

Interactive comment on “Analysis of streamflow response to land use land cover changes using satellite data and hydrological modelling: case study of Dinder and Rahad tributaries of the Blue Nile” by Khalid Hassaballah et al.

Anonymous Referee #1

Received and published: 1 May 2017

Studies on the impacts of land use and land cover on streamflow are important, especially in developing countries and in Africa where the influence of human activities on water have been rampant and are increasing by the day. Studies have shown that increase in population and subsequent increase in anthropogenic activities have caused changes in streamflow. Availability of long term records of flow, and weather and climate (rainfall, minimum and maximum temperature and other parameters) is a problem in many developing countries. The use of satellite data as derived from different sensors and hydrological models provide information to water resource managers and decision makers on the status and approaches in resource management. This study

C1

has attempted to address some of the aspects.

“The rainfall runoff process over the upper Dinder and Rahad basins (D&R) is complex, non-linear, and exhibits temporal and spatial variability”. This needs a citation to support it. “However, the impact is often not well understood with locally obtained data such as observed flow”. → The main issue here is the fact that data from local stations, is often not long enough or have periods of missing gaps. As it reads, it may look like the information from local stations is not understood.

citation in line should follow the author–date.

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/hess-2017-128/hess-2017-128-RC1-supplement.pdf>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2017-128, 2017.

C2