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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Modelling the water balance of Lake Victoria (East Africa) – Part 1: Observational analysis" *by* Inne Vanderkelen et al.

Anonymous Referee #1

Received and published: 14 February 2018

General comments The proposed article describes a water balance model for Lake Victoria, using state-of-the-art remote sensing observations, high resolution reanalysis downscaling and outïňĆow values recorded at the dam. This question has a great significance as the proposed method can be used for other big water objects with scarcity of in-situ observations. Authors underlined that it is also possible to force their water balance model with climate simulations for the future to predict the oscillations of water level. The object of research has a major importance as a source of water for local communities, source of food via fishing in addition to transport and energy use. Authors showed that precipitation and dam outflow are the main causes of seasonal and inter-annual lake level ïňĆuctuations. All used data is available online or upon request. Specific comments According to Atlas "World water balance and water resources of the

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EarthÂż (1974) the evaporation from Lake Victoria is estimated as 1500 mm (fig.1). It confirms that the estimation of evaporation made by authors is right. It is not clear why the CN model shows that the most runoff is generated in the south west of the Lake Victoria Basin. According to Atlas "World water balance and water resources of the EarthÂż (1974) the most runoff is generated in the north west part in the basin (because of the relief peculiarities (fig.2). Technical corrections and questions What is the reason of absence of HYDROMET water level data after 1996? It is useful to mark points of water level observations and rain gauge stations on the fig.1. On the fig. 5 it is useful to give all water balance components in the same unit of measure (mm or m3).

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ГОДОВАЯ ВЕЛИЧИНА И ВНУТРИГОДОВОЕ
РАСПРЕДЕЛЕНИЕ ИСПАРЯЕМОСТИ
ANNUAL POTENTIAL EVAPOTRANSPIRATION
AND ITS ANNUAL DISTRIBUTION

Fig. 1.

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Fig. 2.

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