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Geoscientific Model Development Discussions

Interactive comment on "ECOCLIMAP-II/Europe: a twofold database of ecosystems and surface parameters at 1-km resolution based on satellite information for use in land surface, meteorological and climate models" *by* S. Faroux et al.

Anonymous Referee #1

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General comments

This paper consists in the overall description and basic evaluation of the new ECOCLIMAP-II product for Europe at 1-km resolution. The method for building the ECOCLIMAP-II ecosytems map is based on a stratification in land-cover types and then a partition of fractions of 4 main surface types (nature, water bodies, sea, urban areas) and, inside the nature surface type, fractions of 12 Plant Functional Types (PFTs). The paper is very well written and is easy to read. I only have some comments and suggestions that would require minor revisions. For this, I recommend this paper

for publication in GMD.

1. I believe that since this is a discussion paper on a methodology involving different types of data and stages, more effort should be made to adequately express the data and steps involved in this process (maybe by more expressive figures, see below).

2. Given that the paper proposes to talk about the amelioration of a global product already existing, the authors should spend some effort significantly enhancing the discussion of the new approach used in this work, the benefits etc. The authors must also mention the reliability of the ECOCLIMAP-I product, and this should be reflected in the discussions. Otherwise, the comparison made between the old and the new versions of ECOCLIMAP at the end seems delicate. . .

3. Furthermore, the discussions should answer the questions "what are the limits of the approach? do you plan to validate on other areas? what is the repetitivity of your methodology? is it an annual global product?"...

4. On my point of view, further validation would be necessary, but that would require additional data. New initiatives based on collaborative networks are starting to emerge that indicates enormous potential for land cover validation. A first such initiative is the Geo-Wiki Project, where volunteers are asked to review hotspot maps of global land cover mismatch and determine, based on what they actually see in Google Earth and on their knowledge of local situations, whether the land cover maps are correct or not. Inputs are recorded in a database, along with uploaded photos, to be used in the future for the creation of a new and improved hybrid global land cover map (Fritz et al., 2009, 2011). Your work would in turn benefit from the additional validation data available there.

Fritz, S. et al., 2011. Cropland for sub-Saharan Africa: A synergistic approach using five land cover data sets. Geophysical Research Letters, 38(4):L04404.

Fritz, S., I. McCallum, C. Schill, C. Perger, R. Grillmayer, F.d.r. Achard, F. Kraxner, and

M.Obersteiner, 2009. Geo-Wiki.Org: The Use of Crowdsourcing to Improve Global Land Cover.Remote Sensing, 1(3):345-354.

Specific and technical comments :

p 3576 line 20 : ECOCLIMAP or ECOCLIMAP-I ? To be clarified in the all paper.

P 3583 line 16 : any reference ?

P3587 Line 18 : what is the meaning of “using the several classes. . . surface types”? Could you reformulate? Line 23 : what is the 3.2.1 section ? Line 25 : homogenize the vocabulary => line 23 “covers” = line 25 “classes” ? Could you explain once in the paper (or with a scheme) the imbrication between covers => surfaces types / functional types => FTC => parameters ? You may simplify with a tree like this:

SEE FIGURE 1 ATTACHED

P3598 5.3.1 grid point = pixel of 1km ?

Fig3. RC < 1.5 must be an example. Do not put any threshold if it varies from one cluster to another.

Figure 4. Could you add a loop notion? From i=1 to n, Step 1 : P2 calculation Step 2 : P3 calculation Step i . . .

Fig8. Could you represent the region you talk about in the text? It could be more readable with another representation, i.e. the difference between ECOCLIMAP-II C4 fraction and ISLSCP C4 fraction.

Fig9. The grey background does not help to clarify your point ! Homogeneize the number of curves on your graphs. About the 1 to 12 classes, where is the legend?

Tab2. How did you deal with the different spatial resolutions? It should be mentioned in the text.

Interactive comment on Geosci. Model Dev. Discuss., 5, 3573, 2012.

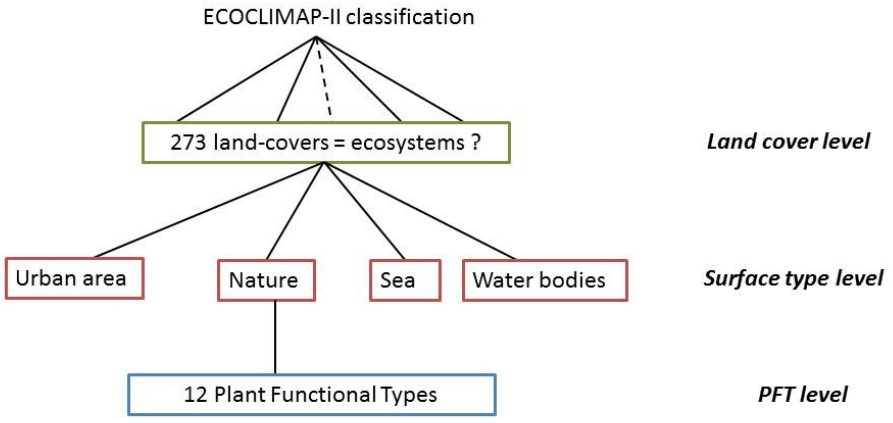

Fig. 1. How to better explain the imbrication between covers => surfaces types / functional types => FTC => parameter ?