

In an article on "Artificial Intelligence and Natural Resource Management" in *Science* (Vol. 237, 262-267), R.N. Coulson, L.J. Folse, and D.K. Loh explore the use of three new procedures in providing a new look at classic problems in systems analysis. Of particular significance, they find, are (1) integrated expert systems, which link management models with natural resource models; (2) intelligent geographic information systems (GISs), which permit interpretation of relations within and among landscape data themes, and (3) artificial intelligence (AI) modeling of animal behavior and interaction with the environment.

Landscape ecology, the study of structure, function, and change in heterogeneous land areas composed of interacting ecosystems, deals – they explain – with the level of ecological organization that service agencies such as the Park Service are charged to manage. It has arisen from the need to understand four things: (1) development and dynamics of pattern in ecological phenomena, (2) the role of disturbance in ecosystems, (3)

characteristic spatial and temporal scales of ecological events, and (4) interactions among multiple ecosystems (landscape elements).

The article describes in some detail the ways conventional GIS can be dramatically enhanced by incorporation of AI in its design.

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