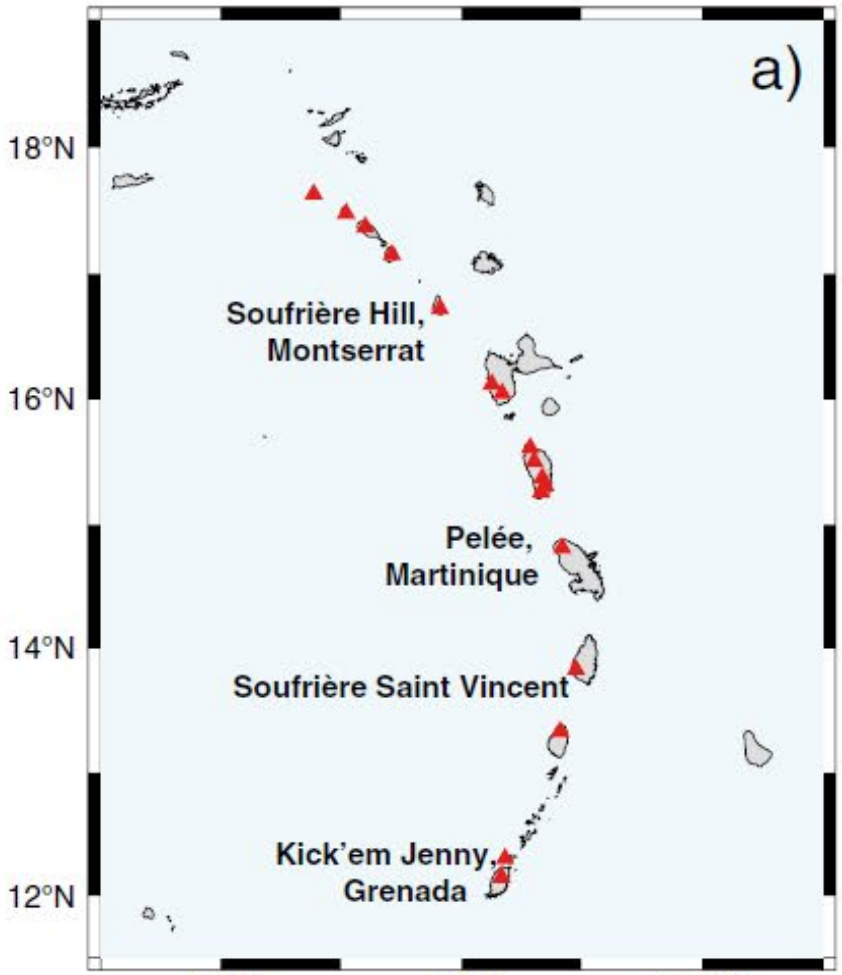
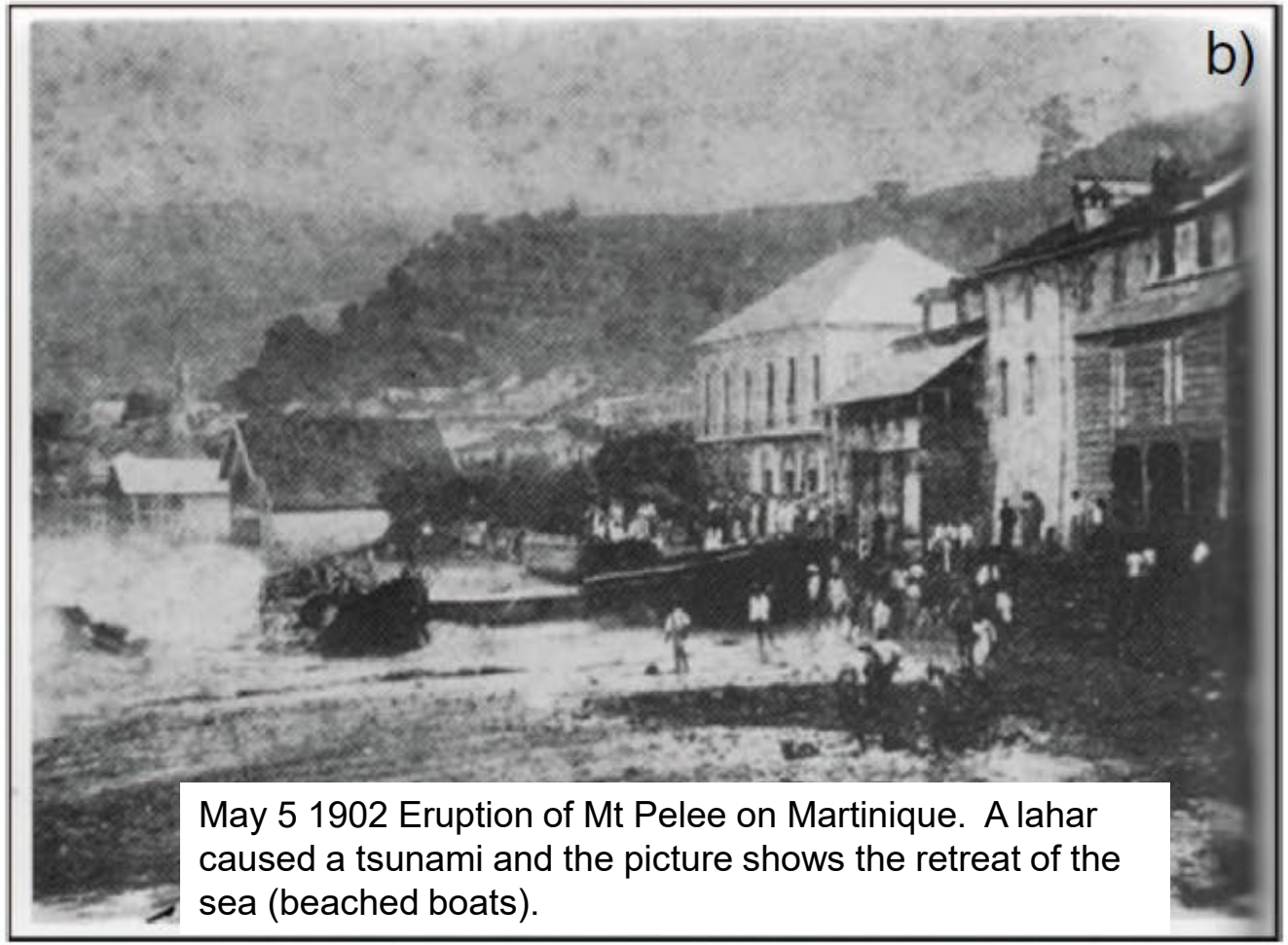
Active Caribbean Region Volcanoes



Volcanoes of the Lesser Antilles including the 4 responsible for historical tsunamis.



May 5 1902 Eruption of Mt Pelee on Martinique. A lahar caused a tsunami and the picture shows the retreat of the sea (beached boats).

From "*Implementation of tsunami warning procedures in the Caribbean in case of a volcano crisis: Use of a Volcano Notice for tsunami Threat (VONUT)*" by Clouard et al., 2023.

Procedures for TGV – Alarmed Sea-level Gauges

unesco
Intergovernmental Oceanographic Commission

- Volcano or Ash Observatories notify PTWC about potential or actual eruptions.
- Sea-level gauge triggers alarm.
- At least two independent indicators of a tsunami are required before initiating notification to Member States.
- Messages are constructed ad-hoc depending on how much is known about the source and size of the tsunami.

PTWC Tool to Alarm Sea-Level Gauges Near Volcanoes

Basic Generic TGV Procedure based on VONUT

unesco
Intergovernmental Oceanographic Commission

1. The Volcano Observatory notifies the TSP of activity indicative of a pending eruption.
2. The TSP sends an Information Statement advising the potential for a TGV.
3. The Volcano Observatory notifies the TSP of eruptive activity capable of causing a tsunami (or not).
4. The TSP monitors the nearest sea-level gauges for any tsunami signals.
5. If a tsunami is observed, the TSP sends a Threat Message with:
    a. Noting it has received notification from the Volcano Observatory of an eruption.
    b. Noting that tsunami waves have been observed
    c. Naming nearby countries with potential tsunami threat
    d. Providing tsunami ETAs for those countries (estimating the event time).
    e. Providing tsunami amplitudes from gauges where the tsunami has been observed.
6. The TSP monitors the tsunami and issues more Threat Messages to:
    a. Continue the tsunami threat
    b. Expand the tsunami threat
    c. End the tsunami threat

Caribe Wave 26 TGV Scenario – Kick-em-Jenny Volcano

unesco
Intergovernmental Oceanographic Commission

1. Notifications from the Seismic Research Center of the University of the West Indies in Trinidad
2. Rapid confirmation of a tsunami depends on the location of sea-level gauges
3. TGV amplitudes cannot be forecast
4. The procedure is still in a test phase and not officially implemented in the CARIBE-EWS