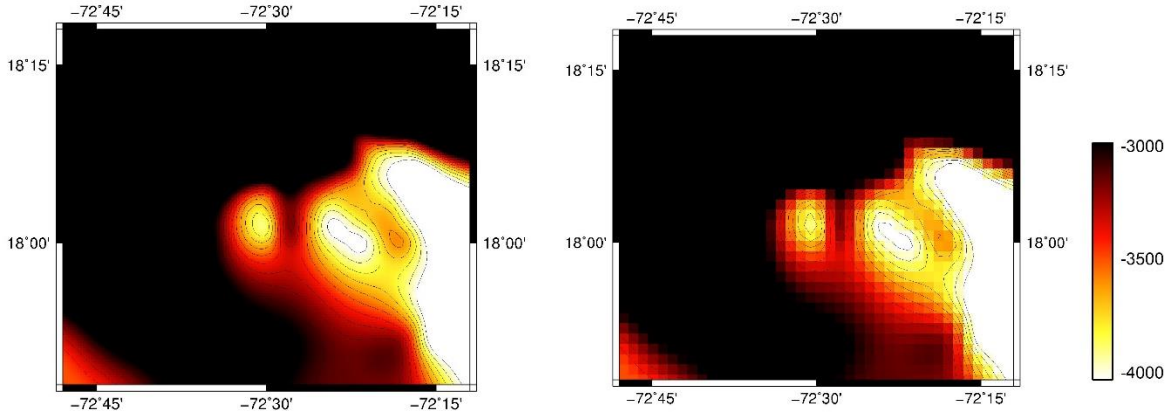
Specific comments:

Line 112 – Is the feature possibly recognizable using pre-earthquake bathymetry? Such a large landslide should be recognizable in pretty coarse bathymetry, right? Based on Fig. 5, it would seem like the GEBCO 1 arc minute bathymetry available from the pre-seismic might be enough to resolve something. I'm convinced that the recognized slide is a likely source but pre-seismic bathymetric data, even at a low resolution could make it obvious that it's the smoking gun. Or, possibly, could it have been picked up on seismometers?

By using GEBCO data at 15 s and 1 min, we got:



GEBCO data give us a water depth between 3800 and 3900 m near the landslide which seems consistent with oceanographic campaign data acquired in 2012. We do not see anything around 3500 m that could be assimilated to the ground scar identified in the 2012 data. Then two possibilities may be considered: the first one is that the landslide occurred after the 2010 Haiti earthquake; the second one is that GEBCO data are not precise enough to identify a ground scar with a thickness of 100 m.

We added some comments in text to mention that we used GEBCO data to search a potential ground scar.

Line 131 – Should the resulting tsunami be similar if the landslide behaved more as a rigid sliding block than a viscous flow? It's difficult to tell from Fig. 5 whether the deposit is fairly coherent.

As sediment profiles are not available in the area we cannot conclude on the soil nature which impacts the landslide form. More precise sedimentologic studies must be led to conclude on the landslide age, mechanics properties and lithology.

Line 139 – Was the tsunami reported anywhere at the southern end of the Caribbean?

To our knowledge, the tsunami was not observed anywhere else but according to Fritz simulation (using the NEIC source), Cuban and Jamaican coasts could have been hit by waves of 2 cm high.

Line 144 – Could this also be explained by a more coherent landslide block?

First, it has be noted that "a rigid-like motion for a landslide is realistic only for ideal conditions where the sliding mass has an ideal shape and moves on a smooth topography" '(Yavari-Ramshe and Ataie-Ashtiani, 2016). In our case, the complex slope does not allow to deal with the slump of a rigid block.

Considering a regular slope, Lovholt et al. (2015) compare water waves generated by a rigid slump and a deformable landslide (Fig. 4 in Lovholt et al., 2015). They show that the landslide deformation has only a weak influence on waveforms. According to the analytical analysis of Glimsdal et al. (2013), the spectrum of water waves is mainly influenced by the length of the landslide.

Nevertheless, according to the majority of authors, the energy transfer from a landslide into the water surface is larger for rigid blocks (Yavari-Ramshe and Ataie-Ashtiani, 2016) and the rigid-block assumption may result in overestimating wave amplitudes up to 30%. Finally, the review of Yavari-Ramshe and Ataie-Ashtiani emphasizes on the necessity of further investigations on the effects of landslide rigidity and on energy transferring.

Yavari-Ramshe and Ataie-Ashtiani (2016). Numerical modeling of subaerial and submarine landslide-generated tsunami waves—recent advances and future challenges. Landslides 13:1325–1368, DOI 10.1007/s10346-016-0734-2.
Glimsdal S, Pedersen GK, Harbitz CB, Løvholt F (2013) Dispersion of tsunamis: does it really matter? Nat Hazards Earth Syst Sci 13:1507–1526. doi:10.5194/nhess-13-1507-2013
Løvholt, Finn & Pedersen, G & Harbitz, Carl & Glimsdal, Sylfest & Kim, Jihwan. (2015). On the characteristics of landslide tsunamis. Philosophical transactions. Series A, Mathematical, physical, and engineering sciences. 373. 10.1098/rsta.2014.0376.

Figure 1 – Where is the Bay of Jacmel exactly?

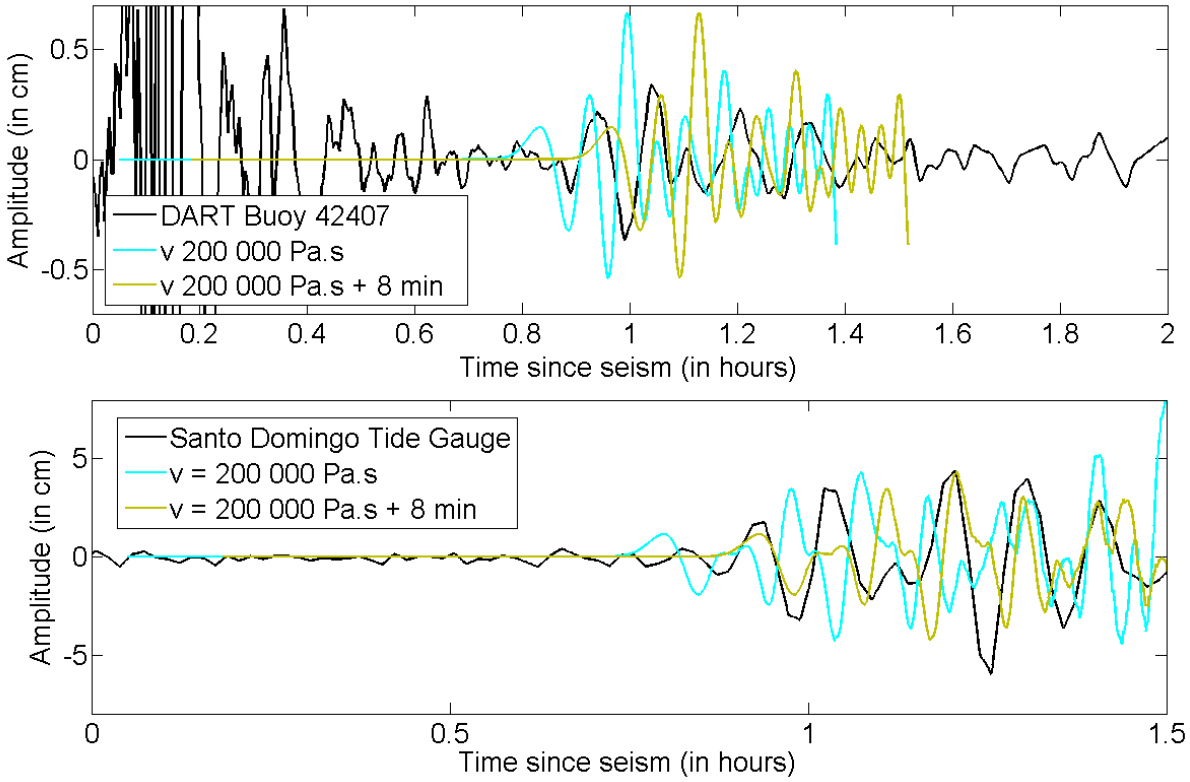
Label now added to Figure 1.

Figure 2 – It would be nice to have a box on Fig. 1 showing this location.

It has been added.

Figure3–Why does the Fritz model show better temporal alignment in the early waves than does the secondary source model? Is this purely coincidental? It's strange that the first few waves correlate so well with the Fritz model at the Santo Domingo gauge, whereas the landslide model doesn't seem to describe the arrival time quite as well.

A slight delay of 8 minutes exists between observations and simulations (Fig. 10). This could be explained if the collapse was triggered some minutes after the earthquake but it is not consistent with our simulations in the bay of Jacmel (Fig. 9).



A comment was added in the text.

Figures 3&10 – It would be helpful when comparing these to have the same X axes and the same order of tide gauge and DART buoy data.

OK. We corrected the X axis in Fig. 10.

Figure 5 – You have the callback to fig. 1 here, but I don't see fig. 5 outlined there.

The outline of Figure 1 is now shown on Figure 1.

Figure6–What would an even higher viscosity look like? Why choose 2e5 as a best-fit value without showing what a more viscous slide would produce?

We chose this value because it allows us to reproduce the 3 m water height observed in Jacmel Bay.

We added results for a viscous flow of 500 000 Pa.s viscosity in figures manuscript.

Figure 10 – What happens after 1.5 hours at the Santo Domingo gauge? Why does the simulation build to its maximum amplitude at the very end? I don't know whether this actually matters, but I'd be curious to see what happens if the model is allowed to run a bit longer.

The one-way coupling between daughter and mother grids induces numerical oscillations in the daughter grid after 1,5 hours of propagation. These oscillations are generated at the daughter grid boundaries and are due to differences of depth values between grids. The following comment has been added in the legend of Figure 10:

"Beyond 1.5 hours of propagation, the simulated water waves are affected by numerical oscillations due to the one-way coupling between grids and are not significant"

Technical corrections:

Line 115 – In this paragraph you switch between present and past tense frequently, try to keep the tense consistent.

OK we corrected this paragraph by using present tense.

Line 117 – should be “It consists of”, also don’t need the hyphen between filling and in.

Ok. We corrected it in the text.

Line 152 – Terrestrial instead of “on-land”

Ok. We corrected it in the text.

Line 156 – Capitalize “Holocene”

Ok. We corrected it in the text.

Line 184 – “associated with” instead of “associated to”

Ok. We corrected it in the text.