Abstract Title:  
Thematic mapping of soil erosion risks at electricity towers surroundings

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Death, Conservation and Erosion: a Variety of Geographic Topics

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Abstract:  
This project aimed at assessing soil erosion risks at electricity towers surroundings. In a sandy soil region, this problem often affects areas which Eletrosul Power Company is legally responsible for; the transmission line corridor in the State of Mato Grosso do Sul - Brazil. Using High Resolution Space Images, Digital Terrain Models and Geographic Information System software, it was possible to develop the proposed methodology. First of all erosive features were vectored through satellite images and then crossed with the aspect data – 3D model. The result of this process allowed analyzing which direction the retreating erosion headed. The next step consisted of aligning the erosion features and the central spots of electricity transmission towers obtained "in loco" through GPS. By doing so and using Geographic Information System software, it was automatically possible to assess the towers that are aligned with the retreating erosion. Other patterns were also considered to confirm the hypothesis, such as distance from tower, type of soil, slope, land use, flow accumulation, etc. Field works, GPS surveillance, soil maps and soil laboratory analyses validated the outcome of the project.

Keywords:  
erosive features, Power Company, thematic maps