

Inland free water surface derivation from Sentinel-2 satellite imagery (WaterMasks)

Description

WaterMasks integrates an unsupervised local thresholding approach to estimate water extent of an area relying on a single Sentinel-2 radiometrically corrected image. This module detects automatically thresholds on the Short-Wave Infrared (SWIR) band and on a Modified-Normalized Difference Vegetation Index (MNDVI), derived from radiometrically-corrected Sentinel-2 data. Then, it combines them in a meaningful way based on a knowledge base coming out of an iterative trial and error process. Classes of interest concern water and non-water areas. The inundation map generated by the WaterMask module can be used as input in the HydroMap one.

Relevant material/sources

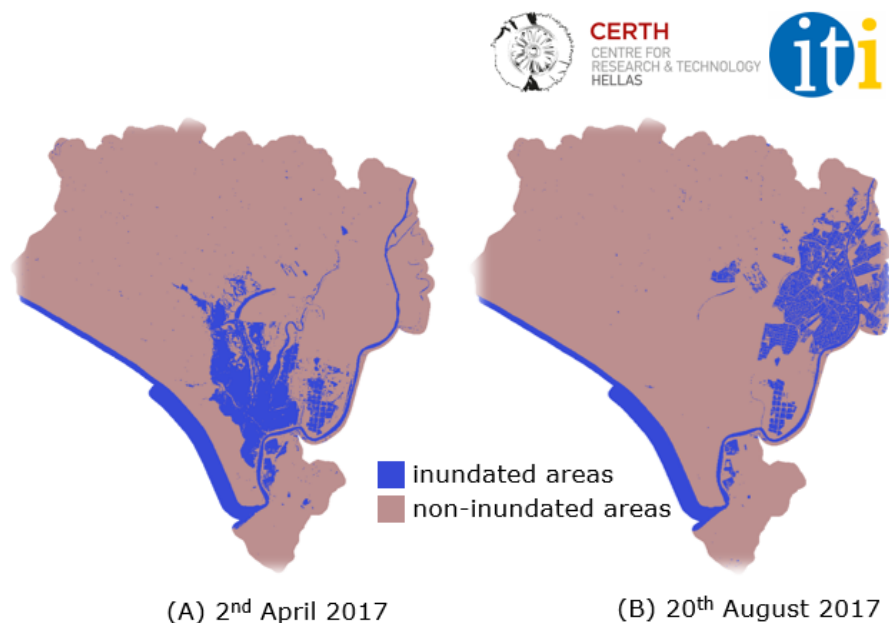
Kordelas, G.A.; Manakos, I.; Aragonés, D.; Díaz-Delgado, R.; Bustamante, J. Fast and Automatic Data-Driven Thresholding for Inundation Mapping with Sentinel-2 Data. *Remote Sens.* 2018, 10, 910.

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Water masks of Doñana National Park on (A) 2nd April 2017 and (B) 20th August 2017, depicting the marshlands (A) that are dried during summer months, and the artificially flooded rice paddies (B).