

Responses to Referee 2 Comments for ESSD-2025-162: Winter Precipitation Measurements in New England:  
Results from the Global Precipitation Measurement Ground Validation Campaign in Connecticut

**Referee Comments 2 (RC2):**

General comments:

This submission from B. Filipiak, D. B. Wolff, A. Spaulding, et al. summarizes a field campaign over 3 winter seasons at the University of Connecticut. This project took place from 2021-2024 and deployed several instruments to two sites. This campaign is motivated by the need for validation of remotely-sensed measurements as part of the Global Precipitation Measurement Ground Validation program. The campaign collected data during 117 distinct precipitation events over the 3 winter seasons and this manuscript illustrates how a Nor'easter on February 28, 2023 can be analyzed using this large dataset. Explanations of decision-making for instrument location and caveats with the data quality are made clear.

All DOIs in the Data Availability statement lead to associated links on Earthdata with clear user guides. However, I'm unable to download any datasets which seems likely to be an issue with my login and/or the website and not within the authors' control. I've contacted Earthdata but haven't heard back after several days, so I can't offer a review of the dataset quality and thus rate it "fair."

Overall, the manuscript and field campaign are scientifically interesting and novel. I recommend this manuscript for acceptance to ESS-D with minor revisions, so long as the editor and other reviewers are able to access the datasets.

We thank the reviewer for their feedback, and we have addressed all their comments below. We apologize for the confusion on accessing the data through the EarthData portal. We have confirmed with our contact at NASA's GHRC that all datasets are publicly available. Please note that the lines mentioned in the responses refer to the clean copy of the revised manuscript.

Specific comments:

1. The text in multiple figures (Figures 14 onward) could be enlarged.
  1. We have made changes to these figures, including increasing the font size, in order to improve their clarity. Please see the new figures on lines 456 (Fig 14), 506 (Fig 15), 563 (Fig 16), 609 (Fig 17) or below.

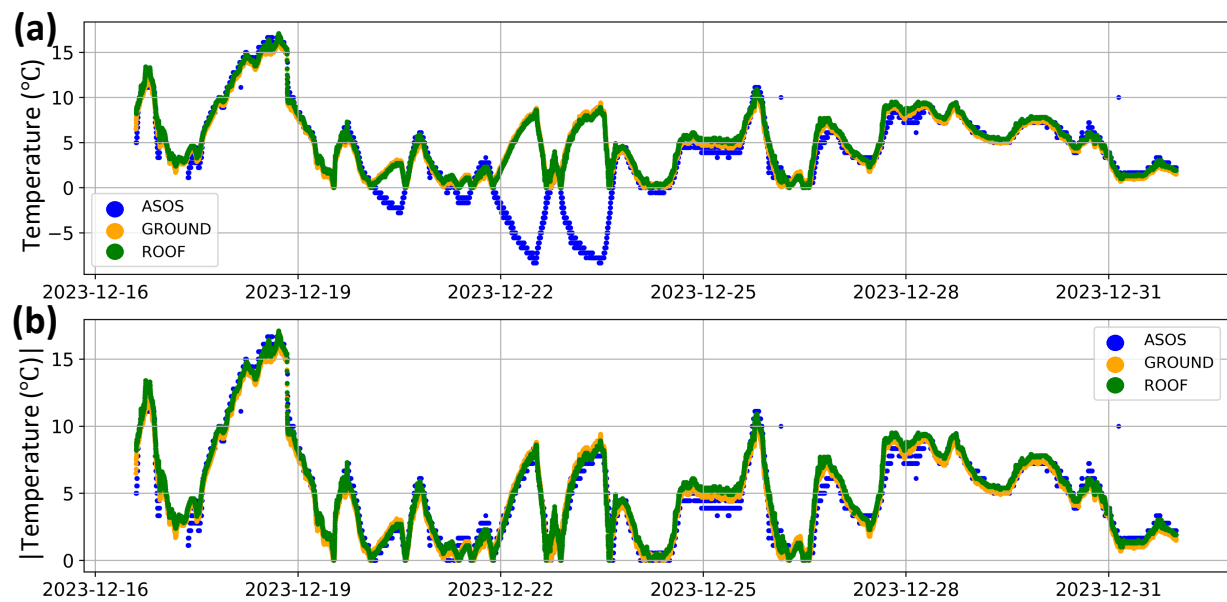


Figure 14

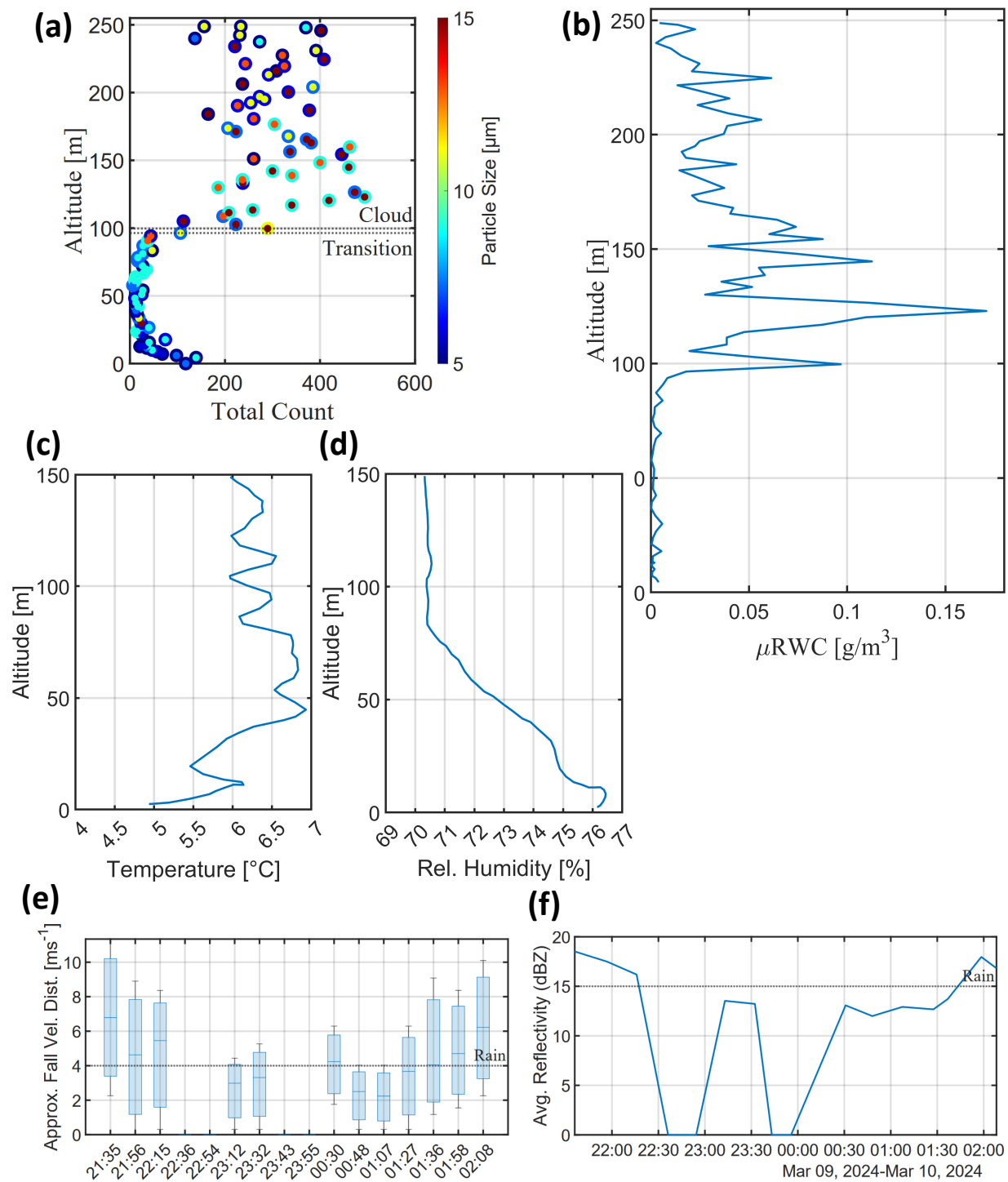


Figure 15

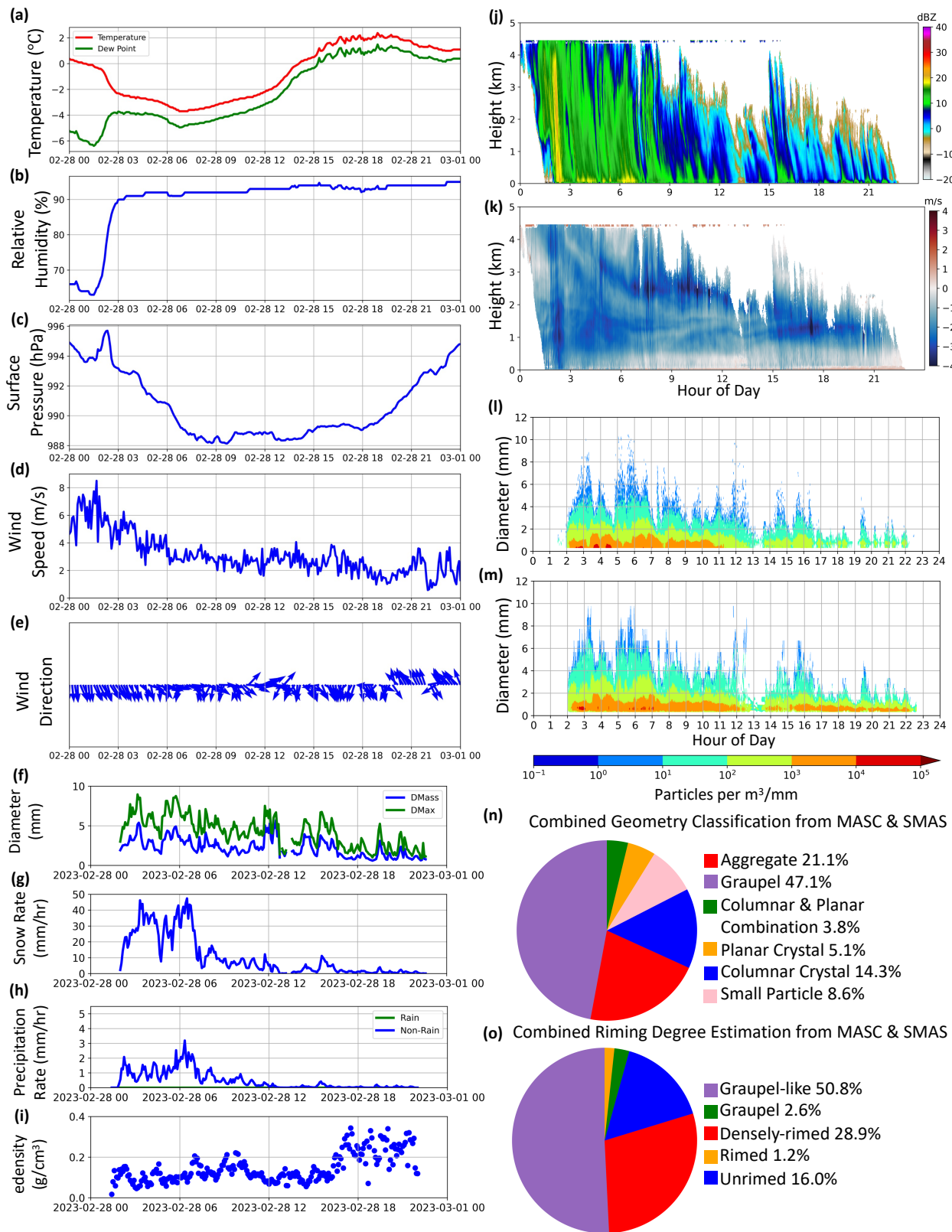


Figure 16



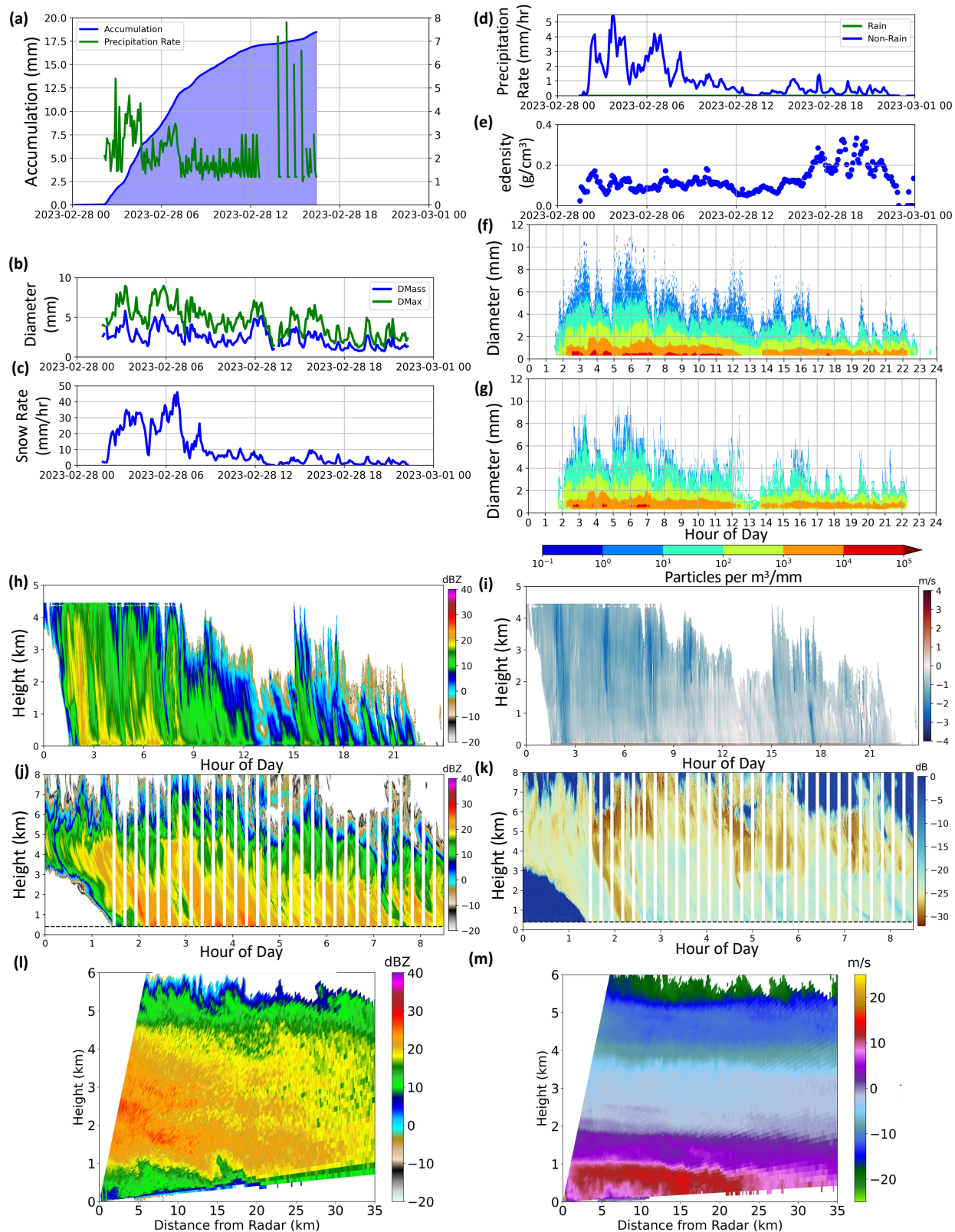


Figure 17

2. L222: “first two size bin” is this wording correct? Maybe I’m misunderstanding what’s being stated here.

1. While this wording is correct, we see that it was slightly confusing. We have updated the wording to improve the clarity. Please see lines 205-206 or the see specific text below as well.

“Due to sensitivity of laser device to the small particles with minimum detectable size 0.25 mm in equivalent diameter, the first two size bins in the PARSIVEL2 observations are always empty.”

3. Figure 7: misspelling in caption, “ACHIVE”

1. We have made this change to the figure caption on line 263. See the text below as well.

“Fig. 7. Deployment of the ACHIEVE trailer with the W-Band Radar on the roof during 2022-2023 at the D3R site.”

4. Table 1: In caption, “the superscript D in the 2022-2023 column indicates the instrument was only at the GAIL site” should be the D3R site.

1. We have made this change to the table caption on lines 376-379. See the text below as well.

“Table 1. List of instruments deployed during the three winters of the NASA GPM GV field campaign at UConn. The \* in the 2022-2023 column indicates the instrument was deployed both at the GAIL and D3R sites; the superscript G in the 2022-2023 column indicates the instrument was only at the GAIL site; the superscript D in the 2022-2023 column indicates the instrument was only at the D3R site. The (x2) in the 2023-2024 column indicates there were two instruments deployed at the GAIL site.”

5. L583: For consistency, use “Between 0-9 UTC” instead of “Z”

1. We have made this change on line 593. See the text below as well.

“Between 0-9 UTC, the reflectivity peaks from the W-band (Fig. 17j) generally matched the MRR, even if they had differing intensities. Because the W-band transmitter was more powerful, it better highlighted higher cloud structures during the beginning of event, although the W-band signal attenuates more as precipitation rates increase.”

6. L 589: Delete “)” at the end of this line

1. We have made this change on line 599. See the text below as well.

“During the period of heaviest precipitation, pockets of larger LDR values (light blue shading) are most likely associated with larger aggregates and rimed snow particles.”