

1 SUPPLEMENTARY MATERIAL

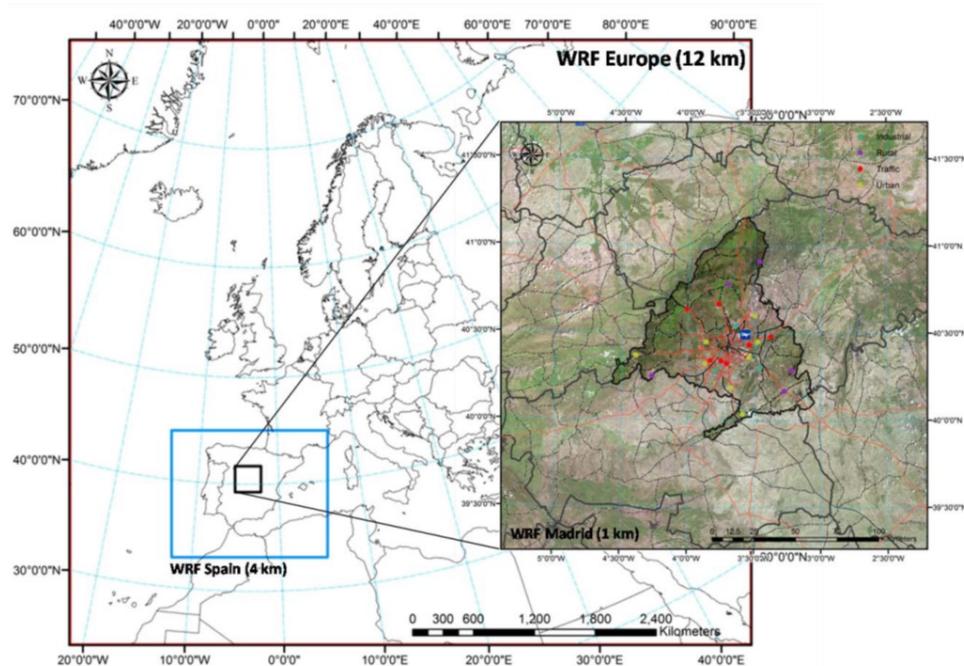


Figure S1. Nested domains of the WRF simulations performed in July 2016 for the MAB.

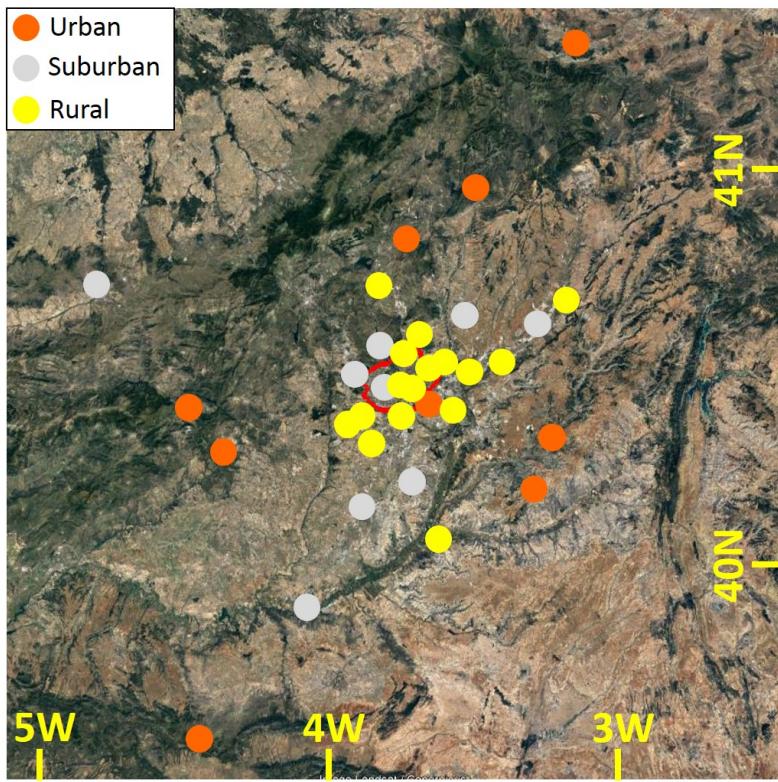
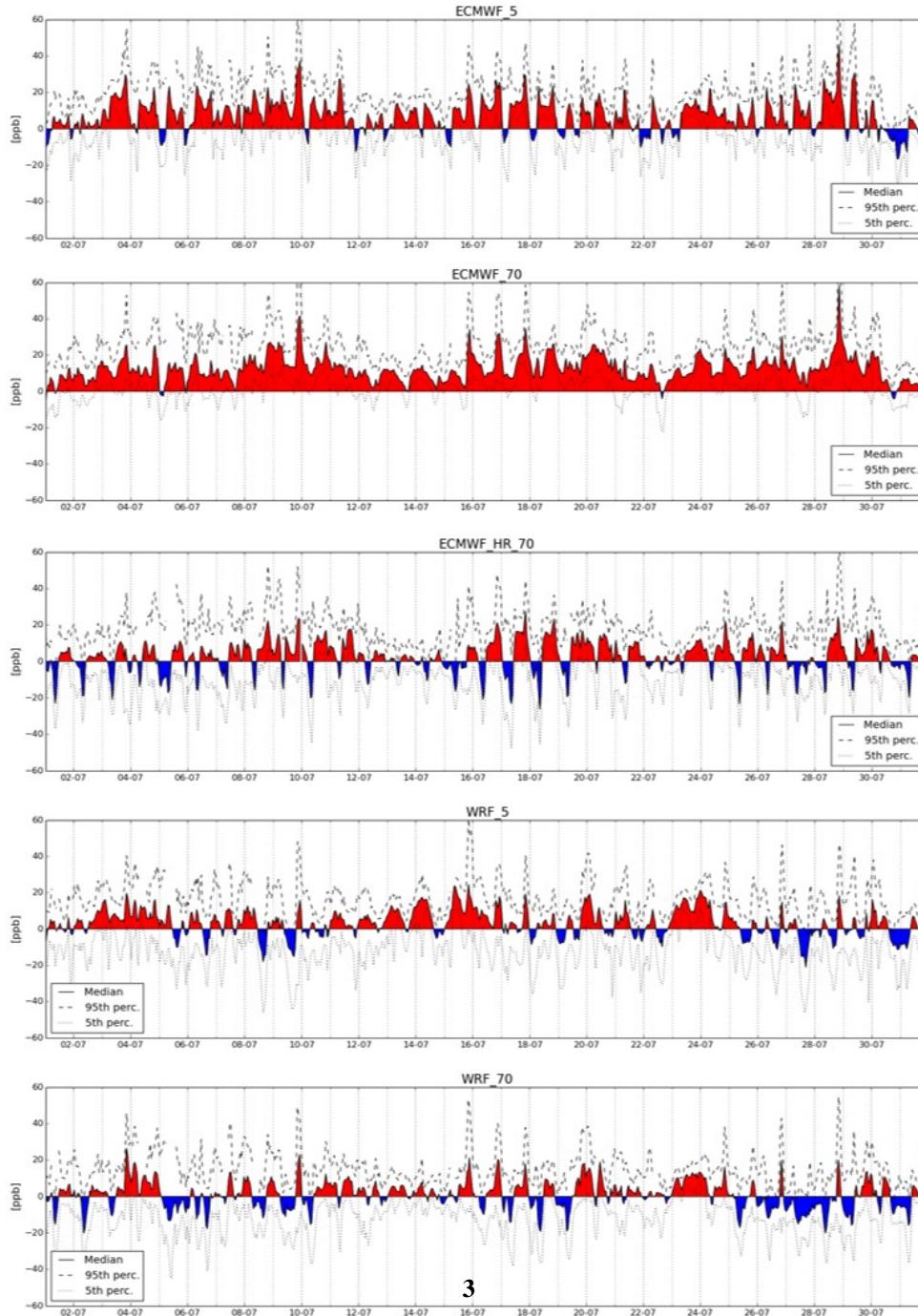


Figure S2. Location of O₃ monitoring stations in the MAB used for LOTOS-EUROS evaluation.



3

Figure S3. Time series for July 2016 of the 5th, 50th and 95th percentiles of LOTOS-EUROS bias with respect to the O₃ observations from 35 background stations in the MAB.

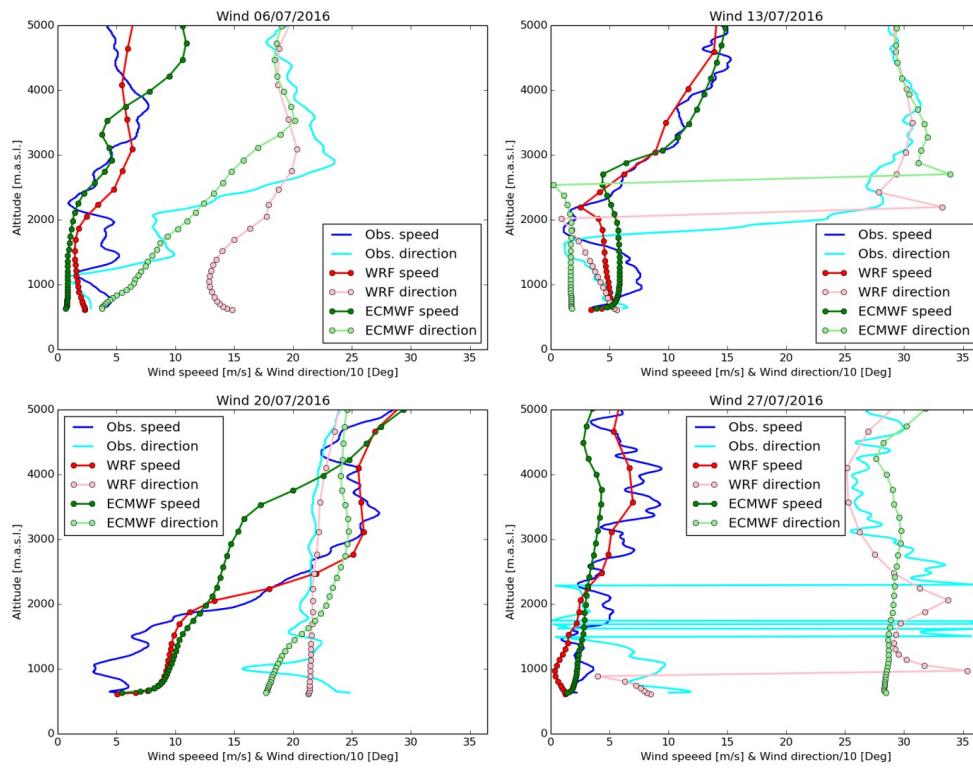


Figure S4. Real and modelled vertical profiles of wind direction and velocity for the 6, 13, 20 and 27 July 2016. Simulated profiles were taken from ECMWF and WRF input data.

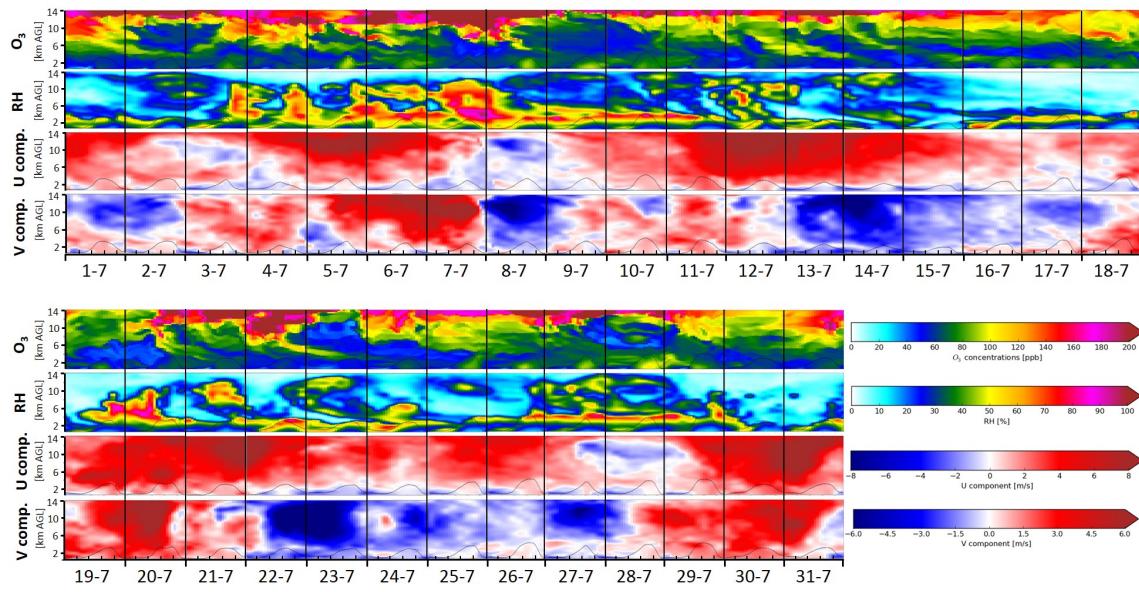


Figure S5. Simulated O_3 concentrations, relative humidity (RH), and U and V components of wind over the centre of the MAB in July 2016.

Category	Setup
Shortwave radiation	MM5 Shortwave radiation scheme (Dudhia, 1989)
Longwave radiation	Eta Geophysical Fluid Dynamics Laboratory (GFDL) (Schwarzkopf and Fels, 1991)
Land-surface model	Noah LSM (Chen and Dudhia, 2001)
Microphysics scheme	WSM6 (Hong and Lim, 2006)
PBL Scheme	Yonsei University (YSU) (Hong et al., 2006)
Horizontal resolution	1 km
Vertical resolution	35 sigma levels

Table S1. Basic configuration of WRF model for the simulations performed in this study.