

# Groß Glienicker See

## GGs temperature chain (with oxygen)

In recent years, numerous lakes throughout Germany have been included in a climate impact measurement programme. Long-term climate monitoring that provides continuous series of measurements with high temporal resolution over many years is an essential basis for better understanding the interrelationships in lakes, carrying out trend analyses and developing adaptation strategies from them. In addition to measuring changes, they provide a basis for model-based management scenarios.

### Measuring chain

The measuring chain consists of a rope that is kept in tension by a weight on the bottom and a pressure-resistant buoy located 1-1.5 m below the water surface. The loggers are attached to the rope at fixed intervals.

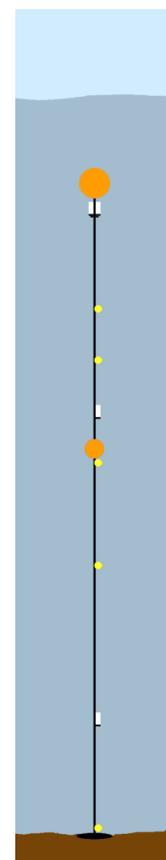
#### *Information about the depth values of the loggers:*

The depths given indicate the depth below the water surface. However, these are inaccurate, especially in the last few years, because they were very hot years with very little precipitation. Due to the anchoring on the bottom, the distances of the loggers from the bottom are always the same, but not when viewed from the surface. In the case of large water level fluctuations due to lack of precipitation and hot summers, this leads to problems, as the distance of the loggers to the water surface changes as a result. The depths of the loggers in Groß Glienicker See have changed several times over the years, not least because the water level has dropped by more than one metre.

From April 2020, a temperature logger will be located on a separate surface buoy at a distance of exactly 1m below the water surface.

### Autonomous datalogger

Tinytag Aquatic 2 TG-4100 underwater data loggers from Gemini Data Loggers, UK, are used for the temperature measurements.



MiniDOT data loggers from PME (Precision Measurement Engineering, Inc.) are used for the oxygen measurements. To prevent mussel settlement, the 2m O<sub>2</sub> logger is covered with copper tape and equipped with a miniWIPER, an autonomous antifouling system.

## Specifications of the loggers used

Parameter	Name	Accuracy	Resolution	Operating depth	Foto
temperature	Tinytag Aquatic 2 TG-4100 von Gemini Data Loggers	± 0.5°C (according to manufacturer) ± 0.1°C (eigene Erfahrung)	0,01 °C	bis 500 m	
Oxygen with temperature	miniDOT von Precision Measurement Engineering (PME)	± 0.1°C (according to manufacturer) ± 5% (according to manufacturer)			

## distribution of loggers 2010 bis 2021

