

Interactive comment on “Screening the ESA ATSR-2 World Fire Atlas (1997–2002)” by B. W. Mota et al.

B. W. Mota et al.

Received and published: 23 December 2005

We thank the referee for his kind remarks and helpful comments on the paper.

1. We will expand the discussion of implications of our results for atmospheric chemistry studies.
2. Mention to the daily frequency of the ATSR data will be corrected.
3. The list of references will be converted to a Table, based on another referee's recommendation.
4. We were unable to find information concerning the ATSR revisiting frequency at latitudes other than the Equator.

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5.We stopped our analysis in December 2002 because it was a convenient period, due to the change from ATSR to AATSR. Also, we had to stop at some time, in order to do the actual analysis. We have now extended screening of the WFA up to June 2005 but that work will be reported elsewhere.

6.We will provide more information on the magnitude of location errors, for different periods. We will include additional comments on the impact of these inaccuracies both for data screening and for use of the screened data.

7.We will include mention to the fact that more persistent fires will have a higher likelihood of being sampled by the ATSR. Concerning the comment on detectability envelopes, they are already mentioned in the text, specifically for the ATSR.

8.We used only the 2000 Night Lights dataset, because it is contemporaneous with our study period. We can only speculate on trends in night lights over the period 1997-2002, but we'd rather not do it, since it would be inconsequential for the analysis we're actually able to implement.

9.The location, extremely sporadic nature, and excessive size of some clusters of observations led us to label them as false alarms. Also, we were unable to find fire scar evidence associated with these clusters, using Landsat quick-looks and AVHRR daily data. None of them occur in areas where large-scale fire management is implemented.

10.High temperatures are indeed a common driver for true vegetation fires and for hot bare soil surfaces. This explains the seasonality in the counts screened with the land cover filter, and also the seasonality of space-time clusters, most of which are equally due to hot soils. The seasonality in the oil and gas flares is an artefact, due to overlap of this filter with the land cover filter. It is the latter that induces the seasonal signal. Volcanoes and acquisition/processing errors do not exhibit any clear seasonal cycle. This will be further explained in the text.

11.The peak of false alarms in August-September is due to hot soils, captured with

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the land cover filter, or with the space-time inspection of anomalous clusters. As you can see in figs. 5b and 7, there are very few screened data in the southern hemisphere. Most of the August-September false alarms occur in arid lands of the northern hemisphere, located at latitudes around 30°.

12. WFA screening based only on static filters would solve the larger part of the problem. However, substantial errors would remain. Most of the remaining errors, based on present evidence, would be located in the Middle East, during the boreal summer.

13. The technical corrections recommended will be done.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 4641, 2005.

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