

## ***Interactive comment on* “Commentary on “Improving the seasonal cycle and interannual variations of biomass burning aerosol sources” by Generoso et al.” by L. Giglio and J. D. Kendall**

**J. Gregoire**

jean-marie.gregoire@jrc.it

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Interactive comment on Manuscript ACP2003-122 "Commentary on "Improving the seasonal cycle and interannual variations of biomass burning aerosol sources"", by Giglio and Kendall.

General comments This commentary by Giglio and Kendall is highly interesting and useful for at least two reasons. First, it shows clearly that the interaction, or co-operation, between the initiators of the terrestrial products derived from Earth observation data and the end users of such products (the modelers or environmental managers) is not as strong as it should be. The consequence(s) being some misunderstanding, or even misuse of the datasets. Second, it shows that one single product

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cannot provide the users with what they are looking for. It is only through a combine analysis of several products that a meaningful result can be achieved. The immediate consequences being i)for the producers to "accept" to spend more time on documenting the products made available to the scientific community (a paper in a Journal is usually not enough for that); ii)for the users to "accept" to spend more time on getting the complete documentation related to the products before using them.

Specific comments. Giglio and Kendall are right to make the distinction between their product and the one proposed by Ji and Stocker, and to make clear the fact that it is this later product which was used by Generoso et al. In fact, the Giglio et al. results were published months after (IJRS, November 2003, vol. 24) the Generoso et al. paper.

However, some statements are not fully correct, or would deserve some additional information from Giglio and Kendall:

- Commenting the seasonal patterns of fire activity, presented on Figure 1, Giglio and Kendall say that "the Ji and Stocker data set consistently places the peak in Sahelian and southern African fire activity within each region's wet season". This statement is a bit strange as the rainy season (North of the Equator) is from June/July to end of September, and the Ji and Stocker dataset shows a minimum or even no fire activity during this period. The same is true for southern Africa, where the rainy season goes from November to March/April, period which shows most of the time no or very little fire activity in the Ji and Stocker product. In the specific case of southern Africa, I am more surprised by the lack of fire seasonality: a peak is reached in July/August (fully correct), but it remains stable till December. In the case of Sahelian Africa, several studies have shown that there is a new outbreak of fire activity towards the end of the dry season (typically in April, as shown on Ji and Stocker data). This could be explained by fires in the agricultural domains, before the start of the new rainy season. However, the amplitude of this second peak in fire activity should be much lower than the one expected in December/January (missing in the Ji and Stocker dataset).

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- The seasonal patterns of fire activity as defined by Ji and Stocker for the Southern Africa region appear quite different on Figure 1 (Giglio and Kendall) and on Figure 3 (Generoso et al.). Instead of a flat curve (Figure 1), the results presented on Figure 3 show a strong increase of fire activity in June (as expected), a stable and high activity till September (as expected) and a second peak in October (quite possible). The third peak in December (Generoso et al.) looks more doubtful.

The last conclusive paragraph of the Commentary by Giglio and Kendall is most probably what should be remembered: "... any data set ... is subject to errors; ... responsibility of data providers to document errors and limitations ...". I would only add that it is also the responsibility of the end-users to understand what are these limitations.

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