

A Foot of Snow From An Ana-frontal Wave
2015 March 5



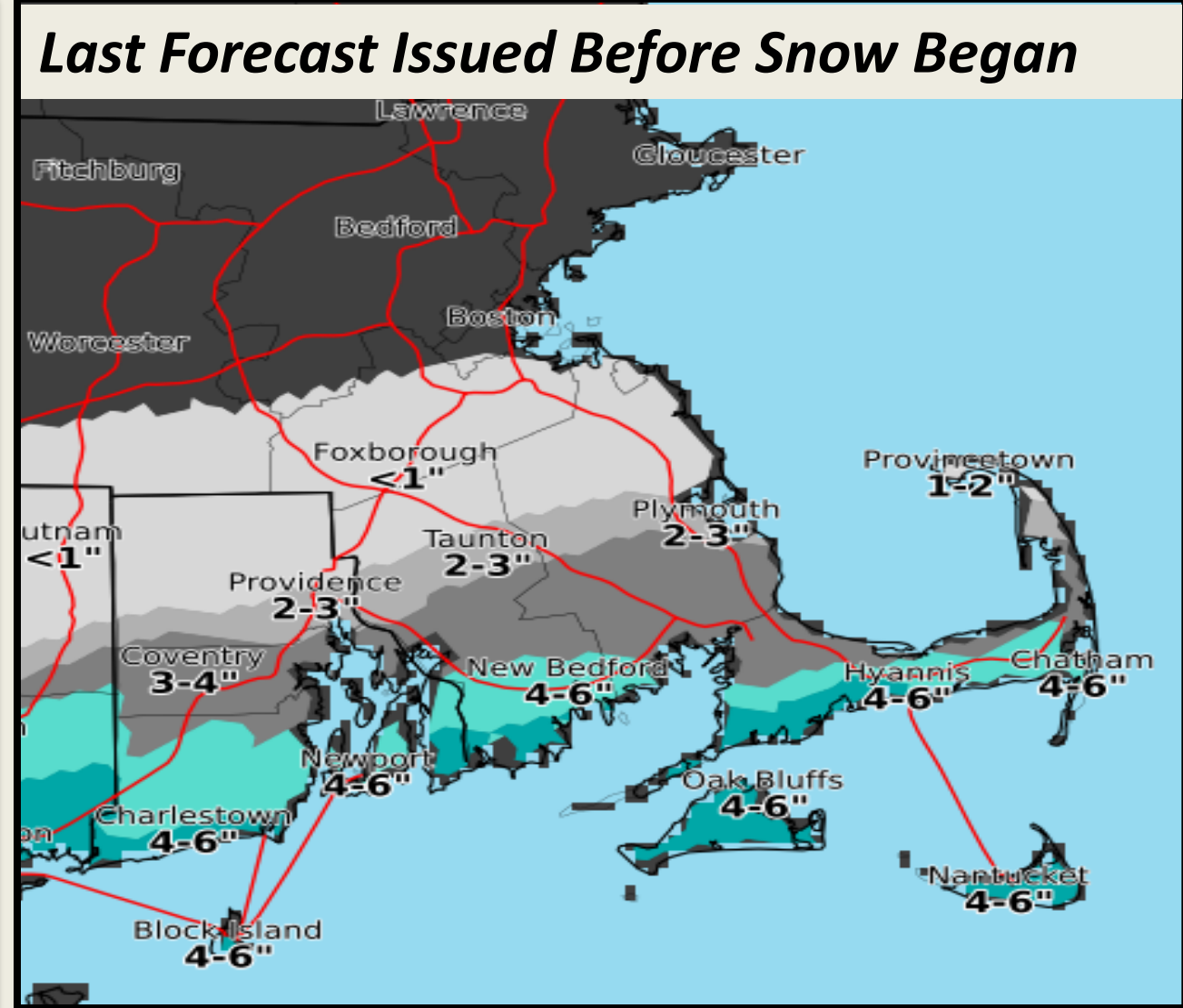
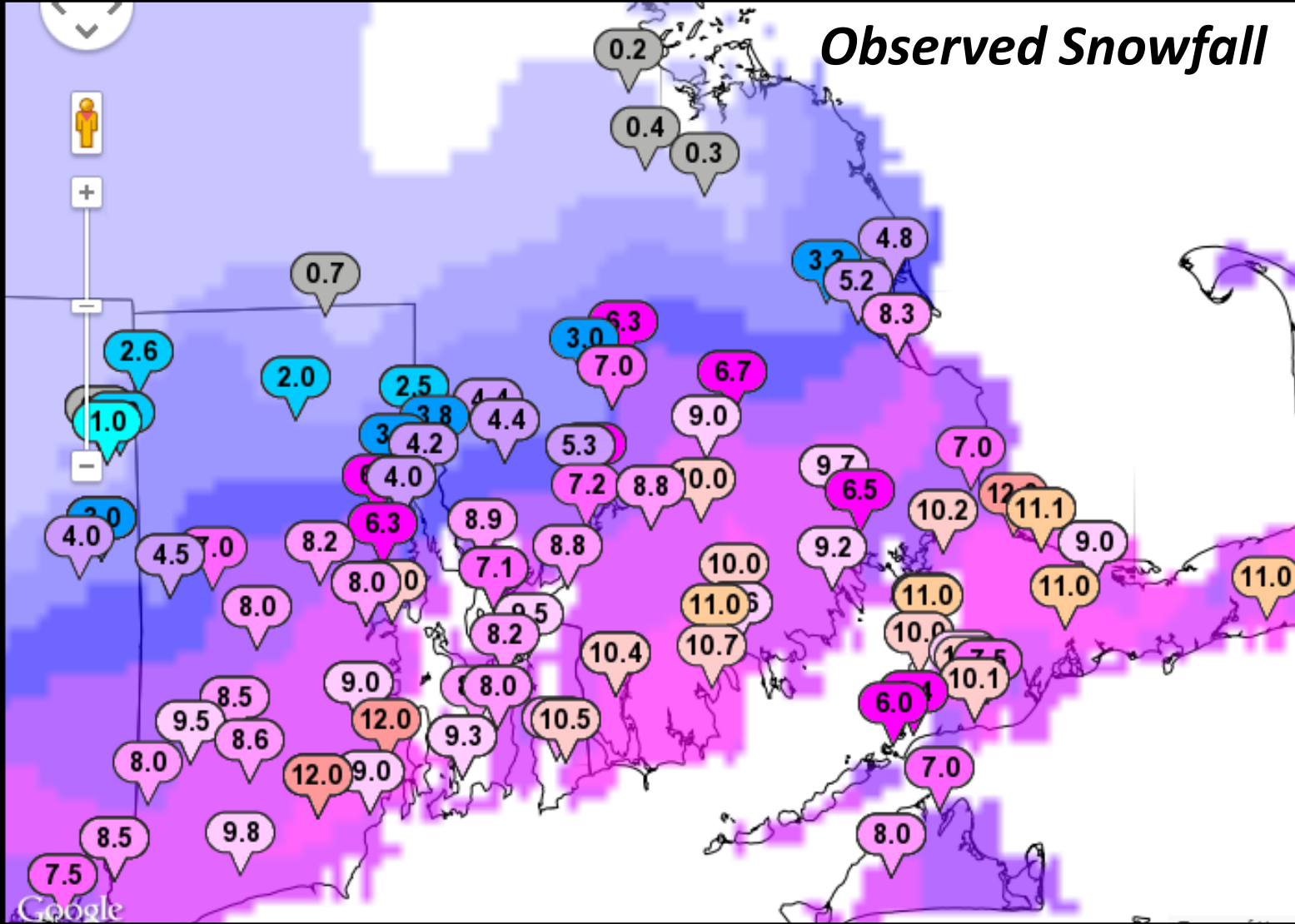
Bristol, RI

Website: www.weather.gov/boston

Twitter: [@NWSBoston](https://twitter.com/NWSBoston)

Facebook: <http://www.facebook.com/NWSBoston>





- *Very sharp south to north cutoff in snowfall*
- *Heavy snow tracked farther north than expected*



Website: www.weather.gov/boston

Twitter: [@NWSBoston](https://twitter.com/NWSBoston)

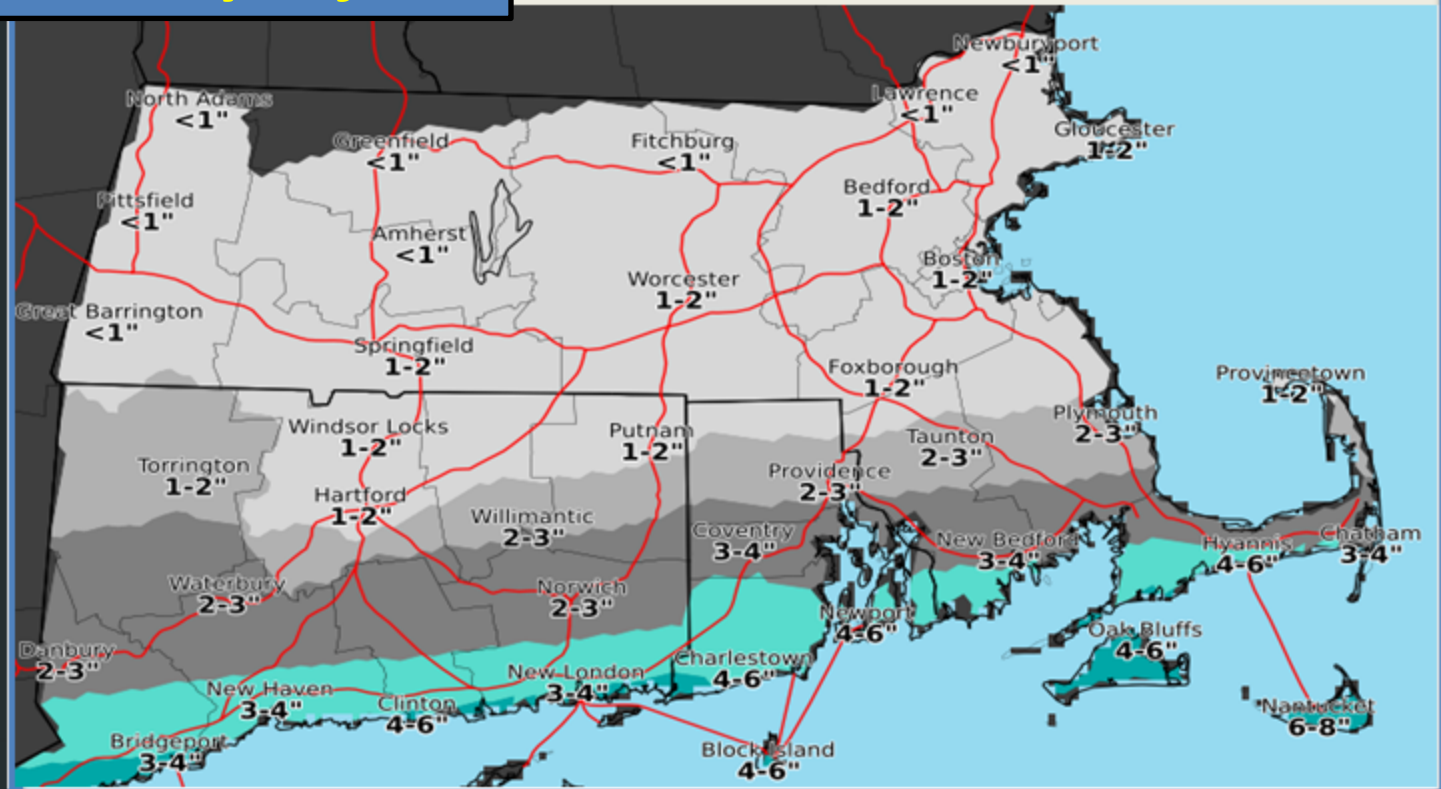
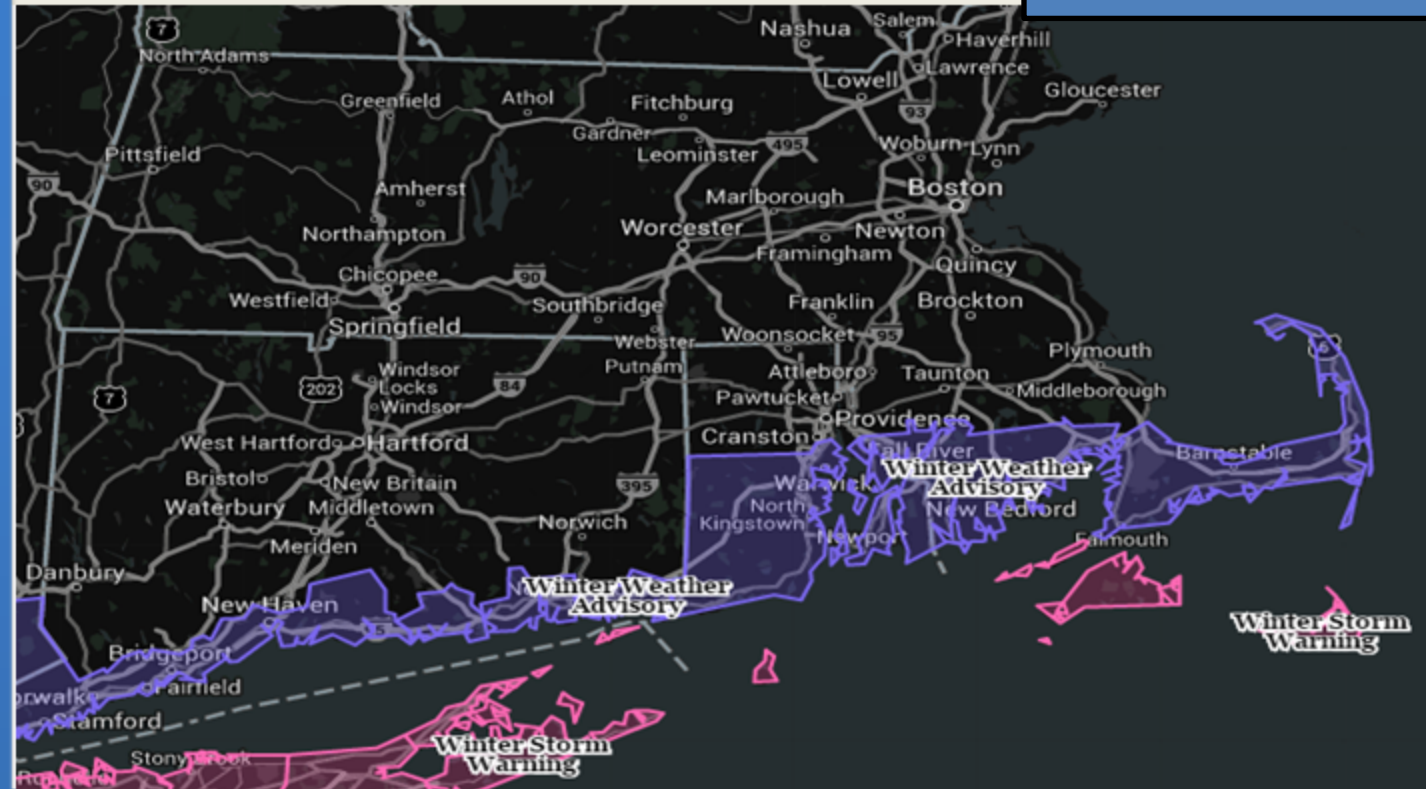
Facebook: <http://www.facebook.com/NWSBoston>



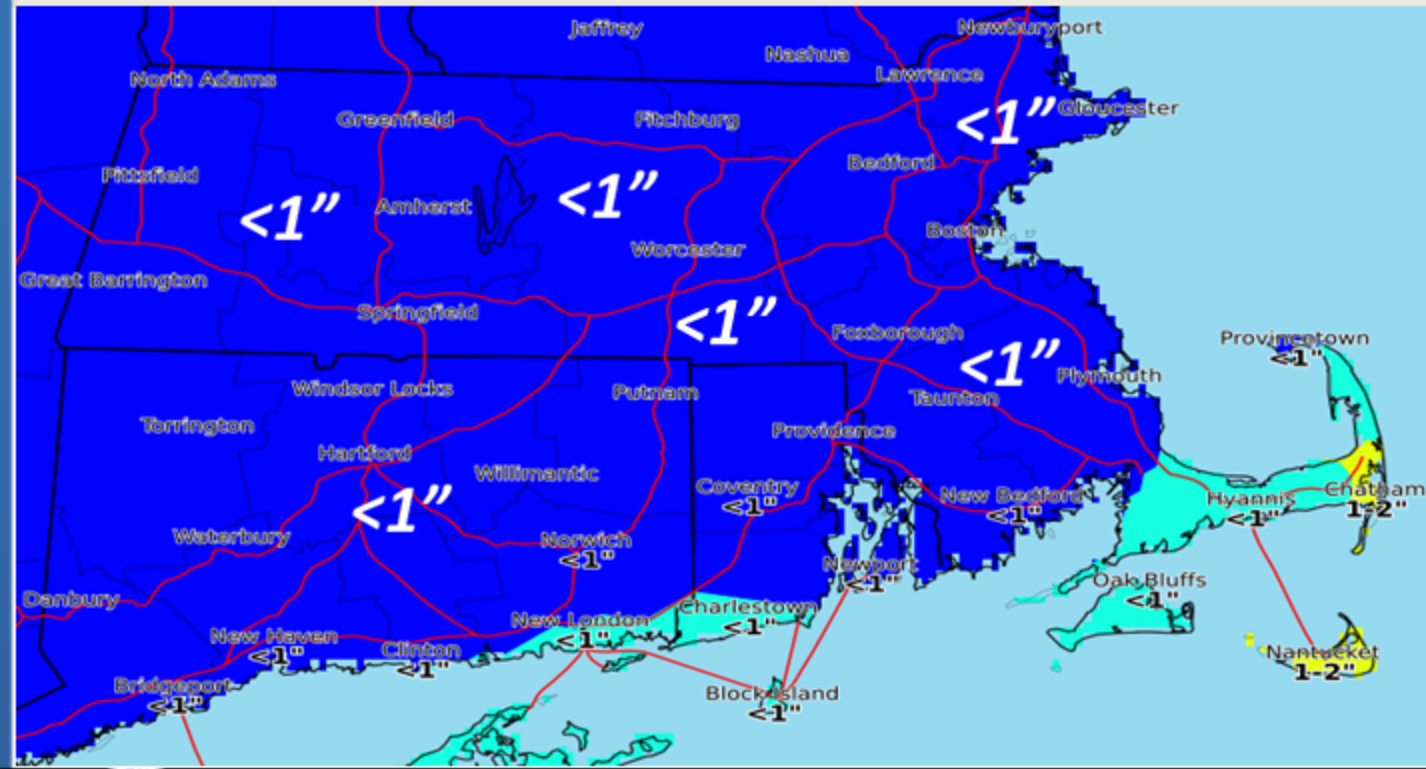
Winter Weather Headlines

Social Media Post Day Before

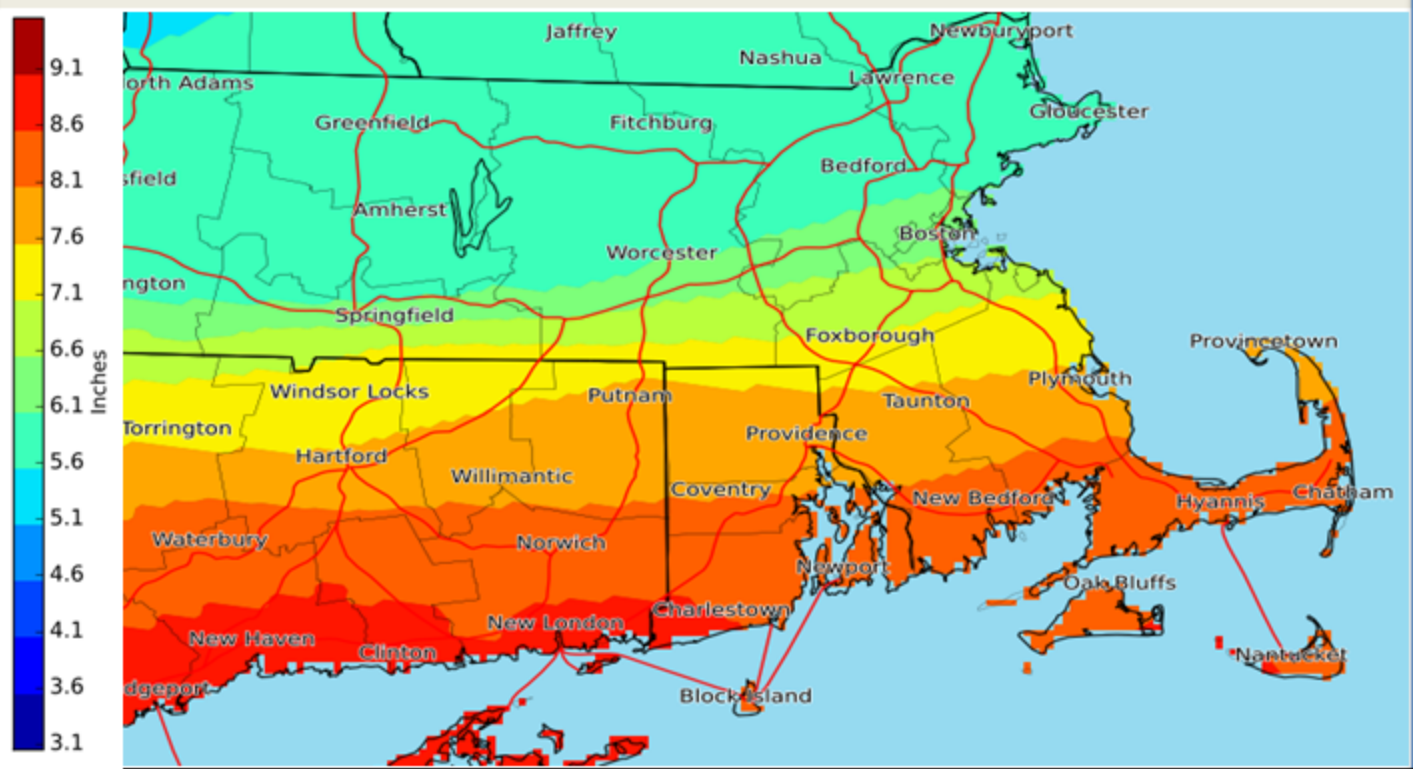
Most Likely Scenario



If Storm Tracks Farther Offshore & Changeover To Snow Is Slower



If Storm Tracks Closer To The Coast & Changeover Is Quicker (Unlikely)



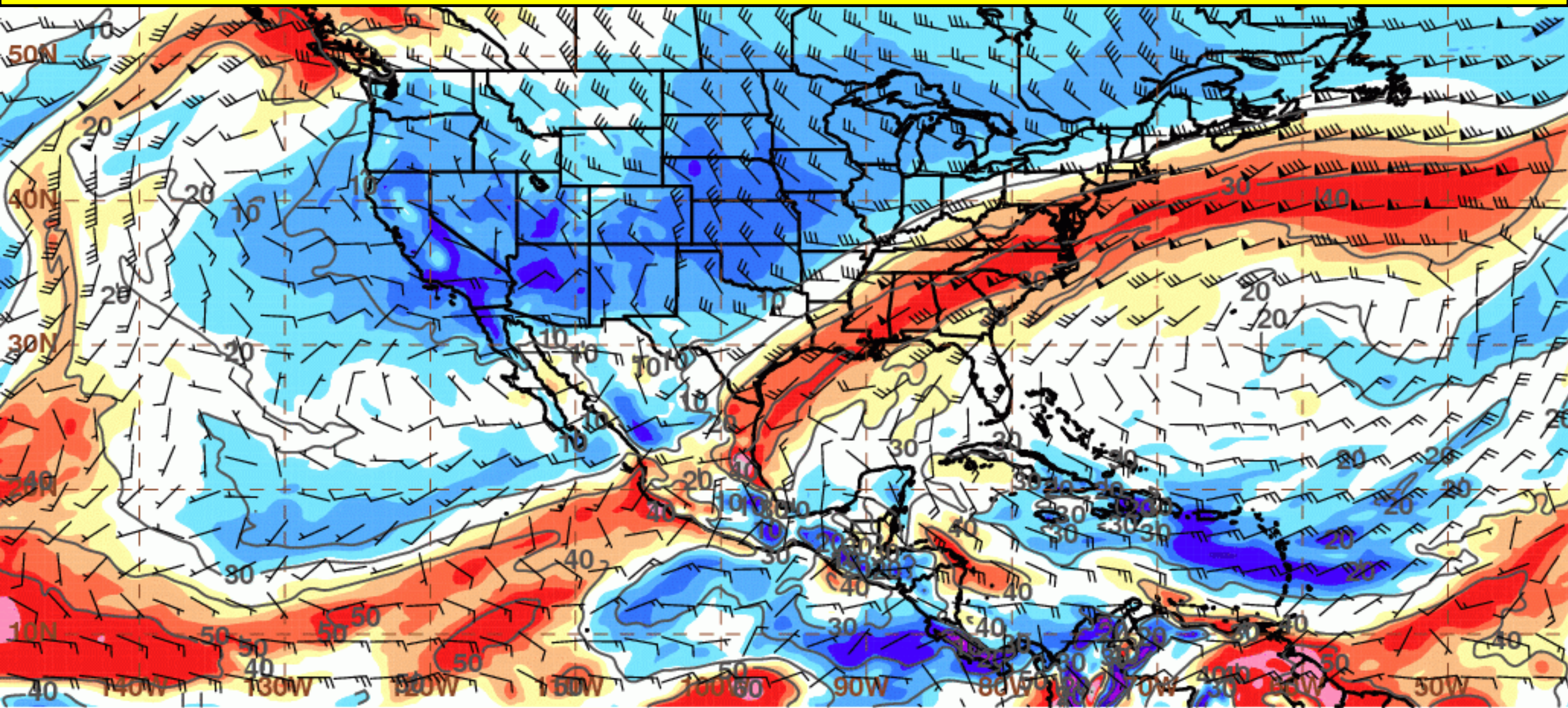
Website: www.weather.gov/boston

Twitter: [@NWSBoston](https://twitter.com/NWSBoston)

Facebook: <http://www.facebook.com/NWSBoston>

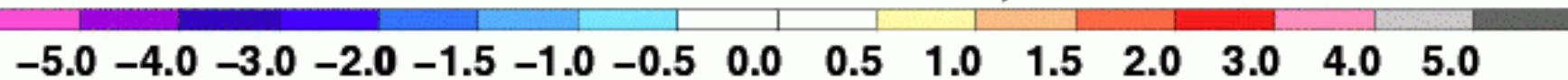


- **700 mb Winds & Std. Anomaly PW (image) - GFS-based analysis images for 12Z 5 March 2015**
- **Strong Frontogenesis Over Southern New England Collocated with Subtropical Moisture Plume**



**Image – Courtesy
of Lance Bosart**

150305/1200F000 Std. Anom of PW; 700 hPa Wind



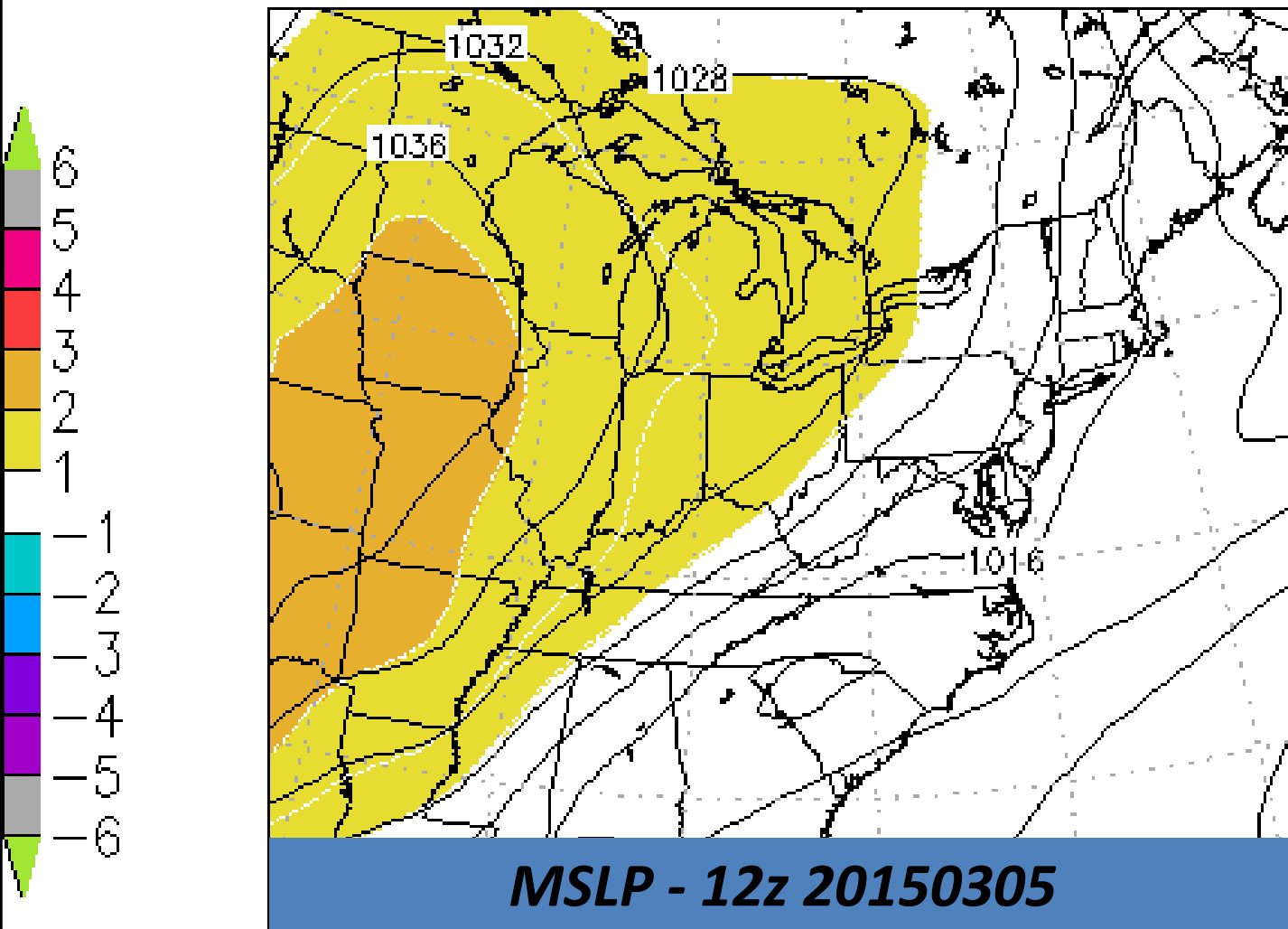
Website: www.weather.gov/boston

Twitter: [@NWSBoston](https://twitter.com/NWSBoston)

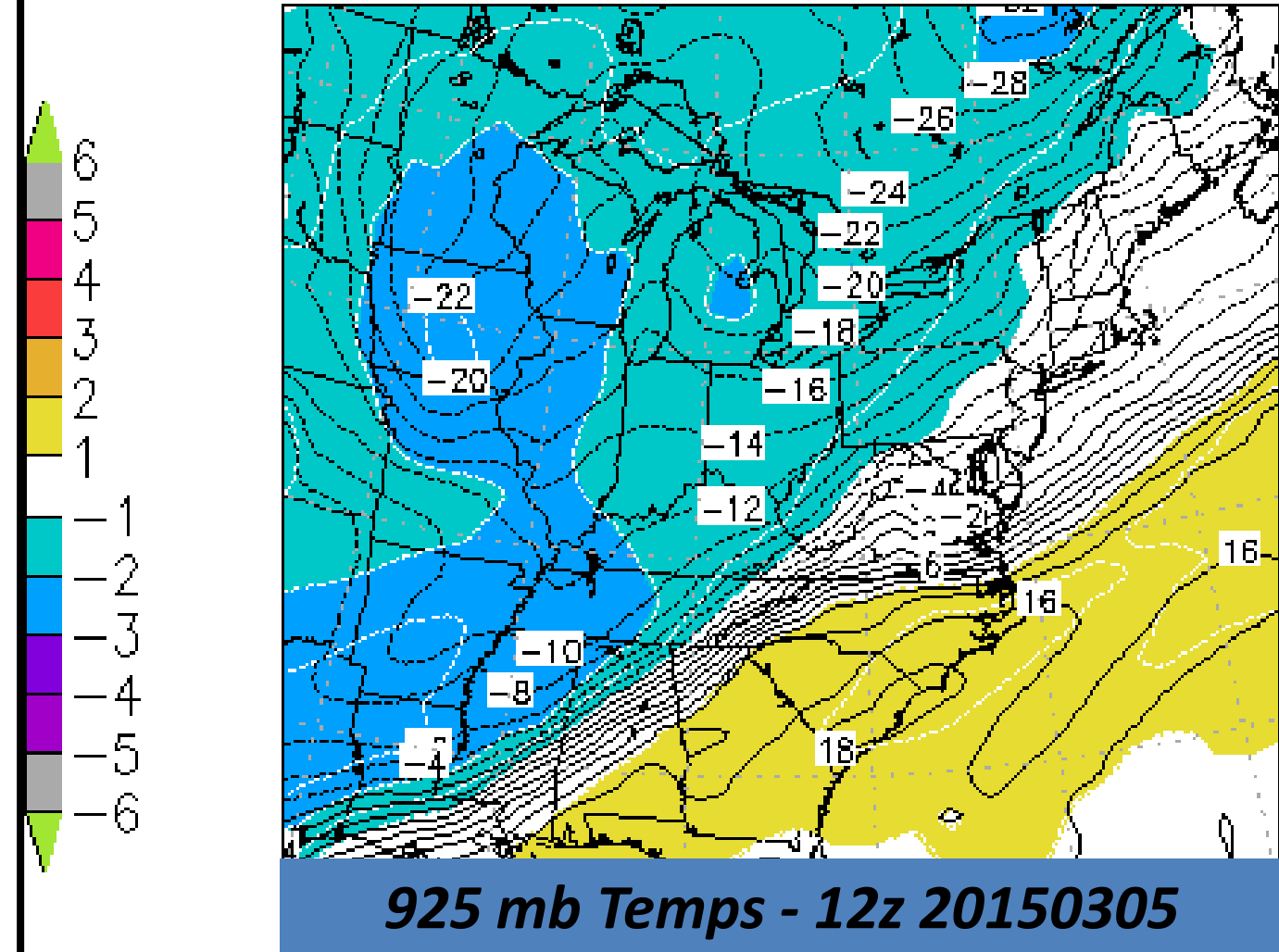
Facebook: <http://www.facebook.com/NWSBoston>



b. GEF5 Consensus Forecast (contour) & Normalized Anomaly shaded)



b. GEF5 Consensus Forecast (contour) & Normalized Anomaly shaded)



- *Arctic High Pressure over the Plains with frontal boundary well south of New England*
- *Cold/dry airmass advecting southeast into New England*
- *Anafrontal – most if not all precipitation falling in the post frontal airmass*

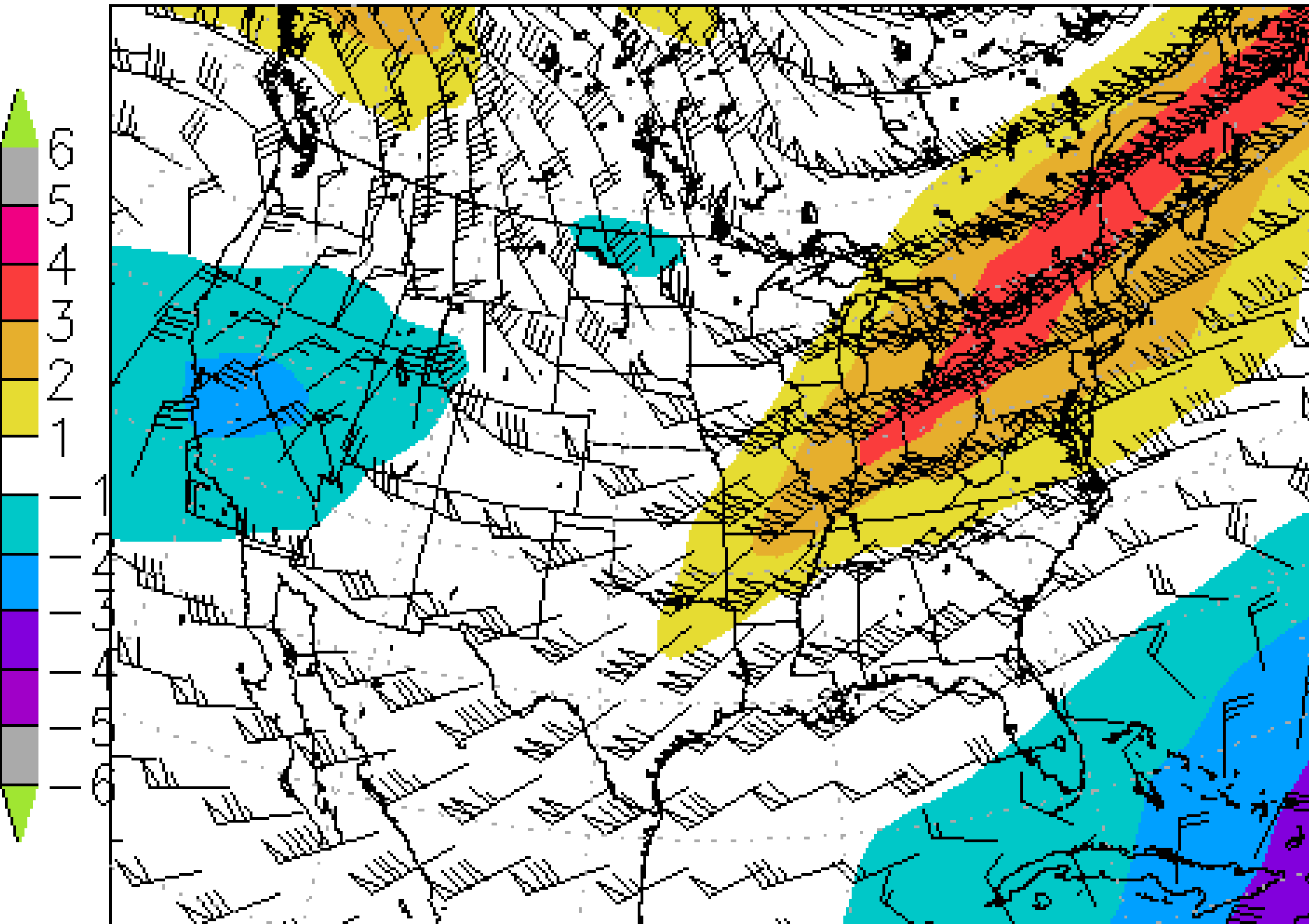
Website: www.weather.gov/boston

Twitter: [@NWSBoston](https://twitter.com/NWSBoston)

Facebook: <http://www.facebook.com/NWSBoston>



a. 12Z05MAR2015 GEFS Valid 12Z05MAR2015 (Thu)
250hPa ugrdprs



- *Anomalous 250 mb jet (+3 Std. deviation above climatology)*
- *Right Rear Quad of upper jet eventually overspreads Southern New England during the day, enhancing upward vertical motion*

b. 12Z05MAR2015 GEFS Valid 12Z05MAR2015 (Thu)
250hPa vgrdprs



Website: www.weather.gov/boston

Twitter: [@NWSBoston](https://twitter.com/NWSBoston)

Facebook: <http://www.facebook.com/NWSBoston>



Take Aways/Lessons Learned

- ***Very difficult forecast given p-type issues on the front end (rain to snow) along with duration & intensity of northern snow shield***
- ***Sharp northern cutoff of snow shield was handled very well by forecasters***
- ***Models struggled with northward extent of strong forcing (700 mb Frontogenesis & QG forcing from upper level jet streak) & southward extent/depth of low level dry arctic airmass with dew pts in the single digits***
- ***90% percentile Snow Amounts did offer some value especially along the South Coast but did not capture the sharp south to north gradient.***



Website: www.weather.gov/boston

Twitter: [@NWSBoston](https://twitter.com/NWSBoston)

Facebook: <http://www.facebook.com/NWSBoston>

