Reviewer 6	Answer
General comments	
This paper shows interesting results regarding the use of several approaches for the identification of pre-failure indicators, such as displacement time series, coherence ratio, intensity ratio, and NDVI ratio. I think the authors should change general statement of the paper: within the paper, the authors underline several times the potential of coherence ratio approach and NDVI ratio approach for theis application at large scale to detect landslides. BUT: I don't see a global proposed method to be applied nor at large scale nor in other cases of study, I see case-specific approaches related to separated techniques where the results are explained and compared. There is not a proposaol of a general method to be used in order to use and integrate the thechniques of NDVI and coherence ratios. Here we are still looking at a back-analysis result of a specific case of study. Several aspects of the used approach are strictly related to the specific studay in fact there are not a priori answer to questions like: *how to decide on a threshold? how to decide on the landslide area and the surrounding one?* I see this paper an interesting study on the behaviour of several indeces in a specific case of study. I would focus more the paper on one hand on the explanation of the behavior and of the characteristics of each technique, on the other hand I would answer questions like: how the combination of several approaches can be exploited? When? Why? Which are the advantages of one rather than another and in which cases? Which the limiations? All these aspects should be taken into account with a revision of the WHOLE manuscript (with a main effort in the introduction, discussion and conclusions).	Thank you for this input, this critique is justified and the points not adequately adressed in the manuscript. For one, we have changed the focus of the study to focus more on the time-series analysis of these indicators, and are omitting the reference to early warning. In addition, we have elaborated on the potential and challenges of using these techniques to detect landslides in the discussion and conclusions. See more detailed responses in the comments below.
1: I would focus on the pros and contras of each technique. Explaining better the basic theory behind each one and the factors that can affect them.	Expanded on several of the issues in the introduction, the methods section as well as the discussion. For radar data in general, we have added this paragraph to the introduction: *Radar, while able to image the ground surface during all lighting and weather conditions, can be rendered useless in areas of steep topography due to its oblique viewing geometry and the resulting layover (the compression of a large area into only few image pixels) and shadowing effects (Wasowski & Bovenga, 2014; Hansen 2001). The amount of measurable ground deformation is also dependent on the viewing geometry, since radar instruments only measure the component of motion in line of sight (Massonet & Feigl, 1998). Further difficulties include the relative nature of radar measurements, making it necessary to know or assume a stable location where there is no deformation (Wasowski & Bovenga, 2014), as well as the fact that radar measurements are 2 pi wrapped, limiting the unambiguously measurable displacement to one quarter of the radar wavelength. The wrapped nature of the data requires that radar measurements are unwrapped to derive the actual displacement (in meters rather than radians; (Massonnet & Feigl, 1998; Chen & Zebker, 2002). This process is computationally expensive and phase unwrapping errors can mask the full displacement (Wasowski & Bovenga, 2014). Additionally, in order to reliably measure ground displacements, the wave scattering properties of ground targets must remain stable between two radar measurements. This similarity is expressed with the coherence metric (Zebker & Villasenor, 1992).*
2: In the discussion of the results I would at least make a hypothesis in order to explain globally the results considering the behaviour, and thus information from all the methods.	We are re-structuring the discussion to bring out this synthesis more clearly
3: Emphasize that, as it is proposed, the approach does not detect landslides, since the spatial distribution is not given by the ratios. On the contrary, in order to calculate the ratios, it is necessary to know the landslide, at least the location and the extentsion.	See comment above, as the focus of the entire manuscript has been shifted to emphasize this.

4: I propose this title: "Radar coherence and NDVI ratios as indicators of landslide activity changes. The case study of Mud Creek landslide in California."	We have changed the focus of the study to focus more on the time-series analysis of these indicators, and have therefore adjusted the title to: *Time-series analysis of radar coherence and NDVI ratios to characterize landslide activity: a case study from the Mud Creek landslide, California*
5: I would TOTALLY avoid the use of the words "early warning" in the text. I would better say pre-alert useful to focus the attention and make deeper analysis and studies also complementing with other techniques.	We have removed all mentions of early-warning with respect to this study from the manuscript.
6: Propose the future studies that you think will be useful to fill the gaps and the uncertainties. For example, what is necessary to use these rations as a detection method? And what is necessary to use these ratios at large scale?	We have included a new paragraph in the discussion section as well as extended the conclusion to summarize some of these challenges: *In particular, the ratio calculation between the surrounding slope and the landslide eliminates interference due to temporal coherence loss, atmospheric disturbances, or vegetation cycles. Our analysis also indicates that this type of analysis can fill data gaps in places where data from only one orbit are suitable for deformation measurements. Nevertheless, questions around whether it is possible to fully disentangle the different factors leading to the pre-failure coherence loss and how common this kind of signal is for different kinds of landslides remain to be resolve. Similarly, it is worth investigating how the presence of more or less vegetation and use of different radar wavelengths influence the results. We also believe that it could be possible to automatically identify drastic drops in radar coherence ratios and NDVI ratio decreases, suggesting that this tool could be used to identify impending failures.*