Geophysical Research Abstracts,
Vol. 11, EGU2009-11504, 2009
EGU General Assembly 2009

Detecting areas disturbed by mining activities through Landsat images, San Luis Potosi City, Mexico

M.-A. Torres-Vera
APEC, D.F. Mexico (marcoantonio.torresvera@gmail.com)

Mining history in San Luis Potosí (Mexico) goes back to more than four centuries, and the accumulation of mining waste poses an important problem to ecological risk prevention. Epithermal deposits are the most common in this region and the impact of mining exploitation must be evaluated to propose sustainable development of the natural resources, which have a strong contribution of the national economy. The state San Luis Potosi is situated in the central part of Mexico between parallels 21°11' and 24°34' of north latitude and 98°23' and 102°14' of west longitude, 424 km northeast from Mexico City. Today is a sprawling city with more than half a million residents. The aim of this study was to analyse land cover and vegetation changes between 1972 and 2000 in San Luis Potosi Valley, using satellite image data. Since large changes in land cover and vegetation are taking place in the Valley and there is a lack of good data, such as maps, statistics and aerial photographs, it was appropriate to use satellite data for assessment of land cover and vegetation to estimate the environmental impact of the mining industry. Field data samples were used to evaluate the change results obtained with the multispectral satellite images. The results show that land cover change in the San Luis Potosi Valley has occurred in the past decade as a result of both natural forces and human activities, which have in turn impacted on the regional sustainable development of the mining resources.