

MAHAVAVY-KINKONY WETLANDS

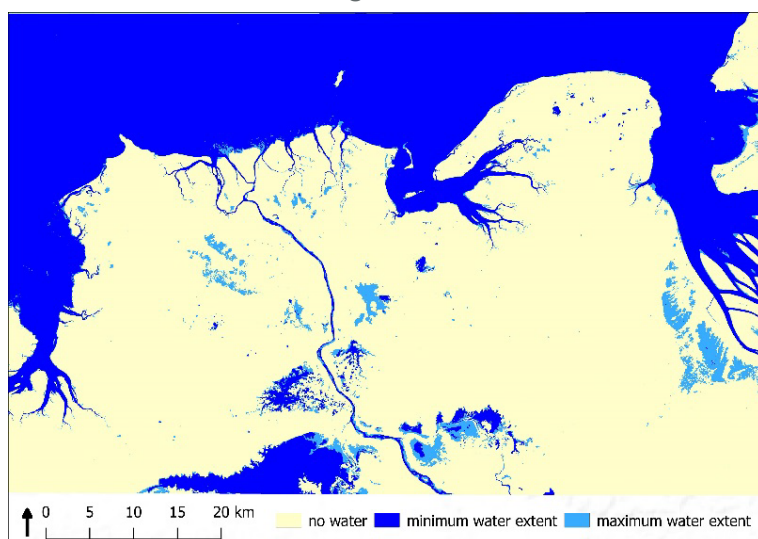
SPOTLIGHT

"[...] the Mahavavy-Kinkony wetlands [...] hold all the wetland bird species of Western Madagascar, many of which are locally endemic."

| Mantilla-Contreras and Carrière, 2015 ^[4] |

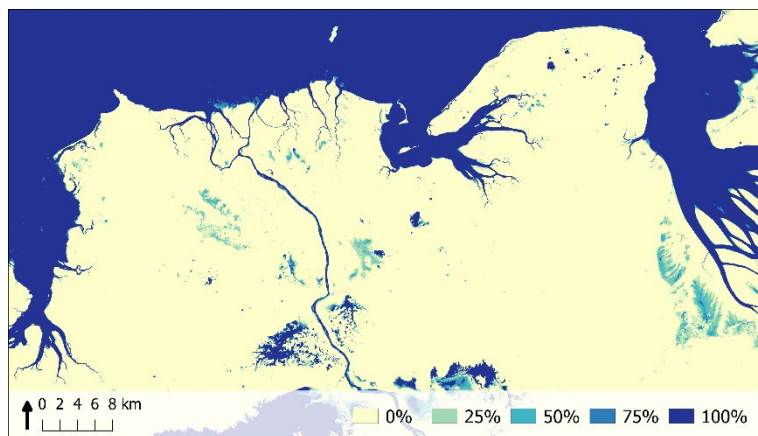
INUNDATION REGIME PRODUCTS

Inundation Regime – Water Extent



Description: In the north, the mouth of the Mahavavy River is seen, on the southern border the Kinkony Lake is situated. The water level and hence also the surface of many lakes or ponds around the Kinkony Lake change significantly throughout the year. The coastal areas contain marshes, which are flooded up to 6 months a year.

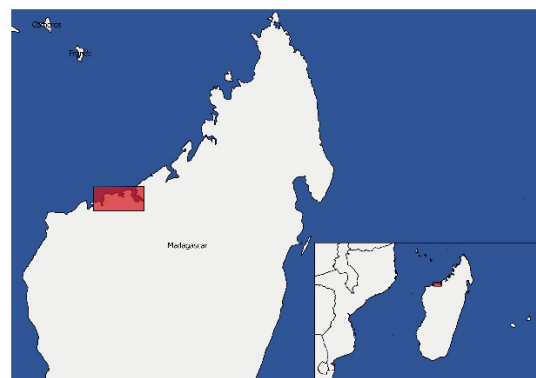
Inundation Regime – Water frequency



Description: This map shows the water occurrence (frequency). A value of 100% means that water has been observed all the time based on multi-temporal EO data. This information allows to observe the intra-annual dynamics of the open water surfaces.

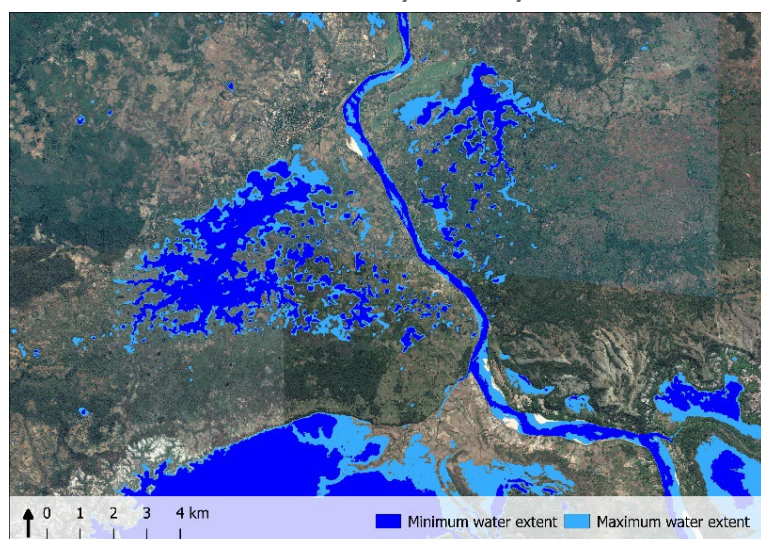
FAST FACTS

- Mahavavy-Kinkony is a wetland in the north-west of Madagascar. The name originates from the Mahavavy River and Kinkony Lake. The river feeds the Kinkony Lake and the delta, which drains into the Mozambique Channel.
- The area can be summarized as a complex of lakes, wetlands (mangroves, alluvial mudflats, marshes) and agricultural land, with a small area of remaining tropical dry forest in northwestern Madagascar, which experiences a dry and warm climate, with two distinct seasons [1, 2].
- The site is important for birdlife, especially water birds. It is a wintering place for migratory birds such as flamingos and various terns.
- The protected area features numerous species, many of them are endemic in Madagascar, like lemurs, variants of the Baobab tree, and the Madagascan sea-eagle.
- Some lakes in this region and animals which live here, are considered sacred to the indigenous population.
- A continuing threat for the habitat is extraction of trees, which are used as wood or charcoal for cooking. The erosion of denuded areas causes lakes to dry up and has several impacts on the wetland habitats.



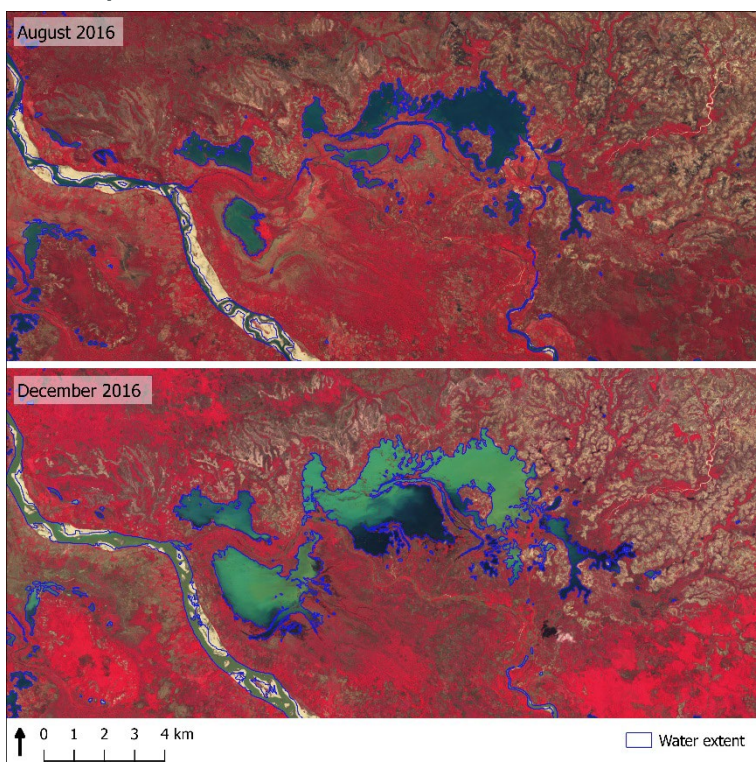
Overview of the Mahavavy-Kinkony wetlands located in the north-west of Madagascar.

Detail of the Mahavavy-Kinkony wetlands



Description: The detailed map shows water level changes along the river stream and on the shore of the water bodies. The shallower a lake is, the more impact has a change in water level on its surface.

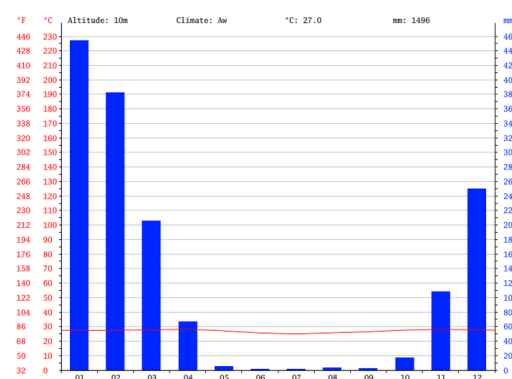
Comparison of minimum and maximum water extent



Description: These images above show the variation of the annual minimum and maximum water extent, on the background of the actual Sentinel-2A satellite images. During the dry season, the water level is relatively low. The river bed is mostly dried up and sand banks form, lakes in wetlands are smaller, due to nearly no precipitation and low river discharge. In the rainy season, however, shown is the month with the highest precipitation, the water bodies reach their maximum extent.



RGB image of the Mahavavy-Kinkony wetland area. The red point indicates the position of Mahajanga.



Climate diagram of Mahajanga, a city in the north-eastern part of the Area of Interest. The tropical savanna climate causes 5 to 6 months of drought. The wet season between November and March is characterized by partly heavy rainfalls and large monthly precipitation totals [3]. The high rainfall variability causes significant fluctuations in the water level of the river and floods are very likely during the rain period.

References

- [1] <http://datazone.birdlife.org/site/factsheet/mahavavy-kinkony-wetlands-npa-iba-madagascar>
- [2] Harvey, C. A., Rakotobe, Z. L., Rao, N. S., Dave, R., Razafimahatratra, H., Rabarijohn, R. H., ... & MacKinnon, J. L. (2014). Extreme vulnerability of smallholder farmers to agricultural risks and climate change in Madagascar. *Phil. Trans. R. Soc. B*, 369(1639), 20130089.
- [3] <https://en.climate-data.org/africa/madagascar/mahajanga/mahajanga-3100/>
- [4] Mantilla-Contreras, J., & Carrière, S. M. (2015). Madagascar's open landscapes under the spotlight. *Madagascar Conservation & Development*, 10(3), 107-109.

All satellite derived products shown here have been derived from Sentinel-1 CSAR (radar) and Sentinel-2 MSI (optical) imagery. The product development and processing has been performed within the ESA project GlobWetland-Africa.

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