

## ***Interactive comment on “Soil salinization risk assessment owing to poor water quality drip irrigation: A case study from an olive plantation at the arid to semi-arid Beit She’an Valley, Israel” by Vladimir Mirlas et al.***

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This manuscript is well written, conducted with appropriate methods, and provides useful conclusions and recommendations.

My only suggestions for improvement are to shorten the title and focus the abstract as that will help attract the attention of more readers who will then benefit from this excellent research. My suggestions are given below. The authors are free to use what they like and ignore what is not appropriate or if I have misunderstood something in my

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review.

Suggested Title. Irrigation Water Quality and Management Determine Salinization in Israel Olive Orchards

Suggested Abstract Revisions Poor quality irrigation water and inappropriate irrigation management are reducing soil fertility and degrading soil health in Israeli olive (*Olea europaea* L.) orchards through soil salinization. The main cause is irrigation with treated wastewater that has elevated salt concentrations. This study was conducted in the Beit She’an Valley, one of the most important agricultural regions in Israel, to provide an assessment of soil salting processes due to low-quality irrigation water at the Kibbutz Meirav olive plantation. A combination of soil salinization and poor drainage conditions was impeding plant development and causing severe economic damage. We combined various research methods, including soil salinity monitoring, field experiments, remote sensing (FDEM), and unsaturated soil profile saline water movement modeling to address the problem. Salinization processes within chalky soil under drip irrigation were quantified. A dissolved salt content of 3.13 dS/m resulted in salinization within the upper root zone of the trees. Modeling results showed that salinization danger is greater with brackish water and that irrigation with potable water can help reduce salt accumulation.

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Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2020-231>, 2020.

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