hess-2022-121 – Author's response

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Point-to-point responses

Our point-to-point responses to the referee comments 1 and 2 (RC1 and RC2) can be found at https://doi.org/10.5194/hess-2022-121-AC2 and at https://doi.org/10.5194/hess-2022-121-AC3, respectively.

Based on those comments, we implemented the following changes:

Major changes

- Section 2.2: We changes the description of the selection of sites from the Globe-LFMC database in response to RC2.
- Section 2.4: We added descriptions of two datasets (SPI-12 and DSCI), which were needed for an additional analysis of drought conditions as requested by RC1.
- Section 2.6: We revised the description of models completely to clarify how and from which references those models were derived (RC1).
- Section 2.9: This section was newly introduced to describe the use of a random forest to directly estimate LFMC (RC1).
- Section 3.3.1 and Figure 6: This section and figure were revised to additionally describe the results of the global RF model (RC1).
- Section 3.3.2: We added an explanation and discussion about the performance of the spatial model for estimating LFMC of needle-leaved forests (RC1).
- Section 3.4.1 and Figure A3: We included a description and associated discussion about the comparison of the VOD-based LFMC estimates and MODIS-LFMC as requested by RC2.
- Section 3.5 and Figure 10: We split section 3.5 in three sub-sections to include a new case study, in which we compare the VOD-based LFMC estimates with drought conditions in the western US (requested by RC1). The structure of section 3.5 was revised.

Minor changes

- word changes in the abstract
- changes in the logical order of the text in the introduction
- word changes in the conclusions
- We uploaded our global estimates of LFMC to the zenodo repository and included the reference in the data availability statement.