Natural Hazards
and Earth System
Sciences

Open Access

Discussions

Interactive comment on "Calibration of a real-time tsunami detection algorithm for sites with no instrumental tsunami records: application to stations in Eastern Sicily, Italy" *by* L. Bressan et al.

L. Bressan et al.

lidia.bressan@unibo.it

Received and published: 4 September 2013

The authors are indebted to the reviewer Mauricio Gonzalez Rodriguez for the important comments that will allow us to improve our paper. For each point, we answer his comments.

- In the reviewer's opinion, the paper's name should be including the tidal-gauge word, such as: "Calibration of a Real-time Tsunami Detection Algorithm for Sites with no Instrumental Tsunami Records: Application to tide-gauge Stations in Eastern Sicily, Italy.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

We will modify the title according to the suggestion.

- The authors should include a location map for each harbour, with a detailed harbour's maps including the position of the tide-gauges. Pag.4 after line 110.

  We will include a map of the harbours in the paper as suggested.

- Before "8. Results of calibration "or after this section, it is necessary a section where the calibration methodology in section 2.2 is applied step by step in one of the examples.

  The calibration procedure will be better explained and followed throughout the paper.

- This reviewer recommends in section "8. Results of calibration "to include the comparison (with indicators) regarding the 15 parameters configuration of TEDA applied in the 28 tsunami records databases for Catania and 24 tsunami records databases for Tremestieri. The Authors only comment in the paper that configuration A3C1 is the best for Tremestieri and configuration A2C1 is the best for the harbour of Catania.

  We will add a table with the results of detections, to make it clearer.

- Further discussion is required at the end of the paper, in order to justify why the authors keep fixed t_{BS}, t_G and t_{SD}, just in order to "simplify "(line 211). The authors justify it because t_{IS} is the most sensibility parameter based on (Bressan and Tinti, 2011 and 2012), but in the calibration process the combination of these parameters can change the optimal solution. It necessary to support this assumption.

  From our experience in analysing marigrams the parameters we varied in the papers are the most important ones. The scope of this paper is to show and discuss a methodology and so we believe that even a simplified analysis is adequate. However, we stress that to find the best solution entails that all parameters

involved in the TEDA algorithm are to be varied and tested. This in turn entails more work to be done, work that will be undertaken before passing to a full operational phase of the TSUNET network, but not in this paper.

- In Fig.6 EFDs for IS or CF3 could be adjusted for a Pareto distribution function (2 parameters) or Exponential function (1 parameter), BS3 can be fitted by a (lognormal, gamma o weibull) distributions. It could be interesting a parameterisation of these curves for the calibration process.

  We will try to fit the distributions of TEDA functions with the theoretical distribution suggested. We point out that we made already some unsuccessful and unreported attempts before publishing our paper in NHESSD. If we find some acceptable fit, we will show it in a figure in the revised version.

- Fig. 1 never is called and used in the text.

  We will correct it in the revised paper, as suggested.

- In page 6, line 194: It is t_{SD}, no tSD in the equation.

  We will correct it in the revised paper, as suggested.

- In page 6, line 196: the correct are t_{IS} and t_{SD} and and no: tIS and tSD.

  We will correct it in the revised paper, as suggested.

- In page 6, line 197: the correct are λ_{SD} and no: λSD.

  We will correct it in the revised paper, as suggested.

- In page 7, line 212: in values of t_{IS}, at the end is 4 or 14 min?

  It is 4 min. We will modify the paper by referencing the different cases in ascending order of with t_{IS}.

- In Page 9, line 284: it is Fig. 4 no Figure 4.

I followed the conventions of nhess, http://www.natural-hazards-and-earth-system-sciences.net/submission/manuscript_preparation.html .

- In Page 10, line 327: it is Fig. 7 no Figure 7.
  See previous answer.

- In Fig. 9: it is better to change c by Calm, C+b=Calm and bout...., it is not clear for readers.
  We will improve the figure to make it clearer.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 2455, 2013.