

EGU2020-19902

<https://doi.org/10.5194/egusphere-egu2020-19902>

EGU General Assembly 2020

© Author(s) 2020. This work is distributed under the Creative Commons Attribution 4.0 License.



## **A study using multitemporal Sentinel-2 data and Digital Elevation Model for calculating morphometric parameters over the Euphrates River Basin in Syria**

**Nour Naaouf**<sup>1</sup> and Balázs Székely<sup>2</sup>

<sup>1</sup>Department of Cartography and Geoinformatics, ELTE Eötvös Loránd University, Hungary (nournaaouf@gmail.com)

<sup>2</sup>Department of Geophysics and Space Science, ELTE Eötvös Loránd University, Budapest, Hungary

The Euphrates River is the main river running in Syria and the longest river in Western Asia and has three riparian countries, Iraq, Syria and Turkey. This research focuses on the Syrian part of the basin which makes 22% of total area of the basin.

Analyzing and evaluating the morphometric parameters is very important for understanding the nature of the surface and also for the sustainable territorial planning and management.

The goal of this study is to evaluate morphometric parameters and understand and analyze the nature of the terrain and determine the usability of the satellite images from Sentinel-2 for calculating the morphometric parameters and to compare their usability in the morphometric analysis with Digital Elevation Model.

Different morphometric characteristics have been generated in GIS environment and also remote sensing data (Sentinel-2 and Digital Elevation Model) have been applied used in this research and will be processed and analyzed using geospatial techniques.

The results allow the automated segmentation of the terrain based on derivatives of the input data. This division is compared to the typical land cover/land use of the various governorates in Syria.

As our study area is a long-lasting military conflict zone, this study will also help to better evaluate the river basin in Syria and to understand some practical problems related to the environment, including soil conservation and water conservation in term of irrigation land and drinking water supply which would also be affected by the armed conflict there.