Supporting Information for

Scenario-driven ozone projections and associated impact on mortality over Africa with an integrated machine learning framework

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Introduction

This auxiliary material contains supporting figures for Scenario-driven ozone projections and associated impact on mortality over Africa with an integrated machine learning framework.

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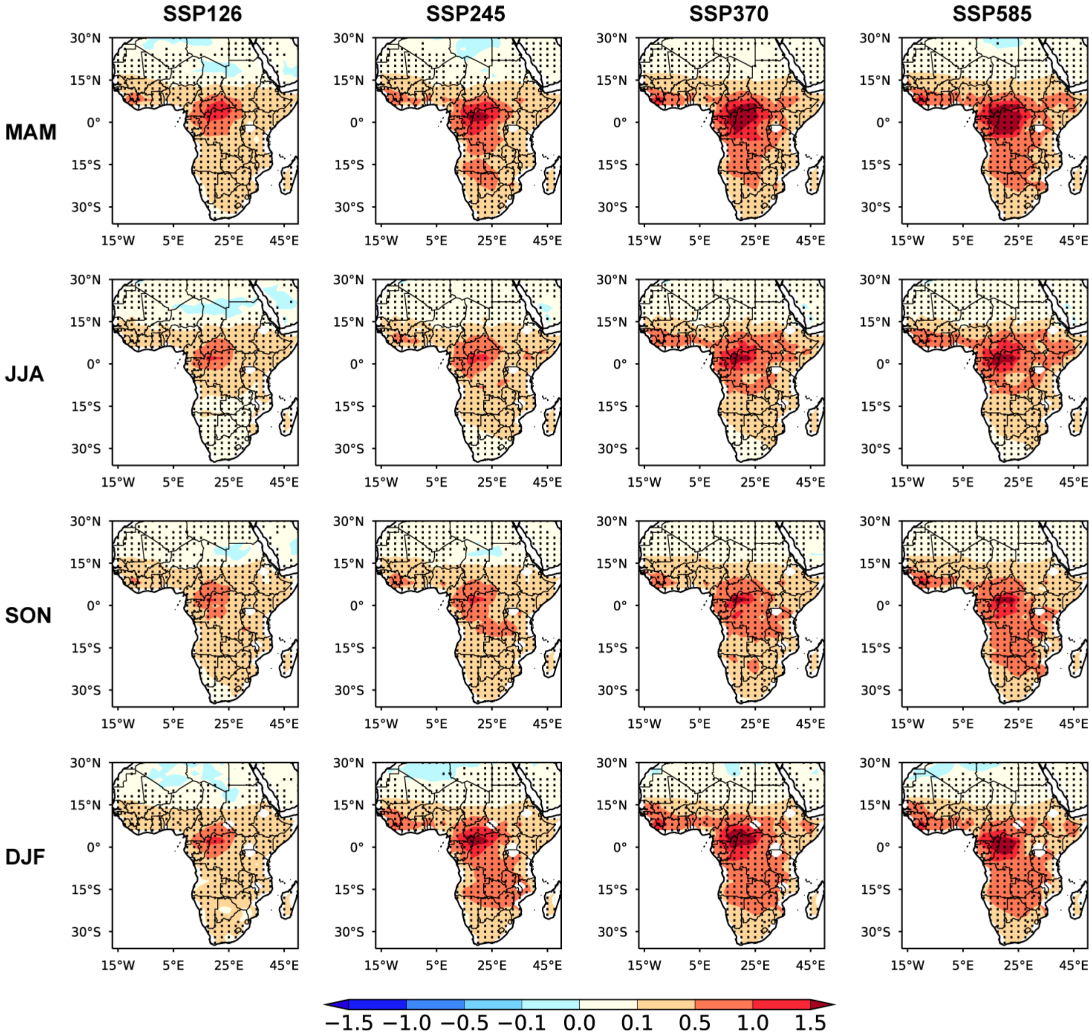

Figure S1. Spatial distributions of differences in climate-driven biogenic isoprene emissions (g/m^2/yr) between 2050–2054 and 2020–2024 over Africa under four scenarios (SSP1-2.6, SSP2-4.5, SSP3-7.0 and SSP5-8.5, from left to right) averaged in MAM (March–April–May), JJA (June–July–August), SON (September–October–November), and DJF (December–January–February) (from top to bottom). The shaded areas indicate that the differences are statistically significant at the 90% confidence level.

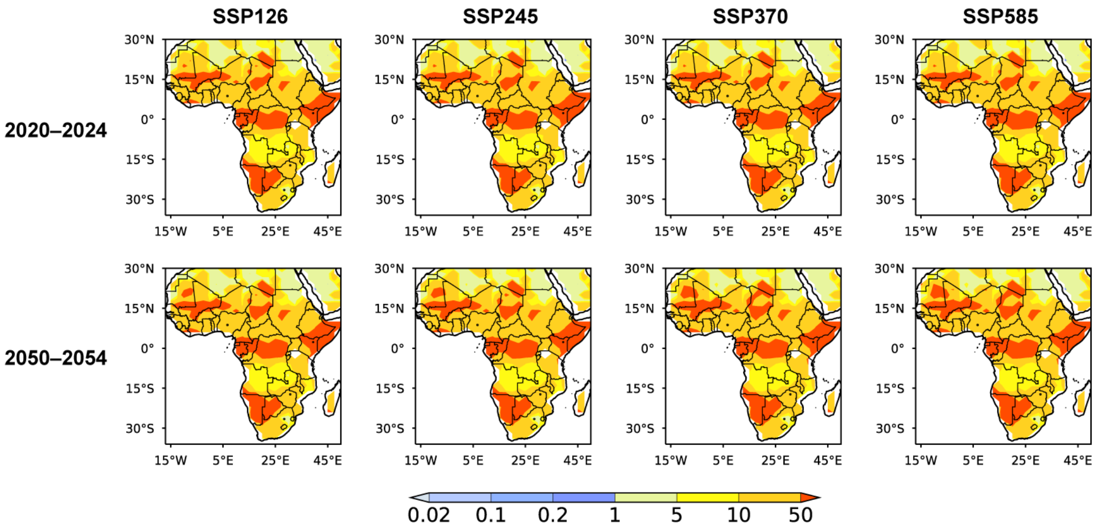

Figure S2. The ratio of VOCs emission to NO_x emission over Africa in 2050–2054 and 2020–2024 under SSP1-2.6, SSP2-4.5, SSP3-7.0 and SSP5-8.5 scenarios.

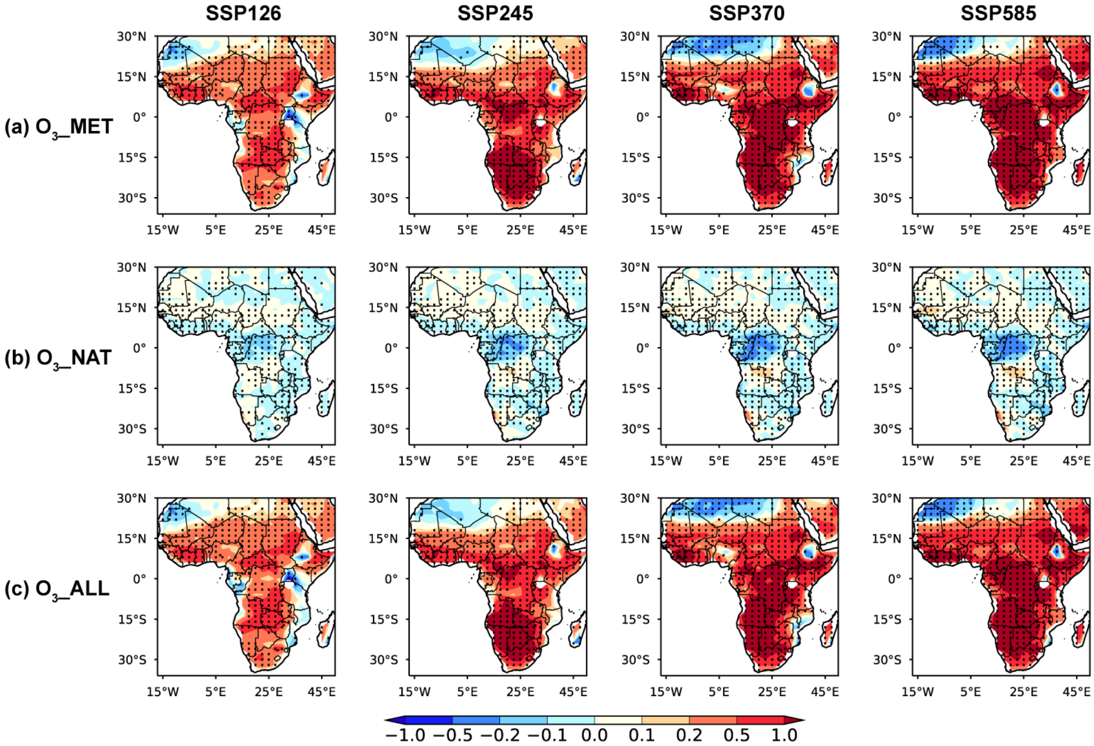

Figure S3. Spatial distributions of differences in RF-predicted near-surface O_3 concentrations (ppb) over Africa in response to (a) changes in meteorological fields (O_3_MET), (b) changes in biogenic isoprene emissions (O_3_NAT), and (c) both of them (O_3_ALL) averaged in MAM between 2050–2054 and 2020–2024 under SSP1-2.6, SSP2-4.5, SSP3-7.0 and SSP5-8.5 scenarios. The shaded areas indicate that the differences are statistically significant at the 90% confidence level.

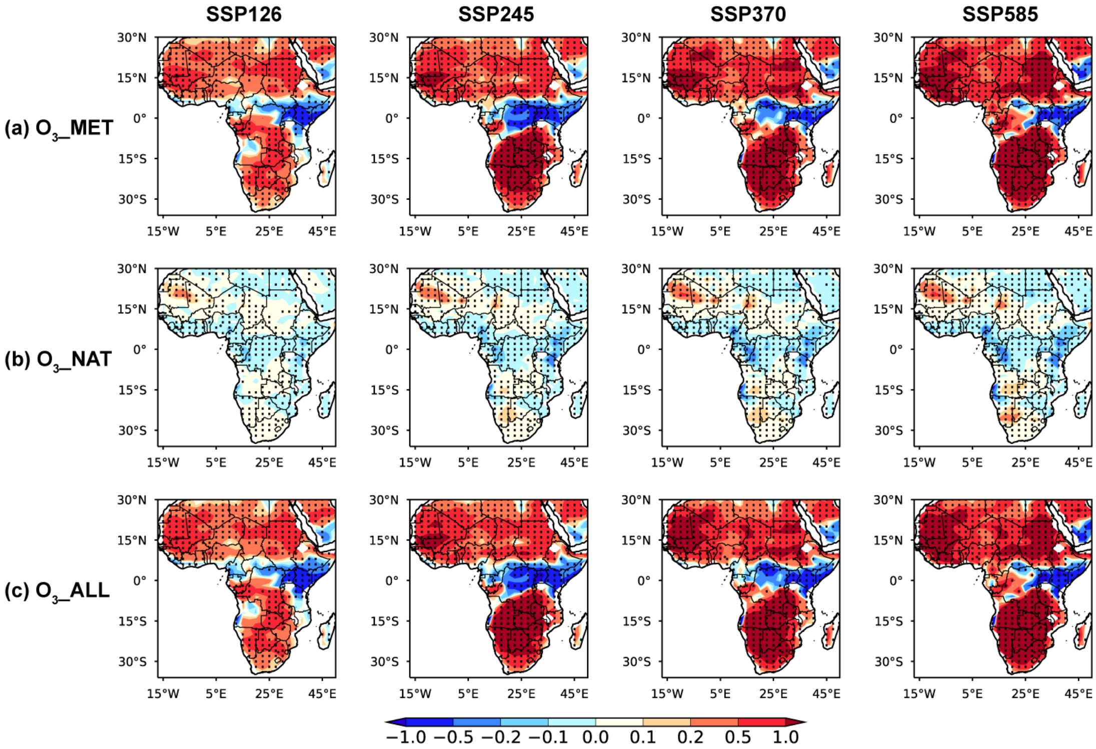

Figure S4. Same as Fig. S3, but for JJA.

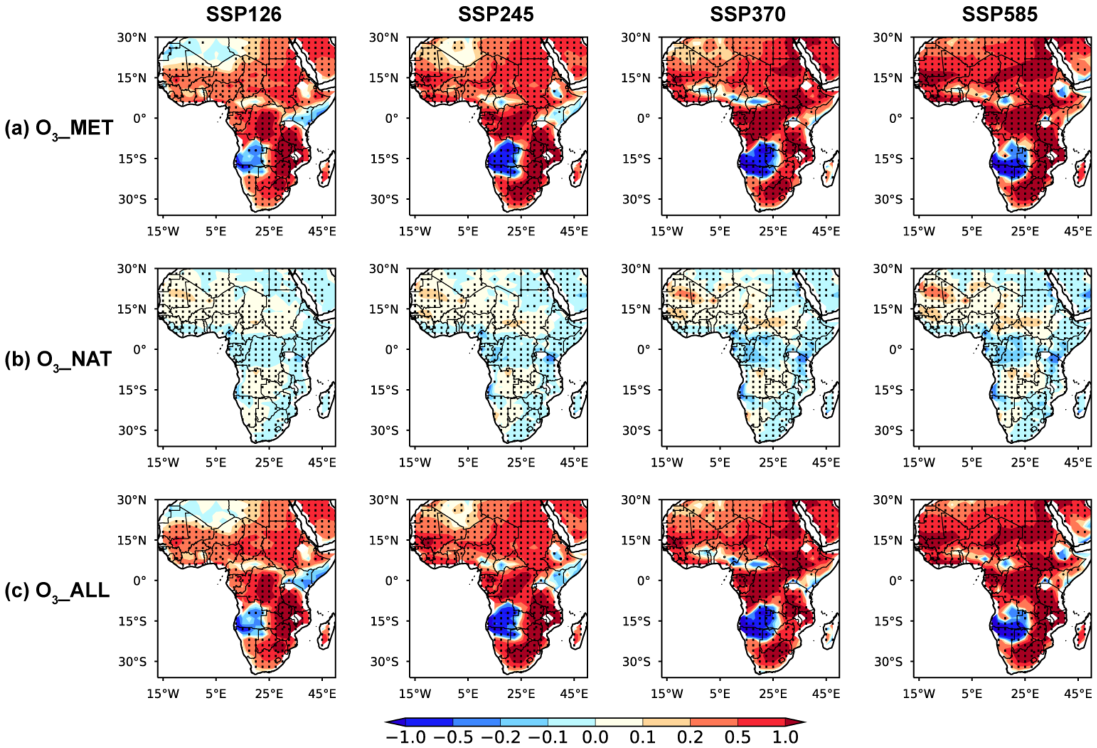

Figure S5. Same as Fig. S3, but for SON.

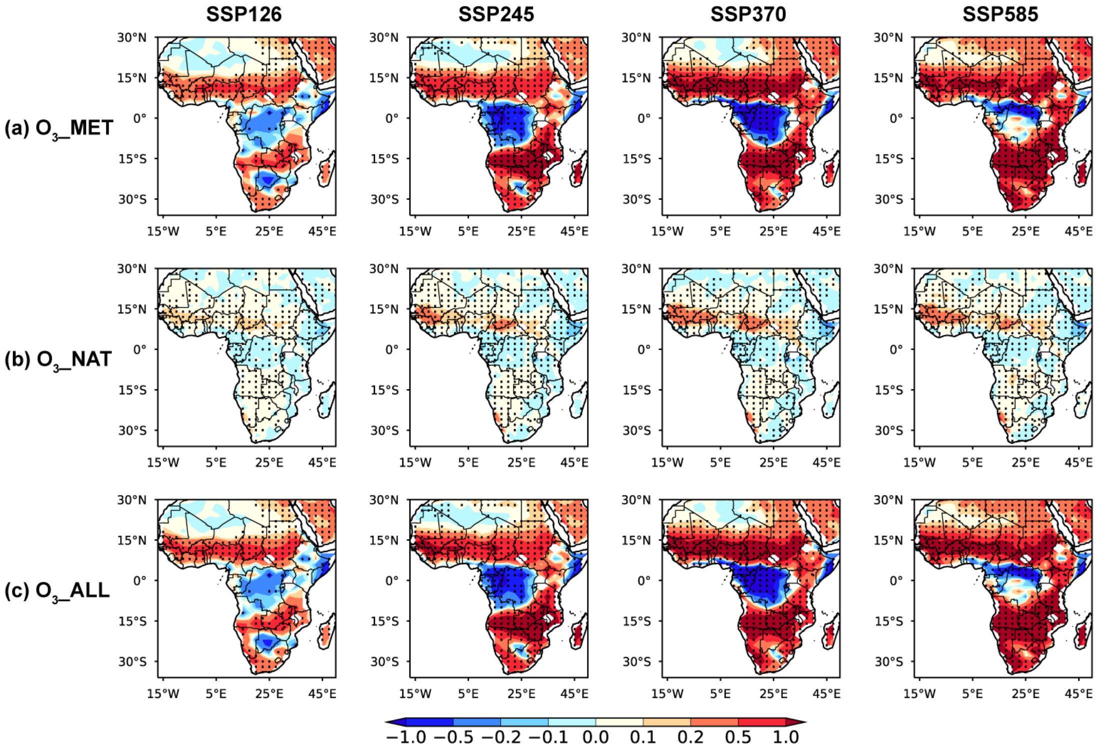

Figure S6. Same as Fig. S3, but for DJF.

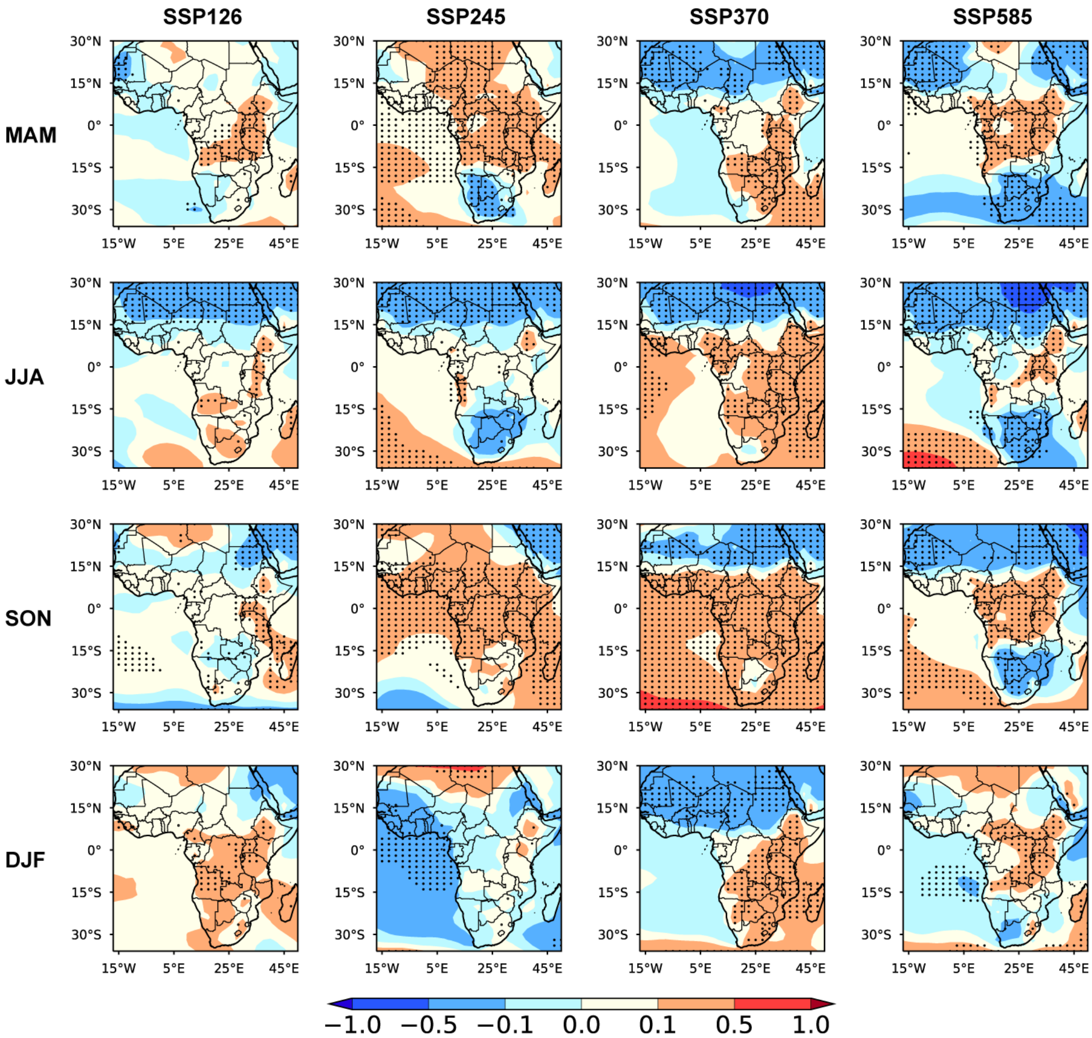

Figure S7. Spatial distributions of differences in the CMIP6 multi-model seasonal averaged (MAM, JJA, SON and DJF, from top to bottom) sea level pressure (SLP, hPa) between 2050–2054 and 2020–2024 over Africa under four scenarios (SSP1-2.6, SSP2-4.5, SSP3-7.0 and SSP5-8.5, from left to right) The shaded areas indicate that the differences are statistically significant at the 90% confidence level.

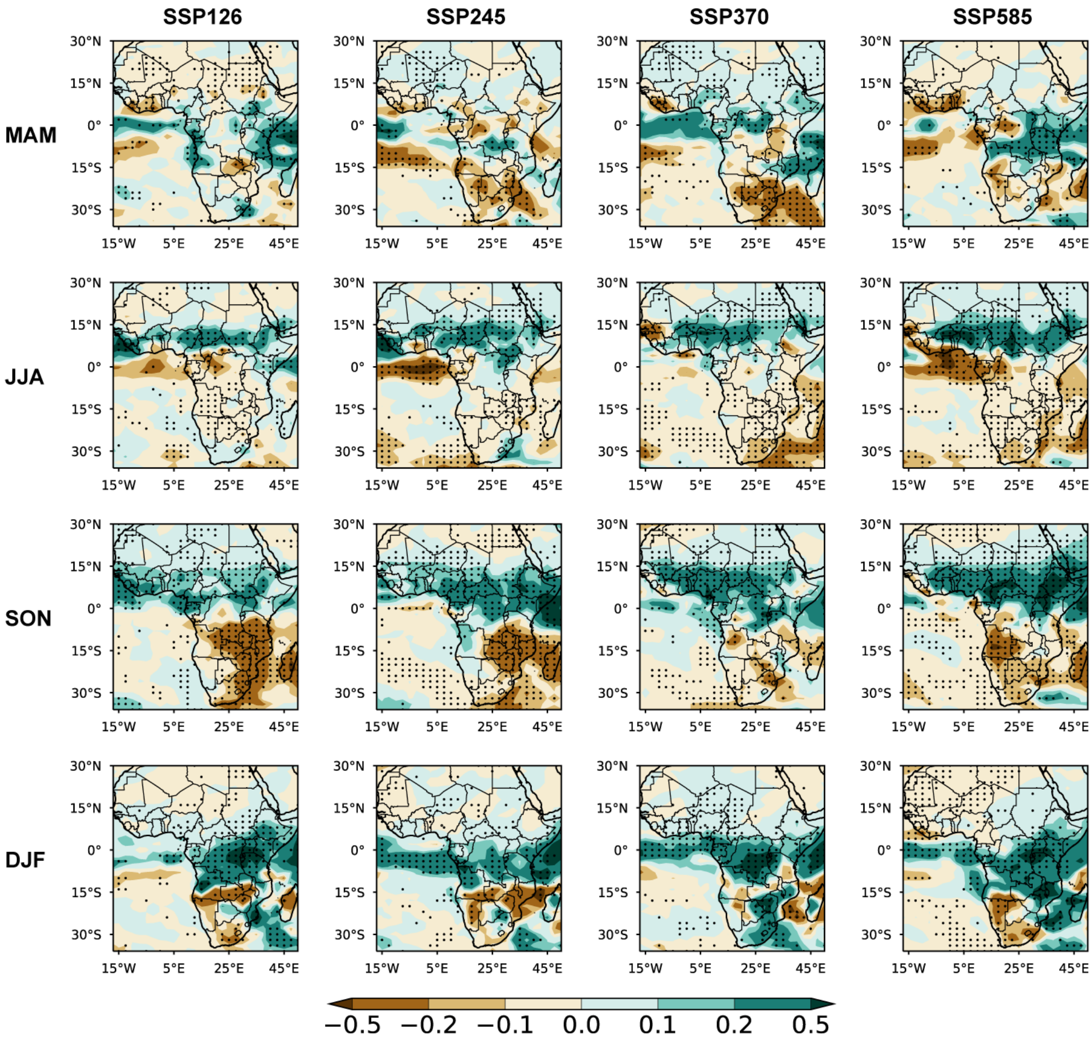

Figure S8. Same as Fig. S7, but for precipitation (PRECP, mm day^{-1}).