Climate change effects on temperature and ice of the lake Bohinj, Slovenia

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http://en.mad10.h2oteam.com/local-info/slovenia/
http://www.carto.net/neumann/travelling/2006/slovenia_2006_04/031_view_from_postaja_rjava_skala_towards_triglav_plateau_and_bohinjsko_jezero.html

http://anze.info/bordanje-na-voglu.html
BASIC GEO CHARACTERISTICS

LAKE BASIN: TECTONIC – GLACIER ORIGIN, LAKE BEHIND THE HEAD MORaine
IN PLEISTOCEN GREATER – UP TILL FUŽINA (LAKE TERRACES)

ALTITUDE: CCA. 526 m

SURFACE AREA: 3,18 km²

(Cerknica lake 26-38 km², Ptuj lake 4,2 km², Geneva lake 581 km², Bled lake 1,5 km²)

DEPTH: 45 m (Bled 30 m; Družmirje lake 87 m)
BASIC GEO CHARACTERISTICS

- UNPOPULATED WATERSHED (95% FORREST, 5% MEADOWS)

- LAKE ACTS AS A BUFFER FOR CLIMATE EXTREMES

- TYPICAL TEMPERATE REGION LAKE

- ONE MAIN INFLOW, ONE OUTFLOW
BOTTOM SURFACE AREA= 324 ha
VOLUME = 0,9 km³
2 LAKE BASINS

3260 Ukanc

3280 Sv. Duh

3200 Sv. Janez
LAKE GAUGING STATION

SV. DUH – BOHINJ LAKE

SINCE ~1900
CC IN THE AREA

- Triglav glacier shrinking (Gabrovec,...)
- Air temperature rise (Nadbath,...)
Water stratification

SPRING

SUMMER

FALL

WINTER
TEMPERATURE ANALYSIS

• MEAN ANNUAL TEMPERATURES
• MEAN MONTHLY TEMPERATURES IN SELECTED PERIODS
• STATISTICAL SIGNIFICANCY
• COMPARING TO REF. PERIOD 1961-1990
AVERAGE ANNUAL TEMPERATURES

• 1961-90  9,1°C
• 1939-60  9,2°C  (+0,1)
• 1991-2000 9,9°C  (+0,8°C)
• 2001-2010 10,4°C  (+1,3°C)
TEMP. SLIDING AVERAGE – YEAR, FEB., AUG.
TEMPERATURE REGIME

DIFFERENCE IN C

MONTHLY TEMPERATURES
CHANGE & STAT. SIG.

Increase of lake temperature

- **slope (C per Year)**
- **significance %**
DAYS WITH LAKE ICE

Št.dni z ledom / N of days with ice
LAKE ICE POLY. TREND

Št.dni z ledom / N of days with ice

Poly. (Št.dni z ledom / N of days with ice)
Lake Ice 5, 15, 30 Year Sliding Avg.
5 YEAR S.A., ICE vs. FEB. TEMP.

N of days with ice

Feb. temperatures
FUTURE OUTLOOK

... more swimming less ice-skating
Thank you.

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