

## ***Interactive comment on “A coupled Bayesian and fault tree methodology to assess future groundwater conditions in light of climate change” by J. J. Huang et al.***

### **Anonymous Referee #1**

Received and published: 9 September 2014

Authors applied Bayesian and faulty tree methods to assess the aquifer with the change of climate. The paper is interesting and suitable for the HESS journal. In essence, the paper applied the coupling of these two methods into a real case study. In the current version, I did not see any new knowledge/contribution or new methodology development to the scientific community. If authors want to highlight the application rather than the methodology development, the key question is whether this study could give new insights which can be borrowed by other similar cases in the world. Until now, I did not see this. I would like to recommend major revision with several specific comments below.

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1)The sole application of combination of faulty tree modeling and Bayesian analysis in a case study does not indicate any contribution or new knowledge. A better motivation of this study is needed. Specifically, in the page 9363, 9364, what is the conclusion of previous studies? What is the difference between this and other studies, except that you applied a new approach to this case? why did you choose faulty tree and Bayesian analysis? What is the advantages of these approaches, compared with others?

2)I have to confess that I am not an expert on climate modeling. I am curious that you only considered the variation in time, for example, for the temperature. Did you consider the spatial variation? The spatial heterogeneity also plays a key role.

3) The conclusion is too general. A specific summary and suggestion are needed.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 9361, 2014.

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