

The Greek experience from the 30 October 2020 earthquake in Samos island



Church in Karlovasi, Samos

EARTHQUAKE PLANNING AND PROTECTION
ORGANISATION

EUROPEAN CENTER ON PREVENTION AND
FORECASTING OF EARTHQUAKES

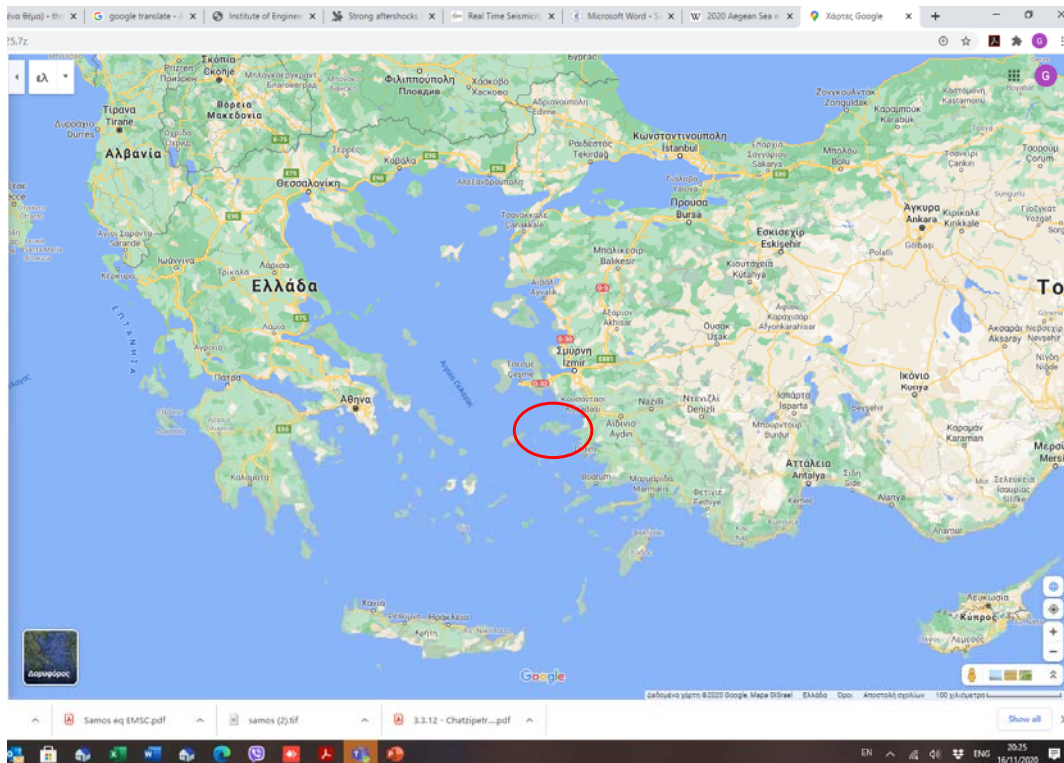


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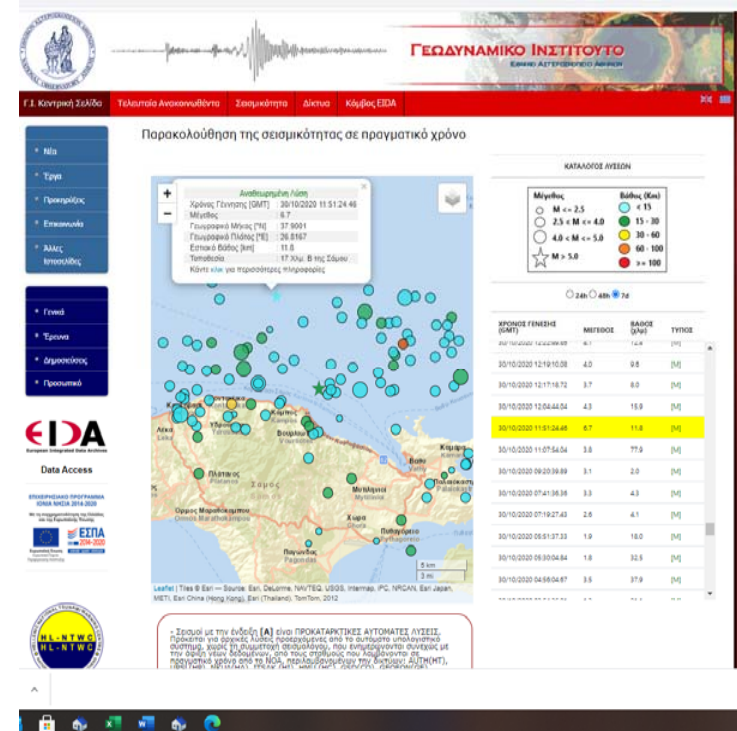
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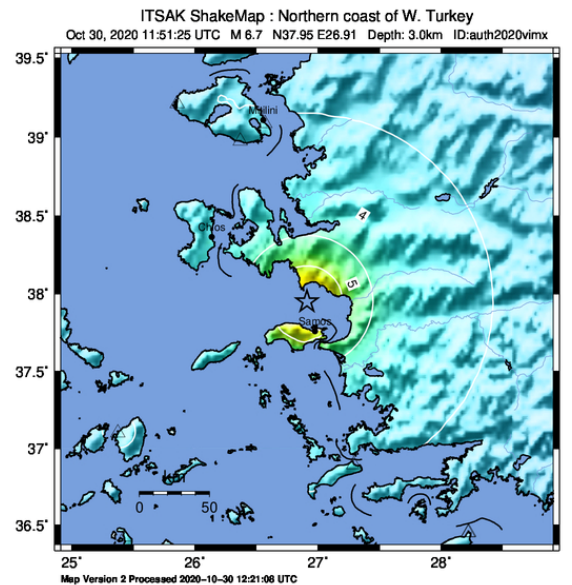
Samos 30/10/2020 earthquake amid a pandemic



Epicenter & aftershocks GI-NOA



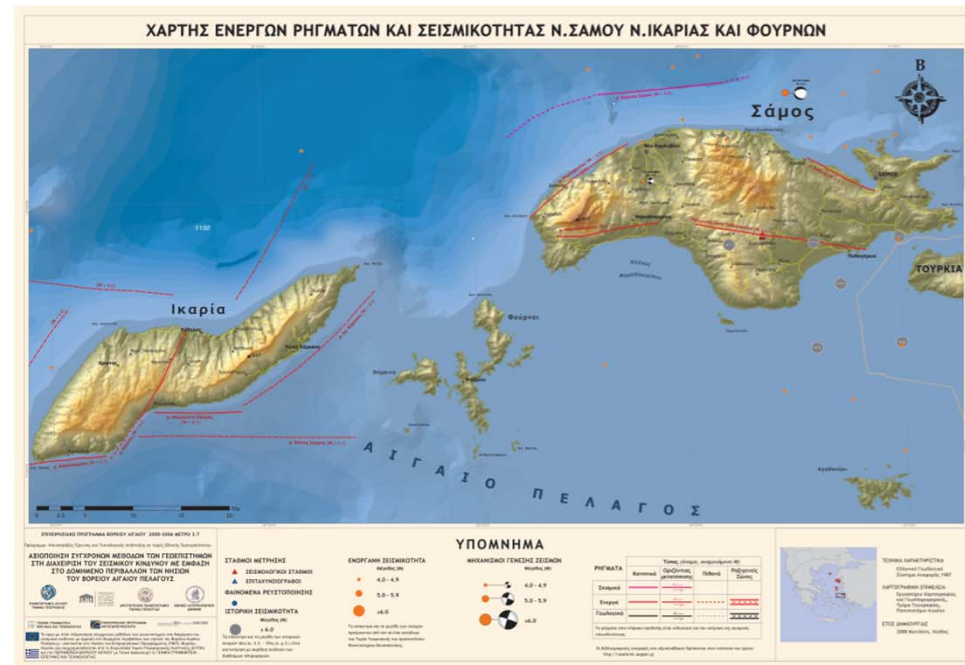
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PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<0.05	0.3	2.8	6.2	12	22	40	75	>139
PEAK VEL.(cm/s)	<0.02	0.1	1.4	4.7	8.6	20	41	86	>178
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Worden et al. (2012)






Shakemap ITSAK-EPPO








Active faults and seismicity of Samos, Icaria and Fourni Islands.

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Contradicting issues

-  ***Citizens need to gather in assembly points***
-  ***Search and Rescue operations need the cooperation of groups of people***
-  ***Food and resources have to be distributed***
-  ***Shelters are needed for e/q victims***
-  ***Large number of people needing health care may occur***

-  ***Citizens need to keep social distancing measures***
-  ***Rescuers need to wear masks, people operating need to keep distances***
-  ***All shared objects need to be sanitized***
-  ***Crowding should be avoided***
-  ***Viral tests should be performed in all hospital admissions***



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Samos case study

- + *Good weather favored outside shelters and operation centers*
- + *Low density populated*
- + *Low infections rate regarding COVID-19*
- + *Low touristic season*

- *One of the largest refugee camp in Greece*
- *Lack of personnel accommodation due to low season and COVID-19*

Samos 30/10/2020 earthquake amid a pandemic

Two exclusive flights operated by Civil Protection transported all required personnel a few hours after the earthquake.

All the necessary safety measures were taken during the flight.

- *Masks throughout the whole journey*
- *One person sitting in each seat row*
- *Sanitizers were available everywhere*



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The Operational Center was established immediately after the earthquake in the area outside the Municipality Building in Vathi.

The Center was outside and always open for constant ventilation



Source:EPPO

Samos 30/10/2020 earthquake amid a pandemic

Safety measures during the meetings among the members of the Coordination Center in Vathi.



Source:EPPO

Wearing masks



Source:EPPO

Keeping distances in operation center

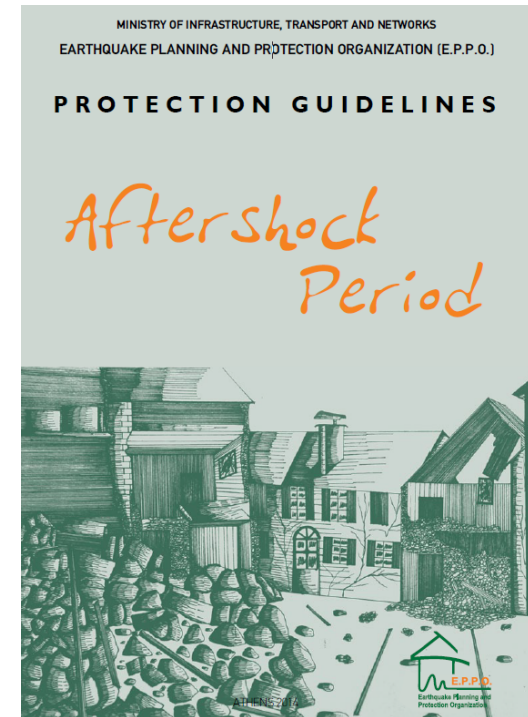
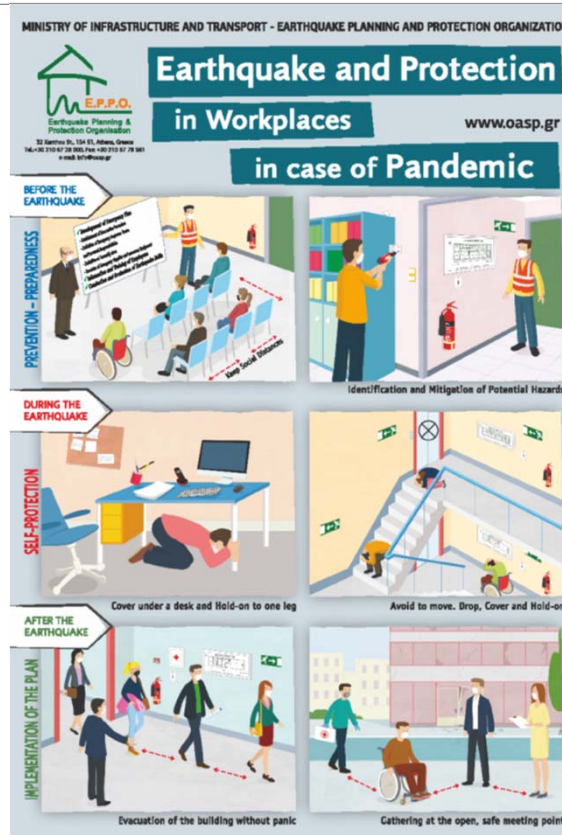


Source:EPPO

Sanitizers-bottled water, packaged food, disposable gloves

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Educational material for the public regarding Earthquake Protection in case of Pandemic was given to the Local Authorities.
(www.oasp.gr)



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Civil engineers from the Ministry of Infrastructure and EPPO carried out **inspections of buildings, critical infrastructures, lifelines**, together with civil engineers from the Technical Departments of Local Authorities of Samos.



Source:EPPO

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Structural and non structural damages



Source:WEB



Source:EPPO

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Working meetings with members of the **educational community** (heads of school units) of the island (Vathi, Karlovasi) from EPPO, in **open spaces wearing masks**



Source:EPPO

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Information of the public



Source:WEB



Source:EPPO

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Despite the positive impact of the **safety measures**, the occurrence of an earthquake in addition to COVID-19, may easily increase the **infection rates**.



(Kathimerini newspaper, 31/10/2020)

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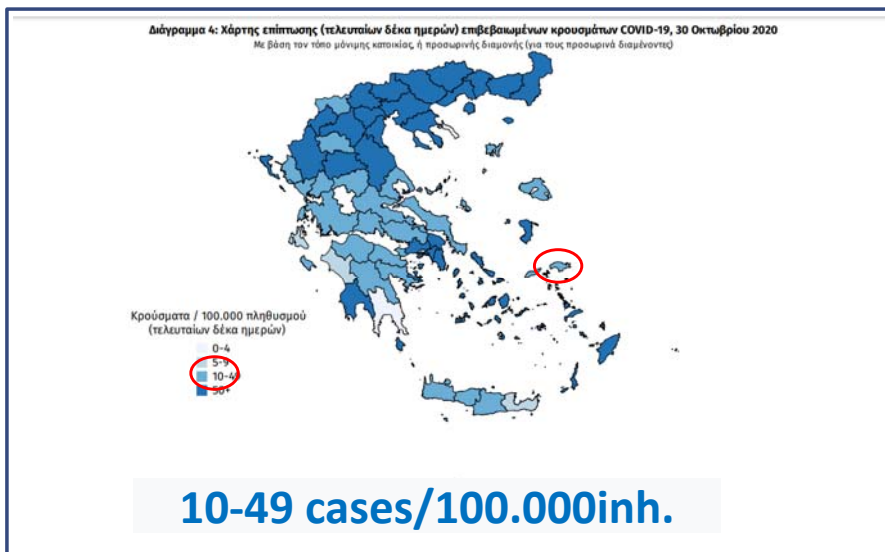
Preparedness plans can be improved by analyzing data regarding the rise in the daily confirmed cases in the earthquake stricken area and evaluate whether a correlation between the earthquake and the infection rates exists.



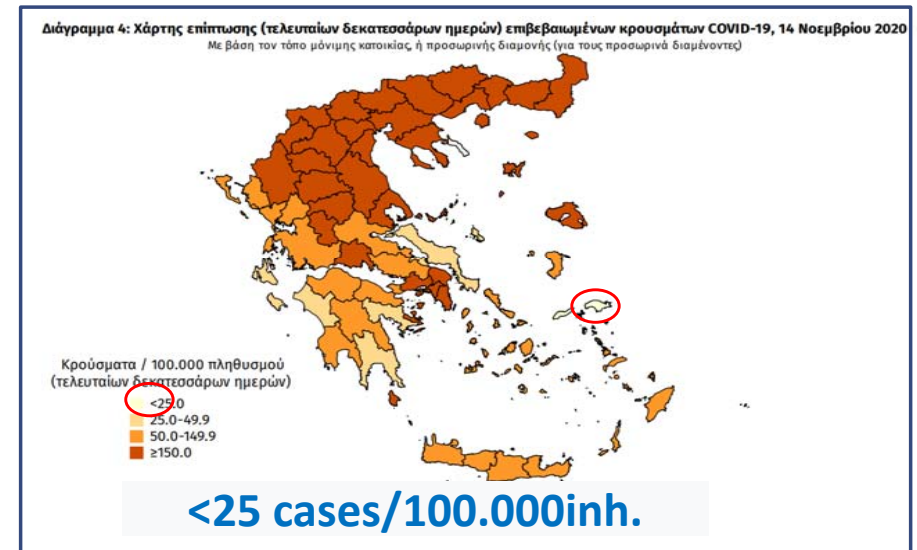
Source:WEB



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Incidence map (last ten days) of confirmed COVID-19 cases, on October 30, 2020 in Greece
(source: National Public Health Organisation)



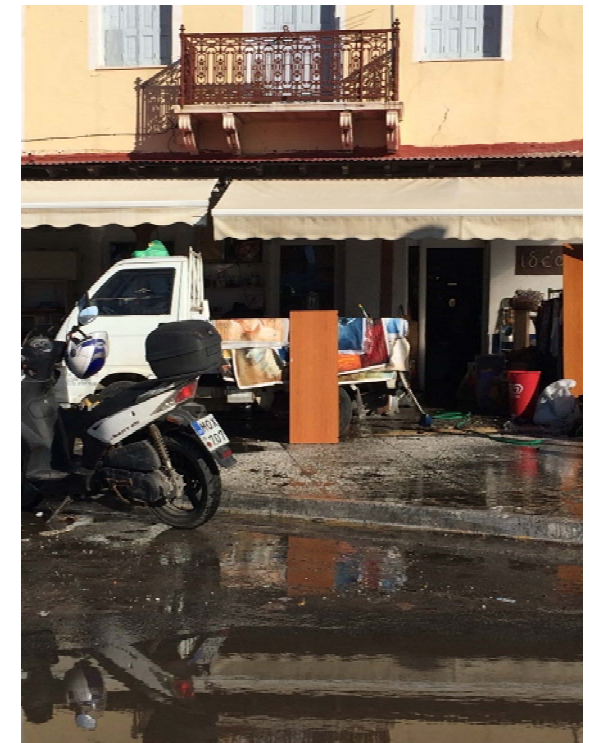
Incidence map (last ten days) of confirmed COVID-19 cases, on November 14, 2020 in Greece
(source: National Public Health Organisation)

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Natural disasters have a random distribution through time and space which can coincide with economic crisis, geopolitical tension or a pandemic.

Several factors, like climate change, for example, will keep on increasing the possibility of such concurrencies.

Hence, multiple case scenarios and preparedness plans should be urgently adopted by the Authorities.



Source:WEB



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LEGAL BODIES:

- Ministry of Infrastructures and Transport (<https://www.yme.gr>)
- Earthquake Planning and Protection Organization (<https://www.oasp.gr>)
- General Secretariat for Civil Protection Greece (<https://www.civilprotection.gr>)
- Ministry of Interior (<https://www.ypes.gr>)
- National Public Health Organization (<https://eody.gov.gr>)
- General Secretariat for Research and Technology (<http://www.gsrt.gr>)
- Institute of Geodynamics (<http://www.gein.noa.gr>)



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Thank you,

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