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Error apportionment for atmospheric chemistry-transport models – a new approach to model evaluation

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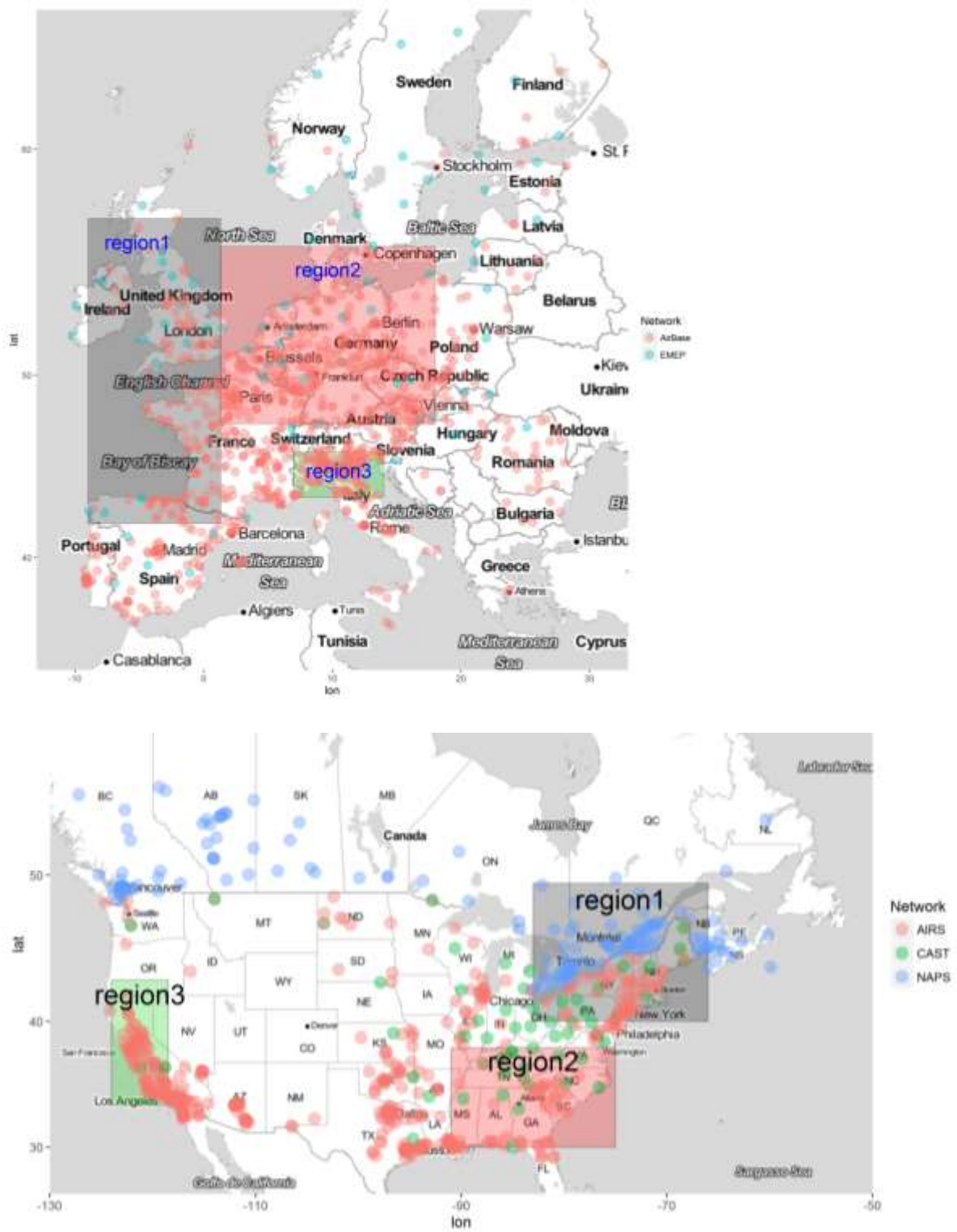
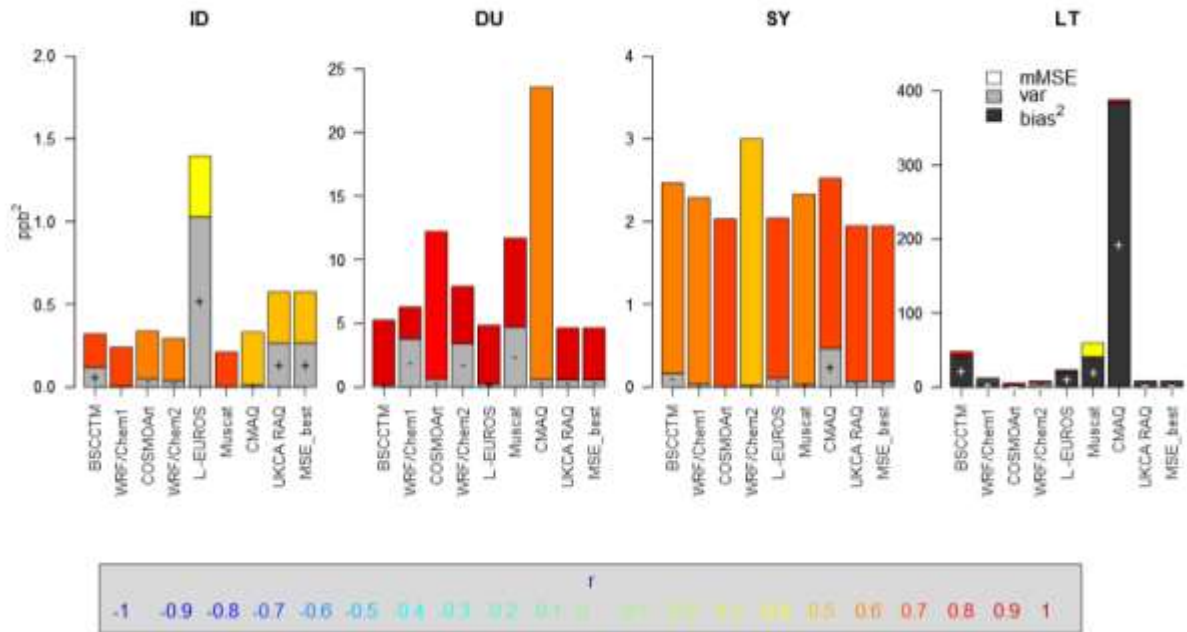


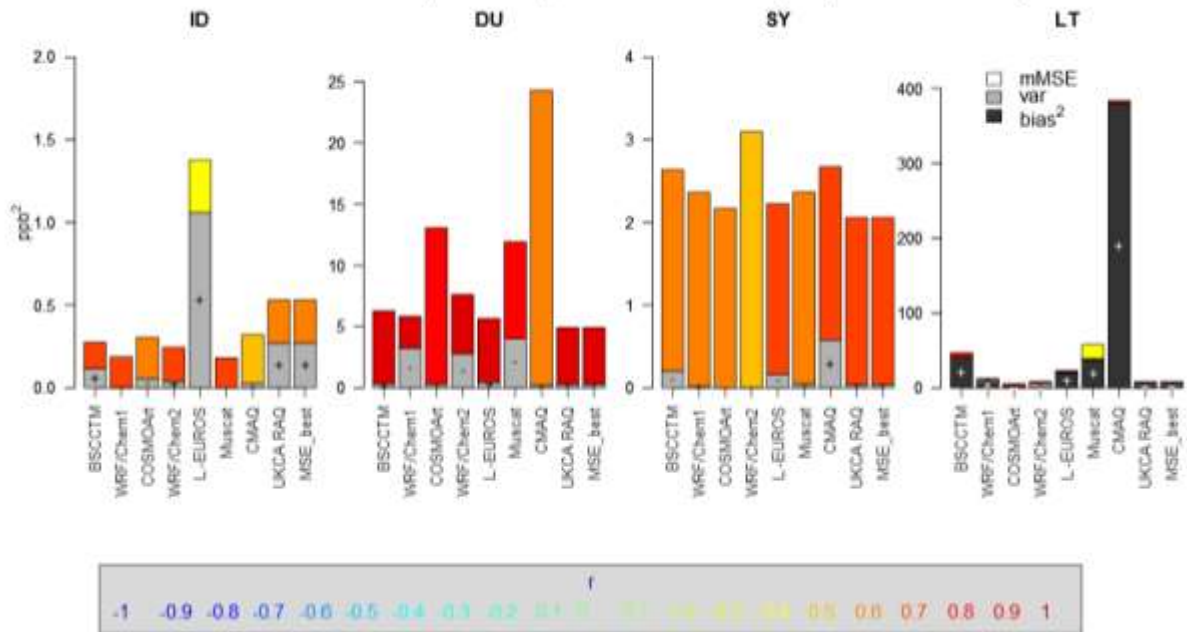
FIGURE S1. Sub-regions of the two continental domains a) EU, and b) NA. Overlaid are the ozone monitoring stations for the year 2010 classified based on the network.

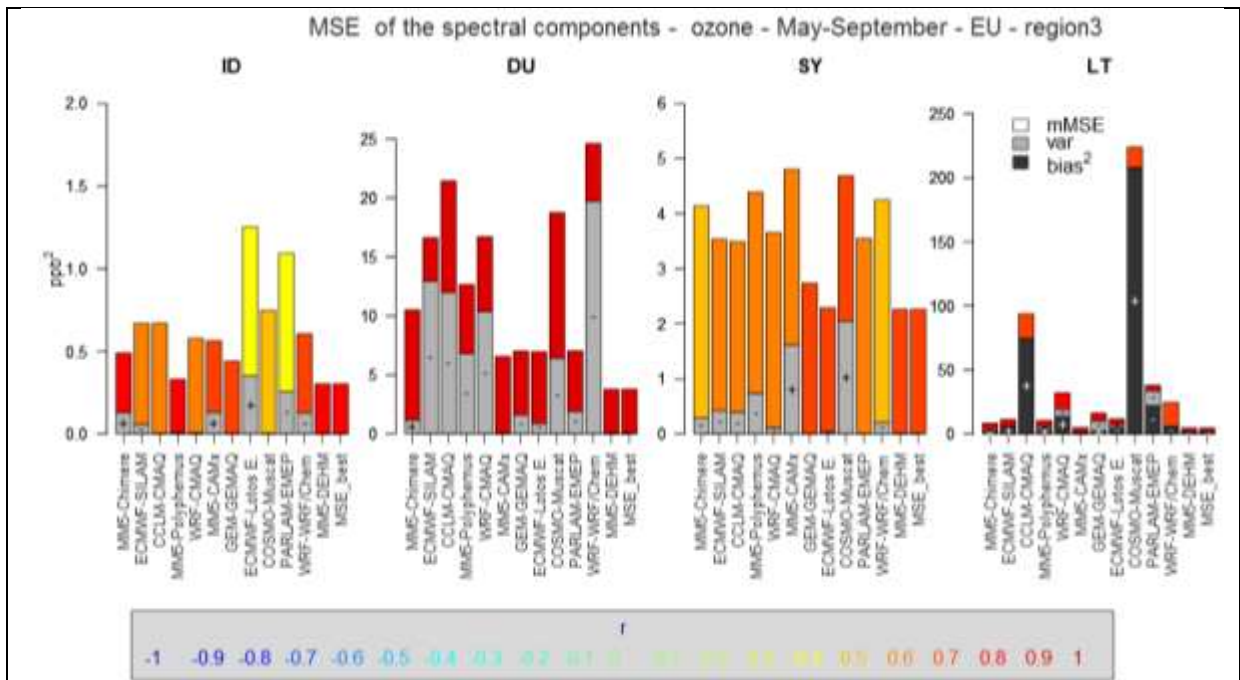
AQMEI1 - EUROPE

MSE of the spectral components - ozone - May-September - EU - region1

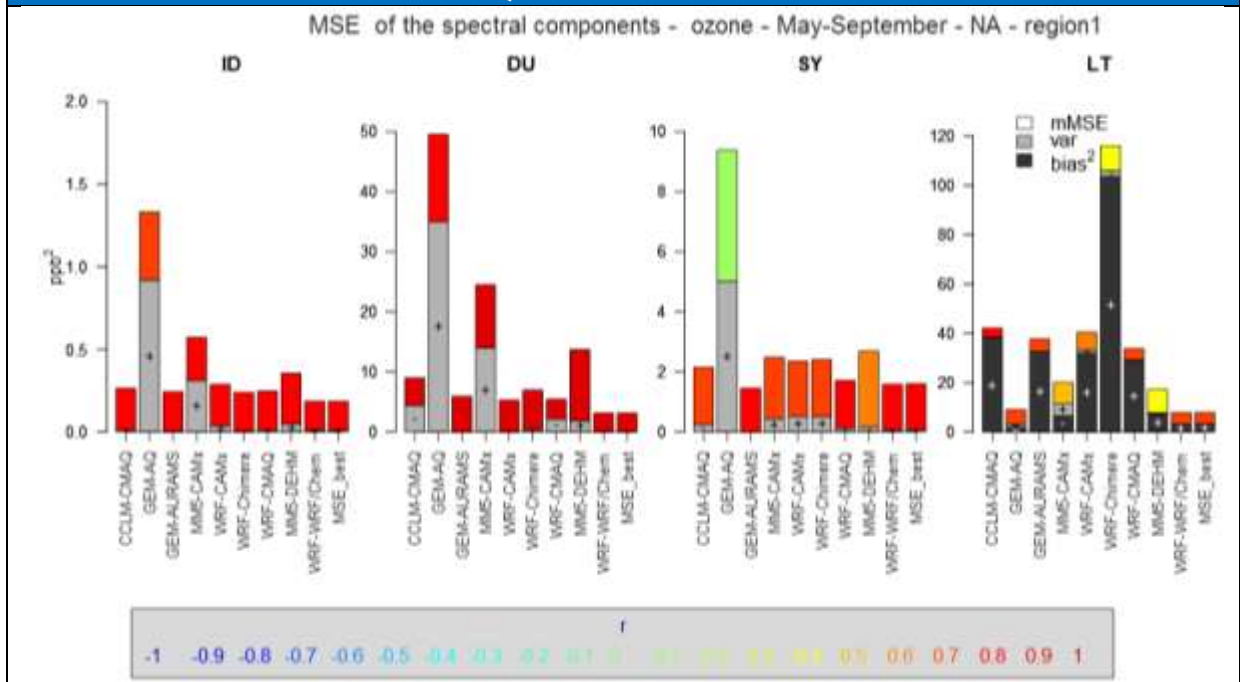


MSE of the spectral components - ozone - May-September - EU - region2





AQMEI1 - North America



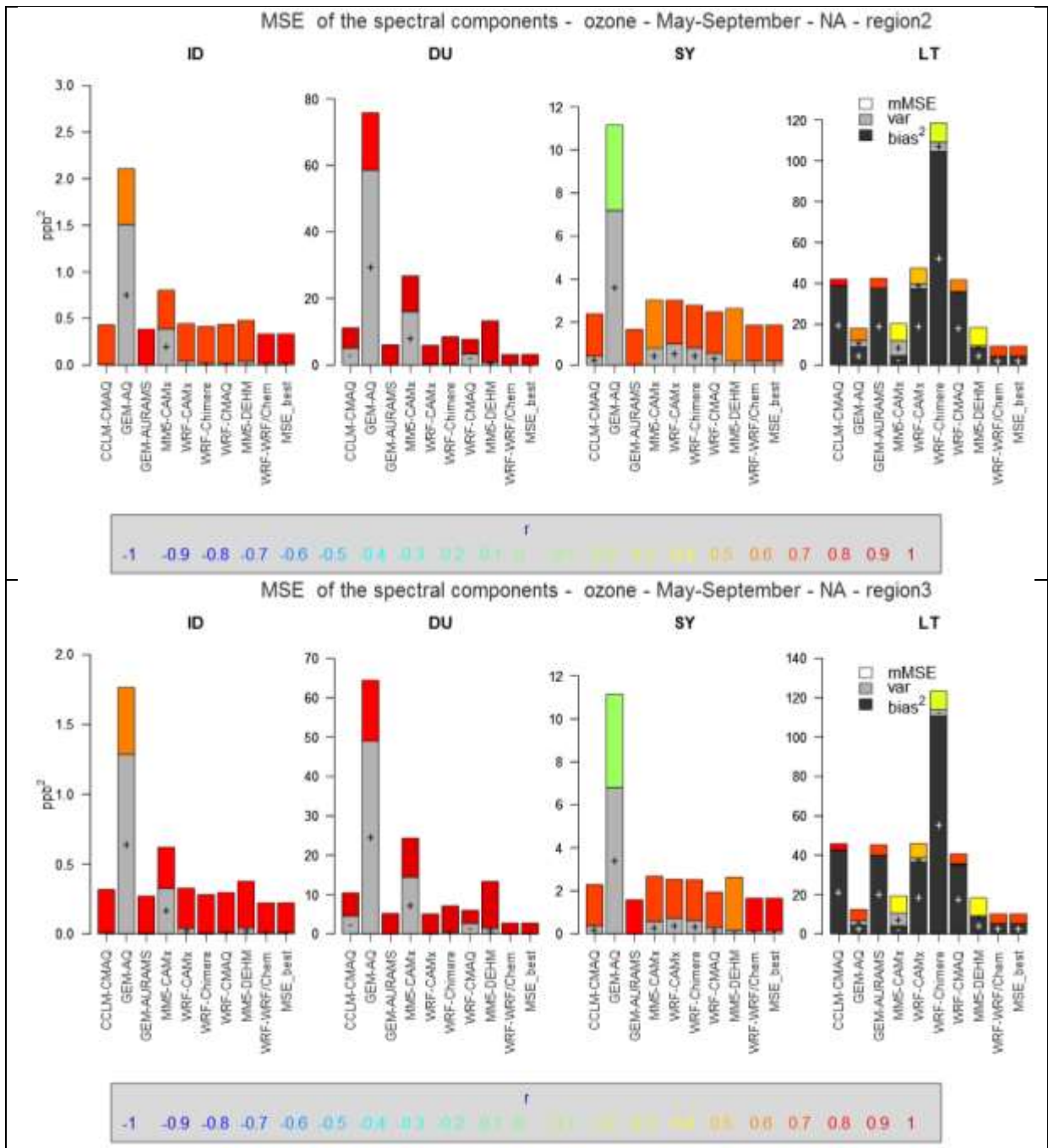
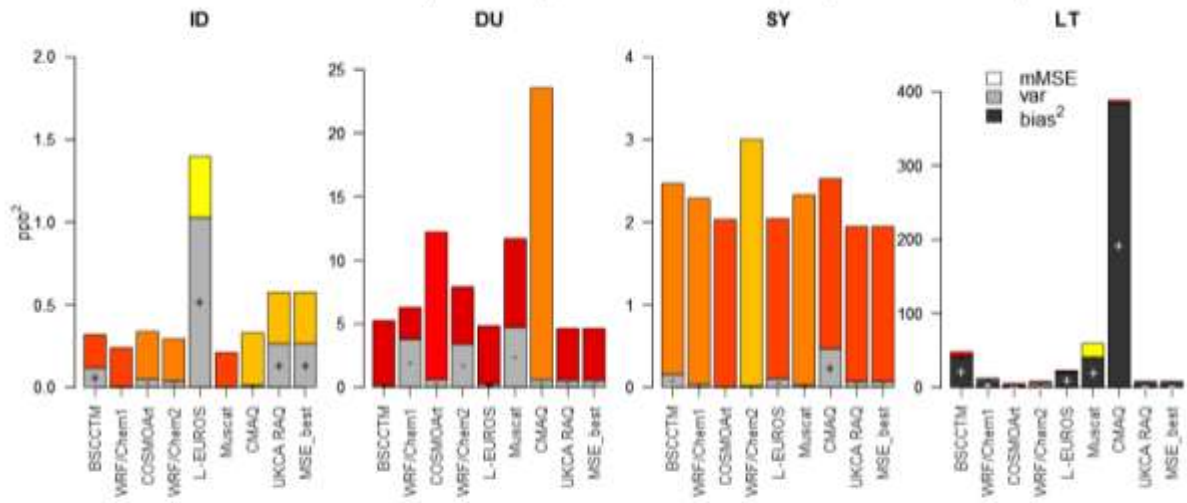


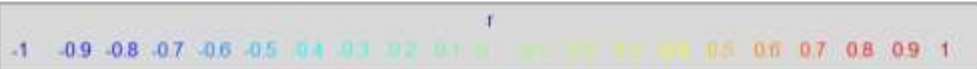
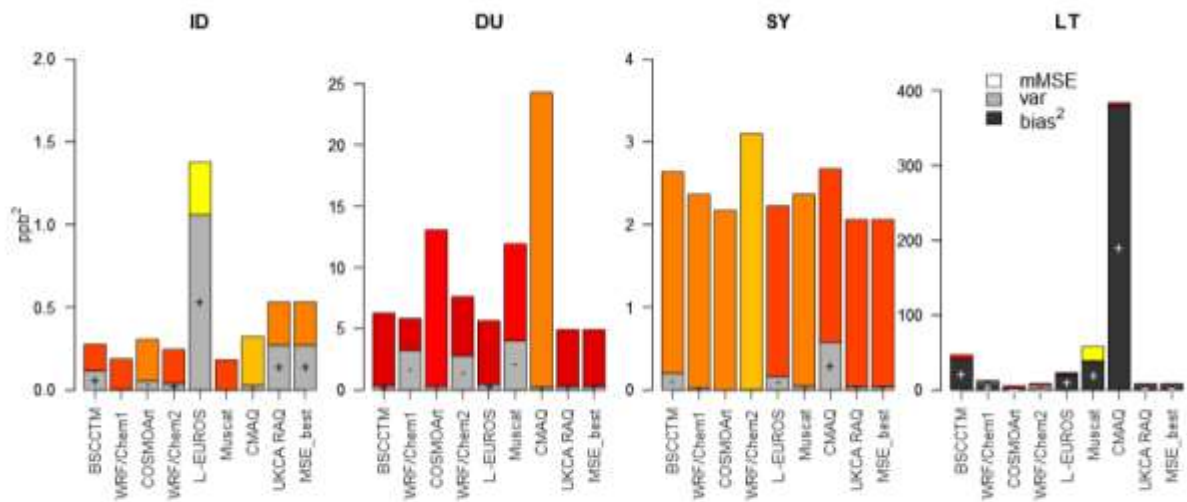
FIGURE S2. MSE (ppb²) breakdown in bias, variance and mMSE of the spectral components ID, DU, SY, LT (based on Eq 9) for the models of AQMEI1 and the three sub-regions of **FIGURE S1**. The sign within the share of bias and variance indicates model overestimation (+) or underestimation (-) of mean concentration (bias) and variance. The colour of the *mMSE* share of the error is coded based on the values of *r*, the correlation coefficient, according to the colour scale at the bottom of each plot. Top three panels: EU; lower three panels: NA.

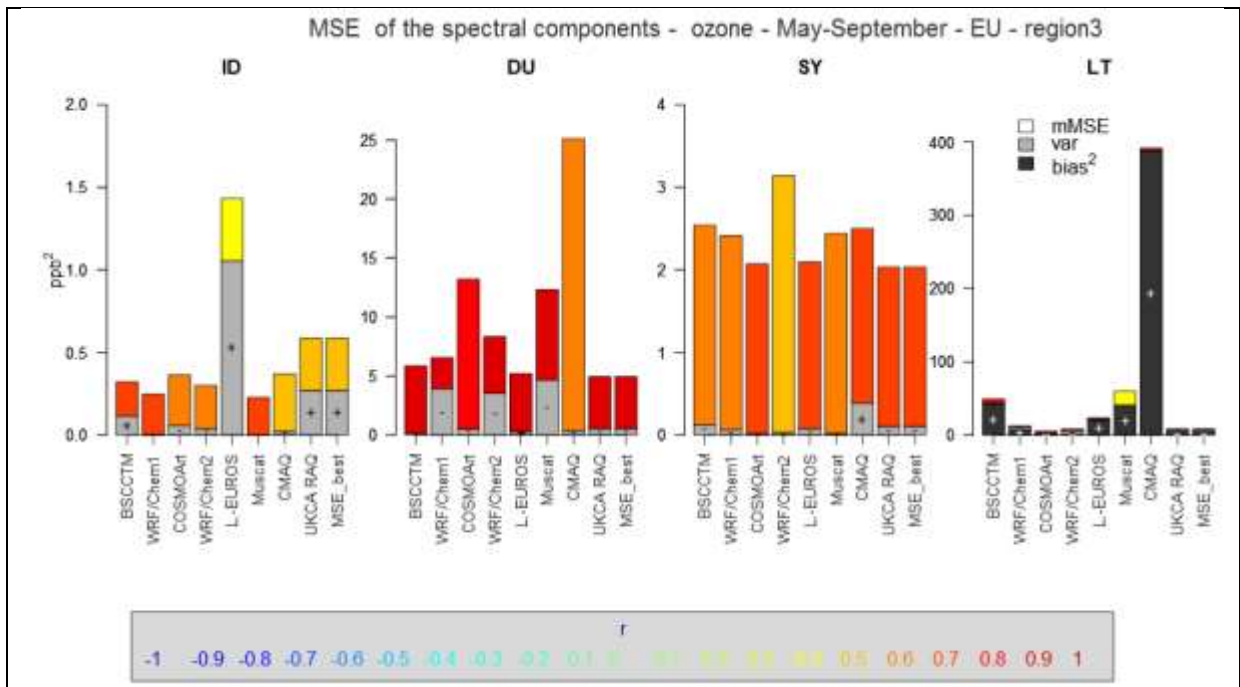
AQMEI 2 - EUROPE

MSE of the spectral components - ozone - May-September - EU - region1

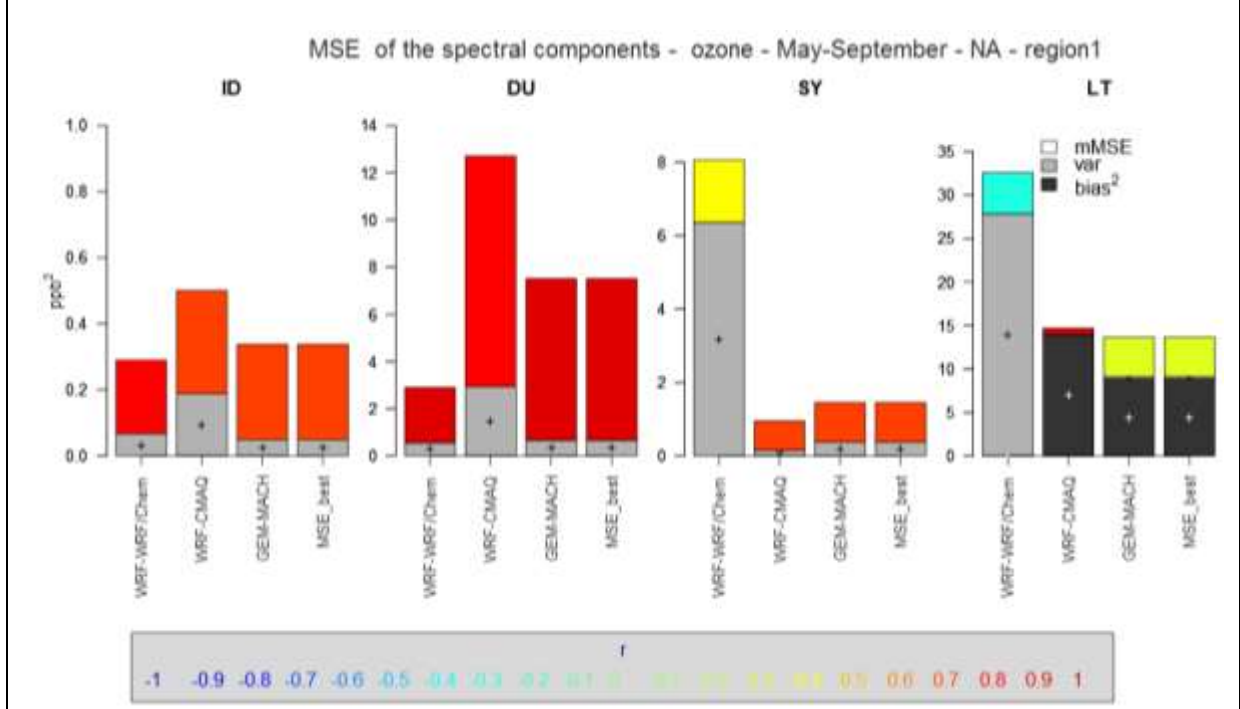


MSE of the spectral components - ozone - May-September - EU - region2





AQMEII 2 – North America



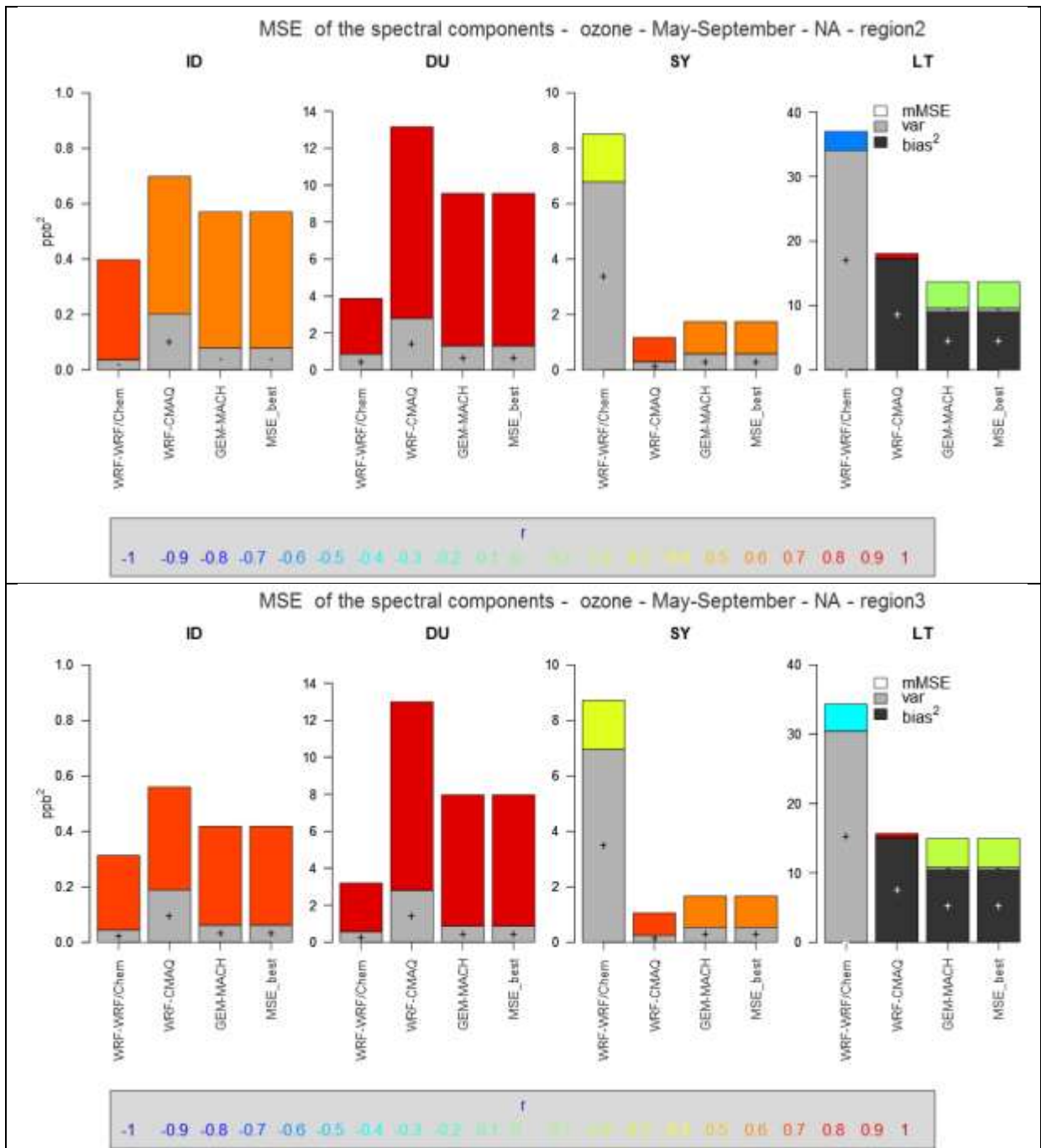


FIGURE S 3. As in

Figure S2 for the models of AQMEII2.