thick-bedded marly turbidites occur below. In the Carpathians other good example of olistoliths derived from basin margin are Bukowiec olistostromes within the Krosno Formation (Oligocene) which contain blocks of shallow water limestones and basement metamorphic rocks. Within the youngest sediments that terminated Western Carpathian flysch succession there are olistoliths derived from accretionary prism that was build up of older, Cretaceous and Paleogene rocks. Good examples are olistostromes within Menilite Formation in Skrzydlna and Klęczany with large olistoliths of Lower Cretaceous flysch deposits derived from a southern margin of the Silesian Basin. Locally, huge olistoplaques, up to hundreds meters in diameter, are also observed within the Krosno Formation (Late Oligocene - Early Miocene) in Gorlice - Jasło area that are represented by the Magura and Fore-Magura successions. The Monte Sacro Succession is terminated by a thick complex of conglomerates. That can be compared with the early Miocene Sloboda Conglomerates from the Borislav-Pokutya Nappe in marginal part of the E Carpathians

On the other hand, the olistoliths and olistostromes within the Cretaceous sediments of the Pieniny Klippen Belt are believed to be of origin related to the tectonic margin along the active ridge migrating during the Late Cretaceous till Early Eocene. The rising "cordillera" produced a huge amount of clastic material, mostly deposited in flysch facies sporadically intercalated with diastrophic slumped bodies.

Some spectacular outcrops of flysch and conglomerate olistostromes are in Orava river bank (N Slovakia), where thick flysch sequence of Turonian – Coniacian age contains bodies of chaotic slump sediments 15-80 m thick.

Nearby, at the Dolný Kubín town another type of olistostrome outcrops: the Late Cretaceous Globotruncana marls (Púchov Formation) are overfilled with clasts of Early to Late Cretaceous marls and marlstones. Both examples document the proximity of source area, and even the erosion of synchronous sediments involved. Such phenomena support the idea that at least part of the klippen in some areas of the Pieniny Klippen Belt is of sedimentary origin, as stated earlier and recently.

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The impact of a uranium mining site on the stream sediments (Crucea mine, Romania)

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XRF methods were used to evaluate the impact of uranium mine dumps on the stream sediments from Crucea region (Romania). In order to estimate the natural and anthropogenic inputs of radioactive and heavy metals in the sediments, normalization to Al was applied. The pollution degree of the bottom sediments show that U, Th and Pb reach medium and punctual high values, while the rest of the elements appears in concentrations close to the background or lower. The measurements carried out in the surroundings of a local uranium mine show that the impact of Crucea mine on water quality downstream of mining area is insignificant.

The Lower Danube Valley. Geological structure and evolution during the Pliocene-Quaternary

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Stratigraphical and geophysical arguments are put forward, whereby that the beginning of sediment deposition by the Lower Danube and by its tributaries date back to the Late

Pliocene (2.6 Ma) and go up to and into the Early Pleistocene. During the interval of 2.5-0.9 My, the Danube kept branching out gradually towards the east of the Dacian Basin. Concomitant, a number of intensely flooded low plains developed within the actual Romanian Plain as part of the Lower Danube Basin. Subsequently, during the Middle Pleistocene-Holocene, the Danube River cut the actual profile of the Valley. As a result, the higher relief of the Romanian Plain led to repeated down-cuttings of the 7 (8) stepped terraces. In the eastern half of the Lower Danube Valley, against the background of a mainly subsiding behaviour of the Platform, the upfinning sequences of the 7 terraces were progressively overlayed by the Aeolian Formation (up to 55 m thick). On the Black Sea continental shelf, within the Danube roughly 150 km long deep sea fan, there have been identified 8 seismic sequences, the first two with mass flow deposits, and the other six with alluvial channel fills. They have been ascribed, in accordance with their order of deposition, the indices S1 to S8. The S1 sequence may be ascribed to the 800–700 ka interval, and the S2 sequence to the 640–530 ka interval. According to Wong et al. (1997), the approximate intervals of deposition of the last six alluvial sequences are: S3 between 480–400 ka, S4 between 400–320 ka, S5 between 320–190 ka, S6 between 190–75 ka, S7 between 75–25 ka and S8 during the last 25 ka.

Using MODIS atmospheric profile data to monitor regional atmospheric instability in Greece: two case studies

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This study aims at investigating the potential of using atmospheric instability indices, derived by the MODIS/AQUA and TERRA atmospheric profiles, in local weather forecasting. The MODIS Level 2 Atmospheric Profile product consists of several parameters, including temperature and moisture profiles for twenty isobaric level and three atmospheric stability indices: the Total Totals (TT), the Lifted Index (LI), and the K index (K). All of these parameters are produced day and night at 5x5 km pixel resolution at cloud free conditions. The good spatial resolution of the MODIS instrument and of the derived parameters gives a good potential for the identification of pre-convective conditions.

Two cases of thermal induced convection over Greece on 17 and 20/6/2010 were examined. The first date is a typical case of an early afternoon thermal convection development over continental Greece supported by an advancing upper-level trough. The second case is characterized by the evolution of large storms during evening over Thessaloniki and north-eastern Greece associated with very high lightning activity. These storms were the result of a short wave upper-trough passage northern of Greece which triggered convection over the warm ground surface.

First, a comparison between the indices derived by MODIS and temporal matched collocated radiosonde data was performed to assess the quality of the derived parameters. From the above analysis it seems that the three satellite derived instability indices are well correlated with those derived from radiosondes.

Then maps with the spatial distribution of the atmospheric instability based on MODIS satellite data were constructed for the morning satellite passes (9:50 and 8:45 UTC, respectively), a few hours before the convection initiation, and were qualitatively compared to Meteosat Second Generation (MSG) satellite imagery and lightning data to investigate the relation between satellite derived air instability indices and storm occurrence. Among the three instability measures, the Lifted Index and K Index performed best in showing the potential of instability in this region several hours before the initiation of cloud formation.

These results show that MODIS remotely sensed data can be quite helpful in the short term storm prediction. More precisely, it is possible to derive air instability indices of satisfactory quality using MODIS satellite data. This allows us to have this kind of information with unprecedented spatial resolution in areas with no available radiosonde data. In addition, these satellite derived data can be used to visually enhance the areas of high likelihood of strong convection and of cloud growth in Greece at summertime.