Geovisualization
Visualization importance in human cognition. Information visualization, data visualization, scientific visualization, geovisualization. Processes of human vision, visual space. Spatial vision, language, memory and learning. Spatial cognition, orientation, wayfinding and navigation. Reference frames for spatial orientation. The development of the category of space and representation. External and internal spaces, cognitive and mental maps. Spatialization, abstract and virtual spaces. Representational tools and cognitive evolution. The development of geovisualization methods. Data model and representational model. Graphic semiotics: data relations and visual variables. Multimodal representation. Multimedia, virtual reality. Time: animation, visualization of spatio-temporal processes. Geovisualization and user interactivity. The effectiveness of visualization: research methods. Cognitive geovisualization research experiments, visualization of research data.
Literature: MacEachren, A.M. – Kraak, M.J.: Exploratory cartographic visualization: advancing the agenda. In: Computers & Geosciences, 23 (4), 1997. Colin Ware: Information Visualization: Perception for Design. Interactive Technologies. Wiley, New York, 2011. Griffin, A.L., Fabrikant, S. I. (2012). More Maps, More Users, More Devices Means More Cartographic Challenges, Cartographic Journal, Vol. 49, No. 4: 298-301.
Suggested literature: Edward Tufte. Envisioning information. Plenum Press, Boston, 2001. Jacques Bertin: Semiology of Graphics. Univ. Of Chicago Press, Chicago, 1985.