



©Stock/Chris Stan



Great white pelican (*Pelecanus onocrotalus*)

White water lily (*Nymphaea alba*)

Danube Delta

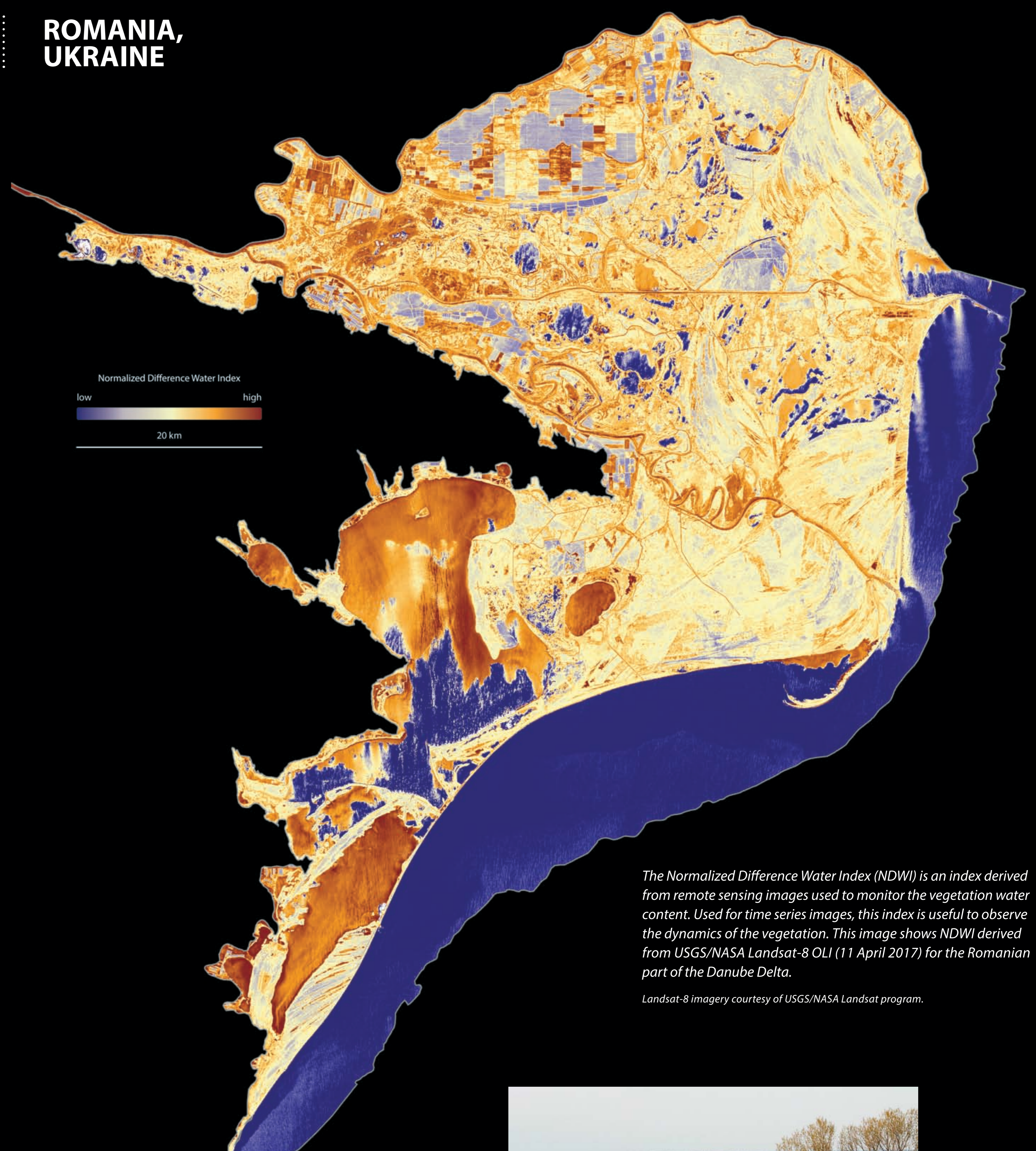
ROMANIA,
UKRAINE

At its mouth, the Danube river forms a huge delta covering over 5,000 km². Shared between Romania (86 per cent) and Ukraine (14 per cent), it creates a complex landscape that includes freshwater ecosystems (canals, shallow lakes, and wetlands), flood plains, alluvial forests, reed beds, lagoons and coastal areas. The delta is still growing in size, spreading seaward at an annual rate of 24 to 30 metres.

More than 300 bird species (including 160 migratory), 80 fish species and almost 1,000 plant species can be found in the delta. The entire area is a UNESCO World Heritage Site, UNESCO Biosphere Reserve and Ramsar Site, as well as part of the Natura 2000 network. The delta's rich biodiversity, cultural heritage and international reputation attract 150,000 tourists every year, many of whom are fishermen, birdwatchers and walkers enjoying the beauty of the water-dominated landscapes and the Black Sea coast. Tourism is one of the most important sources of income for the local population and, provided that it is sustainable, can support nature conservation.

The amount of nutrients transported by the Danube greatly affects the delta's productivity. A more productive aquatic ecosystem can sustain more fish, and therefore attract more recreational fishermen as well as more fish-eating birds, which in turn attract more birdwatchers, photographers and tourists. On the other hand, too large a nutrient input can make these wetland and coastal ecosystems over-productive, resulting in algal blooms and therefore reducing their value and attractiveness.

The ECOPOTENTIAL project uses Earth Observation and in-situ data to investigate how the indicators of water quality (chlorophyll, turbidity etc.) relate to the tourist presence, and thus to develop important monitoring tools to support management and conservation decisions.



The Normalized Difference Water Index (NDWI) is an index derived from remote sensing images used to monitor the vegetation water content. Used for time series images, this index is useful to observe the dynamics of the vegetation. This image shows NDWI derived from USGS/NASA Landsat-8 OLI (11 April 2017) for the Romanian part of the Danube Delta.

Landsat-8 imagery courtesy of USGS/NASA Landsat program.



©Gabriel Lupu DNI

The southern arm of the Danube Delta, Saint George, at its exit to the Black Sea.



©Vasile Alexei DNI

Fishery house – a place where fishermen bring their daily catch before it is delivered to the market.



Reed harvesting and drying.



This project is funded by the European Union