

Good evening Mappers,

It appears as though an impressive storm system will affect the northeastern U.S. on Christmas Eve. While strong primary low pressure is expected to move northeastward through the Great Lakes, strong pressure falls should occur over the Mid Atlantic and Northeast in conjunction with an approaching strong short wave trough and associated 160+ knot jet. The result would be impressive moist inflow into the northeast on Christmas Eve with the potential for very heavy rainfall. Current model QPFs range anywhere between 2 and 4 inches in portions of ME and NH, with localized amounts of up to 4.5 inches progged by the 12z/20 ECMWF in portions of the White Mountains (NH) aided by strong southeasterly upslope flow.

Based on current model progs, it looks like we'll have a chance to break the all-time December precipitable water (PWAT) record here at Gray, ME which is 1.39 inches. Records here at Gray (previously Portland) go back to 1948. The 12z/20 ECMWF is progging PWAT values approaching 1.70" for a time Wed night, with the GFS a more "paltry" 1.5". It'll be interesting to see how this shakes out. It's not very often (if ever) we work a flood/flash flood event here in Gray on the 24th and 25th of December but it could happen since much of the rainfall is expected to occur over a relatively short period of time.

I have attached two figures. The first is the NWS western region ensemble situational awareness table (percentiles) based on the 12z/20 NAEFS forecast vs climo for the northeast U.S domain. You'll note that most element percentiles are maxed out Christmas Eve into early Christmas Day.

The second figure is the Gray, ME PWAT climatology courtesy of the experimental SPC sounding climatology page. I've set the PWAT lower bound to 1.30" to show that there has only been one instance that the 1.30" mark has been observed here in December. Sounding locations further south like Chatham, MA and Long Island, NY have Dec PWAT records between 1.5" and 1.7" I believe.

I guess the Grinch wins this year (for us snow lovers anyway).

Happy Holidays,

Mike
WFO Gray, ME