------------------------------------Surface Water Storage Calculation-----------------------------------

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--------------------------------------Version 1.0 by Benjamin Kitambo---------------------------------

This repository consists of code to run the reproducibility of the hypsometric curve approach dataset of Surface Water Storage (SWS) that allows the application of the method elsewhere. The input data includes the digital elevation model, latitude-longitude-width of each Global Inundation Extent from Multi-satellite (GIEMS-2) pixel dataset, and the surface water extent from GIEMS-2 dataset.

The present Python code was developed to compute the monthly SWS for the Congo Basin (CB). The code enables to provide the surface water extent area-elevation relationship from a digital elevation model (before and after the corrections), the surface water extent area-storage relationship, and the monthly SWS estimates gridded on equal-area of 0.25° spatial resolution at the equator, with each pixel covers almost 773 km². The steps are fully described in Kitambo et al. (2022; see below for full citation).

**Data availability**

The dataset of the CB’s SWS generated by the present Python code is available for download at <https://doi.org/10.5281/zenodo.7299823>

**Citation**

Kitambo, B. M., Papa, F., Paris, A., Tshimanga, R. M., Frappart, F., Calmant, S., Elmi, O., Fleischmann, A. S., Becker, M., Tourian, M. J., Jucá Oliveira, R. A., and Wongchuig, S.: A long-term monthly surface water storage dataset for the Congo basin from 1992 to 2015, Earth Syst. Sci. Data Discuss. [preprint], https://doi.org/10.5194/essd-2022-376, in review, 2022.