

Interactive comment on “Characterization agricultural vulnerability to drought in the Northeast of Brazil” by Bruce K. N. Silva et al.

Anonymous Referee #2

Received and published: 19 December 2017

Title: Characterization agricultural vulnerability to drought in the Northeast of Brazil
Authors: Bruce K. N. Silva, Paulo S. Lucio, Cláudio M. S. Silva, Maria H. C. Spyrides, Madson T. Silva, Lara M. B. Andrade

Some general comments.

The paper presents an extensive piece of work. However, I am not convinced on the scientific benefit and propriety of this study. As a result, I do not find myself in the position of recommending the publication of the manuscript in NHESS.

First, the authors do not give proper credit to related work (see References).

Besides, the presentation it is not clear. The language and the presentation of the paper make it quite difficult to fully understand methods and hypotheses and to follow

[Printer-friendly version](#)

[Discussion paper](#)



the results: unfortunately this problem is extended to almost all the paper.

Finally, I have some doubts on the scientific propriety of this study. The methodology is not clear and my main concern is about the robustness of the results, especially in view of the uncertainties in observations and in the analysis. Somehow I feel that this uncertainty is not sufficiently assessed and acknowledged, which results in perhaps overly confident statements.

References

Anderson, M. C., Zolin, C. A., Sentelhas, P. C., Hain, C. R., Semmens, K., Yilmaz, M. T., ... & Tetrault, R. (2016). The Evaporative Stress Index as an indicator of agricultural drought in Brazil: An assessment based on crop yield impacts. *Remote Sensing of Environment*, 174, 82-99.

Gutiérrez, A. P. A., Engle, N. L., De Nys, E., Molejón, C., & Martins, E. S. (2014). Drought preparedness in Brazil. *Weather and Climate Extremes*, 3, 95-106.

Heinemann, A. B., Barrios-Perez, C., Ramirez-Villegas, J., Arango-Londoño, D., Bonilla-Findji, O., Medeiros, J. C., & Jarvis, A. (2015). Variation and impact of drought-stress patterns across upland rice target population of environments in Brazil. *Journal of experimental botany*, 66(12), 3625-3638.

Heinemann, A. B., Ramirez-Villegas, J., Souza, T. L. P., Didonet, A. D., Di Stefano, J. G., Boote, K. J., & Jarvis, A. (2016). Drought impact on rainfed common bean production areas in Brazil. *Agricultural and Forest Meteorology*, 225, 57-74.

Lemos, M. C., Lo, Y. J., Nelson, D. R., Eakin, H., & Bedran-Martins, A. M. (2016). Linking development to climate adaptation: leveraging generic and specific capacities to reduce vulnerability to drought in NE Brazil. *Global Environmental Change*, 39, 170-179.

Lindoso, D. P., Rocha, J. D., Debortoli, N., Parente, I. I., Eiró, F., Bursztyn, M., & Rodrigues-Filho, S. (2014). Integrated assessment of smallholder farming's vulnera-

[Printer-friendly version](#)[Discussion paper](#)

bility to drought in the Brazilian Semi-arid: a case study in Ceará. Climatic change, 127(1), 93-105.

Marengo, J. A., Torres, R. R., & Alves, L. M. (2017). Drought in Northeast Brazil—past, present, and future. Theoretical and Applied Climatology, 129(3-4), 1189-1200.

Sietz, D. (2014). Regionalisation of global insights into dryland vulnerability: Better reflecting smallholders' vulnerability in Northeast Brazil. Global Environmental Change, 25, 173-185.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2017-377>, 2017.