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# ***Interactive comment on “InSAR observations of the 2009 Racha earthquake, the Republic Georgia” by E. Nikolaeva and T. R. Walter***

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Dear Anonymous Referee #2,

Thank for your comment on your manuscript “InSAR observations of the 2009 Racha earthquake, the Republic Georgia”. We carefully considered all your comments and questions. Next, we offer detailed responses to them.

>Major points >1) As indicated by the authors in Section 2 (“Study area”), Georgia has experienced some historical earthquakes. However, the manuscript does not report any information concerning the main seismic events occurred before 1991. In order to supply a clearer picture of the area seismic hazard, I suggest improving this aspect. In such a perspective, the authors can take advantage, for ex-

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ample, of the Catalogue of the Caucasus Earthquakes since 550 BC till 2000 AD (<http://zeus.wdcb.ru/wdcb/sep/caucasus/welcomen.html>, accessed 20 May 2016).

We added a reference to the sentence: 'Georgia, as part of the Caucasus, is located in the central faulted segment (Fig. 1), and has experienced both historical (the Catalogue of the Caucasus Earthquakes since 550 BC till 2000 AD, <http://zeus.wdcb.ru/wdcb/sep/caucasus/welcomen.html>) and recent strong earthquakes'.

> 2) The investigation about the possible fault associated with the 2009 earthquake needs a more thorough analysis. As a matter of fact, in section 4.1. ("InSAR") the authors refer to a "...seismogenic fault constrained earlier (Gamkrelidze and Shengelia 2007)." It is not clear how this seismogenetic fault is linked to the Authors' research findings. Moreover, it is basic to discuss in depth the relationship between the inferred 2009 seismogenetic fault represented in Figure 4 and the well known tectonic settings/lineaments of the area.

We suggested that seismogenic fault constrained early could be linked to our research findings. We agree to the reviewers' suggestion and added a more through discussion about the association of these results.

>Minor points: >1) Figure 1). I recommend the authors to include the names of the major faults. Furthermore, the names of the main cities will also be added.

We improved Figure 1. Please, see the supplement file.

>2) The paper of Gamkrelidze and Shengelia (2007) is lacking in the Reference section.

We added paper of Gamkrelidze and Shengelia (2007) in the Reference section.

Thank you for your comments which will improve paper.

Best regards, Elena Nikolaeva and Thomas Walter

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Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/3/C3429/2016/nhessd-3-C3429-2016-supplement.pdf>

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Interactive comment on *Nat. Hazards Earth Syst. Sci. Discuss.*, 3, 4695, 2015.

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