Weekly Report

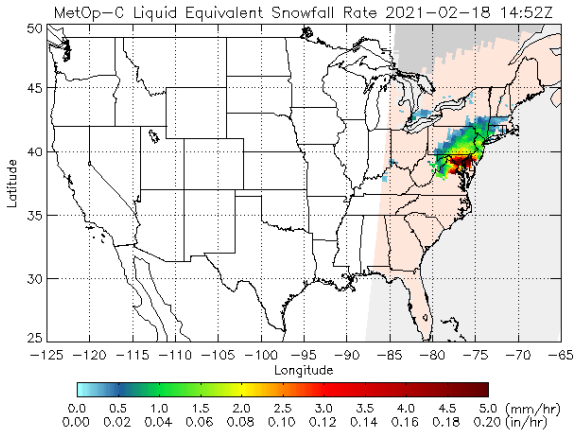
SCSB/CISESS
Cooperative Research Program Division (CoRP)
STAR/NESDIS
National Oceanic and Atmospheric Administration (NOAA)

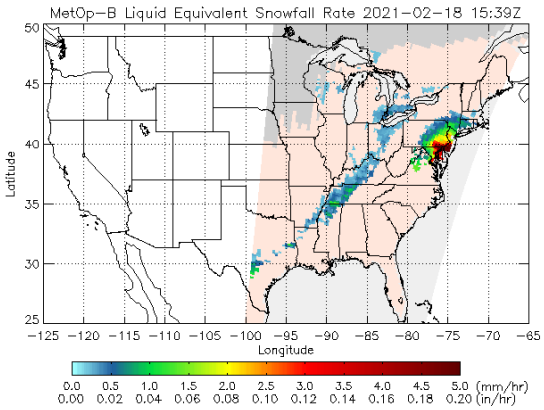
Submitted by: Ralph Ferraro
Prepared by: Ralph Ferraro
Date of Submission: 2/19/2021

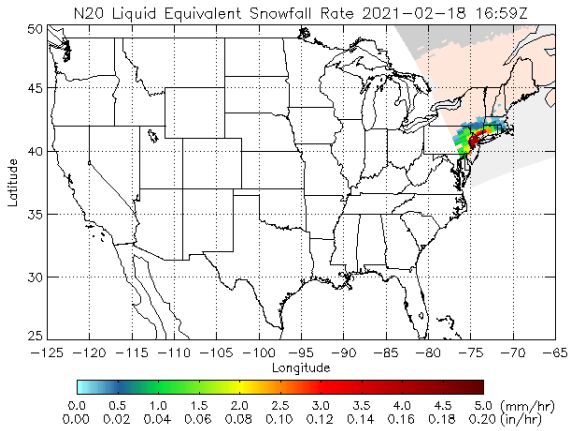
Products and Applications

Snowfall Rate (SFR) Product Captures snow/sleet event: A sequence of SFR products along the mid-Atlantic and east coast depict intense snowfall rates associated with a storm system that impacted the region on February 18 (see figure below). The enterprise SFR algorithm, applied to all available LEO microwave sensors, indicated water equivalent rates of nearly 0.20 in/hr, which translates into snow fall rates in excess of 2 inches/hr. Embedded in this region of heavy snow were areas of ice pellets. The algorithm cannot easily detect ice pellets, as these are generally caused by a shallow layer of warm air below the snow layer, which is the primary region that the algorithm targets. Nonetheless, the water equivalent would represent the magnitude of the ice pellets. The full sequence of retrievals can be found at http://cics.umd.edu/sfr/ and on the JSTAR page (S-NPP and N-20 only) at https://www.star.nesdis.noaa.gov/jpss/EDRs/index.php.

(POC: R. Ferraro/H. Meng, Ralph.R.Ferraro@noaa, Funding: PDRA, JSTAR, JPSS PGRR)






N20 Liquid Equivalent Snowfall Rate 2021-02-18 16:59Z
Latitude
50
45
40
35
30
25
-125 -120 -115 -110 -105 -100 -95 -90 -85 -80 -75 -70 -65
Longitude
0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 (mm/hr)
0.00 0.02 0.04 0.06 0.08 0.10 0.12 0.14 0.16 0.18 0.20 (in/hr)