



Pros and Cons of using TROPOMI CO super observations in TM5-4dvar

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1 Objective and Motivation

2 Results

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- using gridded satellite data to reduce run time of the model
- how much gridding influences the results of the model
- spin up on global 6x4 resolution
- case study for CO emissions from Siberian wildfires in 2019
July-August with 1x1 zooming region

Satellite Observations

- using TROPOMI data sets for 2019
- high resolution (up to $7 \times 7 \text{ km}^2$)
- gridded model input in
 $0.25^\circ \times 0.25^\circ$, $0.5^\circ \times 0.5^\circ$, $1^\circ \times 1^\circ$, $2^\circ \times 2^\circ$, $3^\circ \times 2^\circ$, $6^\circ \times 4^\circ$



Image: ESA

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- M1qN3 optimizer

Results

Results - super observations, total mass

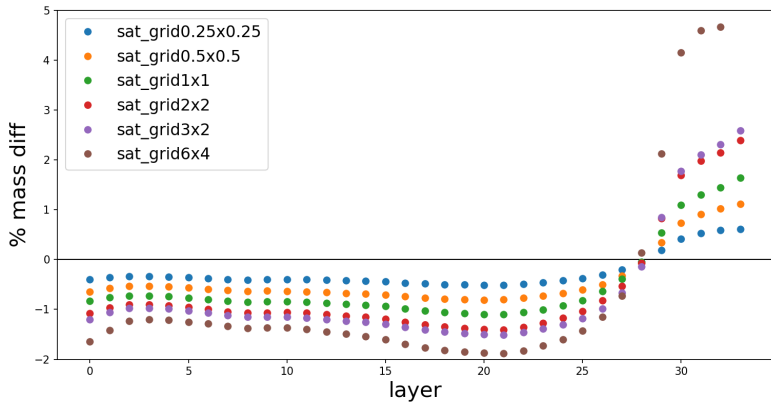


Figure 1: Caption

Results - start from TM5MP, total mass

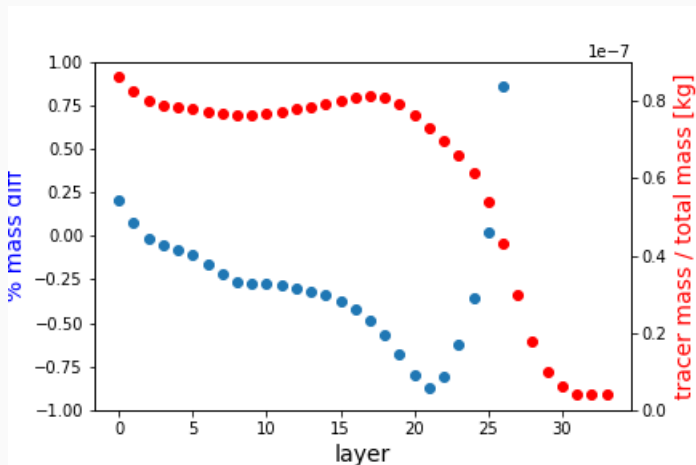


Figure 2: Caption