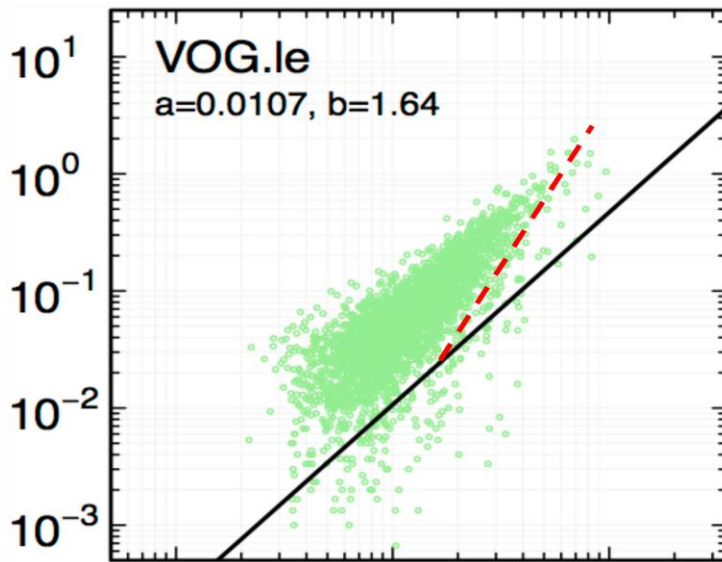This paper compares different methods used for estimating recession parameters based on the work of *Brutsaert and Nieber* [1977]. The paper is timely and interesting. It may provide a good operational guideline on data selection and model fitting for other researchers who conduct recession analysis. It will be better if the authors can revise the paper with an emphasis along this line. I agree with other reviewers that the title needs to be changed. I also have three major coments:

1. The three methods to fit the data points of –dQ/dt ~ Q are different. Particularly when the lower envelope method is compared with the "reg" and "bin" methods. It may be better to discuss the advantage or disadvantage of the three methods or the conditions applicable. I encourage the authors to discuss the data selection criteria and the methods to fit the data instead of concluding that all the methods should be used to represent the uncertainty of parameter estimation. For example, it would be great that the authors can recommend a set of recession data selection criteria which will reduce the bias on parameter estimation. The set of recession data selection criteria can be from the three methods (VOG, BRU, KIR) or others.

2. For the lower envelope, it may be better to use two lines for early and late recessions [*Brutsaert and Nieber*, 1977]. As shown in the figure below, the red line is for the early recession. The slope in early recession is larger than that in late recession [*Brutsaert and Nieber*, 1977]. This is also reflected in the "bin" method, particularly in the figure of VOG.bin. From this perspective, it is a disadvantage of "reg" method to assume constant recession slope. Meanwhile, it should be noted that *b* values for the three fitting methods in Figure 1 are based on different recession stages: *b* for "le" is based on late recession, *b* for "reg" is based on entire recession, and estimation of *b* for "bin" excludes the very high values of *Q*. This may contribute to the variations of estimated *b* values.

The plot shows a scatter of green data points with a black solid line and a red dashed line. The y-axis is logarithmic with labels 10^1, 10^0, 10^{-1}, 10^{-2}, 10^{-3}. Text in the plot reads "VOG.le" and "a=0.0107, b=1.64".

3. Lines 16-20 on page 10577, the author mentioned the difference between individual recession event and collected recession events. The authors may discuss this with more details since this paper is focused on the methods of estimating the recession parameters. For example, the slope of individual recession event is affected by initial groundwater condition and evapotranspiration and may vary from event to event. Analysis based on a collective recession events may represent the average recession behavior, particularly, the lower envelope has strong physical basis, i.e., the minimum recession rate is corresponding to the groundwater discharge.