

Editor comments

A1: We thank the editor for the quick handling of our manuscript in these difficult times.

Comments to the Author:

Based on the reviewers comments two clarification are asked:

1. As a common aridity index is based on the ratio between the annual precipitation to potential evapotranspiration, the authors are asked to refer here to Budyko (or a newer reference) and state that L is the latent heat of water vaporization.

A2: We have added the reference to the Budyko paper in lines 105-109:

“This index was originally introduced as the ratio between mean potential evapotranspiration over the study period and the respective mean precipitation, with the latter scaled by the latent heat of vaporization to yield a unitless index value (25). We use an adapted form where we replace the potential evapotranspiration with satellite-derived net radiation.”

2. Please clarify the answer for the comment on line 185 as in the Authors answer at lines 187-9.

A3: We have adapted the respective paragraph in lines 190-194:

“It is computed by (i) obtaining the drought-related GPP anomaly accumulated over an 8-month time window containing the drought period (see methods), and the respective drought metric values for each grid cell and its respective strongest drought, and (ii) calculating the correlation between the drought-related GPP anomalies and the respective drought metric values across all grid cells of each aridity class.”