

Interactive comment on “Assessing variability and long-term trends in burned area by merging multiple satellite fire products” by L. Giglio et al.

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We thank Dr. Tansey for his helpful suggestions and kind remarks. A brief response to each point follows.

1. We will add a paragraph near the beginning of the manuscript that outlines the algorithm differences between the burned area products in more detail, including the MODIS MCD45 and the MODIS Direct Broadcast products. (This will help address an issue raised by the second reviewer as well.) We will also add a citation in Section 3.1.1 (“Direct mapping”) as suggested.
2. We agree that an evaluation (indeed, a validation) of all available burned area products should be undertaken through the CEOS land validation protocol. With
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GFED-scale (0.5°) products, however, adoption of this protocol is complicated by the higher spatial resolution and much smaller coverage area of the fine-scale satellite imagery (typically Landsat) used to produce validation data sets, particularly in the handling of unmapped areas. (A Landsat scene typically provides complete coverage of at most a few 0.5° grid cells.) Further complications arise because the arbitrary dates of Landsat overpasses do not generally match the monthly time steps of GFED. Nevertheless, the CEOS protocol is perfectly suited to validation of our 500-m MODIS burned area maps, which are the primary source of the GFED burned area estimates during the MODIS era.

3. We will add a new paragraph to our conclusions (Section 6) with the requested assessment.

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