



BaySys Quarterly Newsletter

Issue 8 - Summer 2020

Project Update

The BaySys Project continues to move forward throughout a global pandemic. Project management has requested an NSERC extension during this time that will allow BaySys to come to a close in 2021. Meanwhile, all researchers and staff are diligently working from home, writing reports, publishing results, and delivering on the overall project objectives. This issue will highlight some of the hard work from our data management team over the summer, and provide updates on the special feature publications, and recent submissions to *Elementa* and a number of international journals.

Meetings and Events

BaySys SSC/RAC Meeting - (Sept 1, 2020)
BaySys Wrap-Up Meeting - (TBD)

Recent Publications

Harasyn, ML, Isleifson, D, Chan, W and Barber, DG. 2020. Multi-scale observations of the co-evolution of sea ice thermophysical properties and microwave brightness temperatures during the summer melt period in Hudson Bay. *Elem Sci Anth*, 8: 16. DOI: <https://doi.org/10.1525/elementa.412>

Eastwood, R., Macdonald, R., Ehn, J., Heath, J., Arragutainaq, L., Myers, P., Kuzyk, Z. (2020). Role of River Runoff and Sea Ice Brine Rejection in Controlling Stratification Throughout Winter in Southeast Hudson Bay. *Estuaries and Coasts*.

Petrusevich, V., Dmitrenko, I., Niemi, A., Kirillov, S., Kamula, C., Kuzyk, Z., Ehn, J. (2020). Impact of tidal dynamics on diel vertical migration of zooplankton in Hudson Bay. *Ocean Science*, 16(2), 337–353.

Kirillov, S., Babb, D., Dmitrenko, I., Landy, J., Lukovich, J., Ehn, J. (2020). Atmospheric forcing drives the winter sea ice thickness asymmetry of Hudson Bay. *Journal of Geophysical Research: Oceans*, 125, e2019JC015756.

Lilhare, R., Pokorny, S., Déry, S., Stadnyk, T., & Koenig, K. (2020). Sensitivity analysis and uncertainty assessment in water budgets simulated by the variable infiltration capacity model for Canadian subarctic watersheds. *Hydrological Processes*, 34(9), 2057–2075.

Capelle, D., Zou A. Kuzyk, Z., Papakyriakou, T., Guéguen, C., Miller, L., & Macdonald, R. (2020). Effect of terrestrial organic matter on ocean acidification and CO₂ flux in an Arctic Shelf Sea. *Progress in Oceanography*, 102319–.

Goharrokhi, M., Lobb, D.A., Owens, P.N. (2020). Evaluation of high-flow rate continuous-flow centrifugation and filtration devices for sampling and concentrating fine-grained suspended sediment. *Hydrological Processes*, <https://doi.org/10.1002/hyp.13852>

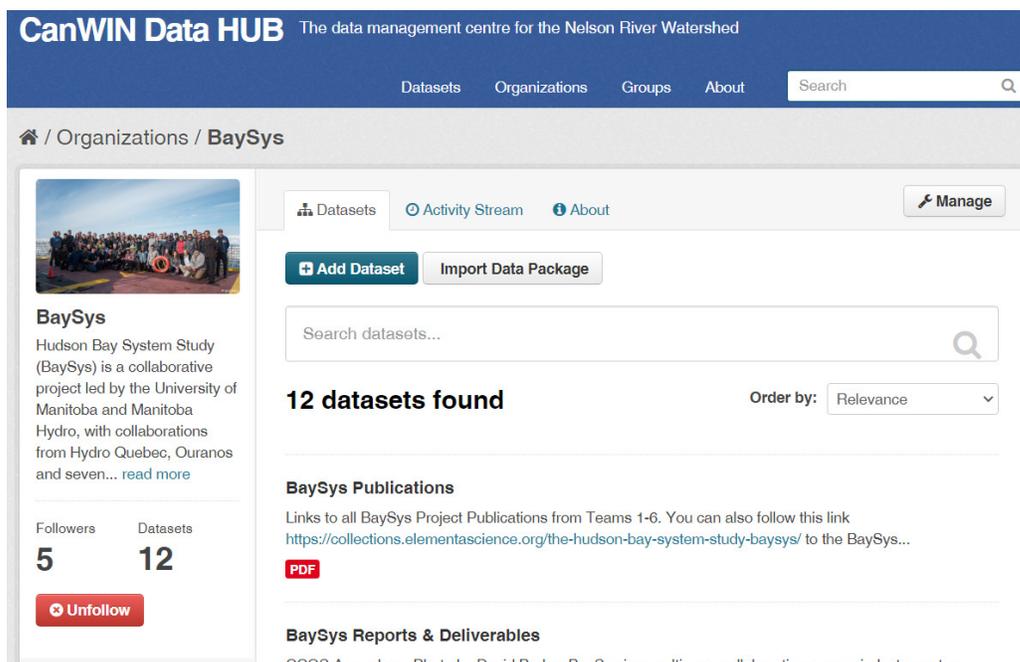


Data Management

Project HQP have been working alongside a team of data management technicians to curate and maintain the extensive amount of data amassed over this 5 year project. Data collected during eight field campaigns have been compiled within a University of Manitoba data hub called CanWIN, and will all be made public following the end of the project. A link to the data hub can be found here: <http://lwbin-datahub.ad.umanitoba.ca/organization/baysys>. Through this data hub, researchers will have access to sea ice measurements from the Hudson Bay, Nelson and Churchill estuaries, freshwater and seawater sampling from across the Bay, three years worth of continuous mooring data, remote sensing and satellite data, along with biological, mercury and carbon collections from Hudson Bay and its surrounding rivers.

At the CanWIN data hub, BaySys field campaigns will be found listed and provide direct links to associated reports, curated metadata, and raw and processed data sets. The long process of collecting metadata for each data set allows them to be easily accessible to researchers and comparable to other data sets in the future. In addition to all of the campaign details and data sets, over 100 sampling station locations can be found across the Bay with attached shape files for open of use.

Beyond the field data, our teams have accumulated extensive amounts of modelling data that too is being curated and maintained in a public data hub. These data however, will likely reside on a Git hub server between the University of Manitoba and the University of Calgary until further notice.



CanWIN Data HUB The data management centre for the Nelson River Watershed

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BaySys

Hudson Bay System Study (BaySys) is a collaborative project led by the University of Manitoba and Manitoba Hydro, with collaborations from Hydro Quebec, Ouranos and seven... [read more](#)

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BaySys Publications

Links to all BaySys Project Publications from Teams 1-6. You can also follow this link <https://collections.elementalscience.org/the-hudson-bay-system-study-baysys/> to the BaySys... [PDF](#)

BaySys Reports & Deliverables

CGS Amundsen. Photo by David Barber. BaySys is a multi-year collaboration among industry partner

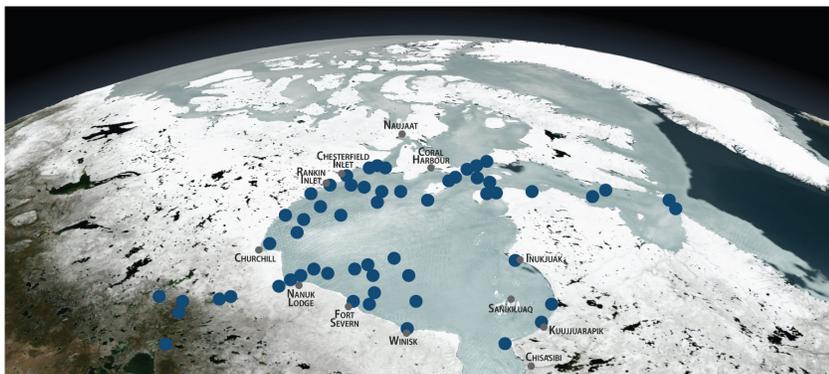
The CanWIN BaySys datahub home page. <http://lwbin-datahub.ad.umanitoba.ca/organization/baysys>



Elementa Special Feature Update

The BaySys special feature in *Elementa: Science of the Anthropocene* is well underway. Each month more and more manuscripts are being submitted for peer review. This special feature will be made up of a collection (approximately 30) of BaySys research papers highlighting the results from each component of the project and addressing the project's overall objectives. The home page for the project feature can be found here: <https://collections.elementascience.org/the-hudson-bay-system-study-baysys/>. Each team are contributing ~5 research papers, many of which are cross-team integrations detailing several systems within the Bay. In addition, an overview paper is currently in development and will be included in the special feature. This overview paper will have contributions from each team lead as it summarizes the project results and addresses the overall objectives. Submission to this feature will remain open until the end of December 2020.

The Hudson Bay System Study (BaySys)



Recent Departures

Kathleen Munson	Dave Capelle
Brian Butterworth	Jennifer Lukovich
Laura Dalman	Ainsleigh Loria
Shabnam Jafarikhasragh	Louis Fortier

Having taken on new roles and/or accepting new positions outside the university, the above HQP and grad students have moved on from the BaySys project. We want to use this space to thank each and every one of them for their hardwork, time, and commitment to the project over the past 5 years. Congratulations are in order, and we look forward to seeing the amazing work you all do in the future.

Partners

