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## ***Interactive comment on “Brief Communication: A new testing field for debris flow warning systems and algorithms” by M. Arattano et al.***

### **Anonymous Referee #1**

Received and published: 17 March 2015

This brief communication reports on a new debris-flow warning and observation station in Italy that was installed in 2014. It describes the set-up of observation sensors and shows an example of a first debris-flow passage in July 2014. In addition, the manuscript provides a context for this station and discusses its use as an early warning system.

What’s the purpose of this brief communication? I assume the authors would like to give notice of this new installation, which is one of only few such debris-flow observation sites world-wide. This is a laudable aim, and it’s good for the natural hazard community to know of this test site. However, I wonder if it’s not a little bit too early for a communication in a scientific journal such as NHESSD. The authors cannot yet provide any results or new insights from this installation after only a few months of operation.

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They have observed one event (15 July 2014) resulting in a few (interesting!) images (Fig. 3); but no further analysis of e.g. flow depth, geophone signals or speed are shown.

An equipment called ALMOND-F is highlighted as being the “core” of the warning system. There’s only very little information about the used algorithms and the specific features of this equipment (compared to other debris-flow EWS). I think it would be worth to go a little bit more into detail about this equipment.

Concerning the warning aspect of this debris-flow observation station: the reader definitely needs some information about what area/people/infrastructures are at risk. Is there a passage for hikers through the channel? Is there a road below the site? Also it would be interesting to know if there is a plan of action in case of an event (in addition to the flashing light).

An additional important information for this communication would be: what do we know about typical debris flows in this channel? How often? Some information about typical composition/characteristics of past debris flows. Typical triggering conditions (rainfall situations) for debris flows in this area. Maybe a few words about the catchment area where the debris flows are forming.

In conclusion, I think it is a commendable intention to make NHESD readers aware of this new debris-flow observation and warning site, but the current information is a little bit shallow. I’m convinced that after a few years of operation this site will provide a huge amount of interesting data and insights.

Minor issues:

- I suggest to mention a few other examples of existing (similar) debris-flow observation stations (from Japan and the Alps) in the introduction.
- For a revision of the present manuscript I would recommend a language polishing by a English native speaker.

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 3, 1717, 2015.

**NHESSD**

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