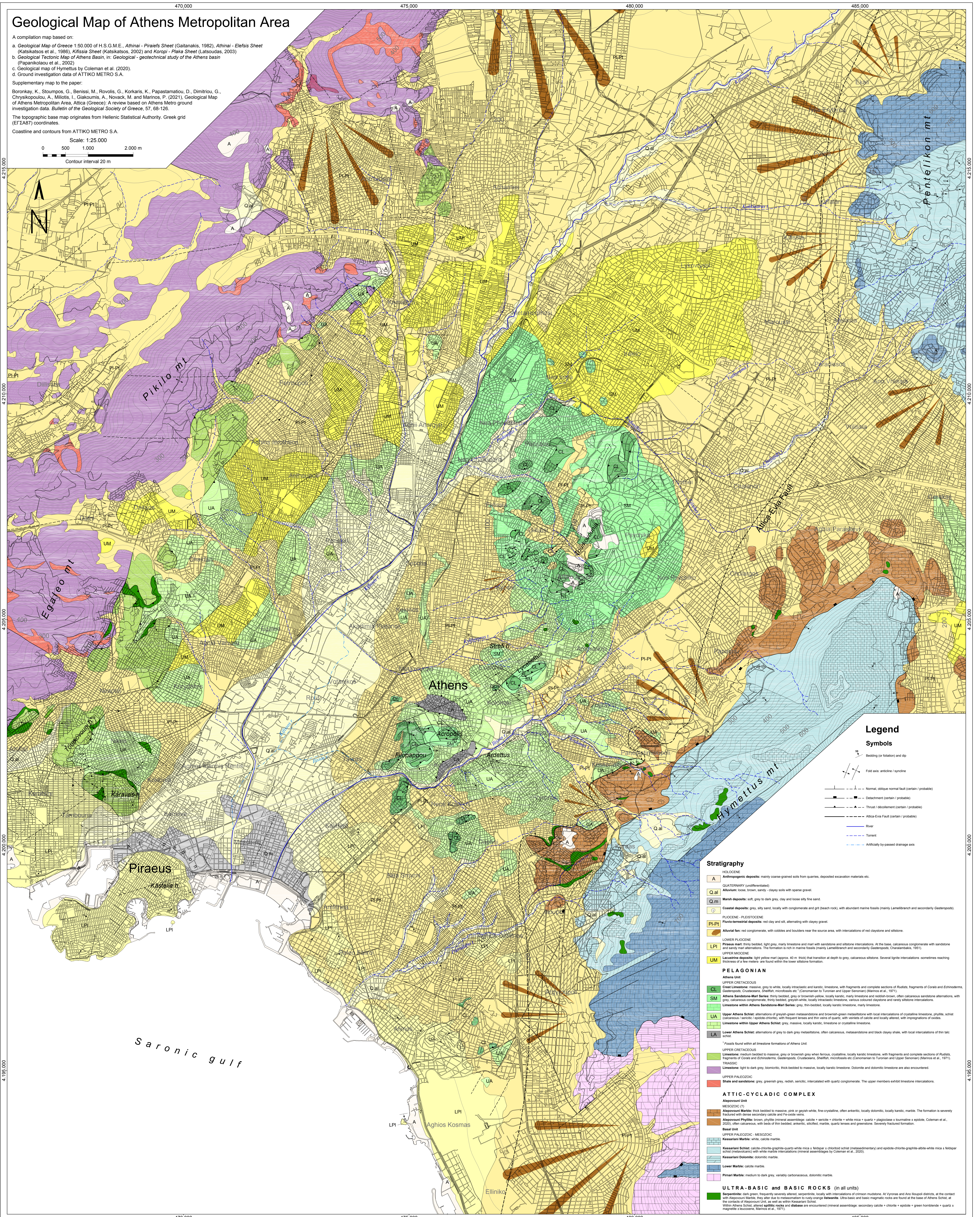
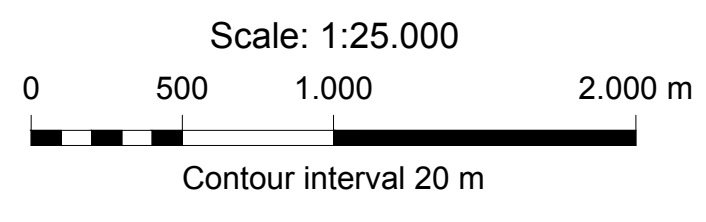


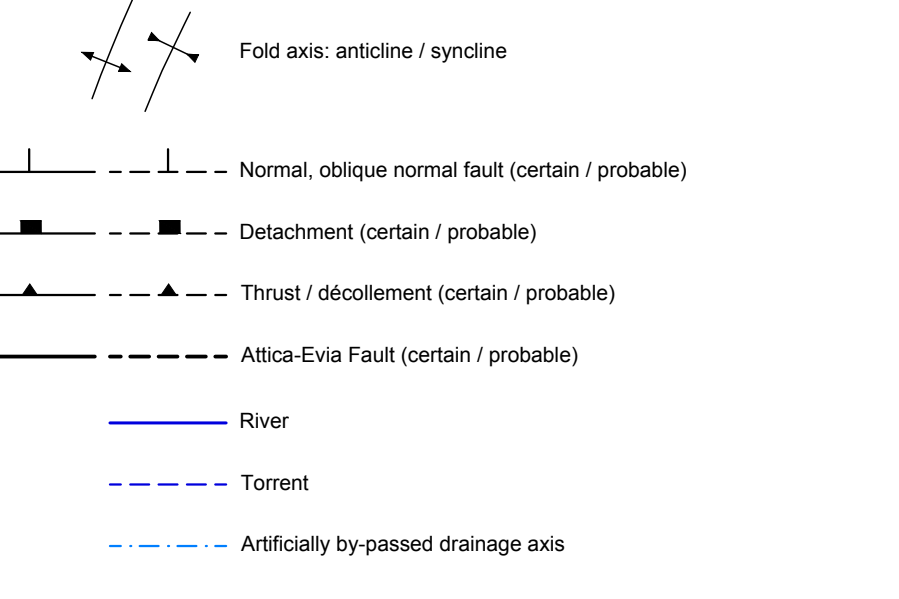
# Geological Map of Athens Metropolitan Area

A compilation map based on:  
 a. Geological Map of Greece 1:50,000 of H.S.G.M.E. - *Athina - Piraeus Sheet* (Gaitanakis, 1982), *Athina - Elefisia Sheet* (Katsikatos et al., 1986), *Kifissia Sheet* (Katsikatos, 2002) and *Koropi - Plaka Sheet* (Latsoulatas, 2003)  
 b. Geological Tectonic Map of Athens Basin, in: *Geological - geotechnical study of the Athens basin* (Papanikolaou et al., 2002)  
 c. Geological map of Hymettus by Coleman et al. (2020).  
 d. Ground investigation data of ATTIKO METRO S.A.  
 Supplementary map to the paper:  
 Boronkay, K., Stoumpos, G., Benisi, M., Rovolis, G., Korkaris, K., Papastamatiou, D., Dimitriou, G., Chrysokopoulou, A., Miliotis, I., Giakoumis, A., Novak, M. and Marmos, P. (2021). Geological Map of Athens Metropolitan Area, Attica (Greece): A review based on Athens Metro ground investigation data. *Bulletin of the Geological Society of Greece*, 57, 68-126.  
 The topographic base map originates from Hellenic Statistical Authority, Greek grid (ETZAB7) coordinates.  
 Coastline and contours from ATTIKO METRO S.A.



## Legend

### Symbols



### Stratigraphy

<b>A</b>	<b>HOLOCENE</b> Alluvial deposits: mainly coarse-grained soils from quarries, deposited excavation materials etc.
<b>Q.al</b>	<b>QUATERNARY (undifferentiated)</b> Alluvium: loose, brown, sandy - clayey soils with sparse gravel.
<b>Q.m</b>	<b>Marsh deposits:</b> soft, grey to dark grey, clay and loose silty fine sand.
<b>Q.c</b>	<b>Coastal deposits:</b> grey, silty sand, locally with conglomerate and grit (beach rock), with abundant marine fossils (mainly Lamellobranch and secondarily Gastropods).
<b>PL-PT</b>	<b>PLIOCENE - PLEISTOCENE</b> Fluvio-lacustrine deposits: red clay and silt, alternating with clayey gravel.
<b>LPI</b>	<b>LOWER PLEISTOCENE</b> Pleistocene: thin bedded, light grey, marly limestone and marl with sandstone and siltstone intercalations. At the base, calcareous conglomerate with sandstone and hardy marl alterations. The formation is rich in marine fossils (many Lamellobranch and secondarily Gastropods, Charanikakis, 1951).
<b>UM</b>	<b>UPPER MIOCENE</b> Lacustrine deposits: light yellow marl (approx. 40 m thick) that transition at depth to grey, calcareous siltstone. Several light intercalations - sometimes reaching thickness of a few meters - are found within the lower siltstone formation.
<b>PELAGONIAN</b>	
<b>UPPER CRETACEOUS</b>	
<b>CL</b>	<b>Cretaceous Limestone:</b> massive, grey to white, locally intracrystalline and karstic. Limestone, with fragments and complete sections of <i>Rudist</i> , fragments of <i>Corata</i> and <i>Echinoderm</i> , <i>Gastropods</i> , <i>Crustaceans</i> , <i>Shellfish</i> , <i>microfossils</i> etc. (Coronariou to Turner and Upper Senonian) (Marmos et al., 1971).
<b>SM</b>	<b>Athens Sandstone-Marl Series:</b> thinly bedded, grey or brownish-yellow, locally karstic, marly limestone and reddish-brown, often calcareous sandstone alternations, with grey, calcareous conglomerate, thinly bedded, greyish-white, locally intracrystalline limestone, various coloured claystone and rarely siltstone intercalations.
<b>UA</b>	<b>Limestone within Athens Sandstone-Marl Series:</b> grey, thin-bedded, locally karstic limestone, marly limestone.
<b>LA</b>	<b>Lower Athens Schist:</b> alternations of grey to dark grey metasediments, often quartz conglomerate, calcareous metasediments and black clayey shale, with local intercalations of thin calc. silt.
<sup>1</sup> Fossils found within all limestone formations of Athens Unit.	
<b>UPPER CRETACEOUS</b>	
<b>LA</b>	<b>Limestone:</b> medium bedded to massive, grey or brownish grey when tenuous, crystalline, locally karstic limestone, with fragments and complete sections of <i>Rudist</i> , fragments of <i>Corata</i> and <i>Echinoderm</i> , <i>Gastropods</i> , <i>Crustaceans</i> , <i>Shellfish</i> , <i>microfossils</i> etc. (Coronariou to Turner and Upper Senonian) (Marmos et al., 1971).
<b>LA</b>	<b>Limestone:</b> light to dark grey, bimimetic, thick bedded to massive, locally karstic limestone. Dolomite and diatomite limestone are also encountered.
<b>UPPER PALEOZOIC</b>	
<b>LA</b>	<b>Shale and sandstone:</b> grey, greenish grey, redish, sericitic, intercalated with quartz conglomerate. The upper members exhibit limestone intercalations.
<b>ATTIC-CYCLADIC COMPLEX</b>	
<b>Alpsporon Unit</b>	
<b>LA</b>	<b>Alpsporon Marble:</b> thick bedded to massive, pink or greyish-white, fine-crystalline, often ankeritic, locally diatomite, locally karstic. The formation is severely fractured with dense secondary calcite and Fe-oxide veins.
<b>LA</b>	<b>Alpsporon Phyllite:</b> brown, phyllite (mineral assemblage: calcite + sericite + chlorite + white mica + quartz + plagioclase + tourmaline + epidote, Coleman et al., 2020), often calcareous, with beds of thin bedded, ankeritic, siliceous, marls, quartz lenses and greenstone. Severely fractured formation.
<b>Basal Unit</b>	
<b>UPPER PALEOZOIC - MESOZOIC</b>	
<b>LA</b>	<b>Kessariani Marble:</b> white, calcite marble.
<b>LA</b>	<b>Kessariani Schist:</b> calcite-chlorite-graphite-quartz-white mica + feldspar + chlorite schist (metasedimentary) and epidote-chlorite-graphite-abbie-white mica + feldspar schist (metavolcanic) with white marble intercalations (mineral assemblage by Coleman et al., 2020).
<b>LA</b>	<b>Kessariani Dolomite:</b> diatomite marble.
<b>LA</b>	<b>Lower Marble:</b> calcite marble.
<b>LA</b>	<b>Pinar Marble:</b> medium to dark grey, variably carbonaceous, diatomite marble.
<b>ULTRA-BASIC AND BASIC ROCKS (in all units)</b>	
<b>LA</b>	<b>Serpentine:</b> dark green, frequently severely altered, serpentine, locally with intercalations of crimson mudstone. At Vlyssos and Aio Ilioupoli districts, at the contact with Alpsporon Marble, they alter due to metamorphism to rusty-orange <b>hematite</b> . Ultra basic and basic magmatic rocks are found at the base of Athens Schist, at the contacts of Alpsporon Unit, as well as within Kessariani Schist. Within Athens Schist, <b>hornblende gabbro</b> and <b>diabase</b> are encountered (mineral assemblage: secondary calcite + chlorite + epidote + green hornblende + quartz + magnetite + ilmenite, Marmos et al., 1971).