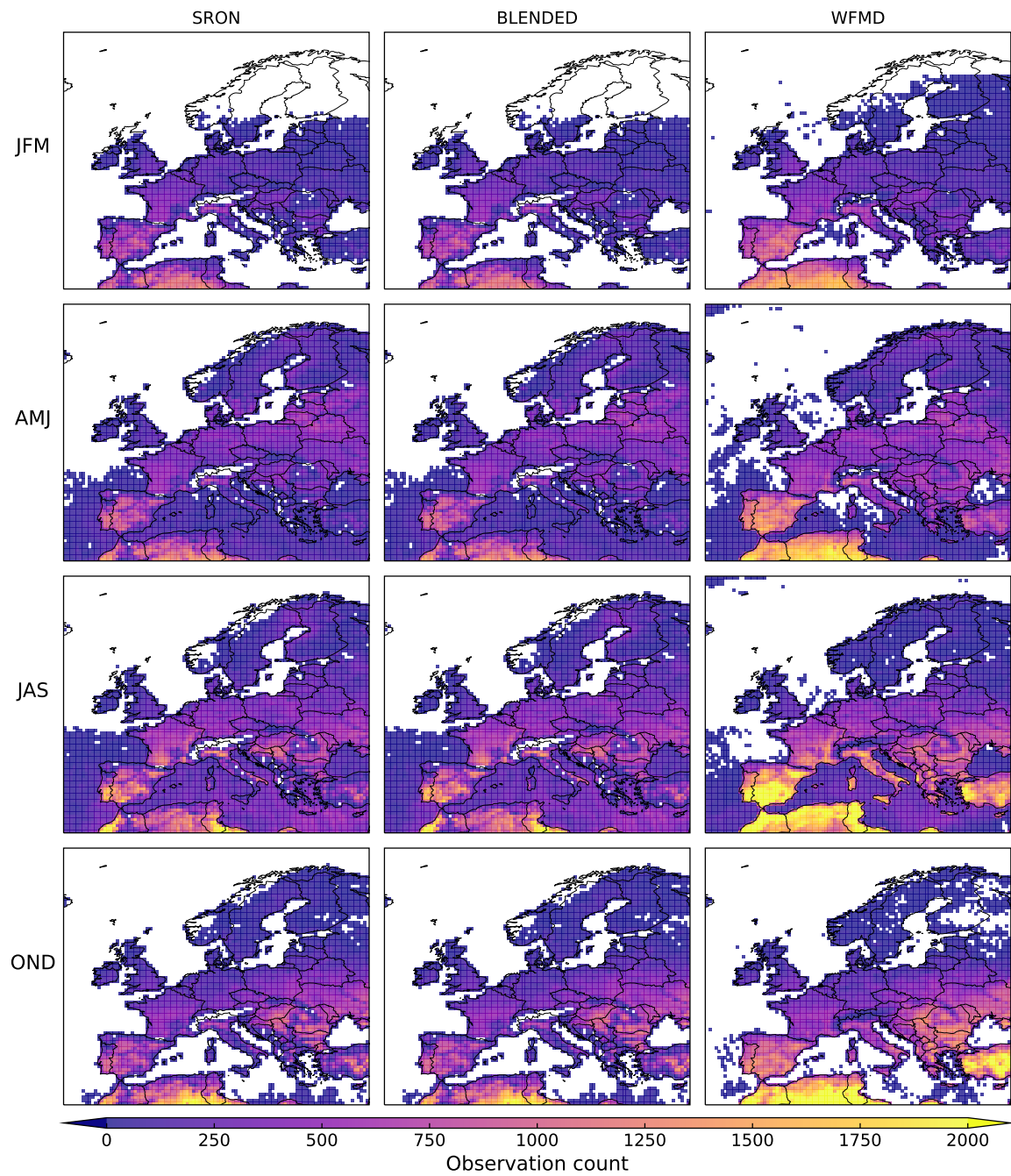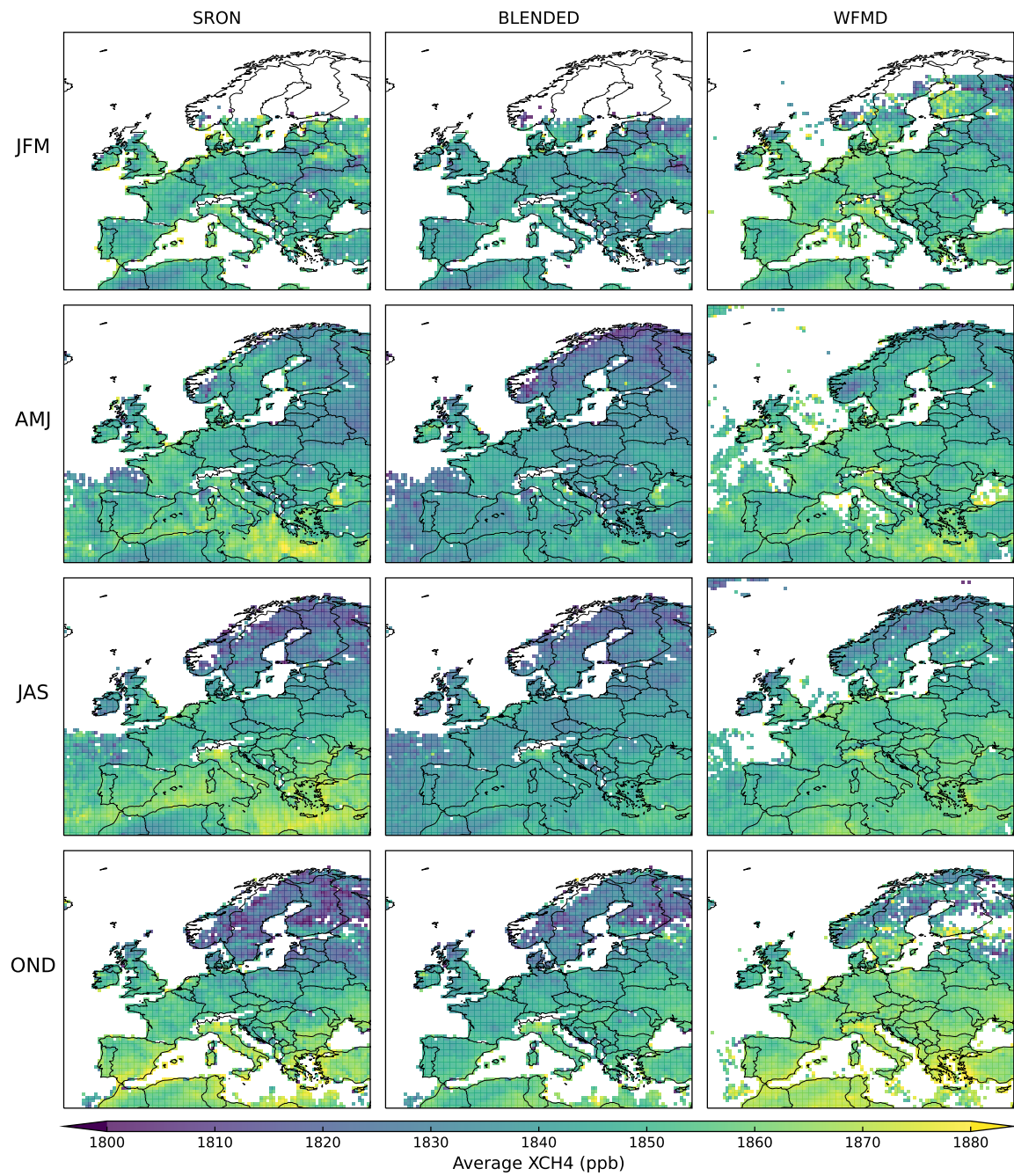# Supplement to "Can we obtain consistent estimates of the emissions in Europe from three different CH_4 TROPOMI products?" by Aurélien Sicsik-Paré *et al.*

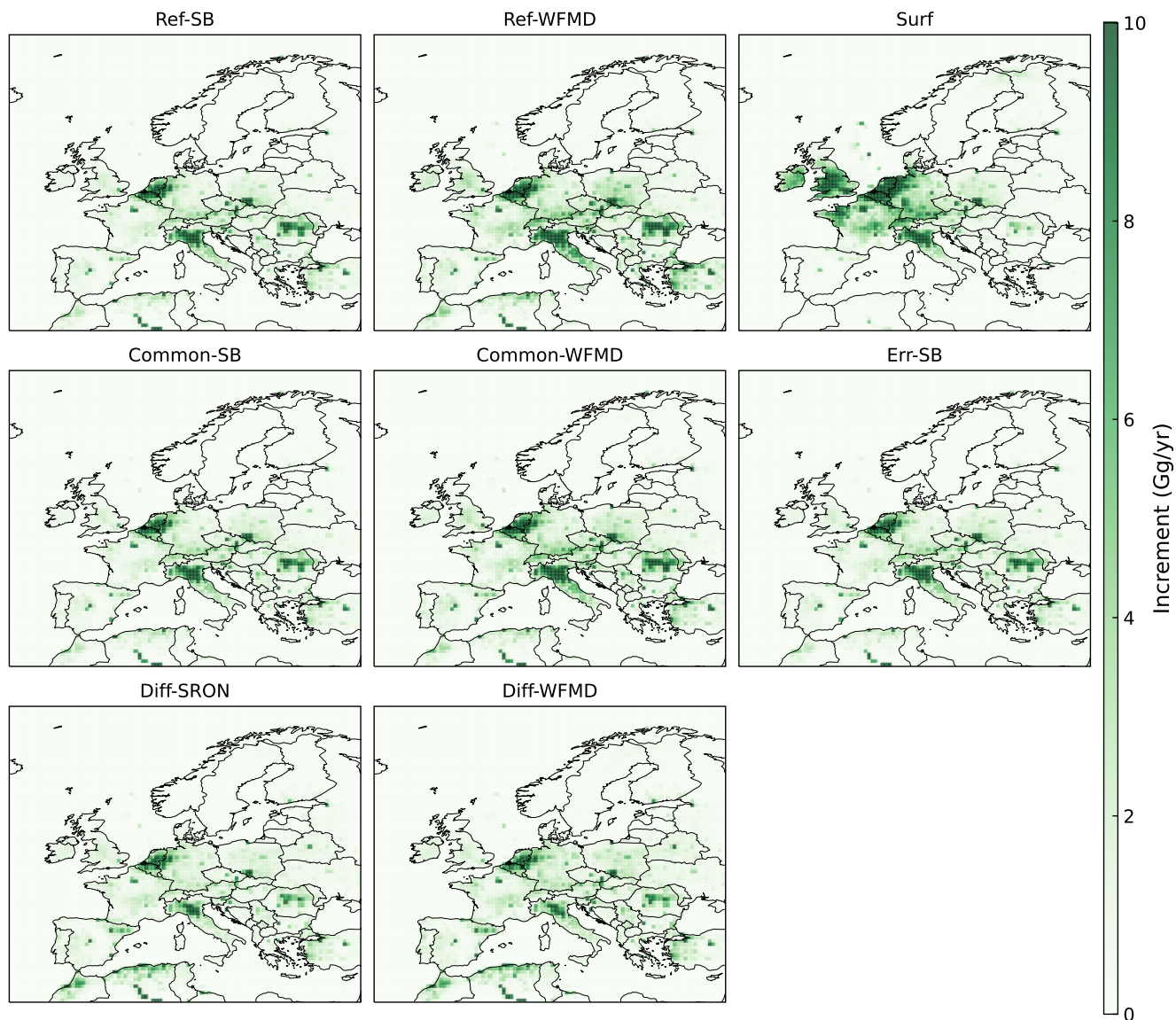| Country	Prior (Tg/yr)	Posterior SRON (Tg/yr)	BLENDED (Tg/yr)	WFMD (Tg/yr)	Surface (Tg/yr)
Germany	2.74	3.02 (+10%)	3.02 (+10%)	2.25 (-18%)	3.27 (+20%)
France	2.60	2.72 (+4%)	2.69 (+3%)	1.83 (-30%)	2.23 (-14%)
Poland	2.55	2.64 (+4%)	2.47 (-3%)	1.45 (-43%)	2.42 (-5%)
Italy	2.45	2.32 (-5%)	2.22 (-9%)	1.09 (-56%)	1.13 (-54%)
United Kingdom	2.03	2.24 (+10%)	2.20 (+8%)	1.78 (-12%)	1.70 (-16%)
Romania	1.58	1.38 (-13%)	1.27 (-19%)	0.45 (-72%)	1.27 (-20%)
Spain	1.56	1.52 (-3%)	1.34 (-14%)	0.89 (-43%)	1.49 (-4%)
Finland	1.05	1.00 (-5%)	1.07 (+1%)	0.98 (-7%)	0.82 (-22%)
Sweden	0.94	0.92 (-3%)	0.96 (+1%)	0.89 (-6%)	0.78 (-17%)
Belgium	0.74	0.78 (+5%)	0.80 (+9%)	0.47 (-37%)	0.80 (+9%)
Ireland	0.74	0.79 (+7%)	0.77 (+4%)	0.67 (-9%)	0.43 (-41%)
Netherlands	0.66	0.75 (+13%)	0.77 (+17%)	0.51 (-22%)	1.27 (+92%)
Norway	0.56	0.55 (-2%)	0.57 (+1%)	0.55 (-2%)	0.48 (-14%)
Czech Republic	0.50	0.55 (+10%)	0.50 (0%)	0.30 (-40%)	0.58 (+17%)
Austria	0.46	0.51 (+11%)	0.47 (+2%)	0.35 (-24%)	0.48 (+5%)

Table S1. Prior, posterior CH_4 emissions and the relative increments per country, for the 15 highest emitting countries and the four inversions performed in this study.

Figure S1. Seasonal maps of the spatial density of observations. The three columns correspond to the SRON, BLENDED and WFMD products, while the rows correspond to the seasons.
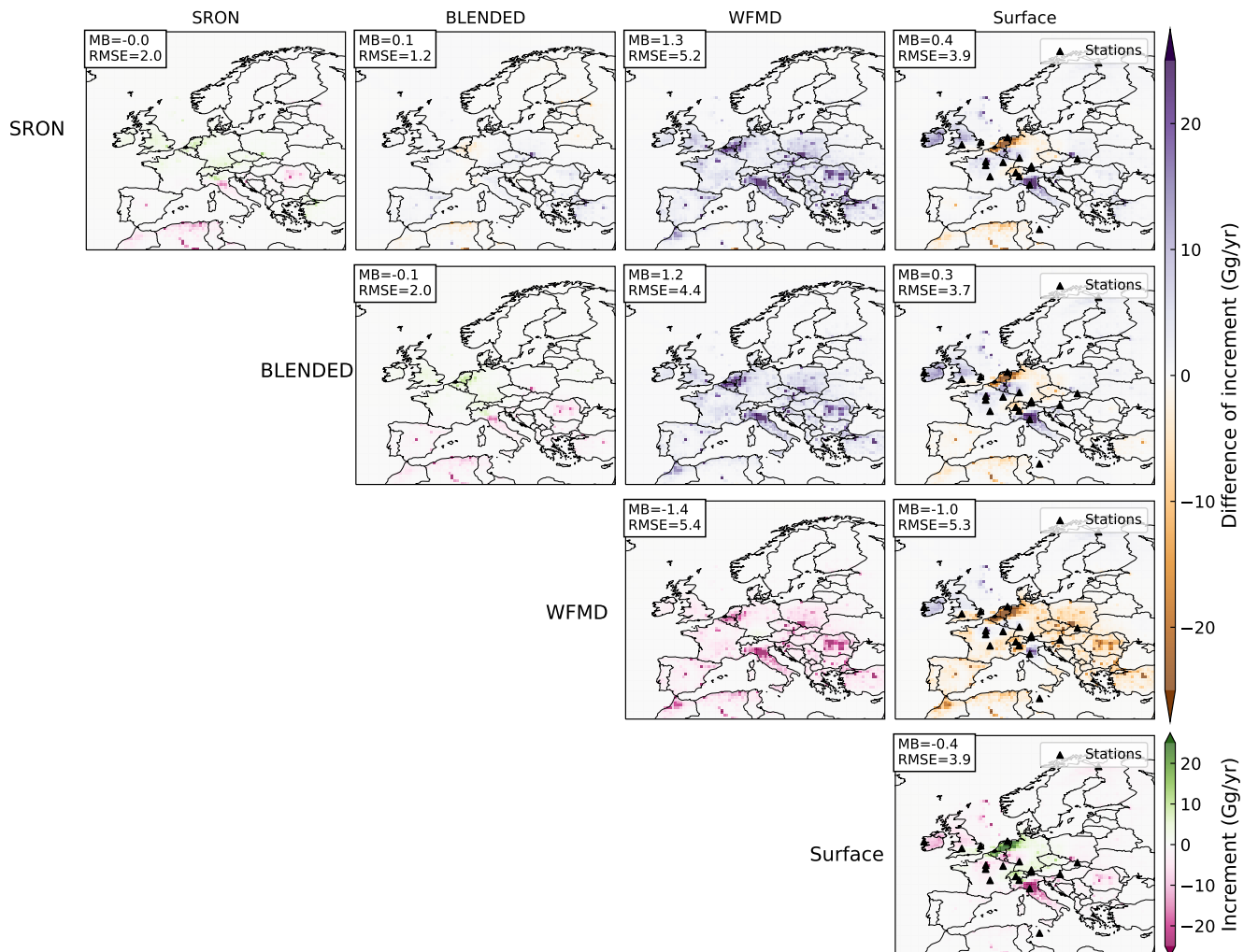
Figure S2. Seasonal average TROPOMI observations (in ppb) for the 3 products.

Figure S3. Spatial average of the absolute values of the increments (|posterior - prior|) for all OSSE scenarios.

Figure S4. Matrix of the increment maps detailed in Section 3.3. The diagonal maps show the increments as in Figure 10a, while the non-diagonal maps show the difference between the increments derived from the inversions based on the product of the corresponding row and the corresponding column. MB and RMSE are in Gg/yr.