

Windermere Lake Temperature
1944-2002
Dataset Documentation

Windermere Lake Temperature 1944-2002

Database Right/Copyright © NERC - Centre for Ecology & Hydrology/ Freshwater Biological Association (FBA)

Document Version: 1. 29-8-2013

Description:

One of a set of data files used in Vindenes et al. (2013) American Naturalist (Effects of climate change on trait-based dynamics of a top predator in freshwater ecosystems).

This dataset consists of inshore surface water temperature (°C) data on Windermere. Data collection began in 1933, but it presented here from 1944 onwards. The data were initially collected by the Freshwater Biological Association (FBA), then by CEH and its predecessor Institute of Freshwater Ecology (IFE) from 1989 to 2003, and subsequently again by FBA.

Related datasets

- *Metadata record for data series (Pike 1944-2002):*
<http://data.ceh.ac.uk/metadata/58357e70-d79b-4149-aa02-762c20b01198>
- Pike – Fecundity Data 1963-2002
<http://data.ceh.ac.uk/metadata/b8886915-14cb-44df-86fa-7ab718acf49a>
- Pike – Growth Data 1944-1995
<http://data.ceh.ac.uk/metadata/637d60d6-1571-49af-93f7-24c1279d884d>
- Pike – Survival Data 1953-1990
<http://data.ceh.ac.uk/metadata/813e07dd-2135-49bc-93c6-83999e442b36>

LakeTemp1944_2002.csv file details:

- *Format: comma separated values (csv)*
- *Size: 24kb*

Columns:

TEMP	Annual mean surface temperature of the lake (°C)
YEAR	Year to which annual temperature pertains

Sampling site location: Windermere lake, Cumbria, Great Britain.
Approximate grid reference of lake centre:
SD393960 (OS Grid Reference)
339385,496080 (OSGB36 Easting/Northing)
54.360193 -2.935836 (WGS84)

Experimental design/Sampling regime

Inshore surface water temperature has been monitored at a location near the middle of the long axis of the lake from 1933 to the present.

Collection Methods & Fieldwork and Laboratory instrumentation

Inshore surface water temperature was recorded to an accuracy of 0.1 °C using a handheld mercury thermometer at c. 09:00 h at near daily intervals (Winfield *et al.*, 2008)¹.

Analytical Methods

Daily records were used to calculate annual means as presented in this dataset (Winfield *et al.*, 2008)¹.

Quality Control

For quality control, measurements were checked by two individuals.

¹Winfield, I. J., Fletcher, J. M. & James, J. B. (2008). The Arctic charr (*Salvelinus alpinus*) populations of Windermere, UK: population trends associated with eutrophication, climate change and increased abundance of roach (*Rutilus rutilus*). *Environmental Biology of Fishes* 83, 25-35.

Further reading:

Lake temperature

- Winfield, I. J., Fletcher, J. M. & James, J. B. (2008). The Arctic charr (*Salvelinus alpinus*) populations of Windermere, UK: population trends associated with eutrophication, climate change and increased abundance of roach (*Rutilus rutilus*). *Environmental Biology of Fishes* 83, 25-35.