

Reviewer #2

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:

Comment (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).

Response: We agree with the reviewer that the original meaning of "GCMs" is "General Circulation Models". While, nowadays it often refers to "Global Climate Models (GCMs)" along with the development of Atmosphere, Ocean and Land coupled models. GCM in this manuscript is referred to as Global Climate Models.

Comment (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".

Response: It will be revised.

Comment (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.

Response: Thank you for pointed out this problem, and it has will be deleted.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

Comment (15): Line 201 - change "to evaluate two" to "to evaluate the two"

Response: It will be revised.

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

Response: It will be revised and the punctuation marks will be deleted.

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

Response: It will be revised.

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

Response: It will be revised and the punctuation marks will be deleted.

Comment (19): Line 231 - change "to exhibit the" to "to examine the".

Response: It will be revised.

Comment (20): Line 239 - change "temperature fluctuation" to "temperature fluctuations".

Response: It will be revised.

Comment (21): Line 247 - change "North China was" to "North China were".

Response: It will be revised.

Comment (22): Line 256 - change "of East Asian" to "of the East Asian".

Response: It will be revised.

Comment (23): Line 271 - change "storms tend to" to "peak intensities tend to".

Response: It will be revised.

Comment (24): Line 276 - for the word "universal", italicize the entire word including the first letter "u".

Response: It will be revised.

Comment (25): Line 303 - change "higher than that from UK" to "higher than those from UK".

Response: It will be revised.

Comment (26): Line 304 - change "from Jane to May" to "from January to May". Change "the rest period" to "the June to December period".

Response: It will be revised.

Comment (27): Line 307 - change "results agreed that" to "results indicated that".

Response: It will be revised.

Comment (28): Line 308 - change "higher than OK" to "than those based on OK".

Response: It will be revised.

Comment (29): Line 311 - change "on the CLIGEN" to "on the CLIGEN outputs".

Response: It will be revised.

Comment (30): Line 335 - change the word "under-estimated" to "underestimated".

Response: It will be revised.

Comment (31): Line 336 - change the word "over-estimated" to "overestimated".

Response: It will be revised.

Comment (32): Lines 352-353 - You could have used degrees Kelvin instead of degrees Centigrade. That would have resulted in better Relative Error calculations.

Response: Thank you for your suggestion. Convert the unit from Celsius to Kelvin will lead to lower relative errors for temperature. But temperature is parameter in interval scale and without true zero, for which the absolute error is a better indicator to describe the estimated error.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

Comment (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.".

Response: It will be revised.

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

Response: It will be revised.

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

Response: It will be revised.

Comment (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.

Response: It will be revised.

Comment (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.

Response: It will be revised.

Comment (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".

Response: It will be revised.

Comment (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".

Response: It will be revised.

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

Response: It will be revised.