

# Numerical simulation of a volcanic submarine landslide-generated tsunami at Kick'em Jenny volcano: source and propagation.

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## Abstract

Kick'em Jenny (KeJ) is the only active submarine volcano of the Lesser Antilles volcanic arc. It is located approximately 8 km north of Grenada island and is about -180 m below the sea level and it lies within a horseshoe-shaped structure (Figure 1). Dondin et al. (2012) have shown that KeJ undergone at least 3 sector collapse episode and the current visible horseshoe-shape structure is related to one of these episodes. Dondin et al. (2012) estimated the volume associated to this episode to be  $4.4 \text{ km}^3$ .

This presentation focuses on the results of numerical simulations of tsunami generation and propagation produced for this volcanic flank collapse episode. These results constitute a part of my PhD thesis.

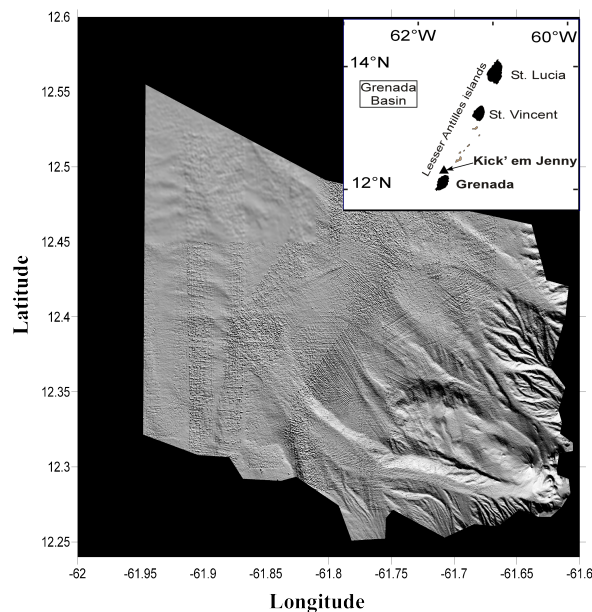


Figure 1: 15 m resolution digital elevation model of Kick'em Jenny volcano and its associated deposits generated from the March 2003, bathymetric data collected during the University of the Seismic Research Unit - University of Rhodes Island - NOAA survey (Sheperd (2004))

## References

- Dondin, F., Lebrun, J. F., Kelfoun, K., Fournier, N., and Randrianasolo, A. (2012). Sector collapse at Kick 'em Jenny submarine volcano (Lesser Antilles) – Numerical simulation and mass flow behaviour implications. *Bulletin of Volcanology*, 74:595–607.
- Sheperd, J. B. (2004). Report on studies of Kick 'em Jenny submarine volcano March 2002 and March 2003 with updated estimates of marine and coastal hazards. Technical report, Seismic Research Unit, The University of the West Indies.