

## ***Interactive comment on “Global assessment of land cover changes and rural-urban interface in Portugal” by Marj Tonini et al.***

**Marj Tonini et al.**

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Authors thanks the reviewer for her/his time and constructive comments and suggestions, which we believe have improved the manuscript by making it more clearly and consistent. Our answers to the more general Reviewer' suggestions were uploaded in the form of a supplement.

Comment from Referee1 First of all, the manuscript requires a substantial grammatical revision. The authors should hire an English-proofreading expert in order to substantially improve the current text. Besides, many sentences are too vague, even confusing, and should be rewritten.

Author's response Authors changed/rewrote all sentences highlighted by the reviewer

to make them more comprehensible. An English-proofreading expert has revised the entire manuscript. Comment from Referee1 All sections need to be substantially improved. (See detailed comments in the revised PDF file.)

Author's response Authors carefully improved all sections, as can be seen in the annexed document. In particular: (i) we propose to change the title as "Global assessment of rural-urban interface in Portugal related to land cover changes "; (i) in the abstract we introduced first the RUI and its relation with LULCC, and then the burnt area (in fact, forest first are not directly investigated in the present study); (iii) we reorganized a little bit the Introduction to better explain the objectives of the present paper; (iv) we moved some explanation from Results to Data and Methodology (see below); (v) we removed some long sentences from Discussion, expressing them in a more synthetic way, but we added information to link the broad CORINE classes to real habitats or vegetation types (see below); (vi) we reformulated the Conclusions (see below).

Comment from Referee1 The "Data and Methodology" section has to be completed. Several explanations appearing in the "Results" section have to be moved to the Methodology section. Many aspects need to be further explained and some methodological approaches have to be further justified.

Author's response We implemented the "Data and Methodology" section and we moved some explanations from "Results" to this section. More in detail: (i) we provided in "Data and Metgodology" section a new and more complete version of Table 1, showing the CORINE Land Cover nomenclature for the three level; (ii) the concept of "Area gained and lost" and "Net Chnges" was detailed and the computation of these values was well described; (iii) The choice of the buffer width used to compute the RUI has been discussed and justified; (iv) the CLC hierarchical levels considered for each analyses was deeper explained and justified based on the objectives.

Comment from Referee1 The characteristics and limitations of the various databases are not always well explained. In the case of the CORINE inventory, in particular,

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some of its limitations should have been commented (and slightly discussed in the discussion).

Author's response Authors addressed to this issue in the section "Discussion"

Comment from Referee1 The "Discussion" is quite interesting, although some parts should be reduced and several relevant aspects are missing. The authors do not explain, for instance, which major habitats or plant communities correspond in Portugal to the CORINE classes that they cite throughout the manuscript. We miss this specific information (linking the broad CORINE classes to real habitats or vegetation types), which would have probably allowed to discuss other relevant issues that the paper is omitting (e.g. biodiversity, only briefly mentioned in the conclusions).

Author's response We reduced this session, namely we removed details from literature on urban growth of MAP and MAL. As regards the request of including specific information linking CLC classes to real habitat, author decided to include in the analyses a more accurate and detailed Portuguese land use map, namely the Soil Use and Occupancy Chart (Carta de Uso e Ocupação do Solo, COS). The description of this map was added in the section "Data and Methodology". We compared CLC2006 and COS2007v2.0 because these are the closest inventories (in time) between them and within the study period. We introduced a table showing the result of the overlapping between the two land use maps, allowing to identify the vegetation types/major habitats/plant communities in each of the CLC for Portugal. This paragraph was added in the section "Discussion".

Comment from Referee1 The Portuguese legislation in relation to RUIs is not commented and this is a critical issue. The authors do not explain either which are the treatments usually implemented by Portuguese forest managers in RUIs and if these practices have changed in the last years due to RUI expansion and fire regime dynamics. Moreover, the discussion does not sufficiently connect the results of this research with Portuguese forest managers' needs and priorities. The authors could maybe pro-

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pose some broad landscape management guidelines in relation to the objective of minimizing the risk of large intense fires under climate change.

Author's response As far as we know, there is no specific or general Portuguese legislation about WUI or RUI. In Portugal, there is only one general mention about WUI/RUI in the National Plan to Protect the Forests against Wildfires (CM, 2009). In this Plan it is suggest that to protect urban-forest interface it will be necessary to create and maintain an external buffer strips around population clusters, especially in those with the highest fire vulnerability, as well as around parks, industrial polygons, landfills, housing, shipyards, warehouses, and other buildings. Usually, it is suggest a buffer of 100 meters around population clusters, 10 meters for each side of a road, and 50 meters around houses. For private and communal property there are the Municipal Plan for Territorial Planning, which include the municipal master plan, that regulates all land uses, the urbanization plan, and others specifics (Feliciano et al., 2015). Private properties within protect areas are restrict by SPFP. At local level, there is the Municipal director plan for landscape plan, and which incorporates the new municipal plan for forests against fire since 2006. Authors introduced all these aspects in the new version on the present manuscript, in the section "Discussions".

Finally, better quality figures have been produced and will be uploaded separately.

Please also note the supplement to this comment:

<https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2017-359/nhess-2017-359-AC1-supplement.pdf>

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2017-359>, 2017.

