

Interactive comment on “Subsidence associated with oil extraction, measured from time-series analysis of Sentinel-1 data: case study of the Patos-Marinza oil field, Albania” by Marianne Métois et al.

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While the analysis and modelling of the InSAR LOS deformation the Patos-Marinza oil field provides good quantitative evidence that extraction of hydrocarbons is leading to deformation, the analysis of seismic moment release and the limited production data are too simplistic to support the vaguely worded conclusions that extraction has lead to increased seismicity in the region.

To support the hypothesis that extraction has induced seismicity, the MS needs to much

C1

more carefully statistically evaluate the seismicity data relative to the deformation results. It is not clear how the radii for computing moment release was chosen or how this chosen region is related to the deformation model derived. Ie does the model produce significant stress change across the region from which the seismic moment is summed. Even some simple analysis of what the background tectonic rate of stress/strain accumulation is, and how this might be manifest in seismic moment release. Is this sort of seismicity clustering occurring elsewhere in Albania?

As it currently stands in my opinion this paper is far to speculative in section 6 "Conclusions & implication for local seismic hazard" there are statements made about stress changes that have no basis, because the stress change calculations were not presented in the paper? There is simply not enough direct evidence presented in the paper to support the conclusions drawn, all be they vague..

Interactive comment on Solid Earth Discuss., <https://doi.org/10.5194/se-2019-121>, 2019.

C2