So far, I found 41 studies that may be suitable for doing a meta-analysis. I found these studies through references cited by two recent review papers on repeated droughts and references citing these two review papers (Jacques et al. 2021; Müller & Bahn 2022). I also added some paper through a standard search on web of science (see search terms below).

20-09-2023

Title:

repeated drought\* OR repeated flood\* OR repeated climate extreme\* OR recurrent climate extreme\* OR Sequential drought\* OR subsequent drought\* OR sustained drought\* OR Extreme weather event\* OR recurrent climate extreme\* OR Prolonged Drought\* OR Sequential High Rain\*

web of science categories:

environmental sciences;

plant sciences;

ecology;

environmental studies;

agronomy;

forestry;

biodiversity conservation;

soil science,

agriculture multidisciplinary;

remote sensing;

biology;

horticulture;

evolutionary biology;

microbiology;

agriculture engineering;

My selection criteria for the studies is that experiment much have

1) control (reference);

2) a treatment with 2 or more climate extremes (e.g. droughts or floods);

3) a similar treatment to 2) but differ in duration (either shorter or longer).

For the 41 papers I assembled (processed references\_2023-10-11\_summary), majority of the studies investigate crop plants (19), they investigate aboveground response (20), as well as above and belowground together (16). Also, majority of them focus on population and lower levels (26), 11 of them focus on community level. Furthermore, majority of the studies did controled greenhouse, 12 field experiments, experimental duration ranges from days to 10 years. Importantly, majority of the studies found positive legacy effects (22).

references

Jacques, C., Salon, C., Barnard, R.L., Vernoud, V. & Prudent, M. (2021). Drought Stress Memory at the Plant Cycle Level: A Review. Plants, 10, 1873.

Müller, L.M. & Bahn, M. (2022). Drought legacies and ecosystem responses to subsequent drought. Global Change Biology, 28, 5086–5103.