UAV technologies applied for monitoring the land use in the municipality of São Brás de Alportel, Portugal

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This study aims to develop a methodology to streamline the process of data acquisition on land cover in the municipality of S. Brás de Alportel, Portugal. The collected information allows the updating of the Forestry Fire Defense Municipal Plan (PMDFCI). This plan identifies the most vulnerable areas and priorities of action, concerning the prevention. Regarding the update of the PMDFCI, the study area was characterized in 2013. As this information is dynamic, it should be updated periodically, which is challenging, given the lack of human resources and the available technology. On the other hand, the obtained data detail and accuracy are directly related to the qualification of the operator and the complexity of the study area. However, data updating is crucial for the operationally of the PMDFCI.

Currently, the data update of the land's occupation and use in this municipality is primarily made through field work, followed by their update in the cartography at the office, supported by the Algarve Forest Planning Regional Plan (PROF Algarve).

The use of aerial images obtained from an Unmanned Aerial Vehicle (UAV) in the Northwest area of S. Brás de Alportel and its classification with a supervised methodology, will allow the discrimination of the land cover classes in a more expeditious manner. This result when compared with the information collected through field work, will allow to verify the precision of the obtained information, aiming the use of the proposed methodology in the rest of the country.