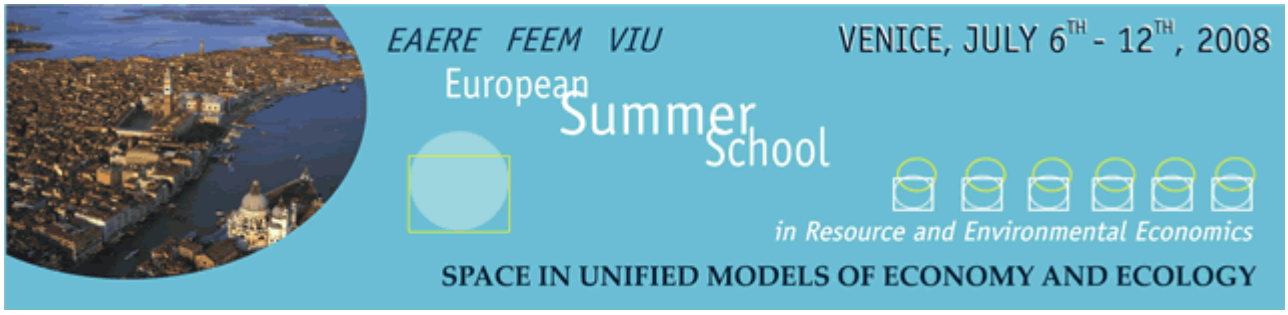

Lecture's Outlines – Prof. Carlo GIUPPONI

LECTURE 1 AND LECTURE 2:
SPATIAL ANALYSIS FOR INTEGRATED NATURAL RESOURCES MANAGEMENT AND DECISION MAKING

The lecture will focus on the following topics:

1. Management of natural resource in socio-ecosystems
2. Spatial analysis of natural vs. human variables
3. Integration of ecologic and socio-economic variables: the case of environmental assessment of agricultural systems
4. Various approaches for supporting policy/decision making: cartographic models; spatial dynamic models; spatial decision support systems
5. Assessing the past or the present, vs. projecting into the future: scenario analysis in the climate change context

Background reading:

Burigana E., Giupponi C., Bendoricchio G. 2003. Nitrogen surplus as indicator of agricultural pollution impact in the Venice Lagoon Watershed. In: Bruen M. (ed.):Diffuse Pollution and RIver Basin Management. Proceedings of the 7 th IWA International Conference, Dublin, 171-176.

Fassio A., Giupponi C., Hiederer R., Simota C. 2005. A Decision Support tool for simulating the effects of alternative policies affecting water resources: an application at the European scale. Journal of hydrology, 304:462-476.

Giupponi C., Mysiak J., Fassio A., Cogan V. 2002. Towards a spatial decision support system for water resource management: MULINO-DSS 1st release. In: Ruiz M., Gould M., J. Ramon (eds.):AGILE 2002 Conference on Geographic Information Science, Palma del Mallorca (E), 397-405.

Giupponi C., Ramanzin M., Sturaro E., Fuser S. 2006. Land use change, biodiversity and agricultural policy in the Belluno province, Italy. Environmental Science and Policy, 9:163-173.

Giupponi C., Vladimirova I. 2006. Ag-PIE: A GIS-based screening model for assessing agricultural pressures and impacts on water quality on a European scale. Science of the Total Environment, 359:57– 75.

Salvetti R., Acutis M., Azzellino A., Carpani M., Giupponi C., Parati P., Vale M., Vismara R. 2008. Modelling the point and non-point nitrogen loads to the Venice Lagoon (Italy): the application of water quality models to the Dese-Zero basin. Desalination, 226:81–88.