

FUTURE TOPO MAPPING

After the receipt of the last 7.5-minute topographic quad for complete state coverage, the Wisconsin Topographic Mapping Committee, chaired by "Buzz" Ostrom, State Geologist, met on August 21, 1985 to plan for future state topographic mapping on a cooperative basis with the U. S. Geological Survey.

Long-range plans are still being formulated, but for the next two years the following are the state Mapping Committee's plans:

- a. increased revision and up-dating of the current 7.5-minute coverage,
- b. completion by January 1, 1986 of the 1:100,000-scale, planimetric coverage in 1 degree by 30 minute format, and
- c. during the next two-year period obtain complete county format coverage of topographic maps at 1:100,000-scale with conventional (foot) contour interval.

The U. S. Geological Survey has provided the following schedule for the first 30 county format maps for release to printing:

September 1, 1985 Chippewa

October 1, 1985 Dunn Pepin Polk

Eau Claire Pierce Wood

November 1, 1985 La Crosse St. Croix

December 1, 1985 Rusk

January 1, 1986 Clark Lincoln

February 1, 1986 Dane Juneau

April 1, 1986 Bayfield Washington Langlade Oneida

Fond du Lac Walworth

Waukesha

Douglas

(continued)

WISCONSIN MAPPING, continued

May 1, 1986 Ashland Forest

Brown

July 1, 1986 Door Milwaukee Racine

Kenosha Ozaukee

NOTE: Printing in 5 colors will add up to 90 days to the above dates.

The State Geologist, "Buzz" Ostrom and the State Cartographer, Art Ziegler will attend the 14-state Regional Mapping Workshop being hosted by the Mid-Continent Mapping Center of the USGS at Rolla, Missouri on November 14 and 15, 1985. Future plans and programs of the National Mapping Division will be discussed. A full report of this workshop will appear in the January <u>Bulletin</u>.

At press time, a final date for the commemorization of the completion of large-scale topographic mapping had not been set with the Governor and officials of the Department of Interior. It is expected early in 1986 and a special mail notification will be issued.

NATIONAL RESEARCH COUNCIL

On September 5, 1985 Art Ziegler met with the Committee on Geodesy of the National Research Council in Reston, Virginia to review the U. S. Geological Survey's proposed application of the North American Datum 1983 (NAD 83) to their topographic mapping products. At the day-long meeting, members heard presentations from federal government administrators and discussed the pros and cons of various techniques of applying NAD 83 to map products.

A final report of recommendations is being drafted by the Committee on Geodesy for the U. S. Geological Survey. Upon completion and acceptance by the Survey, copies of the recommendations will be available from the State Cartographer.

REGIONAL CARTOGRAPHIC CONFERENCES

The State Cartographer presented a cartographic briefing to the counties, regional planning offices and state agency district offices in the West Central region on May 15, 1985. The conference was held at the Eau Claire County courthouse in Eau Claire. A total of 21 representatives of various governments and universities attended. On September 26, 1985, a Northwest conference was held at the Sawver County courthouse in Hayward at which 19 representatives were present. With the Southwest conference held February 1985 in Richland Center and the Northeast conference held in October 1984 in Antigo, approximately three-quarters of the state has had access to local cartographic conferences.

To complete the state, three additional conferences are planned starting in early spring 1986. There will be an East Central conference, a Central counties conference, and a Southeast conference. In late summer, a wrap-ur conference in Madison will be held.

One of the side effects of these conferences has been requests by a wide variety of organizations for specialized cartographic briefings. For example, a real property description mapping briefing was given in March 1985 to St. Croix County officials; a map accuracy briefing was given to the Mapping Department of Wisconsin Bell Telephone in Milwaukee in April 1985; and in August, a specialized cartographic briefing was presented to the Earth Science faculty at UW-La Crosse. Organizations who feel they may benefit from similar cartographic presentations should contact the State Cartographer:

Art Ziegler

Wisconsin State Cartographer 160 Science Hall UW-Madison, WI 53706-1404 608/262-6852



STATUS OF LARGE-SCALE TOPOGRAPHIC MAPPING IN KENOSHA COUNTY: JUNE 1985



KENOSHA AND WAUKESHA MAPPING

Kenosha County and Waukesha County began large-scale topographic mapping and control survey programs in 1980 and 1981 respectively. The programs were continued in 1981, 1982, 1983, and 1984, with additional areas scheduled to be mapped in 1985. These programs, like Racine's, are designed to prepare 1 inch equals 200 feet scale, 2-foot contour interval, topographic maps. The maps are to be prepared photogrammetrically to National Map Accuracy standards and are to be based upon a Southeastern Wisconsin Regional Planning Commissionrecommended monumented control survey network, which relates the U.S Public Land Survey system to the State Plane Coordinate System.

The 1985 Kenosha County mapping program will complete large-scale topographic maps and control surveys for a total area of 238 square miles, or about 86 percent of the total area of the County. It will recover, monument, and place a total of 1,089 U.S. Public Land Survey section and quarter-section corners on the State Plane Coordinate System, or about 90 percent of such corners in the County. The present status of largescale topographic mapping in Kenosha County is shown on the map above.

Kenosha County provided the basic funding, with supplemental funding from the Wisconsin Department of Natural Resources under the State Floodplain and Shoreland Mapping Program, and from the National Oceanic and Atmospheric Administration under the federal Coastal Management Program.

The 1985 Waukesha County mapping program, together with similar programs completed by certain municipalities within the County, will result in the completion of large-scale topographic maps for a total area of 265 square miles, or about 46 percent of the total area of the County. It will result in the recovery, monumentation, and placement on the State Plane Coordinate System of a total of 1,396 U.S. Public Land Survey section and quarter-section corners, or about 55 percent of such corners in the County. The present status of large-scale topographic mapping in Waukesha County is shown on the following map.

Basic funding for the mapping and control survey programs has been provided by Waukesha County, with supplemental funding from the Wisconsin Department of Natural Resources under the State Floodplain and Shoreland Mapping Program, and from the Cities of Pewaukee and Waukesha and the Villages of Dousman and Sussex.

SEWRPC is assisting both County Boards in the conduct of the work by providing necessary contract documents and specifications, as well as the necessary

STATUS OF LARGE-SCALE TOPOGRAPHIC MAPPING IN WAUKESHA COUNTY: JUNE 1985



KENOSHA AND WAUKESHA, continued

field inspection of the completed control survey monumentation; quality control of the topographic mapping and the land and control survey work; and assistance in obtaining available state and federal grants. The SEWRPC staff is also assisting the Counties by delineating floodplain and shoreland boundary lines on the completed topographic maps.

Both Waukesha and Kenosha County officials hope to prepare large-scale topographic maps for the remaining unmapped areas of their Counties over the next few years. The large-scale topographic maps will be extremely helpful in aspects of county and local planning and zoning and county and local public works engineering, as well as in the private land development process. They represent an important and farsighted capital investment on the part of both Counties. Importantly, the maps and survey control provide a foundation for the eventual creation of modern automated land record systems. In 1976, Racine County became the first county in the SEWRPC region to complete such a mapping and control survey program.

source: <u>SEWRPC Newsletter</u>, May-June 1985

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WPSC INFORMATION SYSTEM

Bruce D. Baikie*

The operation of facilities and the usage, storage, and maintenance of their records has been an excellent application of current computer technology. This technology, however, has not grown equally in all areas. The results are that many organizations installed stand-alone computer systems to handle specialized areas such as accounting, mapping, and engineering design. The multi-system approach creates many dilemmas because in most cases, the systems can not interface with each other. This leads to waste of expensive computer time and capabilities, staffing to maintain fuplicate records in several systems, eeping personnel updated and trained on several systems and not being compatible with upcoming technology.

In 1981, Wisconsin Public Service Corporation (WPSC) identified this problem in the early stages. They saw the need for a single functional computer-based facilities information system and committed 24 full-time people to develop it. Today, the completed system addresses all real property of the Corporation including electric transmission and distribution facilities, gas transmission and distribution facilities, land, buildings, office furniture, and electric generation.

Throughout the development, one major objective was held; to support all requirements with one data base, while being at a level of detail to facilitate all engineering, operations, accounting functions, and <u>mapping</u> relating to 'acilities. Flexibility was also a very important parameter of that objective because of changing business needs, growth, regulation, and computer technology. This also allows other organizations such as water and sewer municipalities, campus facilities, government agencies, cable TV, and land based organizations to benefit from its application.

The WPSC facilities system operates on an IBM computer and is accessible by all authorized terminals, regardless of their prime designed use. Graphics access is through special workstations operating on the IBM "GPG" graphic software. Direct links have been formed between the facilities system and other corporate data systems such as the customer information system. This link allows such applications as applying customer usage in graphic circuit design analysis and graphic marketing surveys.

Over 50 applications representing all areas of the corporation were analyzed in developing the data base. Close to 200 other applications have been identified and work is underway to complete them by year end 1986. The majority of applications have a generic structure so utilization is not just limited to the electric and gas utility industry. One such application is the gas network flow analysis which is easily adapted to water, sewer or any flowing medium. With this application, it would allow, for example, a water municipality to graphically add a proposed industrial customer and projected water needs within a water main system, process, and then view if it can handle the added load; and if not, where reinforcements are needed.

*Editor's Note: Bruce Baikie is the Facilities Systems Marketing Supervisor at WPS Development, Inc. For more information, contact Bruce at WPS Development, Inc., P.O. Box 19001, Green Bay, WI 54307-9001, phone 414/433-1706.



At the August 13th ceremony at the Capitol: Arthur Sacks, Director of IES; Bernard Niemann, Jr., Prof. Landscape Architecture; James Clapp, WLRC Chair; Gov. Anthony Earl. Photo courtesy of IES <u>Newsletter</u>.

LAND RECORDS COMMITTEE

By executive order on August 13th, Governor Anthony Earl created the Wisconsin Land Records Committee. Earl appointed Prof. James Clapp to chair this state committee composed of 31 representatives from state and local government, from the private sector and utilities, and from the University. In addition to the WLRC there are 12 subcommittees, each with a specific mission regarding land records collection and management. The WLRC is examining the immediate needs of state and local agencies and will develop recommendations on how Wisconsin should approach the long-term issues of land records modernization.

Prof. Clapp is the Director of the UW-Madison Institute of Environmental Studies (IES), Center for Land Information Studies. He can be reached for more information at 1046 WARF Bldg., Madison, WI 53706, phone 608/263-6843.

NHAP ENLARGEMENTS

As detailed in the April <u>Bulletin</u>, National High-Altitude Program (NHAP) photography can be furnished at an enlargement scale that will produce approximately 1:24,000-scale prints in both black-and-white and color infrared. The appropriate selection of imagery will allow approximate coincidence with the USGS standard 7.5-minute quadrangle. Order forms are available from the State Cartographer's Office.

You can now order NHAP prints with enlargements other than 3.33X for blackand-white -- as long as the resultant image will fit on the 40-inch paper (image normally 31 inches square) for the same price as the standard product. This means you can supply the enlargement factor to EROS Data Center (EDC) for a particular NHAP image and it will be treated as a standard product, and the cost will be the same.

The same is true of color infrared NHAP prints. Here, the nominal enlargement factor is 2.42X, with the image being produced on 30-inch color paper (normally 22 inches square). But you can supply a different enlargement factor to EDC, and as long as it will fit on the 30-inch color paper, it will be treated as a standard product.

For specific detailed information call EDC 605/594-6151.

source: NCIC Rocky Mt. Newsletter

NEW MAPS AND PRODUCTS



A black-and-white portion of the "Lake Michigan Bathymetric Chart" showing Washington Island, Door County.

_AKE MICHIGAN BATHY CHART

A 4-color, bathymetric chart of Lake Michigan is now available. Published by Ratko J. Ristić, of the UW-Milwaukee Center for Great Lakes Studies, and Jovanka Ristić, of the UW-Milwaukee Library AGS Collection, its scale is 1:800,000 with 30-foot contour intervals. Five shades of blue are used to show depth gradients. Other map information includes the Lake's morphometric parameters, water levels, currents, and a feet/meters conversion chart. The 24" x 34" chart is shipped rolled and is suitable for framing. To order, send \$5.00 plus \$1.50 postage and handling to Ratko J. Ristić, 3558 North Murray Ave., Shorewood, WI 53211. (see sample above)

MSA MAP

A page-size map showing the new Census Metropolitan Statistical Areas (MSA's) for Wisconsin is available free from the State Cartographer's Office. The reverse gives an explanation of the names and definitions used by the Bureau of the Census.

PHOTOREVISED 7-1/2' QUADS

Name	Date	Contour
City Pt. NE	'70,PR85	10-foot
Esofea	'83,PR85	20-foot
Hatfield	'70,PR85	10-foot
Hatfield NE	'70,PR85	10-foot
Hatfield SE	'70,PR85	10-foot
Hatfield SW	'70,PR85	10-foot
Spaulding	'70,PR85	5-foot
Viroqua	'83, PR85	20-foot
Westby	'83, PR85	20-foot

Available from Map Sales, Wisconsin Geological Survey, 3817 Mineral Point Road, Madison, WI 53705, phone 608/263-7389. Cost \$2.50 plus tax, shipping and handling.

1:100,000 - SCALE QUADS

The U.S.G.S. has produced 10 new intermediate scale, planimetric (no contours) quadrangles over Wisconsin. They are:

Dubuque North, Eau Claire, Hastings, La Crosse, Madison, Manitowoc, Richland Center, Sparta, Stillwater, and Washington Island. Each measures 22" x 24" and is sold pre-folded for \$4.00 plus tax, shipping and handling. Order from Map Sales, Wisconsin Geological Survey, 3817 Mineral Point Road, Madison, WI 53705, phone 608/263-7389.

CENSUS MAPS

The Bureau of the Census is selling page-size county maps showing districts for the 99th Congress. A paper copy costs \$3.50; a negative \$6.85.

Block Index Maps are also available for determining the extent of block numbering in an SMSA or a State. There is one 8" x 14" map sheet for each area, generally an SMSA. One sheet costs \$3.50; a negative \$6.85.

For information on these map products, contact the Data Preparation Division, Geography Branch, Bureau of the Census, Jeffersonville, IN 47132, phone 812/288-3213.

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ROAD RALLY U.S.A.

<u>Road Rally U.S.A.</u> is an educational computer game designed to broaden children's knowledge of geography and history in an entertaining road rally format with three difficulty levels. A creation of Bantam Electronic Publishing Company, the game's software is used on an IBM-PC with color graphics adapter, or the PCjr. It sells for \$39.95.

source: <u>Creative Computing</u>, October 1985

GEOGRAPHY BY COMPUTER

Rand McNally offers several software packages that introduce students at various grade levels to topics in geography:

1. Unlocking the Map Code (grades 4-6) includes six exercises; "Land and Water Forms", "Interpreting Color and Map Symbols", "Direction", "Location", "Scale", and "Time". The set costs \$111.00 and may be used with Apple II (#190-14872-1) or Atari 800 (#191-14872-5) computers.

2. <u>Time and Seasons</u> (grades 7-9) uses seven units, including "Meridians", "Longitude Lines and Time Lines", and "Celestial Meridians and Time Zones", to develop an understanding of how time is measured, and an understanding of seasonal differences between the Northern and Southern Hemispheres. The cost is \$111.00, for use with Apple II (#190-14874-8), or Atari 800 (#190-14881-0) computers.

3. <u>Weather or Not</u> (grades 7-9) offers an introduction to the study of meteorology. Included are simulated dogsled and river races in which students apply meteorological concepts in making decisions. The program is available for \$90.00 for use only with the Apple II (#190-14890-X).

4. <u>Choice or Chance</u> (grades 7-9) is designed to help students understand the relationship between cause and effect of historical events as they pertain to geography. Sells for \$111.00 (Apple II: #190-14882-9; Atari 800: #190-14886-1). Each of the 4 programs includes a Teacher's Guide, Student Workbook Master, and one set of floppy disks. (The Atari 800 software is Reve B compatible.) Order from: Customer Service, Educational Publishing, Rand McNally & Company, Box 7600, Chicago, Illinois 60680.



KENOSHA COUNTY

TOWN OF RANDALL

An automated mapping and land information system demonstration project has been completed for the Town of Randall in Kenosha County. The project was a cooperative effort among the Town, Kenosha County, the Southeastern Wisconsin Regional Planning Commission, the Departments of Development and of Agriculture, Trade and Consumer Protection and the State Cartographer's Office. All activity in the project followed the recommendations of the National Research Council's 1980 report, <u>Procedures and Standards for a</u> <u>Multipurpose Cadastre</u>.

The project developed a set of automated files pertaining to land information useful in zoning administration. In addition, six other files are incorporated into the system: 1) property ownership and assessment, 2) land use, 3) zoning districts, 4) soil units, 5) flood hazard areas, and 6) shoreland areas. Accurate costs of developing these information files were kept. Maps were also produced.

The demonstration project will be documented in a report expected to be available by January of 1986. Copies may be obtained upon request of the State Cartographer's Office.



Prof. Alan Vonderohe and Prof. Paul Wolf, both from the UW-Madison Civil Engineering Dept., and Art Ziegler, State Cartographer, discuss surveying at the Wisconsin Society of Land Surveyors' Conference in January 1985. (photo courtesy of WSLS)

CERTIFIED SURVEY MAPS

In June, the Directors of the Wisconsin Society of Land Surveyors had a lively discussion on a Department of Development proposed amendment to Wisconsin Statutes Chapter 236.34, Recording of Certified Survey Map; Use in Conveyancing. The change would require owners' certificates and signatures on all certified survey maps. Most of the WSLS Directors felt that this was an unnecessary, time-consuming, and burdensome requirement. The amendment reads:

(e) The map shall include the Owner's Certificate in substantially the same form as required by s. 236.21
(2) (a). This certificate shall be signed by the owner, the owner's spouse and all persons holding an interest in the fee of record or by being in possession and, if the land is mortgaged, by the mortgagee of record. These signatures shall be acknowledged in accordance with s. 706.07.

source: <u>Wisconsin Professional</u> Surveyor, April 1985

1:100,000-SCALE DLG SAMPLER

As part of its work building a National Digital Cartographic Data Base of machine-readable data, offered for sale as US GeoData, the U.S. Geological Survey is preparing US GeoData tapes. The tapes contain digitized planimetric cartographic data (called Digital Line Graphs) from its 1:100,000-scale, 30- by 60-minute topographic map series. The data include hydrography and transportation.

Because of the amount of interest in the technical specifications and characteristics of the Digital Line Graphs (DLG's) from 1:100,000-scale maps, the USGS has produced a DLG Sampler of digital planimetric data from the Chickamauga 30- by 60-minute, 1:100,000-scale topographic map quadrangle. The quadrangle covers parts of Georgia, Alabama, and Tennessee. This US GeoData DLG Sampler is intended to familiarize potential users of the 1:100,000-scale data with the new product and allow them to experiment on their equipment and with their processing systems.

The Sampler is available for \$25.00 from the USGS Eastern Mapping Center, National Cartographic Information Center, 536 National Center, Reston, VA 22092, phone 703/860-6336.

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POINTS AND LINES

ANOTHER SHOT FOR SPOT

Despite an unsuccessful launch attempt earlier this year, another French Ariane rocket is officially scheduled to carry the SPOT remote sensing system into earth-orbit November 15.

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RICHLAND AND RUSK CATALOGS

The RICHLAND County cartographic catalog, consisting of 87 pages, is now available, with RUSK nearly ready to go to the printer! They are the 38th and 39th of the series. After RUSK, the next two scheduled for completion are OUTAGAMIE and COLUMBIA counties.

"MENTAL MAP" DISTORTIONS

In a recent study, University of California Geographer Reginald Golledge asked 128 residents of Columbus, Ohio, to rate which of 49 city locations were closest. In each instance, a place's familiarity and emotional significance--rather than its actual location--determined its spot on people's mental maps.

Useful, pleasant places, such as shopping malls and attractive buildings, were perceived as being closer than they really are. Stressful places or those seldom visited, such as congested roads and slums, seemed farther away.

source: <u>Science Digest</u>, February 1985, p. 17

WETLANDS UPDATES

The review process for shorelandswetlands mapping in incorporated areas (under NR 117) is reported to be proceeding well and on schedule. (For more information contact Lois Stoerzer, 608/266-8852.)

Its companion program (NR 115) has received a budget appropriation for fiscal years 1985-1987 to begin updates of wetlands maps in nonincorporated areas. (Contact Steve Fix, 608/266-0053.)

LICENSING OF SURVEYORS

Three Land Surveyors and two Public¹ Members sitting on the 20-member Board of Architects, Professional Engineers, Designers & Land Surveyors, are responsible for licensing and regulating Land Surveyors in Wisconsin. Under Statute s.15.405(2), all Board members are appointed by the Governor. The average number of meetings per year is set at 8 for the surveyors, with meetings held in Madison. The 5 members of the Land Surveyors Section are:

> Bernard L. Watermolen, Chairman Green Bay, WI Land Surveyor

Donald L. Paulson, Vice-Chairman Madison, WI Land Surveyor

Frederic H. Copp Woodruff, WI Land Surveyor

Mary Hall Sullivan, Secretary Milwaukee, WI Public Member

Philip E. Klein McFarland, WI Public Member

Questions about board-related business may be directed to the Bureau of Design Professions in the Department of Regulation and Licensing at 608/266-1397.

source: <u>Directory of Board</u> Appointments, published July 1, 1985

TEMPORARY SECRETARY

Brenda Hemstead, our intrepid secretary, is on maternity leave beginning in November. Her temporary replacement is Nancy Burks. This will affect geodetic inquiries to the office, as Brenda won't be available to answer your questions "as you wait." Instead, Nancy will take dow your inquiry and SCO staff will answer your questions as soon as possible.

POINTS AND LINES, continued

LIBRARY OF CONGRESS MAPS

The September 16 issue of TIME magazine features (on p. 18) a guided tour of the Geography and Map Division of the Library of Congress. Division Chief John Wolter, whose family has historical ties to the Wisconsin area, describes many of the map treasures under his care, and comments on some of the insights geography and cartography offer for historians. As Wolter notes, "There is an old Elizabethan saying: 'Geography without history hath life and motion, but very unstable, and at random; but history without geography, like a dead carcass, has neither life nor motion at all.'"

WLRC APPOINTMENT

In September, Assistant State Cartographer Christine Reinhard accepted an appointment as Program Facilitator with the Wisconsin Land Records Committee (WLRC), on a halftime basis. Her role is that of a liaison between the "Information Issues Group" of four subcommittees and the Land Records Committee and staff. There are a total of twelve subcommittees.

The subcommittees Christine is working with are: "Classification and Standards", "Inter-Agency & Inter-Government Data Networking", "Geographic Reference Standards", and "Emerging Technologies".

A U.W. graduate student will be added to the SCO's part-time staff in January to assist Christine in her continuing duties at the State Cartographer's Office.

WCGE MEMBERSHIP

The Wisconsin Council for Geographic Education promotes public awareness of geography and fosters the growth of professional geography and geography teaching. All Wisconsin geographers (and those in neighboring states) are welcome to join. Regular membership is \$5.00, students \$2.00. Contact Roger Thiede, WCGE Treasurer, Geography Department, UW-Eau Claire, Eau Claire, WI 54701.

FUNDING FOR LANDSAT

The U.S. House and Senate have agreed to provide \$295 million for fiscal years 1985 through 1989 for the Commerce Department to contract for commercial operation of the Landsat system. Under terms of the contract, the Earth Observation Satellite Corporation (EOSAT) will operate Landsats 4 & 5, launch Landsats 6 & 7 on future space shuttle missions, and add a new ground receiving station. The new Landsats will carry Thematic Mapper sensors, a new black-and-white band with 15-meter resolution, and a new onboard data processor. (see related article)

source: Professional Surveyor, Sept./Oct. 1985, p. 16

NAD '83 PUBLICATIONS



The National Geodetic Survey (NGS) will complete the new adjustment and redefinition of the National Geodetic Horizontal Network during 1985. Adjusted network coordinates will refer to the North American Datum of 1983 (NAD 83), and coordinates referred to the familiar NAD 27 reference system will no longer be routinely provided. NGS geodetic products referenced to NAD 83 will be available on paper copy, microform, and digital medium.

The National Geodetic Information Center of NGS will disseminate the NAD 83 results in two phases. First, NAD 83 coordinates will be available by State and by 1° x 2° geodetic control diagram area. The format will be similar to their present manuscript format for published project results. NGS will automatically provide the pertinent sections of these data to subscribers of the NOAA Geodetic Control Data Automatic Mailing Service without cost. Nonsubscribers will pay a fee based on number of pages.

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NAD'83, continued

The NAD 83 quad publication, analogous to their present NAD 27 data sheet publication, will gradually become available as the description/recovery analysis progresses and as data processing and printing funds are allocated. The description/recovery analysis will validate the data in the box score (reference object measurements) part of the description with the observations and then select the most applicable azimuth mark. Upon completion of an area, NGS will provide quad data on demand.

Quad Publication

Each 30-minute quad publication will contain a description of the NGS publication quad system, an explanation of possibly unfamiliar geodetic terms used in the publication, agency listing, two indices, and the data sheets.

The agency listing will tabulate, by year, the number of stations observed, adjusted, described, or recovered by contributing agencies.

A plot index will show the approximate position of the stations contained in the quad publication from which the page number for a station can be obtained. The alphabetical station name index will give, in addition to the page number, year established, last recovery date and condition, geodetic position and survey order, elevation, and availability of other geodetic control on the station mark.

Data Sheet

The data sheets will contain the following new information:

Plane coordinates are given in the State Plane Coordinate System (SPCS) of 1983; azimuths (grid and geodetic) will be referenced to the north branch of the meridian.

Geoid height is given for each station.

Deflection of the vertical (meridian and prime vertical components).

The coordinate shift from NAD 27 to NAD 83 is given for each station to aid coordinate transformations.



GEODETIC MARKER

Statements will describe: positioning method (classical, GPS, photogrammetry, inertial surveying systems); whether the station is in the National Crustal Motion Network or the National Geodetic Vertical Network; whether astronomic coordinates/azimuth were observed; and whether the elevation was determined by trigonometric or differential leveling, scaled from topographic map(s), determined photogrammetrically, or computed from geodetic height.

A station history will show the frequency of station recovery.

The box score information will consist of a combined list of directions and distances to reference objects and azimuth mark(s).

Publication Schedule

The publication of quad booklets will extend over a period of time depending on the progress of the description and recovery analysis and the prepublication review. The quad publication priority must satisfy national requirements and the majority of users. Planned order of publication priority is: Alaska, Gulf Coast, East Coast and Puerto Rico-Virgin Islands, U.S. West Coast, Hawaii, GREAT LAKES AREA, remainder of the conterminous United States, and Pacific Ocean territories and islands covered by national charting responsibility. Information flyers will be distributed explaining time and extent of coverage prior to the release of data for each area.

source: NOAA Geodetic News, July 1985



EVENTS, PAST AND FUTURE

MAPS AS WINDOWS TO THE PAST

October 9 - November 6, Whitefish Bay, WI. A series of five illustrated lectures by Howard Deller, Literature Analyst for the AGS Collection at UW-Milwaukee. For this and other similar courses, contact Howard at 414/963-6282.

REMOTE SENSING OF THE ENVIRONMENT

October 21-25, Ann Arbor, MI. The 19th International Symposium is organized and conducted by the Environmental Research Institute of Michigan. For more information contact ERIM, P.O. Box 8618, Ann Arbor, MI 48107-8618.

DEKALB CONFERENCE

October 31 - November 2, DaKalb, IL. Professor Richard Dahlberg has arranged a joint meeting of the Western Great Lakes Region of ASPRS, of the Southern Lake Michigan Section of ACSM, of the Northern Illinois University Dept. of Geography, and of the Photogrammetry and Remote Sensing Working Group of the Society of American Foresters. The extensive program includes workshops, special sessions on a variety of cartographic and remote sensing topics, and a keynote address by Rear Admiral John D. Bossler, Director of Charting and Geodetic Services, National Ocean Service. For more information contact Prof. Dahlberg, Dept. of Geography, Northern Illinois University, DeKalb, IL 60115, phone 815/753-0631.

HISTORY OF CARTOGRAPHY

November 7-9, Chicago. The eighth series of the Kenneth Nebenzahl, Jr., lectures at the Newberry Library. The theme is "Monarchs, Ministers, and Maps; The emergence of cartography as a tool of government in early modern Europe." For more information contact the Newberry Library at 312/943-9090.

IMDA MEETS

November 7-9, New Orleans. The International Map Dealers Association will meet for its annual convention and trade show. For more information contact IMDA, P.O. Box 1789, Kankakee, IL 60901.

IMAGES OF THE EARTH

November 10-13, Chicago. The fifth annual conference of the North American Cartographic Information Society (NACIS) offers a variety of exhibits, paper sessions, workshops, and field trips focusing on the map as an information tool. For more information contact Christine Reinhard, State Cartographer's Office, 608/262-6850.

WISCONSIN MAP LIBRARIANS

November 16, Madison, WI. A free mini-conference sponsored by the University A. H. Robinson Map Library and the State Cartographer's Office for librarians in Wisconsin who have map collections. Topics include acquisition methods, cataloging and classification, and map preservation. Tours of the Map Library and the Archives and Maps Division of the State Historical Society will be offered. A special feature will be a duplicate map exchange. For more information contact Mary Galneder (608/262-1471) or Christine Reinhard (608/262-6850).

WASAL CALL FOR PAPERS

The Wisconsin Academy of Sciences, Arts and Letters invites interested Wisconsinites to submit abstracts for their annual symposium to be held at Wausau on April 25-26, 1986. Abstracts are due by Friday, January 17, 1985. For more information contact WASAL at 608/263-1692.



Wisconsin Map Collections Mary Galneder, UW-Madison Arthur H. Robinson Map Library, and Christine Reinhard, State Cartographer's Office, have compiled a list of map collections in Wisconsin. The information includes the size and type of collection plus the contact person. The 8-page directory is available free from the State Cartographer's Office.

Proceedings of the First International Symposium on Precise Positioning with the Global Positioning System (1985), C. C. Goad, convenor, from the symposium held April 15-19, 1985 in Rockville, MD. The proceedings include 89 papers focusing on the following topics: Status and policy; GPS time and orbits; User equipment; User equipment testing; Modeling and processing; Applications; Survey positioning results; Practical aspects of GPS geodetic surveys; Dynamic positioning. The 2-volume, 931-page set sells for \$24.00 from the National Geodetic Information Center, N/CG17x2, NOAA, Rockville, MD 20852.

Proceedings of the Third International Symposium on the North American Vertical Datum (1985), D. B. Zilkoski, convenor, from the symposium held April 21-26, 1985 in Rockville, MD. Authors address topics vital to the success of the definition of the North American Vertical Datum (NAVD 88); Status of vertical geodetic networks in North America; Crustal motion modelling; Vertical datum definition; Systematic and random errors in leveling; New leveling techniques. The 480-page publication costs \$18.00 and may be obtained from the National Geodetic Information Center, N/CG17x2, NOAA, Rockville, MD 20852.

Four-Season Travel and Recreation Guides (1985) Separate guides for Wisconsin, Minnesota, Illinois, and Michigan, include information on the following topics: lake locations and fish types; campgrounds; golf directories; day trips; canoeing and boating; biking and hiking trails; historical sites; snowmobiling; motel/hotel directories; skiing; state parks; county maps. Each 250-plus page guide sells for \$11.95 from Rockford Map Publishers, Inc., P.O. Box 6126, Rockford, Illinois 61125; 815/399-4614.

"Increase A. Lapham and the Mapping of <u>Wisconsin</u>" by Michael Edmonds, appears in the Spring 1985 edition of the "Wisconsin Magazine of History" (Vol. 68, No. 3), p. 163-187. The article is illustrated with six maps, and includes a cartographic bibliography. The "Wisconsin Magazine of History" is published quarterly by the State Historical Society of Wisconsin, Attn: Book Orders, 816 State St., Madison, WI 53706; single issues cost \$2 each.

"Computer Assisted Compilation and Drafting: Planning for the Green Bay, Wisconsin Area Street Map," by Lawrence W. Carstensen Jr., is published in the Spring 1985 edition of "Cartographica" (Vol. 22, No. 1), p. 93-105. Direct orders and inquiries to: University of Toronto Press, Journals Dept., 5201 Dufferin St., Downsview, Ontario, Canada, M3H5T8; phone 416/667-7781.

Use of Thematic Mapper Data to Assess Water Quality in Southern Green Bay and West-Central Lake Michigan, a technical paper presented at the 1985 ACSM-ASPRS Fall Convention, is co-authored by Richard G. Lathrop, Project Assistant and Thomas M. Lillesand, Director, of the Environmental Remote Sensing Center (ERSC), UW-Madison, Madison, WI 53706. The study's major objective was to assess the technical feasibility of using Thematic Mapper data to evaluate the general water quality of southern Green Bay and west-central Lake Michigan. Proceedings of the convention are available from the American Society of Photogrammetry and Remote Sensing (ASPRS), 210 Little Falls St., Falls Church, VA 22046, phone 703/534-6617.



LANDSAT---EOSAT

On September 27, 1985 Secretary of Commerce Malcolm Baldrige authorized a contract with the Earth Observation Satellite Company (EOSAT) to assume control of the Landsat satellite data acquisition and dissemination. EOSAT is a joint venture/partnership formed by Hughes Aircraft Company, Santa Barbara Research Center, and RCA's Astro-Electronics Division.

As part of their contract, EOSAT will undertake a 10-year program for the construction, operation and launching of Landsat satellites and the dissemination of the collected data to users around the world. They will receive \$250 million to begin this unique commercial venture. \$75 million of this money is earmarked for a major effort to develop markets in resource development and management industries and to begin a program to educate the public about the potential uses of this data. EOSAT intends to expand applications and R&D. They are committed to developing a vigorous value-added industry capable of serving the many and varied disciplines that use remote sensing data, worldwide.

Two more Landsat satellites will be launched by EOSAT within the next ten years. The new satellites will carry the Multi-Spectral Scanner (MSS) that is presently operating on both Landsats 4 and 5, and the Return Beam Viticom (RBV) and Thematic Mapper (IM) that are currently operating on Landsat 5. (Landsat 4 MSS is presently collected only overseas.) Launch date for Landsat 6 is scheduled for the 4th quarter of 1988 and Landsat 7 for the 4th quarter of 1991. In addition to these sensors, the new systems will have the capacity to receive panchromatic data with a ground resolution of 15 meters simultaneously with the Thematic Mapper This could increase the effective data. spatial resolution of the Thematic Mapper while retaining its spectral resolution (7 bands). (continued)

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October 1985

MILWAUKEE COUNTY SURVEY RECORDS

Under a law enacted by the Wisconsin Legislature in 1984, the Southeastern Wisconsin Regional Planning Commission (SEWRPC) now has the responsibility of maintaining a file of each land survey plat prepared by a land surveyor for Milwaukee County. (Since Milwaukee is the only county within the State having a population of 500,000 or more where there is no county surveyor). Land surveyors working in Milwaukee County file this information with SEWRPC, which acts in the capacity of county surveyor for the County. Under the new law, SEWPRC is also made responsible for perpetuating corners of the U.S. Public Land Survey in Milwaukee County. These corners may be subject to destruction, removal, or covering because of construction or other activities. SEWRPC is also to maintain a record of the surveys required for such perpetuation.

To carry out this new responsibility, SEWRPC has established a file system that should facilitate convenient use of the survey records by land surveyors, abstractors, assessors, appraisers, attorneys, engineers, and other interested parties. Computer-generated lists of the recorded surveys can be provided upon request with the file sorted the following five different ways:

- 1. Numerically by U.S. Public Land Survey township, range, section, quarter section, and record of survey.
- 2. Alphabetically by minor civil division (city or village).
- 3. Alphabetically by the property owner or client for which the survey was completed.
- 4. Alphabetically by the name of the land surveyor employed by the property owner or client.
- 5. Chronologically by the date of the survey.

Updated copies of the five lists are prepared quarterly and transmitted to the Milwaukee County Transportation Director, all City and Village Engineers within the County, and all land surveyors who have submitted records of surveys to SEWRPC for indexing and filing.

source: SEWRPC Newsletter, July-August
1985



LANDSAT --- EOSAT, continued Data from the Landsat satellites (both old and new) is no longer in the public domain. Congress recognized that to be successful, a commercial operator must be able to protect the value of the data by preventing its unauthorized disclosure. Users will now have to sign an agreement of non-disclosure and agree not to reproduce the data. EOSAT will vigorously follow the 'nondiscriminatory access' policy as set forth in U.S. Public Law 98-365 by making Landsat data equally available to all requestors.

EOSAT will maintain its headquarters in the Washington, D.C. area but will continue to distribute data from the EROS Data Center in South Dakota for the next two years. Until the new order forms are distributed, all products can be ordered according to a new price schedule that became effective on November 1st.

All film products, such as black-andwhite prints and transparencies and color composites, will be continued with the possible exception of 70mm chips. EOSAT will also guarantee a specified minimum percent cloud cover for new acquisitions for a \$275 surcharge. All payments should be made payable to EOSAT.

More information is available from EOSAT, 8201 Corporate Drive, 450 Metroplex II, Landover, MD 20785.

THE MAPPING OF WISCONSIN SINCE 1832

BY

CHRISTOPHER BARUTH

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in Geography at the University of Wisconsin-Milwaukee December 1979

Last Installment

Conclusion: Review and Future Prospects

The story of Wisconsin's topographic mapping is largely one of slow movement and delay. More than a half century after the publication of the state's first topographic map, only about a third of Wisconsin's area was covered, largely with out-of-date maps done to lower standards of accuracy. Following World War II, the new technology of stereophotogrammetry, the process of compiling contour maps directly from stereophotographic coverage, rendered the previously executed topographic maps obsolete. This was a new beginning for topographic mapping. Though it was necessary to start over again, the new technology allowed for better maps to be produced more quickly and at a lower cost.

The immediate post-war years saw relatively little progress in topographic mapping. It wasn't until 1952 that a significant amount of topographic activity commenced in the state. Also in that year, the 7 1/2minute quadrangle was introduced into Wisconsin. Though the 7 1/2-minute format was to eventually become the official scale of the state's coverage, much effort was yet put into completing the 15-minute coverage. It was not until the late 1960's that the 15-minute format was dropped, and a concerted effort was made to complete the 7 1/2minute series.

Wisconsin's adoption of the 7 1/2-minute quadrangle format was a belated acceptance of what had become the national standard. In the year before Wisconsin finally accepted the 7 1/2minute standard (1968), nine states could already boast of complete coverage in this format, and another dozen states

were well on their way. While some of the completed states had small areas and dense populations, the list also included such states as Indiana, Ohio and Kentucky. Nearly completed were such states as New York, Florida, West Virginia and Tennessee. Texas, New Mexico, Colorado, Wyoming and California also showed advanced progress. It should be noted that many of these states are areas of mineral or oil exploration.

It is interesting to compare Wisconsin to its immediate neighbors, with respect to the 7 1/2-minute mapping program, during the period of 1961 through 1973. In 1961, the mean percentage mapped for Wisconsin, Minnesota, Iowa, Illinois and Michigan was 11.4%. In this year, Wisconsin was 9% covered. The only state lower in this group was Iowa with 6%. In 1964, the mean had risen to 15.2%. By that year, Wisconsin had risen slightly above the mean with 16% coverage. Iowa was still low with 7% coverage.

Between 1964 and 1968, Iowa increased its rate of coverage, and by 1968 was tied with Wisconsin for last place at 24% completed. From 1968 to 1973, Wisconsin and Iowa progressed at the same rate, Minnesota speeded up and Michigan slowed down, with the result that Wisconsin and Iowa were tied for third place with Michigan trailing.

In 1961, another nearby state, Indiana, was 65% covered, and completely mapped in the 7 1/2-minute format by 1964.

The Future of Topographic Mapping

As mentioned earlier, Wisconsin's 7 1/2minute topographic mapping program is

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WISCONSIN MAPPING, continued

expected to be completed by 1983*, at which time a regular revision program will be instituted, and the sheets will be revised for as long as they remain in print.

Immediately following the completion of the 7 1/2-minute, 1:24,000 series, the U.S.G.S., in cooperation with the state, will begin turning out quadrangles in its new metric format. These maps will be drafted at the scale of 1:25,000 and will cover 7 1/2-minutes of latitude and 15-minutes of longitude. The contour interval will be in meters, and there will be other changes such as a gray urban overlay in place of the traditional pink. The coverage of the state in this format is expected to take an additional ten years. In most cases, two of the current 1:24,000 series maps will be converted directly to the new format, making only what revisions are necessary for a thorough update.

With the discontinuation of the 15minute, 1:62,500-scale format, the state no longer had an intermediate scale series between the 1:24,000 and the 1:250,000-scale series. At present, the U.S.G.S., in cooperation with the Wisconsin Soil Conservation Service and the Bureau of Land Management, is preparing a metric 1:100,000 series of maps which will be published in two formats. These two formats, which will both eventually cover the U.S., are 1) a series of county maps, and 2) a new series of quadrangles, each covering 30 minutes of latitude and one degree of longitude. It is expected that these new series will also be complete by 1983.**

*actually 1985 (Editor)

**Other priorities at U.S.G.S. have delayed the completion of the 1:100,000 series until 1987. For up-to-date information, refer to the Topographic Mapping Committee article earlier in this issue. (Editor)

AND SO ENDS THE SAGA OF EARLY TOPOGRAPHIC MAPPING IN WISCONSIN THE STATE CARTOGRAPHER'S OFFICE ISSUES THE WISCONSIN MAPPING BULLETIN IN JANUARY, APRIL, JULY AND OCTOBER. IT IS DISTRIBUTED FREE OF CHARGE ON REQUEST.

THE EDITOR WELCOMES NEWS ON COMPLETED OR ONGOING PROJECTS, PUBLISHED MAPS OR REPORTS, CONFERENCES/WORKSHOPS. LOCAL AND REGIONAL INFORMATION IS ESPECIALLY REQUESTED.

PLEASE SEND ALL COMMENTS, Corrections, and news Items to:

CHRISTINE REINHARD,

STATE CARTOGRAPHER'S OFFICE,

144 SCIENCE HALL MADISON, WI 53706, 608/262-3065.