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Thesis Title	*Spatial and temporal analysis of Land Surface Temperature by using MODIS data, for the period 2001-2015, to the major cities of Greece*
Supervisor	C. Cartalis, Associate Professor
Summary	This study presents a methodology to estimate Land Surface Temperature (LST) using satellite images, provided by the Moderate Resolution Imaging Spectoradiometer (MODIS), a parameter that contributes substantially to the assessment of the energy balance and its changes, but also allows the assessment of the state of the thermal environment. The MODIS products combine a satisfactory spatial, temporal, radiometric and spectral resolution and give information for various geophysical parameters. This methodology is applied to the major cities of Greece (Thessaloniki, Patra, Volos and Heraklion), for the period of 2001-2015. Specifically, the MODIS data were checked for their quality and the number of clear sky days-nights were estimated. A limit of minimum observations was set for every month, in order to calculate the monthly mean LST and the long term trends by using linear regression. The data analysis was completed with the map construction of each city's monthly trend. In conclusion, it is observed that for the above period, where there was no change in land cover and land use of these cities, LST's variation is negligible, due to the fact that this parameter is highly dependent on the type of the surface material and its properties.
Key words	Land Surface Temperature, Energy Balance, Land Use, Land Cover, MODIS Data
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