

Monitoring of Orographic Patterns in Relation to Tsunami Earthquake

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Abstract— This work is a note to problems on monitoring of orographic processes. In relation to tsunami earthquake found on the planet earth, orographic patterns are selected as references. In a scope of any electromagnetics scope, it has been hard to consider any application can be effective for orographic process found on the earth in the past. Now, the author has to notice about application.

1. INTRODUCTION

The author introduces his note to problems on monitoring of orographic processes in relation to tsunami earthquake found on the planet earth. In a scope of any electromagnetics scope, it has been taken to be hard to consider any application can be effective for orographic process found on the earth in the past.

For the purpose, the author has intended to apply some techniques using electromagnetic functions though there had been various kinds of barriers not only in the scope of electromagnetics but the other related field.

Especially, the orographic process under the sea surface is hard to find even using any functions of electromagnetics.

Recently, advanced technologies help us to introduce them to produce a more convenient tool for the purpose of monitoring the orographic process.

2. GEOLOGICAL SURVEYS

In his work, the author tends to refer to the geological data, even though there is left to be solved about some problems about accuracy and definitions of the related factors.

In this work, the unit defined and used as the universal unit is taken as reference. Then, any problem can be described well to be seen well.

A glimpse of the orographic processes can be seen above the sea surface. Then, it is more possible to see the orographic processes in a global scale.

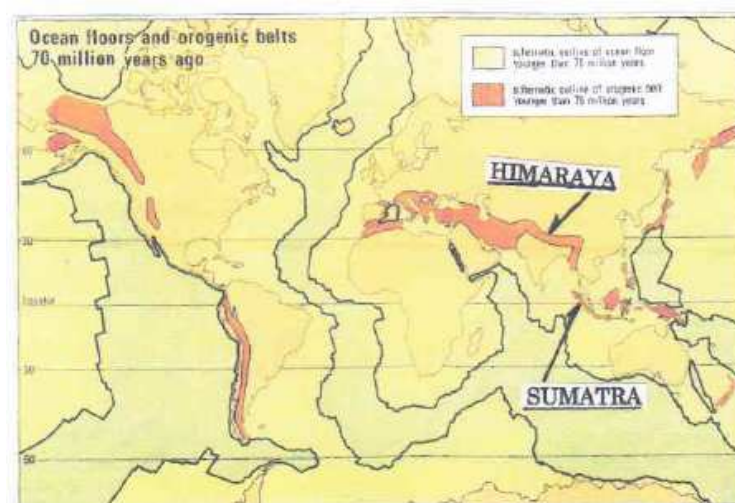


Figure 1: Patterns of ocean floors and orographic belts (70 million years ago).

3. OCEANFLOORS AND OROGENIC BELTS

In the geological time scale, it has been taken to be more realistic to consider the scientific survey in a global scale, for example, as is shown in Figure 1.

In this Figure 1, it is shown that the ocean floors and orographic belts 70 million years ago. The author had ever seen many local maps for the local orographic patterns.

This figure must be the first time to introduced the oceanfloors and orographic belts in a global scale.

In this Figure 1, it can be seen a glance of the orographic belt younger than 70 million years and of the oceanfloors younger than 70 million years.

4. TSUNAMI EARTHQUAKES

In 11 March 2011, one of the tsunami earthquakes hit the coast to destroy the human activities. The geodetic survey has shown that the crust displacement pattern was a pattern indicating as if the epicenter of seismic normal fault was the point of convergent of the horizontal displacement.

It was said that a similar pattern must be seen if the monitored data was obtained when the 2004 Banda Ace tsunami earthquake.

These seismic events were evaluated as very severe hazardous events.

5. YOUNGER OCEAN FLOOR

As a local problem, the author would give his notice to the scientists in seismology.

The 2011 earthquake in the northwestern Pacific had given to an impact to their vision of the tsunami earthquake.

The scientists in local seismic prediction must have had some mistaken at defining a set of so called “seismic parameters”. This parameters has had been introduced to specify the past significant earthquakes in the land area on the bases of the directly measured indices closely related to the interested seismic event. They have never had any equivalent indices directly measured for the tsunami earthquakes generated undersea even now in 2015. If so, several discrete data must be exist to fail some missing at their seismic prediction. They had extensively assumed that the seismic parameters for specifying the tsunami earthquake without any understanding of its dynamical meaning. In addition, the data for that purpose was not enough to actively support any one of the past tsunami earthquakes. There has had to refer to a convenient set derived on the bases of the historical documentations.

Now, some of the scientists must be anxious to consider the tsunami earthquake hitting the south Japan. Nevertheless, the author has to point out that the coasts of the south Japan is just neighbor the Philippine Plate which includes a younger ocean floor younger than 70 million years. This means that the expected tsunami earthquake to hit the coast of the south Japan must be completely different from the tsunami to hit the coast of the east Japan where the Fukushima Nuclear Power Station was located.

It is necessary to take into consideration on what is known on orographic process on the earth.

6. OROGRAPHIC PROCESS

Each of the two hazardous tsunami earthquakes was located at a point just neighbor the cost. The location of each seismic events is understood to generated by the interaction of the two tectonic plates where the two plates are convergent to form an interface each other.

It is said that the widely discussed to the details by the seismologists though the author knows that they were extended their model on the bases of no dynamics.

Then, they have to start for their model renewal.

However, the author has to note that the orographic pattern between Himaraya and Sumatra in Asian area is quite similar to the pattern between the mountain range in the south island and the volcanic range in the north island in New Zealand of the southern Pacific.

It is unfortunate that the data is limited so that the author has to note with his bold assumption.

In the southern hemisphere, the number of the data must be small so that it is hard to consider an orographic process in any geological scale.

Now, the author reminds to the satellite monitoring of the earth surface, and, he is expecting to hear about a more advanced research must be appeared.

Unfortunately, the author has only limited number of the data in orology, though it can be noted the data shown as (referring to the description on the published geographic map).

The peak height of Manasulu was 8156 m in 1980 though it is 8163 m in 2012, and, the peak of Annapurna was 8071 m in 1980 though it is 8091 in 2012.

The above two peaks are located in the west of Himarayan mountain range at the west of the peak of Everest though the 2004 Indonesian tsunami earthquake left a lowered land areas along the coastal zones.

The above fact is showing a twist of the crustal front between the Indian crust and the Eurasian crust in the Southeast area. A quite similar twist case must be seen on minor front passing the South Island and the North Island formed between the Australian plate and the Pacific plate.

7. SATELLITE MONITORING

As the scientists already aware of that, the satellite monitoring was contributive to inform three dimensional pattern of the land surface undulations time to time at the tsunami earthquake occurred on 11 March 2011. The monitored data was processed and distributed soon by the Geographic Research Institute, located just neighbor the epicenter of the tsunami earthquake.

At a sudden happening, a quick response is effective. Nevertheless, we have had seen many cases of severe hazards to destroy a quiet life and to wash out on the coastal land surface.

Now, we have to live with nature.

8. CONCLUSIONS

The author noted about orographic process in relation to tsunami earthquake with his bold assumption. For a more advanced research, satellite monitoring would be effective.

This work was accepted just after the Nepal destructive earthquake on 25 April 2015.