Active faults of the broader Aegean region in the GREEK DATABASE of SEISMOGENIC SOURCES

http://eqgeogr.weebly.com/database-of-active-faults.html
http://gredass.unife.it/

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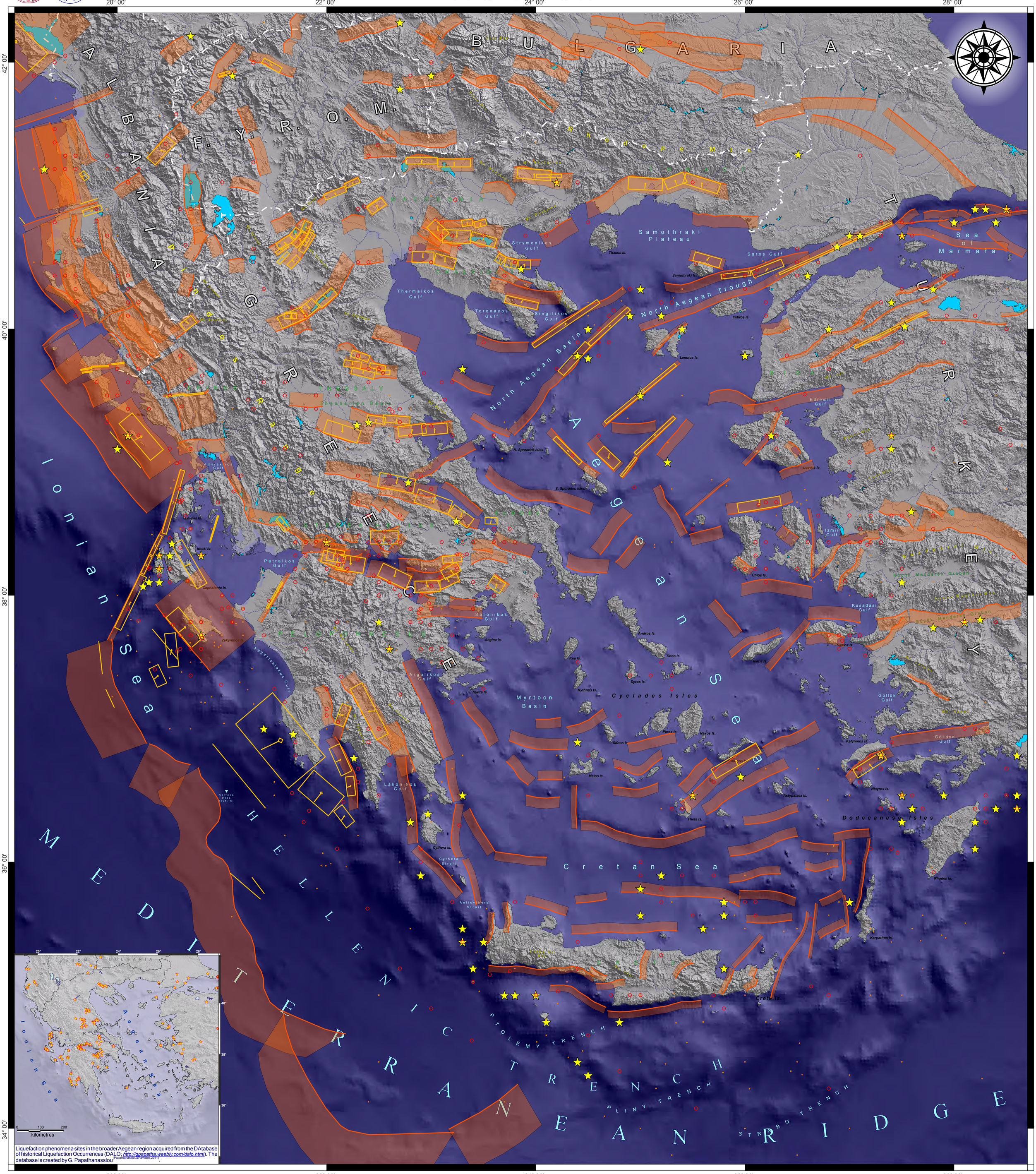
eqgeogr.weebly.com



Liquefaction phenomena sites in the broader Aegean region acquired from the DAtabase of historical Liquefaction Occurrences (DALO; http://ggapatha.weebly.com/dalo.html). The database is created by G. Papathanassiou (Papathanassiou&Pavlides,2011)

Geographic projection: WGS84

0 50 100 200 kilometres

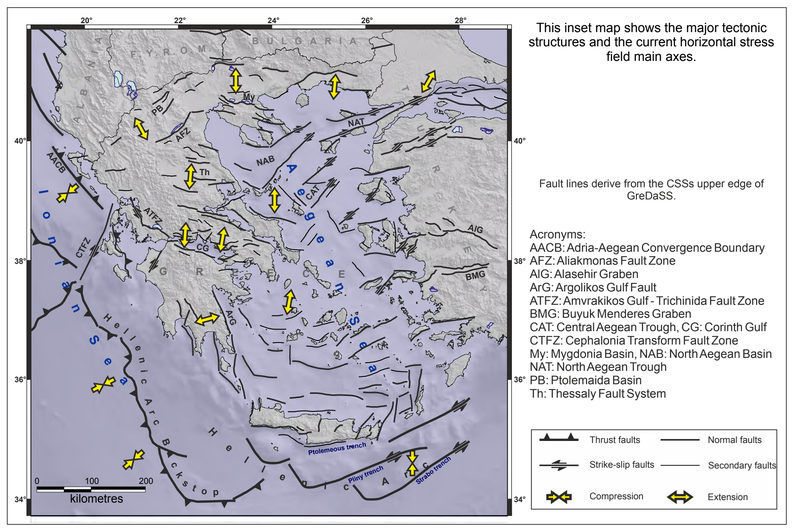
LEGEND

Earthquakes (M = Magnitude): 550 BC - 2010 AD (Papazachos *et al.*, 2000; 2010)

M ≥ 7.0 **6.0 ≤ M < 7.0** **5.5 ≤ M < 6.0**

Individual Seismogenic Sources: they are obtained from geological and geophysical data and are characterized by a full set of geometric (strike, dip, length, width and depth), kinematic (rake, average displacement per event) and seismological (magnitude, slip rate, return period) parameters. ISSs are assumed to exhibit "characteristic" behaviour with respect to rupture length/width and expected mean and maximum magnitude. Moreover, ISSs can also be considered as fault segments of larger fault zones when there are evidences of individual rupture. The ISSs favour accuracy of the information supplied over the completeness of the sources themselves. As such, they can be used for deterministic assessment of seismic hazard, for calculating earthquake and tsunami scenarios, and for tectonic and geodynamic investigations.

Composite Seismogenic Sources: they are obtained from geological and geophysical data and characterized by geometric (strike, dip, width, min/max depth) and kinematic (rake) parameters, but their sliding surface geometry is more loosely defined and can contain an unspecified number of ISSs. They are not assumed to be capable of a characteristic earthquake but their potential can derive from existing earthquake catalogues or other geological considerations. A CSS is essentially inferred on the basis of regional surface and subsurface geological data that are exploited well beyond the simple identification of active faults or youthful tectonic features. Opposite to the ISSs, this category of sources favours completeness of the record of potential earthquake sources over accuracy of source description. In conjunction with seismicity and modern strain data, CSSs can thus be used for regional probabilistic Seismic Hazard Assessment and for investigating large-scale geodynamic processes. A CSS can represent a large fault zone which can consist of one or more well defined ISSs. However, it can also be 'empty' of ISSs if none can be recognized. The seismic behaviour of the CSSs can be completely independent for the ISSs, given that a potential event may rupture the total length of the source, whether it contains none, one or more ISSs.



This inset map shows the major tectonic structures and the current horizontal stress field main axes.

Fault lines derive from the CSSs upper edge of GreDaSS.

Acronyms:
AACB: Adria-Aegean Convergence Boundary
AFZ: Aliakmonas Fault Zone
AIG: Alasehir Graben
ArG: Argolikos Gulf Fault
ATFZ: Amvrakikos Gulf - Trichinida Fault Zone
BMG: Buyuk Menderes Graben
CAT: Central Aegean Trough, CG: Corinth Gulf
CTFZ: Cephalonia Transform Fault Zone
My: Mygdonia Basin, NAB: North Aegean Basin
NAT: North Aegean Trough
PB: Ptolemaida Basin
Th: Thessaly Fault System

The **Greek Database of Seismogenic Sources** is a repository of geological, tectonic and active-fault data for the Greek territory and its surroundings. It represents a complete and modern tool for improving the Seismic Hazard Assessmant (SHA) of the region and a valuable source of information for scientists who want to deal with earthquake scenarios and modelling, geodynamics, active deformation and many more.

GreDaSS is an open-file, continuously updatable, that can accommodate all proposals from multi-field researchers. It is a GIS-based database consisting of several layers, both graphical and metadata ones. For more information and complete bibliography, visit our website.

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