

Interactive comment on “The Regional Ice Ocean Prediction System v2: a pan-Canadian ocean analysis system” by Gregory C. Smith et al.

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Dear Dr. Kerkweg,

Thank you for your interest in our paper. We acknowledge the code availability requirements of GMD and we would like to applaud GMD on your efforts to make code more openly available to the scientific community. Our intention is adhere to the GMD code availability requirements to the extent possible given our licensing arrangements. I would also like to bring to your attention a discussion on this matter that was held with the Topical Editor (see previous correspondence).

The topical editor proposed that we change the text in our code availability section to be the following: "The ocean data assimilation code (SAM2) was obtained under license

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from Mercator Océan International and cannot be distributed publicly. For this reason, the codes, scripts and data used in this paper were grouped in a dataset on Zenodo and made available for the topical editor and anonymous reviewers". I hope you find this solution acceptable.

Please see below an except from our discussion with the topical editor.

Kind Regards, Greg Smith

Explanation provided to the topical editor: The ocean data assimilation code (SAM2) was obtained under license from Mercator Océan International and we are not able to distribute it publicly. For this reason, we indicated in the manuscript that "The codes, scripts and data used in this paper are available for the topical editor and anonymous reviewers". We understand GMD has a strict data availability policy and our intention is to follow what was done for a paper we published in GMD last year using SAM2 (Skachko et al., 2019).

As a result, we have created a dataset on Zenodo (Smith, 2020) with restricted access, available for you and the paper reviewers only. This dataset contains all the model and data assimilation code for both systems described in the manuscript (so-called RIOPS and GIOPS). Also included are the data used in the paper to produce the figures showing innovation statistics (observation-minus-model differences). Most figures are simply maps of mean and root-mean-squared values of these data. However, Fig. 15 examines the power spectral density of surface kinetic energy. The Matlab code and data files to produce this figure are also included. References Skachko, S., Buehner, M., Laroche, S., Lapalme, E., Smith, G., Roy, F., Surcel-Colan, D., Bélanger, J.M. and Garand, L., 2019. Weakly coupled atmosphere–ocean data assimilation in the Canadian global prediction system (v1). *Geoscientific Model Development*, 12(12), pp.5097-5112. Smith, G. (2020). The Regional Ice Ocean Prediction System v2 [Data set]. Zenodo. <http://doi.org/10.5281/zenodo.3978269>

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