

## **Paper nness-2015-71 by Omira et al.**

**Large submarine earthquakes occurred worldwide, 1-year period (June 2013 to June 2014), - Contribution to the understanding of tsunamigenic potential**

### **Answers to reviewers comments**

#### **Reviewer #3**

##### **Comment #1**

I don't understand why the authors decided to limit their analysis to an earthquake catalog 1 year long only. The statistical part of their analysis would be more solid if based on a greater number of data. I think that they should extend the analysis to a longer time frame for earthquakes greater than 6.7 or at least support the choice of using only 1 year.

##### **Answer to comment #1**

We agree with the reviewer that 1 year of earthquake catalog is relatively short and considering larger period can reinforce the work. The 1 year period is considered in this study as IPMA has participated to the GTIMS project (Global Tsunami Information Monitoring Service), tender no. JRC/IPR/2013/G.2/13/NC funded by the Join Research Center (JRC) and has the opportunity to analyze all the large earthquakes during the time frame of 1 year.

##### **Comment #2**

About numerical modeling. Which is the goal of this part of the work? Authors modelled the events which led to tsunami in the 1 yr time frame and they show the propagation of the 2014 Iquique event with a comparison with DART buoys for such event.

From this, they state that numerical models are a robust tool for wave amplitude and arrival time estimation. But: COMCOT (and several other models) has been validated and used in many works and several papers treated the robustness and weakness of numerical models for different scopes in a much more detailed way. Moreover linear propagation in deep waters (the comparison with DART buoys) is something largely accepted in the tsunami community, assuming a good representation of the source and bathymetry and keeping attention to potentially dispersive effects under particular conditions. Which is the advance or the conclusion? In my opinion, saying that numerical modelling is robust tool is not demonstrated here with just one simulation and for deep waters (DART are in deep waters) where non-linearity is not relevant. And, however COMCOT has been already validated and tested in many conditions. This part of the work sounds to me not really relevant or without a clear scope.

##### **Answer to comment #2**

The goal of the numerical modelling part, that does not include only the numerical code COMCOT but also the earthquake source model and the bathymetry model, is to highlight how we can reach relatively good estimates of tsunami considering

simplest models (source model, available bathymetry and linear approximation of SWE). These simplest models have also the advantage to fast compute the source model and then fast estimate the tsunami potential, which can help on an early dissemination of tsunami alerts.

All these points are inserted in the revised version of the paper to highlight the scope of the numerical modelling part in this work.

### **Comment #3**

I also suggest reducing the long description of the specific events and expanding the comments and results (there is only one figure on results!). For example the authors could expand the discussion of the role played by depth and focal parameters with respect to the existing works and knowledge about this topic.

### **Answer to comment #3**

The Section 2 is shortened accordingly (see answer to comment #3 of Reviewer #2) also the results and the discussion are extended in the revised version of the paper.

### **Comment #4**

As minor change I would also suggest to correct "interpolate" with "interplate" (twice) at page 2, line 23.

### **Answer to comment #4**

Corrected.