amphibole and ca. 300°C for biotite after magma crystallization. They represent, therefore, the minimum ages in respect to their crystallization. These ages include: biotite ages of 83, 79 and 79 Ma from the Granitovo granodiorite, Izgrev diorite and Rosen syenite (at Černomorez), respectively; and amphibole ages of ca. 86, 85 and 76 Ma from microgabbro within the Granitovo granodiorite, the Oman-Fakia gabbro (near Danica) and a gabbrodiorite of ENE Samokov. Together, these ages proof the wide range of magmatism between 86 and 76 Ma and a particularly important cooling event in the Srednogorie zone at ca. 80 Ma. In the case of the Izgrev diorite in the eastern Srednogorie zone, cooling at ca. 79 Ma is associated with chalcopyrite mineralization along conjugate shear-extension veins. Their structural assessment proofs NW–SE extension, and this event is in agreement with many similar but poorly dated observations in the eastern Srednogorie zone. This indicates that regional extension was of transtensive type at ca. 80 Ma in respect to the strike of the Srednogorie zone. Inversion of the Srednogorie basin comprises regional N-S shortening and a subsequent stage of NE-SW transpressive motion as abundant sets of conjugate strike-slip faults indicate.

## Monitoring the thermal anomalies around Milos Island with satellite thermal data

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Although remote sensing is recognized as a powerful tool in the collection, analysis and modelling of environmental data, less attention has been given to the use of Thermal Infrared (TIR) remote sensing. Thermal property of a material is representative of upper several centimetres of the surface. As in thermal remote sensing we measure the emitted radiations, it proves to be complementary to other remote sensing data and even unique in helping to identify surface materials and features such as rock types, soil moisture, underwater springs, geothermal anomalies etc. During the last two decades a series of satellite and airborne sensors have been developed to collect TIR data from the earth surface, such as HCMM, Landsat TM/ETM+, AVHRR, MODIS, ASTER, and TIMS. In addition to Land Surface Temperature (LST) measurements, these TIR sensors may also be utilized to obtain emissivity data of different surfaces with varied resolutions and accuracies.

The islands of Nisyros, Yali, Kos, Santorini, Milos, Poros, Aegina and the peninsula of Methana constitute the Hellenic Volcanic Island Arc. This arc seems to be geodynamically very active since it comprises the largest volumes of volcanic materials and is at present a region of high tectonic activity. This activity is very often expressed with earthquakes, gas explosions and hydrothermal eruptions, volcanic eruptions, landslides, etc.

TIR data were used in order to detect undersea hydrothermal activities along the Hellenic Volcanic Island Arc. In this study there is a effort to monitor the thermal anomalies into the sea around Milos Island for the last 25 years using TIR data. More especially thermal data from the LANDSAT-TM the LANDSAT-ETM and ASTER sensors were used. The resolution of the thermal infrared bands ranges between 60 and 120 m. The sensitivity of these sensors is about $0.5^0$C in the region of 10.4-12.5μm (thermal infrared zone) of the Electromagnetic Spectrum. Thus the sensors can contribute to the detection of thermal anomalies (water outflows into the sea environment), which are useful to hydrothermal studies.

All the satellite data were orthorectified. Then using the appropriate algorithms the radiation was converted into Celsius Degrees in order to calculate the surface temperature of the area. Then in order to better distinguish thermal deviations the temperatures have been classified using the density slicing method. The results are presented in this study.