

## ***Interactive comment on “Simulating stream flow over data sparse areas – an application of internet based data” by M. T. Vu et al.***

### **Anonymous Referee #1**

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#### Comments to the paper

“Simulating stream flow over data sparse areas – an application of internet based data”

The paper presents an interesting case that might help as reference and probably give an idea on how to proceed to use the data available on the internet. It highlights the high number of international situations where there is no data available due to political transboundary problems as well as other facts. There are a couple of concerns in this respect.

1. The error measure used in the paper (NSC and CC) seem not to be reliable for the conclusions given in this case. I believe there is an important problem related to the

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large amount of data used. Figure 3 in all the results shows that on a daily basis in all low and normal flows the error is more than 100% of the actual value (at each time step). This low and normal flow rates roughly represent around 50 to 70% if we look at the figure (dry or summer seasons). The high flows in almost all the graphs show to be not accurate and although it might follow overall shapes if we try to visualize a kind of moving average it is not possible to see the use of this daily values (for sure not in flood management). I mean there is no use on the time to the peak situations as well as there is no use in the quantification of the peak value itself. This would imply very dangerous mistakes. I think may be the comments on promising can be clarified on how the authors see this information can be used (on daily scale). Also I think is important to assess the problem as a modular system looking first low flows and then high flows.

<http://www.hydrol-earth-syst-sci.net/11/1797/2007/hess-11-1797-2007.html>

2. The paper does not sufficiently explain the methodology so it cannot serve as a reference. I believe it requires a couple of diagrams where the process done with each data set and its format was taken and transformed to be used. I mean, there is no information on the correction or adaptation to SWAT formatting (Time, scales, computational format, others). This might be very important since the idea of the title is to explain an application of internet based data. If this explicitly done by the SWAT model, then this is more a SWAT paper showing how to click on swat and obtain results. In fact a modeling tool particular feature and might not represents too much without SWAT (title of the paper doesn't fit since it is not as general as it says).

3. There are plenty of papers on the case of using missing data as a solution and combining them with places that do have. I didn't see reference of the possible alternatives to the use of internet based. Also there are cases that used Internet based data showing good results and didn't use SWAT.

<http://www.hydrol-earth-syst-sci.net/13/1607/2009/hess-13-1607-2009.html>

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4.These are other minor comments on the different components of the paper

- a. If we read the Introduction it appears that somehow we end up in a paper that is justified on the basis of the international conflicts or on data quality problems. It should narrow the solution from the alternative solutions. But in my opinion the introduction goes too much into a theoretical part and not to a technical (scientific) part that will be developed along the paper.
- b. Line 20 on the page 11018 provides the idea that what is in this paper is already done, so no need for this paper. I think in the whole paragraph you mention at least one case that also contributes with spatial data at daily time scale using meteorological data from the internet. For sure there are plenty more of cases, so no innovation can be seen if this is true. May be as a case study but it requires more detailed observations and a stronger conclusion.
- c. I think the methodology and results should go apart. Also the results need to be stronger and provide a match to what you can observe on the time series analysis and the idea of using daily data. If not, daily might not be the scale and also no reason to use spatial interpolation of precipitation when you use SWAT.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 11015, 2011.

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