

GEOGRAPHIC INFORMATION SYSTEMS

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GIS can mean many things, but underlying all of its applications is the ability to handle and analyze geographic information in a computer. Over the past ten years there has been a strong and sustained boom in interest in GIS, and the industry that provides GIS software is now estimated to be valued at several hundred million dollars annually. But much of this activity occurs well outside the domain of geographic research, in organizations such as local governments and utility companies, and is limited to conceptually straightforward information management and simple queries.

Research interest in GIS goes back well before the current boom, and there were active and highly creative groups working at Harvard University and in the UK's Experimental Cartography Unit as early as the late 1960s. In those early days, research was largely concerned with the technology itself — how could a digital computer be made to handle geographic data? Unique data structures and algorithms were needed, and much work had to go into developing the necessary input and output devices. As these problems have been solved, GIS research has moved into a new phase that is potentially much more exciting for academic geography, as it has come to focus more and more on the issues raised by the technology rather than on the technology itself. Accuracy of geographical data has become a major problem, as GIS analysts submit map information to purposes for which it was never intended by cartographers, and geographers

such as Nick Chrisman at the University of Washington and Peter Burrough at the University of Utrecht have begun to work closely with spatial statisticians. GIS forces its users to be explicit about how they view and represent the world, and so remotivates a host of old issues of spatial cognition. David Mark at SUNY Buffalo sees an intimate connection between spatial cognition and the design of GIS-user interfaces, which must allow people to reason about space in intuitively meaningful ways. Processes of generalization which are so much part of the cartographer's art must be codified and programmed in GIS, and Barbara Battenfield at SUNY Buffalo and Bob McMaster at the University of Minnesota are two of the many people currently working in this area.

Two mass-circulation periodicals — *GIS World* and *Geo Info Systems* — now provide regular sources of information on GIS developments. Despite a slow start, several new texts now provide good sources of reading. Star and Estes' *Introduction to GIS* (Prentice-Hall, 1990) is a good starter volume, and Peuquet and Marble's *Introductory Readings in GIS* (Taylor and Francis, 1991) is an excellent collection of important papers. More specialized are Zubrow, Allen and Green's *Interpreting Space: GIS in Archaeology and Anthropology* (Taylor and Francis, 1990); Huxhold's forthcoming text on urban applications from Oxford; and Tomlin's *GIS and Cartographic Modeling* (Prentice-Hall, 1990).

ANNOUNCEMENTS

September 18-21, 1991 Geotechnica 91. KölnMesse (Cologne Fair), Messeplatz 1, Congress Centrum West, D-5000 Köln 21, Germany. Theme "The Preservation of the Earth as a Challenge to Science and Technology." Contact KölnMesse, Messe- und Ausstellungs-Ges.m.b.H. Köln, Messeplatz 1, D-5000 Köln 21, Germany. Telephone: 221/821 22 47.

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November 23-26, 1991 National Council for Geographic Education Annual Meeting. Radisson Hotel, St. Paul, Minnesota. Theme "This Land Is Our Land." Contact: Dr. David Lanegran, Department of Geography, Macalester College, St. Paul, MN 55105. Telephone: 612-696-6291.

FOCUS FEATURES

Features in the FALL 1990 FOCUS...

- Tecolutla: Mexico's By-passed "Acapulco East"*, by Klaus J. Meyer-Arendt
- Two-Wheeling the West, Reliving the 1960s*, by Roderic A. Camp and Roger O. Camp
- Hollandale: The Evolution of a Dutch Farming Community*, by Janel M. Curry-Roper and Carol Veldman Rudie
- Geographer's Journal: South Africa - Seeing for One's Self Part III*, by Bret Wallach

... and features in the WINTER 1990 FOCUS

- Place-Bound Enterprise*, by Robert J. French
- The Peoples and Landscapes of Brooklyn, New York*, by Barney Warf
- Two-Wheeling the West, Reliving the 1960s Part II*, by Roderic A. Camp and Roger O. Camp
- The Role of the National Capital Spirit in Canberra's Development*, by Paul Tranter
- Geographer's Journal: China, Temples of Heaven Part I*, by Bret Wallach