

Specific Comments

B.1 It would be good if you can quote in your paper any relevant numbers from the Liu et al. references on the magnitude of VOD errors relevant to grassland in Australia.

Author Response: While there are no numbers regarding directly relevant magnitude of VOD errors relevant to grassland in Australia from past Lie et al. papers, a recent paper by Chen et al., 2018 (as cited below) mentioned a very high correlation between VOD and aboveground biomass in Australian tropical savannahs that includes large area of northern grassland with an r^2 of 0.96.

Chen, X., Liu, Y. Y., Evans, J. P., Parinussa, R. M., Dijk, A. I. J. M. van and Yebra, M.: Estimating fire severity and carbon emissions over Australian tropical savannahs based on passive microwave satellite observations, *Int. J. Remote Sens.*, doi:10.1080/01431161.2018.1460507, 2018.

Changes in Manuscript: Add the following statement to page 2, line 41 to 42: "A recent study on estimating fire severity based on VOD changes also demonstrated that VOD has high correlation with aboveground biomass in Australian tropical savannahs that includes large area of northern grassland with an r^2 of 0.96 (Chen et al., 2018)." The citation for Chen et al., 2018 is also added to the references (page 13, line 4 to 6).

B.2 Page 4, line 28 and line 36: Change "land use" to "land cover". They are different.

Author Response: Agreed.

Changes in Manuscript: Corrections are made as suggested.

B.3 Page 5: In line 37 append "s" to "alternative, and in line 38 change "purposed" to "proposed".

Author Response: Agreed.

Changes in Manuscript: Corrections are made as suggested.

B.4 New Figure RC1-2: The use of colour is more confusing than it needs to be: for four classes you have used four colours plus the presence or absence of hatching. Use two colours only, and with and without hatching to give the four possibilities needed. To me the dark hatching suggests "burned", so I suggest using the two colours to distinguish Referenced from Recalculated.

Author Response: Agreed; both recalculated and reference GFDI each have their corresponding colour and the presence of hatch indicates burned area.

Changes in Manuscript: Replace Figure 11 (or Figure RC1-2 from the previous author comments) on page 23 with the new colours and hatch scheme as suggested. Replaced figure is also as shown below.

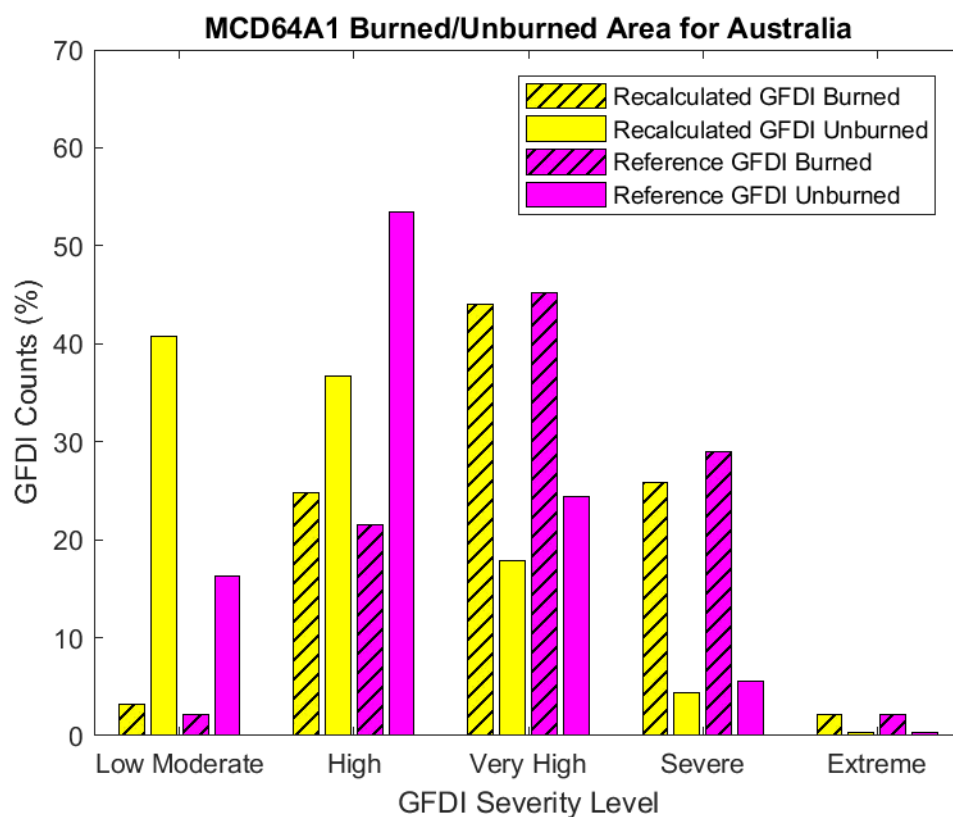


Figure 11 (or Figure RC1-2 from the previous author comments)

B.5 Page 7, line 24: The grammar is incorrect and the meaning is unclear for "At every selected observed DOC sites (excluding the forest areas)". Does it mean "Across all selected observed DOC sites (excluding the forest areas)"?

Author Response: Yes, it is incorrect.

Changes in Manuscript: Correction is made as suggested.

B.6 Page 7, sentence on lines 36-38: Insert "the" before each of "NDVI", "(VOD)(NDVI)" and "VOD".

Author Response: Agreed.

Changes in Manuscript: Corrections are made as suggested.

B.7 Page 9, line 10: The grammar is wrong for the sentence starting "Though ...". For better wording, I suggest deleting this sentence and inserting "higher probability of fire ignition and" after "indicates" in line 8.

Author Response: Yes, that is not a correct grammar.

Changes in Manuscript: Corrections are made as suggested.

B.8 Page 10, line 19: Delete "models".

Author Response: Agreed.

Changes in Manuscript: Correction is made as suggested.

B.9 Page 11, line 3: Delete "and near-infrared", since optical includes infrared. In the same line, change "use" to "used".

Author Response: Agreed.

Changes in Manuscript: Corrections are made as suggested.

B.10 Page 11, line 5: Change "as Advance" to "as the Advanced".

Author Response: Agreed.

Changes in Manuscript: Correction is made as suggested.

B.11 Page 11, line 6: Change "VOD" to "VOD's".

Author Response: Agreed.

Changes in Manuscript: Correction is made as suggested.

B.12 Page 11, line 11: Change "active" to "the MODIS active".

Author Response: Agreed.

Changes in Manuscript: Correction is made as suggested.

B.13 Page 11, line 15: I think "500 m²" is wrong. That area corresponds to a square of approximate dimensions 22 m x 22 m. If you mean the size of a pixel of the MODIS DOC product, then write it unambiguously as "500 m x 500 m" or just "500 m".

Author Response: Thank you for the suggestion.

Changes in Manuscript: Change from 500 m² to 500 m, as suggested.

B.14 Page 11, line 24: Change "detecting" to "predicting".

Author Response: Agreed.

Changes in Manuscript: Correction is made as suggested.

B.15 Page 27, line 27: Change "radiometre" to "radiometer".

Author Response: Agreed.

Changes in Manuscript: Corrections are made as suggested (also on page 27, line 25, as well).

B.16 Page 27, line 28: Change "detection that" to "detector that is".

Author Response: Agreed.

Changes in Manuscript: Correction is made as suggested.

B.17 Page 28, line 16: Change "significant" to "significance", if that is correct.

Author Response: Yes, it should be significance (noun), rather than significant (adjective).

Changes in Manuscript: Correction is made as suggested.

B.18 Page 28, line 18: Change "closeness of the data to the fitted regression line" to correlation between two variables. The value of r^2 is affected not only by the spread about the regression line but also the range of values spanned.

Author Response: Agreed.

Changes in Manuscript: Correction is made as suggested.