

Kakhovska dam damage and flood event monitoring using satellite data, 7 June 2023

At approximately 3 a.m. on 6 June 2023, the dam of the Kakhovska Hydroelectric Power Plant (HPP) was breached and subsequently destroyed. This resulted in uncontrolled water release from the Kakhovka Reservoir and flooding of riverside areas downstream towards the Dnipro River Delta. The Head of the Kherson Regional Military Administration reported that an estimated 16,000 persons in 17 settlements on the right bank of the Dnipro River are located in areas within the flooding zone [1].

According to the Ministry of internal affairs of Ukraine, as of 16:00 on 7 June, 1854 people were evacuated from the following settlements on the right bank of the Dnipro River: Tiahynka, Burugunka, Mykilske, Kozatske, Sadove, Poniativka, Lvove, Bilozerka, Ingulets, Yasna Poliana, Dariivka and the Ostrov neighborhood of Kherson in Kherson district.

REACH initiated the satellite-based situation monitoring, based on open-source satellite remote sensing. The map shows the open water area, mapped from Sentinel-3 imagery [2] captured on the morning of 07 June 2023 [3]. Sentinel-3 satellites enable a short revisit time of less than two days for the OLCI instrument capturing images with 300-m spatial resolution.

The flood situation remains volatile and subject to change.

Note: For areas under the control of the Government of Ukraine, data from June 2023 was used, while for other parts of the flood impact zone the pre-war population number was employed.

1. CNN "Collapse of critical Ukrainian dam sparks region-wide evacuations" Access: <https://edition.cnn.com/2023/06/06/europe/ukraine-nova-kakhovka-dam-breach-intl-hnk/index.html>
 2. ESA "Sentinel-2 overview". Access: <https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-3>
 3. EO Browser "open-source web-based tool for browsing, visualization and analysis of satellite imagery available at various platforms". Access: <https://apps.sentinel-hub.com>

