Biogeosciences Discussions

Biogeosciences Discuss., community comment CC1
https://doi.org/10.5194/bg-2021-173-CC1, 2021
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Comment on bg-2021-173

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Community comment on "Land Management Contributes significantly to observed Vegetation Browning in Syria during 2001–2018" by Tiexi Chen et al., Biogeosciences Discuss., https://doi.org/10.5194/bg-2021-173-CC1, 2021

Since the remote sensing vegetation indices have been well developed, extensive research has been conducted on vegetation change (greening or browning) and corresponding driver identification. Studies about the impact of land management is still lacking due to data and methods limitations. In this paper, the authors demonstrated a typical browning case over Syria by involving land management due to social unrest, which is quite innovative. This paper fits the scope of Biogeosciences and uses several methods with coherent results to support the conclusion. Therefore, an acceptance is suggested with some minor comments.

1) In section 2.2, the authors need to clarify which year or which period of the land cover data are used to abstract different vegetation types.

2) cropland or farmland? Should be consistent

3) Line 171, “The vegetation change in the study area is mainly constrained by the soil moisture and precipitation.” this sentence is ambiguous, soil moisture and precipitation are not independent factors.

4) The growing period is firstly defined in 3.1 section, which is used in the following analysis. The growing season usually defined in the method section. Meanwhile, growing season also should be labeled in figure 3.

5) irrigation distribution data was used in this study which is not mentioned in the method section?

6) section 3.3 is quite interesting, Figure 7b is not clear, maybe the authors could demonstrate the subregion in Figure 7a.

7) in the discussion section, the significance of Figure 7 is not well illustrated.