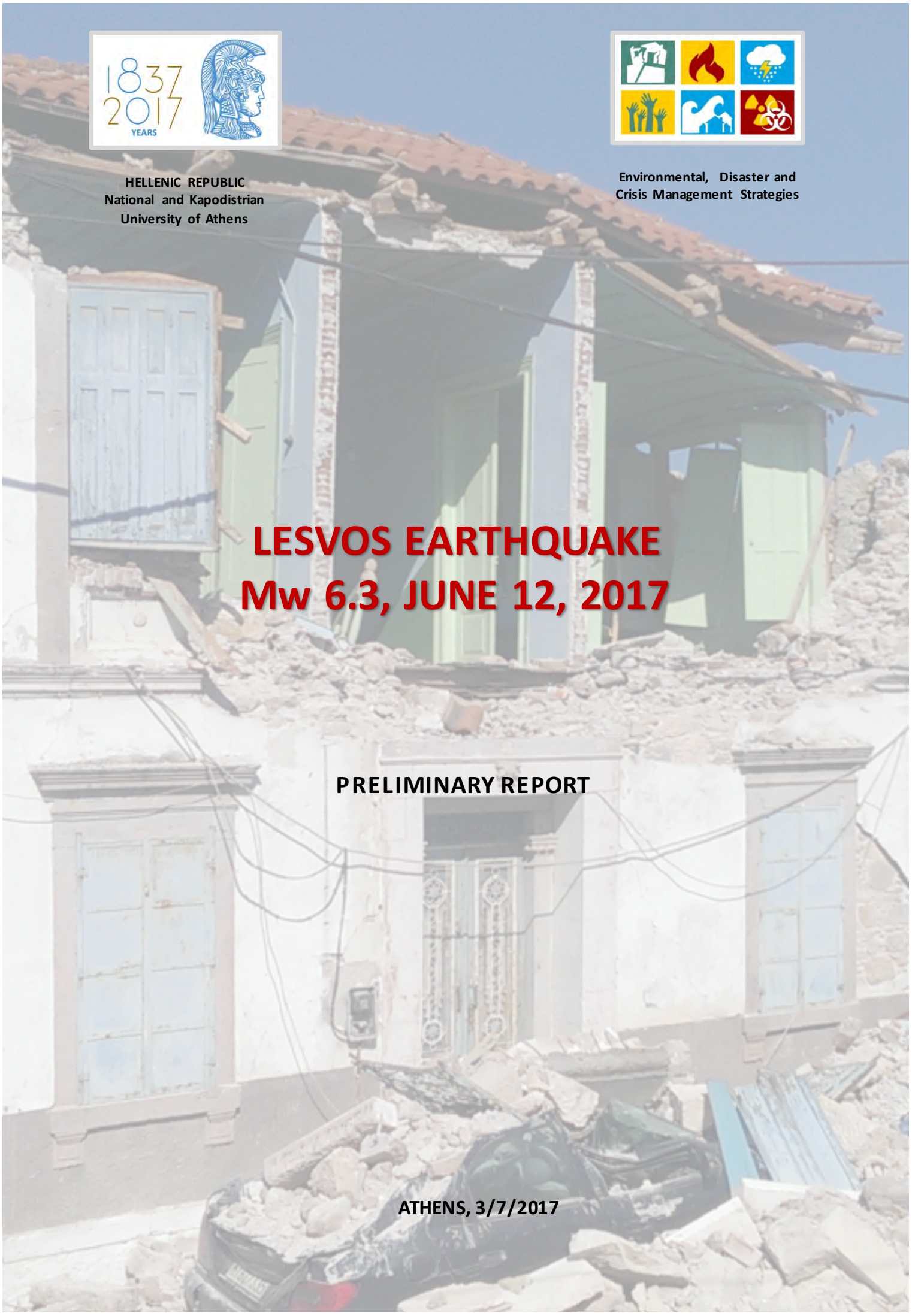

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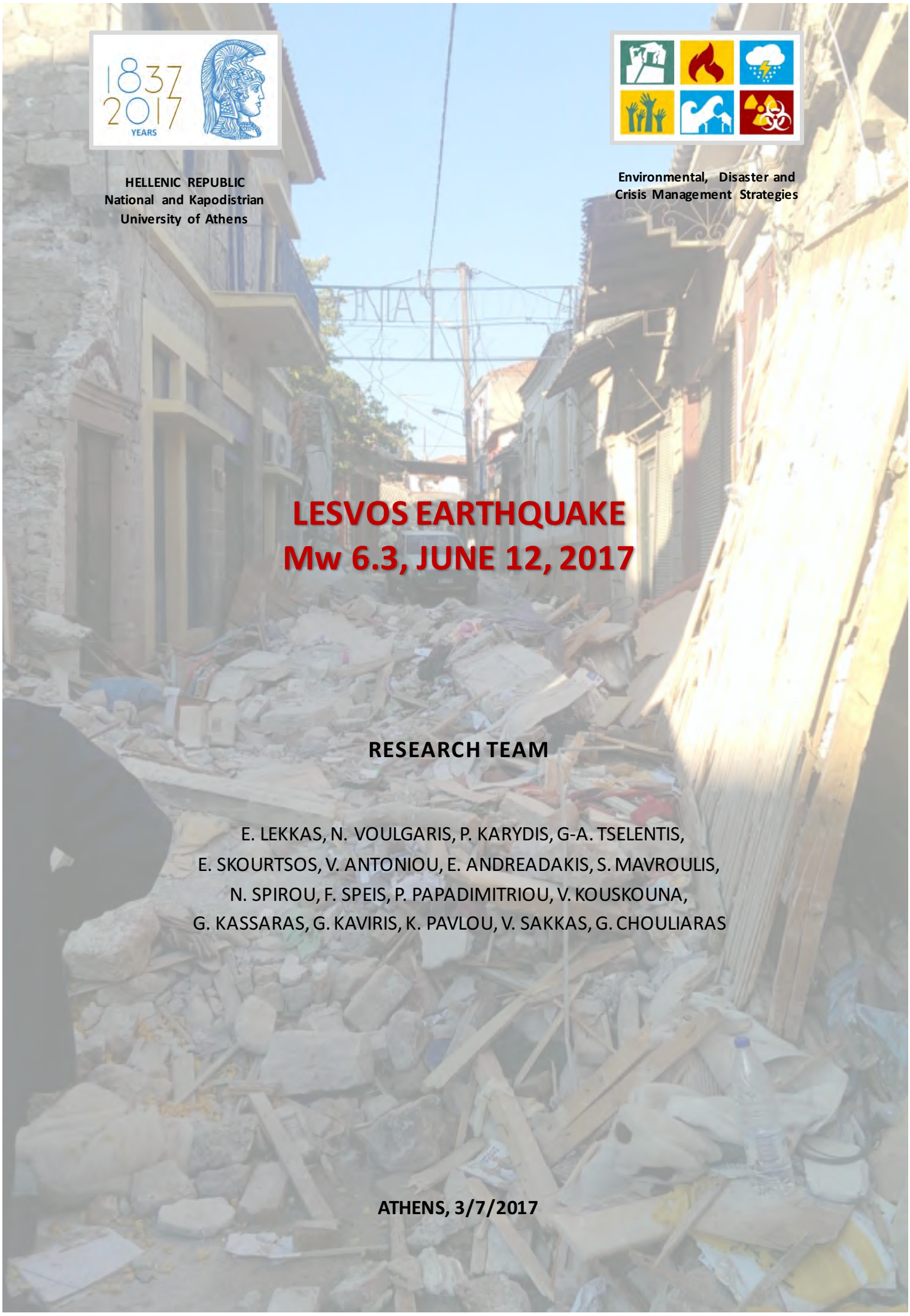
LESVOS EARTHQUAKE
Mw 6.3, JUNE 12, 2017

PRELIMINARY REPORT

ATHENS, 3/7/2017



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ATHENS, 3/7/2017

On 12 June 2017 (12:28 GMT) an offshore destructive earthquake occurred approximately 15 km south of the SE coast of Lesvos Island, NE of Chios. There was one fatality in Vrissa village, caused by building collapse and fifteen people were injured due to collapsing buildings and falling debris.

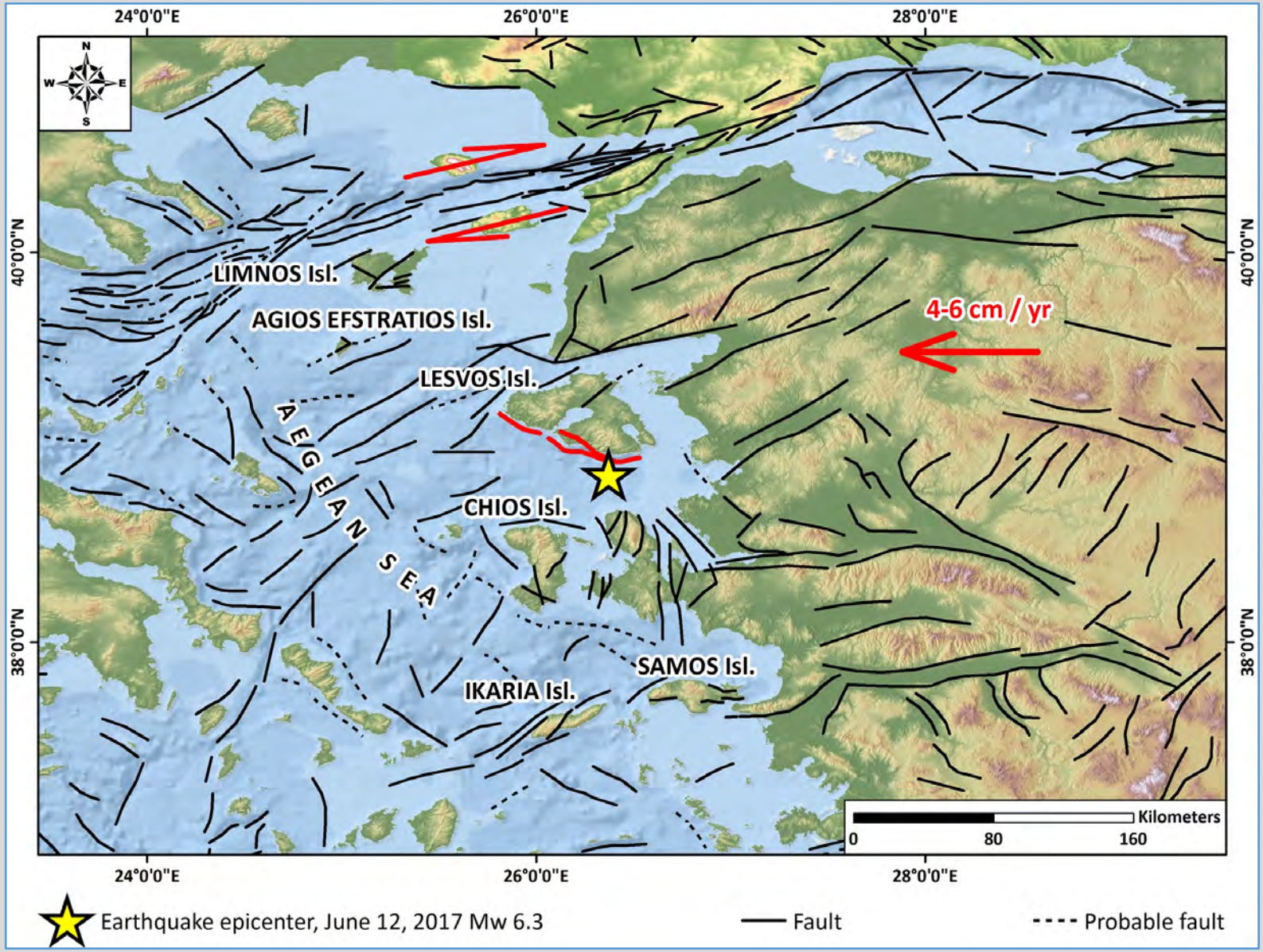
Damage was widespread throughout the southeastern part of Lesvos (damage is reported in at least 12 villages) whereas effects have been also observed at the Turkish coast. Based on the final list of the first round of buildings' formal inspections of 1986 buildings, 871 were found safe and 1115 unsafe for use.

Heaviest damage was reported in the village of Vrissa and it was rapidly assessed by using of modern and innovative technologies and methodologies including Unmanned Aerial Vehicles and GIS online applications. About 80% of its buildings, most of them traditional stone masonry residential constructions built by the end of the 19th century or the beginning of the 20th century were damaged. Several collapsed while many were heavily damaged, reported dangerous and/or unrepairable.

Monumental structures, such as post-Byzantine churches suffered serious static problems immediately after the earthquake. Cracks in the masonry load-bearing walls have been also observed at several old buildings in the historical center of the capital town of Mytilene, located about 35 km NE of the epicenter, including buildings of the University of the Aegean as well as the historical town hall of the city. Old industrial buildings in several villages up to 35km from the epicenter suffered also partial collapse. Limited damage were observed in old buildings with load-bearing walls of Plomari, Polichnitos, Lisvori, Stavros, Akrasi, Palaeochori, Megalochori, Plagia and Agios Isidoros settlements.

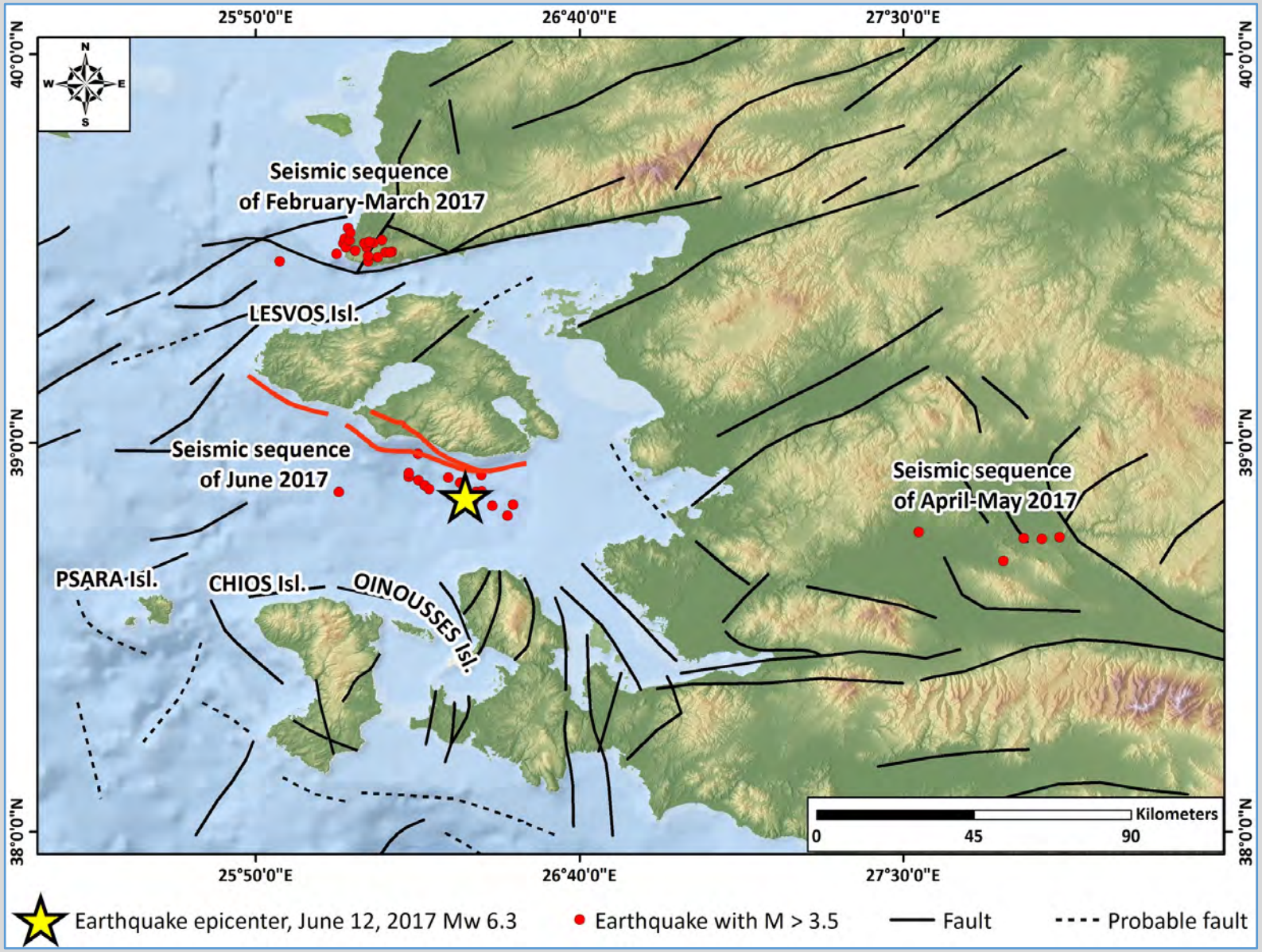
As regards the induced earthquake environmental effects, slope movements and ground cracks were generated in many sites of the affected area as well as seismic waves (tsunami) were reported in Plomari port.

Geotectonic setting of the Aegean Sea



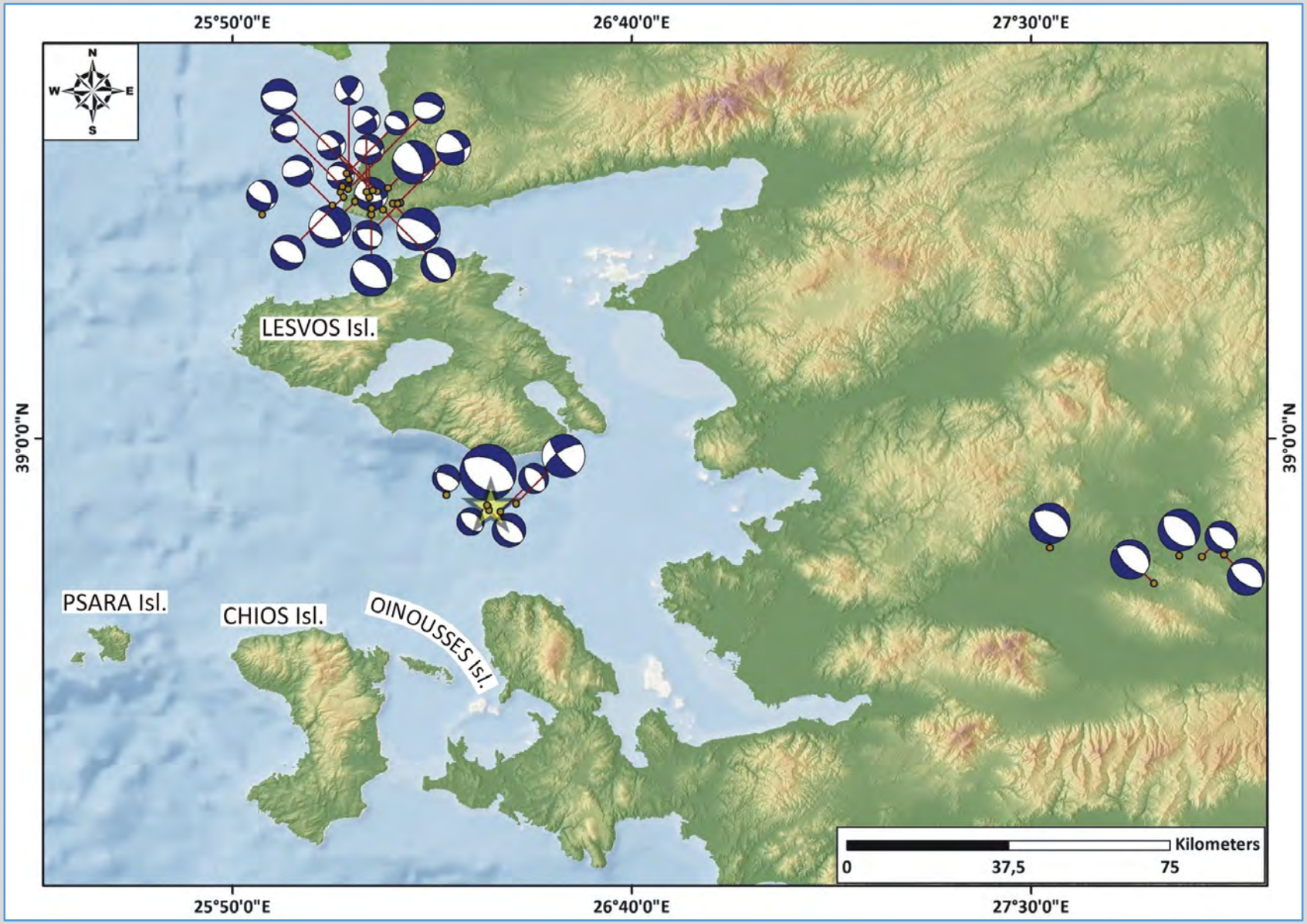
On June 12, 2017 (12:28 GMT), an earthquake was generated with Mw 6.3, focal depth of 13 km and epicenter located offshore southeastern of Lesvos.

Earthquakes with M > 3.5 from January to June 2017



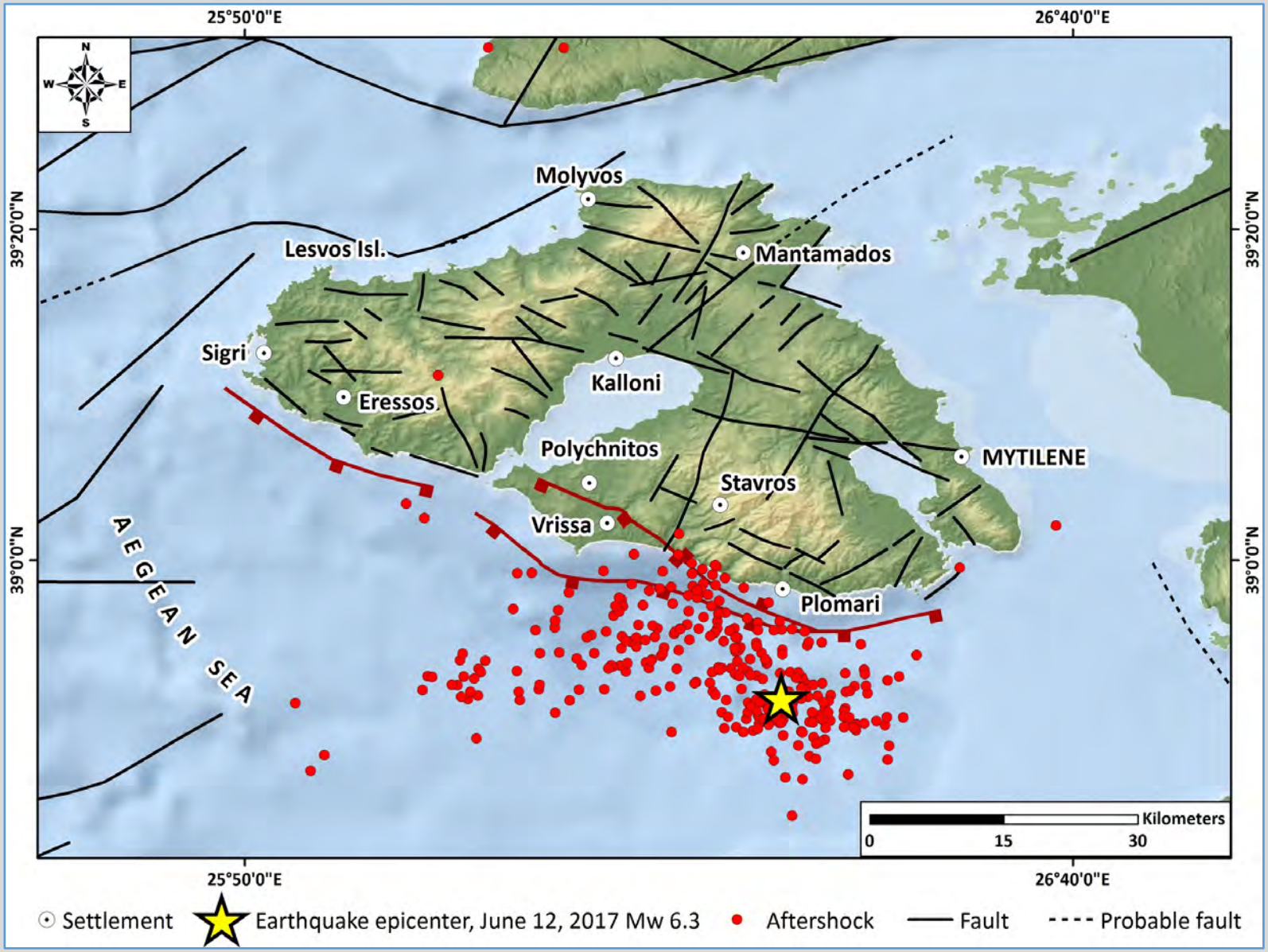
In 2017, a significant seismic activity took place in the wider region of the NE Aegean and NW Asia Minor.

The provided focal mechanisms indicated that the earthquake was generated by a normal fault located offshore southeastern Lesvos



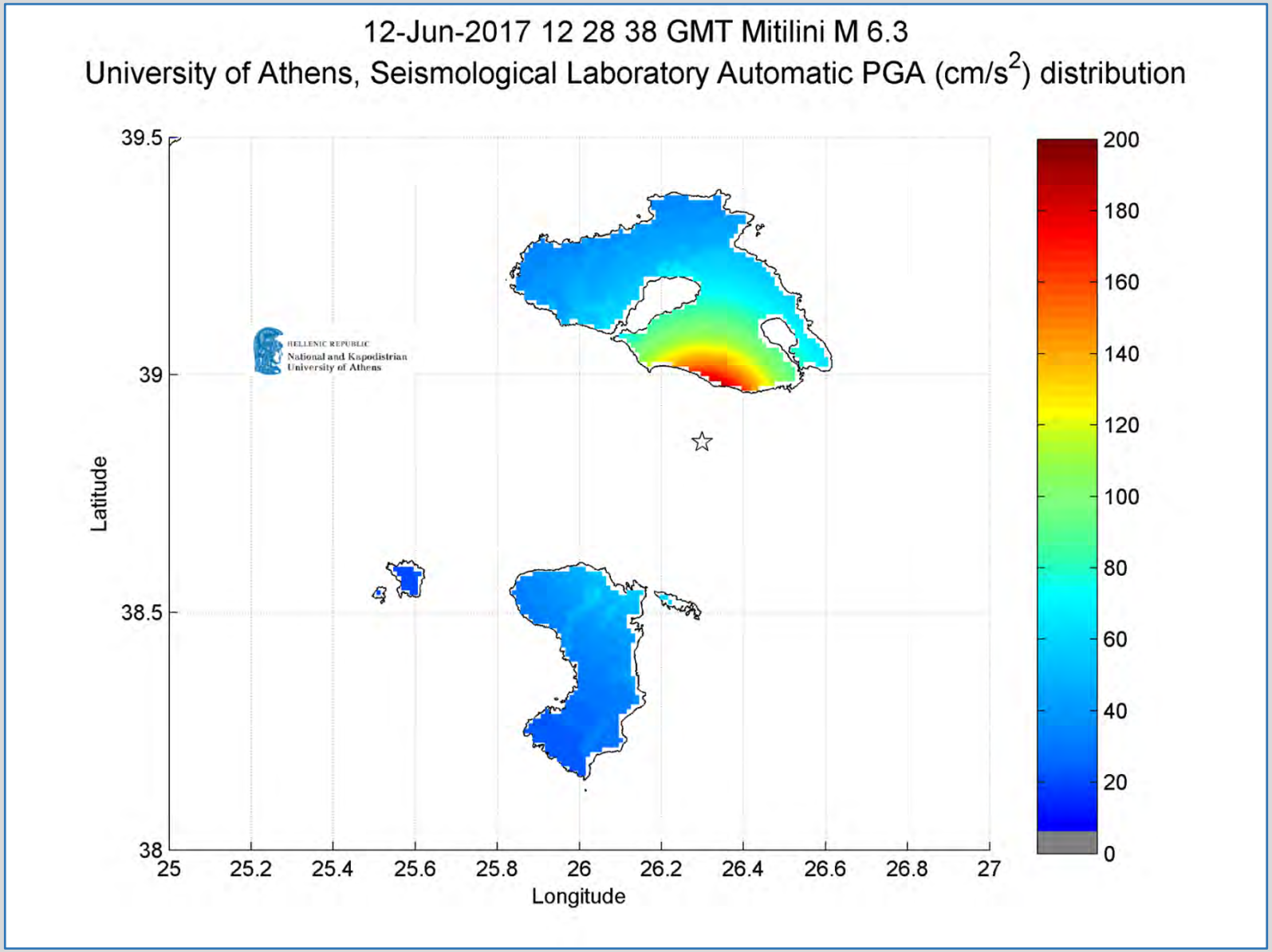
The spatial distribution of aftershocks showed a NW-SE direction, which coincides with the direction of a 25-30km seismogenic fault.

The aftershocks of the June 12 2017 Mw 6.3 and active faults

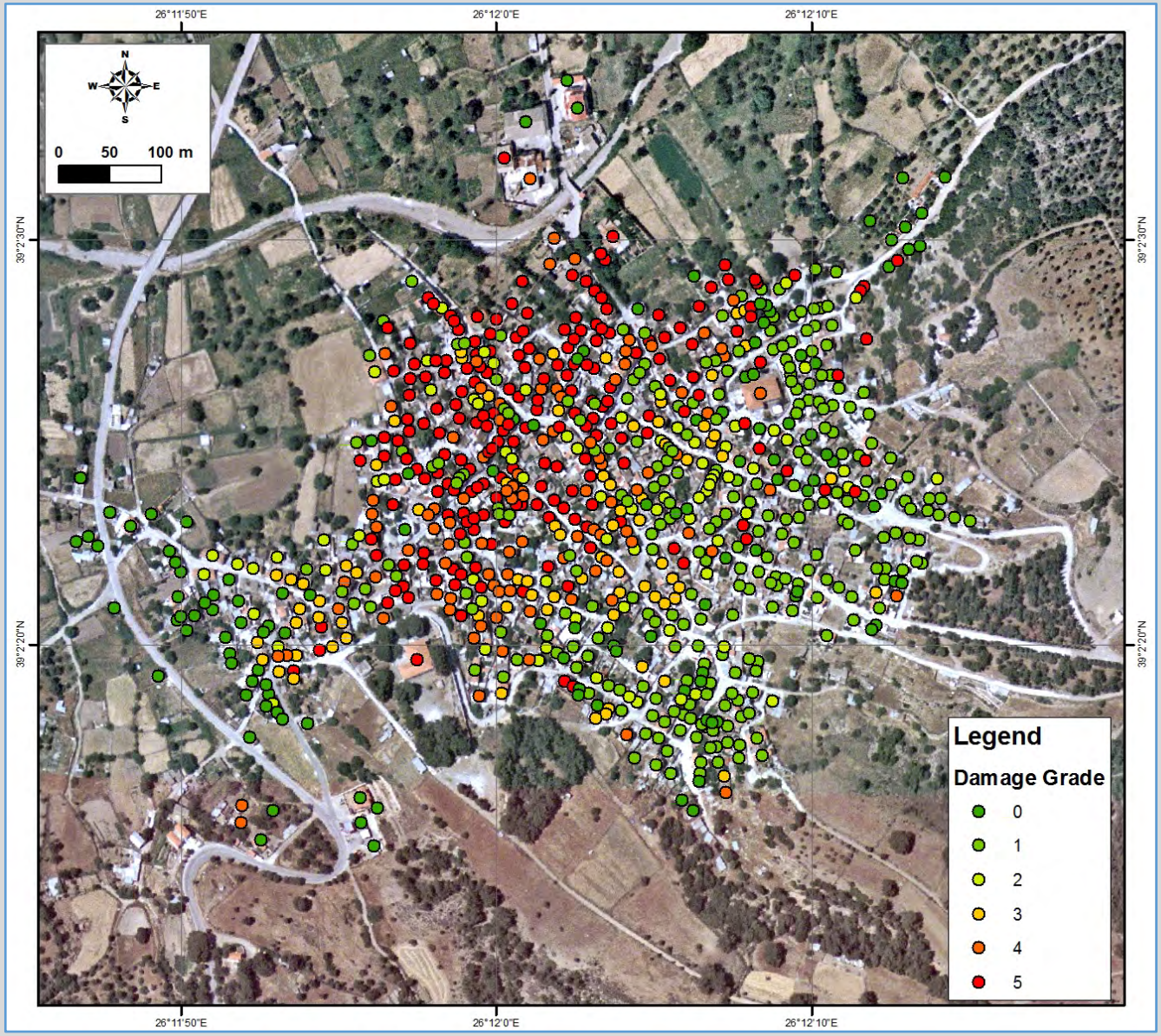


The spatial distribution of aftershocks showed a NW-SE direction, which coincides with the direction of a 25-30km seismogenic fault.

Peak Ground Acceleration Map

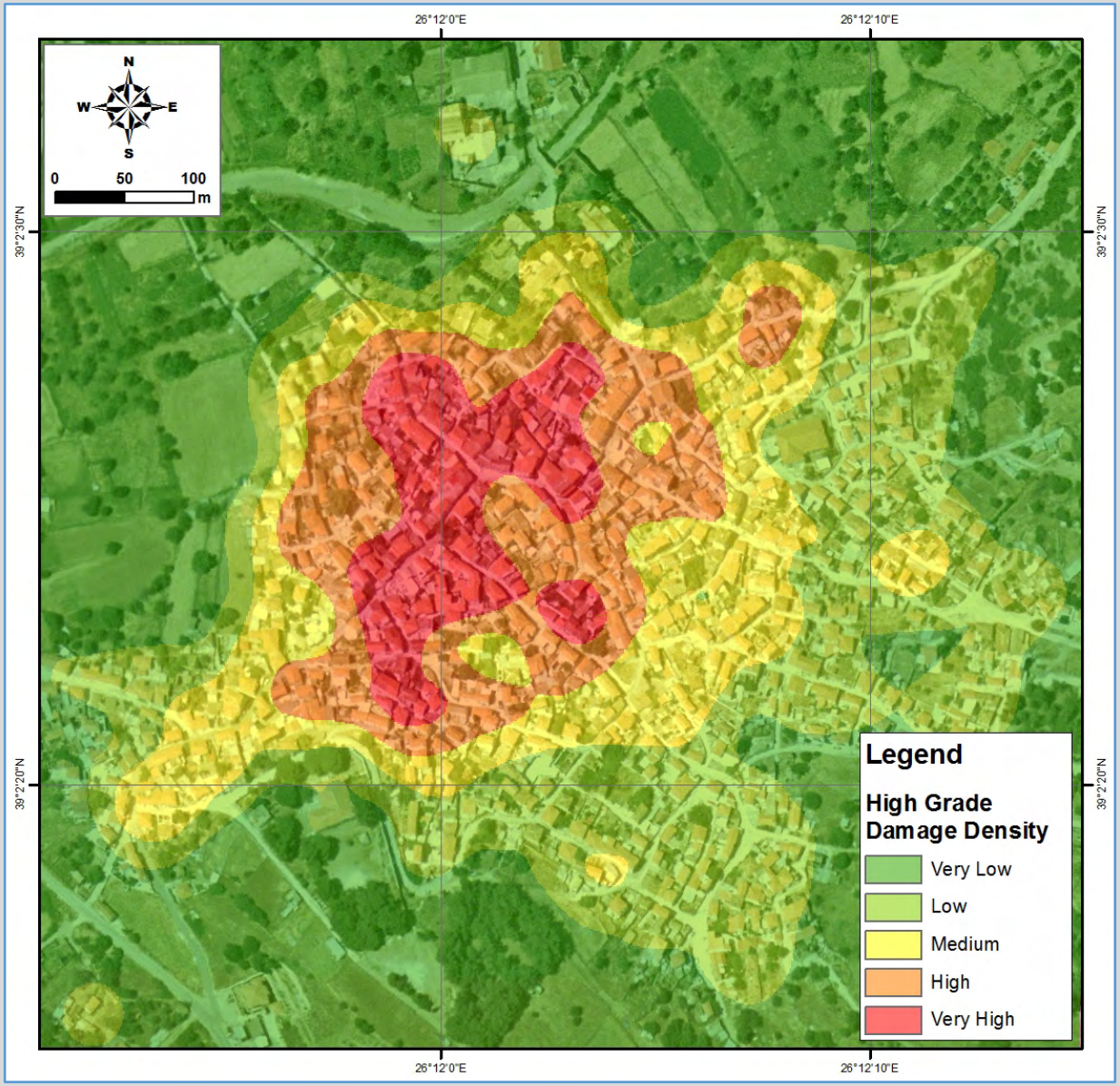


Earthquake damage grade assessment in Vrissa settlement

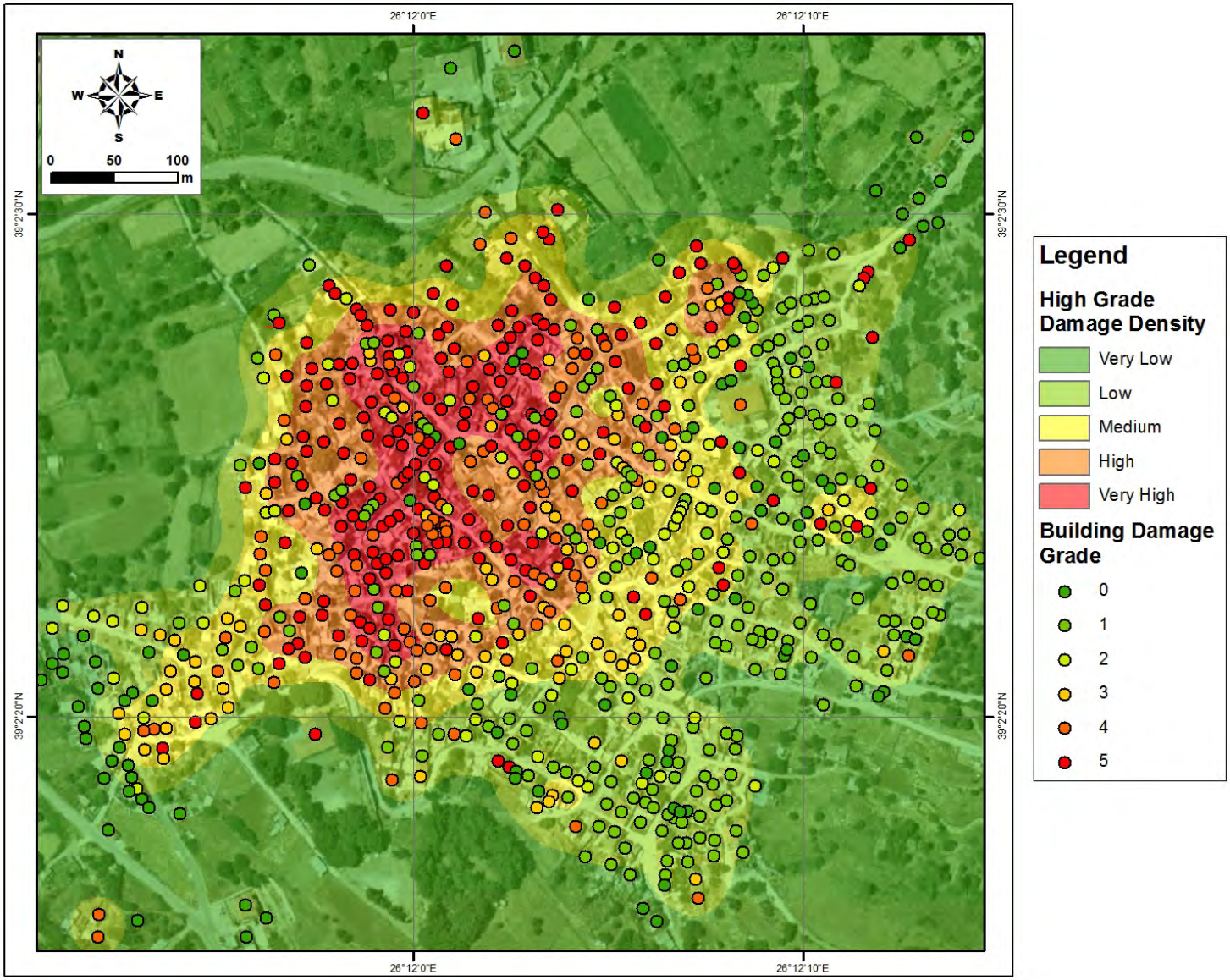


Spatial distribution of damage grades in buildings of Vrissa settlement

Density of damage grades in buildings of Vrissa settlement



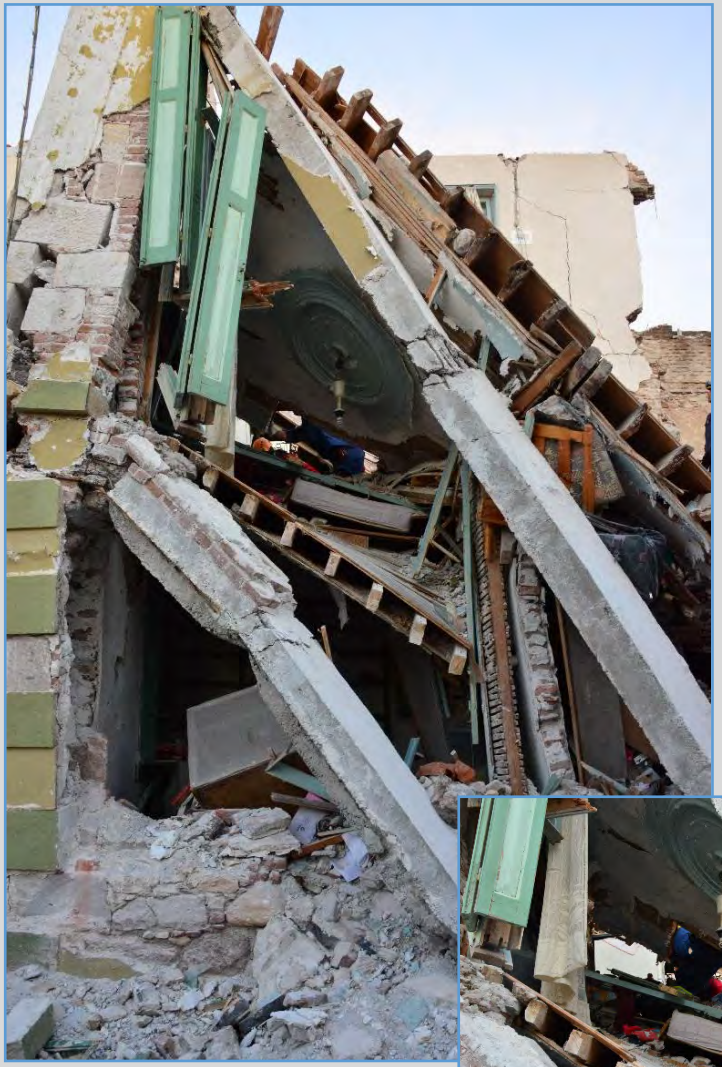
Building damage grades and high grade damage density in Vrissa settlement



Typical structures with masonry load-bearing walls that remained intact

Damage on structures with load-bearing masonry walls

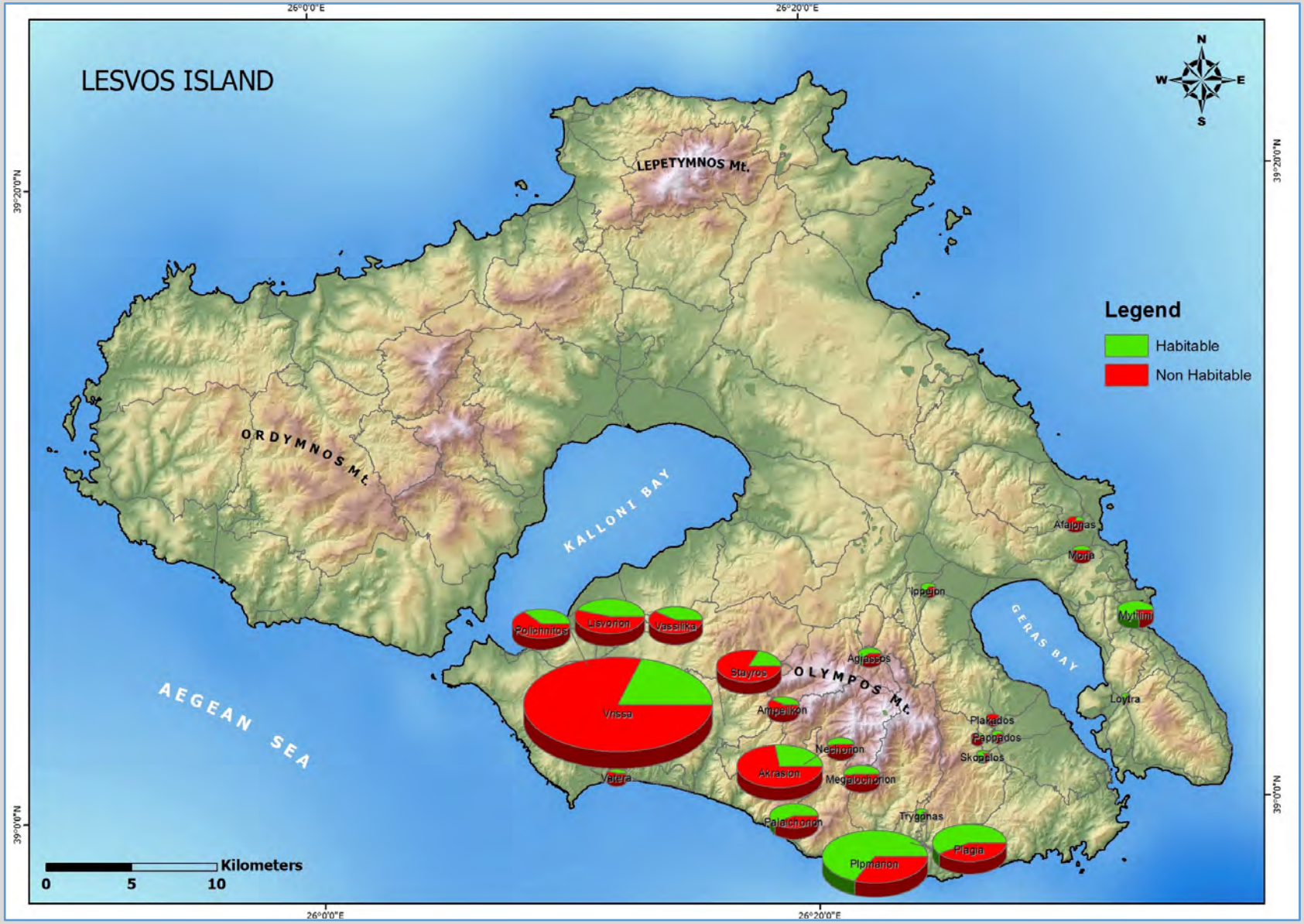
Reinforced-concrete structures with non-structural and structural damage



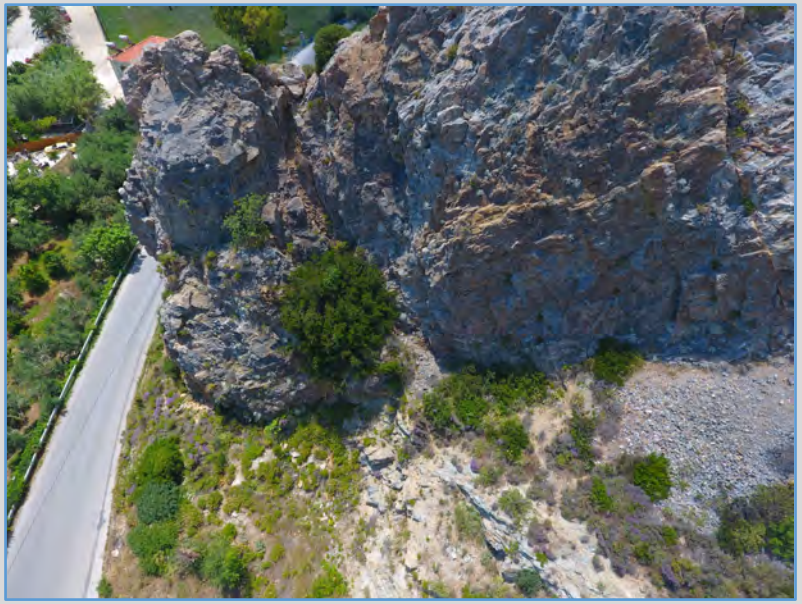
Damage on Monumental masonry structures

Damage on schools

Percentage of damage per settlement



Earthquake environmental effects– Landslides and Rockfalls



Precursors to Post Traumatic Stress Disorder (PTSD)

Quantitative Study

Sample: N=78	Indicative responses

• Areas: Vatera, Polyhni, Akrasi and Plomari
• 3 main categories of symptoms were investigated:
  • re-experiencing of the trauma
  • emotional numbness
  • anxiety/ depressive symptoms
	• 45.5% of the sample reported that their mental health was not good
	• 54.1% of the sample demonstrated moderate or higher levels of percussive symptoms of PTSD
	• 62.8% of the sample reported that they were acting or feeling as if the traumatic experience was happening again

- This study was conducted 5 days after the event (Therefore reactions may fall within the normal spectrum of expected reactions to a traumatic event)
- Symptoms reported in the study may however in some cases be sustained beyond one month and thus become a source of chronic suffering
- After the survey, participants were provided with an informational leaflet regarding possible reactions to a traumatic experience and individual ways of dealing with / managing resulting stress