

Supplementary Figures and Tables attached to

“Estimating European volatile organic compound emissions using satellite observations of formaldehyde from the Ozone Monitoring Instrument”

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6 Table S1. Same as Table 1 in the paper, but with a selection of OMI data with a cloud fraction
7 <40% instead of <20%.

	OMI			CHIMERE.		
Month	Ω^a	σ^b	Ω_m	Bias ^c	RMSE ^d	r ^e
10^{15} molecules cm ⁻²						
May	4.6	10.0	5.0	0.4	1.6	0.32
Jun	6.7	10.5	6.3	-0.5	1.7	0.48
Jul	7.9	9.3	7.0	-0.9	2.2	0.39
Aug	6.5	8.5	6.2	-0.3	1.5	0.58
Sep	5.7	8.4	5.7	0.1	1.3	0.53

8 ^a Formaldehyde column

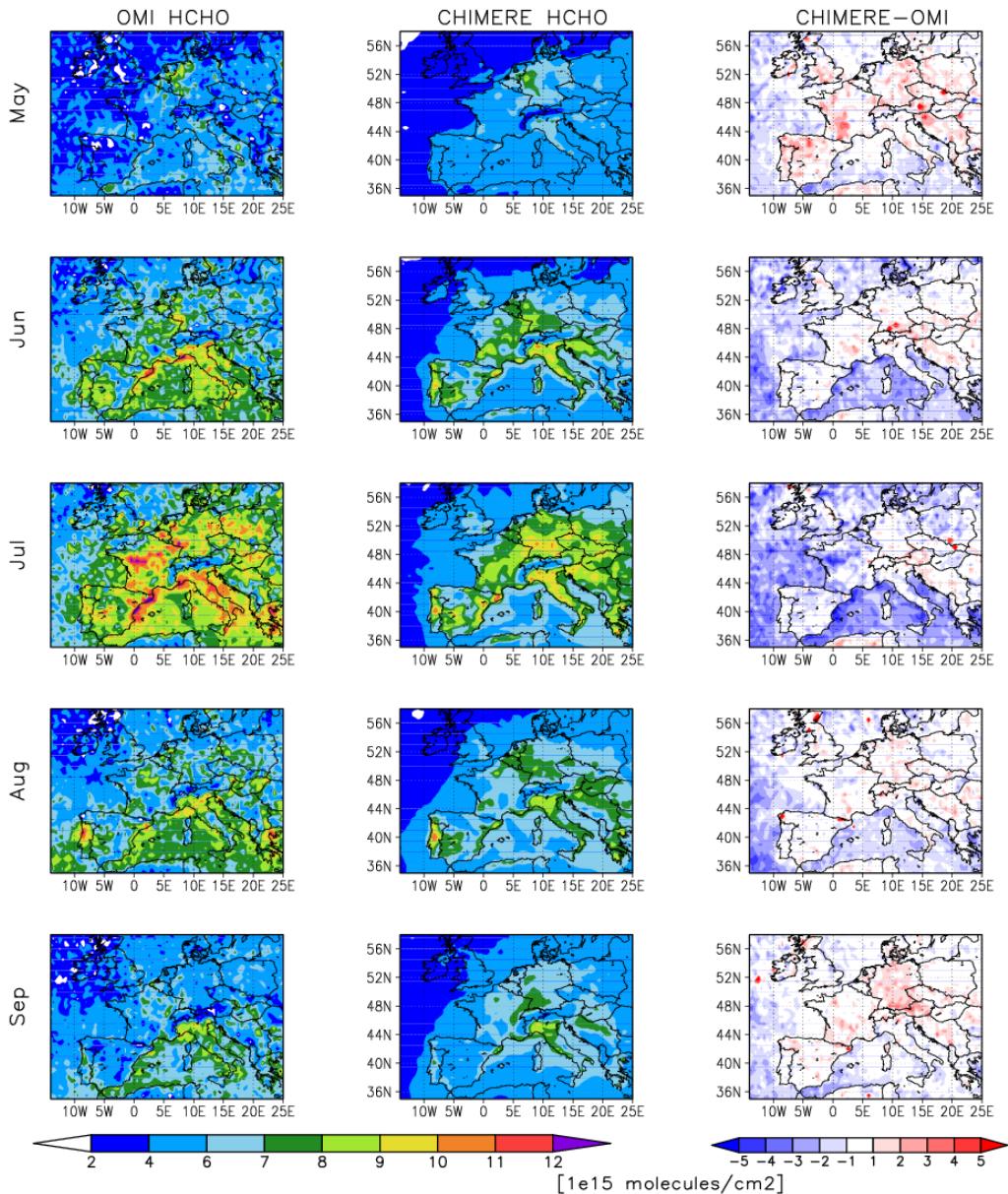
9 ^b Median of column fitting uncertainty

10 ^c Calculated as spatial average of $\Omega_m - \Omega$

11 ^d Calculated as spatial average of $\sqrt{\sum(\Omega_m - \Omega)^2}$

12 ^e Spatial correlation

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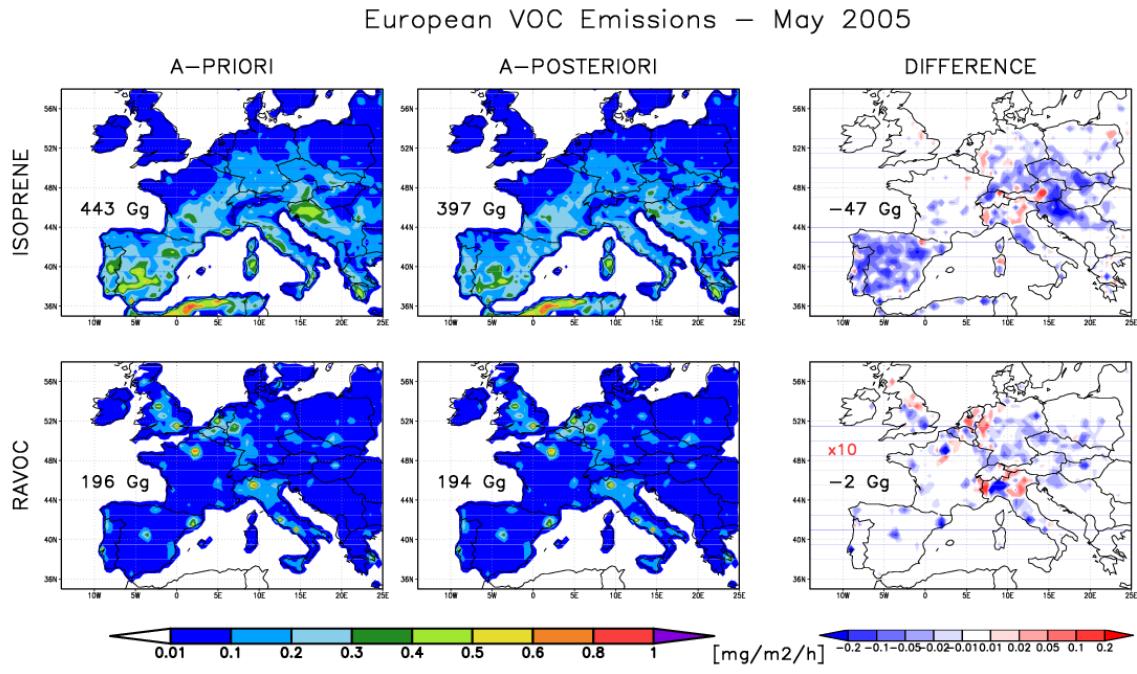
Figure S1. Same as Figure 1 in the paper, but with the model with *a-posteriori* VOC emissions.

1 Table S2. *A-priori* and *a-posteriori* European isoprene emissions in 2005, using MEGAN
2 (Guenther et al., 2006) and Derognat et al. (2003) (D03). Figures showing monthly emissions
3 on maps are displayed below.

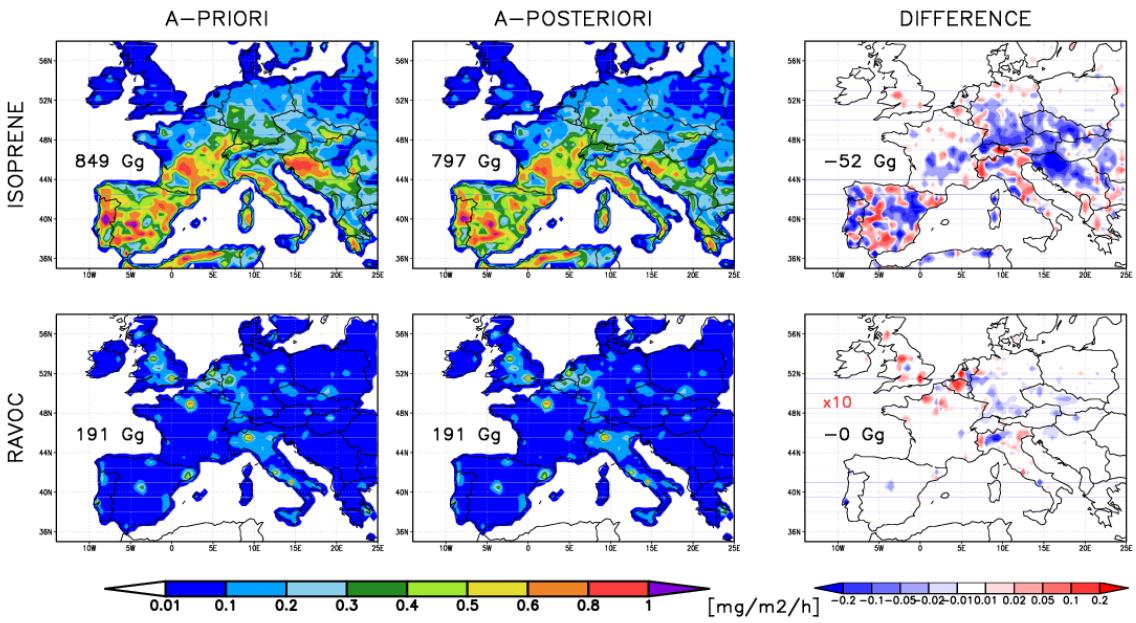
Month	<i>a-priori</i> emissions		<i>a-posteriori</i> emissions	
	MEGAN	Gg/month	MEGAN	Gg/month
May	443	385	397	366
Jun	849	612	797	708
Jul	992	777	993	995
Aug	585	576	574	630
Sep	286	373	280	350

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- 1 Figures S2-6: same as Figure 5 of the paper, but from all months under analysis: May to
 2 September 2005.

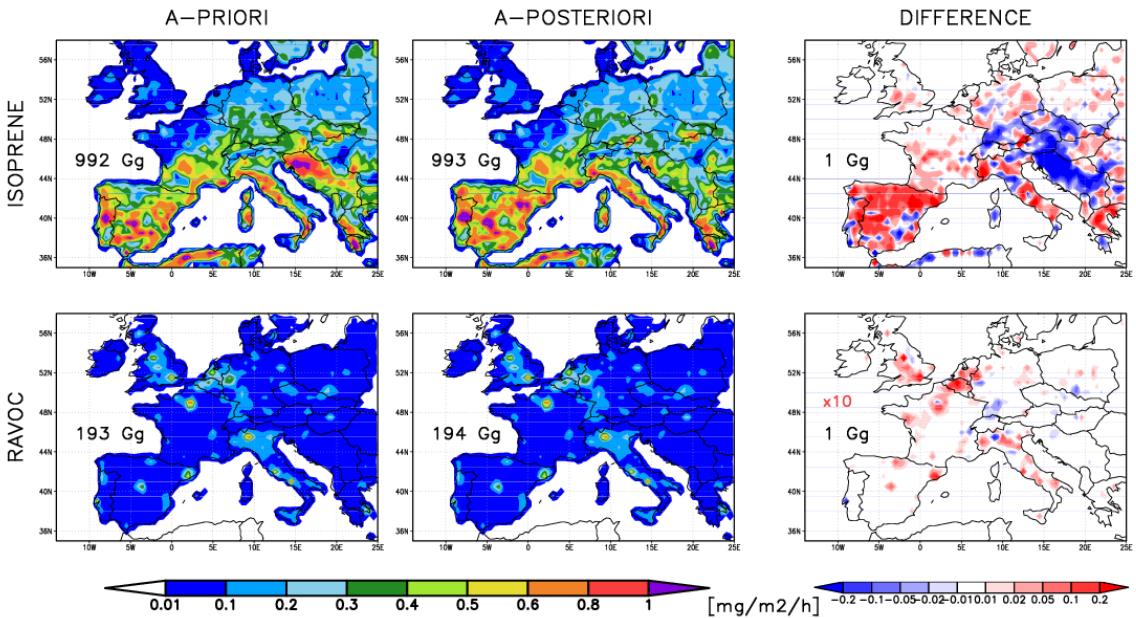


European VOC Emissions – Jun 2005



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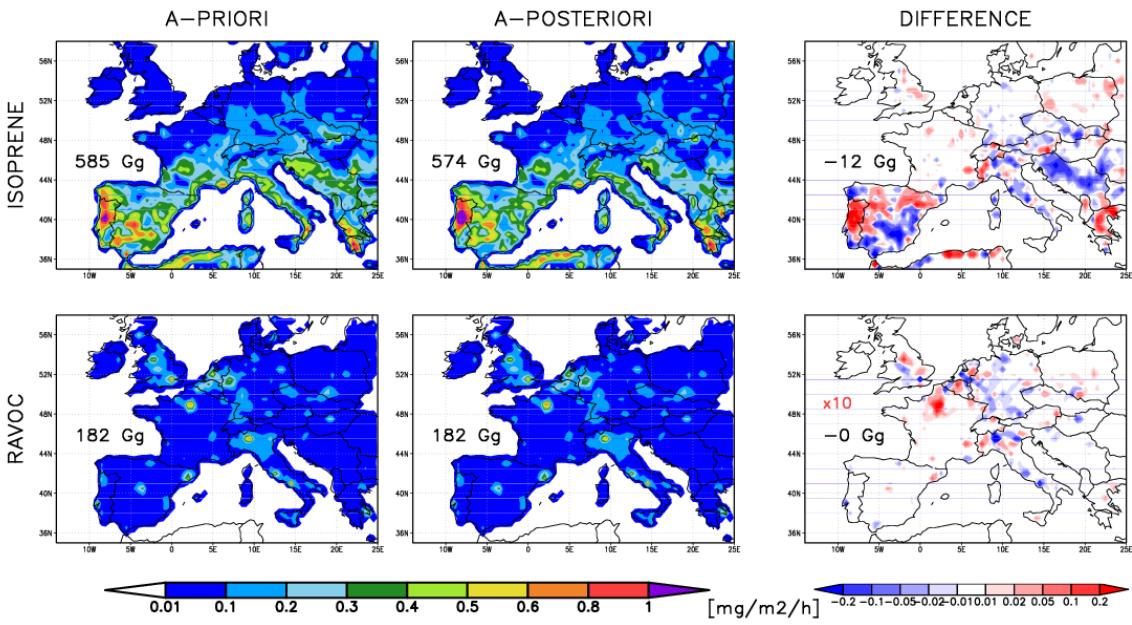
European VOC Emissions – Jul 2005



2

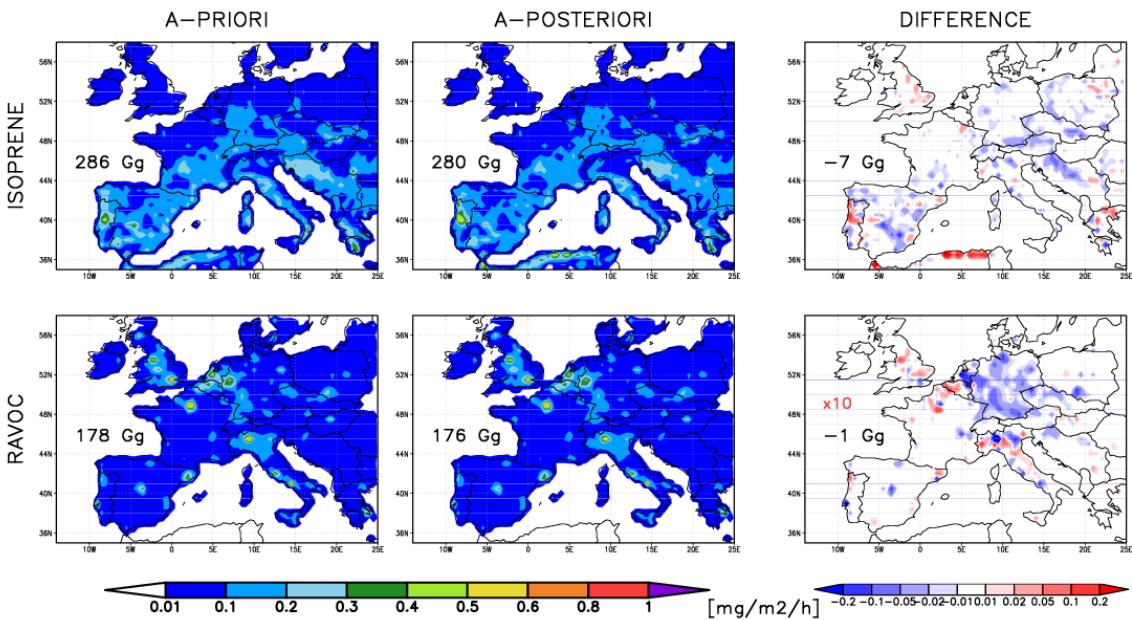
5

European VOC Emissions – Aug 2005



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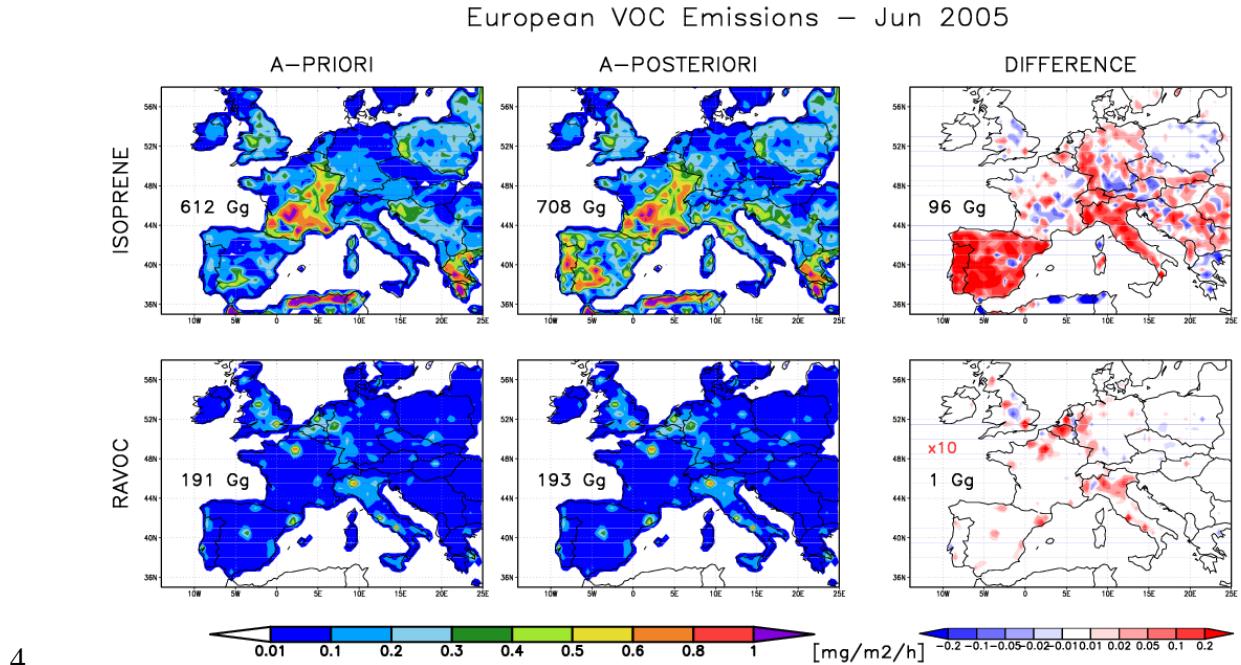
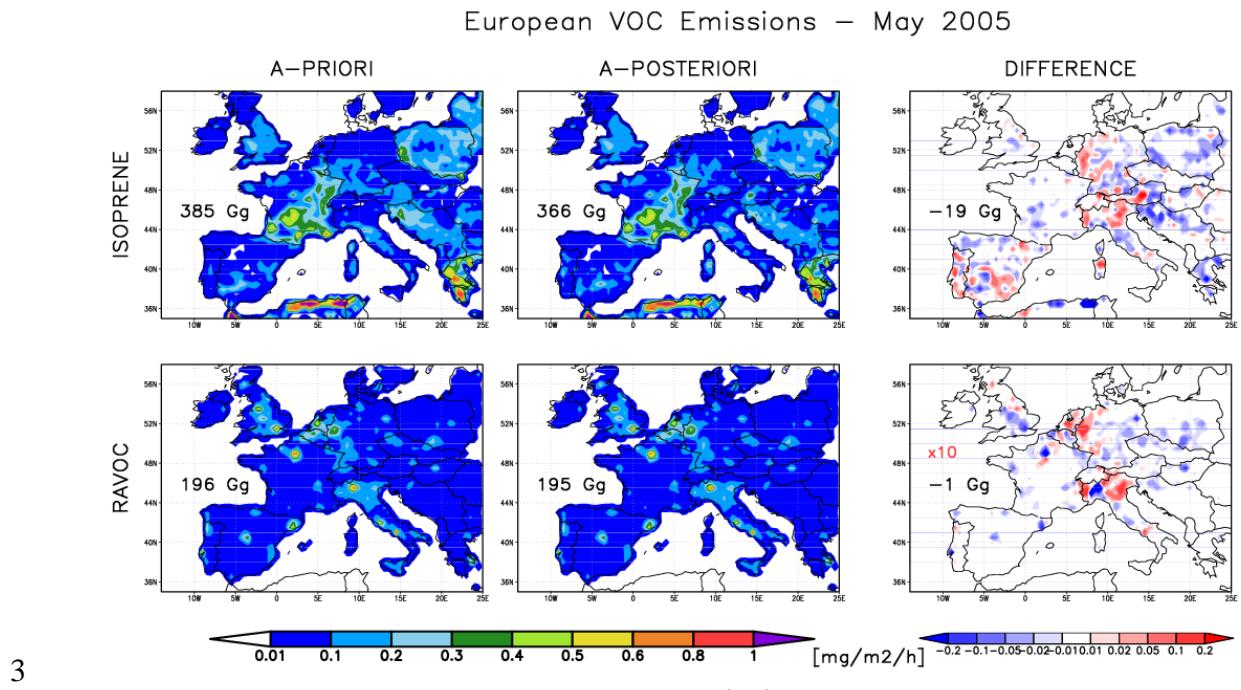
European VOC Emissions – Sep 2005



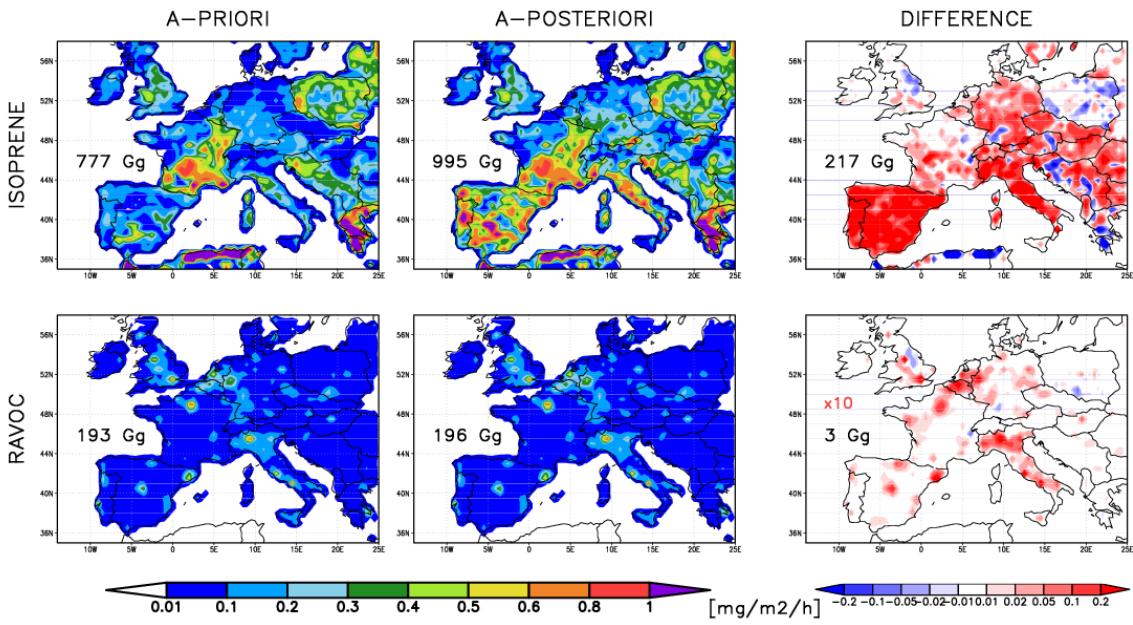
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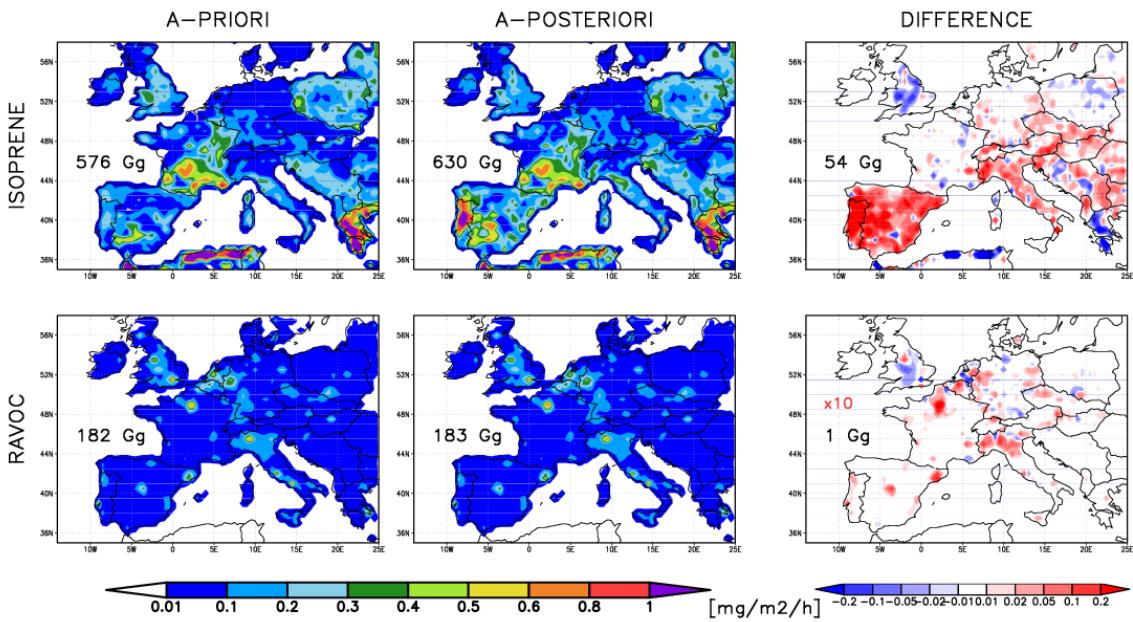
- 1 Figures S7-11: Same as Figures S2-6, but using isoprene emissions from Derognat et al.
 2 (2003, D03) instead of MEGAN (Guenther et al., 2006)



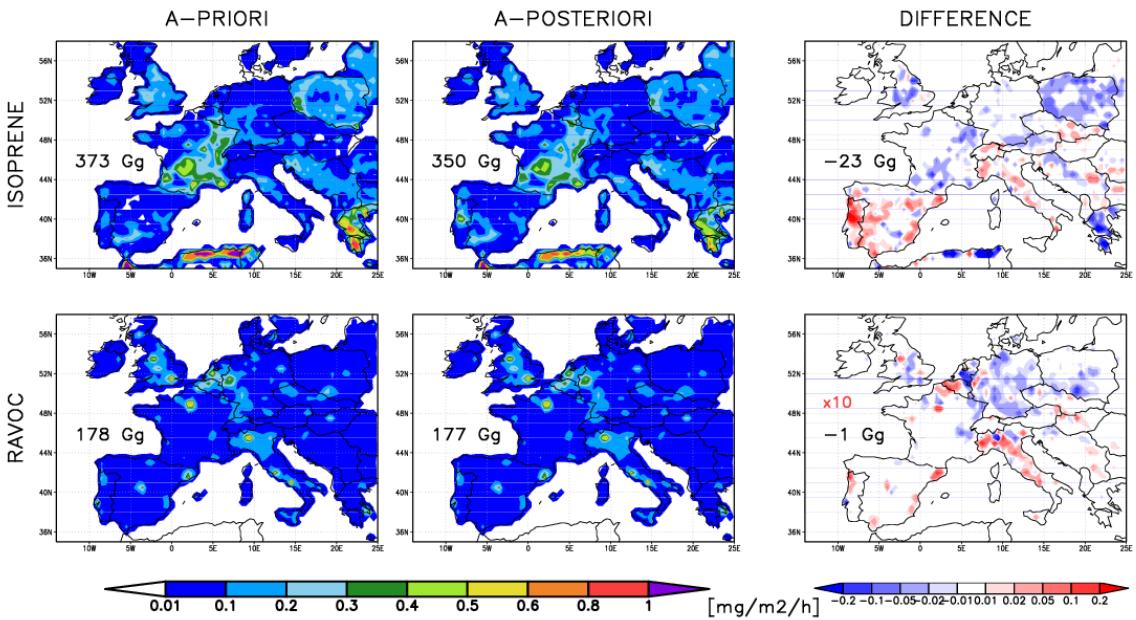
European VOC Emissions – Jul 2005



European VOC Emissions – Aug 2005



European VOC Emissions – Sep 2005



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1 **References**

- 2 Derognat, C., Beekmann, M., Baeumle, M., Martin, D., Schmidt, H.: Effect of biogenic
3 volatile organic compound emissions on tropospheric chemistry during the Atmospheric
4 Pollution Over the Paris Area (ESQUIF) campaign in the Ile-de-France region, *J. Geophys.*
5 *Res.*, 108(D17), 8560, doi:10.1029/2001JD001421, 2003.
- 6 Guenther, A., Karl, T., Harley, P., Wiedinmyer, C., Palmer, P. I., and Geron, C.: Estimates of
7 global terrestrial isoprene emissions using MEGAN (Model of Emissions of Gases and
8 Aerosols from Nature), *Atmos. Chem. Phys.*, 6, 3181-3210, 2006.