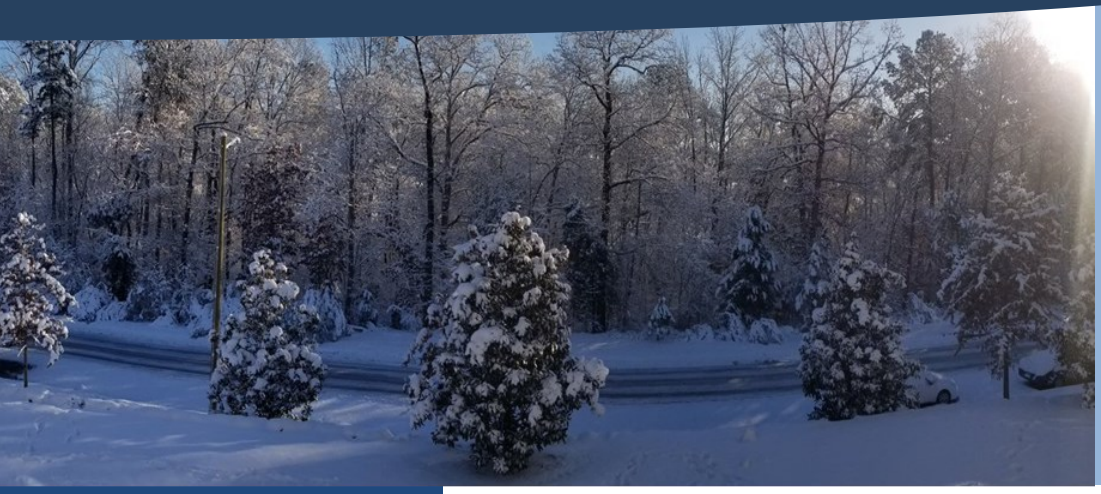
National Weather Service Raleigh News



Snow in Brier Creek

Photo Credit: Jackie E.

Downtown Raleigh under a blanket of white on January 17th, 2018.

Photo credit:

Francis Tubolino

WEATHER READY NATION

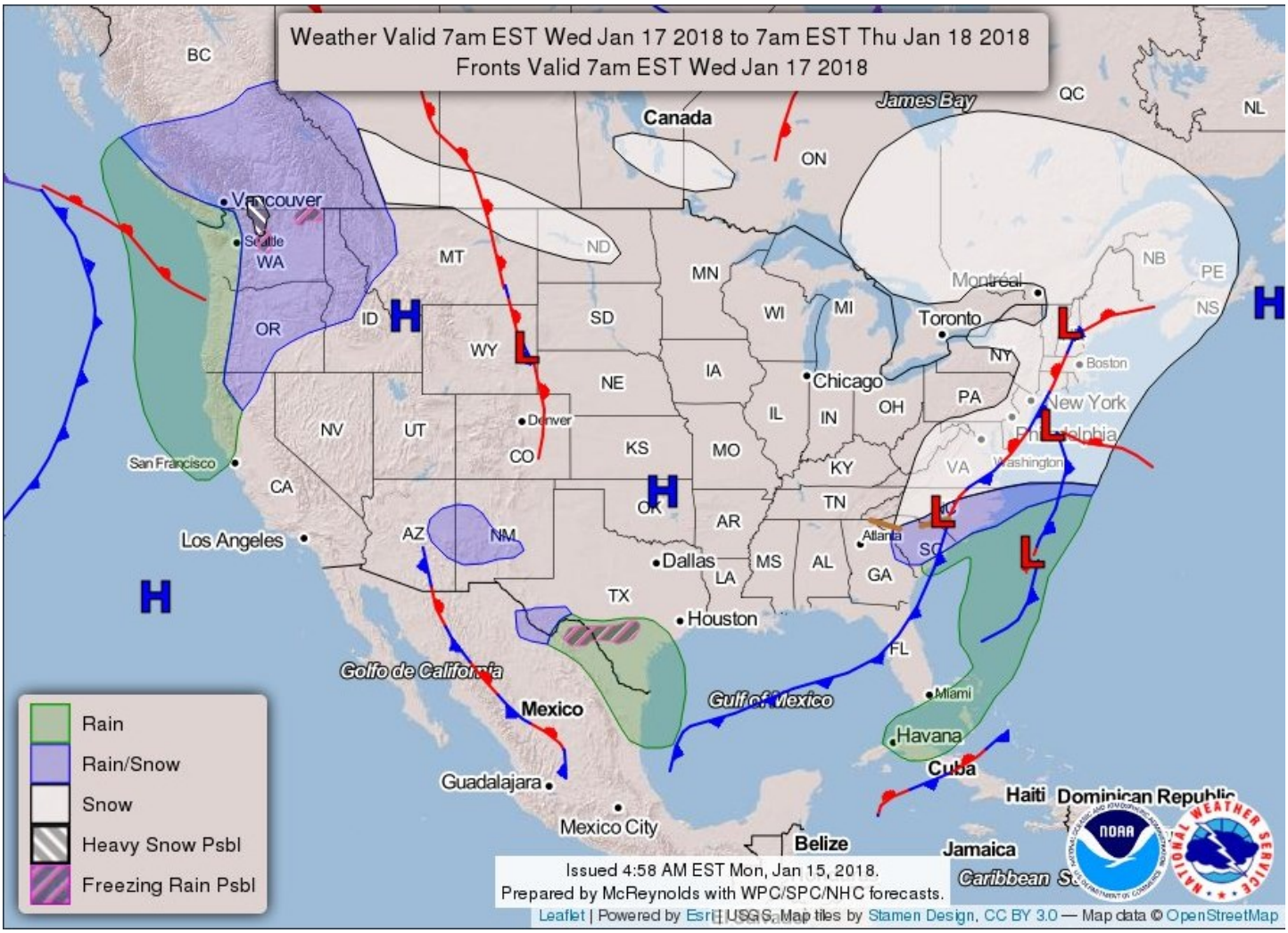
By: James Morrow

A closer look at the January 17th Snow Event

An already active winter season across portions of central North Carolina became a bit more interesting by mid January, as a winter storm set its sights on the Mid Atlantic. What initially looked like a quick moving and low impact clipper-type snow event became much more complex early on January 17th, as a disturbance along a frontal boundary strengthened over eastern portions of Tennessee, helping to slow the boundary, and assisting in its efficiency to entrain cold arctic air. This allowed for some impressive snowfall amounts to fall across central North Carolina, especially across the northern/northwestern Piedmont counties which saw anywhere from 6 to 12 inches of snow!

The Science

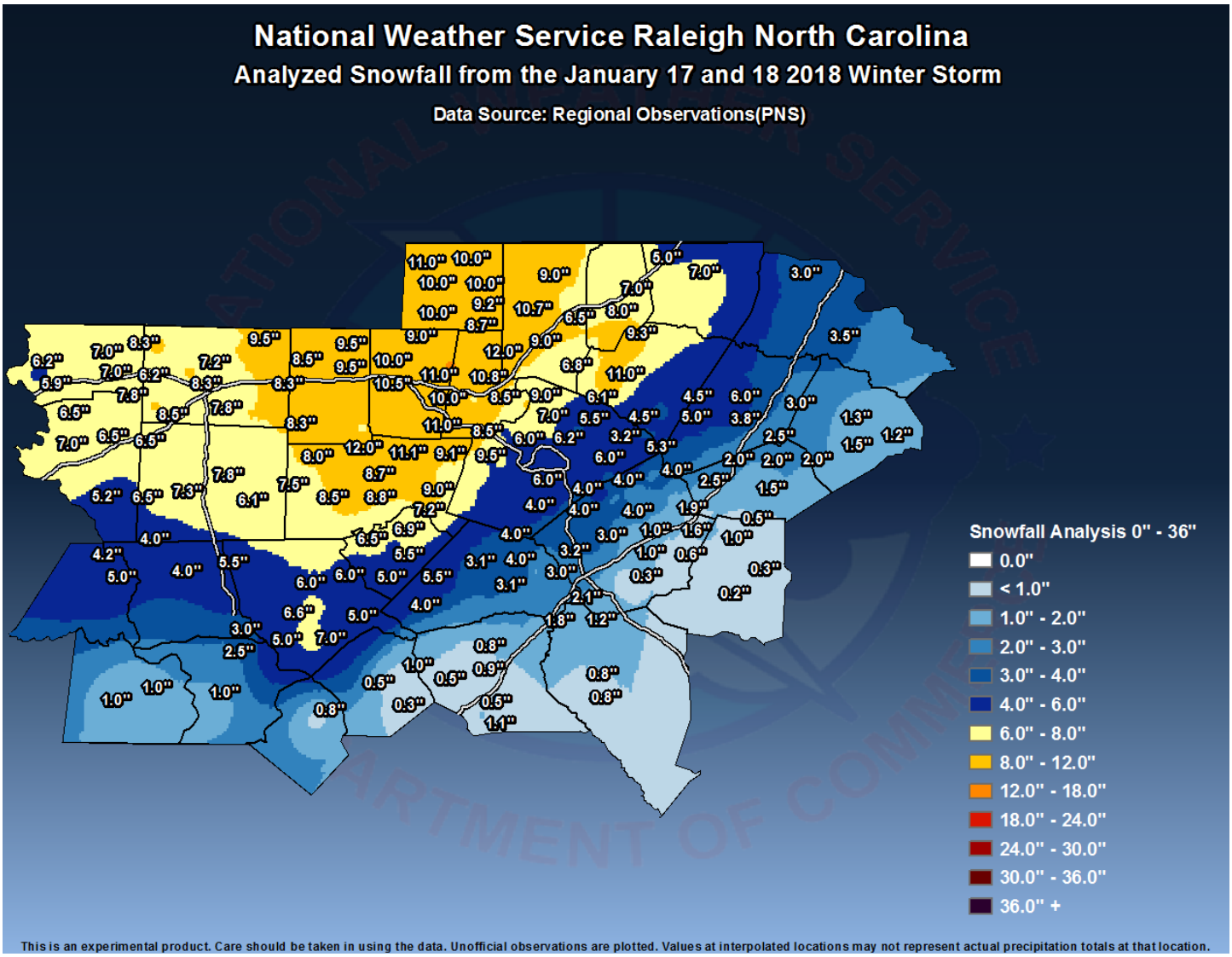
Prior to the event, a cold air mass driven by an arctic area of high pressure moved offshore into the Atlantic, allowing for a brief warm up prior to the storm. At the same time, an arctic cold front was speeding across portions of the upper Midwest into portions of the Tennessee Valley, overspreading snow and frigid temperatures across much of the northernmost half of the country. This boundary progressed east of the Appalachians late Tuesday night into early Wednesday morning and moved very slowly eastward across the state on Wednesday and Wednesday evening. Thanks in a large part to a pocket of drier air at the surface, the precipitation struggled to make it to the ground initially. In addition,



above freezing surface temperatures at the onset resulted in a rain/snow mix. It wasn't until stronger precipitation rates arrived after sunrise that many areas in central North Carolina saw their first flakes, with accumulations additionally delayed until snowfall rates became significant enough to overcome warm ground temperatures. In all, snowfall reports submitted via Twitter, Facebook, e-mail, and phone began streaming in by mid morning, with much of the Triad reporting their first inch of snow accumulation by 10am. Areas around the Research Triangle of North Carolina were soon to follow by mid afternoon, with snow (although less of it) even impacting portions of the Coastal Plain by nightfall.

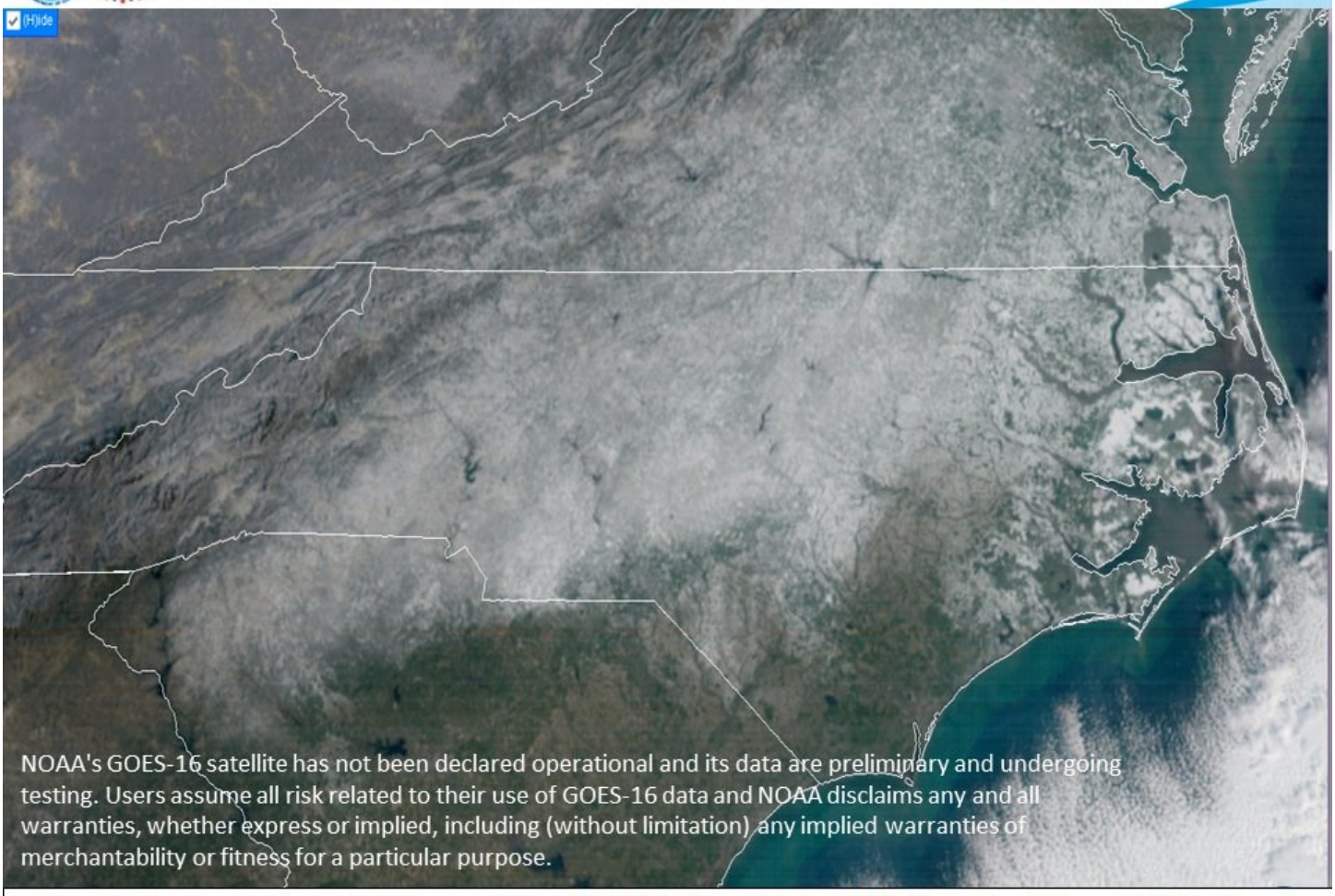
The Impacts

In total, a range of 2 to 12 inches of snow blanketed areas west of Interstate 95, with the highest snowfall totals (8" to 12") reported across the northern/northwestern Piedmont counties of North Carolina (see Final Snowfall Accumulation Map). The highest totals of the event were found within the communities of Bahama (Durham County) and SSE of Teer (Chatham County), where reports of a foot of snowfall were common (See All Snowfall Reports). This amount of snow along with sub-freezing temperatures led to hazardous travel conditions for several rush hour cycles, along with numerous school closures across the state for several consecutive days. Black ice formation was also



a concern as snow melt would re-freeze during the overnight hours. For most, however, a "winter wonderland" experience was common, as sunny conditions and calm winds persisted most of the following day, allowing several inches of snow to remain on tree branches and sledding hills for all to enjoy. The blanket of snow was also well showcased on GOES-16 natural color RGB satellite imagery for days to follow (Image below).

The forecasters here at the National Weather Service in Raleigh would like to thank all of our trained spotters, amateur radio volunteers, CoCoRAHS observers, partners, and members of the general public for their assistance during this and every event. It is through your ground truth reports and the sharing of our message that we are able to fulfill our mission and continue to build a Weather Ready Nation. For additional information on how to prepare for future winter weather events, please visit the NWS Winter Safety page.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