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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Monitoring the geodynamic behaviour of earthquake using Landsat 8-OLI time series data: case of Gorkha and Imphal" *by* Biswajit Nath et al.

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Dear respected Anonymous Referee #1

Greetings and Happy to receive your valuable interactive comments over examination of our submitted manuscript on "Monitoring the geodynamic behaviour of earthquake using Landsat 8-OLI time series data: case of Gorkha and Imphal" by Biswajit Nath et al. which Received and published on: 15 May 2017. I am submitting my initial reply (on behalf of all authors) against all of your valuable comments.

As this manuscript need further improvement, so, we need few weeks to complete all new works for revised submission (i.e. considering one New image for Normal variabil-

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ity status proof of both cases to represent its stability compare to present considered images) with better visualization of maps with corresponding legend, therefore we hope it will be readable and understandable by scientific community. However,

Comments 1 by Anonymous Referee#1:

Authors consider the “anomalous” change in lineaments length&distribution without whatever reference to a “normal” behaviour and whatever test in seismically unperturbed conditions devoted to characterize the considered indicators (and measuring procedures) in terms of expected values and normal variability. As just few image before and after earthquakes are considered no information we have to evaluate the stability of the measured indicators (and procedures) in absence of seismic event and to compare the intensity of observed fluctuations to the ones normally observable as a consequence (for instance) of image-to-image changes for observational conditions (atmospheric correction models, especially if performed in absence of appropriate information on local atmospheric conditions, can also amplify instead that reduce such variability).

Reply against Comments 1 by Authors: Based on your comment, we will consider one more image before (for each case) the earthquake to show the nornal behaviour of lineament in the absence of seismic event along with our existing anomalous condition with intensity observed fluctuations in normal situation and abnormal situation (comparing image) of before and after earthquake what we observed prior to both the earthquakes. Before extraction of lineament we had performed FLAASH atmospheric correction using ENVI 5.3 software. However As the satellite images suffers few cloud, and we think it not disturbed and reduce our lineament data too much as the automatic extraction process generate sufficient number of lineament features. However, we will clarify and explain it further after adding New image results for both cases where we will show the normal status of it and accordingly we will improve the text.

Comments-2 by An. Referee #1:

For the same reason (no attempts to verify if similar “anomalies” are actually absent in absence of earthquakes) results actually achieved in just 2 cases do not support firm statements like the one given in the abstract: “The results obtained using the automated and geo-integrated methods compared cross validation with each other showed our method worked practically for earthquake monitoring and one can apply this new novel combined approach to predict the probable earthquake occurrence in advance just a few days before it strikes”

reply against comments-2: In our first reply,accordingly we will consider new image where output will represent the absence of such anomalies and thereafter, we hope the output and present existing results both will finally able to highlight and support the statement which we mentioned in the abstract or subject to further modification of abstract according to output results.

Comments 3 by Ann. referee#1:

Quality of figures is very poor (very often not supported by legends explaining their content as well as the use of colors, always with numbers too small to be readable) and their full understanding not always possible.

Reply against Comments 3: We had saved the all images in Tiff 300 dpi but it changed probably while multiple copying of images. However, we will improve the legends font size and improve image color quality also and we hope it can be visualize and readable.

Comments-4 by Anonymous Refer.#1

Important points of the analysis are not explained at all (for instance how authors manage the evident presence of clouds and snows in the images and how they avoid their variable presence affects also lineaments variability estimates).

Reply against Comments-4:

We will follow the suggestions and important points of the analysis will be explained along with evident presence of clouds partially over the images. Presence of cloud is a

fact, prior to earthquake strike, so we will clarify it in our revised work submission file.

Comments-5 by Anony. Refer#1

English is generally very poor specially in the use of verbs and a close review by an English mother tongue reader is required to make the text not just grammatically correct but, at least, understandable in several points

Reply against comments-5: We will follow your suggestion and accordingly improve the text of whole manuscript and revised our submission after finishing the new image task to show the normal behaviour while it will shows the absence of earthquake scenario.

So, finally we need time for our revised work and then you will find our improvement manuscript according to your fruitful comments.

Thanks once again for your valuable comments.

Thanking You Sincerely yours Biswajit Nath (on behalf of all authors)

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