

PRELIMINARY REPORT (AS OF JUNE 30, 1978) ON THE  
SALONICA, GREECE EARTHQUAKE OF JUNE 20, 1978 AND ITS EFFECTS

by John A. Blume, acting as EIC

The Earthquake (USGS data, by telephone, Chris Rojahn)

June 20, 1978            20:03:23 GMT

Location: 40.77°N    23.18°E

Depth: 13 km (free solution)

M<sub>s</sub> 6.4

Distances (source P. Carydis, by telephone)

Salonica 30 km<sub>+</sub> from fault

Some villages very close to or on fault

Motion (P. Carydis, by telephone)

0.13g peak acceleration in Salonica at 0.5 sec dominant period;  
sedimentary soil

0.04g peak acceleration on rock, at Yugoslavian border; 0.35 sec  
dominant period

Suspect 2 events, 2.5 seconds apart

Intensity VII

Salonica damage (Carydis)

One 8-story building collapse, killing 40<sub>+</sub>

7 or 8 two-story buildings collapsed

Several other buildings need repair

Villages (Carydis)

150<sub>+</sub> collapses of small buildings

Total Casualties (Carydis)

Killed 50 (40<sub>+</sub> in 1 building)

Injured 100<sub>+</sub>

Obtaining (Carydis et al)

Maps, aerial photos, details, photos, records, etc.



## COMPARISONS BASED ON PRELIMINARY DATA

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	<u>June 1978 Sendai</u>	<u>June 1978 Salonica</u>
Peak ground motion	0.25g	0.13g
Population	550,000	720,000
Killed	21	50 (40 in 1 building)
Injured	400	100

There were more deaths at Salonica than at Sendai even though the peak ground acceleration at Salonica was only about half as great. The populations are generally similar. This indicates some of the advantages of earthquake-resistant design, codes, procedures, and research.

It can be speculated in advance of detailed study that the collapsed 8-story building at Salonica could have had at least one natural period at about 0.5 sec which is also the reported dominant period for the Salonica ground motion. Thus, the dynamic amplification could have been considerable. This structure should be analyzed in detail.



22°

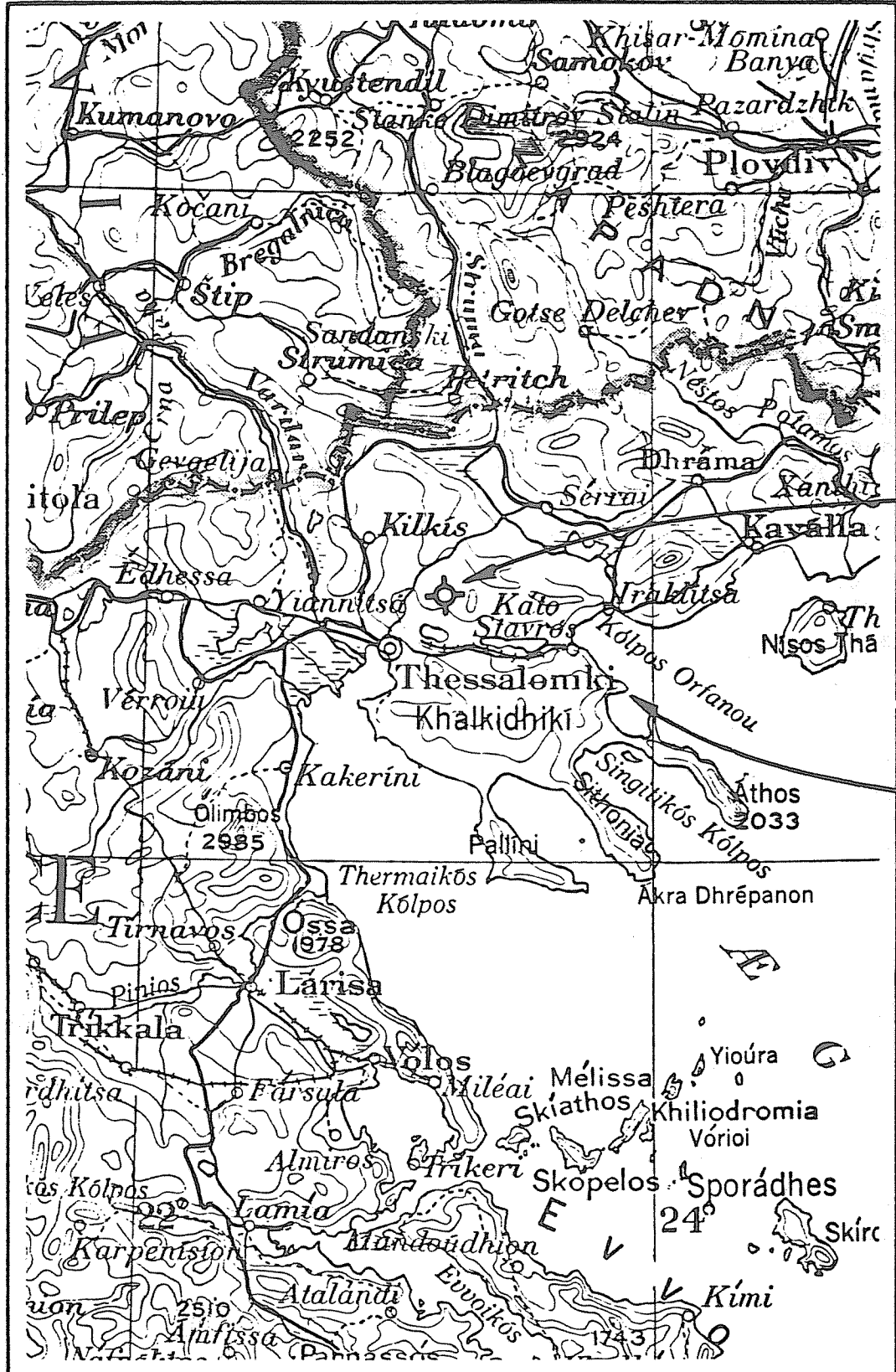
24°

42°

42°

40°

40°



EPICENTER  
June 20, 1978

or Salonica

**NORTHERN GREECE**



km