

Second response to Referee #2 comments:

- Line 11 (and all other occurrences): I'd suggest to replace "Copernicus GLO-90" with "Copernicus GLO-90 DEM", and after the first mention by "GLO-90 DEM" to help with readability

Response: changed as suggested.

- Line 77, 310: You should add mention that this refers to the WFMD retrieval algorithm and not the operational retrieval algorithm to avoid confusion. I would recommend replacing "TROPOMI retrieval algorithm" with "TROPOMI WFMD retrieval algorithm" everywhere in the manuscript

Response: changed as suggested.

- Line 161, 355: Replace km with km²

Response: changed as suggested.

- Line 380: It would be helpful to add a citation to this claim ([...] reanalyses are believed to be better than 1 hPa.)

Response: changed to read "...reanalyses are believed to be better than 1 hPa, though more work is needed to evaluate this." Apologies, but we were not able to find a recent, robust, and global study of uncertainties and errors in surface pressures from meteorological reanalyses.