

**Geosimulation and environmental planning on metropolitan spatial decision making. Implementation to intermediate scales (SIMURBAN2).**

Urbanization is still a key element when referring to changes in different environments stabilities. In fact, changes to the of land use due to the urban growth have great importance in the global change. For that reason, sustainable planning of the cities and regions is a strategic element of sustainable progress of society.

The project we present forms part of a project of coordinated research, the title of which is "Instruments of geo-simulation and environmental planning in the regional arrangement of metropolitan confines. Application of intermediate scales." The aim is that this project will take shape as a continuation of the project SIMURBAN (Analysis and exploratory simulation through Geographical Information Technologies of current urban growth. Evaluation of its sustainability), financed by the Spanish Ministry of Education and Science (Ref: SEJ2007-66608-C04-00), that was developed, also in a coordinated way, with the participation of two groups integrated into the current project, during 2008-2011.

The SIMURBAN project was directed at the preparation of an integrated methodology, related to crucial aspects of urban growth. The phases of this methodology included various procedures for the analysis of growth experienced by metropolitan spaces, and the generation and simulation of different scenarios of future urban development, starting from models based on different techniques, such as cellular automata (AC) and multi-criterion evaluation (EMC). Finally, the process was completed by the development of a procedure which allowed the realization of a diagnosis of sustainability and environmental costs of the effects of current urban development and that simulated for the future.

The aim of the new project we propose is to go into more depth than the work previously developed, with the object of carrying out a more practical task in the field of territorial planning, at an exceptionally difficult time of accentuated economic crisis, that limits the disposable resources and worsens the possibilities of designing a coherent environmental and territorial policy. The project encompasses four fundamental phases: analysis of new cartographic databases and subregional study cases selection, prospective simulation of scenarios, validation of results, and environmental assessment of generated scenarios.