

Review of “Assessing the Impact of the Human Development Index on Historical Trends in the INFERNO Fire Model” by Teixeira et al.

Reviewer: Vincent Verjans

This is my fourth review of this study. In their latest revision, the authors have modified their wording concerning the removal of the FWI-trend influence on BA. They have also expanded the description for their motivation for this detrending method.

First, I find the new wording (“FWI-trend adjusted”) more representative of the procedure than the previous term (“deweathered”). However, I still consider the detrending procedure somewhat contrived, and not the most appropriate method for removing the FWI associated trend from BA under a linear assumption. Nevertheless, I expect that adopting a more valid detrending approach (described below) would have a small quantitative impact on the results. For this reason, I do not view this issue as a major barrier to publication, provided that the editor agrees. I have no other reservations regarding publication of the manuscript.

I would nevertheless like to restate what I consider to be a more justified FWI-trend adjustment, as already described in my previous review. In future studies, I encourage the authors to use this method, as it ensures that the slopes associated with each variable (FWI and BA) remain consistent, and are not inter-mixed between variables.

$$\widehat{\text{FWI}}'_{i,j}(t) = \beta_{i,j}^{\text{FWI}} t + \alpha_{i,j}^{\text{FWI}}$$
$$\widehat{\text{BA}}'_{i,j}(t) = \beta_{i,j} \times \widehat{\text{FWI}}'_{i,j}(t) + \alpha_{i,j}$$