

# LAKE TURKANA

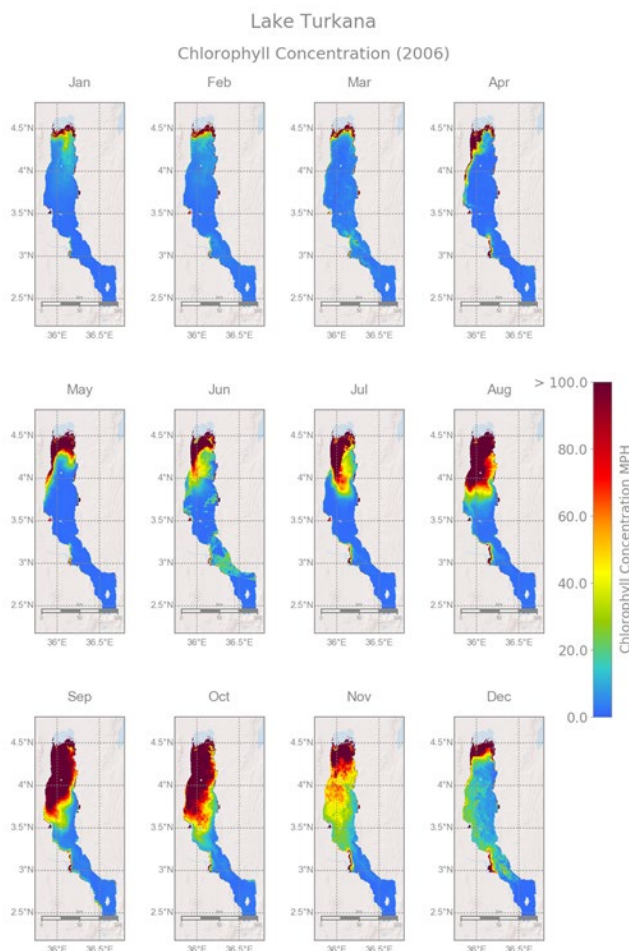
## SPOTLIGHT

**“I think Lake Turkana is going to be the second Aral Sea. It is one of the worst environmental disasters you can imagine.”**

| R. Leakey, Chair of Kenya Wildlife Service |

## WATER QUALITY PRODUCTS

### Chlorophyll-a Concentration | MPH



GlobalWetland Africa, Lake Water Products  
Processing: Diversity-2 processing, BC  
Input data: MERIS FRIS © ESA  
Background image: World Shaded Relief © 2014 Esri  
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**Description:** The monthly averages of the chlorophyll concentration of Lake Turkana is shown for 2006. The strong seasonal changes are clearly visible for the northern part of the lake while the southern part has constantly low concentrations. Similar structures are visible in the suspended matter concentration (below). The strong influence of the Omo River is seen.

## FAST FACTS

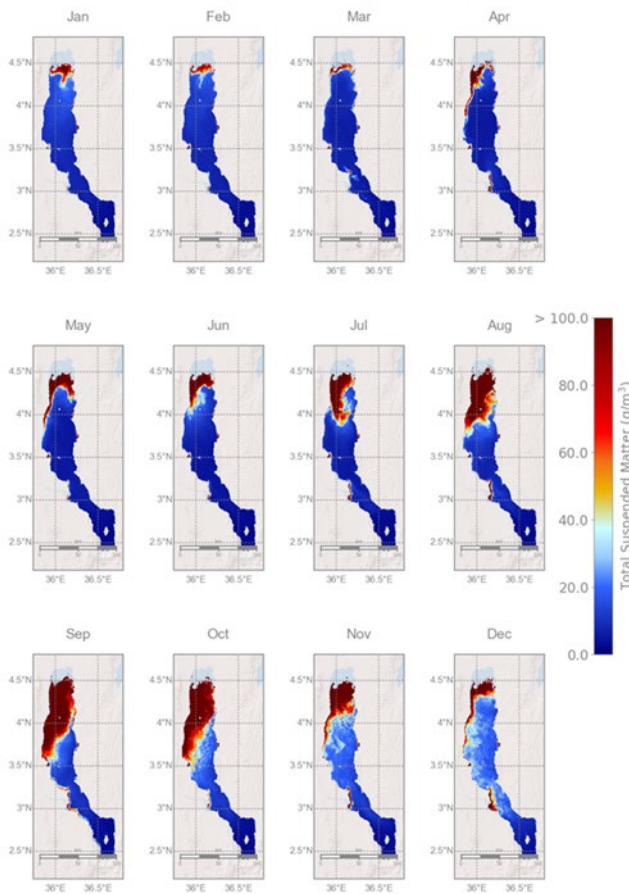
- World’s largest permanent desert lake
- Popularly known as the ‘Jade Sea’ due to its remarkable algal colouration
- It is Kenya’s largest lake and the largest lake in the eastern rift
- Endorheic
- Semi saline waters, well mixed, constant temperatures
- Receives 90% of its freshwater via the Omo River from Ethiopia
- Catchment covering an area of 138,000 km<sup>2</sup> (splitted roughly 50:50 between Kenya and Ethiopia)
- Lake itself measures 250 km N►S, and is about 30 km wide
- Mean and maximum depths are 35 m and 120m, respectively
- Lies in an extremely arid and remote region
- Altitude: 375 m asl



## Total Suspended Matter | TSM

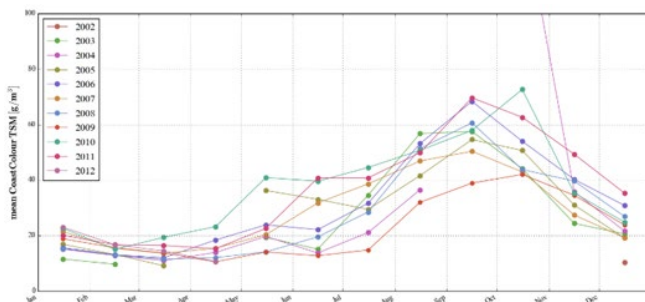
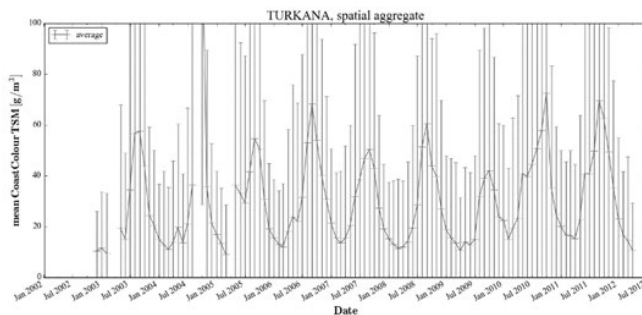
Lake Turkana

Total Suspended Matter (g/m<sup>3</sup>) (2006)



GloboWetland Africa, Lake Water Products  
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## Time Series of Total Suspended Matter | TSM



**Description:** The time series of the suspended matter for the 10 years of MERIS is also showing the strong seasonal trend. The maximum concentration (Lake average) is starts in August until November. The absolute levels differ between years.



Lake Turkana, South Island  
Credit: Avery (2013)



Landsat ETM+ image of the southern portion of Lake Turkana, 1999/10/23. Credit: NASA

## IMPACTS OF GIBE III HYDROPOWER DAM

- Lake Turkana and its livelihoods are threatened by a cascade of major hydropower dams along the Omo River
- Gibe III dam on the Omo River is Africa's biggest dam (official inauguration: 12/2016)
- Gibe III will make possible large-scale commercial irrigation schemes in the Lower Omo ► is set to become the largest irrigation complex in Ethiopia
- Filling of dam reservoirs will cause a decline in lake levels ► river flows will be regulated ► leading to a shrinking of the lake similar to what happened to the Aral Sea
- Elimination of the existing highly pulsed natural hydrology ► significant impact on the lake's ecology ► will potentially destroy indigenous fisheries
- Regulation of the Omo's important floods ► will also permanently capture sediments and nutrients that would otherwise be transported to feed the lake
- Urgency to establish effective monitoring

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