

UKRAINE - KHERSON

The map is showing an agricultural area located in east part of the city of Kherson and north of Crimea. Since the beginning of the conflict in 2022, the area is located in an "hostile" zone opposing both sides. The map has for objective to show the agricultural activity over the area, comparing year 2021 (on left) and 2022 (on right).

The images are corresponding to composite images of NDVI (Normalized Difference Vegetation Index) over the agricultural season between January and end of August of each year.

Vegetation is used here as a proxy to define the agricultural activity, the composite image is structured as so : respectively high vegetation response in end of season in red (June - September), middle of season in green (April - June) and beginning of season in blue (January - April).

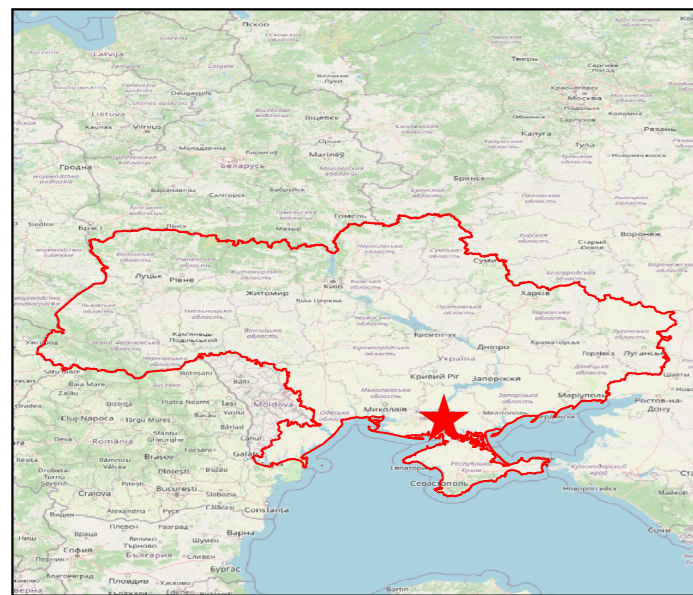
The method is named as 3 times scan, giving the possibility to identify active / abandoned fields. Darker fields signified no or minimum vegetation evolution between each part of the season, letting the hypothesis that the defined field is not exploited. In the contrary, red fields are corresponding to high vegetation response in the end of the season, letting the hypothesis that it is following a "normal" agricultural trend with a maximum value in the end of season.

By comparing both year we identify a darker tone over the year 2022, hypothetically determined by the fact that people fled the area with the start of the war, meaning less activity over the area. Hypothesis that can be supported by the vegetation graph evolution shown in the bottom of the images, showing a lower NDVI values in 2022 than in 2021.

The area is corresponding to ~890km² of agricultural fields, the identification of low activity fields (hypothetically abandoned) is measured at ~125km² in 2022, compare to ~10km² measured in 2021. Corresponding to almost 15% of the area not cultivated.

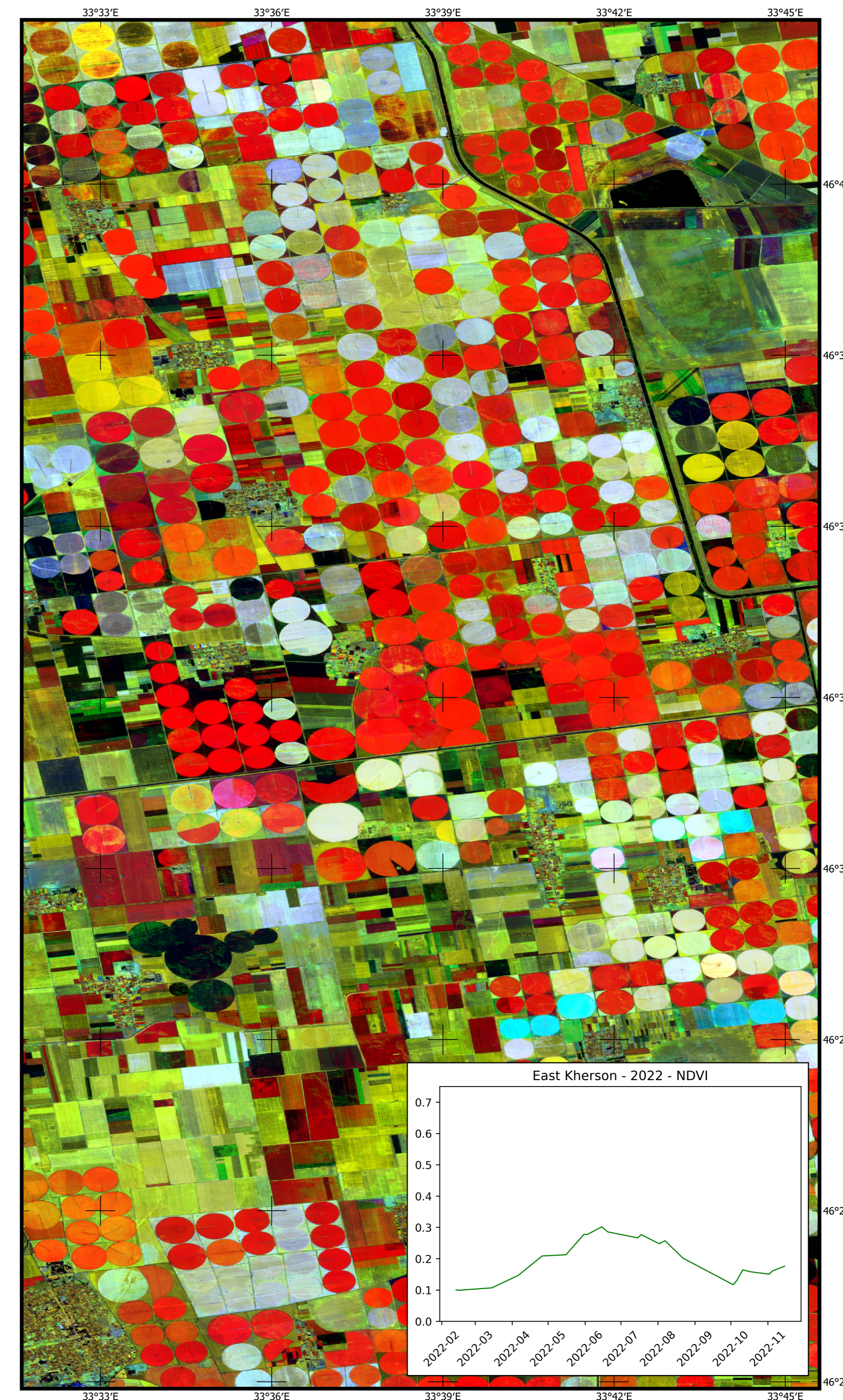
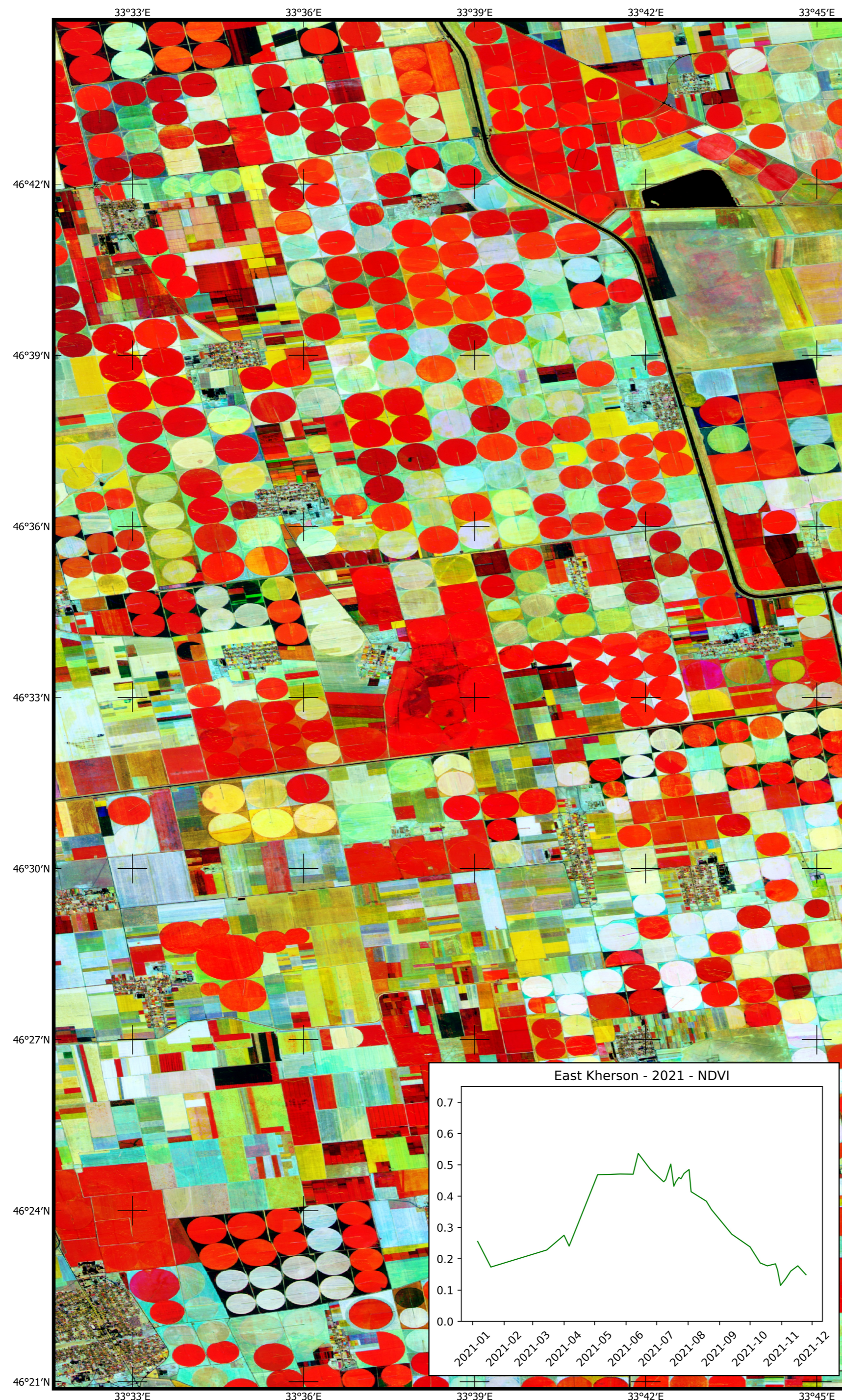
The map and results were developed in the context of the project SR4C3. Given information are extracted from satellite data, accuracy of the analysis depends on the quality of the images. Ground verification is necessary for validation purposes.

LOCATION



SOURCES

Dataset : Sentinel-2
Acquisition : Temporal series of 2021 - 2022
Institution : European Space Agency



0 2,5 5 km

Tick mark : WGS 84 geographical coordinate system

