**Objective:** Pollen based reconstruction of past vegetation composition since 1914 at the Otjikoto region.

**Methods:** Several sediment cores were collected from Otjikoto lake. Pollen and chemical analysis were performed on 30 sediment samples of core 15oj10 (30 cm).

**Fossil pollen diagram of selected taxa. MAP: Mean annual precipitation (Harris et al., 2014). Shadow curves correspond to 10x exaggeration.**

**Chemical sediment composition reflect water dynamics at Otjikoto Lake**

1) Increase of total inorganic carbon and decreasing precipitation during the last 10 years reflect **low water recharge** at Otjikoto lake.
2) High levels of total nitrogen and total organic carbon suggest additional **nutrient input** and high lake productivity in the thirties.
3) A peak of total inorganic carbon and continued high precipitation suggest increased **runoff**.

**Key messages**

- Fossil pollen reflect **vegetation change** following fluctuations in the precipitation.
- Fossil pollen reflect **encroachment** within the last 10 years.
- Chemical sediment composition reflect **low water recharge** at Otjikoto lake during the last 10 years.

Pollen and chemical sediment analysis are suitable to reconstruct vegetation history and environmental conditions of savannahs.

**References**


**Map**: Mean annual precipitation (Harris et al., 2014); N: Total nitrogen; TIC: Total inorganic carbon; TOC: Total organic carbon.