

Bolivian Lake Poopó slowly dries up

Sentinel-2 MSI acquired on 31 October 2016 at 14:37:52 UTC

Sentinel-2 MSI acquired on 20 March 2017 at 14:37:41 UTC

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Sentinel-2 MSI acquired on 15 March 2018 at 14:37:51 UTC

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[2D Layerstack](#)

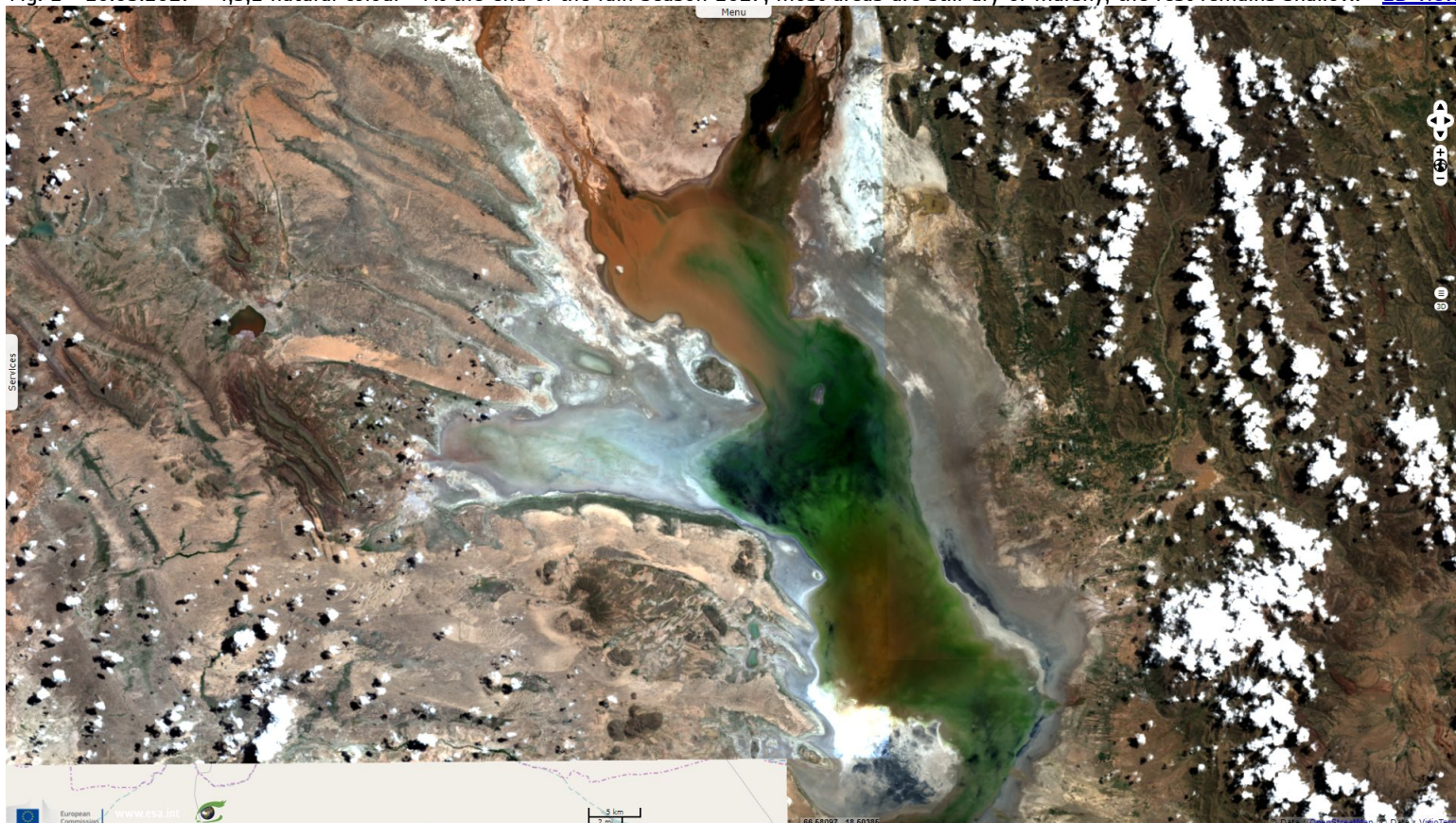
Fig. 1 - S2 (31.10.2016) - 11,3,2 colour composite - Lake Poopó during the dry season 2016.

[2D view](#)



Fig. 2 - 20.03.2017 - 4,3,2 natural colour - At the end of the rain season 2017, most areas are still dry or marshy; the rest remains shallow.

[2D view](#)



Lake Poopó y Uru Uru is an important place for the biodiversity of the arid Altiplano. Ramsar [depicts](#) it as: "A site comprising two associated brackish lakes at over 3,600m altitude which fulfil all eight of the Ramsar Criteria and are excellent representatives of the high-altitude Andean wetlands of the Puna region. Some 76 species of birds have been reported for the site, including about 120,000 individuals of flamingos *Phoenicopaterus chilensis*, *Phoenicoparrus andinus*, and *Phoenicoparrus jamesi*."

Fig. 3 - 06.10.2017 - 11,3,2 colour composite - Lake Poopó at the beginning of the dry season.

[2D view](#)



However, according to an article [written](#) in the Latin American Herald Tribune: "*Bolivia's second largest lake, Poopo, in the Andine region of the country is turning into a desert*". The biodiversity of this Ramsar site is at risk "Agricultural engineer Milton Perez, from Oruro Technical University, says 'the lake ecosystem is very fragile, with a depth of only 1.5 to 4 meters (5 to 13 feet), and its waters have reduced.'" From its usual 8000 km² it now shrinks to a fraction of that during the dry season.

Fig. 4 - 30.11.2017 - 11,3,2 colour composite - At the end of the dry season 2017, Lake Poopó is larger than at the same period in 2016.

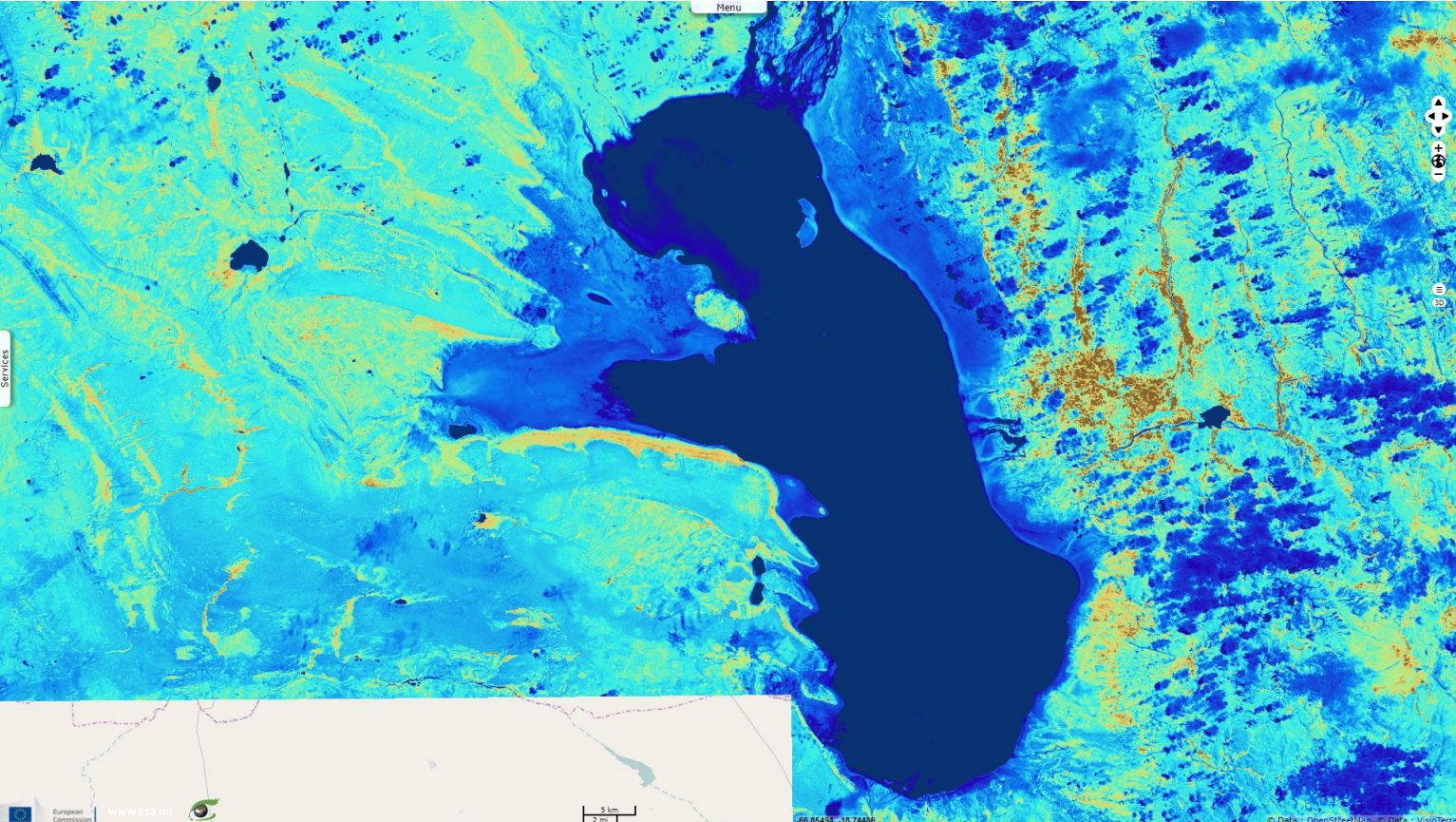
[2D view](#)



The LAHT also care about the impact on population, [interviewing](#) a local figure: "*Rojas, a leader of the indigenous Untavi community in Toledo, where the population is significantly affected by the situation, said the lake has dried up many times in the past too, but has always managed to recover itself. However, the peasants now fear Poopo will not recover its water due to rising temperatures in the highlands and hundreds of farmers*

and fishermen, who have suffered losses, are now abandoning the place. 'We have a lake that has disappeared, now it is a plain, it is a desert where you cannot plant anything, nor produce, nor is there anything, much less life,' said Rojas."

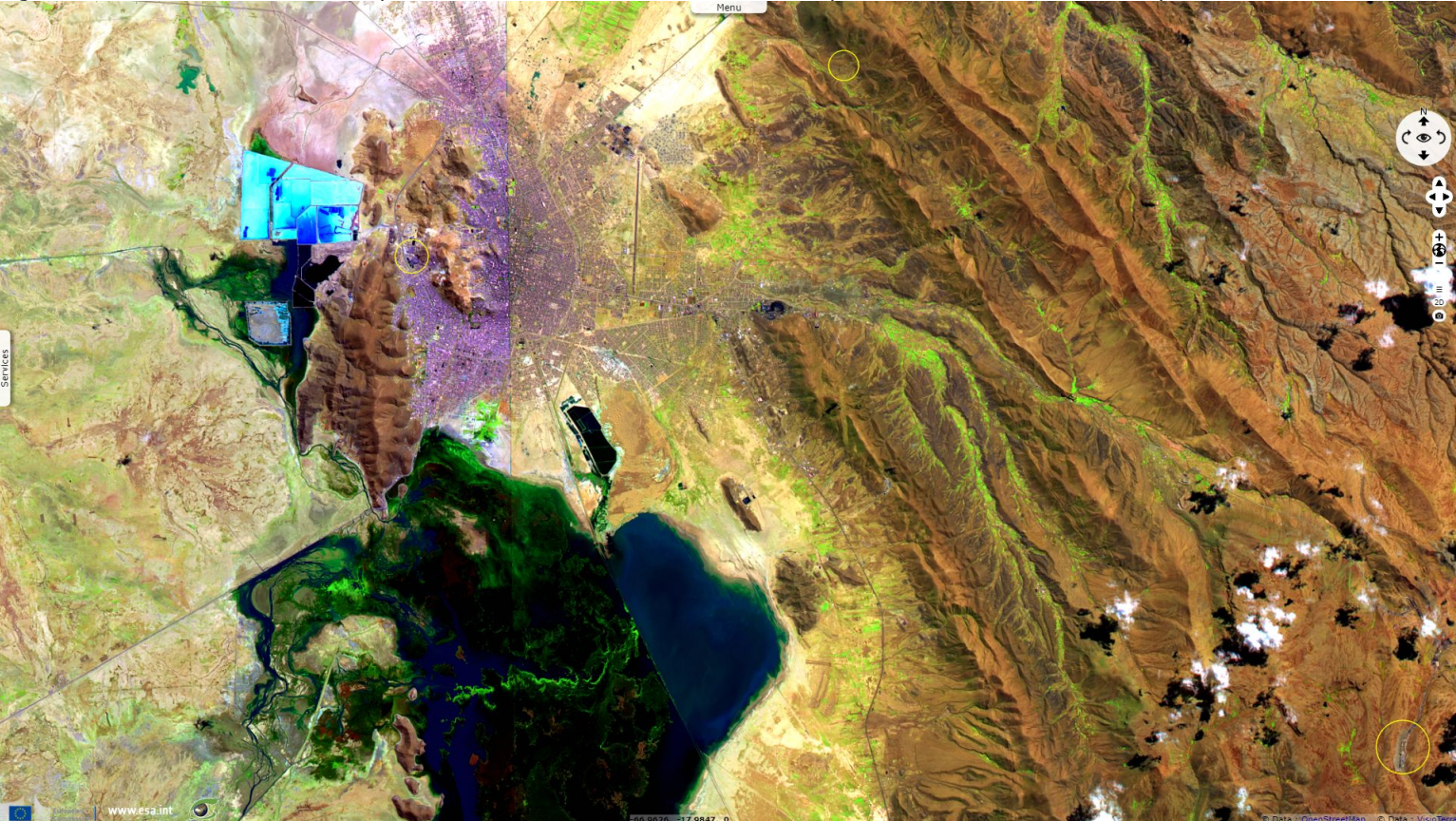
Fig. 5 - 15.03.2018 - ndi(8,3) - Normalized Difference Water Index 2 shows the lake wider in March 2018 than in was in March 2017. [2D view](#)



Manish Muhuri [wrote](#)for Biotechn.Asia: "The shrivelling lake ecosystems has caused a mass die of millions of animals, according to research, and some 200 species of birds, mammals, fish, and other animals have disappeared from the area, including the endangered flamingo, Bolivia's La Razon reported."

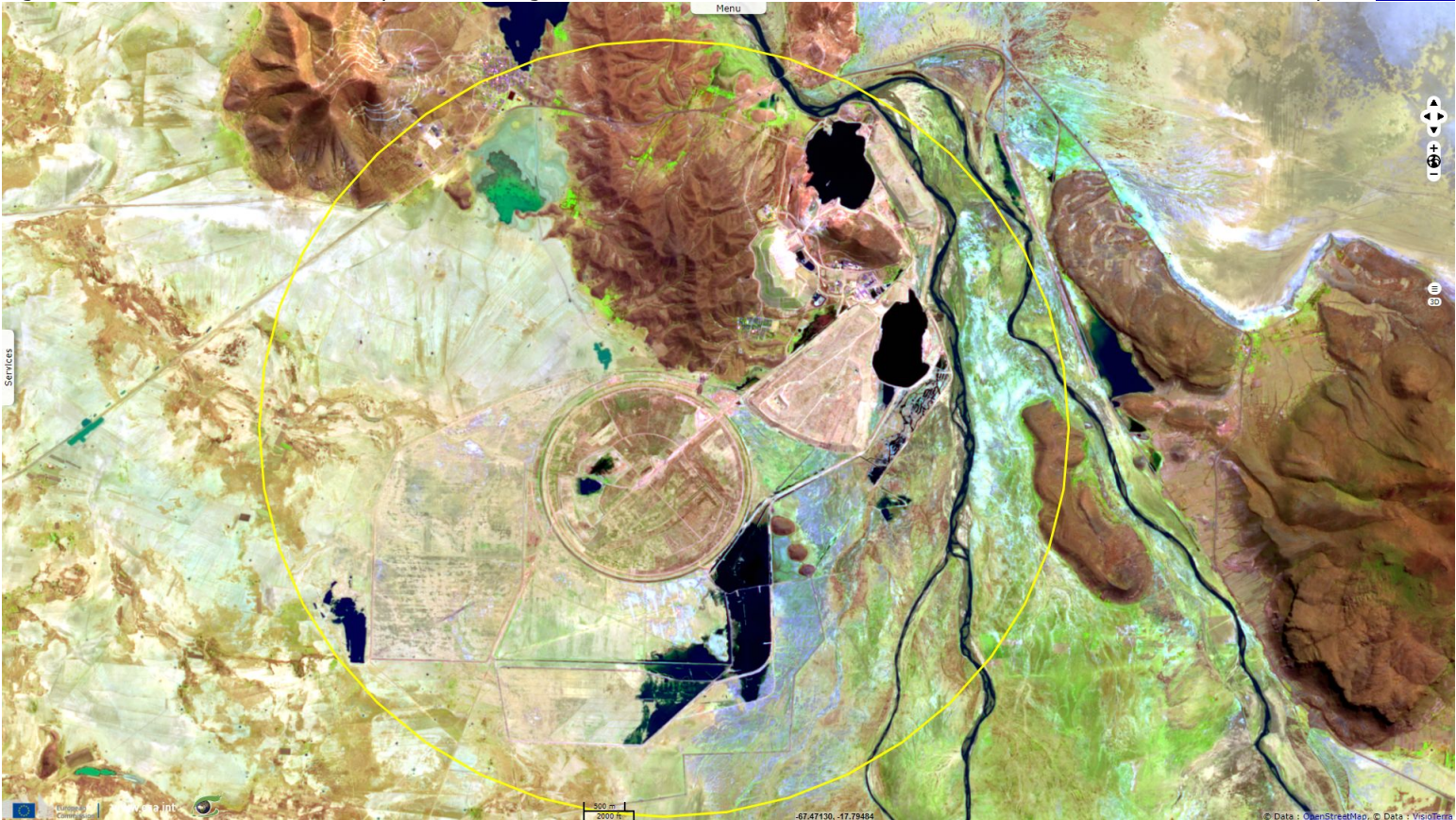
"Scientists are trying to figure out what happened, and how to prevent it from happening again. Climate change is one, as scientists at Oruro Technical University say temperatures in the region have risen about 0.9 degrees Celsius over the past two decades, enhancing the rate of evaporation from the lake upwards of three times what it used to be. Another card of the deck stacked against Lake Poopó was El Niño. The Pacific Ocean weather phenomenon has gotten much more common with rising global temperatures."

Fig. 6 - 19.04.2018 - 11,8,2 colour composite - Several mines surround Oruro, their liquid wastes flow toward Lake Poopó. [2D view](#) [3D view](#)



Jacques Gardon, researcher at the IRD (French National Research Institute for Sustainable Development), [comments](#) the situation in Oruro: "*The city is perched 3700 m on the Altiplano and now has 220 000 inhabitants. These people are exposed to contamination by a number of metals generated by current and past mining and metallurgical industries. In five centuries, these activities have generated at least two million tonnes of mining waste, piled on spoil heaps open to the air at the foot of the Oruro hills. These masses of waste are sources of pollution*".

Fig. 7 - 19.04.2018 - 11,8,2 colour composite - The large Kori Kollo mine, 30km NW of Oruro includes active & several abandoned filled pits. [2D view](#)



He [adds](#): "*Greenish-yellow waters ejected by mine gallery pumping or flowing down from eroding slagheaps in the wet season, pass through the city and eventually into Lake Uru-Uru and Lake Poopó further downstream. This hydrological system is quite unusual. It finds no outlet to the sea. But also its high altitude and the salinity and strong mineralization of its waters makes the ecological and hydrological balance of this region particularly fragile.*"



Large dried areas in Lake Poopó - Source: [Canadian Broadcasting Corporation](#)

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