
GLOBALIZATION AND WATER MANAGEMENT: THE CHANGING VALUE OF WATER

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NARROWING THE DIGITAL DIVIDE: CREATING OPPORTUNITIES FOR WATER RESOURCE MANAGEMENT IN THE INFORMATION AGE

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ABSTRACT: Enviroinformatics and hydroinformatics are rapidly developing scientific fields that deal with the storage, retrieval, access, and dissemination of water resource information, data, and knowledge for problem solving, impact assessment, and decision-making. The rapid emergence of these new fields are due in large part to rapid advances in computing and communications technology; to an increasing awareness of citizens' right to know about the environmental condition of their communities, to the new vision of providing timely, relevant, and accurate environmental and public health information; and to the growing need citizens have for reliable data, information, and knowledge about the earth's system to make informed day-to-day decisions. This paper examines the emerging role of the Internet and the World Wide Web (or simply the Web) in environmental management and decision-making. Specifically, the paper examines issues related to access and dissemination of timely, real-time, or time-relevant water resource information. It reviews the technical challenges and institutional barriers associated with the dissemination of environmental monitoring data and information through the Internet and the technical capabilities that the application demands of supporting network infrastructure. It also identifies those key capabilities that need to be deployed, enabling environmental informatics to take further advantage of the Internet. From the many discussions and examples of websites, the author concludes that (a) the growth in Internet access and dissemination of environmental monitoring data and informational resources and (b) improvements in performances resulting from the new knowledge will make the Internet the focus of many new developments in environmental management and decision-making. Increasingly, the Internet and the Web will be used to share and disseminate more real-time or near real-time environmental data and information.

KEY TERMS: Information, Internet, Digital Earth, Water Resources, World Wide Web

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