

Table of Contents

[In Press](#)[Online First](#)[Article Archive](#)[SWR \(13\) 2018](#)[SWR \(12\) 2017](#)[SWR \(11\) 2016](#)[SWR \(10\) 2015](#)[SWR \(9\) 2014](#)[SWR \(8\) 2013](#)[SWR \(7\) 2012](#)[SWR \(6\) 2011](#)[SWR \(5\) 2010](#)[SWR \(4\) 2009](#)[SWR \(3\) 2008](#)[Issue No. 1 \(1-39\)](#)[Issue No. 2 \(41-79\)](#)[Issue No. 3 \(81-182\)](#)[Issue No. 4 \(183-240\)](#)[Special Issue No. 1](#)[SWR \(2\) 2007](#)[SWR \(1\) 2006](#)[Editorial Board](#)[Ethical Standards](#)[For Authors](#)[Author Declaration](#)[Instruction for Authors](#)[Submission Templates](#)[Copyright](#)[Guide for Authors](#)[Fees](#)[Submission/Login](#)[For Reviewers](#)[Guide for Reviewers](#)[Reviewers Login](#)[Subscription](#)

Surface water potential of the river Osun at Apoje sub-basin Nigeria

O.B. Adebayo, O.M. Alatise

<https://doi.org/10.17221/2423-SWR>

Citation: Adebayo O.B., Alatise O.M. (2008): Surface water potential of the river Osun at Apoje sub-basin Nigeria. *Soil & Water Res.*, 3: 74-79.

[download PDF](#)

In order to archive the millennium goals of which water for all by the year 2015 is a major component; all efforts must be made to efficiently utilise the available water resources in various parts of the world and more importantly in Africa which has been described as the worst hit. In Nigeria, water scarcity in terms of quality and quantity is a major problem. In order to assess the potential of the River Osun at Apoje sub-basin located in the southwestern part of Nigeria, the streamflow and gauge height data of 18 years (1982–1999) were collected from Ogun-Osun River Basin and Rural Development Authority, Abeokuta, Nigeria. A rating curve was drawn for the station by plotting the gauge heights against their annual maximum discharges. The annual cumulative inflows for each year were determined and plotted against water years to evaluate their spatial distributions. Mass curve was drawn for each year and their potential reservoir capacities were determined. The results show that, at the return periods of 10, 25, and 50 years, the upper flood limits of 430, 451, and 458 m³/s, respectively, were obtained at 95% confidence intervals and the level of significance of 0.025. The coefficient of determination r^2 of 0.9984 shows a good fit of the rating curve. The annual cumulative inflow in the sub-basin varies from 60 to 306 billion m³ of water in 18 years. The average annual cumulative inflow was 125 billion m³ of water while the interannual variability was 42%. The intraannual variability was between 56 and 83%. The maximum potential reservoir capacity of 22 billion m³ of water can be built in the area to cater adequately for diverse uses in the sub-basin.

Keywords:

streamflow; gauge heights; Apoje sub-basin

[download PDF](#)
[Impact factor \(Web of Sc Thomson Reuters\)](#)
2017: **0.882**

5-Year Impact Factor: 1.11

[SJR \(SCImago Journal Ra SCOPUS\)](#)

2017: 0.379 – Q3 (Aquatic : Q3 (Aquatic Science))

 Share

[New Issue Alert](#)
[Join the journal on Facebook](#)
[Similarity Check](#)

All the submitted manuscripts checked by the [CrossRef Check](#).

[Abstracted/indexed in](#)

AGRIS/FAO database
Biological Abstracts
BIOSIS Previews
CAB Abstracts
CNKI
Czech Agricultural and Food Bibliography
DOAJ (Directory of Open Journals)
EBSCO – Academic Search Ultimate
Google Scholar
J-GATE
Journal Citation Reports/ Edition, Current Contents®/Agriculture, Biology and Environmental Science
Science Citation Index Expanded
SCOPUS
Web of Science®

[Licence terms](#)

All content is made freely for non-commercial purposes. Users are allowed to copy, redistribute the material, transform, and build upon material as long as they cite the source.

[Open Access Policy](#)

This journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

[Contact](#)

Ing. Markéta Knížková
Executive Editor
phone: + 420 227 010 373
e-mail: swr@cazv.cz

Address

Soil and Water Research
Czech Academy of Agricultural
Sciences
Slezská 7, 120 00 Praha 2,
Republic

© 2018 Czech Academy of Agricultural Sciences