The Relevance of Cartography

Georg Gartner
International Cartographic Association, President
Institute of Geoinformation and Cartography, Vienna University of Technology, Erzherzog Johann Platz 1, 1040 Wien, Austria
georg.gartner@tuwien.ac.at

Abstract: Today maps can be created and used by any individual stocked with just modest computing skills from virtually any location on Earth and for almost any purpose. In this new mapmaking paradigm users are often present at the location of interest and produce maps that address needs that arise instantaneously. Cartographic data may be digitally and wirelessly delivered in finalized form to the device in the hands of the user or he may derive the requested visualization from downloaded data in situ. Rapid advances in technologies have enabled this revolution in map making by the millions. One such prominent advance includes the possibility to derive maps very quickly immediately after the data has been acquired by accessing and disseminating maps through the internet. Real-time data handling and visualization are other significant developments as well location-based services, mobile cartography augmented reality.

While the above advances have enabled significant progress on the design and implementation of new ways of map production over the past decade, many cartographic principles remain unchanged; the most important one being that maps are an abstraction of reality. Visualization of selected information means that some features present in reality are depicted more prominently then others while many features might not even be depicted at all. Abstracting reality makes a map powerful, as it helps to understand and interpret very complex situations very efficiently.

Cartography is essential in many aspects of human societies. Take for instance disaster management as an example, where cartography plays a crucial role in all stages of the disaster management cycle. In the recovery phase quick production of imagery of the affected area is required using depictions which allow the emergency teams to understand the situation on ground from a glance at the maps. Important on-going developments supporting the rescue work in the recovery phase are map derivation technologies, crowd sourcing and neo-cartography techniques and location-based services. The role of cartography in the protection phase of the disaster management cycle has always been crucial. In this phase risk maps are produced which enable governors, decision makers, experts and the general public alike to understand the kind and levels of risk present in the near and distant surroundings. Modern cartography enables the general public to participate in the modelling and visualizing of the risks their neighbourhood may suffer from on a voluntary basis. Modern cartography also helps to quickly disseminate crucial information.

In this sense cartography is most relevant. Without maps we would be “spatially blind”. Knowledge about spatial relations and location of objects are most important for handling disasters and crisis situations or simply to be able to make good decisions. Cartography is also most contemporary, as new and innovative technologies have an important impact into what Cartographers are doing. Maps can be derived automatically from geodata acquisition methods such as laser scanning, remote sensing or sensor-networks. Smart models of geodata can be build allowing in-depth analysis of structures and patterns. A whole range of presentation forms are available nowadays, from maps on mobile phones all the way to geoinformation presented as Augmented Reality presentations.

Keywords: cartography, maps, geoinformation