

Interactive comment on “Regional modeling of vegetation and long term runoff for Mesoamerica” by P. Imbach et al.

B. van den Hurk (Editor)

hurkvd@knmi.nl

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The two reviewers were in favor to publish this manuscript in HESS. But to my opinion, major revisions are still needed to make it acceptable.

First, from the abstract and title it is not at all clear that the model configuration used only calculates a mean annual cycle on a fairly coarse time resolution (month). This should be made clear at the outset (preferably also in the title) as this feature makes the study not interesting to a part of the potential audience, e.g. hydrological forecasters.

Second, it is claimed that the model can be used by some decision makers, but I find it hard to imagine what kind of decisions can be based on 1 km simulations of the hydrological/vegetation climatology of this area with a model that does not capture im-

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portant dynamics and processes, such as subseasonal moisture storage, interannual variability, and vegetation characteristics different from the (preset) potential vegetation. Climate change simulations (as suggested by the authors) should not be carried out by a model that lacks these essential processes and time scales, such as decadal trends and interannual variability.

Third, many choices related to the selection of calibration/verification catchments, datasets and parameters are very subjective and prohibit a general interpretation of the features of the model. Why remove agricultural areas? Why remove catchments with too high CV-values?

Fourth, although the model/data description is improved compared to the previous version, it still lacks essential details.

Summarizing: this paper can only be accepted when the authors succeed to make clear what the merit is of a model that tries to reconstruct a mean annual cycle of LAI and water balance components at 1km resolution, and when the choices made to configure and test the model can be justified. Apart from this, a list of specific comments and suggestions is given to the authors.

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