

The scope of this paper is ambitious and it provides many interesting insights into research on drought indicators and impacts, world-wide. The figures are interesting and informative. My revision suggestions at this stage are relatively minor, mainly having to do with 1) whether drought impacts figure into the depiction of drought in the U.S., and 2) the possible need to distinguish between what researchers study and what is actually being done or used by agencies and organizations working toward sustainable development goals.

Dear reviewer,

Thank you very much for your positive and constructive review. Individual responses to the points you raised can be found below.

- Line 57: For the U.S. example, you may want to refer to the U.S. Drought Monitor, a specific product, rather than the National Drought Mitigation Center, which has developed many products, including several that focus on detecting impacts independently of drought status (see droughtimpacts.unl.edu). However, impacts is one of many inputs to the U.S. Drought Monitor. You may want to add a clarifying statement explicitly stating that underlying vulnerabilities are not taken into account in most DEWS.

Yes, thank you for this clarification. We have amended the paragraph as follows L53:

“In addition, most the of DEWS do not take the underlying vulnerabilities of the drought affected or monitored areas into account. Thus, in the current configuration of most DEWS, the presumed likelihood of experiencing impacts is mainly linked to the severity of climatic features only (e.g. Princeton Flood and Drought Monitors; U.S. Drought Monitor; Brazilian Drought Monitor).”

- Later in discussion 4.4 you may want to add that while most DEWS don't take vulnerability into account, in contrast FEWS (Famine Early Warning System) does consider vulnerabilities. A DEWS is broad-spectrum and weather-driven, warning of drought and letting various sectors respond as they are able. This seems consistent with its conceptual origins, coming from a meteorological services perspective. The concept of “drought impacts” may be too broad to be fully accounted for in a DEWS. It takes a more purpose-built system to express the relationships between an impact, underlying vulnerabilities and physical drought. FEWS originates from a humanitarian perspective and has a more specific purpose, preventing or mitigating famine.

We thank the reviewer for this suggestion. Indeed, FEWS take into account vulnerability factors as famine is closely tied to those. We believe it is relevant to highlight the importance of taking into account drought impacts and amongst them, food insecurity. The occurrence of famine results from a combination of many factors among which drought-related aspects play a relevant role indeed. Since our focus is on drought and DEWS specifically we decided to not take FEWS onboard in our analysis. Rather than principally weather-driven we prefer a drought paradigm that includes a broad range of drought impacts well beyond a narrow meteorological view.

We have however added the following clarification in our Recommendations section, L63

“Dealing with drought may benefit from a diagnostic process that starts from analysing drought impacts rather than merely focusing on drivers (Walker, in press)”.

Walker, D., Cavalcante, L., Kchouk, S., Ribeiro Neto, G., Dewulf, A. Gondim, R., Martins, E., Melsen, L., Souza Filho, F., Vergopolan, N., Van Oel, P.: Drought diagnosis: what the medical sciences can teach us. In: Earth’s Future, in press.

- Lines 59 & 60: Can you reword to avoid referring to “aims” in two consecutive sentences, and instead make it clearer that the ideas in the second sentence flow from the first?

Thank you for this suggestion. We have amended the paragraph as follows, L57:

“This study aims to review scientific reporting on drought drivers and drought impacts for affected countries and analyse how these two compare. Improving our understanding of the linkage and separation between drought drivers and drought impacts enables us to provide directions to further improve the accuracy of the information provided by DEWS.”

- Line 81: Reword to “indices commonly used operationally to depict different types of drought”
Thank you for this suggestion. We have reworded the sentence as suggested L79

- Line 167: How about “larger than” rather than “superior to”, more in keeping with statistical terminology

Yes, thank you for the suggestion. We replaced it as suggested L157.

- Line 449 – Can probably delete either “drivers” or “indices.”

We believe that it was meant L436. Thank you for the suggestion. We deleted “drivers”.

- Under “limitations,” you may also want to mention the possible disparity between topics of academic research and policy initiatives. Academic research may or may not align with “real-world” initiatives, such as efforts by agencies and organizations that are working toward Sustainable Development Goals.

Thank you very much for your suggestion. The Sustainable Development Goals are introduced, as a recommendation for the orientation of drought indices, only in the next Recommendation section. Thus we decided to mention instead “sustainable development and human welfare”. We amended the paragraph in the end of our Limitations section, as follow L447:

“Finally, we chose in our study to focus on how drought drivers and impacts were reflected in the scientific literature. However, disparities between topics of academic research and policy initiatives may exist. In addition, academic research may or may not align with other operational and ground truthed initiatives, such as efforts conducted by agencies and organisations working toward drought impacts relief, sustainable development and human welfare.”