

Supplementary materials for “Influence of biomass burning and anthropogenic emissions on ozone, carbon monoxide and black carbon concentrations at the Mt. Cimone GAW-WMO global station (Italy, 2165 m a.s.l.)”

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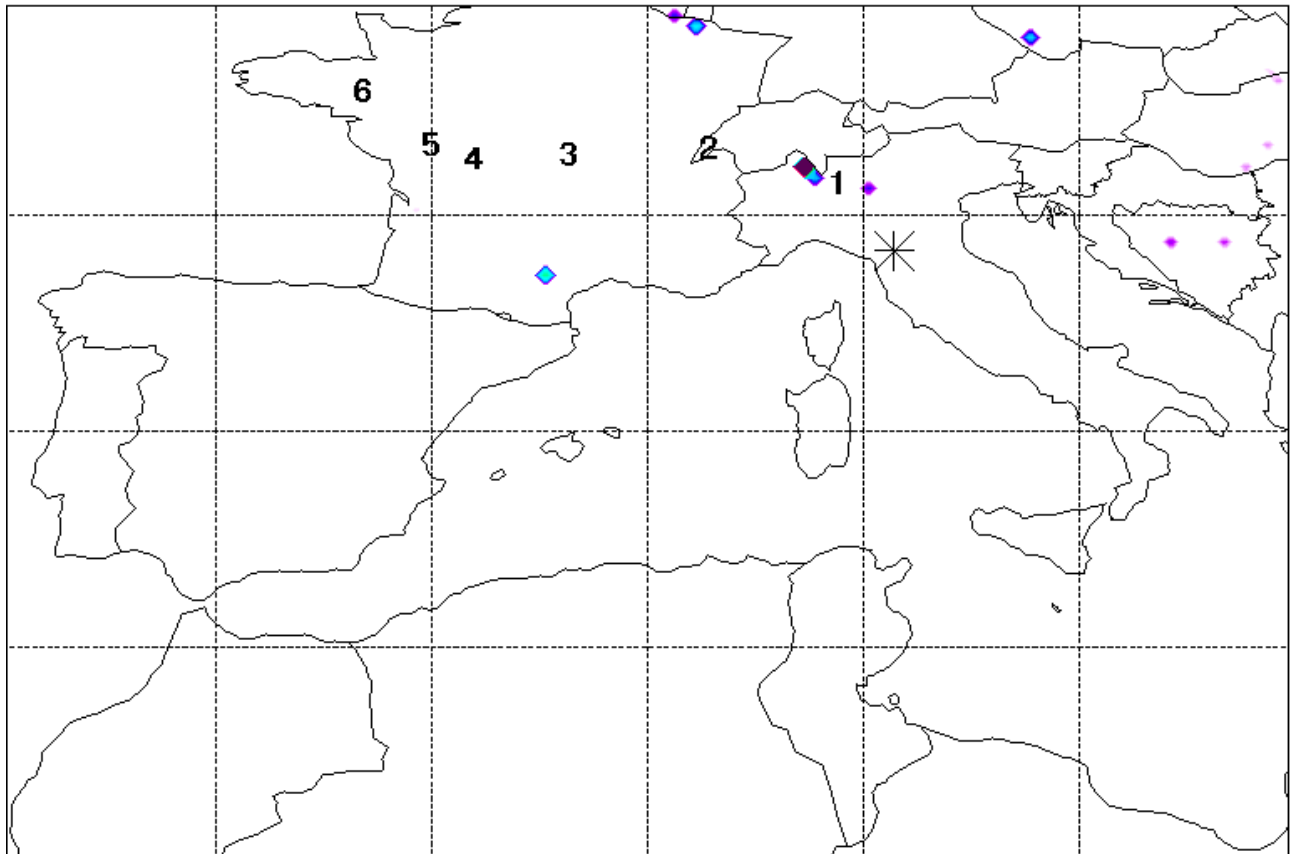
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Fire CO source contributions in nested domain for MTC_200704

Start time of sampling 20070425. 30000 End time of sampling 20070425. 60000

Lower release height 2165 m Upper release height 2165 m

Meteorological data used are from ECMWF



Maximum value 0.682E-07 ppbv / m² Total mixing ratio 36.8 ppbv

Figure S1. CO_{fire} source contribution relative to ICO-OV observations on 25th April 2007 (from 3 to 6 UTC). On the lower right is reported the CO_{fire} mixing ratio simulated for the ICO-OV location. The numbers superimposed on the map are the days back in time for the retroplume centroid calculated by FLEXPART.

Fire CO source contributions in nested domain for MTC_200708

Start time of sampling 20070831.150000 End time of sampling 20070831.180000

Lower release height 2165 m Upper release height 2165 m

Meteorological data used are from ECMWF

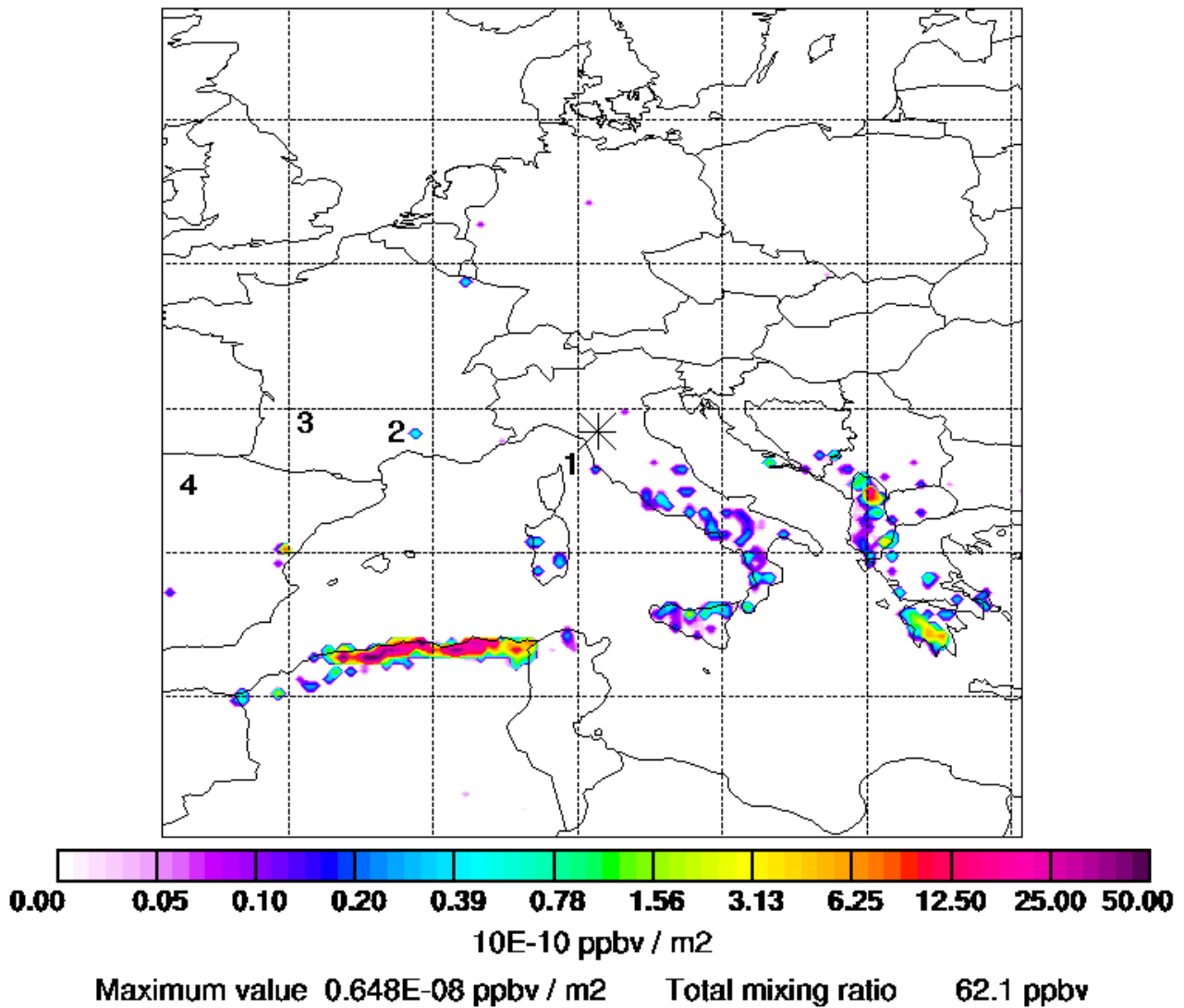


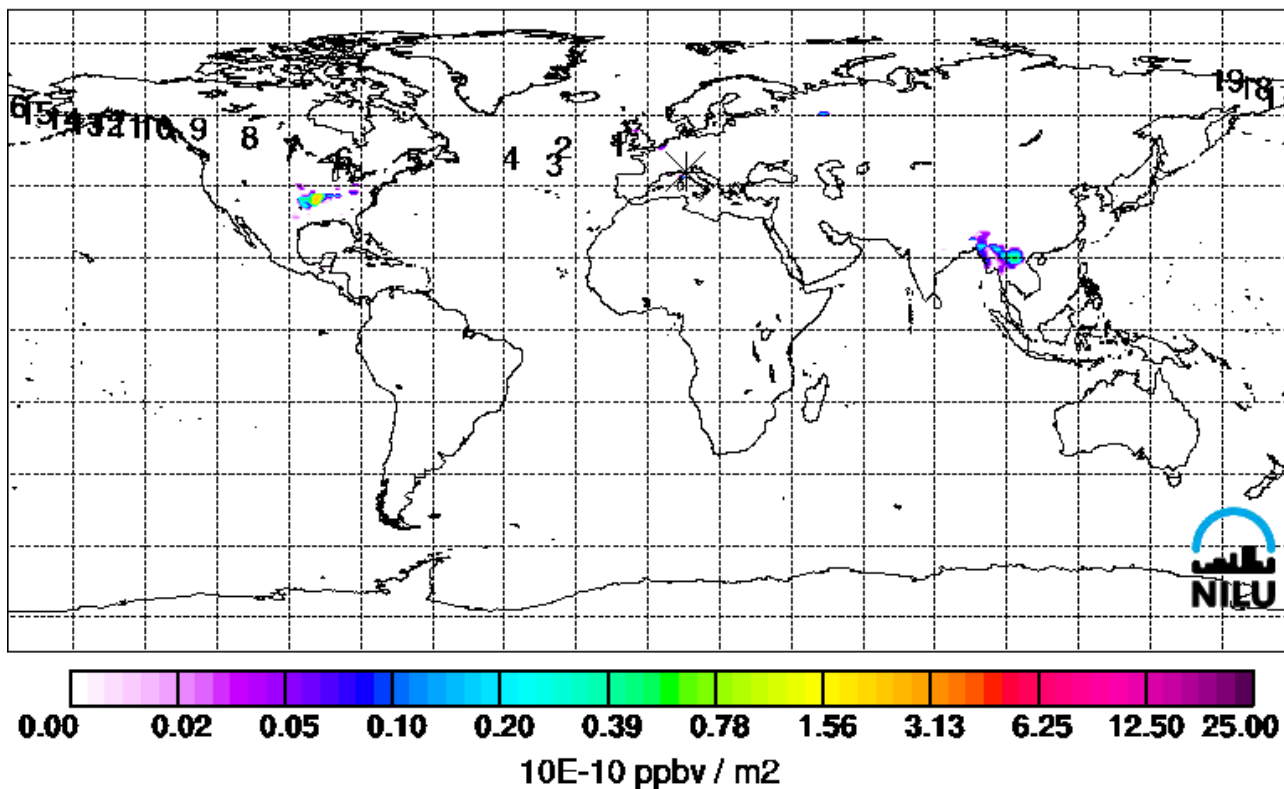
Figure S2. CO_{fire} source contribution relative to ICO-OV observations on 31st August 2007 (from 15 to 18 UTC). On the lower right is reported the CO_{fire} mixing ratio simulated for the ICO-OV location. The numbers superimposed on the map are the days back in time for the retroplume centroid calculated by FLEXPART.

Fire CO source contributions in global domain for MTC_200903

Start time of sampling 20090324. 60000 End time of sampling 20090324. 90000

Lower release height 2165 m Upper release height 2165 m

Meteorological data used are from ECMWF



Maximum value $0.264E-09$ ppbv / m² Total mixing ratio 26.7 ppbv

Figure S3. CO_{fire} source contribution relative to ICO-OV observations on 24th March 2009 (from 6 to 9 UTC). On the lower right is reported the CO_{fire} mixing ratio simulated for the ICO-OV location. The numbers superimposed on the map are the days back in time for the retroplume centroid calculated by FLEXPART.

Fire CO source contributions in global domain for MTC_200903

Start time of sampling 20090329.150000 End time of sampling 20090329.180000

Lower release height 2165 m Upper release height 2165 m

Meteorological data used are from ECMWF

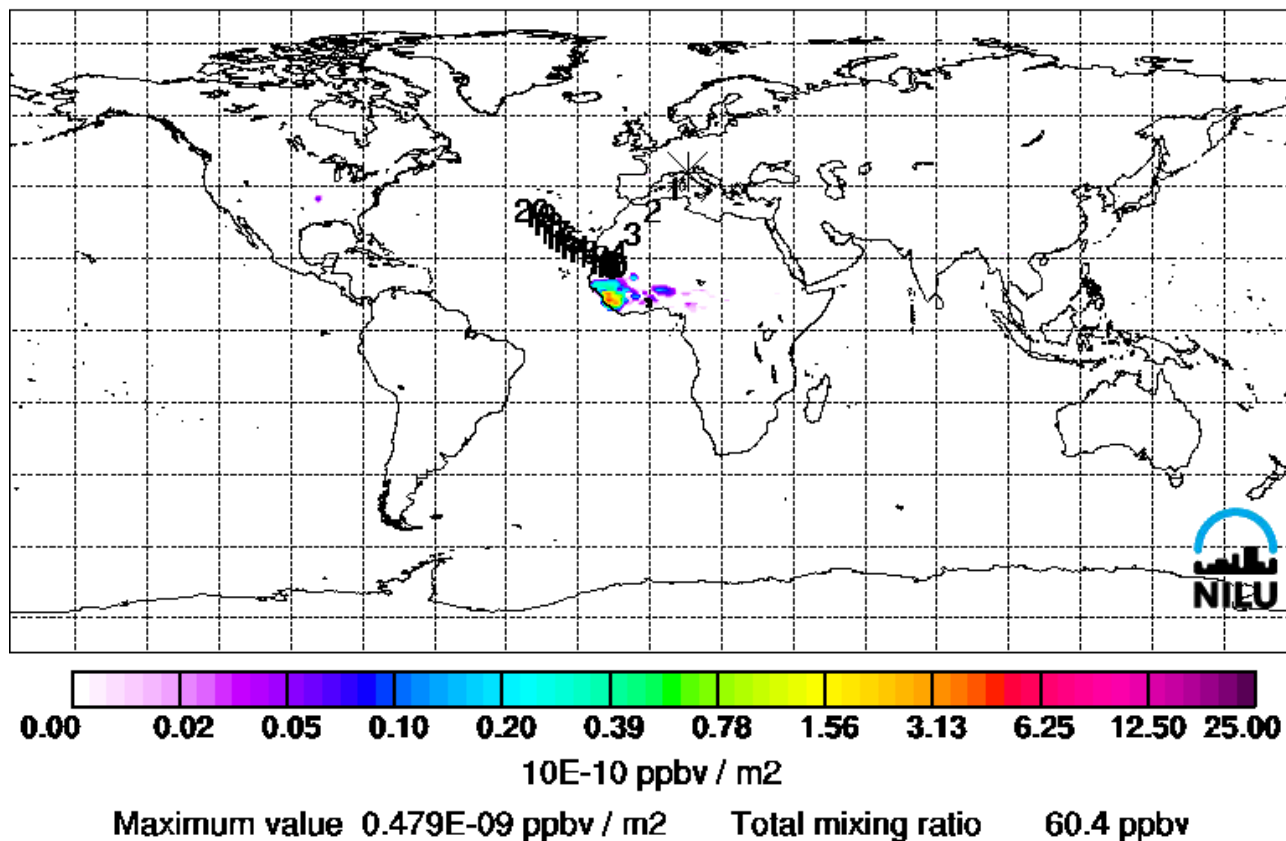


Figure S4. CO_{fire} source contribution relative to ICO-OV observations on 29th March 2009 (from 15 to 18 UTC). On the lower right is reported the CO_{fire} mixing ratio simulated for the ICO-OV location. The numbers superimposed on the map are the days back in time for the retroplume centroid calculated by FLEXPART.

Fire CO source contributions in nested domain for MTC_200905

Start time of sampling 20090501.180000 End time of sampling 20090501.210000

Lower release height 2165 m Upper release height 2165 m

Meteorological data used are from ECMWF

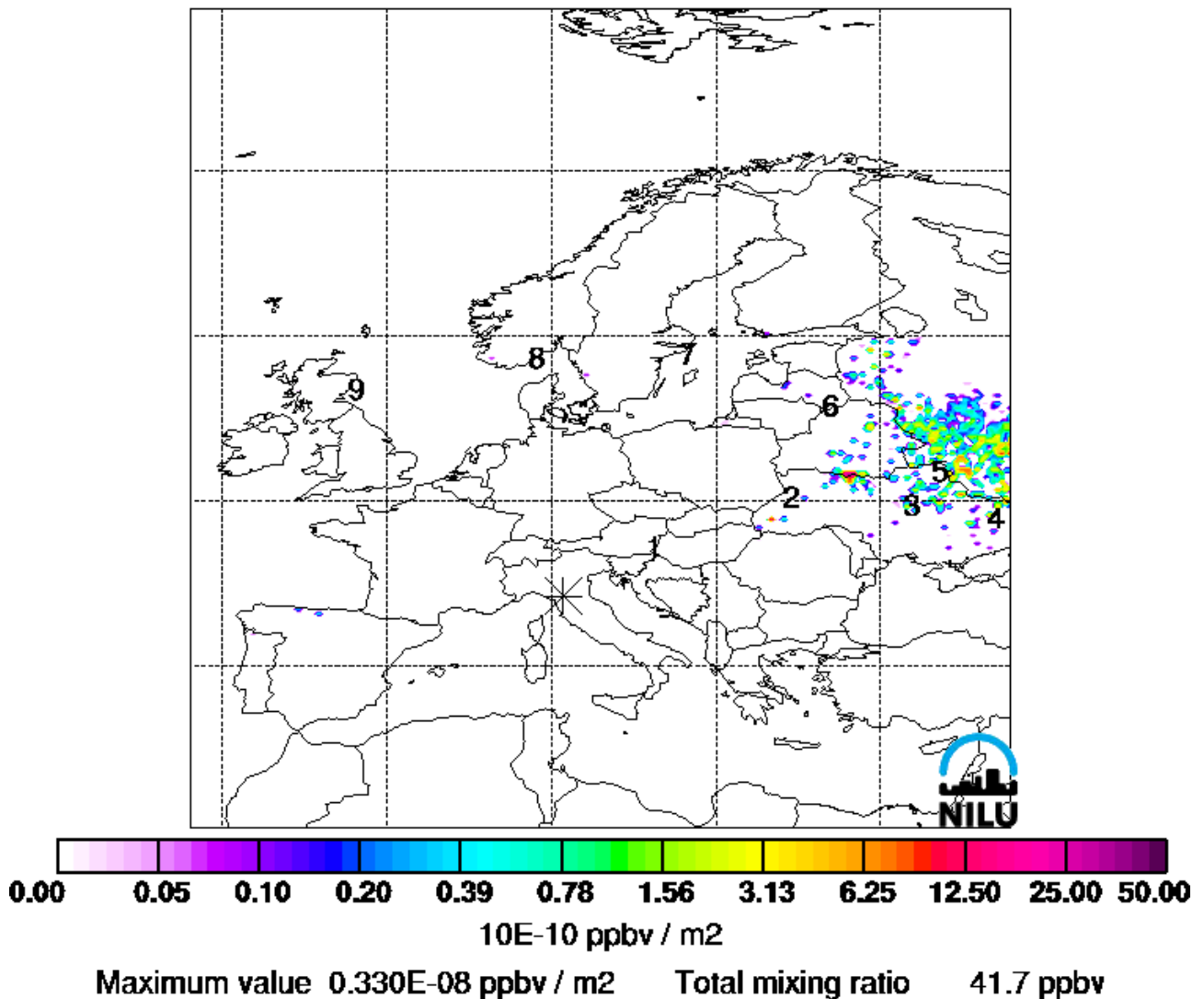


Figure S5. CO_{fire} source contribution relative to ICO-OV observations on 1st May 2009 (from 18 to 21 UTC). On the lower right is reported the CO_{fire} mixing ratio simulated for the ICO-OV location. The numbers superimposed on the map are the days back in time for the retroplume centroid calculated by FLEXPART.