

A new drought index fitted to clay shrinkage induced subsidence over France: benefits of interactive leaf area index

Sophie Barthélemy^{1,2,3}, Bertrand Bonan¹, Jean-Christophe Calvet¹, Gilles Grandjean², David Moncoulon³, Dorothée Kapsambelis³, and Séverine Bernardie²

- 5 ¹CNRM, Université de Toulouse, Météo-France, CNRS, Toulouse, France
²Bureau de Recherches Géologiques et Minières (BRGM), Orléans, France
³Caisse Centrale de Réassurance (CCR), Dpt R&D Modeling Cat & Agriculture, Paris, France

Correspondence to: Jean-Christophe Calvet (jean-christophe.calvet@meteo.fr)

Supplementary material

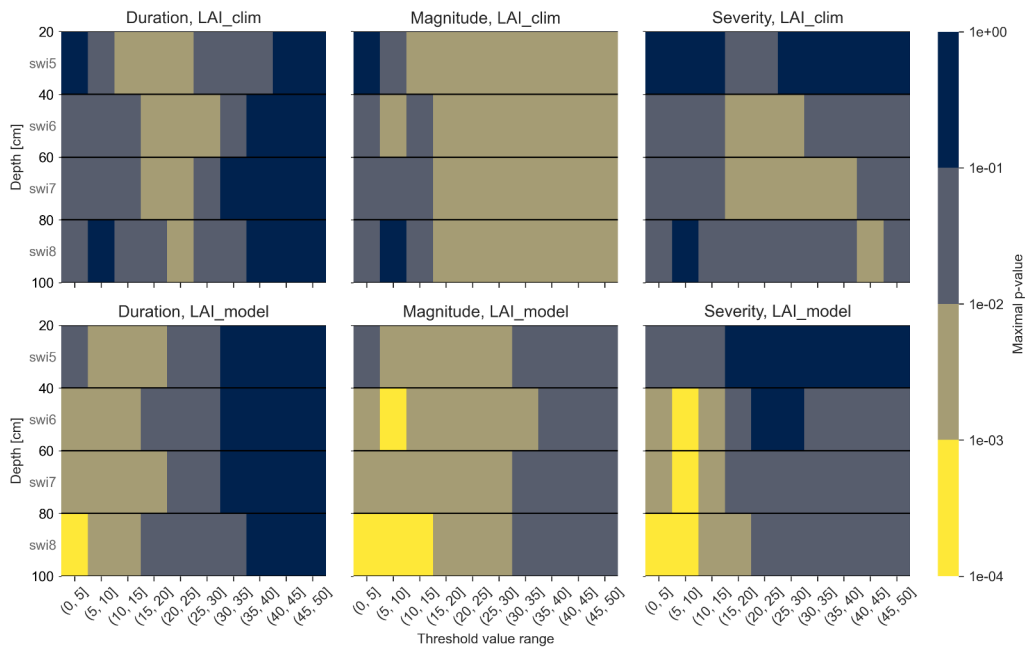


Figure S1: Maximal p-value obtained per group, computing the rank correlation between drought index and normalized number of claims, for all calibration subsets, separating index type (Duration, Magnitude, Severity), model simulation (LAI_clim, LAI_model), model layer (swi5 to swi8) and threshold value range (from 1 to 50 in groups of five).

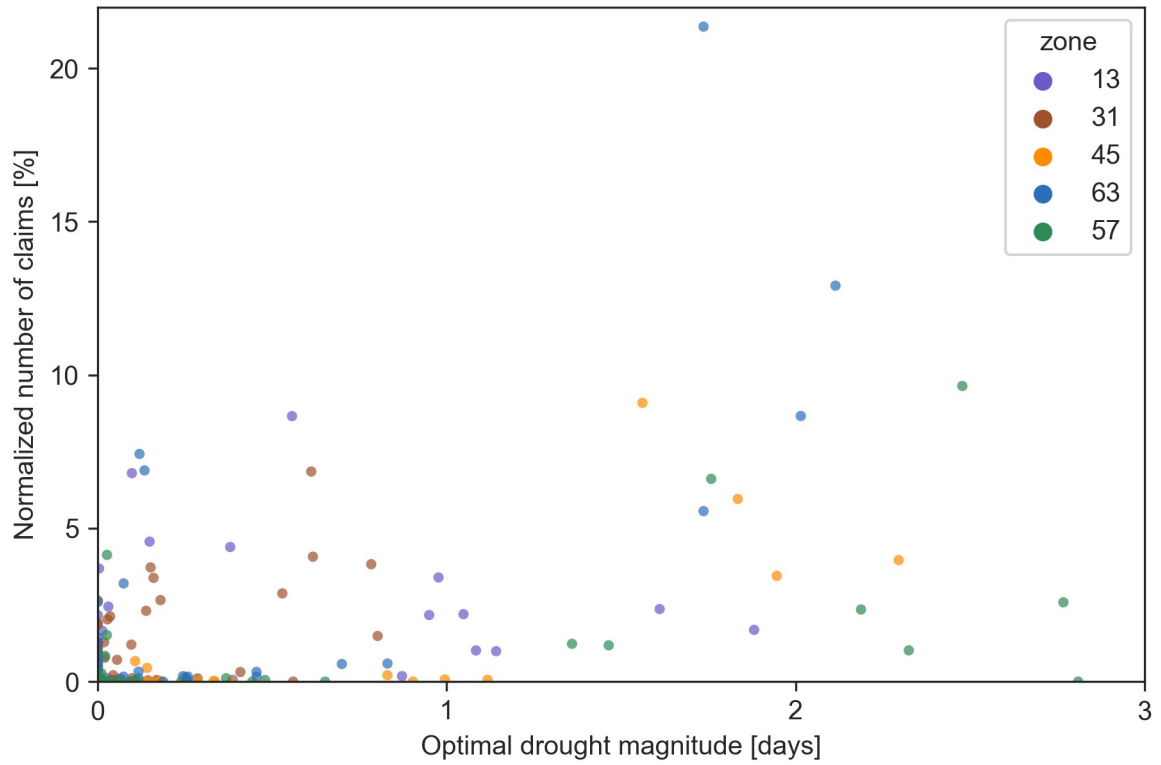


Figure S2: Normalized number of claims versus optimal drought magnitude, for the calibration set. The colors correspond to the five regional subsets.

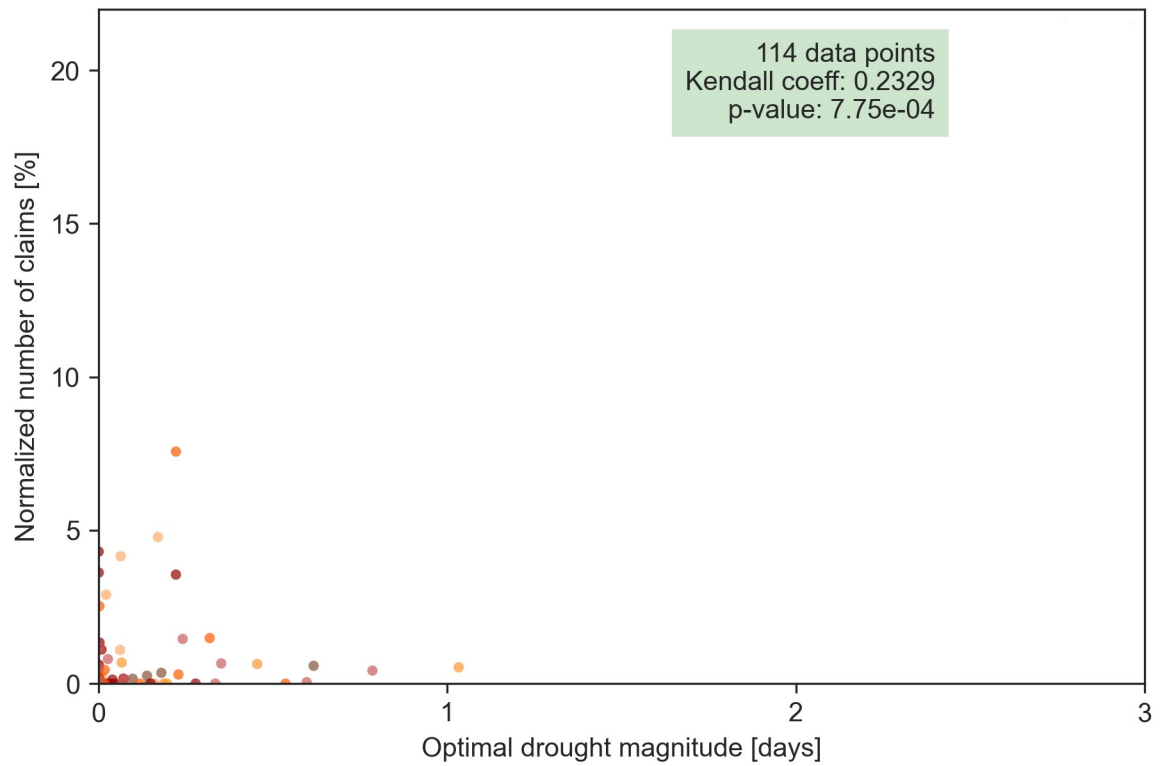


Figure S3: Normalized number of claims versus optimal drought magnitude, for the validation set. The colors correspond to the six different municipalities.