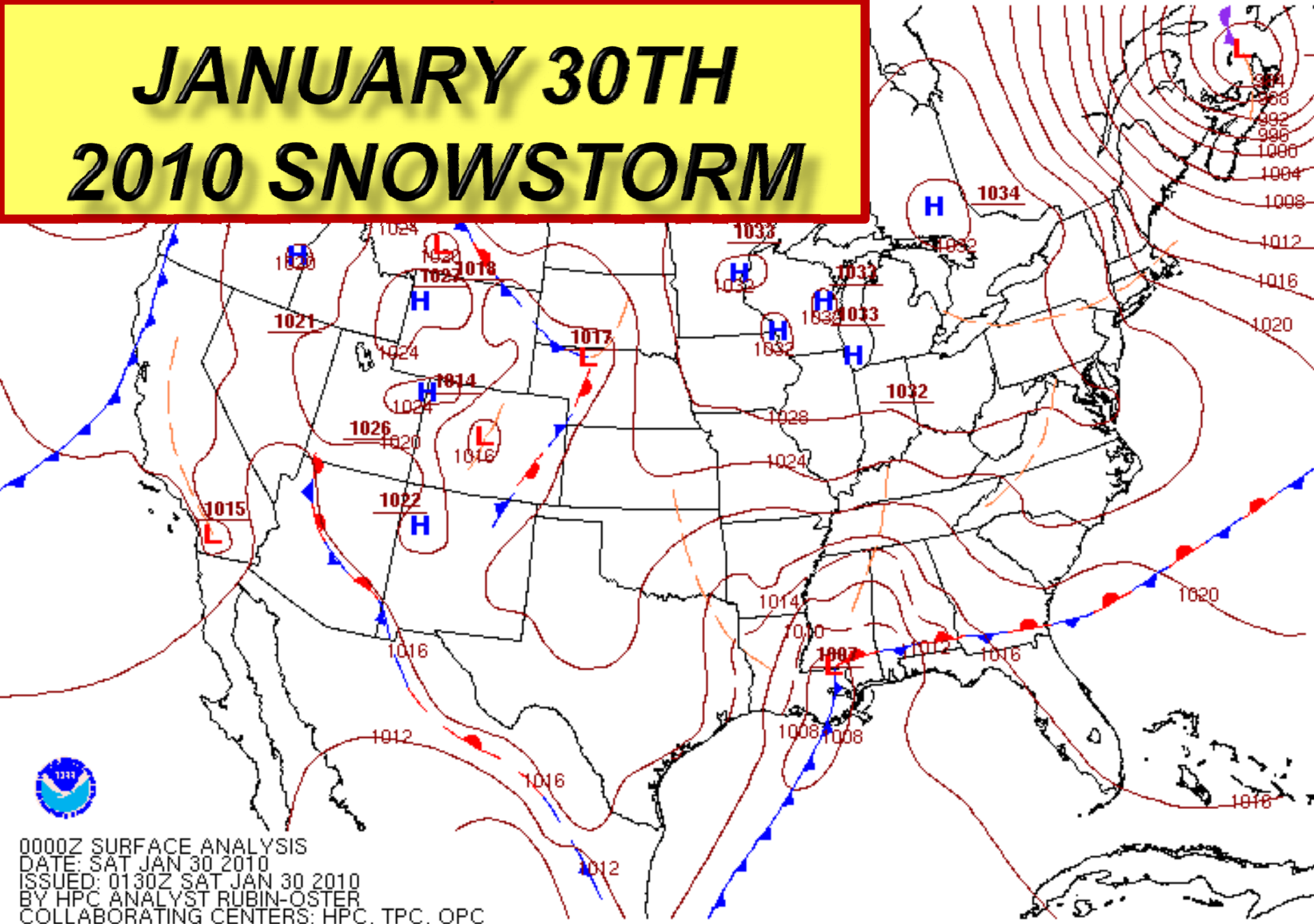
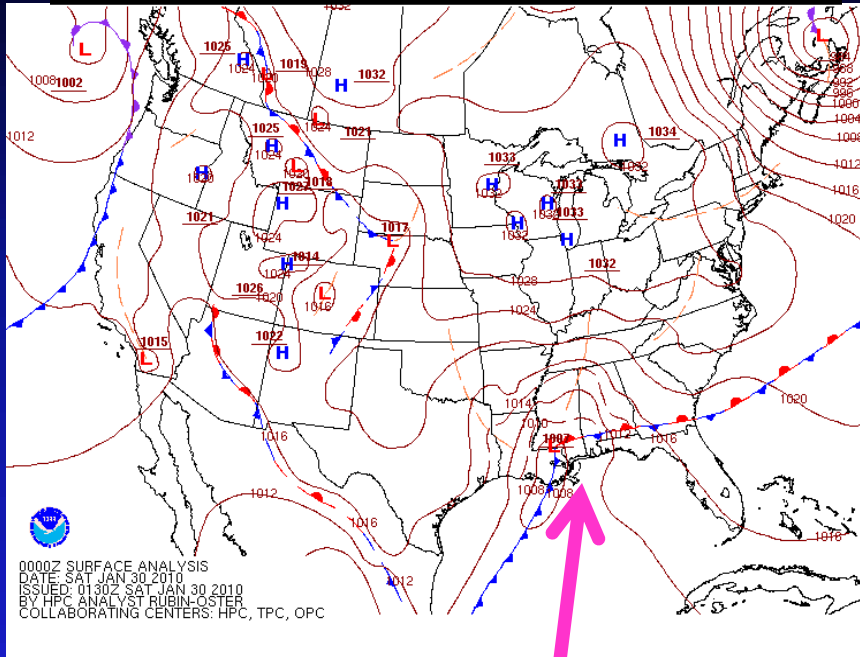


JANUARY 30TH 2010 SNOWSTORM

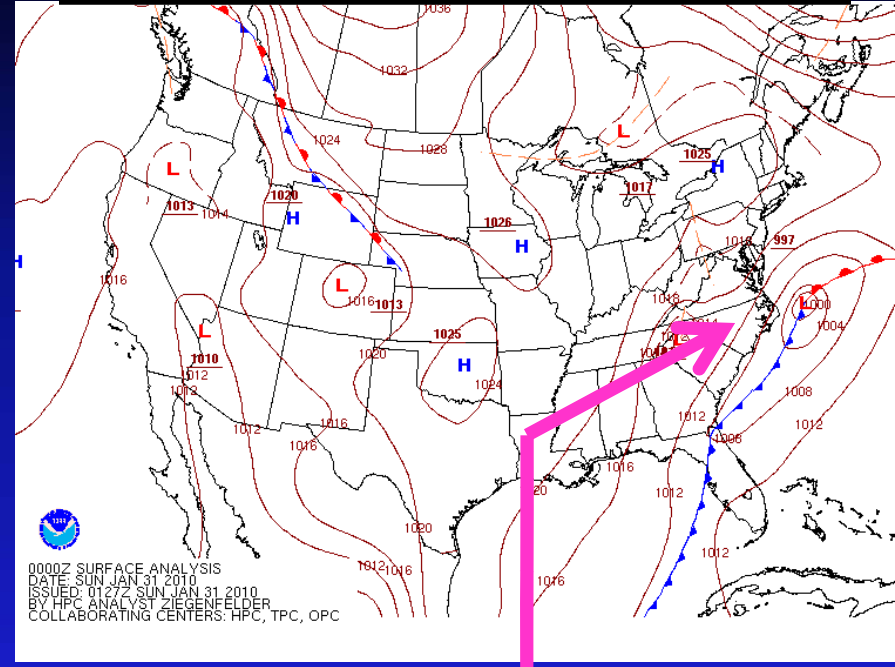


The Synoptic Setup (Surface)

00Z (7 pm EST) Fri Jan 29th



00Z (7 pm EST) Sat Jan 30th



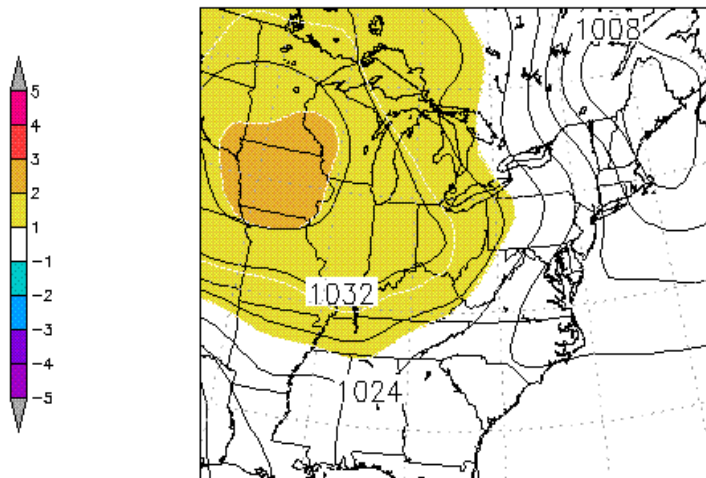
Weather across the mid-Atlantic is quiet as an Arctic high pressure system remained over the area as Low Pressure moves along the Gulf coast.

24 hours later Low pressure pushes northeast over the Southeast /Carolinas and eventually off the VA/NC coast on Saturday. Snow moved over the region Friday night ahead of it with some mixing with sleet and rain over far SE VA/NE NC Saturday afternoon as warmer air near the surface developed along the coast before changing back to all snow that evening.

The Synoptic Setup (SLP)

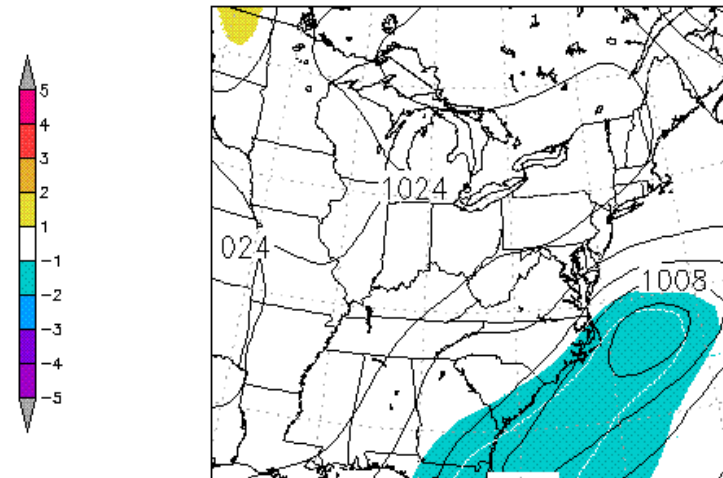
00Z (7 pm EST) Thu Jan 28th

a. gfs INIT:00Z29JAN2010 prmslmsl 1000 00Z29JAN2010



00Z (7 pm EST) Sat Jan 30th

a. gfs INIT:00Z31JAN2010 prmslmsl 1000 00Z31JAN2010



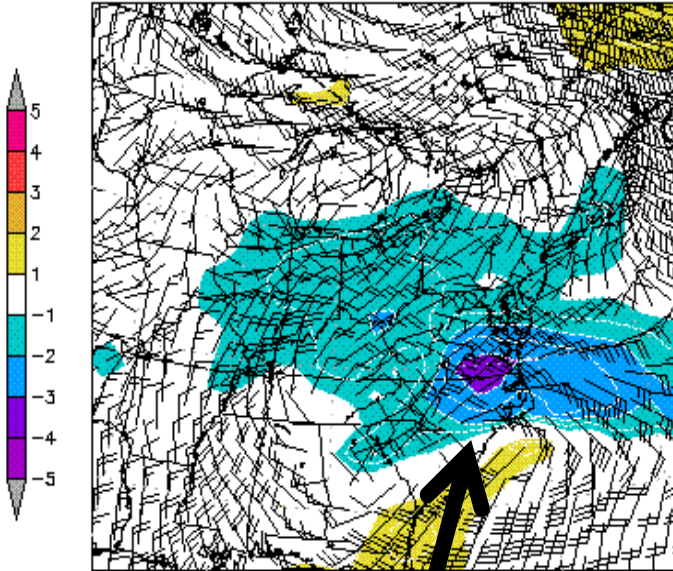
The map above depicts the Sea Level Pressure initialization from the GFS, and the departure (anomaly) from climatology.

Above is the same initialization two days later. Notice the deepening trough over the Southeast Coast (Sea Level Pressure heights) between 1 and 2 standard deviations below normal.

Significant/Anomalous?

Valid 18Z (1 pm EST) Sat Jan 30th

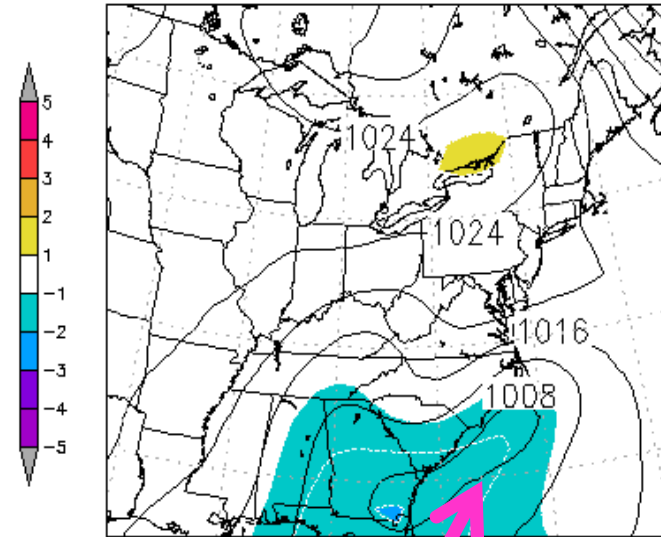
a. gfs INIT:18Z30JAN2010 ugrdprs 925 18Z30JAN2010



The map above depicts the **U** (east-west component) of the 850 mb winds compared to climatology. Note the large area of eastern Virginia that is at least **4 standard deviations** outside of normal. This indicates the potential for a significant “event”.

18Z (1 pm EST) Sat Jan 30th

a. gfs INIT:18Z30JAN2010 prmslmsl 1000 18Z30JAN2010



The map above is a model depiction of the mean sea level pressure (MSLP) compared to climatology. The combination of a positive anomaly (high pressure over the northeast and New England) and a negative anomaly centered off the coastal Carolinas is a common setup for high winds and a potential significant “event”.

Initial Winter Storm Watch

**Winter
Storm
Watches
Were
posted
Thursday
morning on
the 28th in
advance of
the storm**

356 AM EST THU JAN 28 2010

...WINTER STORM WATCH IN EFFECT FROM FRIDAY EVENING THROUGH SATURDAY AFTERNOON...

THE NATIONAL WEATHER SERVICE IN WAKEFIELD HAS ISSUED A WINTER STORM WATCH...WHICH IS IN EFFECT FROM FRIDAY EVENING THROUGH SATURDAY AFTERNOON.

A STRONG COLD FRONT WILL USHER IN MARKEDLY COLDER AIR TONIGHT INTO EARLY FRIDAY MORNING. AS THIS HAPPENS...A STORM SYSTEM WILL BE COMING TOGETHER ALONG THE CENTRAL GULF COAST...INTENSIFYING AS IT SLIDES EASTWARD TO A POSITION JUST OFF THE SOUTHEAST COAST SATURDAY MORNING.

LIGHT SNOW IS EXPECTED TO PUSH ACROSS THE WATCH AREA FROM SOUTHWEST TO NORTHEAST LATE FRIDAY EVENING...CONTINUING INTO SATURDAY AFTERNOON.

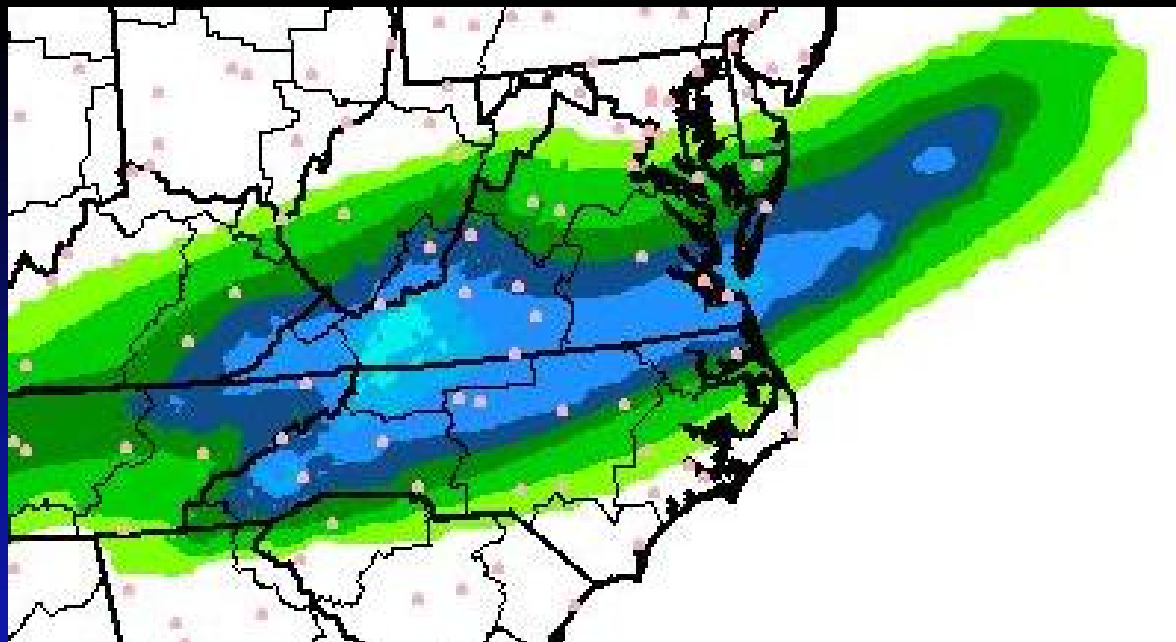
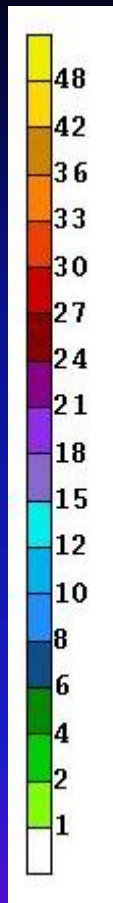
WHILE SPECIFIC SNOWFALL ACCUMULATIONS ARE STILL A BIT TRICKY...BASED ON THE CURRENT PROJECTED STORM TRACK...THIS SYSTEM WILL HAVE THE POTENTIAL TO PRODUCE BETWEEN 5 AND 10 INCHES OF SNOW ACROSS THE WATCH AREA...WITH THE HIGHEST AMOUNTS EXPECTED ACROSS THE VIRGINIA NORTH CAROLINA BORDER. LOWER ACCUMULATIONS ARE LIKELY ALONG THE ALBEMARLE SOUND...WHERE SLEET AND/OR FREEZING RAIN COULD MIX WITH SNOW AT TIMES SATURDAY MORNING.

CONTINUE TO MONITOR THE LATEST FORECASTS AND STATEMENTS OVER THE NEXT COUPLE OF DAYS REGARDING THIS DEVELOPING SITUATION. MINOR CHANGES IN THE STORM TRACK AND INTENSITY...AND SUBSEQUENT FORECAST ADJUSTMENTS...ARE LIKELY IN THE NEXT 12 TO 24 HOURS.

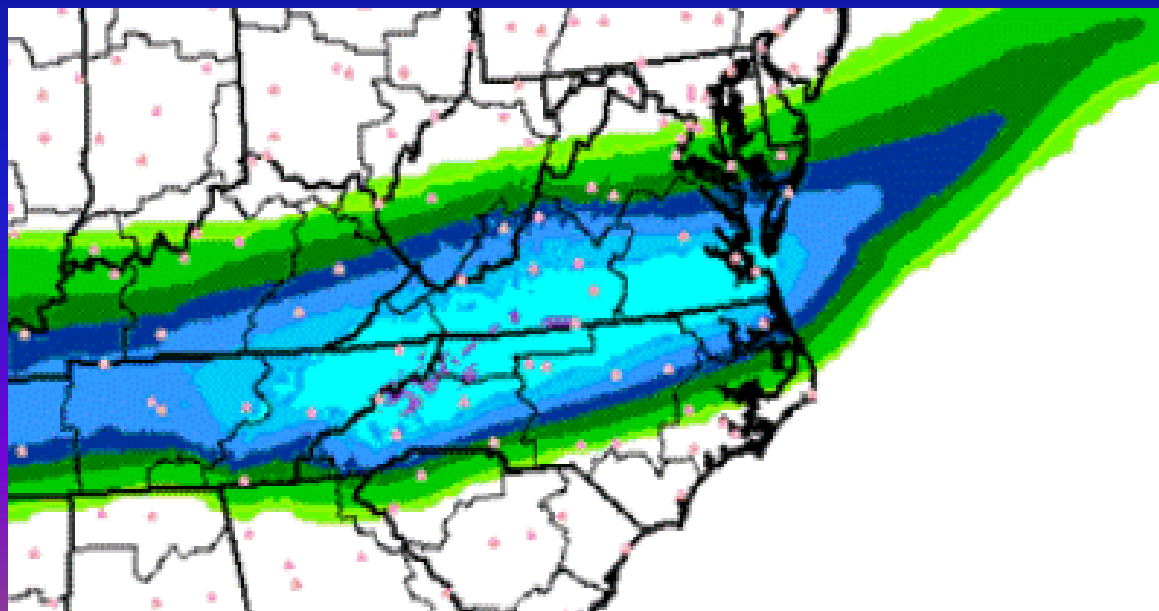
PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WINTER STORM WATCH MEANS THERE IS A POTENTIAL FOR SIGNIFICANT SNOW...SLEET...OR ICE ACCUMULATIONS THAT MAY IMPACT TRAVEL. CONTINUE TO MONITOR THE LATEST FORECASTS.

Snow amounts adjusted over time...especially to the north.



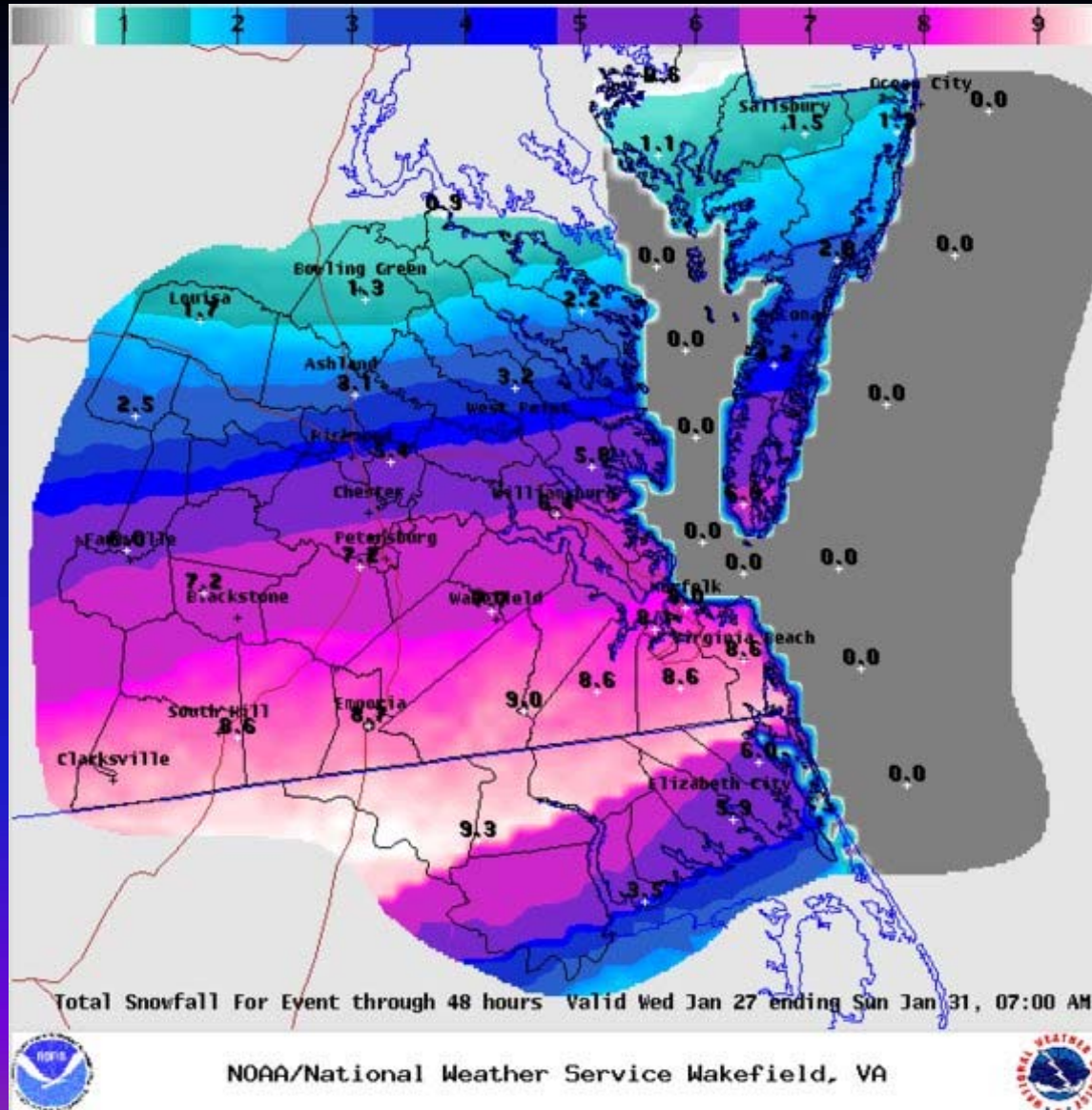
HPC snow
forecast
Issued at
Jan 28th 18z



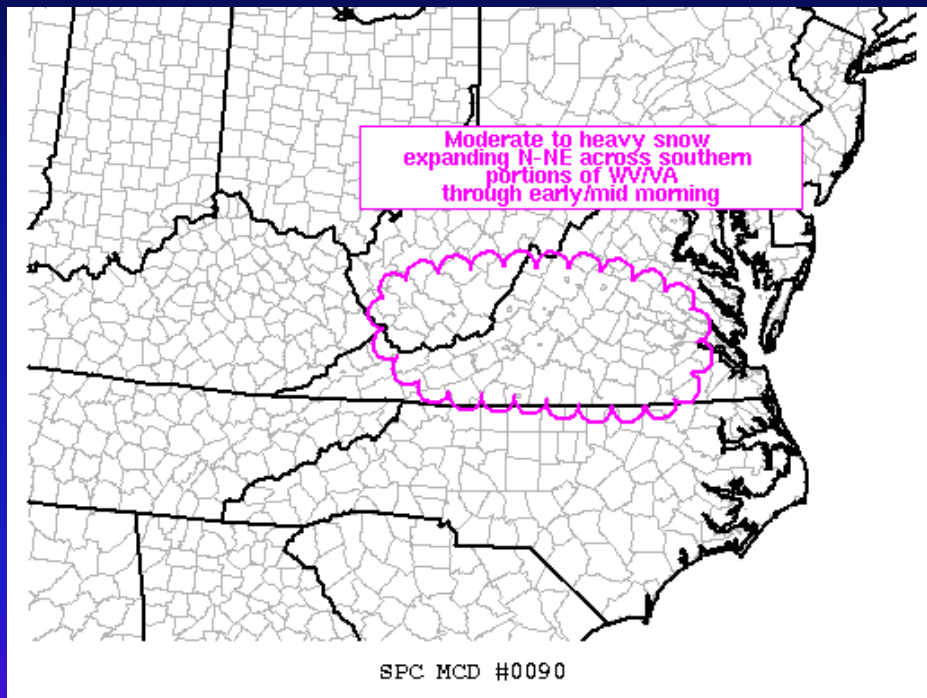
HPC snow
forecast
Issued at
Jan 29th 06z

Initial Snowmap Issued 12z Wed

Over 36 hours out before the first snow developed



SPC Mesoscale Discussion



MESOSCALE DISCUSSION 0090
NWS STORM PREDICTION CENTER NORMAN OK
0256 AM CST SAT JAN 30 2010

AREAS AFFECTED...SOUTHERN PORTIONS OF WV/VA

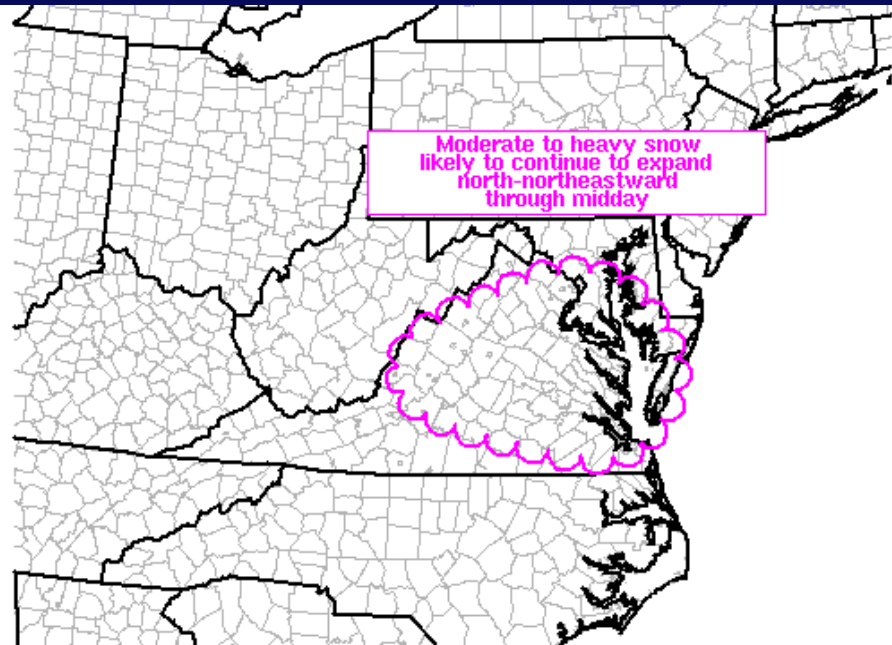
CONCERNING...HEAVY SNOW

VALID 300856Z - 301330Z

MODERATE TO HEAVY SNOW APPEARS LIKELY TO CONTINUE TO DEVELOP NORTH-NORTHEASTWARD THROUGH THE EARLY MORNING HOURS ACROSS SOUTHERN WV AND MUCH OF SOUTHERN VA. SNOWFALL RATES MAY EXCEED 1 IN/HR FOR SEVERAL HOURS DURATION.

WATER VAPOR IMAGERY REFLECTS A POSITIVELY TILTED/INCREASINGLY OPEN UPPER TROUGH NEARING THE LOWER-MIDDLE MS RIVER VALLEY EARLY THIS MORNING...WITH IMPLIED ASCENT ATTRIBUTABLE TO A STRONG/COUPLED UPPER JET AND LOW LEVEL WARM ADVECTION/ISENTROPIC LIFT REGIME...LIKELY TO YIELD INCREASING PRECIPITATION RATES ACROSS MUCH OF THE CENTRAL APPALACHIANS VICINITY. THIS WILL BE IN THE FORM OF MODERATE/HEAVY SNOW ACROSS SOUTHERN WV/VA THIS MORNING WHERE 20S F SURFACE TEMPERATURES CURRENTLY RESIDE. WITH A NORTHEASTWARD SURGING DRY SLOT OVER THE TN VALLEY ALSO NOTED PER WATER VAPOR IMAGERY...NUMERICAL GUIDANCE IMPLIES THAT STEEPENING LAPSE RATES ALOFT AND A COMBINATION OF WEAK UPRIGHT/SLANTWISE INSTABILITY COULD POTENTIALLY CONTRIBUTE TO ENHANCED SNOW RATES ON THE MESOSCALE. ACCORDINGLY...06Z RUC SOUNDINGS REFLECT WEAK POTENTIAL INSTABILITY/UPRIGHT CAPE BASED AROUND 600 MB IN MULTIPLE FORECAST SOUNDINGS ACROSS SOUTHERN VA LATER THIS MORNING. SIMILAR TO A COLD/WELL-SATURATED 06Z GSO OBSERVED RAOB...THE AFOREMENTIONED RUC SOUNDINGS SUGGEST INCREASING DEEP LAYER OMEGA COINCIDENT WITH A FAVORABLE DENDRITIC GROWTH ZONE...ATOP AN INCREASINGLY SATURATED ISOTHERMAL 2-3 KM AND WEDGE REINFORCED WELL-BELOW FREEZING LOWEST 1 KM. ALL THIS IMPLIES A NORTH-NORTHEASTWARD EXPANSION OF MODERATE TO HEAVY SNOW ACROSS MUCH OF SOUTHERN VA THROUGH 12Z-15Z...WITH EMBEDDED 1+ IN/HR RATES A DISTINCT POSSIBILITY.

SPC Mesoscale Discussion 2



SPC MCD #0091

MESOSCALE DISCUSSION 0091
NWS STORM PREDICTION CENTER NORMAN OK
0710 AM CST SAT JAN 30 2010

AREAS AFFECTED...MUCH OF VA/WASHINGTON DC AND SOUTHERN MD/EASTERN SHORE

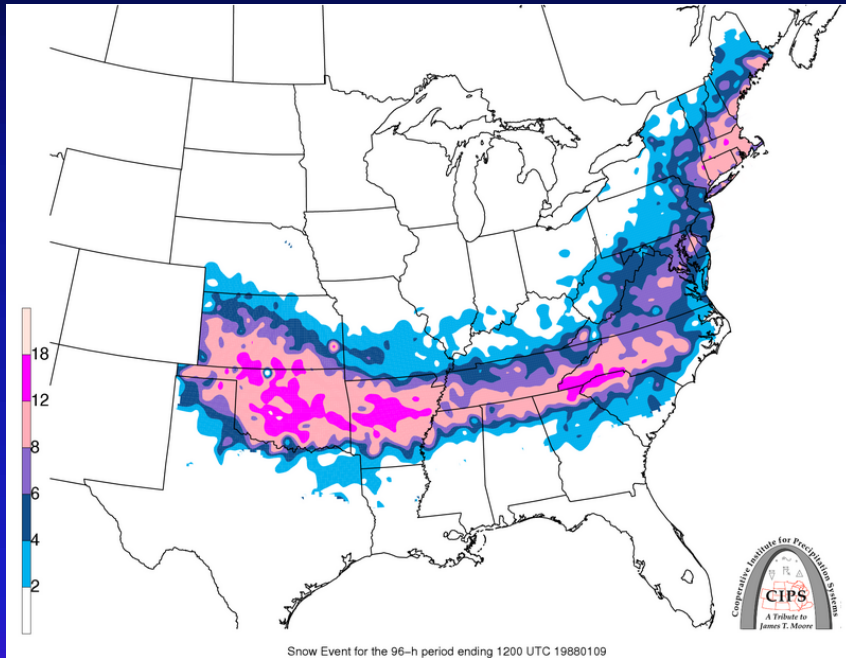
CONCERNING...HEAVY SNOW

VALID 301310Z - 301745Z

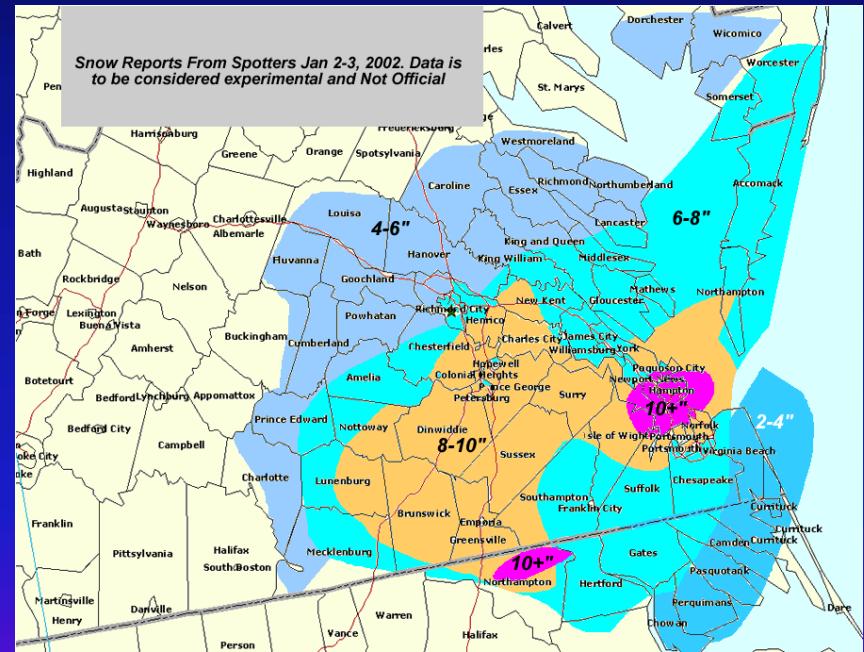
MODERATE TO HEAVY SNOW WILL CONTINUE TO EXPAND NORTH-NORTHEASTWARD ACROSS MUCH OF VA/WASHINGTON DC VICINITY AND PORTIONS OF SOUTHERN MD/MD EASTERN SHORE THROUGH MIDDAY. LOCALIZED SNOW RATES WILL LIKELY EXCEED 1 IN/HR FOR SEVERAL HOURS DURATION.

PROGRESSIVELY OPEN UPPER TROUGH WILL CONTINUE TO ADVANCE EAST-NORTHEASTWARD OVER THE LOWER OH/TN VALLEYS THIS MORNING. WITH MODERATE TO HEAVY SNOW ALREADY PREVALENT ACROSS MUCH OF THE SOUTHERN HALF OF VA EARLY THIS MORNING PER SURFACE OBSERVATIONAL NETWORK/RADAR IMAGERY...CURRENT TRENDS/BRUNT OF ISENTROPIC LIFT PER MODEL DIAGNOSTICS SUGGEST A CONTINUED NORTH-NORTHEASTWARD EXPANSION OF THE ONGOING MDI-HEAVY SNOW ACROSS MUCH OF VA TO DC METRO VICINITY AND SOUTHERN MD/MD EASTERN SHORE THROUGH MIDDAY. ACCORDINGLY...LATEST RUC SOUNDINGS/03Z SREF PROBABILISTIC GUIDANCE IMPLY AMPLE OMEGA COINCIDENT WITH A FAVORABLY DEEP/SATURATED DENDRITIC GROWTH ZONE /AS ALREADY NOTED ABOVE 650 MB PER THE 12Z OBSERVED WASHINGTON-DULLES RAOB/ WILL PROGRESSIVELY DEVELOP NORTHWARD ACROSS CENTRAL/NORTHERN VA AND ADJACENT MD THROUGH 18Z. FURTHERMORE...LARGELY OWING TO AN ADVANCING/MODEST DRY SLOT PER WATER VAPOR IMAGERY...THE 12Z OBSERVED RAOBS FROM ROANOKE/GREENVILLE-SPARTANBURG SAMPLED SCANT ELEVATED BUOYANCY/STEEP LAPSE RATES ABOVE 600 MB...WHILE AN ASSORTMENT OF SREF MEMBERS ALSO IMPLY EMBEDDED CONVECTIVE-TYPE PRECIPITATION MAINLY ACROSS THE SOUTHERN HALF OF VA THROUGH THE MORNING. THESE CONSIDERATIONS REFLECT POSSIBILITIES FOR SOME DEGREE OF CONVECTIVE ENHANCEMENT TO THE SNOWFALL RATES AND/OR PERHAPS POTENTIAL FOR MODEST CONSOLIDATION OF MESOSCALE SNOWBANDS THROUGH LATE MORNING.

How does this storm compare to others over the CWA in the past?



Jan 7-8, 1988



Jan 2-3, 2002

Wakefield's CWA

Norfolk Top 6 January Daily Snowfalls

Rank	Date	Amount
1)	Jan 19, 1893	9.8"
2)	Jan 08, 1973	9.0"
3)	Jan 16, 1939	8.8"
4)	Jan 26, 1966	7.1"
5)	Jan 03, 2002	6.6"
6)	Jan 30, 2010	6.1"

Richmond Top 7 January Daily Snowfalls

Rank	Date	Amount
1)	Jan 24, 1940	19.9"
2)	Jan 05, 1980	13.3"
3)	Jan 26, 1966	13.2"
4)	Jan 25, 2000	11.0"
5)	Jan 28, 1922	10.3"
6)	Jan 30, 2010	9.5"
7)	Jan 30, 1930	9.0"