



Interactive  
Comment

# ***Interactive comment on “Earthquake-induced deformation estimation of earth dam by multitemporal SAR interferometry: the Mornos Dam case (Central Greece)” by S. Neokosmidis et al.***

## **Anonymous Referee #2**

Received and published: 18 January 2015

The manuscript by Neokosmidis et al. presents a case study where SAR interferometry is considered to monitor surface deformation at a earth dam location. The authors claim that changes in the deformation trend revealed may be induced by seismic events. However, the results presented are not fully supported by the information provided, and thus the manuscript lacks of clarity. The title selected is quite clear, however, the largest part of the paper is devoted to the description of the data, of the seismic events, and of the technique used to generate surface deformation time series. Only a small part is dedicated to the results and to support the hypothesis claimed in the pa-

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per's title. For these reasons, the manuscript can not be accepted in its present form. Before to be re-considered for publication, a major review has to be performed. The main points to consider are:

- If the motivation of your work is to demonstrate that the surface deformation changes revealed at the dam location are related to the seismic events, please focus on this issue and support it with more data and analyses. Correlation (by the way, linear correlation? does make sense to use a linear correlation coefficient on a non linear time series? did you test its statistical significance?) is not causation.

-Most of the information you provide on SBAS, SVD, etc., as well as the decomposition of E-W and up-down components is well know. Just cite them, rather than describe them in full. This distracts from the focus.

- At present, there is not a discussion section. I would expect a large part of the manuscript dedicated to a thoughtful discussion of the results, as well as their validation, and a description of the limitations of the procedure considered.

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 7807, 2014.

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