

Interactive comment on “Tracing atmospheric nitrate in groundwater using triple oxygen isotopes: evaluation based on bottled drinking water” by U. Tsunogai et al.

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Tsunogai et al report measurements of D17O of nitrate from bottled drinking water from a variety of locations in order to estimate the contribution of atmospheric deposition to total nitrate concentration in ground water systems. They estimated a relatively small contribution (3.1% on average) from the atmosphere due to efficient biological cycling in the watershed. More arid regions showed less efficient biological cycling, as would be expected. These results also show the benefits of measuring D17O, in addition to d18O and d15N of nitrate.

Overall this paper is well written and I have no major corrections or suggestions. My

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most significant suggestion is to include a cartoon of the biological processing that may be occurring in these watershed ecosystems, and refer to this figure in the text. I think this would make the text much more clear. In addition, the paper needs a “Conclusions/Summary” section to summarize what was done and the results. More minor comments are below:

Page 16497 Line 14: Remove “in” between “acquaintances” and “abroad”.

Page 16497 Line22: change “were” to “are”.

Page 16501 Paragraph beginning on line 3: This seems insignificant when your precision is an order of magnitude greater than this.

Table 1: Label what “H” means.

Table 2: Why do you report Cl concentrations? Are these used for anything in the analyses?

Figure 2: State what the dashed oval represents in the figure caption.

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