

Winter Storms of December 26-27, 2010 and January 12, 2011



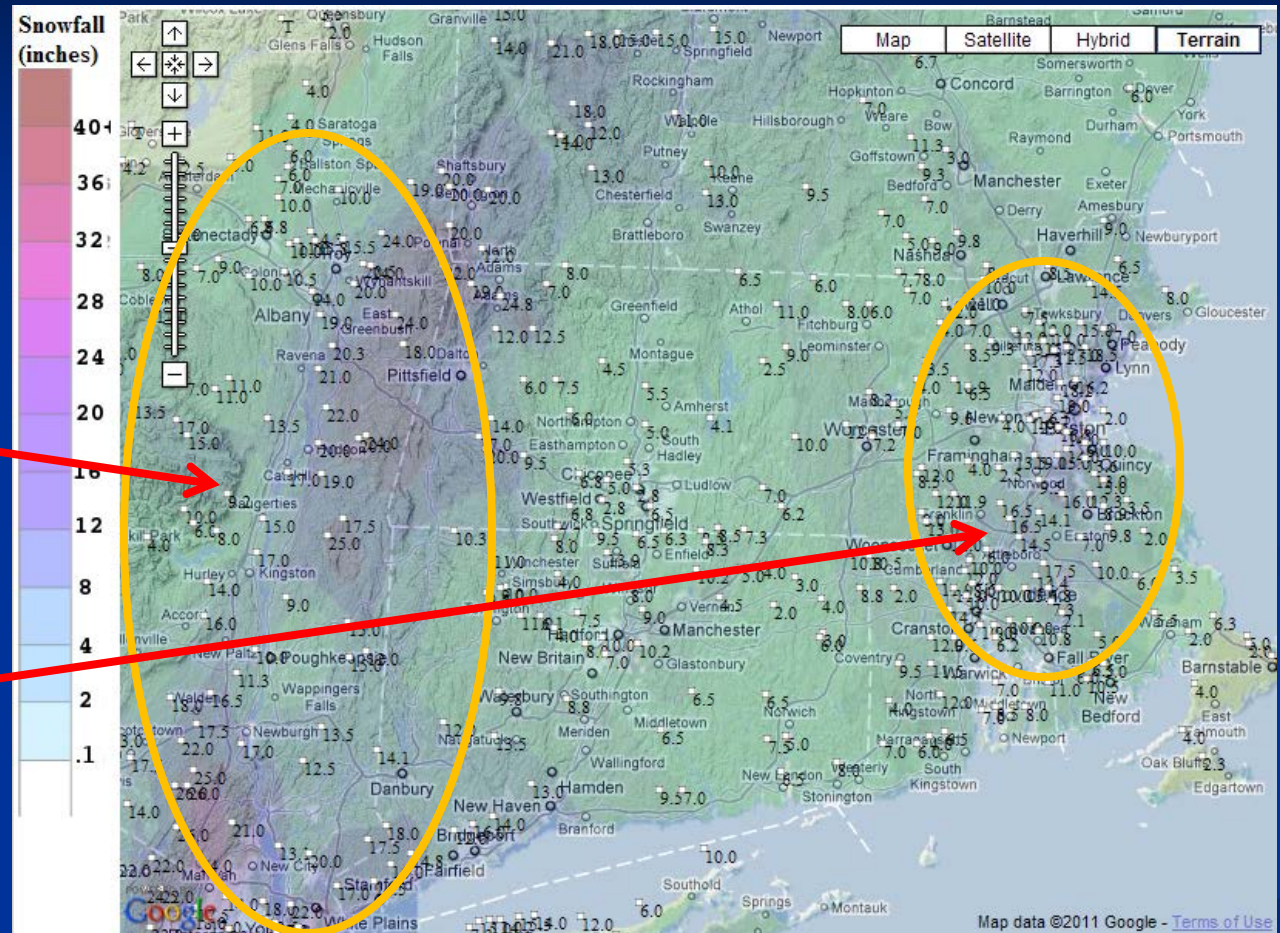
Joe DelliCarpini
NOAA/NWS Taunton, MA

December 26-27 2010 Blizzard

Two areas of heavy snow

18-30 inches

10-20 inches



- First winter storm of the season – began a 6 week “snow blitz”
- 60 mph wind gusts from Long Island into southern New England.

Forecast Issues

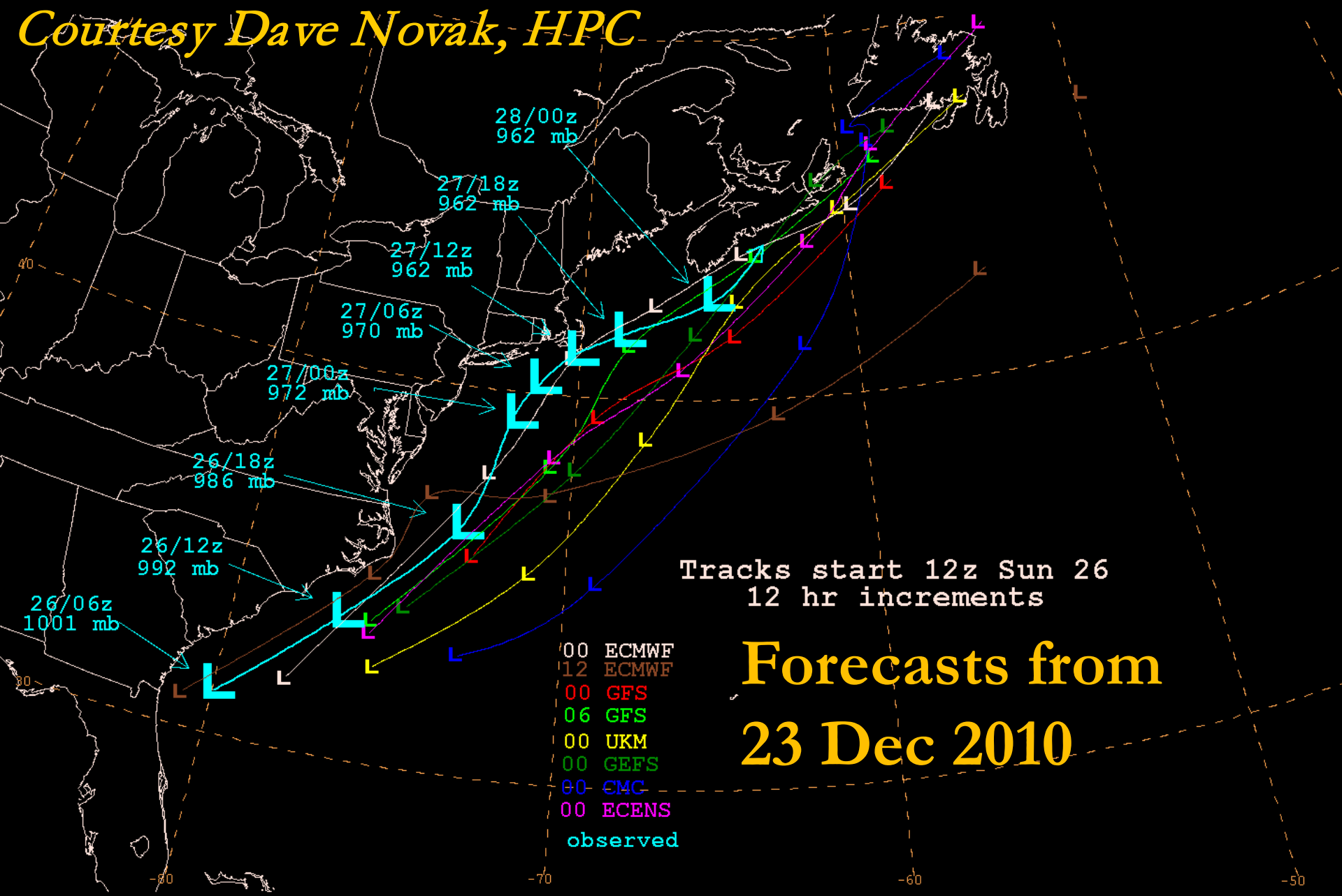
- Models struggled in the days leading up to the storm
 - Most had the storm passing well offshore
- Impact on holiday weekend travel
- Confidence increased as the event drew closer
 - Models shifted storm track west within 48 hours
 - Time to staff up and begin conference calls – but it's Christmas Eve!!!!



Loop: 1



Courtesy Dave Novak, HPC



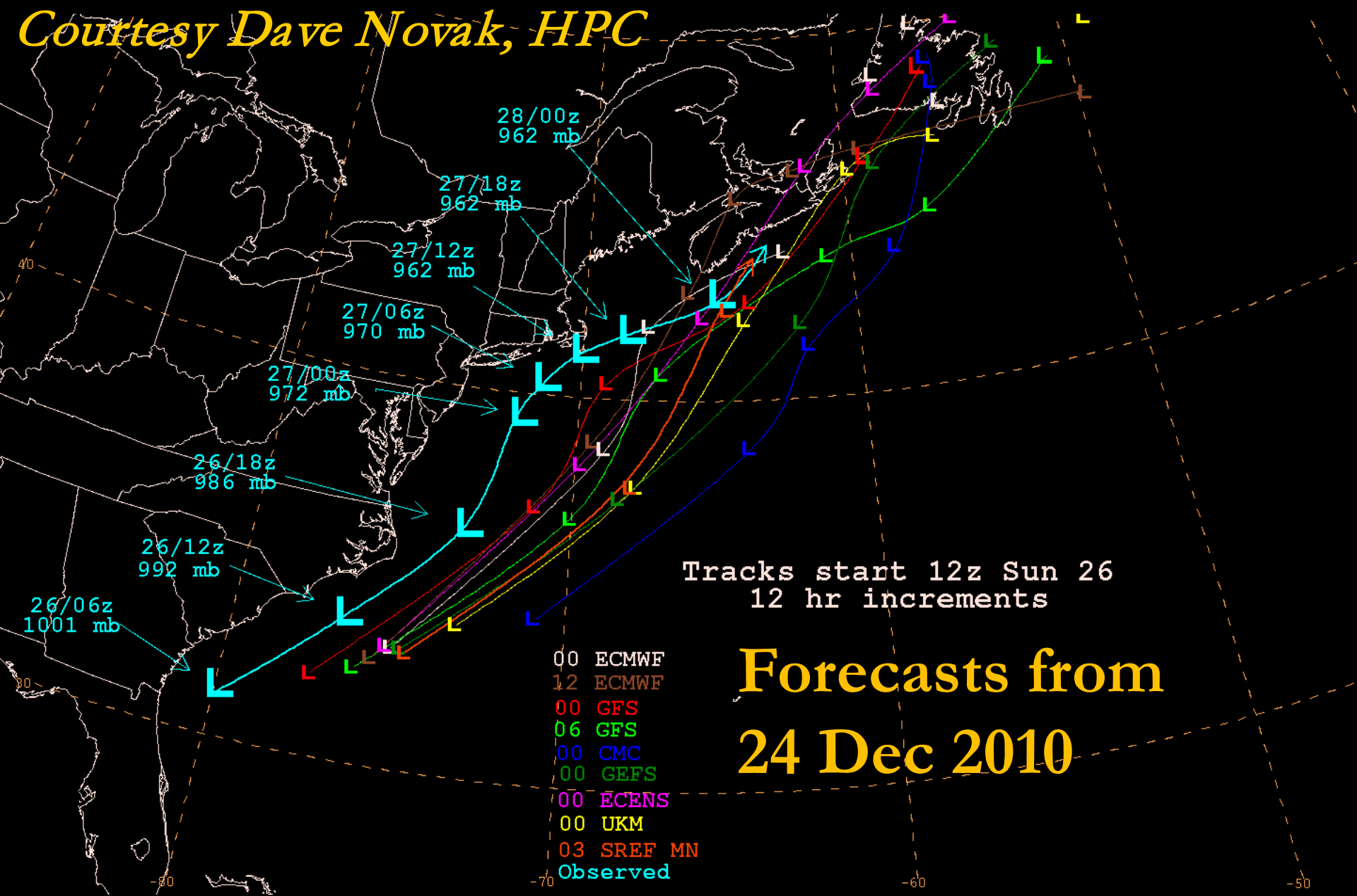
Forecasts from
23 Dec 2010



Loop: 3

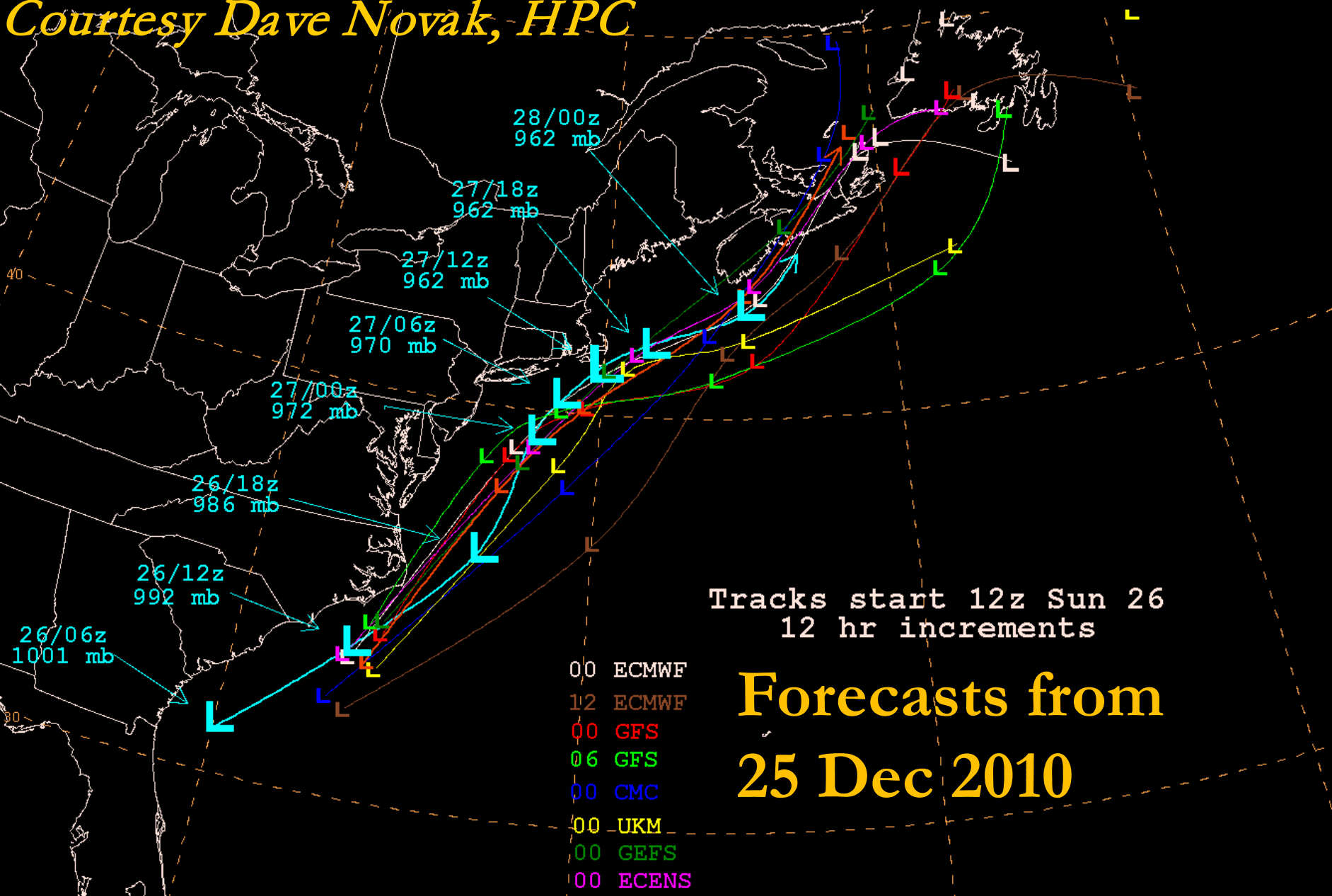


Courtesy Dave Novak, HPC



Forecasts from
24 Dec 2010

Courtesy Dave Novak, HPC



Tracks start 12z Sun 26
12 hr increments

Forecasts from
25 Dec 2010

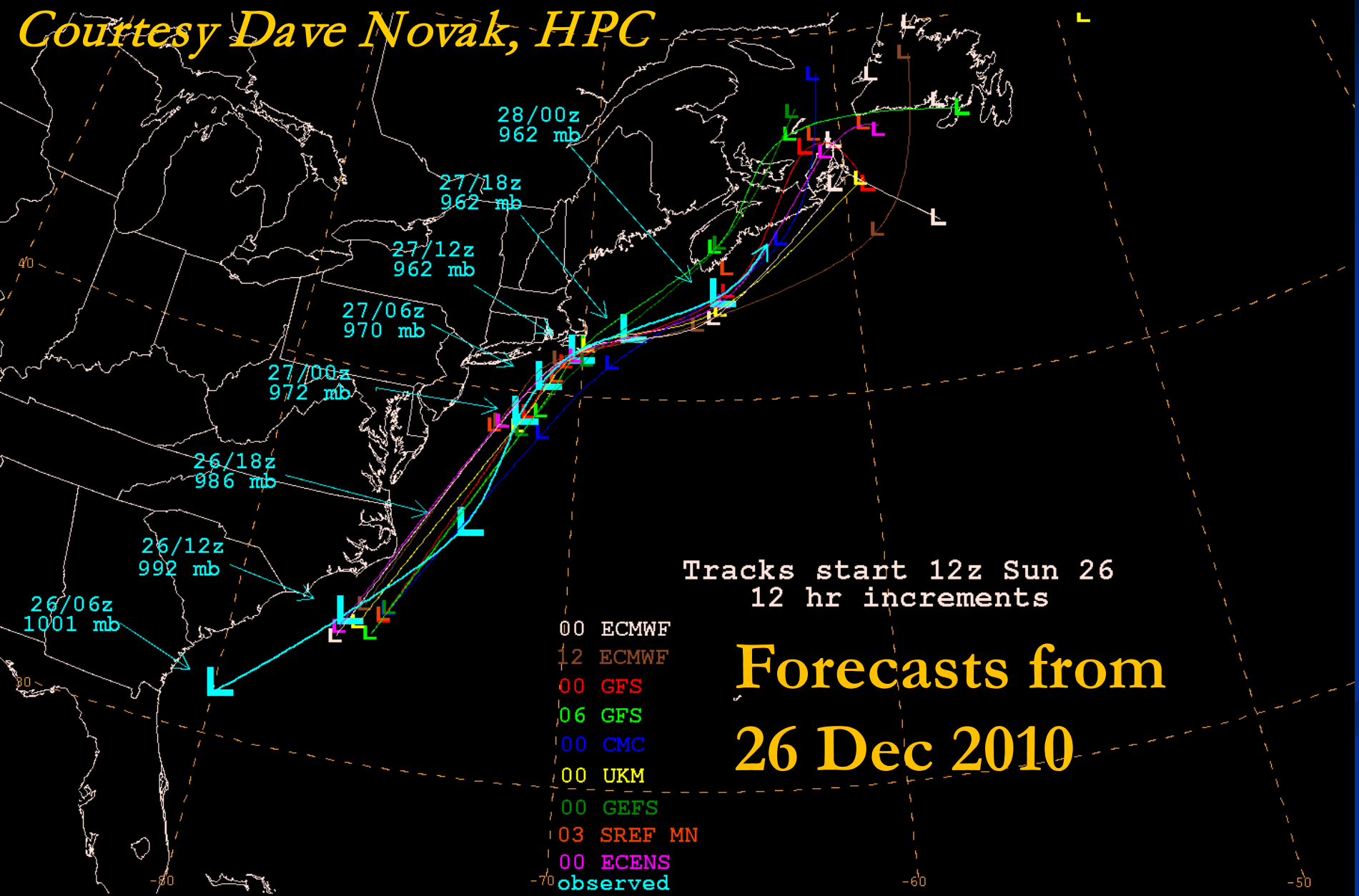
- 00 ECMWF
- 12 ECMWF
- 00 GFS
- 06 GFS
- 00 CMC
- 00 UKM
- 00 GEFS
- 00 ECENS
- 02 SREF_MN



Loop: 3



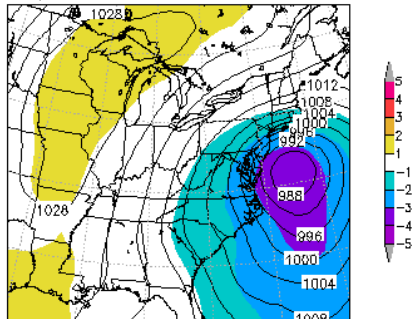
Courtesy Dave Novak, HPC



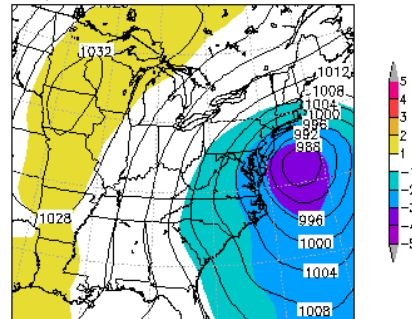
**Forecasts from
26 Dec 2010**

Ensemble Forecast Trends

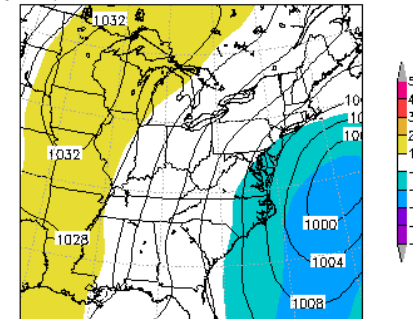
i.GEFS prmslmsl init:18Z24DEC2010 Valid: 00Z27DEC2010



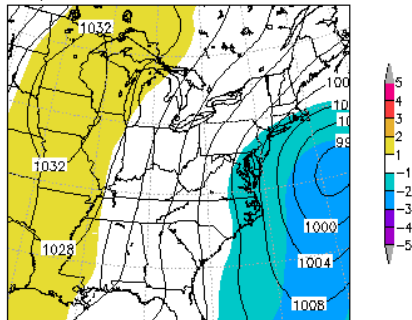
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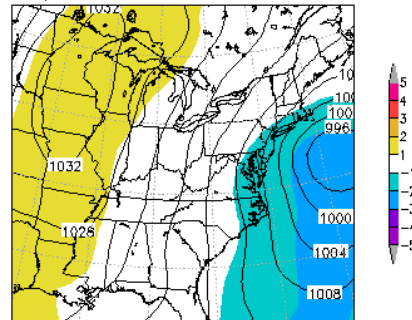
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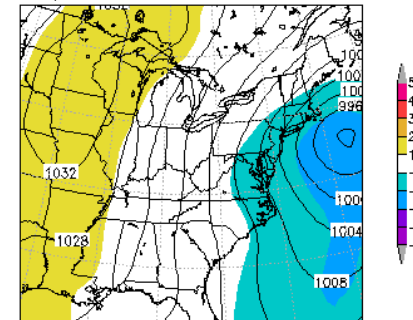
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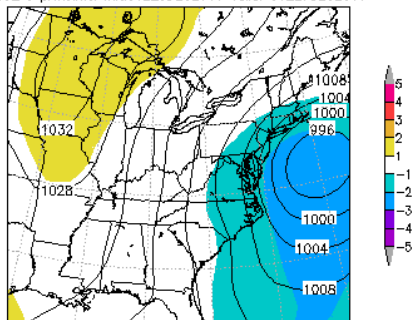
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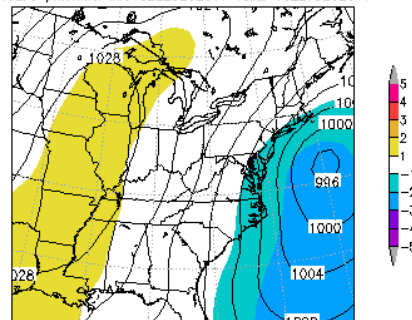
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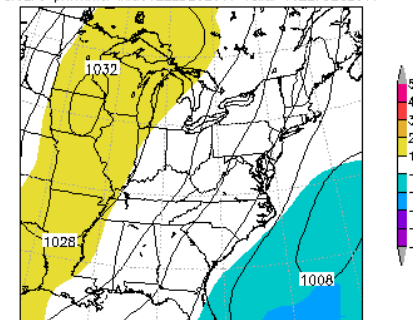
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b.GEFS prmslmsl init:18Z22DEC2010 Valid: 00Z27DEC2010

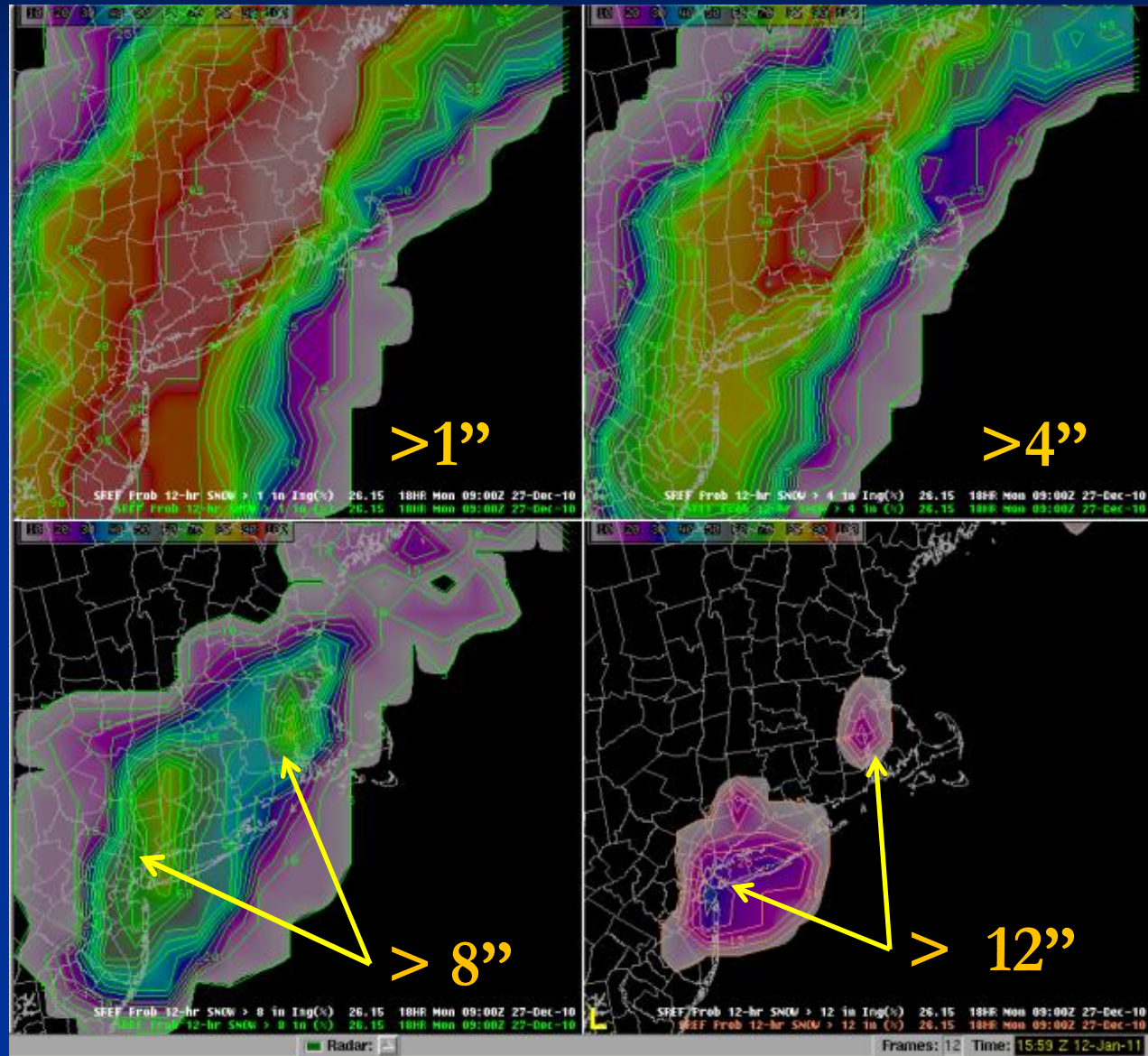


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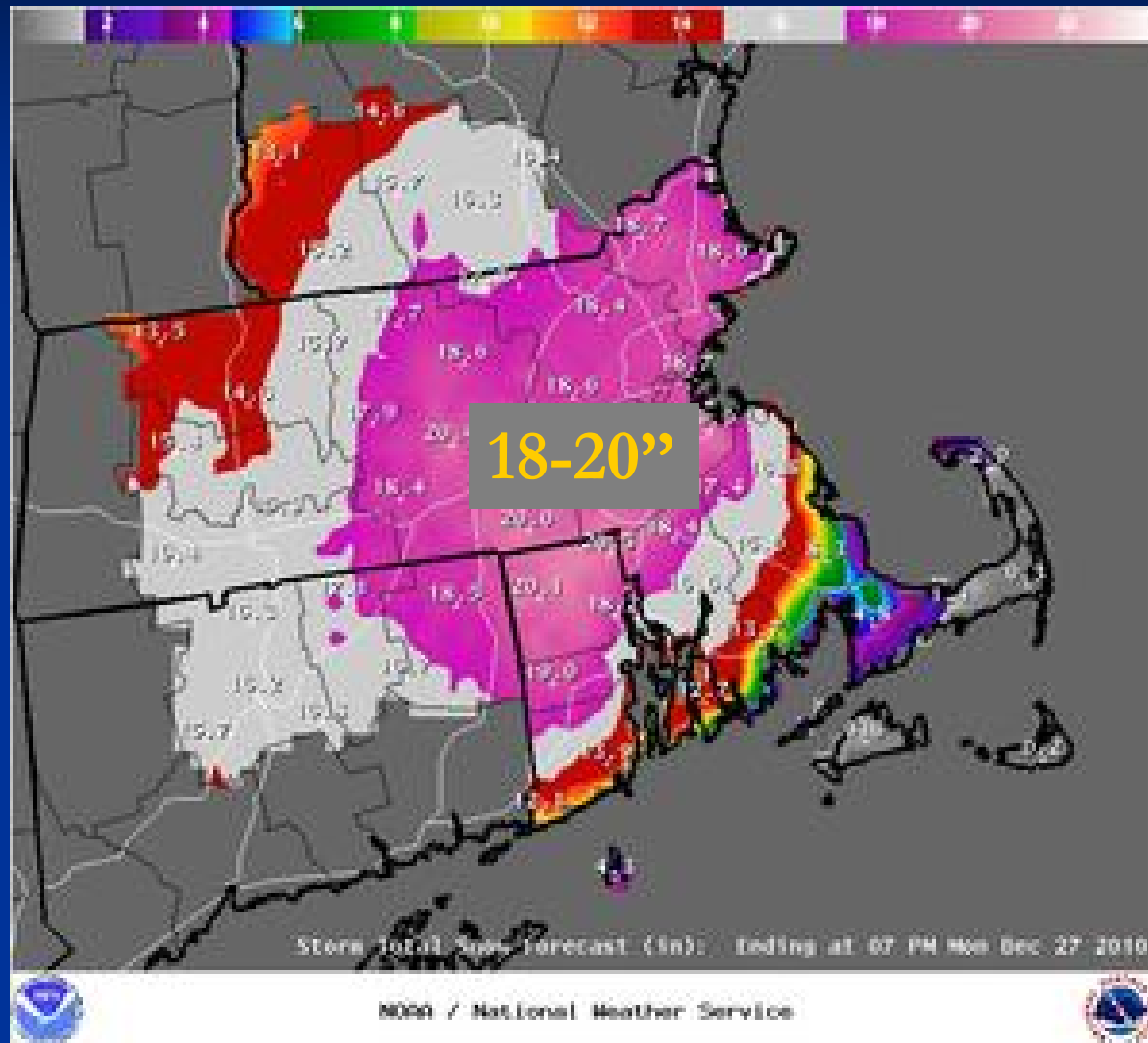


Short Range Ensemble Forecasts (SREF)

SREF probabilities can give forecasters more confidence in snowfall amounts

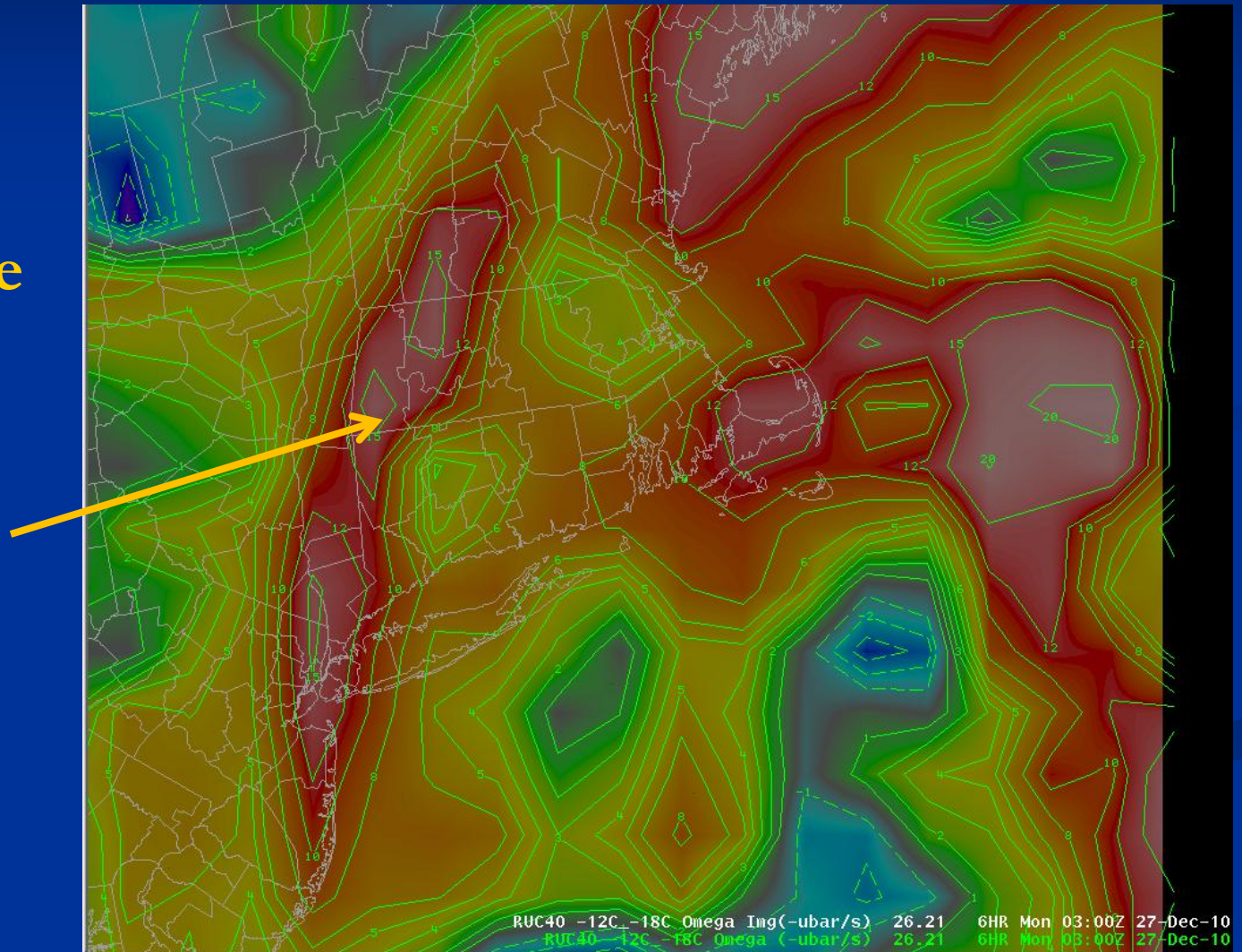


Snowfall Forecast (Dec 24)



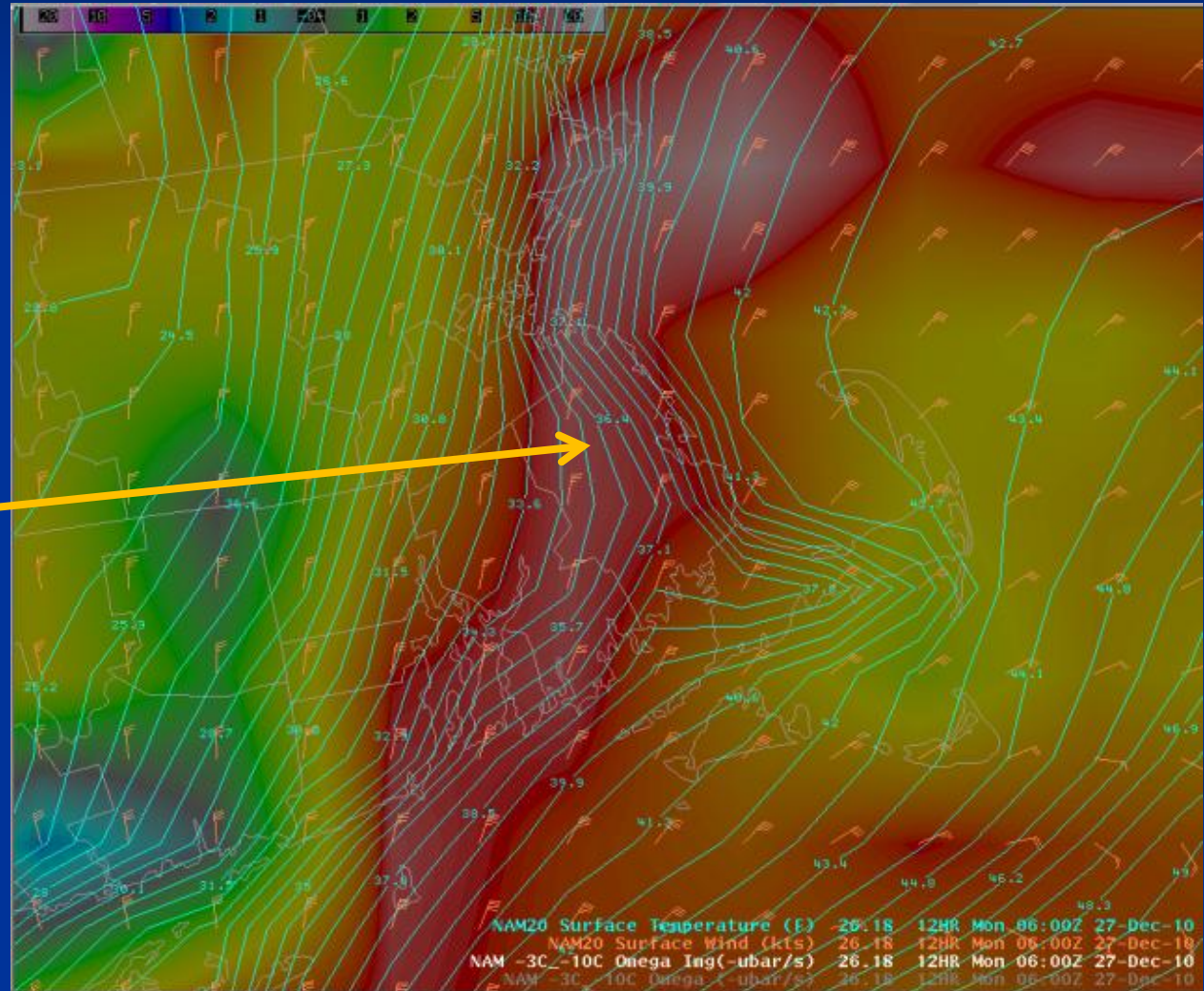
Lift in the Snow Growth Zone

Shorter range
RUC model
correctly
predicted
location of
heavy snow



Role of the Coastal Front

Lift
enhanced
near the
coastal
front

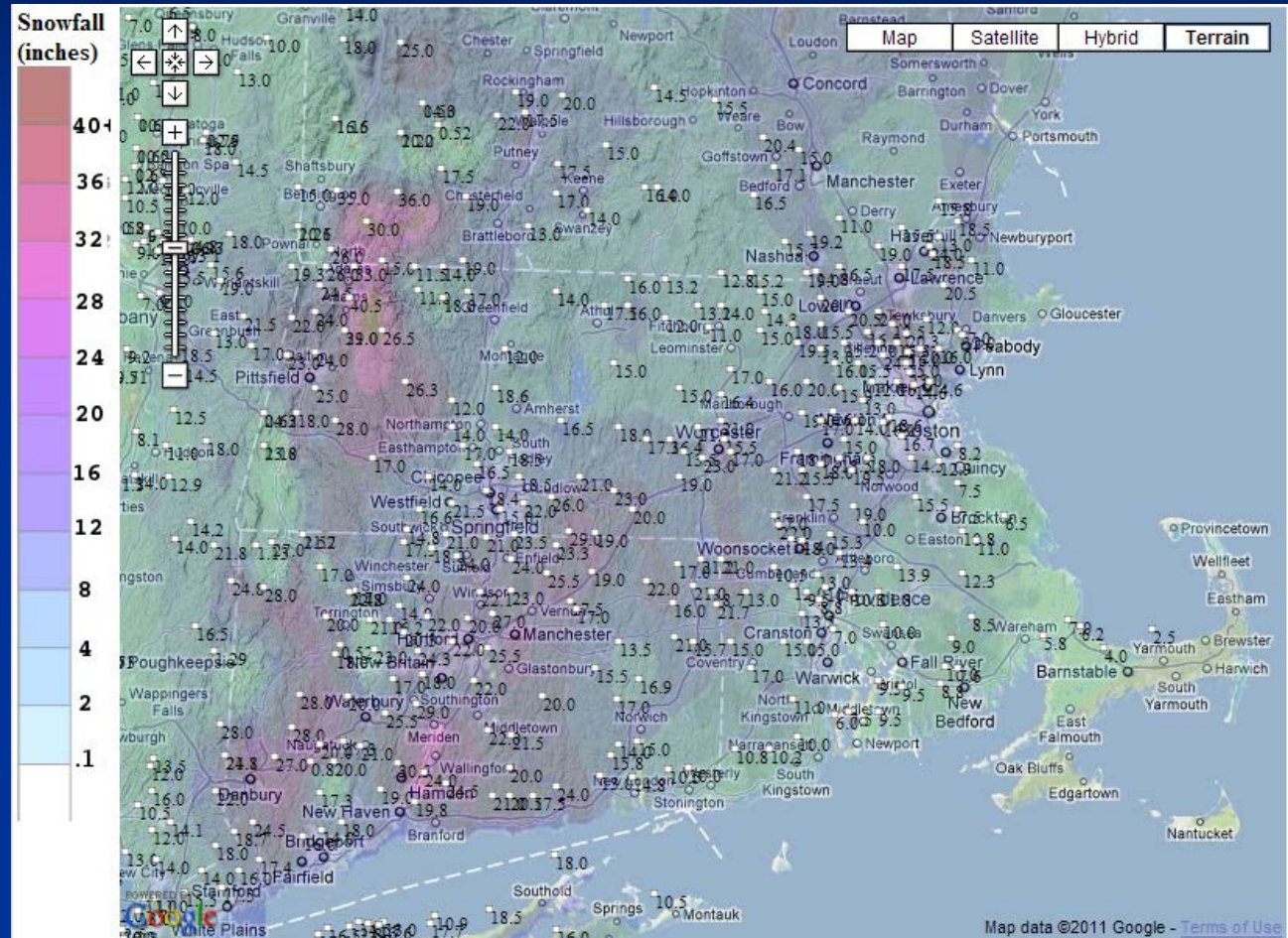


January 12, 2011 Winter Storm

Widespread
12-24 inches

30+ inches in
the Berkshires

Snow
changed to
rain on Cape
Cod and the
Islands



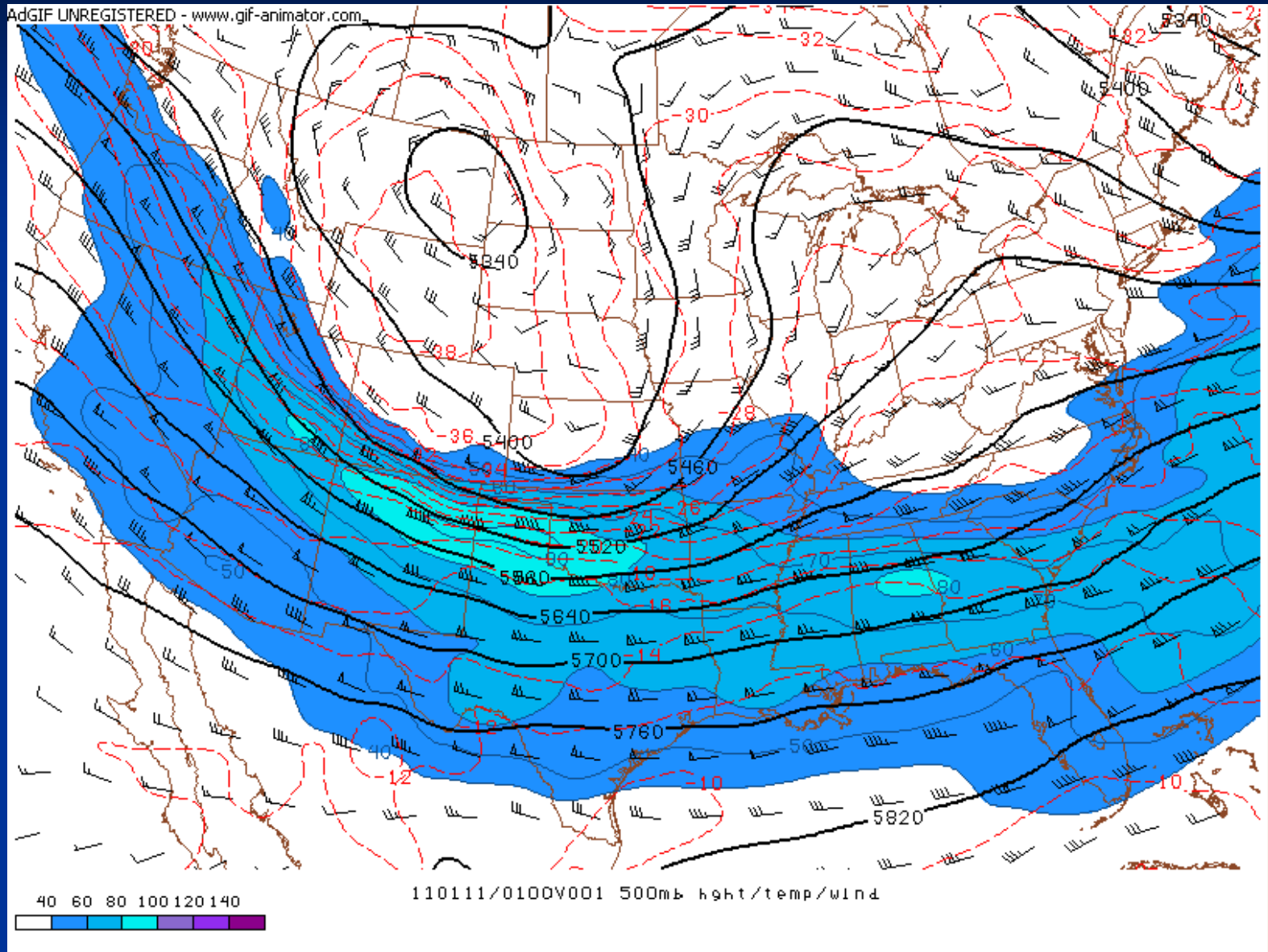
Forecast Issues

- High level of confidence
 - Models were in agreement several days in advance and remained consistent
- Timing of storm helped to reduce impact
 - Began late at night
 - Strong winds resulted in over 100,000 power outages and downed trees/wires

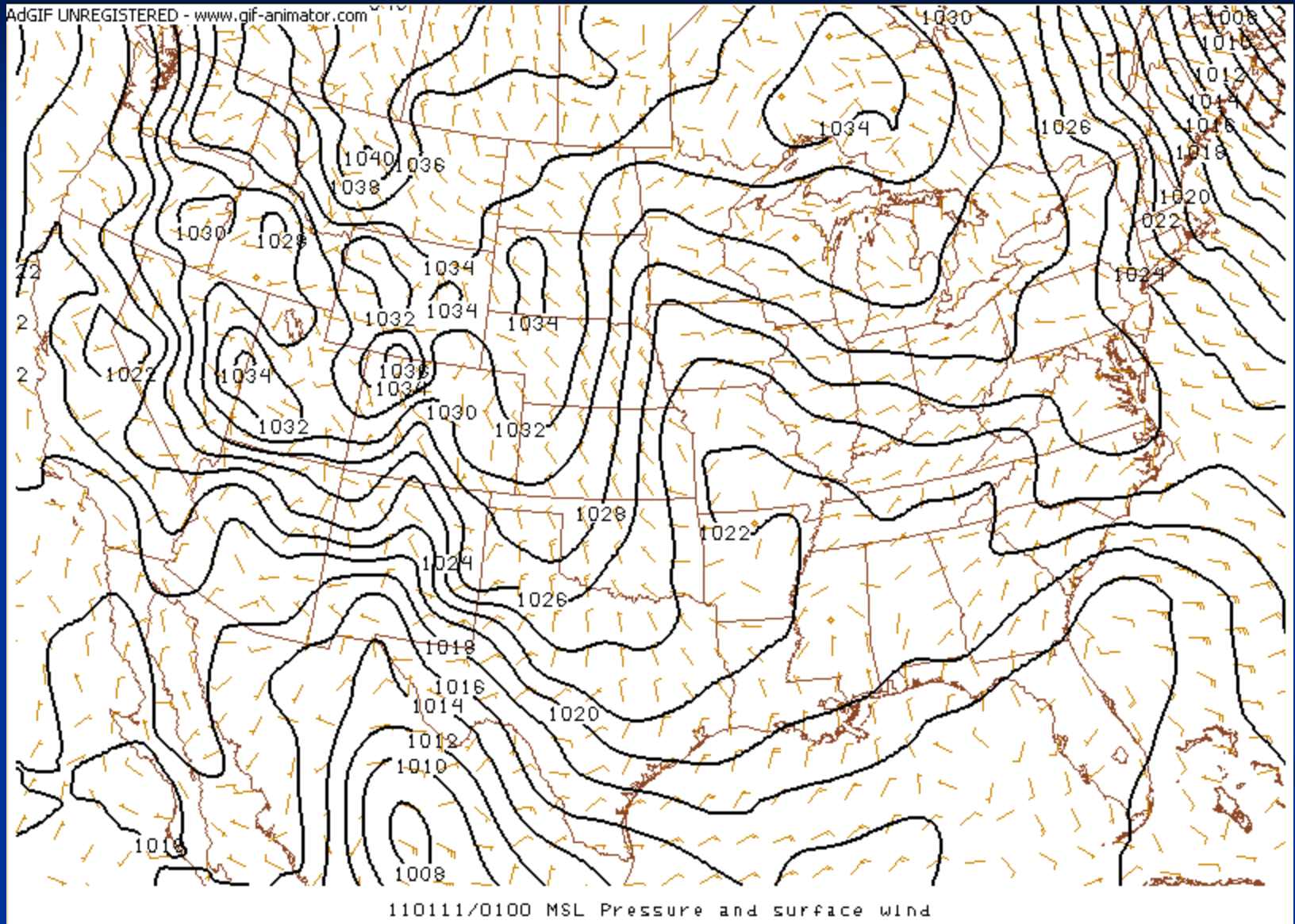
Slam Dunk!



500 mb Heights and Winds

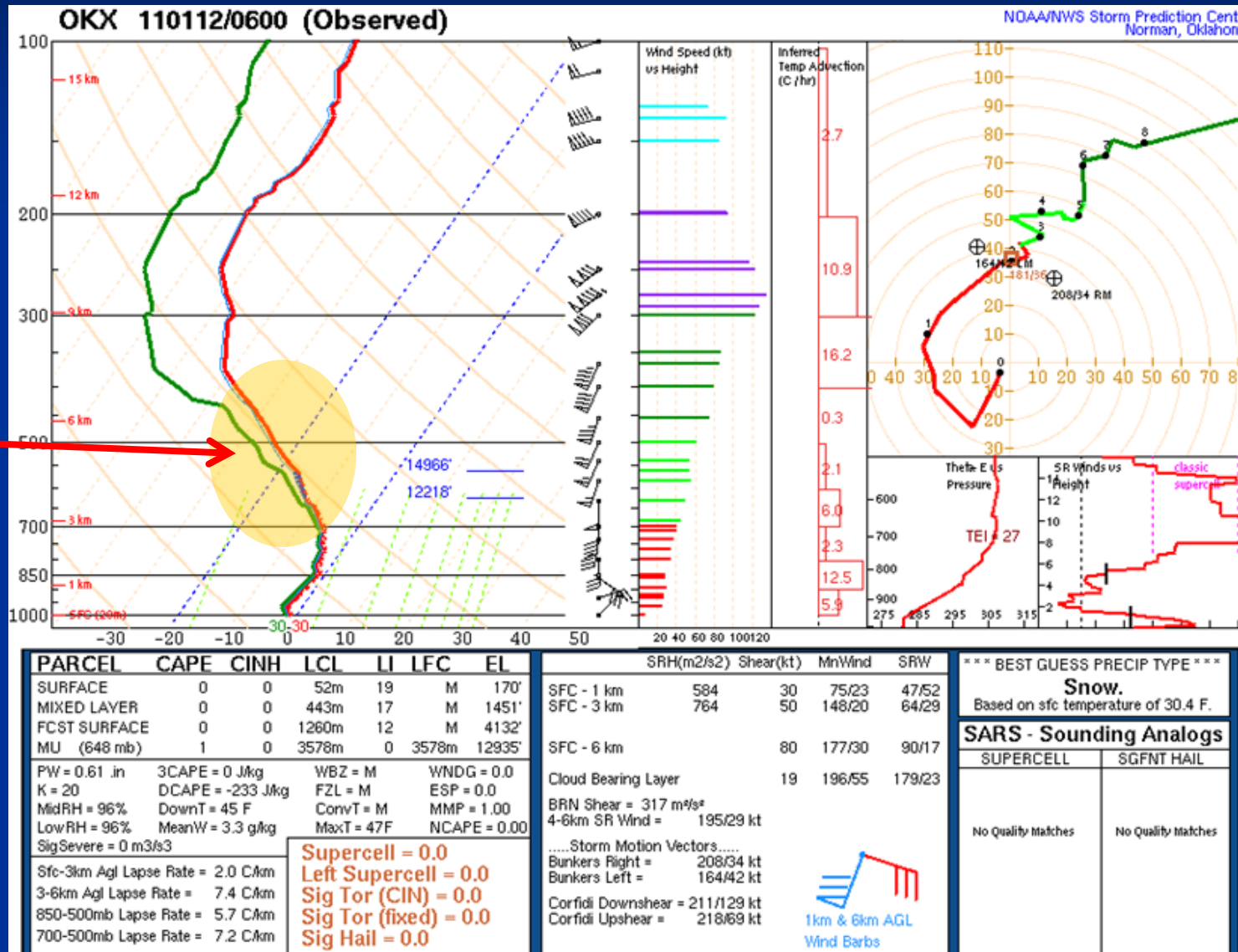


MSL Pressure and Wind

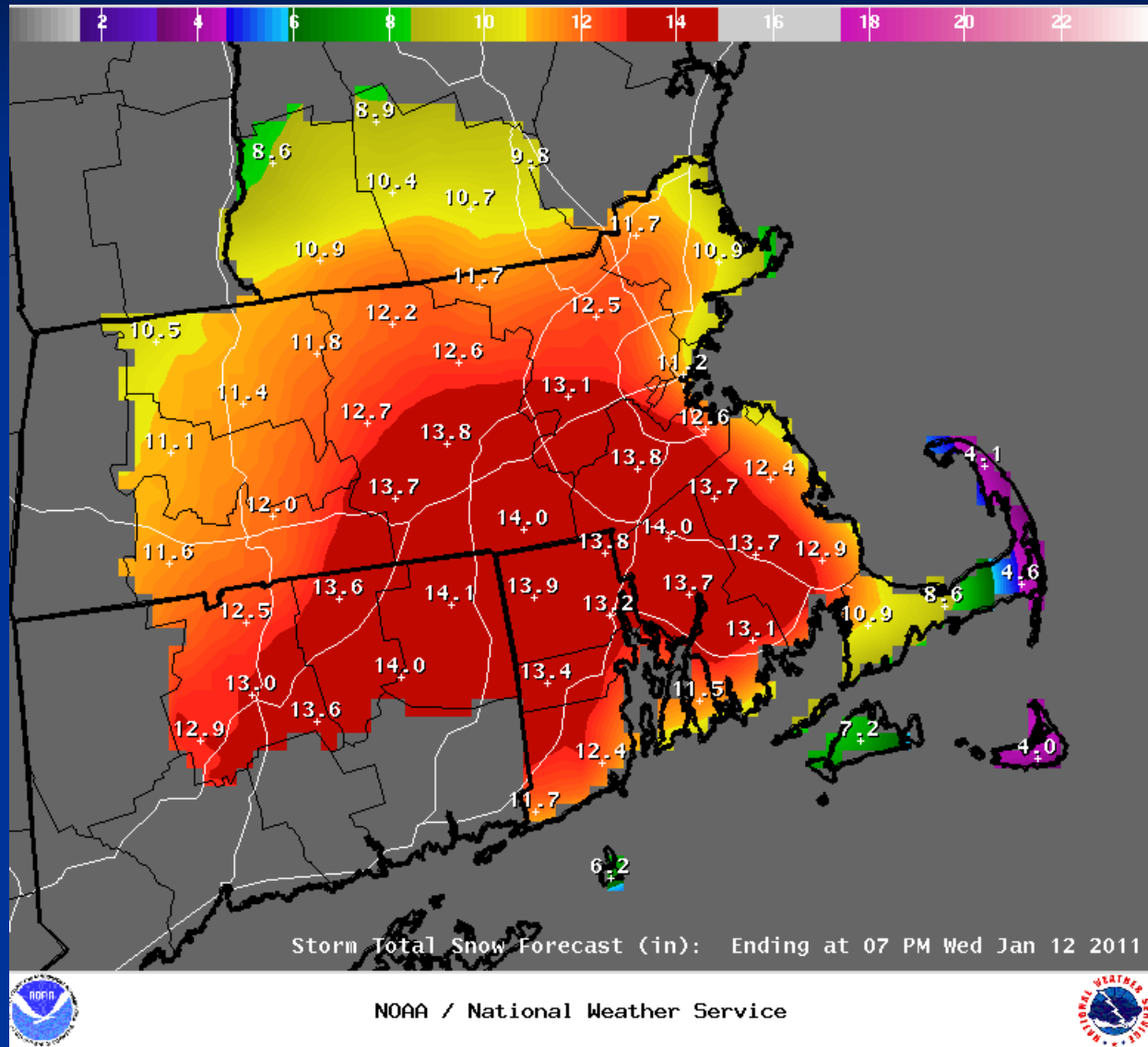


OKX Sounding: 1 am Jan 12

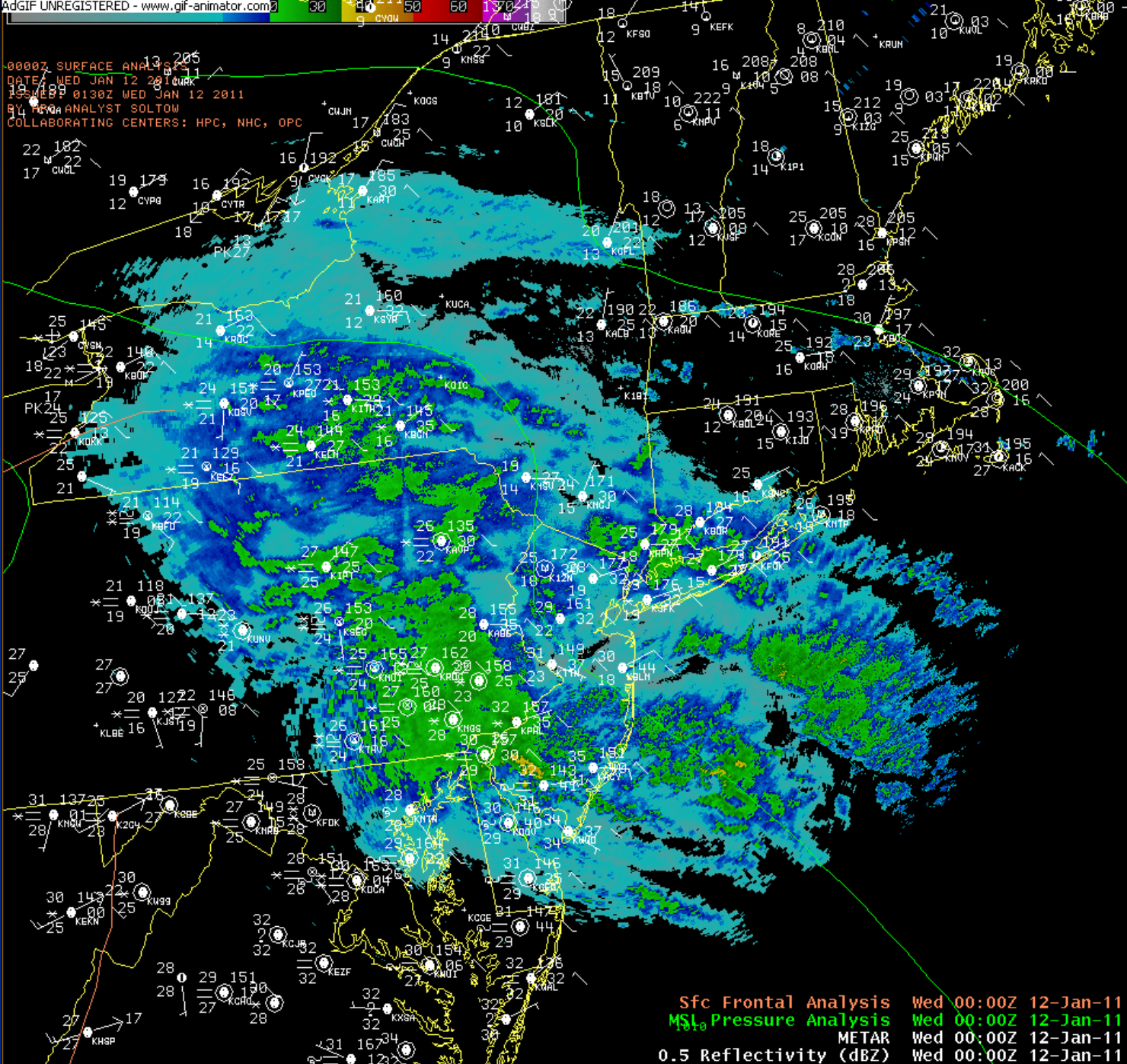
Note steep lapse rates



Snowfall Forecast: Jan 10



0000Z SURFACE ANALYSIS
DATE: WED JAN 12 2011
195519Z 0130Z WED JAN 12 2011
BY: NOAA ANALYST SOLTOW
COLLABORATING CENTERS: HPC, NHC, OPC



Sfc Frontal Analysis	Wed 00:00Z 12-Jan-11
MS1.0 Pressure Analysis	Wed 00:00Z 12-Jan-11
METAR	Wed 00:00Z 12-Jan-11
0.5 Reflectivity (dBZ)	Wed 00:00Z 12-Jan-11

Questions?

