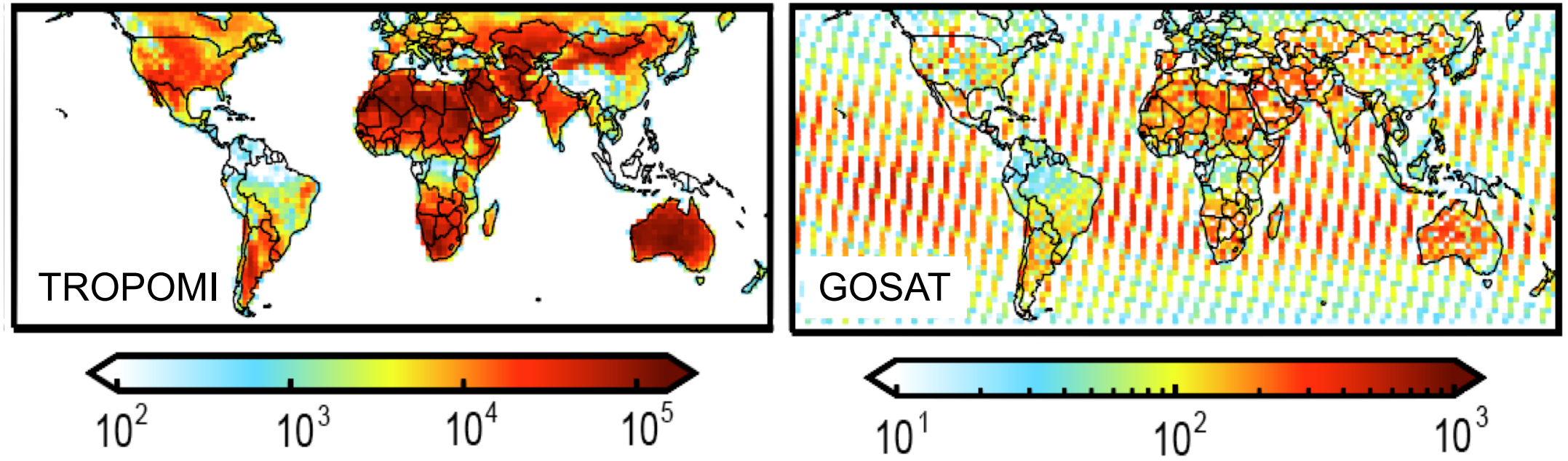
Global methane inversions using TROPOMI & GOSAT

Number of CH_4 observations (2019)



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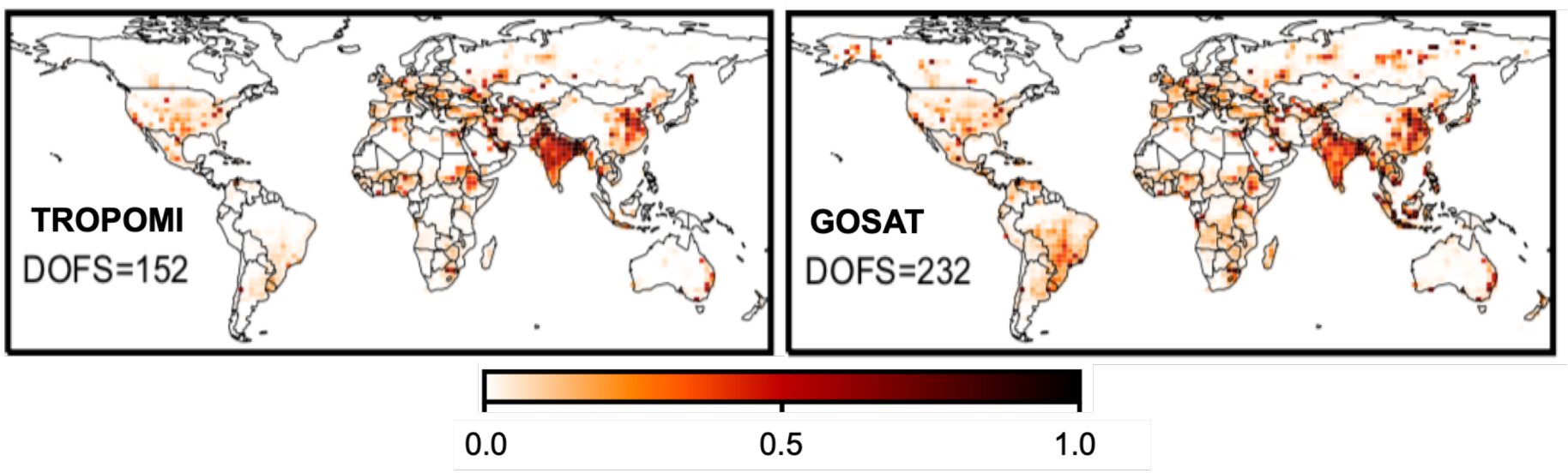
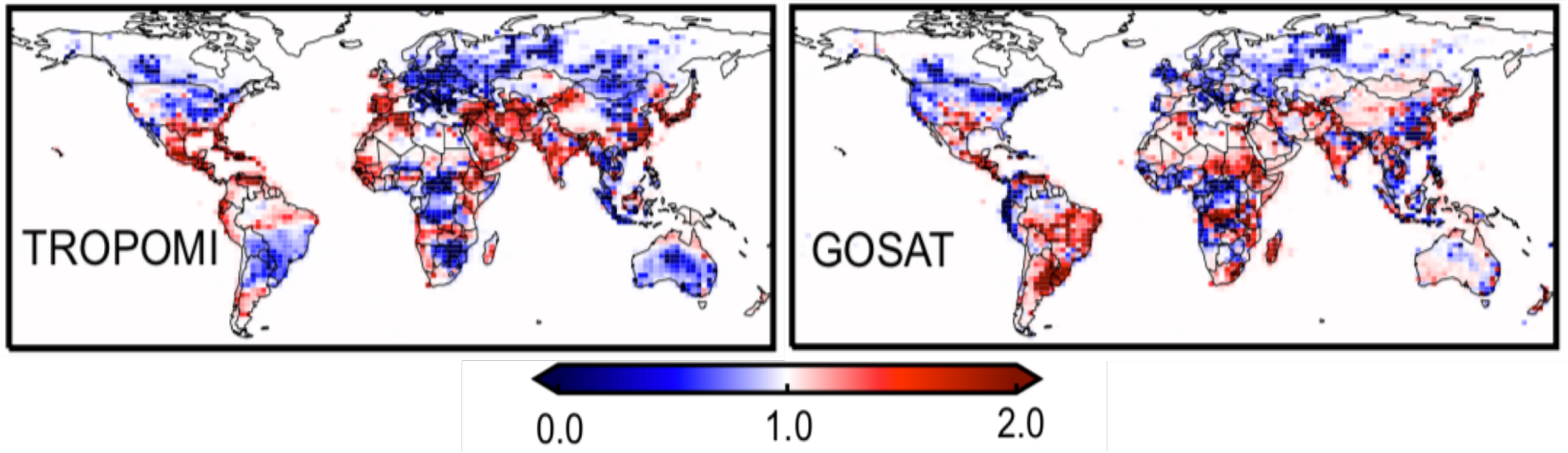
Global TROPOMI inversion can be improved by more accurate retrieval and accounting correlations of model transport error

Averaging kernel



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

Posterior / prior ratio



TROPOMI inversion

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

(*Qu et al.*, ACPD, 2021)