

Geosciences and Environmental Land-Use Decision Making Process in Developing Countries: Perspectives Towards the XXI Century in Colombia and Latin America.

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At the end of this century, Colombia is involved in an important land-use and environmental planning process. The New Political Constitution (1991) and several environmental laws propose the basis for this and the Central Government is preparing the Structural Land-Use Planning Law. Moreover, the agenda for peace negotiation between parts in conflict includes the items of land-use planning and natural resource management as a very important topics. In that sense, geosciences, and specifically environmental geology, have to adapt its classical techniques and tools for resolving specific social and economical needs implicit in those processes.

From that, geopotential analysis is proposed as a tool to improve environmental valuation and communication of geoscientific knowledge. Social and economical criteria obtained from analysis of stakeholders expectations are used to get four dimensions on environmental valuation : development value, strategic value, patrimonial value and sensibility value. Geopotential indicators are relevant to determine those values. GIS permits to optimize the management of geopotential indicators and information.

Geopotential assessment leads to take into account geoscientific information in prospective evaluation. Spatial scenario analysis, following different prospective techniques, may be obtained based on geopotential and land carrying capacity maps.

Different phases of this new methodology, which has shown their pertinence in environmental decisions in Colombia, are presented here as well as some perspectives for systematic production of geopotential maps at a regional scale.

Finally, the application of that tools are analysed for other countries of Latin America.