

Training on risk management: the case study of Vulcano Island, Italy



CERG-C WORKSHOP:
Risk Management: which Strategies in a World of increasing complexity?
Geneva, 4 November 2011

Risk Management Module

- Comprehensive
- from classroom in Geneva to
 - fieldwork in Italy
- Interdisciplinary, multi-hazard and society:
 - **Hazard + Vulnerability** assessments
 - **Risk assessment**
 - **Crisis Scenario & Risk Management**
 - **Outreach**

Collaboration with:

National: CPA and INGV

Regional: City political persons

Local: School & general public



Fig. 1 - Vulcano: Esplosione durante l'eruzione del 1868-69. Da G. Messali e O. Silvestri, *Le eruzioni dell'isola di Vulcano* ... , Ann. U. Com. Met. Coll. X P. 4, Roma 1891, tav. 7.





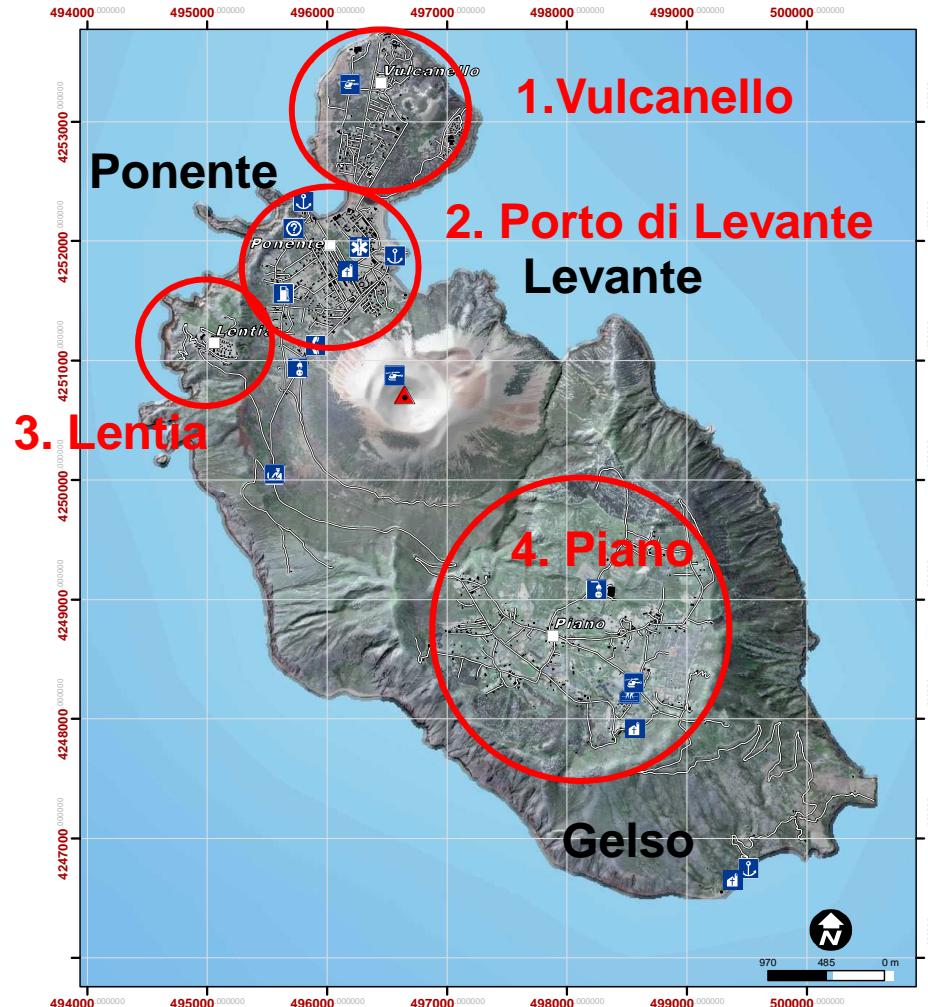
Vulcano Island



La Fossa Volcano

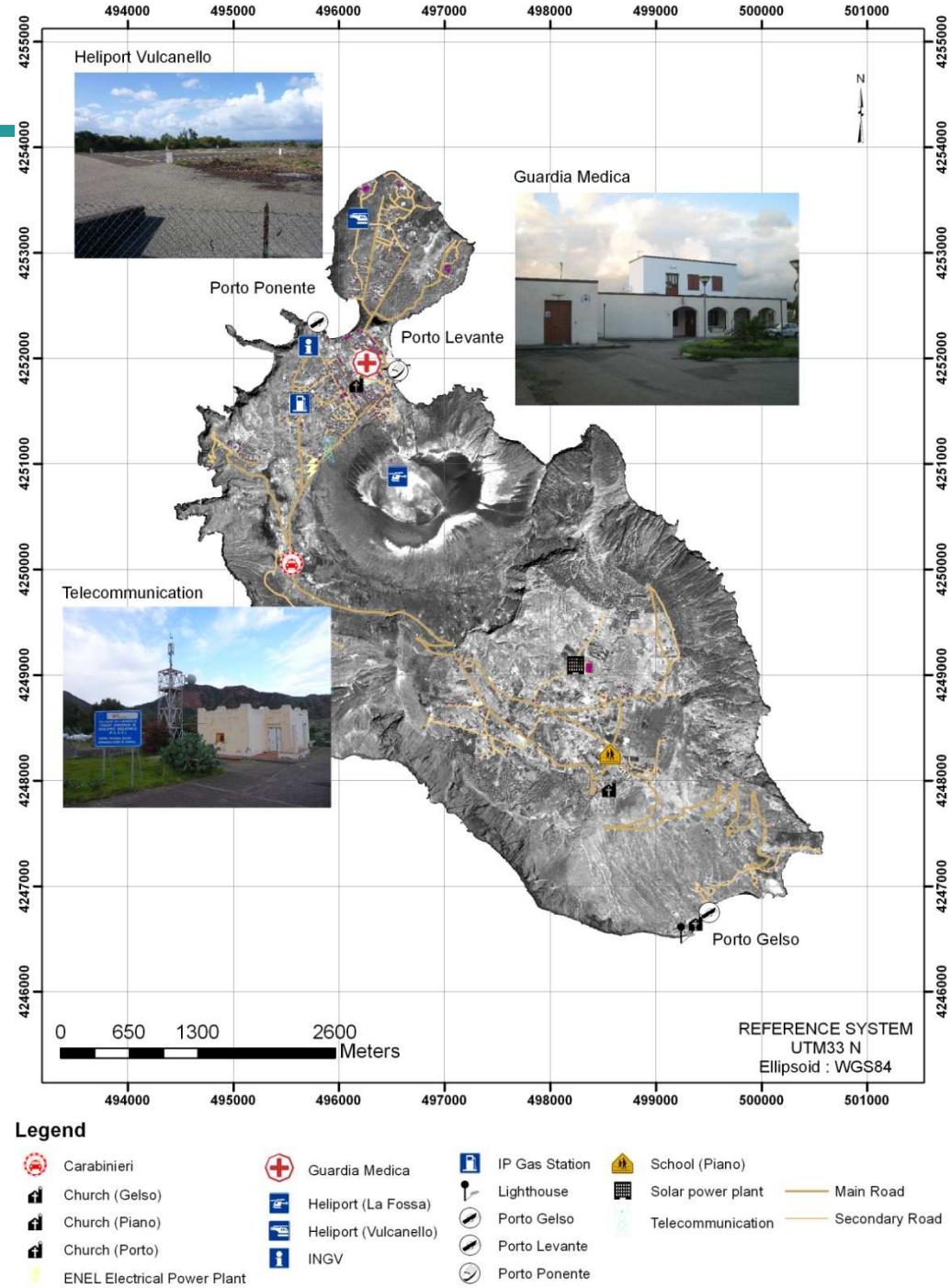
- Quiescent....
 - active gas emissions,
 - weak and sporadic seismicity
 - landslides and lahars
- Last eruption → 1888-1890
(accumulation up to 5-m thick tephra fall out)

Fig. 1 - Vulcano. Eruzione durante l'estate del 1888-90. Da G. Meneghini e G. Silvestri, *Le eruzioni dell'isola di Vulcano* ... Ann. U. Com. Met. Gott. X p. 4, Roma 1891, tav. 7.



- 21 km²
- 1080 to 600 residents
- 5-10'000 tourists in summer
- Three ports
- Four residential areas
- small local economy:
 - Summer: tourism
 - Winter: construction (stops July-Aug)
- Infrastructure- small
 - high dependance on outside for food, water, medical

Physical and Systemic Vulnerability



...of residential & commercial buildings



Social and economic vulnerability

- baseline data of residents in 2010 (sample size = **91 adults**).
- quasi-census of key **commercial areas in the Porto area**.

Residency (N = 91)	Vulcano full time residents Vulcano part-time residents	55 (60%) 36 (40%)
Place of residence (N = 91)	Porto Vulcanello Sotto Lentia Vulcano Blu Piano	49 (54%) 12 (13%) 5 (6%) 4 (4%) 21 (23%)



Social and economic vulnerability

Costs, regret, ...		States of the nature			
		No event	Low	Med.	Strong
Options	Do nothing	0	25	75	<u>100</u>
	Mild interv.	10	0	25	<u>50</u>
	Strong int.	20	0	0	25

Risk management

Recommendations for:

- mitigation,
- preparedness,
- response,
- recovery



Risk management: (table-top exercise)



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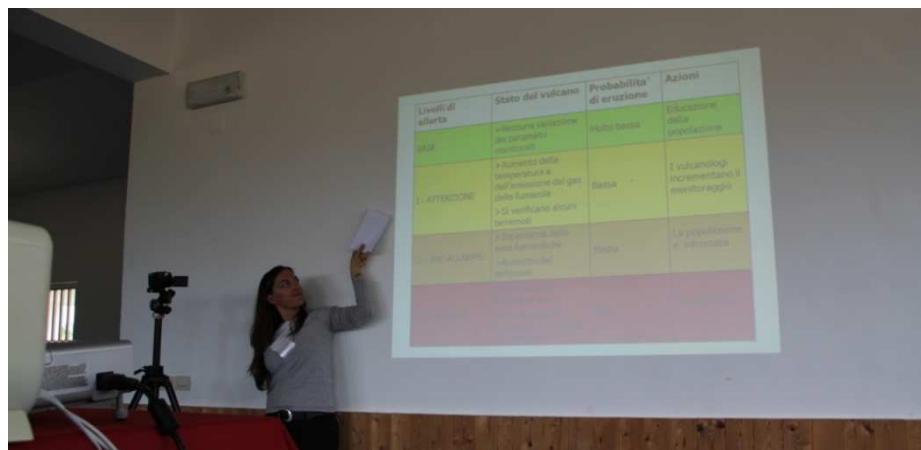
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Intervention on local community: Exercise with local primary school

Role play to allow students to learn:

- what happens during emergency,
- how emergency is managed,
- the main actors,
- about the volcano and preparedness



Conclusions

The field trip:

- Provides rigorous immersion in integration of hazard, vulnerability and risk factors/concepts
- Requires individual and team work
- Reinforces importance of managing risk through connections with:
 - Science & emergency management
 - Businesses, political figures and general public
 -using tools/knowledge from multiple disciplines
- Small island setting simplifies some concepts, but reinforces importance of self-preparedness and connections to outside resources