

Kilpisjärvi dissolved oxygen, temperature and solar radiation data

Logger Chain

Logger chain in Kilpisjärvi is located near the deepest point of the lake ($\approx 43\text{m}$) equipped with loggers of water temperature (T), dissolved oxygen (DO), and photosynthetically active radiation (PAR) distributed across the water column along an anchored mooring line supported by a subsurface buoy placed 1.5-2.5 m and 13 m below the lake surface.

Table 1. Lake Properties

name	waterbody	lat_decdeg	lon_decdeg	country	trophic state	max depth (m)	mixing type	elevation (m)
Kilpisjärvi	lake	69.006	20.4859	Finland	oligotrophic	45	dimictic	473

Table 2. Temperature and Dissolved Oxygen Logger Specifications

Parameter	Name	Accuracy	Resolution
Water Temperature (T)	RBR (1050, 1060, Solo, Duo, TDR 2050)	$\pm 0.002^{\circ}\text{C}$	$< 0.00005^{\circ}\text{C}$
Dissolved Oxygen (DO)	Zebra D-Opto (DO)	$\pm 1\%$, $\pm 0.02\text{ mg/l}$	0.01%, 0.001 PPM
Solar Radiation (PAR)	DEFI2-L	$\pm 4.0\%$ FS (0 to 2,000 $\mu\text{mol}/(\text{m}^2\cdot\text{s})$)	0.2 $\mu\text{mol}/(\text{m}^2\cdot\text{s})$

Table 3. Water temperature, dissolved oxygen and solar radiation logger positions

20.05.2020-20.06.2020									
Sampling Rate	10 sec	1 hr	60 sec	Sampling Rate	10 sec	1 hr	Sampling Rate	10 sec	1 hr
Depth (m)	T	DO	PAR	Depth (m)	T	DO	Depth (m)	T	DO
2.2				17.1			31.6		
3.4				18.2			32.6		
4.7	no data			19.1	no data		33.6	no data	
5.8				20.25			34.65		
6.7				21.25			35.65		no data
7.8				22.3			36.7		
8.8				23.3	no data		37.7	no data	
9.7				24.35			38.75		
10.9				25.4			39.8	no data	
11.95	no data			26.4	no data		40.9		
13				27.5			42		
14.05				28.5			42.95		
15.05				29.55	no data		43.8	no data	
16.05	no data			30.6					

1. File Names: DO (ppm), T and PAR

Time Period

20.05.2020-20.06.2020

DO(ppm) data

K20_DO_ppm.csv

T ($^{\circ}\text{C}$) data

K20_T.csv

PAR ($\mu\text{mol}/(\text{m}^2\cdot\text{s})$) data

K20_PAR.csv