

Interactive comment on “Climate model validation and selection for hydrological applications in representative Mediterranean catchments” by R. Deidda et al.

Anonymous Referee #2

Received and published: 4 September 2013

Title: Climate model validation and selection for hydrological applications in representative Mediterranean catchments Author(s): R. Deidda et al. MS No.: hess-2013-271

The paper describes the performance of several RCMs at river catchment level, presents a procedure for selection of best performing models and applies it to the discussed RCM data. It is coherently written and within the scope of the journal, needs, however, a revision.

General remarks

The weak point of the article is the use of the E-OBS observation only. I guess that

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with CRU or University Delaware data or data obtained from local station measurements not present in E-OBS the results will be different. Therefore the statement “best performing model” is misleading. Interpolation of already interpolated data (with well known problems with extreme values, regional coverage) into smaller areas can cause serious problems. This should be discussed in more detail and the specific choice of the reference should be justified.

The scientific aims of the paper should be clearly specified. In line 10 on page 9111 the goals of CLIMB and the paper are presented. Both aim at the reducing of the uncertainty. What are the differences when any? The sentence “A major source of uncertainty is certainly ...” is not understandable. What is the wide scattering? State clearly what the problems are.

See comment b) of the reviewer #1

The use of the CM abbreviation is misleading. I suggest to use RCM when a regional climate model is meant and accordingly GCM (for example line 10/9112)

Specific Page 9108 Line 15 sentence too long Line 25 key role, key role plays the ocean, perhaps only “important”

Page 9107 Line 5 Only older studies are listed, add some recent studies, (only example : Senatore et al (2011) investigated regional climate change projections for a Mediterranean basin in southern Italy, lot of studies cover the Jordan River etc.)

Page 9110 Line what “is to produce values”

Page 9111 Line 5 Some more specific information can be found for example in the results of the GLOWA-Jordan River project

Line 5/10 “ A major source. . . “, what is wide scattering

Page 9112 Line 15 What is an uniform setting? Line 15/20 In separate effort. . . , is not understandable.

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Page 9113 Line 10 All scenarios had equal probability. Perhaps widely used

Page 9114

Line 15 It is a problem, but you mean that it can be easily be detected and corrected

Line 20 For some models (see below) where below?

Page 9115 Line 5, I think E-OBS is not related to CRU?, Clarify

Page 9116 Line 15 what is an upcoming communication, another paper?, remove (announced papers usually never appear)

Page 9120/9211

Line 20 "In essence ..", this a very weak statement , some numbers should be added here

Page 9123 Line 5 There is excellent observed data for the Alpine region available, and discussion of the undercatchment etc.. (e.g. Frei et al., 2003, Smiatek et al., 2009 show ranges in the observational reference from various sources)

Others

The Figures are not readable in the printed version, even in the electronic only with a large zoom

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