

of its displacement on the same surface, posing thus a severe danger for the area in general and specifically for the buildings that are built along its trace. The 2005-06 surface ruptures are interpreted as a combination of overpumping, compaction and fault creep. The contribution of each factor is not possible to be calculated, as there are too many uncertainties concerning the deformation model.

**Kalamaria fault:** This fault was exposed during the construction of a multi-stored residence building in Kalamaria, a town located next to Thessaloniki city. This fault is displacing marls and a paleosoil that is located on top of the sedimentary sequence. Morphologically it is manifested as a gentle scarp, observable in roads that cut through the fault along at least 500 m. Paleoseismological analysis showed that the fault has been inactive during Upper Pleistocene – Holocene as there are no indications for recent reactivations. However, the existence of the morphological scarp suggests that it has probably been active during that period, but microstratigraphical evidence for this activity has been destroyed by anthropogenic factors. Even if it is not active, the fault zone exists and it can act as a weakness zone during a distant earthquake or in response to water level fluctuations.

In conclusion, paleoseismological techniques can be of great effectiveness in the study of urban faults, either active or not. Planners should take into account this methodology, because it can greatly enhance the understanding of ground response in abnormal conditions.

## **A proposed methodology for coastal risk management**

Cherif I.<sup>1</sup>, Alexandridis T.K.<sup>1</sup>, Bilas G.<sup>2</sup>, Karapetsas N.<sup>2</sup> and Silleos G.N.<sup>1</sup>

<sup>1</sup>Laboratory of Remote Sensing and GIS, School of Agriculture, Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece, [icherif@yahoo.com](mailto:icherif@yahoo.com), [thalex@agro.auth.gr](mailto:thalex@agro.auth.gr), [silleos@agro.auth.gr](mailto:silleos@agro.auth.gr).

<sup>2</sup>Laboratory of Applied Soil Science, School of Agriculture, Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece, [bilas@agro.auth.gr](mailto:bilas@agro.auth.gr), [karapets@agro.auth.gr](mailto:karapets@agro.auth.gr).

Coastal erosion is a gradual process that alters the distribution of sediments and modifies the geomorphology of the coasts. It may result in the destruction of natural coastal defences (sand dunes, cliffs, etc) and the increase in land instability which may in turn result in flooding of the hinterland and landsliding of coastal areas with steep slopes and unstable materials. The damages induced by such hazards include loss of life, property, infrastructure, and land. The costs of emergency action, remediation and prevention can often represent a significant burden to the communities affected and to national governments. According to predictions, climate change impacts, including sea-level rise and extreme weather patterns, will lead to the increase in the frequency and intensity of such hazards. Risk-based decision-making is seen to provide the means of addressing the challenges put forward by climate change. The complexity and interrelation of the processes acting on coastal locations call for an integrated framework for the assessment of coastal risks and the identification of the appropriate measures for the prevention and reduction of erosion, flood, and landslide risks. In this paper, existing models for the mapping of pressures on coasts and current development practices and tools will be reviewed, before a holistic methodology is proposed in order to assist decision-makers in effective coastal risk management.

## **Paleocene-Eocene migmatites in the Bulgarian Rhodope revisited**

Cherneva Z.

Sofia University “St Kliment Ohridski”, 15 Tzar Osvoboditel Blvd, 1504 Sofia, Bulgaria, [cherneva@gea.uni-sofia.bg](mailto:cherneva@gea.uni-sofia.bg)

Migmatites of proved Paleocene-Eocene age are widespread in several tectonic units of the Rhodope metamorphic complex (RMC). Most of the migmatitic unit precursors consist of orthogneisses. These were predominately felsic rocks of granite to granodiorite and diorite composition of late-Paleozoic (Arda unit) and late-Jurassic protolith ages (Madan, Startsevo, and Chepinska unit). Zones of post-anatectic extension outline the unit boundaries obscuring the melt-in isograd in the RMC. The peak metamorphic conditions correspond to kyanite-