Earth Syst. Sci. Data Discuss., referee comment RC2
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Comment on essd-2021-105

Anonymous Referee #2

Referee comment on "Daily standardized precipitation index with multiple time scale for monitoring water deficit across the mainland China from 1961 to 2018" by Qianfeng Wang et al., Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2021-105-RC2, 2021

This manuscript (ID: essd-2021-105) developed a new multi-scale daily SPI dataset to make up for the shortcomings of the commonly used SPI. Three typical sites were used as examples to validate the data set, and the drought characteristics of 484 sites in mainland China are analyzed. SPI is one of the very important indicators in drought assessment and drought monitoring. Authors improved the commonly used monthly SPI, which can identify flash droughts less than one month and can accurately identify the start and end dates of drought events. The study is timely and important, and the produced datasets are useful for various types of drought research, like meteorology, hydrology, agriculture, social economy, etc.

In general, the improved SPI datasets in this article have been carefully validated and are consistent with the official record of historical drought events, suggesting the derived datasets should be reliable for use. The paper fits well with the scope of the ESSD, therefore, I recommend it to be accepted with minor revisions.

The authors need to check the text carefully to avoid confusing sentences.

Please see below for detailed comments:

(1) I suggest that the authors clarify and explain in the introduction why they chose three typical sites in Henan, Yunnan, and Fujian.

(2) Line38: “most of the drought events the mainland China” should be revised into “most of the drought events in mainland China”.

(3) Line48: “severe natural disasters” should be revised into “severe natural disaster”.

(4) Line52: “is suffer to” should be revised into “is suffering to”.

(5) Line 59: “Drought have induced the severe economic impacts” should be revised into “Drought has induced severe economic impacts”.

(6) Line66: It appears that “evidences” is an uncountable noun and should not be made plural. Consider changing the noun.

(7) Line71: “at the large scale” should be revised into “at a large scale”.

(8) Line72: “drought risks management” should be revised into “drought risk management”.

(9) Line80: “different type drought” should be revised into “different drought types”.

(10) Line108: It appears that you have an unnecessary comma after “precipitation”. Consider removing it.

(11) Line126: The word “though” doesn’t seem to fit this context. Consider removing it.

(12) Line129: “develop SPI to daily resolution” should be revised into “develop SPI with daily resolution”.

(13) Line144: It appears that you typed “growth” twice in a row.