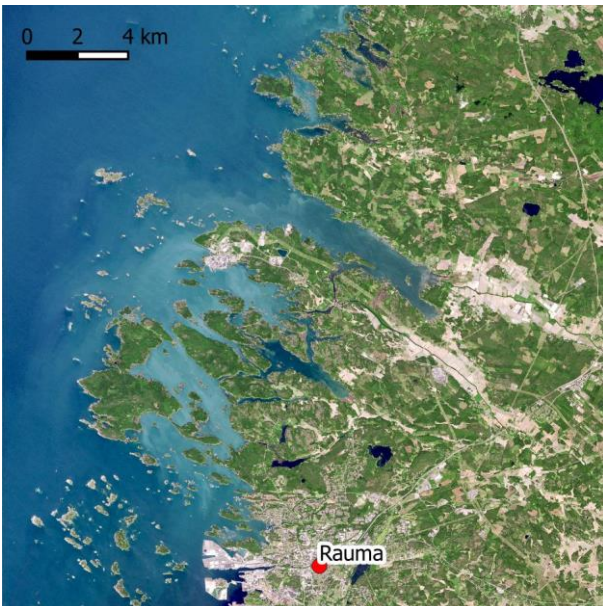


Landsat4, 1987-07-20



Sentinel-2, 2023-06-07

In 1973 Finland started an ambitious project to exploit the power of nuclear energy for a sustainable future. The Olkiluoto Nuclear Power Plant, located at the west coast of the country on an island in the Gulf of Bothnia, emerged as a significant milestone in this endeavour. Over the years, the development of Olkiluoto has brought about notable changes to the coastal landscape, all closely monitored through satellite images.

Initially, Olkiluoto was a sparsely populated island with a picturesque coastline. The construction of the three reactors of the nuclear plant necessitated extensive land reclamation of approximately 150 hectares, transforming the shoreline and surrounding areas. Satellite images have captured the expansion of the plant, the construction of cooling water channels, and the growth of infrastructure. While the construction of a fourth reactor has been stopped, the Onkalo spent nuclear fuel repository is currently being constructed only 2 km east of the power plant.

The Olkiluoto Nuclear Power Plant has become an important source of electricity. With three operational reactors, the facility has a total installed capacity of 3,380 megawatts. In 2021 a total of 14.4 TWh of the 83 TWh electric energy consumed in Finland was produced. The reliable and clean energy produced here significantly reduces the nation's carbon footprint and reliance on fossil fuels, contributing to a more sustainable energy mix.

Exercises

- Satellite Map:
 - Look at the satellite image maps and discuss the changes that occurred between 1987 and 2023.
 - Can you identify the location of the Olkiluoto Nuclear Power Plant?
 - Try to identify the reason(s) why the power plant was constructed at the coast.
 - Try to identify changes in the land-use in the region caused by the infrastructure around the power plant.

Additional Material



View of the Olkiluoto Nuclear Power Plant (photo: kallerna)