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Geographic Information Systems on Accident Risk Assessment and Management

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Abstract

The paper discusses the use of modern information technologies, and in particular geographic information systems (GIS), in the management and control of major accident risk. For this purpose, the regulatory framework of the recent “Seveso II” Directive is briefly described. The referencing in space of the phenomena may be defined in terms of a geometrically exact or a relative location. The former uses local or world coordinate systems defined using a standard system of spheroids, projections, and coordinates which give an approximation of the form of the earth (a spheroid) onto a flat surface. The coordinate system may be purely local, measured in tens of meters, or it may be a national grid or an internationally accepted projection that uses geometrical coordinates of latitude and longitude. This paper places the concept of transportation GIS in the broader perspective of research in GIS and Geographic Information Science. The emphasis is placed on the requirements specific of the transportation domain of application of this emerging information technology as well as on core research challenges.

Keywords: Geographic Information Systems, Road Accident, Safety.

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