

Supplement of

Pollution Events at the High-Altitude Mountain Site Zugspitze-Schneefernerhaus (2670 m a.s.l.), Germany

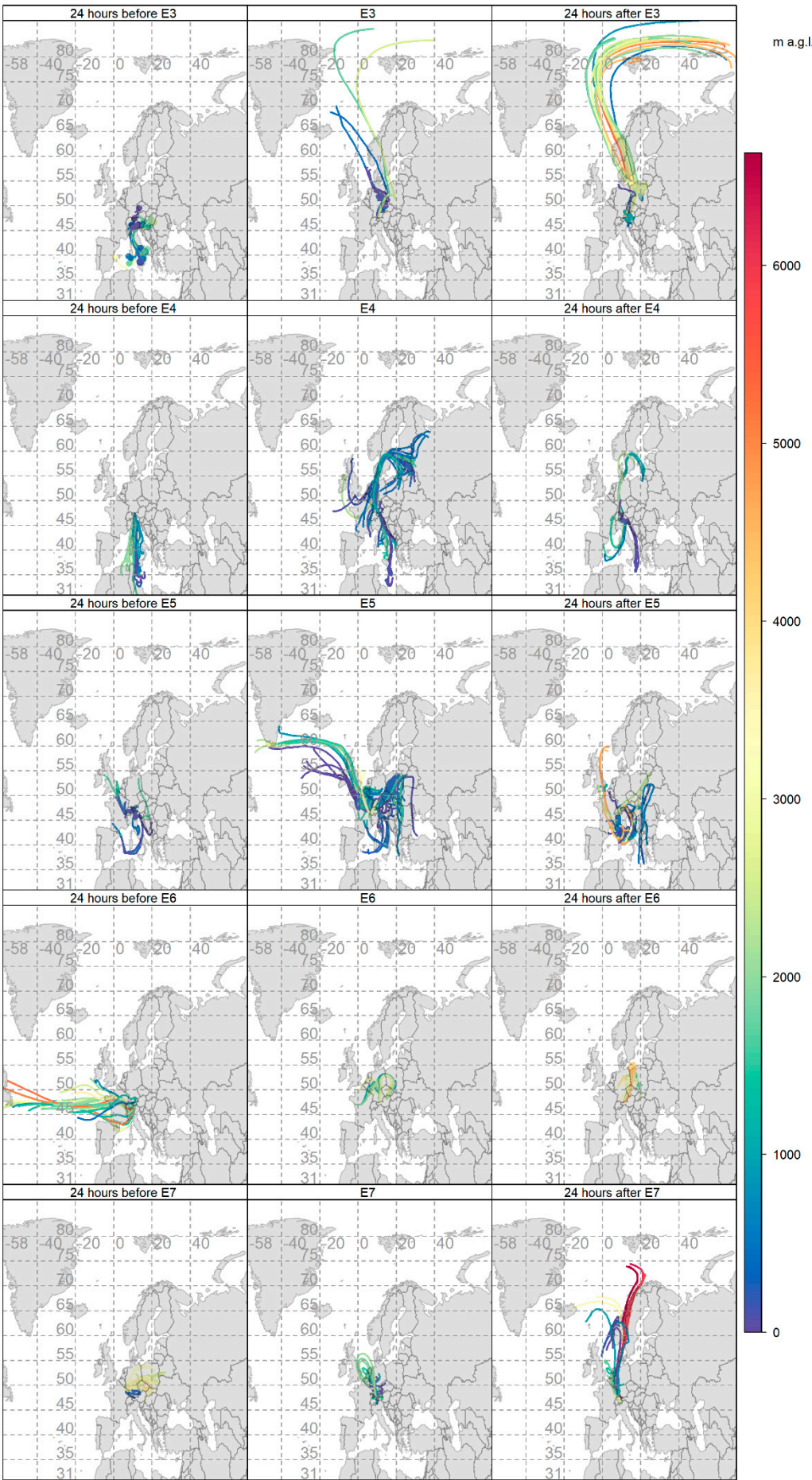


Figure S1. 96-hour HYSPLIT backward trajectories (one-hour interval) of air masses reaching UFS during pollution events (E3–E7). For each event, three plots are shown including 24 hours before the event (left panel), during the individual event (middle panel), and 24 hours after the event (right panel). The color of the trajectories shows the respective height above ground level (m).

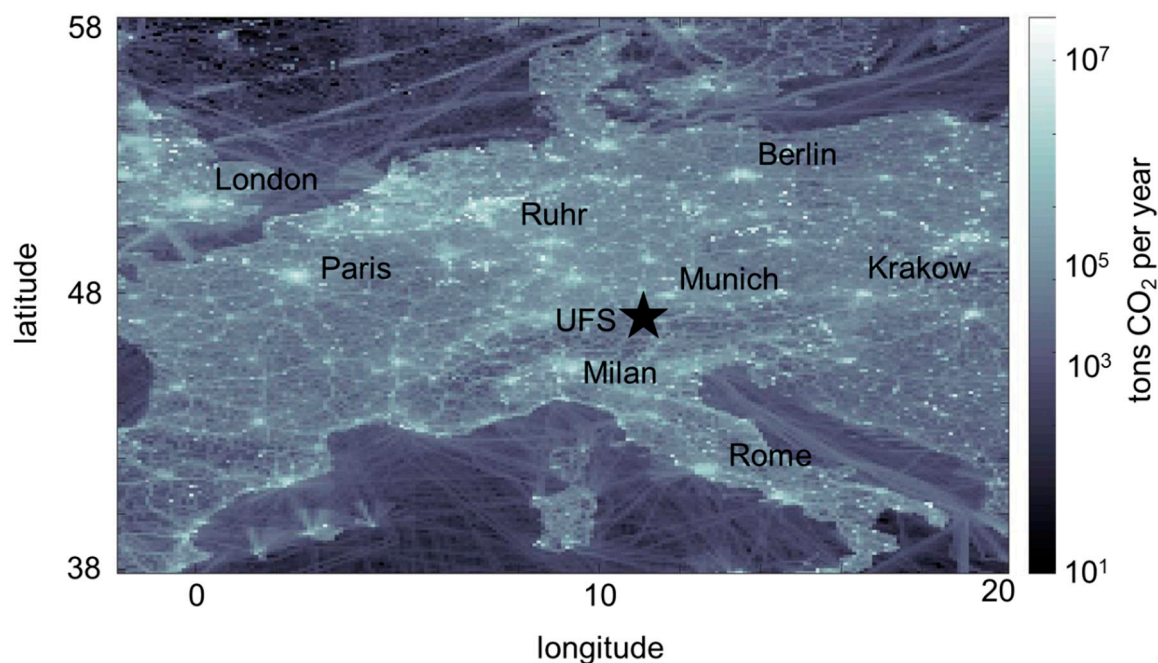


Figure S2. CO₂ emission field from anthropogenic sources in 20102. Source: EDGAR V432 emission inventory database (see web site: https://edgar.jrc.ec.europa.eu/overview.php?v=432_GHG).

Table S1. Summary table of results including the source signatures from the classical and moving Keeling plot and emission ratios of CO/CO₂ and CH₄/CO₂. na are missing values due to missing CO and CH₄ data.

Events	$\delta^{13}\text{C}_s$ ‰ Classical Keeling plot	$\delta^{13}\text{C}_s$ ‰ Moving Keeling plot	CO/CO ₂ (ppb/ppm)	CH ₄ /CO ₂ (ppb/ppm)
E1	-24.2 ± 1.2	-24.3 ± 1.9	na	na
E2	-26.3 ± 0.9	-27.3 ± 0.1	na	na
E3	-30.0 ± 0.6	-30.1 ± 0.6	3.5 ± 0.5	7.4 ± 0.3
E4	-34.9 ± 0.6	-34.7 ± 1.3	5.7 ± 0.5	6.8 ± 0.3
E5	-34.4 ± 1.1	-33.9 ± 0.4	8.0 ± 0.4	4.7 ± 0.2
E6	-29.6 ± 0.3	-29.3 ± 1.2	7.8 ± 0.6	na
E7	-33.8 ± 0.7	-35.7 ± 2.4	5.2 ± 0.1	5.2 ± 0.1