

## ***Interactive comment on “Development of a standard database of reference sites for validating global burned area products” by Magí Franquesa et al.***

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Given the effort and cost involved in generating validation dataset, the standardization and documentation of existing datasets for future use is certainly a meritorious effort, and there is no doubt that the datasets made available by the authors of this paper will find a use in the fire community.

I have however some concerns.

1) Scope of the paper and qualification of the dataset The way the dataset is presented could lead to some confusion and misinterpretation. The paper title refers to the ‘de-

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velopment of a standard database' and the abstract refers to the present work as the compilation of 'the first Burned Area Reference Database'. This is misleading, because the work described in the present paper is limited to the collation of existing datasets, through standard GIS operations described in Section 2.3, namely the conversion of the various datasets to the same file format (shapefile), the use of standardized file names and the creation of simple metadata (Table 1). The wording of the abstract, i.e. referring to BARD as 'the first Burned Area Reference Database', is incorrect, as this is not the first burned area reference dataset - all the datasets that constitute the BARD are pre-existing. Maybe 'the first publicly available burned area reference dataset' would be a more appropriate statement.

2) Degree of novelty Section 2.3 is the only section that reports original work (i.e. the conversion of all data to shapefile, the standard filenames and the metadata), while the rest of the methods document what was done by the various research teams in the projects that provided the data.

3) Sampling. Section 2.1 ('Selection of the validation sites') describes a procedure for stratified random sampling of the burned area reference data that was followed by some of the collated datasets (but not all), which is extremely confusing. An inattentive reader might be led to believe that the BARD dataset itself is the result of a stratified random sampling, rather than the collation of datasets some of which were the results of stratified random sampling (albeit with different methods) and some that are not.

4) Stage 3 validation data set. Much is said throughout the paper of the compliance with CEOS Stage 3 validation requirements, but the BARD dataset as currently defined does not meet those requirements, i.e. it would not allow for the use of unbiased estimators of the accuracy metrics, and their associated standard errors. In the current form, pieces of BARD could be used for a Stage 3 validation, whereas other pieces could only be used for a Stage 1 or Stage 2 validation. Could the authors provide a harmonized statistical framework for the estimation of accuracy metrics from the whole BARD dataset?

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5) Burned area minimum mapping unit. Was the minimum mapping unit the same among the projects? This is a particularly relevant issue, as the omission of small burned areas is one of the primary areas of interest for the validation of coarse resolution burned area products.

6) Quality assessment The 'methods' do not include any section on quality assessment/assurance yet the abstract states that 'All reference files have been checked for internal quality'. In particular, there is no corresponding methods section detailing how the quality was assessed – for example, were the reference burned area maps opened by an interpreter, and checked to ensure that there are no obvious omission or commission errors either in the burned area perimeters, or in the cloud and shadow masks that constitute the 'no data' class ? Were all the data of the same quality ?

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