

Interactive comment on “Meteorological, soil moisture, surface water, and groundwater data from the St Denis National Wildlife Area, Saskatchewan, Canada” by Edward K. P. Bam et al.

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AUTHORS RESPONSE TO REVIEWER2

The authors reply (AC) to reviewer (RC) are numbered as AC1, AC2, AC3, ... and RC1, RC2, RC3.... Reviewer:General comments RC1: It is great to see the data of this prairie monitoring site being made available to all. As the authors mention, there are timeseries of varying observation frequency and duration. Together they paint a very detailed picture of hydrological dynamics of prairie wetlands and their surroundings. The dataset fits very well into the scope of EESD. AC1:We thank the Referee # 2 Dr W. Appels for taking time to review the manuscript and also the encouraging comments

C1

Please consider the comments below to clarify some of the descriptions. Specific comments RC2:Page 3, line 5: Are you able to include the long-term pond chemistry data in the open dataset? If not, may be mention that briefly here. AC2:We have included the long-term pond chemistry data and elaborated on the data collection and source in Section 7 of the revised manuscript. A new plot on the variation of pond EC among various ponds has also been added and brief note included under the data overview section (i.e, section 8). RC3: Figure 1: Inset with location of the site: what does the grey shading indicate? AC3: We thank the reviewer for this note. The grey shading is the prairie region of North America; this has been clarified in the Figure 1 label. RC4: Section 3: Please describe when in the winter the SWE data was collected. The wording of the caption of Figure 3 is not 100% clear to me: are the points the cumulative SWE of snow fallen or the content of the snow pack before melt? Are they averages of multiple days as well as of multiple locations in the landscape? If not, maybe include the date of each survey in the csv file as well. AC4: The snow survey is done once a year in the spring. We have added the date of the annual snow survey to the csv file. We have also updated the text in section 3 to indicate that the snow survey is performed once each year and that the values in figure 3 are an average SWE for the whole site. Figure 3 caption has been revised to indicate that the values shown are the average SWE of the snowpack before melt. RC5: Technical comments page 3, line 1, typo: biologists AC5: Typo corrected

RC6: Figure 2 - temperature plots: use degree symbol in the axis labels AC: Corrected RC7: Figure 6: consider changing the point types/sizes to show some of the 2015 freezing characteristic. Or is it missing/compromised? AC7: In 2015 there was negligible freezing at 20 cm, and only a small amount of freezing at 5 cm, as can be seen in Figure 5. Therefore Fig 6 provide an accurate depiction of the data in 2015. The data was not compromised or missing, rather it was not recorded, because the soil temperature at 20 cm below ground was always above 0 C.

C3

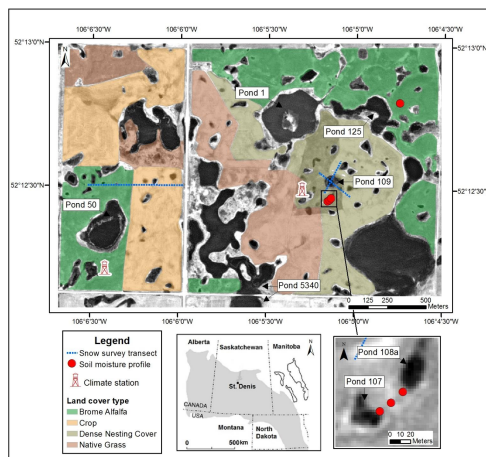


Figure 1: Map and location of St. Denis National Wildlife Area. The grey area on the inset map represents the extent of Prairie Pothole Region in North America.

Fig. 1. Figure 1: Map of study area

C4

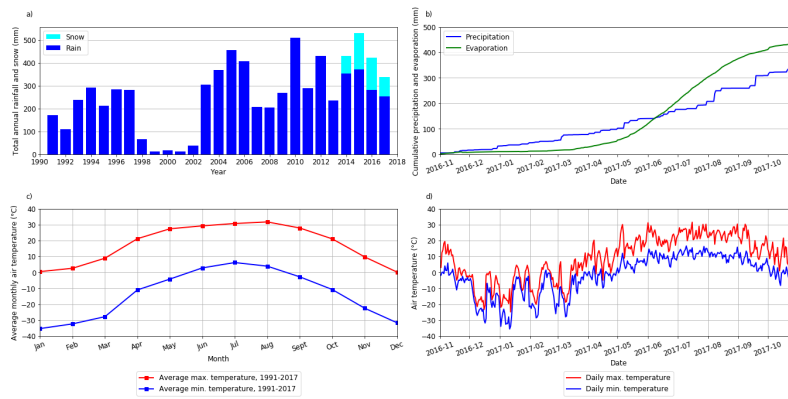


Figure 2: Meteorological data from SDNWA: a) the total annual rainfall for the period of record (1991-2017) and annual snowfall (only available 2014-2017); b) cumulative total precipitation (rain and snow) and evaporation for the 2016-2017 hydrologic year; c) mean monthly air temperature at 2 m for the period of record (1991-2017); and d) daily air temperature for the 2016-2017 hydrologic year.

Fig. 2. Figure 2: temperature -precipitation plots