

Image: Copernicus Sentinel-2 captures eutrophic Lake Tai, China

November 15 2019



Credit: contains modified Copernicus Sentinel data (2019), processed by ESA, CC BY-SA 3.0 IGO

The Copernicus Sentinel-2 mission takes us over the Lake Tai, the third largest freshwater lake in China. The lake, also known as Lake Taihu, is located in the Jiangsu province and is approximately 70 km long and 60 km wide, with an average water depth of approximately two meters. The

lake discharges its waters through Wusong, Liu, Huangpu and several other rivers.

The Tai Basin is a very developed region in China, and includes the megacities Suzhou, visible east of the lake, Wuxi, visible north of the lake, and the nearby Shanghai. Over the past decades, rapid urbanization, [population growth](#) and excessive fish farming have resulted in eutrophication—where the lake becomes enriched with minerals and nutrients.

The increase of nutrients deteriorate the water quality of the lake causing toxic algae blooms to form on the lake's surface—threatening the quality for millions of people who depend on the lake as a source of drinking water.

In 2007, the [algal blooms](#) were so severe that the outbreak was declared a health emergency. Water supplies to Wuxi were suspended, leaving two million residents without drinking water for several weeks.

In this image captured on 24 May 2019, the algae-infested waters are clearly visible.

Algae blooms have been reported in the lake since the 1980s. Many attempts have been made to salvage the water quality of the lake including removal of the algae, closing chemical and manufacturing plants near Tai and stricter water treatment regulations.

However, the lake remains to be highly polluted. Agriculture, sewage and manufacturing still affect the lake's waters—overloading it with nutrients.

Sentinel-2 is a [two-satellite mission](#) to supply the coverage and data delivery needed for Europe's Copernicus program. The mission's

frequent revisits over the same area and high spatial resolution allow changes in inland water bodies to be closely monitored.

Provided by European Space Agency

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