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A fishing boat in the lagoon.

Curonian Lagoon

LITHUANIA, RUSSIA

The Curonian Lagoon, separated from the Baltic Sea by the Curonian Split, is Europe´s largest lagoon and is shared between Lithuania and the Russian Federation's Kaliningrad Oblast.

The lagoon and its surrounding region host very diverse environments, including marine waters, the brackish lagoon, the freshwater Nemunas delta, sandy dunes, seasonally flooded meadows, rivers, lakes, fishponds and swamp forests. The lagoon and especially the Nemunas delta and its wetlands are considered globally important sites for waterfowl conservation. They serve as one of the most significant staging areas for geese, ducks, swans and waders on their migration route from Western Europe to the Arctic.

Flooding is a regular occurrence during spring in the Curonian Lagoon, when vast areas of the Nemunas delta can be placed under water for weeks. While high levels of flooding can be hazardous for local communities and damaging to their economic activities, they can bring greater fish spawning success compared to medium or low floods. Flooding also leaves behind fresh, nutritious grass sprouts for birds to feed on before migrating and breeding. As the water levels drop, the meadows become important breeding habitats for critically endangered bird species such as the great snipe, aquatic warbler and several species of terns and waders.

Earth Observation tools can be used to monitor a number of important processes in the lagoon and its surrounding region. As one of the richest fishing areas in the Baltic Sea region, field observations and analysis of hydroperiod and flood distribution obtained from satellite images from ECOPOTENTIAL can play an important role in modelling the spawning and recruitment of commercial fish species. Analysis of flood levels and distribution through Earth Observation can also detect changes in waterbird habitats and agricultural activities.

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Grey heron and great cormorant

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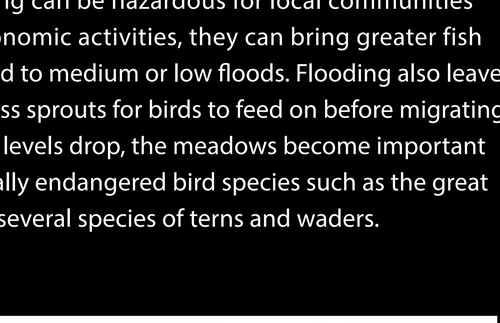
Scientists extract water samples from the frozen lagoon during winter.

The large image (right), acquired by Sentinel 2 on 16 August 2017, displays the entire region of the Curonian Lagoon and the Nemunas Delta. The small image (above) displays the evolving nature of the coastline due to changing water levels. The orange line shows the coastline during low tide (26 October 2016) while the white line shows the coastline during high tide (1 December 2016).

Produced from ESA data (Sentinel-2, bands: 2,3,4).



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Reed beds in the lagoon.

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