Global methane inversions using TROPOMI & GOSAT

Number of CH$_4$ observations (2019)

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Global TROPOMI inversion can be improved by more accurate retrieval and accounting correlations of model transport error.

GOSAT has 1.5x more DOFS than TROPOMI, regardless of 100x less observations.

- Biases in low-albedo regions;
- Challenging to estimate emissions over cloudy regions;
- Artifacts over SE China.

(Qu et al., ACPD, 2021)