Hydrol. Earth Syst. Sci. Discuss.,
doi:10.5194/hess-2015-488-RC2, 2016


Hydrology and Earth System Sciences
Discussions
Open Access
EGU



# *Interactive comment on* "Trends and abrupt changes in 104-years of ice cover and water temperature in a dimictic lake in response to air temperature, wind speed, and water clarity drivers" *by* M. R. Magee et al.

**R. Zurek (Referee)**

zurek@iop.krakow.pl

Received and published: 5 April 2016

Scientific significance: Does the manuscript represent a substantial contribution to scientific progress within the scope of Hydrology and Earth System Sciences (substantial new concepts, ideas, methods, or data)? Yes Scientific quality: Are the scientific approach and applied methods valid? Are the results discussed in an appropriate and balanced way (consideration of related work, including appropriate references)? Yes Presentation quality: Are the scientific results and conclusions presented in a clear, concise, and well-structured way (number and quality of figures/tables, appropriate



Printer-friendly version

Discussion paper

use of English language)? Yes

1. Does the paper address relevant scientific questions within the scope of HESS? yes 2. Does the paper present novel concepts, ideas, tools, or data? Yes it concern concept and realisation 3. Are substantial conclusions reached? Yes 4. Are the scientific methods and assumptions valid and clearly outlined? Yes , very clear 5. Are the results sufficient to support the interpretations and conclusions? Yes 6. Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)? Yes 7. Do the authors give proper credit to related work and clearly indicate their own new/original contribution Yes 8. Does the title clearly reflect the contents of the paper? Yes 9. Does the abstract provide a concise and complete summary? Yes 10. Is the overall presentation well structured and clear? Yes, perfect 11. Is the language fluent and precise? Yes 12. Are mathematical formulae, symbols, abbreviations, and units correctly defined and used? Yes 13. Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated? Generally is OK , however see comment 14. Are the number and quality of references appropriate? Yes 15. Is the amount and quality of supplementary material appropriate? Yes General comments.

To some extent, the discussion develops the chapter "results" and is focused on the examined lakes. In my subjective opinion lack of comparison with similar studies in lakes from another part of the world. I suggest to compare with European lakes with similar latitude For example

Skowron R. 2009. Changeability of the ice cover on the lakes of northern Poland in the light of climatic changes. Bull Geogr, 1,: 103–124 http://apcz.pl/czasopisma/index.php/BOGPGS/article/viewFile/2312/2296

Marszelewski W., Skowron R. 2006. Ice cover as an indicator of winter air temperature changes case study of the Polish lowland lakes. Hydrol. Sci. J. 41, 336-349 http://www.tandfonline.com/doi/pdf/10.1623/hysj.51.2.336

Choiński, A., L. Kolendowicz, J. Pociask-Karteczka, et al., 2010: Changes in lake ice cover on the Morskie Oko Lake in Poland (1971ïĂ■2007). Adv. Clim. Change Res., 1, doi: 10.3724/SP.J.1248.2010.00071. Choiński A., Ptak M., Strzelczak A. 2013. Areal Variation In Ice Cover Thickness On Lake Morskie Oko (Tatra Mountains). Carpathian Journal of Earth and Environmental Sciences, 8, 3, 97 -102 https://www.researchgate.net/publication/263733557_Areal_variation_in_ice_cover_thickness_on_lake_morskie_oko_Tatr

Technical notes

Page 2, Line 11 insert space , 1994which Page 9 line 7 : correct Page 11, line 15. is: trend of .224, should be 0.334 Fig 2 I suggest to use filled triangle for snow, will be better visible Page 3, line 13 is Jiang et al. 2010, in references Jiang . . .. 2009 Page 3 line 32, Stefan et al 1996, lack in references Page 4 line 3 and 8 is Schindler et al 1996 lack in ref. Page 5 line 17, is Patterson 1981 lack in ref. Page 6 line 1 is McKay, 1968 in references lack year 1968 Page 8 line 10, Rodinov 2006 lack of year in references Page 8 line 16 is Kitchell 1992 im Litereture is Kitchell 2012 Page 9 line 20, is Lathrop et al 1996 in teferences is 1998 Page 18 line 3, is Lathrop et al. 1996, in literat. Is Lathrop et al 1998 Page 23 line 13 Stauffer and Armstrong 1986 m in references lack of year Page 23 kune 15 is Lee1973 insert space Page 23 line 18, is Rice 2015 lack in references ther is Rice et al 2014 Page 23 kine 23, is Carpanter et al 2007 lack in references Table 2 footnote Lathrop et al 1996 lack in references

Over-abound , in excess

Lathrop & Carpenter 2011

Not cited Malm et al 1997 not cited in the text. Rodionov 2005

Links to websites move to footnote

Remarks to figures

Fig. 2. use line 0.1-0.3 mm, not hairy, Snow symbol (triangle) fill.. Will be visible. Fig 4 .line use to open circles not hairy, minimum 0.1 to 0.3 mm





Printer-friendly version

Discussion paper

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2015-488, 2016.



Printer-friendly version

Discussion paper