

Reference Number: EGUSPHERE-2025-4791

RESPONSES TO EDITOR'S COMMENTS

We are grateful to Editor for his/her insightful review. The provided comments have contributed substantially to improving the paper. According to them, we have made significant efforts to revise the manuscript, with the details explained as follows.

Point #1

***COMMENT:** Thank you for submitting a revised version of your manuscript. While the minor comments by the reviewer have been addressed well, my comment on the inappropriate choice of color schemes still applies as you are still using divergent color schemes for continuous variables. Thank you for adjusting these.*

***RESPONSE:** We sincerely appreciate the editor's valuable comment for pointing out again the issue regarding the inappropriate use of diverging color schemes for continuous variables. We apologize for misunderstanding this key visualization principle and for not fully addressing the concern in our earlier revision. In the revised manuscript, we have replaced the color schemes in the relevant figures with sequential colormaps. In detail, the revised figures are provided as follows:*

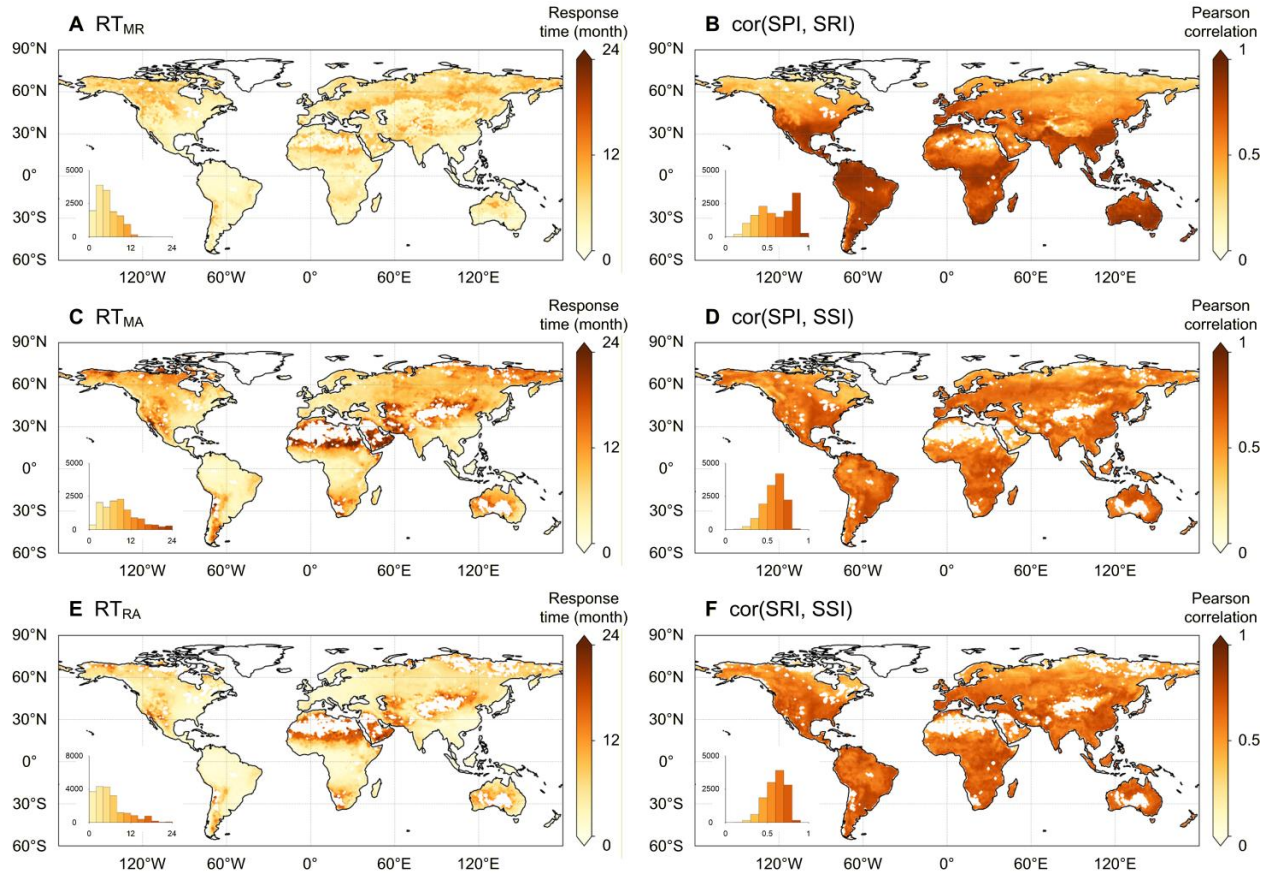


Figure 1. Spatial patterns of average response time from meteorological to runoff droughts (RT_{MR}), from meteorological to agricultural droughts (RT_{MA}), and from runoff to agricultural droughts (RT_{RA}), and the corresponding Pearson correlation coefficients derived from the ensemble of ERA5, GLDAS, and TerraClimate datasets. The blank grids indicate that the correlation between different drought indices is not statistically significant (p -value < 0.05). The inner plots show the histograms of response time and maximum correlation across global land areas.

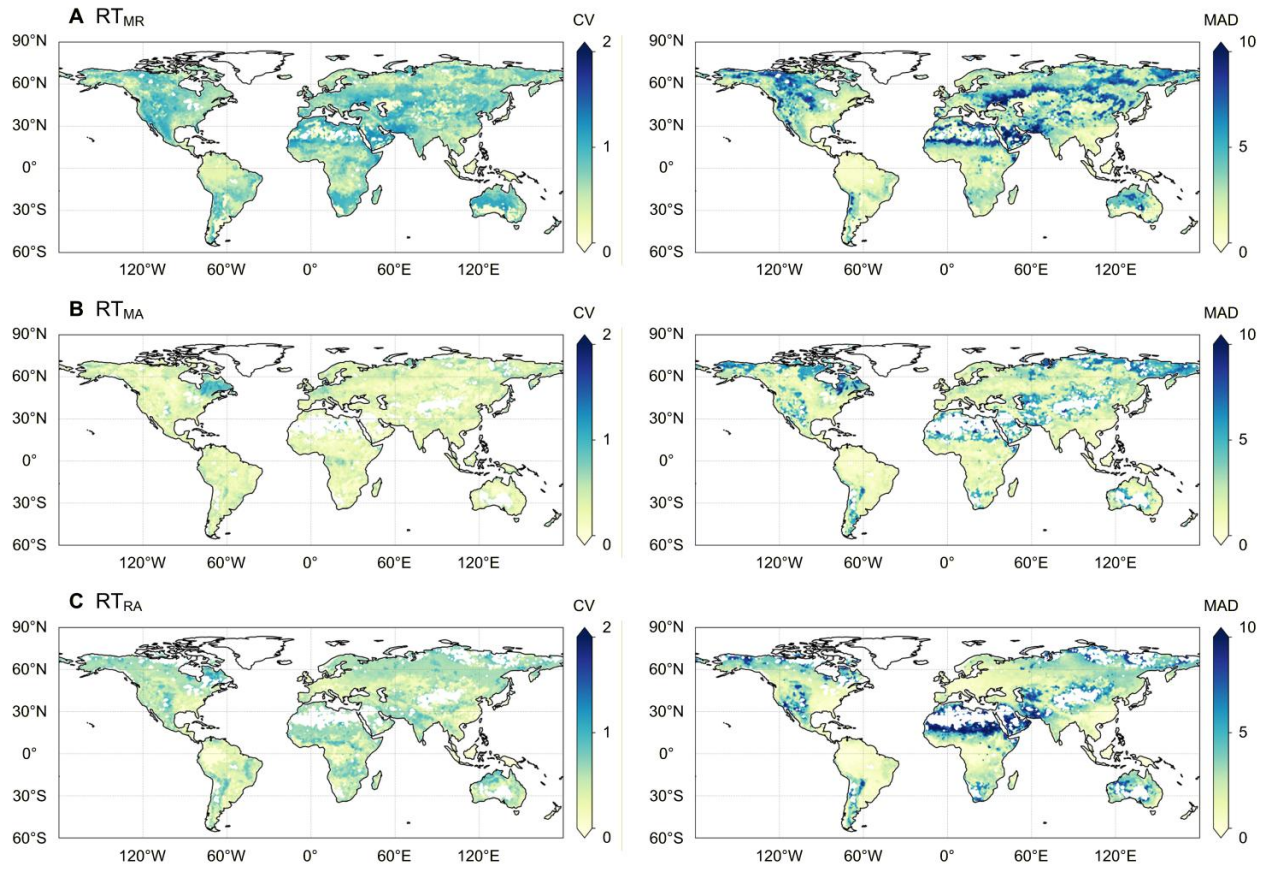


Figure 2. Spatial patterns of CV and MAD across the ERA5, GLDAS, and TerraClimate datasets for the response time from meteorological to runoff droughts (RT_{MR}), from meteorological to agricultural droughts (RT_{MA}), and from runoff to agricultural droughts (RT_{RA}). Larger values of the CV and MAD signify a more substantial disparity among distinct datasets.

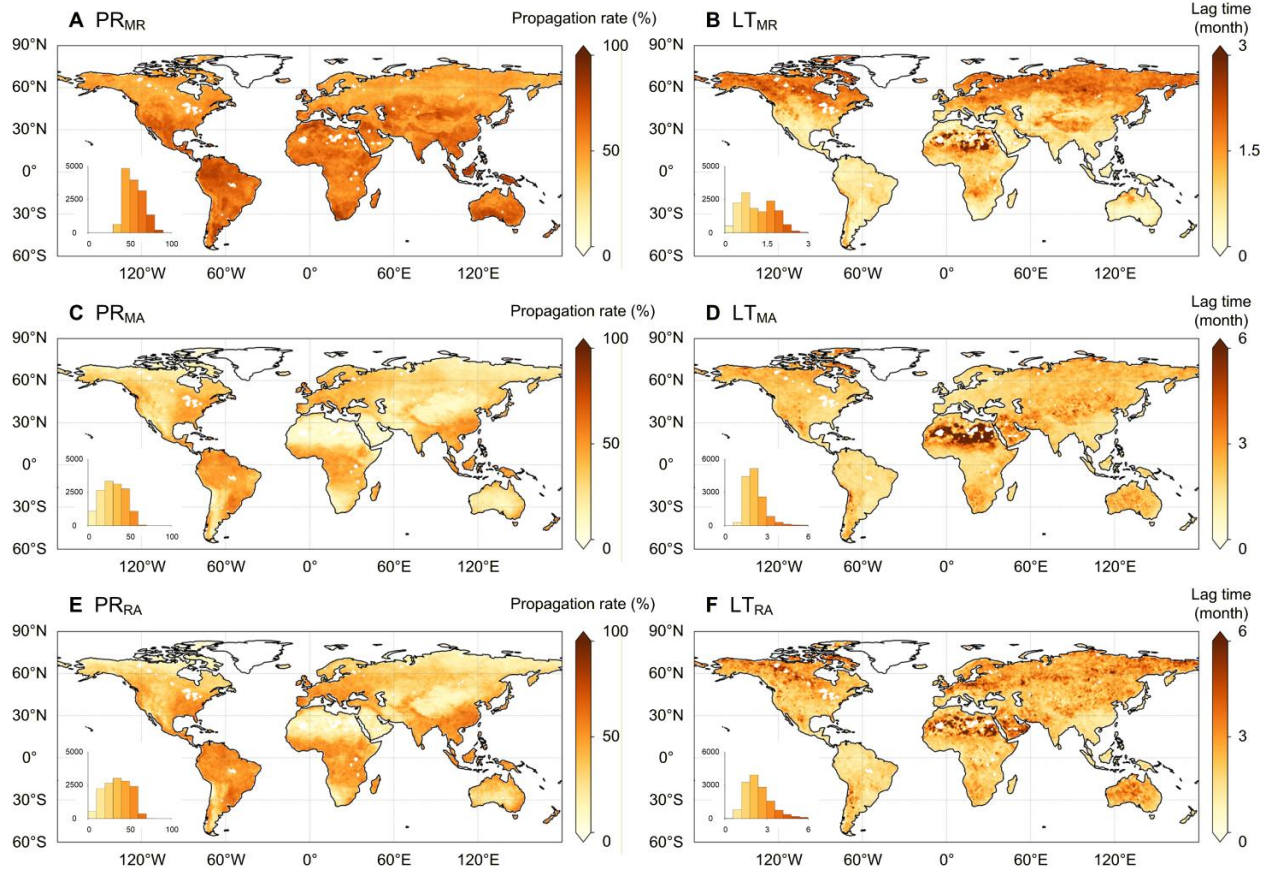


Figure 4. Spatial patterns of propagation rate (PR_{MR} , PR_{MA} and PR_{RA}) and lag time (LT_{MR} , LT_{MA} and LT_{RA}) derived from the ensemble of ERA5, GLDAS, and TerraClimate datasets across global land areas. The inner plots show the histograms of propagation rate and lag time across global land areas. The value of LT_{MR} is lower those that of LT_{MA} and LT_{RA} , so it is assigned a different colour bar.

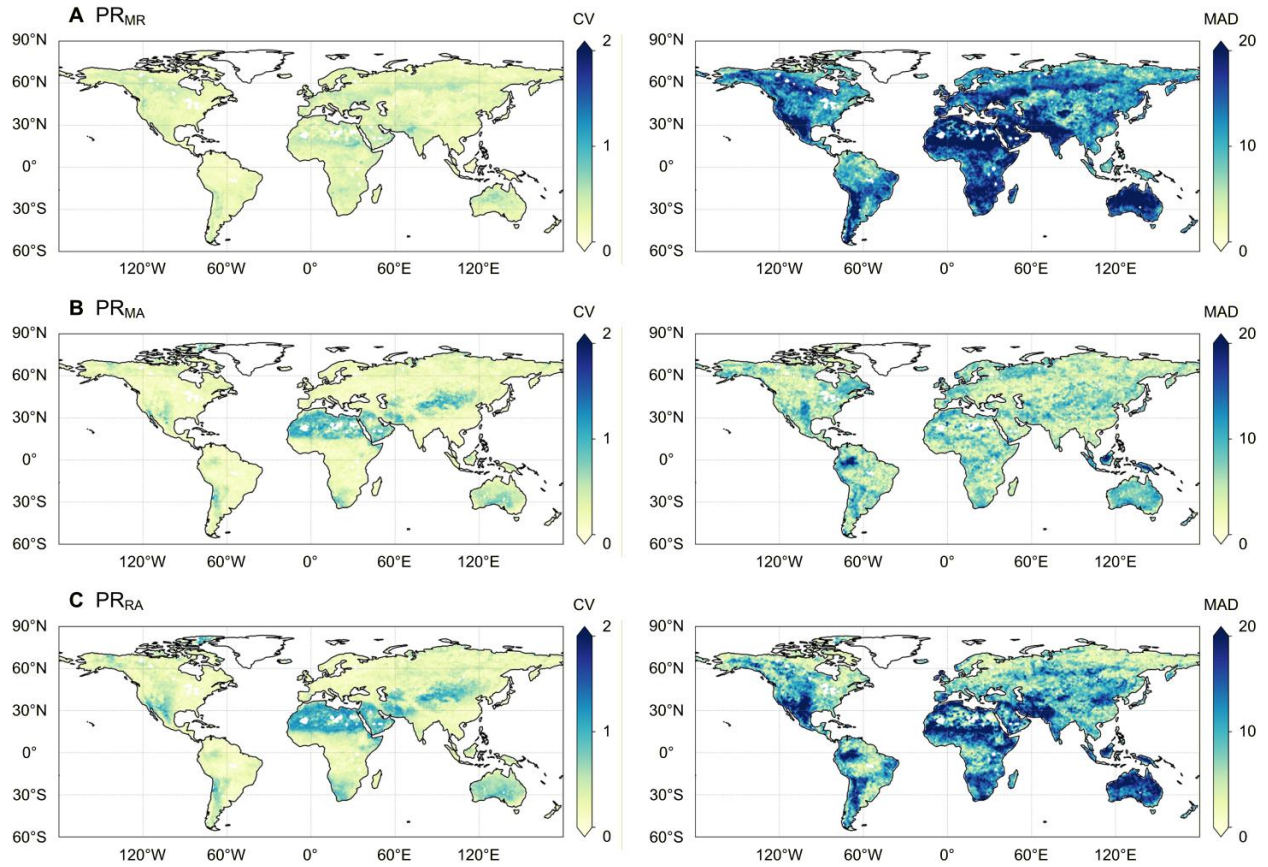


Figure 5. Spatial patterns of CV and MAD across the ERA5, GLDAS, and TerraClimate datasets for the propagation rate from meteorological to runoff droughts (PR_{MR}), from meteorological to agricultural droughts (PR_{MA}), and from runoff to agricultural droughts (PR_{RA}).

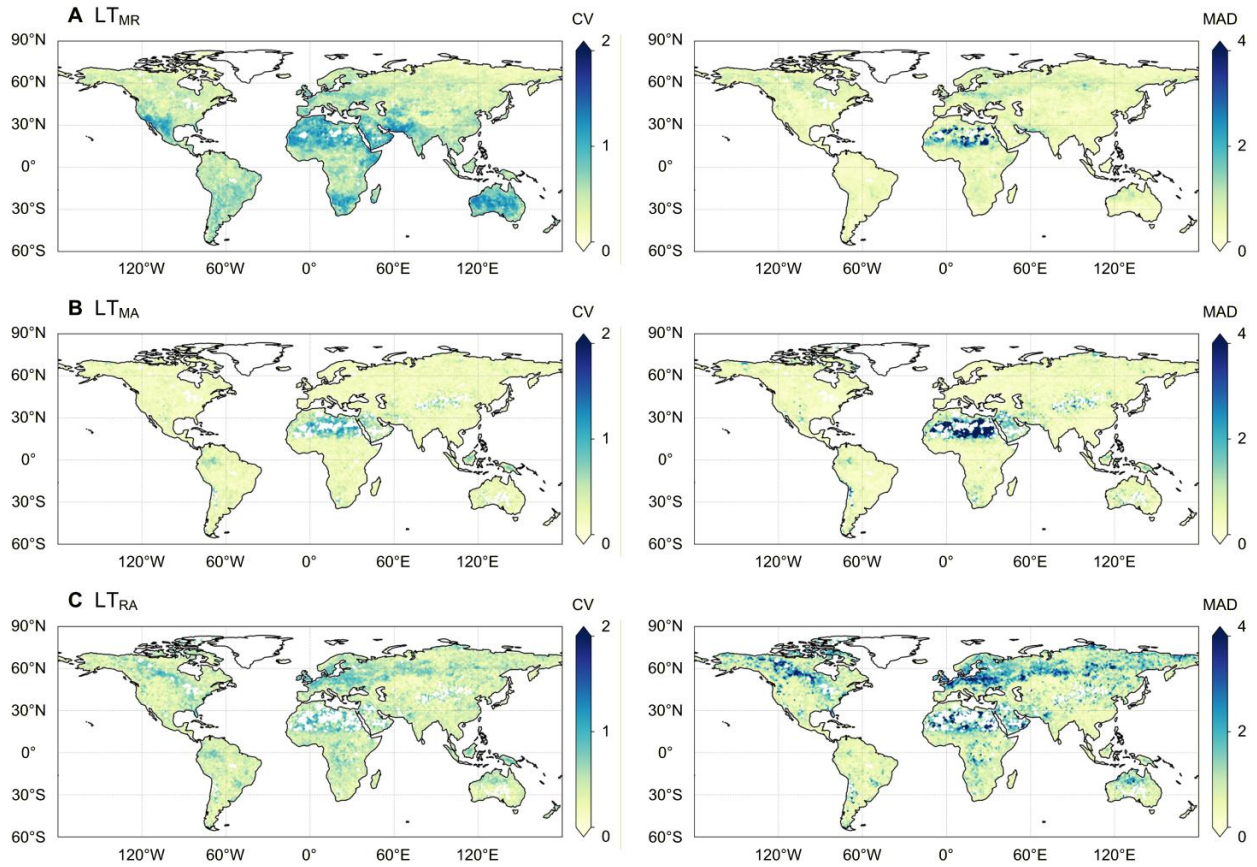


Figure 6. Spatial patterns of CV and MAD across the ERA5, GLDAS, and TerraClimate datasets for the lag time from meteorological to runoff droughts (LT_{MR}), from meteorological to agricultural droughts (LT_{MA}), and from runoff to agricultural droughts (LT_{RA}).