

Comment on **essd-2020-344**

Anonymous Referee #2

Referee comment on "CLIGEN parameter regionalization for mainland China" by Wenting Wang et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-344-RC2>, 2021

This research provides useful information and a database for application of the CLIGEN weather generator within China. Technically the results and paper are sound. A number of minor grammatical/spelling issues need to be addressed.

Specific comments on the manuscript are:

- 1.) Line 32 - this states "global climate models (GCMs)" - however, the original meaning of "GCMs" is "General Circulation Models". Please carefully consider which should be mentioned here (or both).

- 2.) Lines 39-40 - change "accompanied by the process-based soil erosion model Water Erosion Prediction Project (WEPP) by the United" to "accompanying the process-based Water Erosion Prediction Project (WEPP) model from the United".

- 3.) Lines 49-50 - this states "if modeling wind-induced snow drift is not needed", however, wind is used in WEPP for other calculations, including ET estimation using the Penman equation, and snow melting calculations. Snow drift is not currently simulated by WEPP, and actually is not mentioned in Flanagan and Livingston (1995). Suggest this text be deleted.

- 4.) Line 85 - change "have attempted" to "have been attempted".

- 5.) Line 91 - change "in WEPP application" to "in the WEPP application".

6.) Line 113 - change "have been quality" to "had been quality".

7.) Line 121 - change "in the North China" to "in North China".

8.) Line 133 - change "transition probabilities $P(W|D)$ and $P(W|W)$ " to "day transition probabilities $P(W|W)$ and $P(W|D)$ ".

9.) Line 141 - change "amount in CLIGEN" to "depths in CLIGEN".

10.) Line 149 - change "MX.5P are" to "MX.5P values are".

11.) Line 187 - change "images were commonly" to "images are commonly".

12.) Line 191 - change "with twelve groups of parameters CLIGEN" to "with the twelve groups of parameters for CLIGEN".

13.) Line 198 - change "assumed" to either "we assumed" or "it was assumed".

14.) Line 199 - change "Use the" to "We then used the".

15.) Line 201 - change "to evaluate two" to "to evaluate the two"

16.) Lines 206-209 - punctuation marks (commas, period) after Equations 13-16 are probably not needed, and could be deleted.

17.) Line 210 - change "parameter values" to "parameter value".

18.) Lines 224-227 - punctuation marks (commas, period) after Equations 17-20 are probably not needed, and could be deleted.

- 19.) Line 231 - change "to exhibit the" to "to examine the".
- 20.) Line 239 - change "temperature fluctuation" to "temperature fluctuations".
- 21.) Line 247 - change "North China was" to "North China were".
- 22.) Line 256 - change "of East Asian" to "of the East Asian".
- 23.) Line 271 - change "storms tend to" to "peak intensities tend to".
- 24.) Line 276 - for the word "universal", italicize the entire word including the first letter "u".
- 25.) Line 303 - change "higher than that from UK" to "higher than those from UK".
- 26.) Line 304 - change "from Jane to May" to "from January to May". Change "the rest period" to "the June to December period".
- 27.) Line 307 - change "results agreed that" to "results indicated that".
- 28.) Line 308 - change "higher than OK" to "than those based on OK".
- 29.) Line 311 - change "on the CLIGEN" to "on the CLIGEN outputs".
- 30.) Line 335 - change the word "under-estimated" to "underestimated".
- 31.) Line 336 - change the word "over-estimated" to "overestimated".
- 32.) Lines 352-353 - You could have used degrees Kelvin instead of degrees Centigrade. That would have resulted in better Relative Error calculations.

33.) Line 353 - change "was 2912.7%" to "of 2912.7%".

34.) Line 354 - change "temperature simulated using two data sets" to "temperature values simulated using the two data sets".

35.) Line 378 - change "US is regionalized" to "US are regionalized".

36.) Line 384 - change "NSE improved" to "NSE improving".

37.) Line 387 - change "The girded CLIGEN" to "The gridded CLIGEN". change "is availability at the homepage of" to "is available at the homepage of the".

38.) Line 390 - consider changing "Conclusion" to "Summary and Conclusions".

39.) Line 404 - change "parameters expect for" to "parameters except for".

40.) Line 410 - change "are less than" to "were less than".

41.) Line 427 - change "gave advises" to "provided advice".

42.) Line 441 - change this citation to: "Flanagan, D.C., and Livingston, S.J. (eds.): WEPP User Summary. NSERL Report No. 11, USDA-Agricultural Research Service, National Soil Erosion Research Laboratory, West Lafayette, Indiana, USA, 1995."

43.) Line 443 - change "107-110, 2001" to "American Society of Agricultural Engineers, St. Joseph, Michigan, USA, pp. 107-110, 2001."

44.) Line 446 - change "1-9, 2014" to "American Society of Agricultural and Biological Engineers, St. Joseph, Michigan, USA, 8 pp., 2014."

45.) Lines 447-448 - This is not correct. RUSLE2 science documentation should be credited to USDA-Agricultural Research Service (2013). Full citation would be: "USDA-ARS: Science Documentation, Revised Universal Soil Loss Equation, Version 2 (RUSLE2), USDA-Agricultural Research Service, Washington, D.C., USA, 2013." Also need to change reference to this in the text at all locations.

46.) Line 449 and throughout all of the list of references - be sure to capitalize all words that are part of a journal name. Here it should be the Journal of Hydrologic Engineering.

47.) Line 496 - do not capitalize words in the title of a journal article. So here, title should be "Seasonality and three-dimensional structure of interdecadal change in the East Asian monsoon".

48.) Page 17, Table 1 - change "The probability to wet day from dry day" to "The probability of a wet day following a dry day" and change "The probability to wet day from wet day" to "The probability of a wet day following a wet day".

49.) Page 29, Figure 7 - caption - do not italicize the word "and" in "and universal Kriging".