

January 21, 2016

Dr. Crucifix, Editor

Earth System Dynamics

Dear Dr. Crucifix:

We are pleased to submit the revised version of our paper titled “***Groundwater nitrate concentration evolution under climate change and agricultural adaptation scenarios: Prince Edward Island, Canada***” by Paradis *et al.* for consideration by the journal *Earth System Dynamics*.

In this revised version you will note that we added a new discussion section that contained the following:

- Updated climate simulations are provided as auxiliary material (new Table S2) and the impact on groundwater nitrate concentration is discussed;
- A discussion about assessing model uncertainty through calibration;
- A comparison of our results with similar previous studies.

Also, concerning the length of the manuscript, we reduced the text of the methodological section by 2 pages (from 10 to 12) and removed 3 figures. The information about model statistical performances contained in the figures was summarized in a new table (as proposed by A. Shepherd). The new discussion section added less than 3 pages, so the revised manuscript is now approximately the same length than the original.

Thank you for considering our manuscript.

Best regards,

Daniel Paradis, Ph. D.

Geological Survey of Canada

490 rue de la Couronne

Québec, QC, CANADA G1K 9A9

1 (418) 654-3713

daniel.paradis@canada.ca