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Ecological and Cartographic Study of the Cork OAK of the Forest of Mahouna, North-Eastern of Algeria

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Abstract : The forest of Mahouna is a part of the mountain range of the Tell Atlas in the northeast of Algeria. It is characterized by a significant biodiversity. The management of this resource requires thorough the understanding of the current state of the vegetation (inventories), degradation factors and ongoing monitoring of the various long-term ecological changes. Digital mapping is a very effective way to in-depth knowledge of natural resources. The realization of a vegetation map based on satellite images, aerial photographs and the use of geographic information system (GIS), shows large values results of the vegetation of the massif in the scientific view point (the development of a database of the different formations that exist on the site, ecological conditions) and economic (GIS facilitate our task of managing the various resources and diversity of the forest). The methodology is divided into three stages: the first involves an analysis of climate data (1988 to 2013); the second is to conduct field surveys (soil and phytoecological) during the months of June and July 2013 (10 readings), the third is based on the development of different themes and synthetic cards by software of GIS (ENVI 4.6 and 10 ARCMAP). The results show: cork oak covers an area of 1147 ha. Depending on the environmental conditions, it rests on sandstone and individualizes between 3 layers of vegetation from thermo-mediterranean (the North East part with 40ha), meso-Mediterranean (1061 ha) and finally the supra-Mediterranean (46ha). The map shows the current actual state of the cork oak forest massif of Mahouna, it is an older forest (>150 years) where regeneration is absent because of several factors (fires, overgrazing, leaching, erosion, etc.). The cork oak is in the form of dense forest with Laburnum and heather as the dominant species. It may also present in open forest dominated by scrub species: Daphne gniduim, Erica arborea, Calycotome spinosa, Phillyrea angustifolia, Lavandula stoechas, Cistus salvifolius.

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