Author's tracked changes for the updated version of:

Ref.: essd-2024-410
Title: **Global gridded NOx emissions using TROPOMI observations**
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Earth System Science Data
Type: Research article

Section 2.1.3

Removed:
For computing altitude gradients, we use the Global Multi-resolution Terrain Elevation Data (GMTED2010, Danielson and Gesch (2011)) with a 0.0625°×0.0625° resolution. Elevation data is re-gridded on the TROPOMI grid, before calculation of the corresponding gradient to derive a corrective "topography-wind" value that is detailed in Section 2.2.2.

Added:
For computing altitude gradients, we use the Global Multi-resolution Terrain Elevation Data (GMTED2010, Danielson and Gesch (2011)) in its 0.0625°×0.0625° resolution version provided by the TEMIS data portal (`https://temis.nl/data/gmted2010/`). This version is derived from the original higher-resolution GMTED product (available at 30, 15, and 7.5 arc-seconds) to conveniently match coarser spatial scales. Elevation data is re-gridded on the TROPOMI grid, before calculation of the corresponding gradient to derive a corrective "topography-wind" value that is detailed in Section 2.2.2.

Figure 6

The Figure has been updated because negative pixels were filtered out by mistake when generating the image. The new version does not fail on this point, and corresponds more to the corresponding Figure in the original version of the manuscript submitted in September 2024.

Section 4.2

Added:
Underestimations of the topography-wind term may also result from the use of a relatively coarse, postprocessed version of the topographic field, which smooths out finer-scale elevation gradients that would be better captured in the original higher-resolution GMTED data.

References

All references are now identified (DOI, ISBN, etc.). The same has been done in the Supplementary Materials of the article.