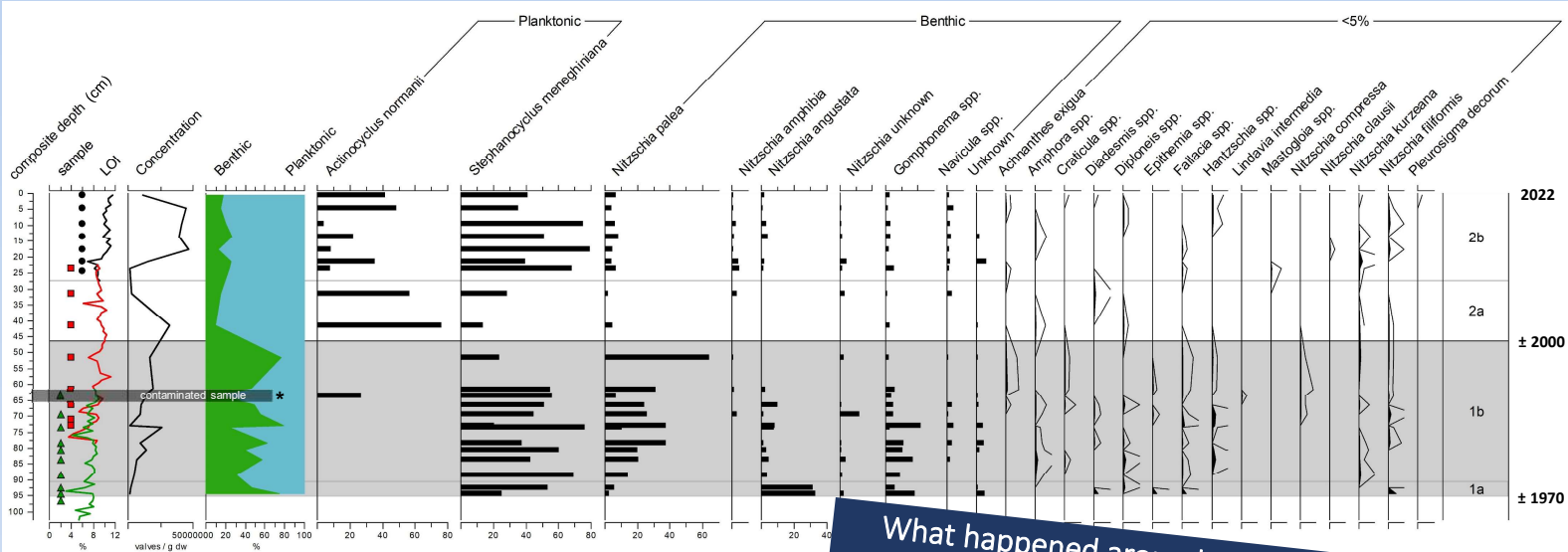
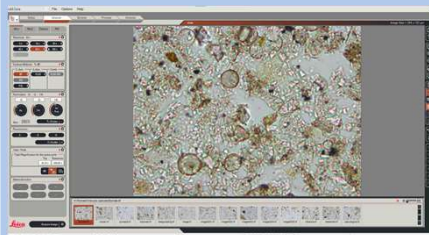


Drastic changes in land-use on the Caribbean islands have led to eutrophication and siltation of coastal lagoons. To quantify recent impact, and to evaluate the effect of different land and water management practices, short sediment cores have been collected on four islands. Cores are investigated on several proxies, including diatoms. Here we show the diatom record of Fresh Pond, a small coastal lagoon (14 ha) on the island of Sint Maarten.



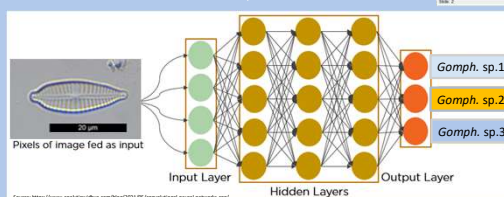
What happened around AD 2000 (zone 1 → 2):  
oxic → anoxic, salinity ↑, and/or nutrients ↑?

## Machine learning



Automatic recognition  
and counting of diatoms.

Elaborating on a similar tool  
created for the detection and  
counting of pollen.



The program will be trained using  
convolutional neural networks.

The machine learning technique will be used for a high resolution diatom-based reconstruction of precipitation at Saliña Bartol (Bonaire).