

THE REAPPRAISAL OF CARTOGRAPHY AS A MEANS OF COMMUNICATION CONCERNING ENVIRONMENTAL PROBLEMS

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The study is carried out in the survey area of the Matanza-Riachuelo Basin in the Buenos Aires Metropolitan Region, Argentine Republic. The poster will be made by linking the concepts examined with the survey area.

One of the greatest challenges today is achieving sustainable growth. Managing sustainability involves the whole of human and biological activities upon geographic space at several time levels. The occurrence of environmental problems and conflicts is the result of different human activities upon nature and of the complexity of the management system involved, where forces of production and public administrations operate at their various levels. Environmental problems are a concern for the population, since they affect the quality of life and in many cases even endanger life itself. It is therefore necessary and mandatory to enforce the rights relating to environmental information access, which are established in the Argentine laws in force and hence enable civic engagement. Environmental problems directly concern the territory, so they are associated with it and may be tackled through spatial analysis and tracking.

Geographical information tools, including contour and thematic mapping, photogrammetry and remote sensing, the geographical information and global positioning systems, are essential both for environmental assessment, involving planning and follow-up of courses of action, and for the development of an Environmental Information System.

The qualities of geographical information are associated in absolute space with location, which in turn derives from data georeferencing. As to relative space, the key qualities are clarity, legibility and accuracy. Topographic cartography, that is, baseline charts, thematic mapping largely represented by environmental units, and graphic semiology, properly applied to geographical information systems, all contribute to improving such map qualities. Maps are made taking into account the fundamental aim of conveying geographical information, and the processes of data collection, symbolization, scale selection and projection are all directed toward that end. Obviously, maps are not merely passive, static representations of morphological landscapes, but rather a way of conceiving, articulating and structuring the human world. They are certainly value-packed, contributing to dialog in a socially constructed world. All the aspects involved in map making are quite complex and the design of their graphical representation is equally important, as a part of the cartographic language establishing a relationship with the user.

Maps are in all their forms a means of communication for territorial information, and graphical communication principles apply to their construction: typography, color and drawing are essential, clarity and legibility being the key graphic design components. Communication models have benefited from technological tools, but their nature remains unaltered and can be properly summarized in a relationship between cartographer and user interacting through a common language encoding and decoding system, represented by symbols and signs for conveying spatial information.

Users should be able to decode the map and construct the geographic space depicted on the basis of their own experience or their previously acquired knowledge. In addition, they should be able to analyze and understand the dynamics of geographical phenomena, as well as to come as close as possible to the geographic space represented. Knowledge is built upon the user's decoding of the map. The modeling process is based on the construction of a system of symbols and signs which enables to graphically translate geographical phenomena.

Over the last few years, Geographic Visualization has contributed to the transmission of information by exploring the analytical and communicative potential existing in visual interpretation. Visual processes give rise to intuitive feedback on the most relevant characteristics of the information which, by being associated with cartography, help to highlight and facilitate explanation, analysis, synthesis and representation of geospatial information.

Thus, it is necessary and highly beneficial to consider applying geotechnologies to environmental studies, not only from a technical perspective but also for redefining and reappraising their implications as means of communication concerning environmental problems from their simplest forms, such as printed maps, to the development of complex web applications, so that they may contribute to creating a public environmental information system which proves accessible and understandable by the average person while encouraging civic engagement.