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GEOGRAPHIC INFORMATION SYSTEMS

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N85-21754/5/XAB

Building a Functional, Integrated GIS (Geographic Information System)
Remote Sensing Resource Analysis and Planning System

Ridd, M. K. ; Wheeler, D. J.

Utah Univ., Salt Lake City.

Sponsor: National Aeronautics and Space Administration, Washington, DC.

Report No.: NAS 1.26:175527; E85-10092; NASA-CR-175527

1985 2p

Sponsored by NASA. ErtS.

NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8514; STAR2312

N88-12421/9/XAB

Advanced Techniques for the Storage and Use of Very Large, Heterogeneous
Spatial Databases. The Representation of Geographic Knowledge: Toward a
Universal Framework. Interim Progress Report 2, April 2-June 30, 1987

Peuquet, D. J.

Pennsylvania State Univ., University Park.

Sponsor: National Aeronautics and Space Administration, Washington, DC.

Report No.: NAS 1.26:181517; NASA-CR-181517

15 Dec 87 66p

NTIS Prices: PC A04/MF A01 Journal Announcement: GRAI8806; STAR2603

PB88-119425/XAB

Environmental Protection Agency's Direct/Delayed Response Project: The
Role of a Geographic Information System

(Symposium paper)

Campbell, W. G.; Bishop, G. D.; Church, M. R.; Lee, J. J.; Lammers,
D. A.

Corvallis Environmental Research Lab., OR.

Sponsor: Northrop Services, Inc., Corvallis, OR.; Pacific Northwest
Forest and Range Experiment Station, Corvallis, OR. Forestry Sciences Lab.

Report No.: EPA/600/D-87/310

Sep 87 17p

NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8805

PB87-229415/XAB

Fiscal Year 1986 Program Report: Michigan Institute of Water Research
Michigan State Univ., East Lansing. Inst. of Water Research.

Sponsor: Geological Survey, Reston, VA. Water Resources Div.

Report No.: USGS/G-1232-01

31 Mar 87 34p

See also report for FY 1985, PB87-159422. Sponsored by Geological
Survey, Reston, VA. Water Resources Div.

NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8724

PB87-217212/XAB

Spatial Distribution and Analysis of Groundwater Nitrate Contamination in
Kalamazoo County, Michigan

(Technical completion rept.)

Kittleson, K. M. ; Kruska, R. L.

Michigan State Univ., East Lansing. Center for Remote Sensing.

Sponsor: Michigan State Univ., East Lansing. Inst. of Water Research.;

Geological Survey, Reston, VA. Water Resources Div.

Report No.: USGS/G-1232-04

Mar 87 32p

NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8722

N87-25874/5/XAB

Advanced Techniques for the Storage and Use of Very Large, Heterogeneous Spatial Databases. Progress Report July 1, 1986-April 1, 1987

Peuquet, D. J.

Pennsylvania State Univ., University Park. Dept. of Geography.

Sponsor: National Aeronautics and Space Administration, Washington, DC.

Report No.: NAS 1.181053; NASA-CR-181053

Apr 87 31p

NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8721; STAR2519

PB87-145827/XAB

Environmental Methods Testing Site Project: Project Management Plan (Final rept.)

Fitzsimmons, C. K.

Nevada Univ., Las Vegas.

Report No.: EPA/600/4-86/047

Jan 87 69p

Environmental Monitoring Systems Lab., Las Vegas, NV.

A GIS for Northern Ireland: system compatibility is the ultimate goal. (Geographical Information System)

Brand, Michael J.

Computer Graphics World VOL.: v10 ISSUE: n8 PAGINATION: p51(3)

PUBLICATION DATE: Aug, 1987

SPECIAL FEATURES: illustration; photograph; map

The 14,000 square Kilometers of Northern Ireland territory are now recorded on a topographic database to be expanded into an integrated GIS, holding data for housing, population and the related service network. A liaison committee unites public services with all major organizations in the public sector, such as land registry, water and sewer, roads, electricity and forestry. The database was developed in a VAX environment consisting of a clustered pair of 8200s and 750s. Each 8200 has 16M internal memory. The software used is from DEC and SysSCAN. The Ordnance Survey of Northern Ireland (OSNI) also established a Remote Sensing Processing Center to receive data from satellites and aircraft. The map archive is to be completed within 5 or 6 years.

CAPTIONS: (OSNI map-output at 1:1250 ratio via a Kongsberg GT5000 precision plotter)

Firm's map leads to treasures. (PAMAP Geographic Information Systems) (company profile)

Johnstone, Bill

Computing Canada VOL.: v13 ISSUE: n21 PAGINATION: p45(2)

PUBLICATION DATE: Oct 15, 1987

ARTICLE TYPE: company profile

PAMAP Graphics Ltd markets the PAMAP Geographic Information System, which integrates to maps and remote image data with user databases. The PAMAP system includes: workstations, platforms from microcomputer to superminicomputer; puck and graphics tablet; and image processing software. PAMAP officials said the Victoria-based company has grown to 25 employees and has projected revenues of \$1.5 million. The company has expanded its marketing organization to include two agents in Canada, one in Dallas,

Texas, and has signed a marketing and development agreement with Intergraph Systems Ltd of Calgary. PAMAP plans to port software into Inergraph equipment and Intergraph will sell the integrated system.

Depts. cooperate in city's geographic mapping effort. (Tacoma, WA, develops a geographic information system) (Spotlight on Graphics)

Government Computer News VOL.: v6 ISSUE: n18 PAGINATION: p78(2)

PUBLICATION DATE: Sept 11, 1987

The city of Tacoma, WA, developed a comprehensive computer-generated geographic information system (GIS) that generates multi-layered maps and tables. The GIS database holds a description of all of the 80,000 land and street parcels in the city. The program is available for use by every city department. A crime analysis mapping system uses the program to generate maps showing the cites of crime incidents with near real-time speed. Daily crime information is overlaid onto city maps to analyze locations of crimes and pinpoint areas of high crime concentration. The design and use of the GIS database by several city departments is described.

Mapping out a plan of action. (City of Long Beach uses VAX-based automated mapping and facilities management in daily operations)

Eastman, J. Ronald

Digital Review VOL.: v4 ISSUE: n15 PAGINATION: p46(4)

PUBLICATION DATE: Aug 3, 1987

SPECIAL FEATURES: illustration; photograph; map; chart

Long Beach, CA's Jul 1983 installation of a spatial data base system (also known as a geographic information system, an automated mapping - facilities management system, or a mapping information management system) is described, and the system's features and capabilities are explained. The Long Beach system was designed and installed by Syneroom Technology Inc (Sugarland, TX) and uses a DEC VAX-11-750 computer, an RA60 removable disk drive with 205Mbytes of space, an RA81 fixed disk drive with 456Mbytes of space, a TU78 tape backup subsystem, an LA120 console, three VT100 terminals, a Versatec plotter (to perform the hardcopy mapping), and six custom-designed graphics workstations. The system runs on the VMS operating system. Its primary software is Informap (consisting of Infomapper, Infomanager, and Infoquest) used to produce city maps depicting public services and service needs.

Mapmaker automates using GIS technology: a two-tiered relational database tempts Thomas Bros. to go electronic. (geographic information systems)

Sherline, Phee

Computer Graphics World VOL.: v9 ISSUE: n10 PAGINATION: p30(4)

PUBLICATION DATE: Oct, 1986

SPECIAL FEATURES: illustration; photograph; table

Thomas Bros. has been producing maps for over 70 years, but the company is now beginning to employ geographic information systems (GIS) technology for map production. The company acquired a Prime 9955 superminicomputer, two Tektronix 4125 color graphics workstations, two CalComp digitizing tablets, a CalComp 8-pen plotter for testing the system, and Environmental Systems Research Institute's (ESRI) ARC-INFO software package, which consists of the ARC graphics mapping component and INFO, a relational database management system. Implementing the GIS system requires decisions on how the database is to be structured, where information is to be acquired and how it is to be entered. Expected benefits include faster and improved quality in production, easier updating, easier production of

custom maps, new map information-based products, and standardization of Thomas' map products.

GIS growing pains: data incompatibilities must be overcome before mapping realizes its promise. (geographic information systems)

Faintich, Marshall

Computer Graphics World VOL.: v9 ISSUE: n10 PAGINATION: p28(2)

PUBLICATION DATE: Oct, 1986

Computer-based geographic information systems (GIS) offer great potential for such processes as urban planning, land management, and commercial demographics; but there are major problems in integrating a variety of data types and the secondary integration of geographic databases. Geographic data types include imagery data, such as surface and satellite photography, line plots, including maps and charts, point observations such as census data, and descriptive information. There are a number of geographic databases, but most are oriented to one application; and the integration of diverse databases into one system will require substantial research and work. In the last five years, though, there has been a substantial increase in federal support for GIS systems, and a variety of private organizations and annual conferences are supporting the development of integrated GIS programs and standards.

Mapping Information Management Systems.

Drinnan, C.H.

Synercom Technology, Sugar Land, TX

DEC Professional Vol.4, No.6, June 1985, P. 16-20,22-24+. 9 Pages.

COUNTRY OF PUBLICATION: U.S.A. LANGUAGE: English

ISSN: 0744-9216

DOCUMENT TYPE: Journal ARTICLE TYPE: Technology; Applications

Mapping Information Management Systems (MIMS) are broad systems for mapping and geographical data management applications for the mapping and cartographic profession. By pointing to an area the system will retrieve and display data from across the boundaries of four maps. MIMS includes cadastral, thematic, and topographic mapping, resource information management, and digital terrain models. MIMS requires the production of quality cartographic maps from the data base. Computer automation has proven its effectiveness for facilities modeling. A Geographic Information

System (GIS) uses topographic structures to determine the spatial properties of the nearby area. Cadastral Mapping Systems, often called Land Records Information Systems (IRIS), combine detailed maps and attribute information. Photographs of digitized maps, sample engineering maps, secondary annotation, length attributes, thematic maps, and a district atlas are included along with sample screen displays.

Video digitizing on a microcomputer-based GIS.

in: Theodolite to satellite. Technical papers 51st annual ASP meeting, Washington, DC, 1985. Vol. 2, (American Society of Photogrammetry, Falls Church, VA)

MAGGIO, R. C.; DEMPSEY, W.

Dept. of Forest Science, Texas A&M Univ., College Station, TX 77843, USA. 1985. pp 709-716 4 figs, table, appendix.

Linking water quality databases with a geographic information system to

evaluate trends in groundwater nitrate contamination in Michigan

Kittleson, Kyle M.; Kruska, Russell L.

Mich. State Univ., Cent Remote Sensing, East Lansing, MI, USA; State Univ. N.Y. at Syracuse, Coll. Environ. Sci. and For., USA

Proceedings of the Symposium on monitoring, modeling and mediating water quality

Nix, Stephan J.; Black, Peter E.

Syracuse Univ., Dep. Civ. Eng., Syracuse, NY, USA

Symposium on monitoring, modeling and mediating water quality, Syracuse, NY, United States, 1987

American Water Resources Association Technical Publication Series TPS 87-2, 1987 429-444p.

San Mateo County Geographic Information Systems (GIS) project

Brabb, Earl E.

U. S. Geol. Surv., Menlo Park, CA, USA

Earthquakes and Volcanoes 18: 6, 1986 227-228p.

Ground water protection planning using the ERDAS geographic information system; automation of DRASTIC and time-related capture zones

Whittemore, D. O.; Merchant, J. W.; Whistler, J.; McElwee, C. D.; Woods, J. J.

Kans. Geol. Surv., Lawrence, KS, USA; Univ. Kans., USA

Proceedings of the NWWA FOCUS conference on Midwestern ground water issues

Renz, M. E. (coordinator); Graves, B. J. (coordinator); Butcher, K. (coordinator)

Natl. Water Well Assoc., Dublin, OH, USA

NWWA FOCUS conference on Midwestern ground water issues, Indianapolis, IN, United States, Apr. 21-23, 1987

Publ: Natl. Water Well Assoc.

1987 359-374p.

An automated geographic information system for ground water contamination investigation

Broten, M. D.; Fenstermaker, L. K.; Shafer, J. M.

Environ. Syst. Res. Inst., Redlands, CA, USA; Lockheed Eng. and Manage. Serv. Co., USA; Ill. State Water Surv., USA

Proceedings of the Solving ground water problems with models conference and exposition in two volumes

Anonymous

Solving ground water problems with models, Denver, CO, United States, Feb. 10-12, 1987

Publ: Natl. Water Well Assoc.

1987 1143-1161p.

Integration of Geographic Information System (GIS) functions using ARC/INFO in Suwannee River Water Management District; the land ownership database example

Cameron, J.

Suwannee River Water Manage. Dist., USA

Monitor wells and computer applications to water resources, proceedings; Southeastern ground water symposium

Frazer, J. M., Jr. (EDITOR)

St. Johns River Water Manage. Dist., Palatka, FL, USA

Southeastern ground water symposium; Monitor wells and computer applications to water resources, Orlando, FL, United States, Oct. 30-31, 1986

Publ: Fla. Water Well Assoc.
1986 201p.

Automated Geographic Information Systems: New Tools for Water Resources Information Management

Prisloe, M., Jr.; Scull, J.
Conn. Geol. and Nat. Hist. Surv., USA
Proceedings of the Third annual Eastern regional ground water conference
Aller, L. (chairperson); Butcher, K. (chairperson)
Natl. Water Well Assoc., Dublin, OH, USA
The Third annual Eastern regional ground water conference, Springfield, MA, United States, July 28-30, 1986
Publ: Natl. Water Well Assoc.
1986 158-168p.

Use of a ground water geographic information system (GIS) and an application of kriging, to investigate deep recharge zones on Long Island, New York

Kaplan, E.; Meinhold, A.; Oden, N.; Hauptmann, M.
Brookhaven Natl. Lab., Upton, NY, USA
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Aller, L. (chairperson); Butcher, K. (chairperson)
Natl. Water Well Assoc., Dublin, OH, USA
The Third annual Eastern regional ground water conference, Springfield, MA, United States, July 28-30, 1986
Publ: Natl. Water Well Assoc.
1986 181-200p.

Use of ARC/INFO in the Development and Implementation of a Ground Water Protection Program for the state of Rhode Island

Forkey, B. A.; Gold, M. D. B.
RI Dept. of Env. Management, Div. of Water Resources, Providence, RI
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Aller, L. (chairperson); Butcher, K. (chairperson)
Natl. Water Well Assoc., Dublin, OH, USA
The Third annual Eastern regional ground water conference, Springfield, MA, United States, July 28-30, 1986, Publ: Natl. Water Well Assoc.
1986 139-157p.

Spatial data processing for ground water modeling using a geographic information system

Baglio, J. V., Jr.; Meade, D. B.
TGS Technol., Sioux Falls, SD, USA; Conn. Geol. and Nat. Hist. Surv., USA
Proceedings of the Third annual Eastern regional ground water conference
Aller, L. (chairperson); Butcher, K. (chairperson)
Natl. Water Well Assoc., Dublin, OH, USA
The Third annual Eastern regional ground water conference, Springfield, MA, United States, July 28-30, 1986, Publ: Natl. Water Well Assoc.
1986 169-180p.

Earth slumps and flows in the Circleville and Onego quadrangles, West Virginia; use of a geographic information system for analysis

Cron, E. D.

U. S. Geol. Surv., Reston, VA, USA

The Geological Society of America, Northeastern Section, 22nd annual meeting, Pittsburgh, PA, United States, Mar. 4-7, 1987

Abstracts with Programs - Geological Society of America 19: 1, 1987 9p.

The use of GIS and surface water modeling in simulating the effects of riparian zone enhancement on discharge

Nebert, D.

U. S. Geol. Surv., USA

Report of the Third interuniversity water workshop; estimating and measuring impacts of non-structural methods for increasing basin water yield

Third interuniversity water workshop; estimating and measuring impacts of non-structural methods for increasing basin water yield, Portland, OR, United States, May 9, 1986

Publ: Oreg. State Univ., Water Resour. Res. Inst.

1986 37-41p.

Geographic Information System (GIS) application; qualitative analysis of the impact of land-based disposal facilities on groundwater resources

Mehnert, E.; Keefer, D. A.; Dixon, W. G.; Hensel, B. R.

Ill. State Geol. Surv., Champaign, IL, USA

31st annual Midwest ground water conference

Anonymous

31st annual Midwest ground water conference, Little Rock, AR, United States, Oct. 27-29, 1986

Publ: Midwest Ground Water Conference

1986 unpaginatedp.

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MUSIK, I; POMEROY, SJ

In: National Hydrology Symposium, University of Hull, 14-16 8p 1987

Using a geographic information system for forest land mapping and management

MARTIN, FC

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What is a geographic information system

Remote Sensing Can (Ottawa) 8/2 P12 1981

What is a geographic information system

EARSel News (Paris) 15 P50 1981