

Assessment of isoprene and near surface ozone sensitivities to water stress over the Euro-Mediterranean region

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Responses to Reviewers: Figures

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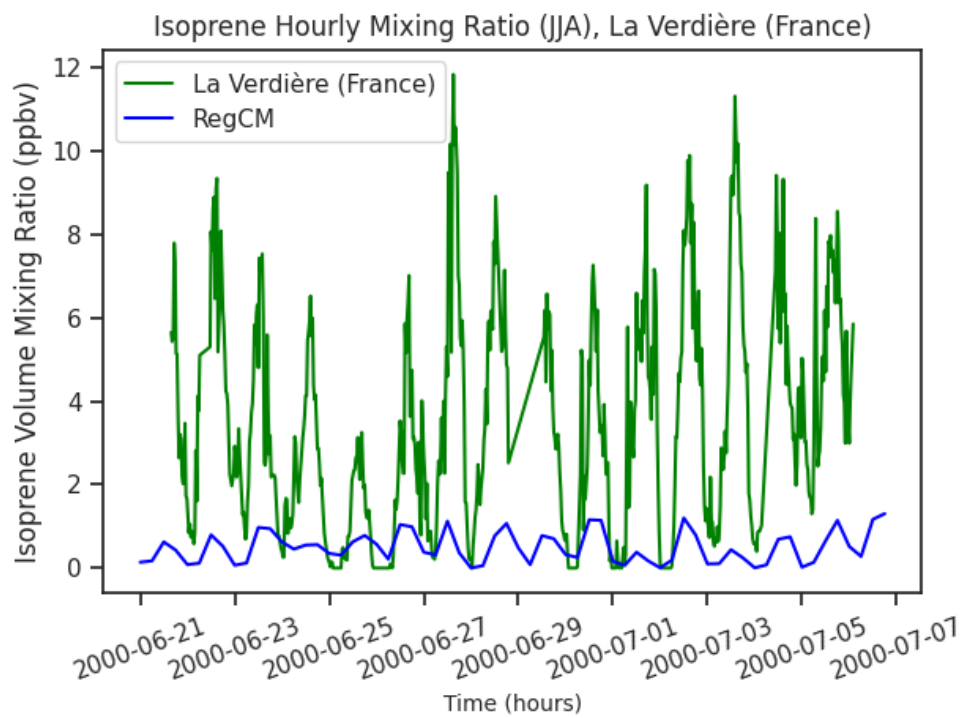


Figure R.1: Comparison of the time-series of isoprene concentrations (units: pptv) collected at La Verdière (Latitude: 43.63° N; Longitude: 5.93° E; France) during the ESCOMPTE filed campaign performed in the summer 2000. The green solid line shows observations, while the blue solid line shows the model output extracted over the nearest grid-cell to the observation spot from the GAMMA-SMoff simulation performed with the RegCM4chem-CLM4.5-MEGAN2.1 model.

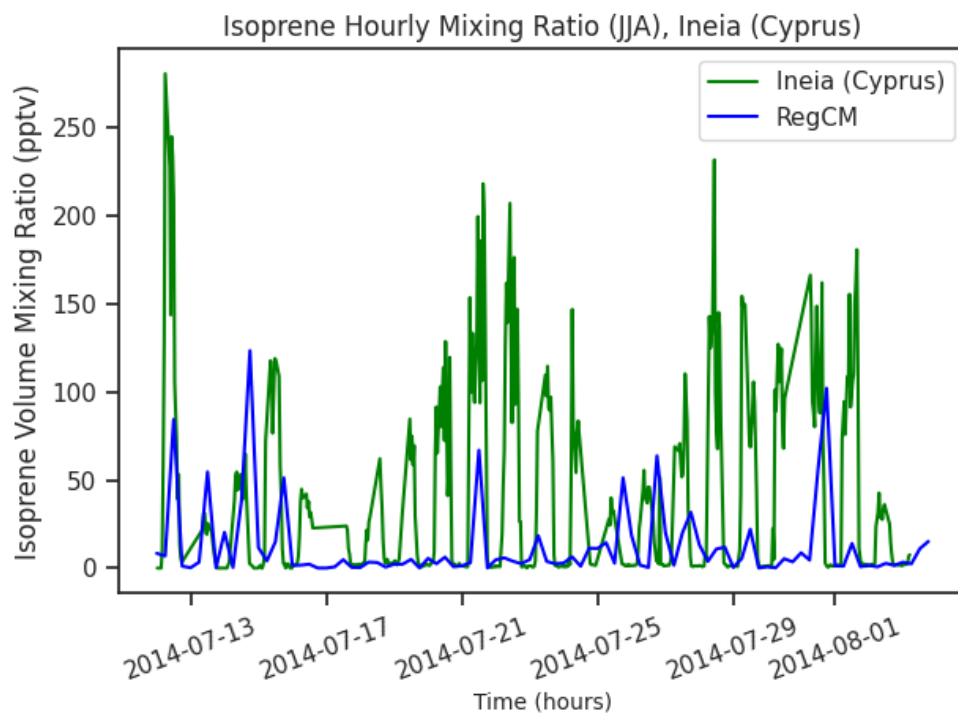


Figure R.2: Comparison of the time-series of isoprene concentrations (units: pptv) collected at Ineia (Latitude: 34.96° N; Longitude: 32.39° E; Cyprus) during the summer 2014. The green solid line shows observations, while the blue solid line shows the model output extracted over the nearest grid-cell to the observation spot from the GAMMA-SMoff simulation performed with the RegCM4chem-CLM4.5-MEGAN2.1 model.

Δ Near surface ozone, RegCM4.7 ($\gamma_{SM=off}$) - CAMS, JJA avg

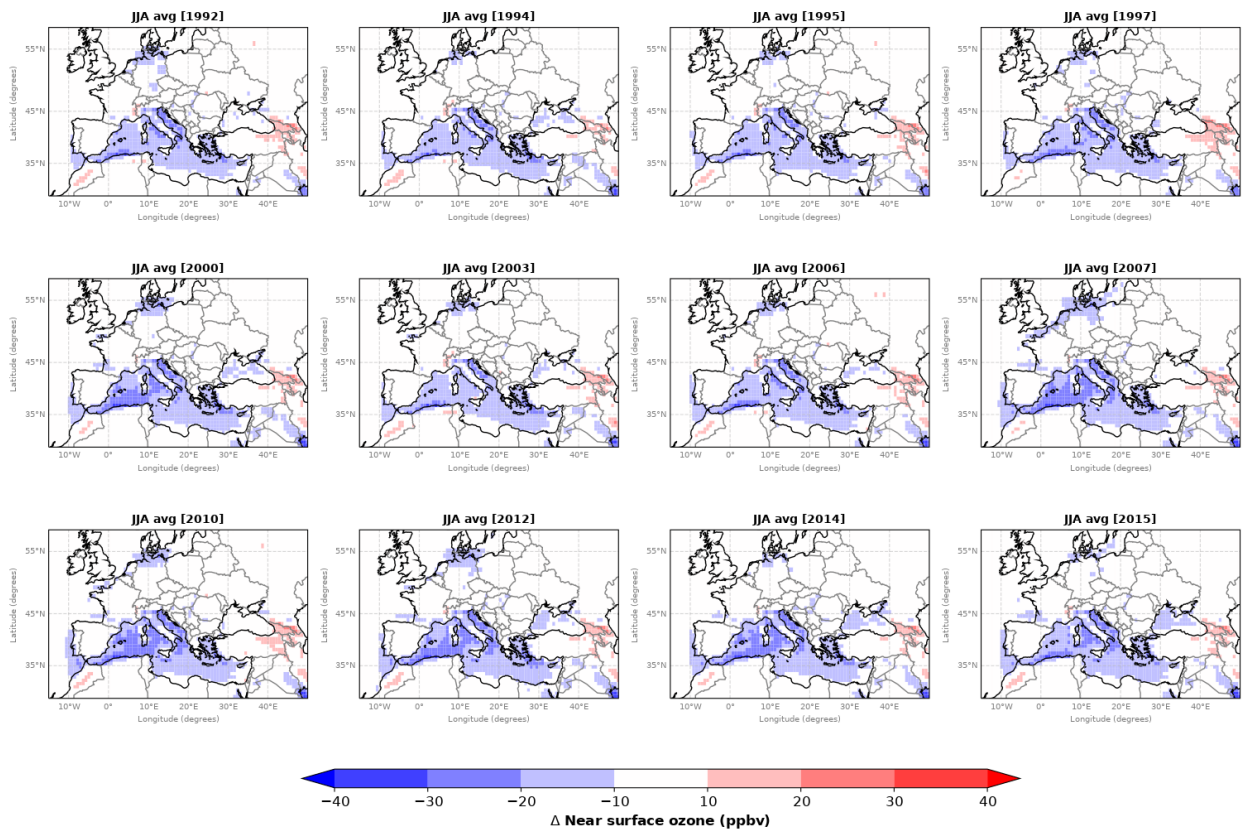


Figure R.3: Spatial distribution of summer-averaged differences in ozone (O_3) volume mixing ratio at 1000 hPa (units: ppbv) between the RegCM4-chem model and the CAMS re-analyses.

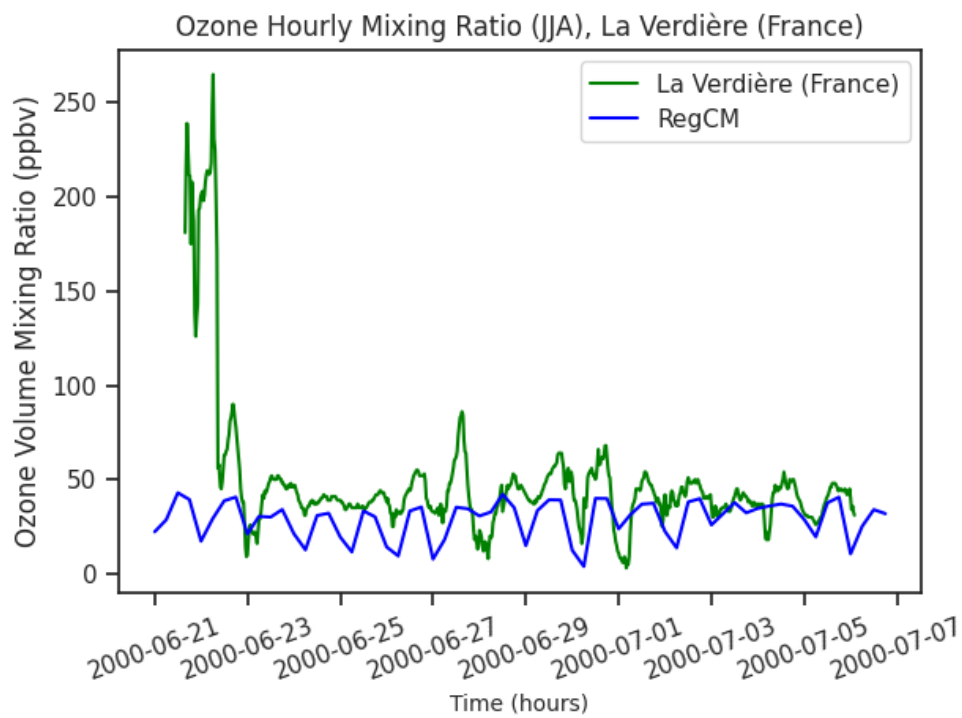


Figure R.4: Comparison of the time-series of near-surface ozone concentrations (units: ppbv) collected at La Verdière (Latitude: 43.63° N; Longitude: 5.93° E; France) during the ESCOMPTE filed campaign performed in the summer 2000. The green solid line shows observations, while the blue solid line shows the model output extracted over the nearest grid-cell to the observation spot from the GAMMA-SMoff simulation performed with the RegCM4chem-CLM4.5-MEGAN2.1 model.

HCHO, RegCM4.7 ($\gamma_{SM} = off$) - CAMS, JJA avg

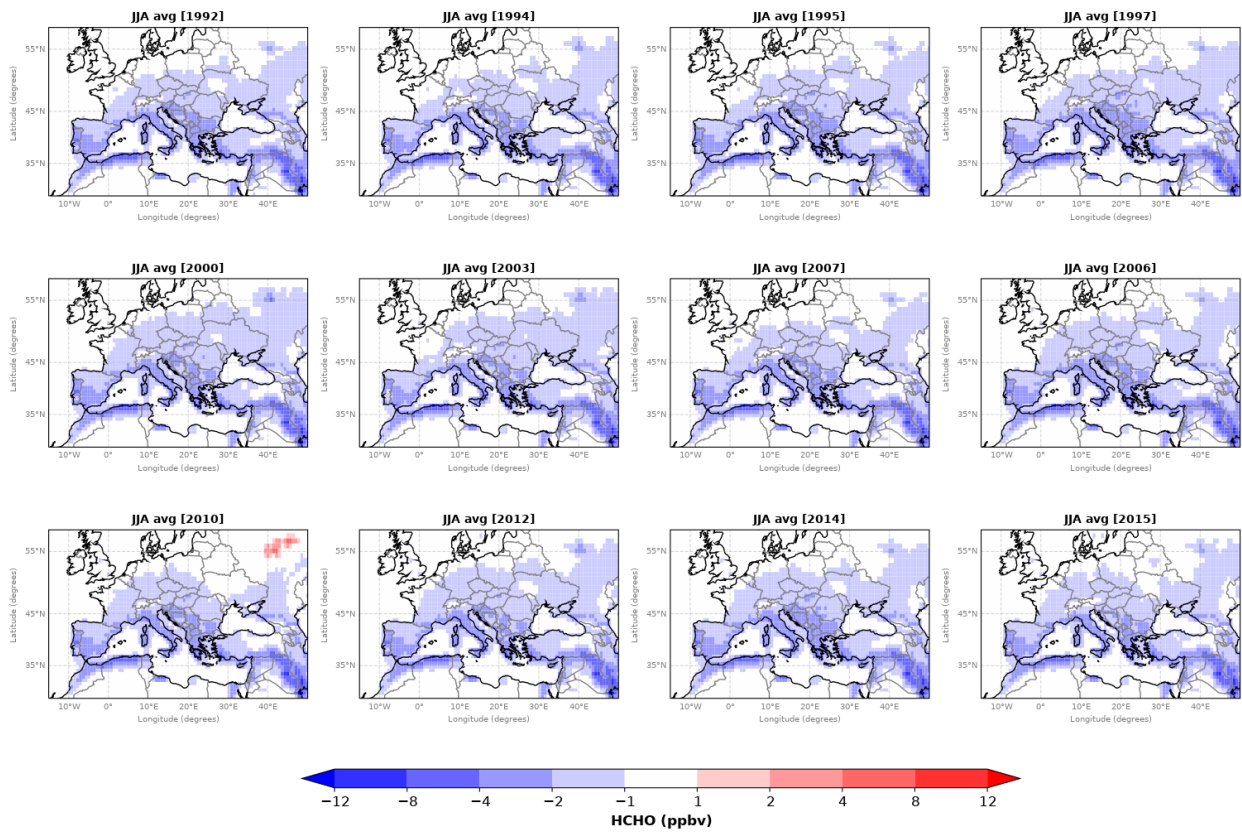


Figure R.5: Spatial distribution of summer-averaged differences in formaldehyde (HCHO) volume mixing ratio at 1000 hPa (units: ppbv) between the RegCM4-chem model and the CAMS re-analyses.

Ozone regime, RegCM4.7 ($V_{SM} = off$) - CAMS, JJA avg

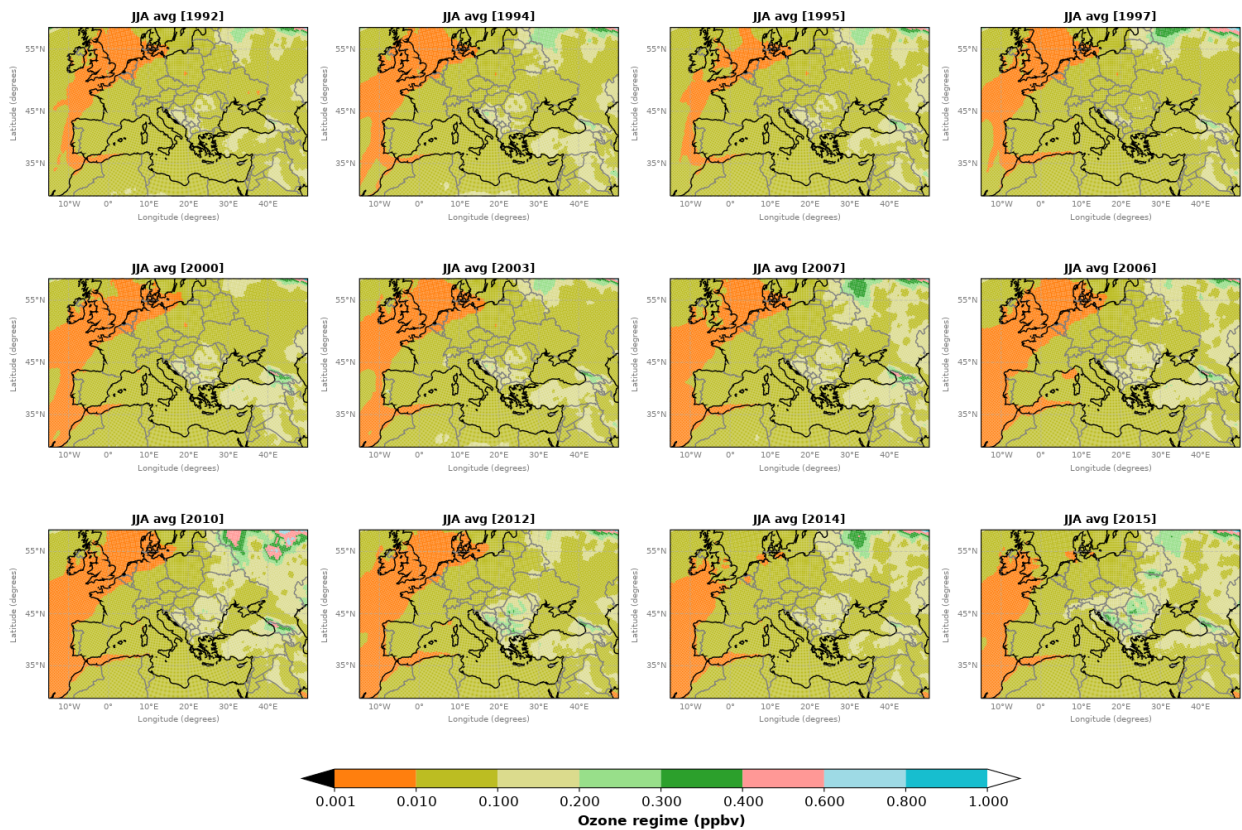


Figure R.6: Spatial distribution of the ratio between formaldehyde (HCHO) and nitrogen di-oxide (NO_2) mass mixing ratios at 1000 hPa as simulated by the RegCM4-chem model. The HCHO/ NO_2 ratio results lower than 1 over the whole domain, indicating that the model reproduces a VOC-limited regime, based on Duncan et al. (2000).