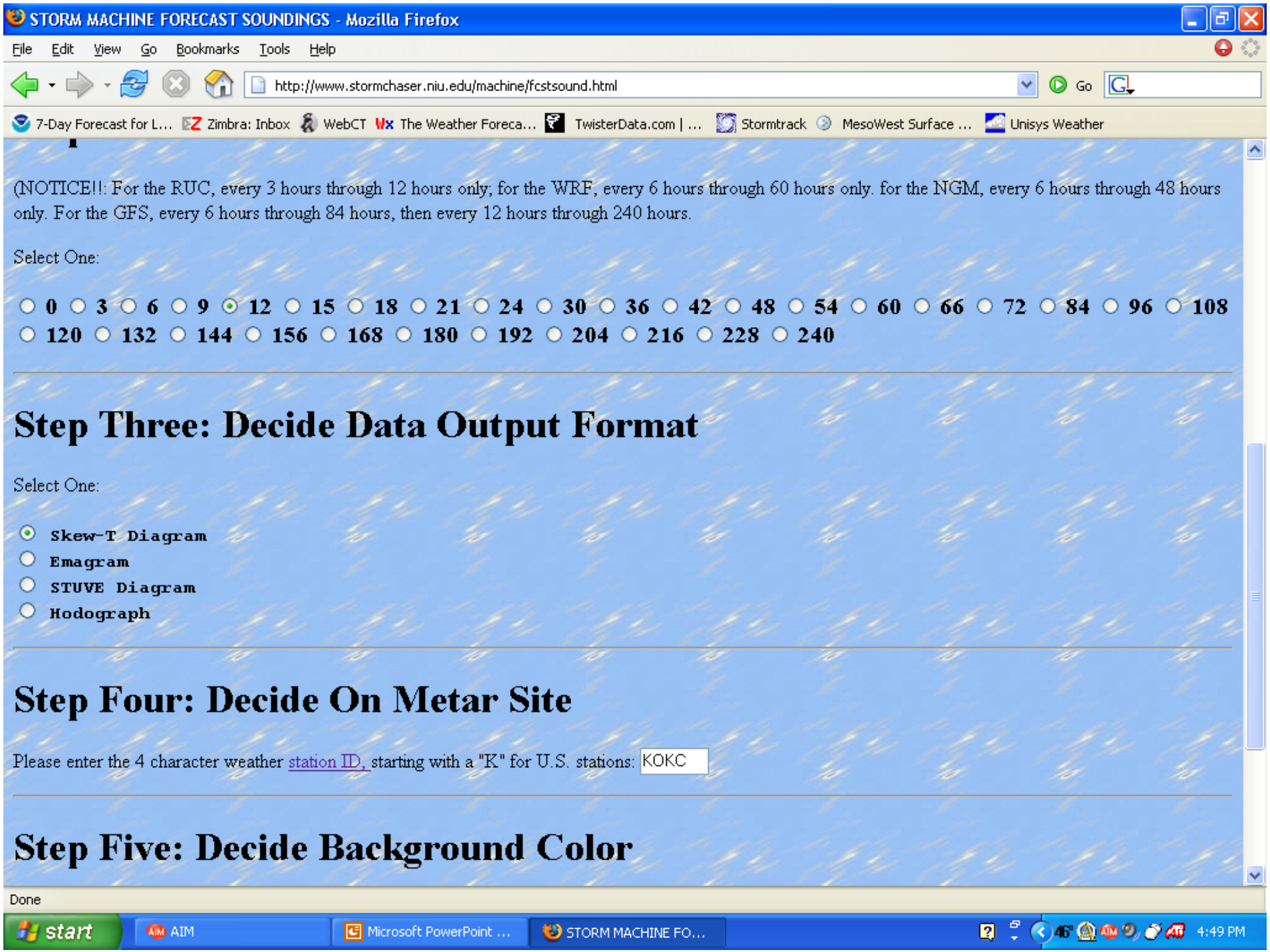
SARS - Sounding Analogs

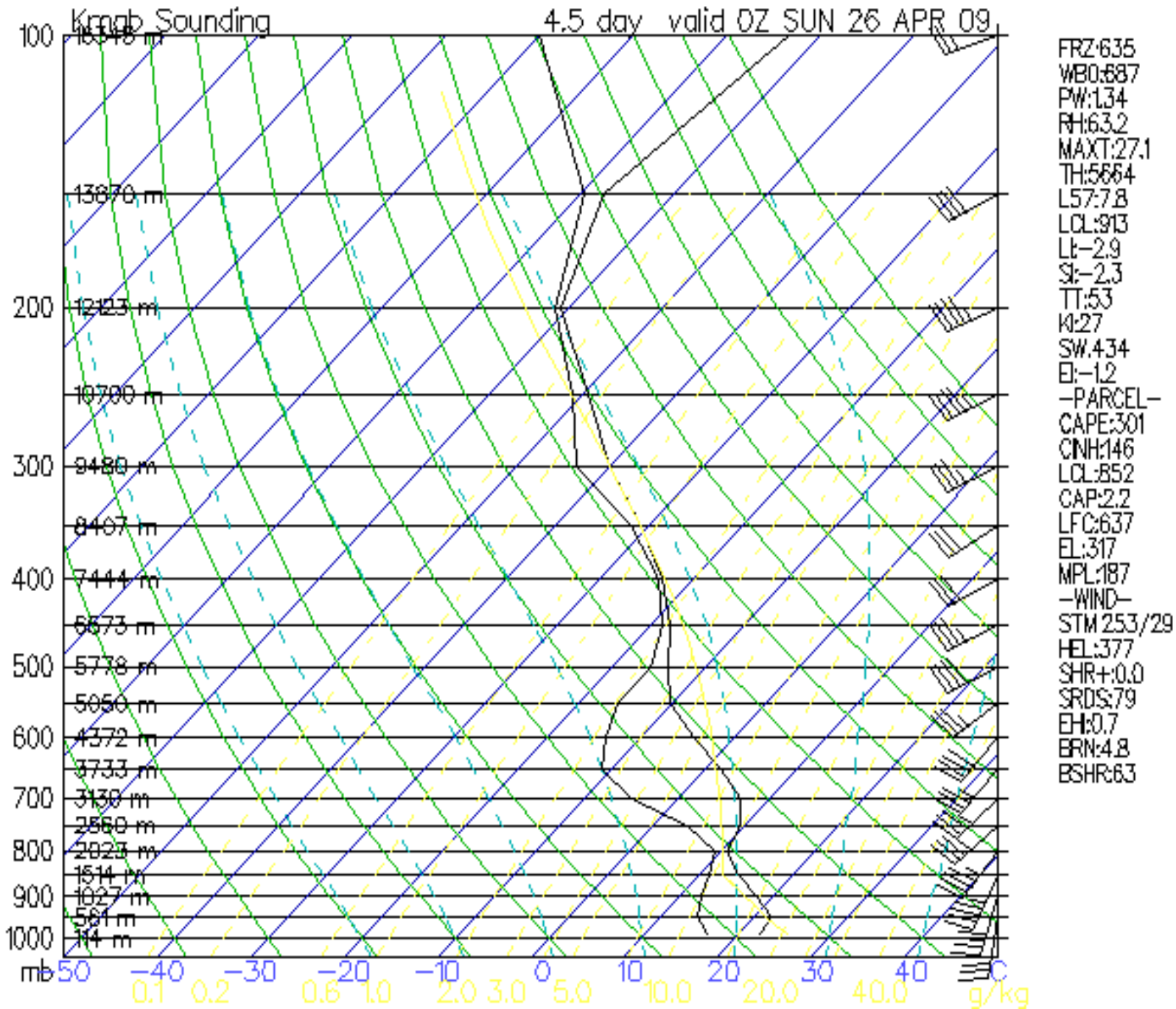
SUPERCELL	SGFNT HAIL
No Quality Matches	No Quality Matches

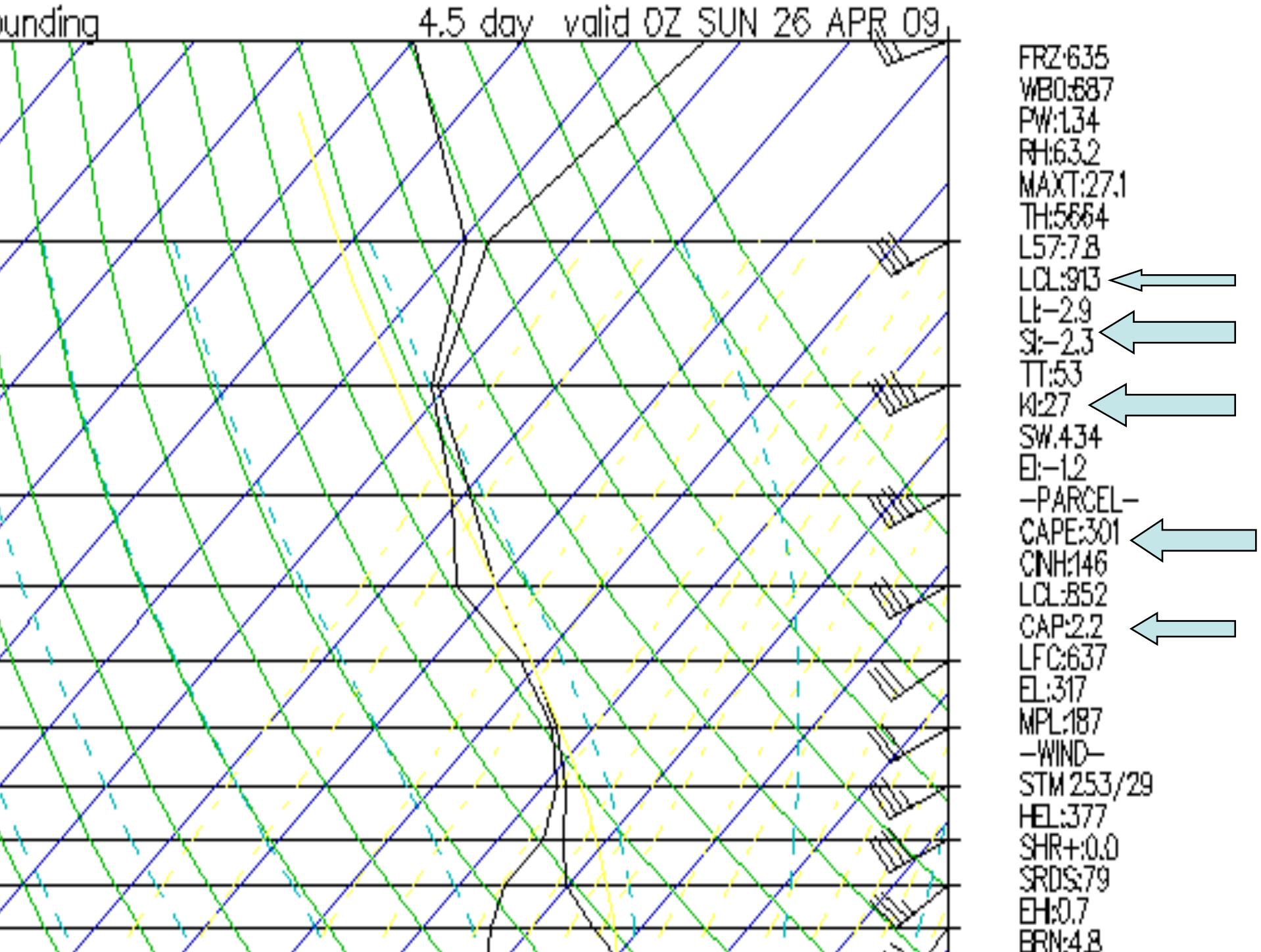
Transferring data from w1.spc.woc.noaa.gov...

start AIM Microsoft PowerPoint ... SPC Sounding Analysi... 5:11 PM


STORM MACHINE FORECAST SOUNDINGS - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://www.stormchaser.niu.edu/machine/fcstsound.html
Go
7-Day Forecast for L... Zimbra: Inbox WebCT The Weather Foreca... TwisterData.com | ... Stormtrack MesoWest Surface ... Unisys Weather
THE FORECAST MODEL SOUNDING MACHINE
This gives you a forecast sounding from the National Centers for Environmental Prediction (NCEP)'s operational RUC, WRF, NGM, GFS or UKMET models for any site that produces a METAR. A comprehensive list for the US, Canada and Mexico is here. Please note that only stations in the Western Hemisphere will work. Also, if you get no sounding or an incomplete one, data may still be coming in. Try 30 minutes later, or an hour later for the Aviation model. AVN comes in roughly at 8Z and 20Z. MRF comes in by 13Z.
Surgeon General's Warning: This Page Promotes Meteorological Cancer In Laboratory Forecasters. Use At Your Own Risk!!!!
Step one: Choose Your Model
Select One:
RUC (Hourly analysis and 3 hour forecast) RUC (12 hour forecast every 3 hours) WRF NGM GFS UKMET
Step Two: Choose Your Forecast Time
(NOTICE!!: For the RUC, every 3 hours through 12 hours only; for the WRF, every 6 hours through 60 hours only. for the NGM, every 6 hours through 48 hours only. For the GFS, every 6 hours through 84 hours, then every 12 hours through 240 hours.
Done
start
AIM
Microsoft PowerPoint ...
STORM MACHINE FO...
4:48 PM


STORM MACHINE FORECAST SOUNDINGS - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://www.stormchaser.niu.edu/machine/fcstsound.html
Go
7-Day Forecast for L... Zimbra: Inbox WebCT The Weather Foreca... TwisterData.com | ... Stormtrack MesoWest Surface ... Unisys Weather
(NOTICE!!: For the RUC, every 3 hours through 12 hours only, for the WRF, every 6 hours through 60 hours only. for the NGM, every 6 hours through 48 hours only. For the GFS, every 6 hours through 84 hours, then every 12 hours through 240 hours.
Select One:
0 3 6 9 12 15 18 21 24 30 36 42 48 54 60 66 72 84 96 108
120 132 144 156 168 180 192 204 216 228 240
Step Three: Decide Data Output Format
Select One:
Skew-T Diagram
Emagram
STUVE Diagram
Hodograph
Step Four: Decide On Metar Site
Please enter the 4 character weather station ID, starting with a "K" for U.S. stations: KOKC
Step Five: Decide Background Color
Done
start
AIM
Microsoft PowerPoint ...
STORM MACHINE FO...
4:49 PM


Kmqb Sounding
4.5 day valid 0Z SUN 26 APR 09
100
200
300
400
500
600
700
800
900
1000
mb
13870 m
12123 m
10700 m
9480 m
8407 m
7444 m
6573 m
5778 m
5050 m
4372 m
3733 m
3130 m
2560 m
2023 m
1514 m
1027 m
561 m
114 m
-50 -40 -30 -20 -10 0 10 20 30 40 C
0.1 0.2 0.6 1.0 2.0 3.0 5.0 10.0 20.0 40.0 g/kg
FRZ:635
WB0:687
PW:1.34
RH:63.2
MAXT:27.1
TH:5664
L57:7.8
LCL:913
LI:-2.9
SI:-2.3
TT:53
KI:27
SW:434
EI:-1.2
-PARCEL-
CAPE:301
CINH:146
LCL:852
CAP:2.2
LFC:637
EL:317
MPL:187
-WIND-
STM 253/29
HEL:377
SHR+:0.0
SRDS:79
EH:0.7
BRN:4.8
BSHR:63


unding
4.5 day valid 0Z SUN 26 APR 09
FRZ:635
WB0:687
PW:1.34
RH:63.2
MAXT:27.1
TH:5664
L57:7.8
LCL:913
Lt:−2.9
SI:−2.3
TT:53
KI:27
SW:434
EI:−1.2
−PARCEL−
CAPE:301
CINH:146
LCL:852
CAP:2.2
LFC:637
EL:317
MPL:187
−WIND−
STM 253/29
HEL:377
SHR+:0.0
SRDS:79
EH:0.7
BRN:4.8

SEVERE WEATHER INDICES PAGE - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://theweatherprediction.com/severe/indices/
Go tornado
7-Day Forecast for L... Zimbra: Inbox WebCT The Weather Foreca... TwisterData.com | ... Stormtrack MesoWest Surface ... Unisys Weather

SEVERE WEATHER INDICES PAGE

METEOROLOGIST JEFF HABY

TOTAL TOTALS

<44	Convection not likely
44-50	Likely thunderstorms
51-52	Isolated severe storms
53-56	Widely scattered severe
>56	Scattered severe storms

SPEED SHEAR

0-3	Weak
4-5	Moderate
6-8	Large
8+	Severe

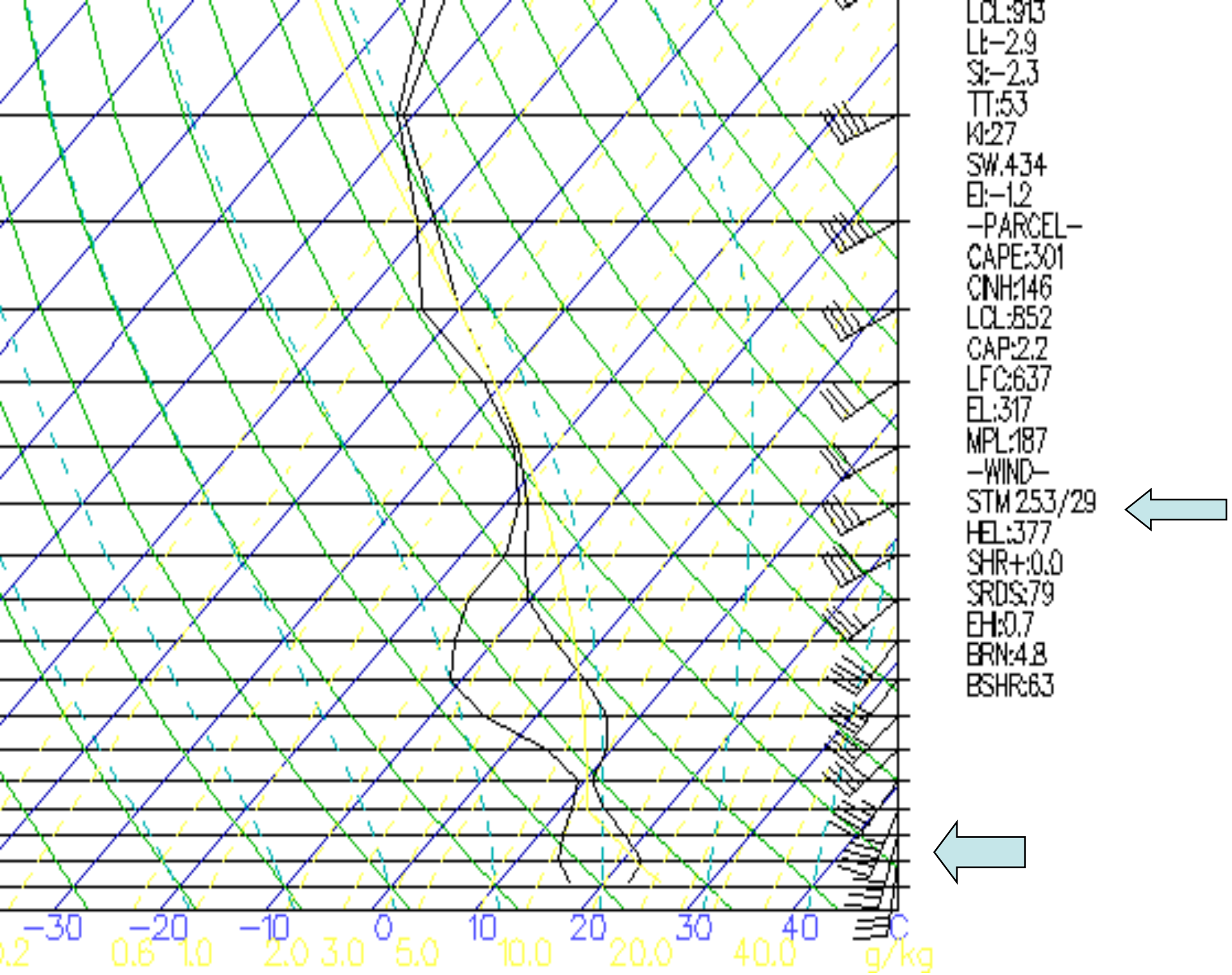
K INDEX

15-25	Small convective potential
26-39	Moderate convective potential
40+	High convective potential

CAPE

1 - 1,500	Positive
1,500 - 2,500	Large
2,500+	Extreme

Done
start AIM Microsoft PowerPoint ... SEVERE WEATHER IN... 5:01 P


LCL:913
Lt:-2.9
SI:-2.3
TT:53
KI:27
SW:434
EI:-1.2
-PARCEL-
CAPE:301
CINH:146
LCL:852
CAP:2.2
LFC:637
EL:317
MPL:187
-WIND-
STM 253/29
HEL:377
SHR+:0.0
SRDS:79
EH:0.7
BRN:4.8
BSHR:63
-30
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-10
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0.2
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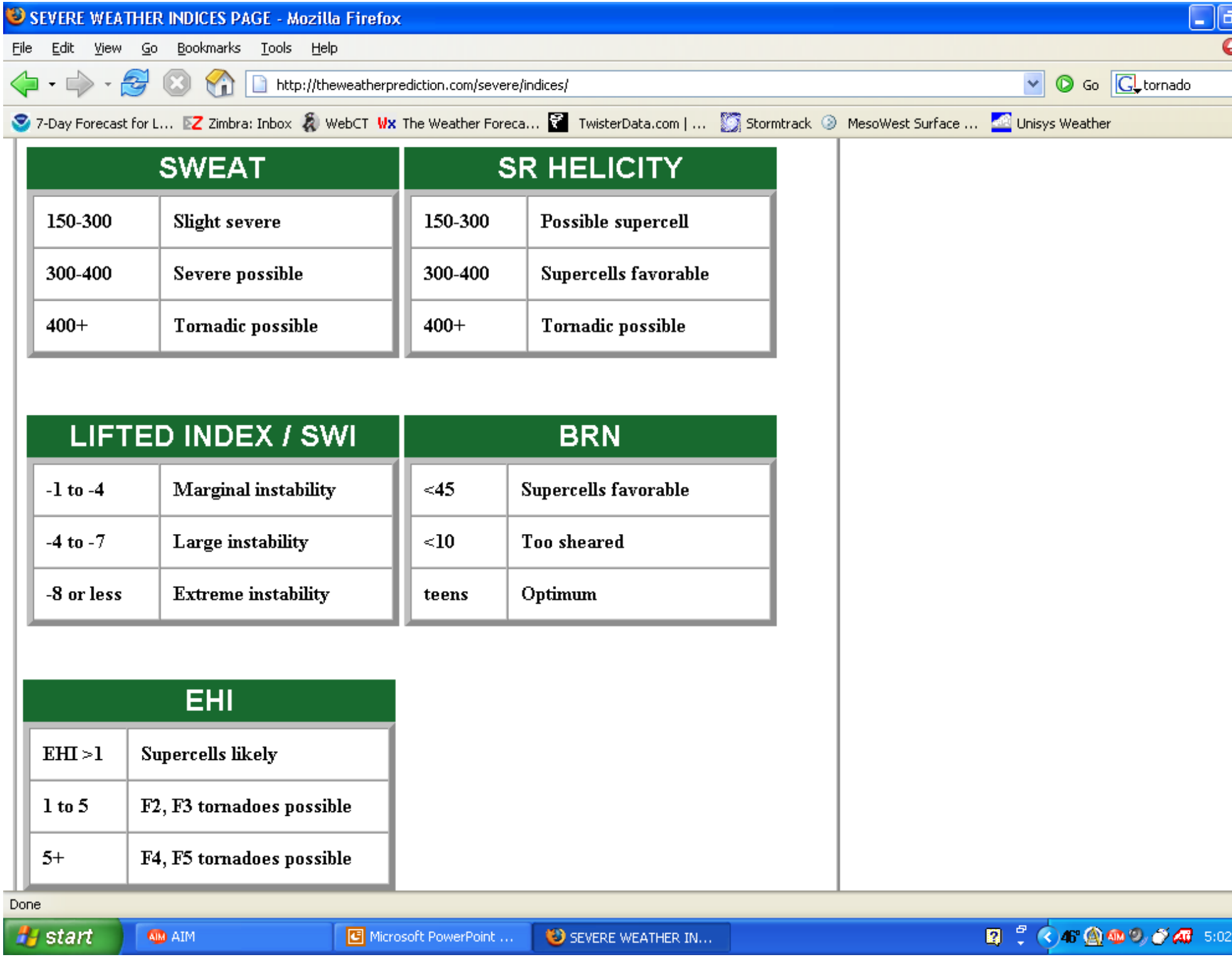
g/kg


SEVERE WEATHER INDICES PAGE - Mozilla Firefox
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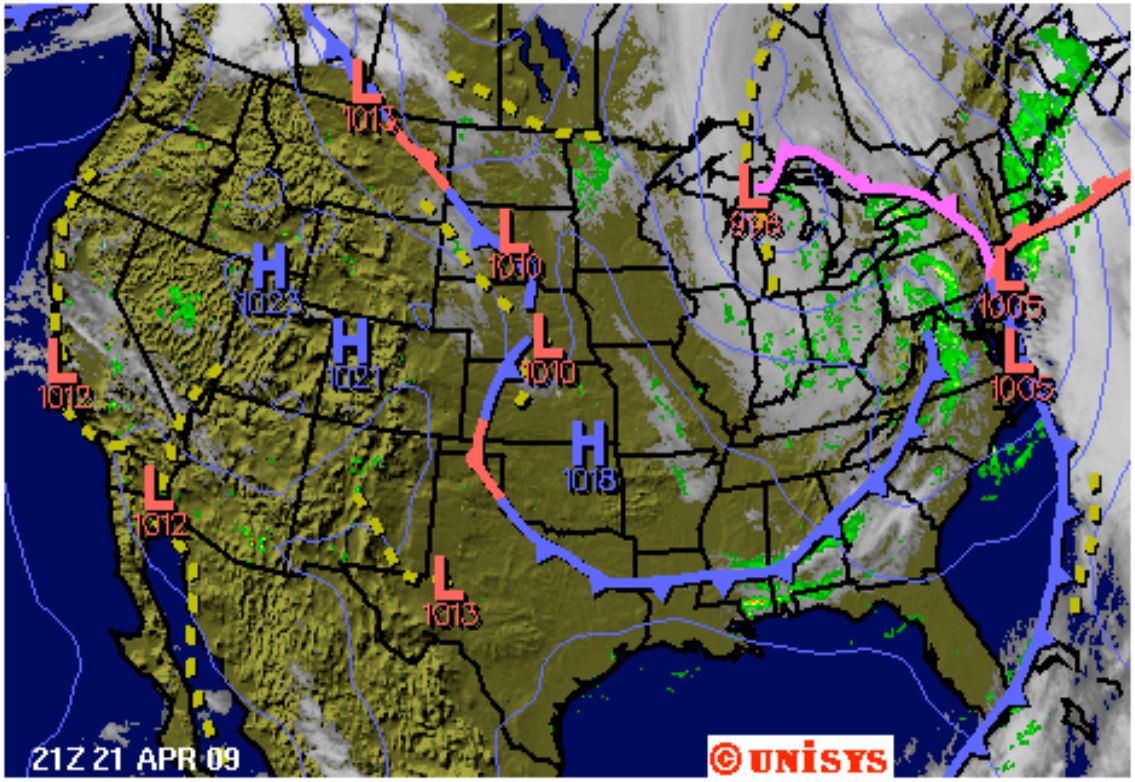
http://theweatherprediction.com/severe/indices/
Go
tornado
7-Day Forecast for L...
Zimbra: Inbox
WebCT
The Weather Foreca...
TwisterData.com | ...
Stormtrack
MesoWest Surface ...
Unisys Weather
SWEAT
150-300 Slight severe
300-400 Severe possible
400+ Tornadic possible
SR HELICITY
150-300 Possible supercell
300-400 Supercells favorable
400+ Tornadic possible
LIFTED INDEX / SWI
-1 to -4 Marginal instability
-4 to -7 Large instability
-8 or less Extreme instability
BRN
<45 Supercells favorable
<10 Too sheared
teens Optimum
EHI
EHI >1 Supercells likely
1 to 5 F2, F3 tornadoes possible
5+ F4, F5 tornadoes possible
Done
start
AIM
Microsoft PowerPoint ...
SEVERE WEATHER IN...
5:02

WHERE CAN I GET FORECAST SOUNDINGS!?

- http://www.wxcaster.com/etaskewts.htm
- http://www.stormchaser.niu.edu/machine/fcstsound.html
- OR TO LEARN MORE, CHECK OUT
- http://www.theweatherprediction.com/

HAPPY FORECASTING!