Geophysical Research Abstracts, Vol. 8, 09208, 2006
SRef-ID: 1607-7962/gra/EGU06-A-09208

Remote sensing based inventorization of afforestation and natural vegetation areas on the desiccated Aral Sea bottom in Uzbekistan

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The desiccation of the Aral Sea is one of the most severe man-made ecological disasters. With increasing aridity of the climate and the presence of natural aerosol sources, air pollution is considered to advance in this region. As a potential countermeasure to reduce the erosion of dust and salts, different afforestation measures were tested. This study describes a remote sensing based approach for the detailed inventory and characterization of the afforestations and the natural vegetation sites in a test area southeast of the Aral Sea. Visual interpretation of very high resolution satellite images (SPOT-5 2,5m, acquired in July 2005) is used to identify the geographic location, spatial extent and pattern and planting success of the vegetation sites. Semiautomatic image processing methods for the detection of natural and self-propagated shrub vegetation are being evaluated. The results of this study will be used as an important information base for investigating the impact of the afforestation measures on reducing wind erosion.