

## ***Interactive comment on “Sediment concentration rating curves for a monsoonal climate: upper Blue Nile Basin” by M. A. Moges et al.***

**D. Tekka (Referee)**

daniel.teka@mu.edu.et

Received and published: 3 March 2016

General The study indicates the importance of local calibration of empirical models for estimating sediment load and concentration. However, the research question is not clearly indicated and the discussion is very shallow. Overall with major modification the article can be accepted.

> Introduction: It is not properly address what is lacking from the previous scientific studies. It look like the study was conducted because you have sediment-discharge data. > Some of the citations are out dated.

C782

> Methods: What kind of instruments were used by MoWIE for sediment sampling, what was its accuracy? > Indicate the coordinate of the study area in Figure 2

Results: > Use different symbols for the graphs in case the printing is in Black and White. > Use proper scale for the Y and X axis at the 1:1 graphs > Figure 2: Use different symbols for the gauging stations at the catchment and at the small plots > I couldn't see the logic behind the fitting of the Load/concentration rating curves from catchment based (> 500 km<sup>2</sup>) to micro-watershed (0.1-11 km<sup>2</sup>). This catchments are expected to have different morphologic and fluvial transport mechanisms. So can we say that the correlations happens by chance?

Specific comments:

> Introduction:

Page-1 > Line 5-9: Need to be combined properly. > Line 10-13: Should be rewritten. > Line 19-21: The USLE and its derivatives are RUSLE and MUSLE > Line 21 - 2 (page-2): It is not clear what these area? Indicate the cons and pros of these models as it is or based on a general category (empirical, process based, hybrids...).

Page-2: Line 5-6: What kind of data are important for these models that are difficult to obtain in developing countries? Line 6-8: There is no proper transition of this section from the previous idea.

Page 7: What is the source of Eq.2? Page 9: It is not clear why you exclude the time from 1964-1967

Page 10: Line 1: To what extent is the data "Good"?

Line 10-11: For how long you collected the rainfall data? Line 15-16: For the calculation of the effective precipitation on a daily basis, initial abstraction is more important than the ET.

Line 6: Is there a reason for using Thiessen polygon in the study area? Line 10-11: For

C783

how long did you collect the data

Page 12: Line 4-6: The range of goodness of fit for the NSE should be indicated. Line 13-15: What was the reason for dividing the period into three groups?

Page 13: Line 1-5: The hytegraph of each watershed should be plotted on the upper axis and the Pe and PT should be indicated clearly. Line 15-16: What do you mean by under predicting? Which one is reliable? The measured/observed or predicted?

Line 16-18: Why you include R2 in the "Observed-Predicted" graphs? Line 18-19: For Gilgel Abay the MoWIE curves perform better. This should be indicated clearly in this section.

Page 14: Line 9-10: How do you measure "Good"?

Page 15: > Line 13-15: Do you think that having too much parameter means "Better" estimating capacity?

---

Interactive comment on SOIL Discuss., 2, 1419, 2015.