



## **Marine eutrophication assessment in the Aegean Sea, Greece based on MODIS and SeaWiFS satellite data**

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The last decades, marine eutrophication that results in the increase of aquatic primary production has been the main objective of various studies. In particular, the spatial and temporal distribution of eutrophication has been assessed using a variety of methodologies. Remote sensing provides valuable support in this field, since it is a powerful tool for monitoring spatially extended areas and estimating a number of environmental parameters; satellite data from various sensors, such as CZCS, Landsat TM, MODIS, SeaWiFS etc have been processed for the estimation of chlorophyll a concentrations and therefore of marine eutrophication, since chlorophyll a is considered as the representative parameter of this phenomenon. In the present study, an attempt was carried out for studying the temporal and spatial characteristics of marine eutrophication in the Aegean Sea, Greece, based on satellite data. For this purpose, monthly data from the MODIS and SeaWiFS sensors were acquired and analyzed for a two years period (2003 - 2004). As a result, time series of chlorophyll a concentration spatial distributions were developed for each sensor. Further analysis was carried out for (a) assessing the temporal and spatial characteristics of marine eutrophication in the study area based on the data of each sensor and (b) comparing the results of step (a) for the two sensors. This comparison revealed some differences in the estimated level of eutrophication in the Aegean Sea; consequently, further analysis was carried out for the detection of the spatio-temporal characteristics of these differences. In conclusion, the sensitivity of the sensors that could be used for the assessment of marine eutrophication should be carefully considered, since their results are not fully compatible.