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Assessment of land cover and use in the Riacho do Ipiranga sub-basin, Presidente Tancredo Neves-BA

Evaluación de cobertura y uso del suelo en la subcuenca del Riacho do Ipiranga, Presidente Tancredo Neves-BA

Avaliação da cobertura e uso da terra da sub-bacia do Riacho do Ipiranga, Presidente Tancredo Neves-BA

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Abstract

The aim of this paper is to evaluate the land cover and land use of sub-drainage basin of Ipiranga stream located at rural area of Presidente Tancredo Neves municipality located on eastern region of Bahia State. The map that supports the analysis was created from color composites of RapidEye satellite imagery with spatial resolution of 5 m, obtained in 2011. It was used automatic segmentation and visual classification techniques. The results showed that 52.64% of the mapped area are anthropized. The forest and shrub vegetation cover 38.33% while the outcrop covers only 0.49%. The non-classified areas represent 8.53%. The activities developed in the sub-drainage basin have been causing environmental impacts due to irregular land use, necessitating intervention.
Keywords: remote sensing, image processing, hydrographic.

Resumen

El objetivo de este trabajo es evaluar la cobertura y uso del suelo de la cuenca subdrenaje del arroyo Ipiranga ubicada en zona rural del municipio Presidente Tancredo Neves ubicado en la región oriental del estado de Bahía. El mapa que sustenta el análisis fue creado a partir de composiciones en color de imágenes satelitales RapidEye con resolución espacial de 5 m, obtenidas en 2011. Se utilizaron técnicas de segmentación automática y clasificación visual. Los resultados mostraron que el 52,64% del área cartografiada se encuentra antropizada. La vegetación forestal y arbustiva cubre el 38,33% mientras que el afloramiento cubre sólo el 0,49%. Las zonas no clasificadas representan el 8,53%. Las actividades desarrolladas en la cuenca subdrenaje vienen generando impactos ambientales por el uso irregular del suelo, siendo necesaria su intervención.

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Palabras clave: teledetección, procesamiento de imágenes, hidrografía.

Resumo

O objetivo deste artigo é avaliar a cobertura e o uso da terra na Sub-bacia hidrográfica do Riacho do Ipiranga, localizada na zona rural do município de Presidente Tancredo Neves, localizado na região leste do Estado da Bahia. O mapa que embasa a análise foi criado a partir de composições coloridas de imagens do satélite RapidEye com resolução espacial de 5 m, obtidas em 2011. Foram utilizadas técnicas de segmentação automática e classificação visual. Os resultados mostraram que 52,64% da área mapeada são terras antropizadas. A vegetação florestal e arbustiva cobre 38,33% enquanto o afloramento cobre apenas 0,49%. As áreas não classificadas representam 8,53%. As atividades desenvolvidas na bacia de subdrenagem vêm causando impactos ambientais devido ao uso irregular do solo, necessitando de intervenção.

Palavras-chave: sensoriamento remoto, processamento de imagens, bacia hidrográfica.

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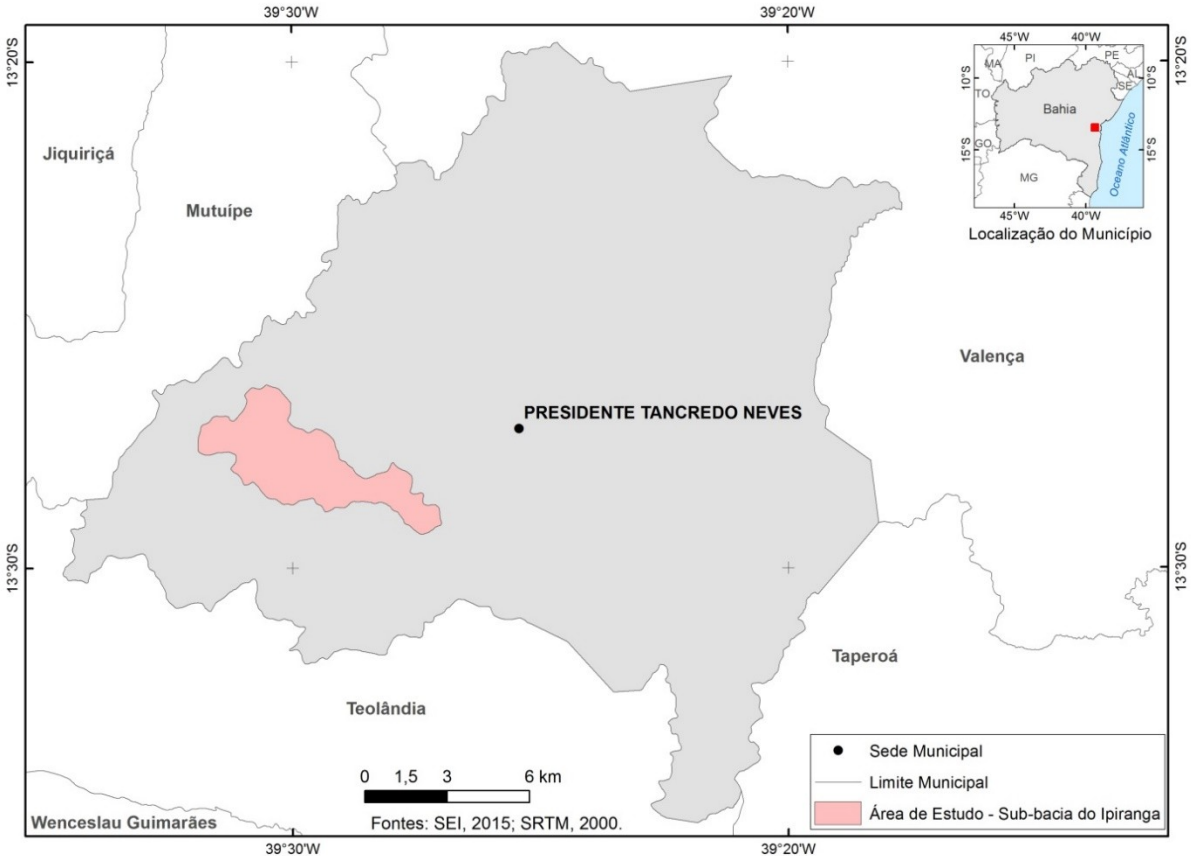

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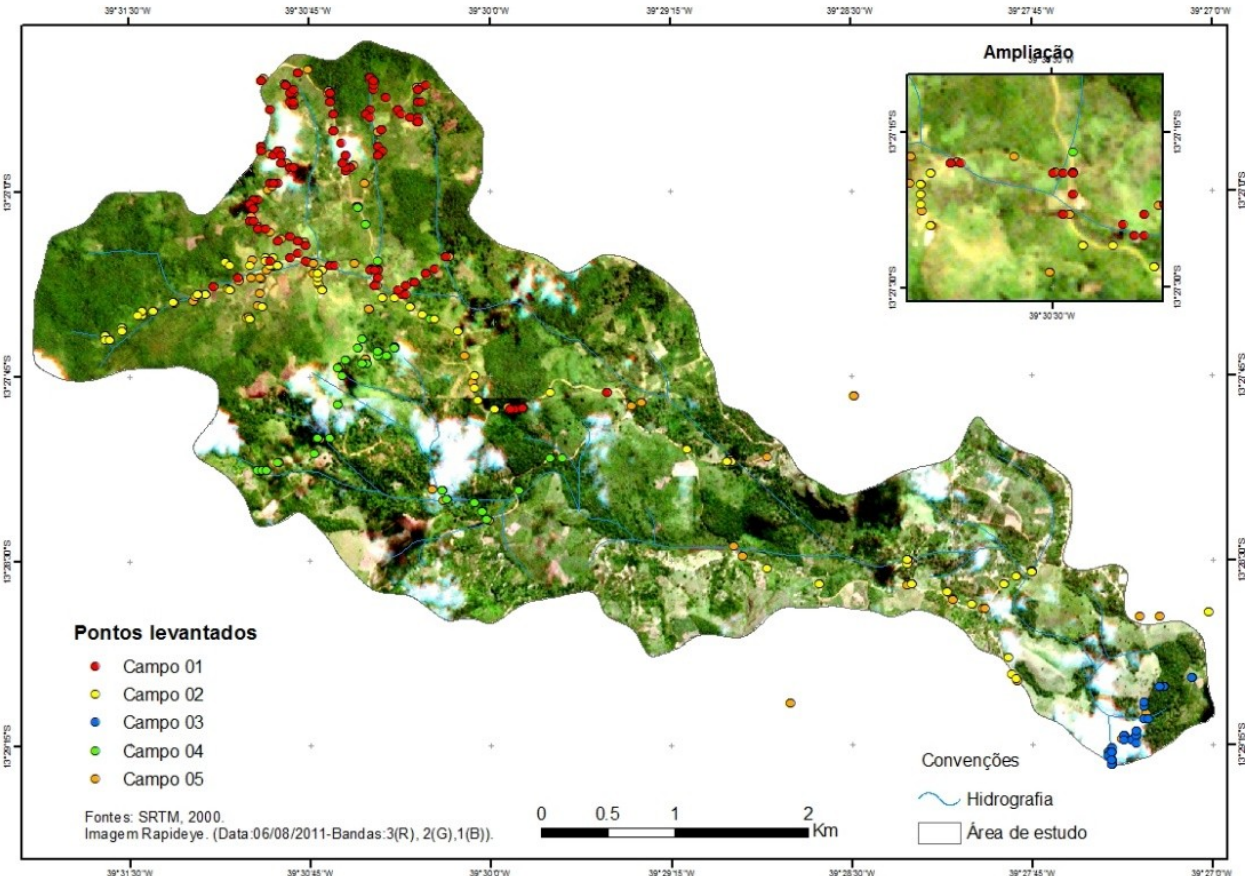

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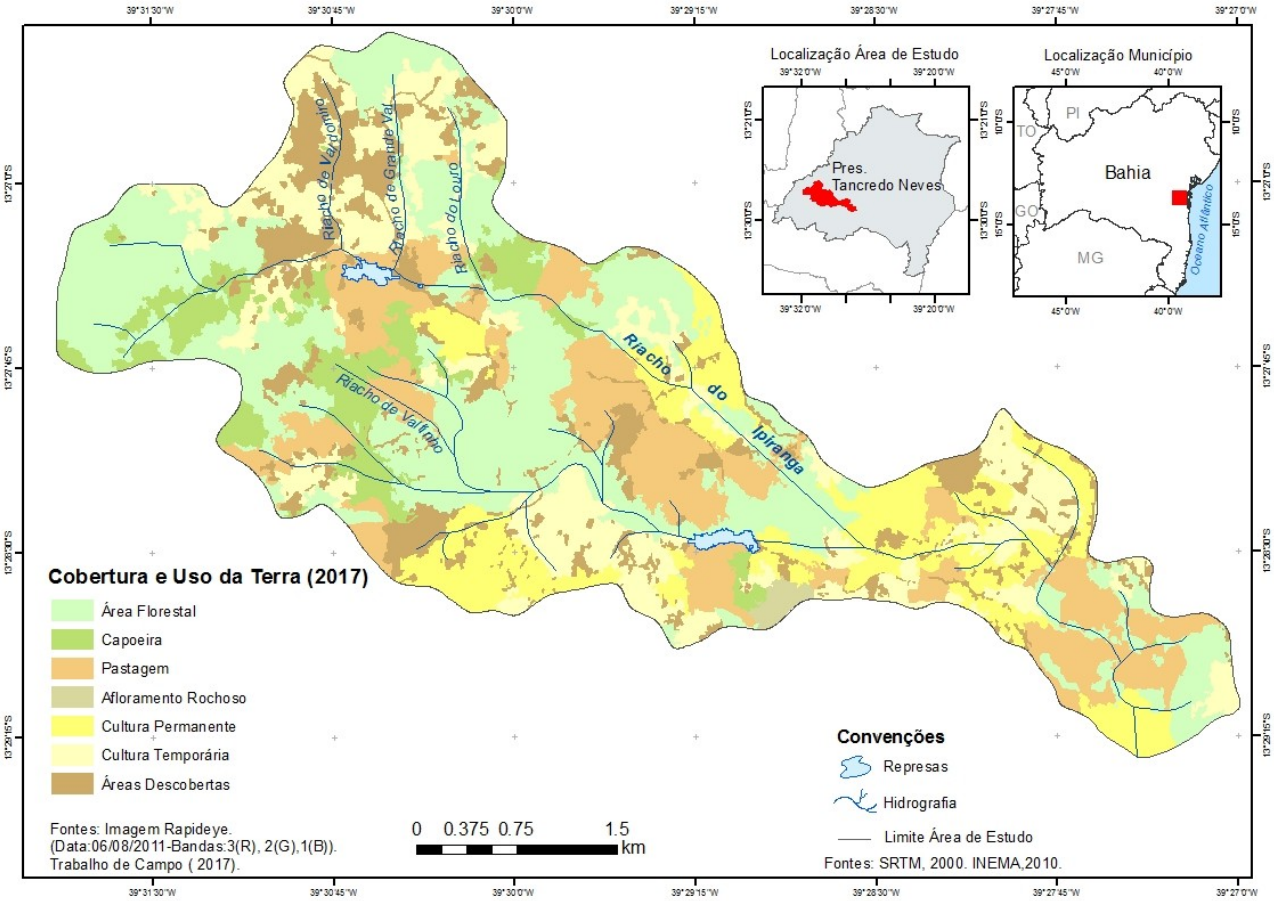

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