

LAND USE AND COVERAGE IN THE RIO ALEGRE BASIN, ALEGRE, ES

USO E COBERTURA DA TERRA DA BACIA HIDROGRÁFICA DO RIO ALEGRE, ALEGRE, ES

Beatriz Rodrigues Nicácio¹; Viviane Moitim Pereira¹; Daiane Rangel Angelete¹; Jéferson Luiz Ferrari*¹

¹Instituto Federal de Ciência e Tecnologia do Espírito Santo, Campus de Alegre, Alegre, ES, Brazil.

*Corresponding author: ferrarijuliz@gmail.com

Abstract

The mapping of land use and cover makes it possible to quantify the forms of occupation and geographic organization, information of great relevance for the sustainable management of natural resources. In this work, we mapped the use and land cover of the Rio Alegre watershed, located in the municipality of Alegre, southern Espírito Santo state, Brazil. The work was carried out with the aid of a Geographic Information System computer program (QGIS), taking as cartographic basis the orthophotos of the region, with spatial resolution of 25 cm, referring to the period 2012-2015; and the Ottobacias Level 6 ES and Municipalities ES vector files. The technique used in the mapping was on-screen photointerpretation, with scale of 1:2,000. We found that the watershed has an area of 20,521 hectares and that its landscape is represented by 14 different land use and land cover classes: Urban afforestation; Isolated trees; Coffee plantations; Rural structures; Urban structures; Eucalyptus plantations; Unpaved roads; Paved roads; Forest fragments; Water reservoirs; Rocky material; Pasture; Watercourses; and Exposed soil. Pasture is the predominant class (78.15%). The Coffee plantation class is in second place (7.57%), followed by Isolated trees (2.98%). The Forest fragment class represents only 2.18% of the basin area, a very low value, which reveals a worrying situation from an environmental point of view. The basin has a high degree of forest fragmentation and forest restoration actions are urgently needed.

Keywords

Geoprocessing, territorial planning, forest fragmentation.

Acknowledgments

To the Foundation for Support to Research and Innovation of Espírito Santo.