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Hydrology and Earth System Sciences
Discussions

Interactive comment on "A Synthesis of Three Decades of Eco-Hydrological Research at Scotty Creek, NWT, Canada" *by* William Quinton et al.

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For appropriate context and thoroughness, I think it is important to mention a few additional Environment Canada-National Water Research Institute sponsored studies in this review. The first two papers are based on the nearby and quite similar Manners Creek watershed which preceded much of the other hydrological research in this area (beginning in 1989/90), and predated establishment of the Scotty Creek gauge:

Craig, D. 1991. Geochemical evolution of water in a continental high boreal wetland basin: preliminary results, Northern Hydrology: Selected Perspectives, T.D. Prowse and C.S.L. Ommanney (Editors), NHRI Symposium No. 6, National Hydrology Research Institute, Environment Canada, Saskatoon, Saskatchewan, pp. 47-55.

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Discussion paper

Gibson, J.J., Edwards, T.W.D., Bursey, G.G., Prowse, T.D., 1993. Estimating evaporation using stable isotopes: quantitative results and sensitivity analysis for two catchments in northern Canada, Nordic Hydrology 24, pp. 79-94.

The latter is a comparison of evaporation loss in Manners Creek and a watershed near Baker Lake.

And the following papers that include measurements in Scotty Creek and other similar basins in the area:

Gibson, J.J., Prowse, T.D., 1999. Isotopic characteristics of ice cover in a large northern river basin, Hydrological Processes 13, pp. 2537-2548.

Gibson, J.J., Prowse, T.D., 2002. Stable isotopes in river ice: identification of primary over-winter streamflow signals and their hydrological significance, Hydrological Processes 16, pp. 873-890, http://dx.doi.org/10.1002/hyp.366.

Stadnyk, T.A., St. Amour, N.A., Kouwen, N., Edwards, T.W.D., Pietroniro, A., Gibson, J.J. 2005. A groundwater separation study in boreal wetland terrain: the WATFLOOD hydrological model compared with stable isotope tracers, Isotopes in Environmental and Health Studies 41(1), pp. 49-68, http://dx.doi.org/10.1080/10256010500053730.

St. Amour, N.A., Gibson, J.J., Edwards, T.W.D., Prowse, T.D., Pietroniro, A., 2005. Isotopic time-series partitioning of streamflow components in wetland-dominated catchments, lower Liard River Basin, Northwest Territories, Canada, Hydrological Processes 19, pp. 3357-3381, http://dx.doi.org/10.1002/hyp.5975.

The isotopic and related datasets described in the latter two papers represent some of the most complete time-series ever published in Canada, and have been used in development and refinement of the isotope-enabled distributed models.

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