

Sentinel-2, 2017-07-16 (overlay: water area in 2017, blue, and loss of water bodies with respect to 2011, green)



Landsat8, 2015-07-15



Landsat5, 2011-07-27

The Belo Monte Power Station, located in Brazil's northern state of Pará, is one of the largest hydroelectric power plants in the world. Its construction began in 2011 and was completed in 2019. The power station is using the energy of the Xingu River, a major tributary of the Amazon River.

The total installed capacity of more than 11,000 megawatts (MW) is enough to supply electricity to over 60 million people. The power station has 18 power generating units, each with a capacity of 611 MW. It is estimated that the power station will produce around 40,000 GWh of electricity per year, which will help to meet the growing demand for electricity in Brazil.

However, the construction of the Belo Monte Power Station has been highly controversial. Environmentalists and indigenous groups have raised concerns about the impact of the power station on the local ecosystem and on the livelihoods of the indigenous people in the area. The construction of the power station involved the flooding of a large area of forest and the displacement of thousands of people. Moreover, the changed water regime has impacted the ecosystem of Rio Xingu below the dam.

Despite these concerns, the Brazilian government has defended the construction of the Belo Monte Power Station as necessary to meet the country's energy needs and to promote economic development. The power station has also been promoted as a way to reduce Brazil's dependence on fossil fuels and to help combat climate change.

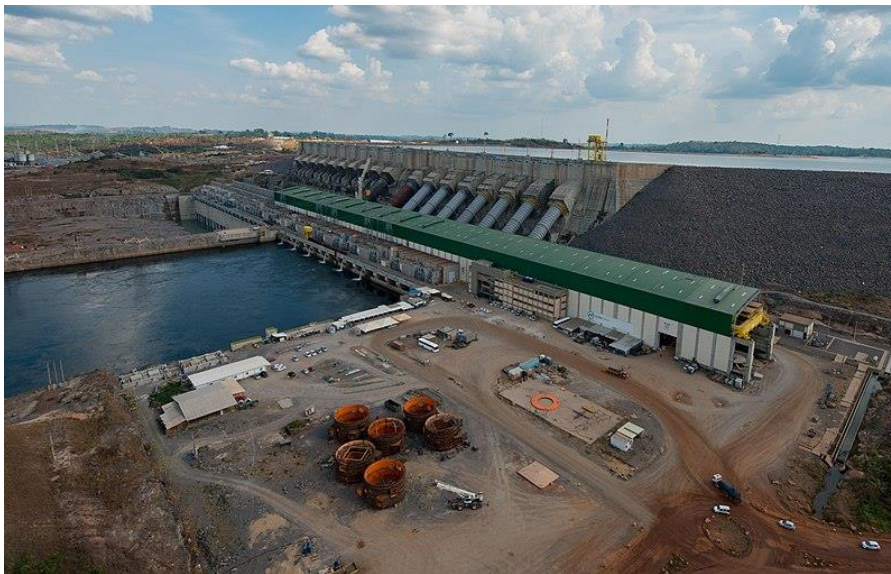


Exercises

- **Satellite Map:**

- Look at the satellite image maps and describe the changes between 2011 and 2017. Where are the modifications of the landscape most prominent?
- Where can you find an increase of the water area, where a decrease?
- How can these changes influence the wildlife in this region?
- How do they affect the people living there?
- Green areas in the satellite images are covered with vegetation. What types of vegetated areas do you expect in this environment (e.g. pastures, crop fields, forests)?

Additional Material



Belo Monte Hydropower Station (photograph: [Fernanda Brandt](#))

Links and sources

- https://www.esa.int/Applications/Observing_the_Earth/Earth_from_Space_A_river_of_diversity - Report on the Rio Xingu catchment basin
- <https://www.maaproject.org/2017/belo-monte/> - Study about the changes caused by the dam project, based on satellite data

