Geophysical Research Abstracts
Vol. 13, EGU2011-14150-1, 2011
EGU General Assembly 2011


# The Thornes vegetation-erosion competition model (VEC) revisited: Linking land condition assessment to land use impact

Juan Puigdefabregas, Jaime Martínez Valderrama, Maria E. Sanjuan, and Gabriel del Barrio
Estacion Experimental de Zonas Aridas (CSIC), Spain

Empirical RUE (rainfall use efficiency) based land condition assessment methods have been recently developed in the DeSurvey project, together with VEC-based system dynamics models to find steady state points in human / resource systems threatened by environmental and economical disturbances. In spite that both approaches were developed independently from each other, their convergence conveys a critical element to face one of the main challenges of land degradation research, linking assessment to forecasting in the frame of land use systems dynamics. This contribution attempts at learning about the feasibility of this approach by making the two research lines to test independently two working hypotheses. i) that there is a threshold in degradation trends beyond which transitions are irreversible, and ii) that land condition is associated with the number of options in terms of potential land uses it can support. Combining the outcomes of both approaches, one more empirical and ecological, the other more land use modelling and socioeconomics oriented, provides insight on the afore-mentioned convergence, a more integral view of the problem, and a chance of cross checking results. Two examples are the distinction between ecological and socio-economic thresholds or the mechanics by which land degradation diminishes land use options.