Interactive comment on "Technical Note: Disentangling the groundwater response to Earth and atmospheric tides to improve subsurface characterisation" *by* Gabriel C. Rau et al.

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As one of the cited authors (Rasmussen), I was especially interested in the application of this methodology and the resultant conclusions.

The authors' application of deconvolution in the time domain, and its comparison to frequency domain results are novel and something that I have been eagerly awaiting.

The consistency between results is striking, leading to increased confidence in system characterization.

To summarize the novelty; I (and others) have examined the response of water levels

to exogenous influences (e.g., barometric pressure, precipitation, Earth tides, evapotranspiration) using time-series regression deconvolution.

The resulting response functions are then used to estimate aquifer, aquitard, and vadose zone properties.

Alternatively, many others have developed relationships between water levels and exogenous variables in the frequency domain for periodic and aperiodic influences.

What has been missing, until now, is a comparison of these two methods.

It is especially gratifying to note the similar results between the two fundamentally different methods, leading to reduced parameter uncertainties and improved robustness.

It would be interesting to apply this methodology to other situations, which the tools that the authors provide have made possible.

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