

Comments to “Do climate models that are better at approximating local meteorology also improve the assessment of hydrological responses? An analysis of basic and drought statistics”

1 Overview

The authors study whether RCM simulations that provide the best approximations of the local meteorology also provide the best assessments of the local hydrological impact. The authors propose a methodology that briefly follows these steps: the bias in RCM control simulations is corrected, hydrological series are estimated through a rainfall-runoff model those inputs are the bias-corrected RCM meteorological data, the RCM models are classified, and lastly, local future climate scenarios are generated with the best RCM models and results are analyzed.

The originality of the paper, as well as the scientific soundness, is suitable for Nat. Hazards Earth Syst. Sci. The paper is well-written and well-organized. I recommend the publication after some minor changes.

2 Observations

My main observations are:

- Eq. (1). The equation should be written as follows:

$$SE = \frac{1}{\left(\frac{1}{N} \sum_{i=1}^N S_{h,i}\right)^2} \frac{1}{N} \sum_{i=1}^N (S_{c,i} - S_{h,i})^2, \quad (1)$$

- The Case study is the Cenajo basin. The authors should indicate whether there are dams in the studied area since dams must be taken into account in the rainfall-runoff model. If there are any dams, the authors should explain how they are taken into account.

- Line 191. Is the period 1972-2001, or 2071-2100?
- Line 301. The authors state that they have **demonstrated** in a case study that the corrected... I do not totally agree with them on this sentence. They don't demonstrate that their methodology will provide the best results as they do not check their approach with many basins. I rather write the statement as they have **shown** in a case study... This comment also applies to line 348.

3 Typos

There are some typos in the paper. Some are:

- Line 42. Although in ~~the~~ recent years.
- Line 43. please, add a space between “increased” and the parenthesis.
- Line 136. Please, remove the s at the end of “respect”.
- Line 147. Please, change “to” for “with”, i.e. “in accordance ~~to~~ with this total”.
- Line 233. Please, add a hyphen between “best” and “corrected”.
- Line 243. Please, rewrite “the impact of climate variables ~~to~~ on streamflow”.
- Line 245. Please, rewrite “an increase ~~of~~ in”
- Line 248. Please, add a space between “in” and “the”.
- Line 251 Please, rewrite “decreases ~~of~~ in”.
- Line 284. Please, add an article to the sentence: “It is accepted in **the** scientific community ...”.
- Line 297. Please, add an space between “up” and “in”.
- Line 322. Please, rewrite “could be important ~~for analysing~~ to analyse”.
- Line 340. Please, rewrite “the performance ~~for~~ of”.
- Reference. Please, revise the list of references. The journal names of some references are missed. For instance, references in lines 383, 393, 403, 405, 436, 437, 441, 470, 484, and 491. moreover, doi link in the reference of line 405 does not work.