

Interactive comment on “A Canadian River Ice Database from National Hydrometric Program Archives” by Laurent de Rham et al.

Zoe Li (Referee)

zoeli@mcmaster.ca

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Comments to the Editor:

The authors developed a Canadian River Ice Database using the Canadian National Hydrometric Program hydrometric records. River ice related events, especially ice jam flooding, are of great importance to the watershed management in many cold regions around the world, including Canada. This database provides a significant amount of valuable data to support river ice research and applications. I can definitely see myself and my colleagues using this database. This paper is well organized and well written. I only have some minor concerns as indicated in the comments to the authors. I suggest a minor revision.

C1

Detailed Comments to the Authors:

- Line 24: “73,000 variables” should be changed to “73,000 records”.
- Line 28: “a time series of up to 15 variables” should be changed to “time series of up to 15 variables”.
- Lines 119-126: It is not clear how the 196 sites in this database were selected. Does it include any of the additional 60 southern sites? Or is it the same 196 gauging stations as in the NHP archives?
- Line 135: Typo: “hydro-ecological foci”.
- Figure 2: Consider removing the border lines and using a different color for stations not in operation. - Table 1: Add bottom border.
- Figure 3: Add a legend for the grey line to show it is the water level during mid-winter breakup.
- Line 265: It’s not clear which 12 discharge time series the authors meant.
- Line 315: The subtitle of section 3.4 is missing.
- Line 325 & Figure 5: Consider defining the colors in the MODIS images for readers who are not familiar with satellite images.
- Line 333: An extra space in “Sect. 3.4.4)”.
- Line 365: “parameterizes” should be changed to “parameterize”.
- Line 466: An extra space in “level .”
- Line 496: No need to provide the abbreviation S.T.B. if it is used only once in the manuscript.
- Line 512: An extra space in “(84 days after January 1) .”
- Line 618: An extra space in “about 1 hour .”

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- Table 2: Change “2000-01” to “2000-2001”.
- Tables 2 and 3: The column heads need to be re-formatted.
- Lines 365-368: It is not quite clear why the length of water level data was determined to be 30 days.
- Line 412: What about HMWB? How was it determined when there are no continuous water level records?
- In Section 3.4, the variables were classified into 7 groups (7 subsections). Reasoning for the classification should be provided and reflected in the subtitles.
- A brief data management plan, particularly the current database maintenance and update plan, should be provided.
- There are some minor formatting errors in the references section. For example, the format of doi is not consistent. All references should be provided in the same format.

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-29>, 2020.