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

Bristol, RI

Website: www.weather.gov/boston    Twitter: @NWSBoston
Facebook: http://www.facebook.com/NWSBoston
• Very sharp south to north cutoff in snowfall

• Heavy snow tracked farther north than expected
• 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

-5.0 -4.0 -3.0 -2.0 -1.5 -1.0 -0.5 0.0 0.5 1.0 1.5 2.0 3.0 4.0 5.0

Website: www.weather.gov/boston        Twitter: @NWSBoston
Facebook: http://www.facebook.com/NWSBoston
- 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
• 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
• 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.