

Newsletter

no. 6

U.S. Department of the Interior, Geological Survey Summer 1977

National
Cartographic
Information
Center

National Cartographic Information Center
Newsletter

U.S. Geological Survey
507 National Center
Reston, Virginia 22092
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No. 6/ Summer 1977

Editor's notes

As a rule we don't carry personnel information--additions, subtractions, etc.--in the newsletter. This is a technical publication, not a forum for office baseball league scores. Now, having got that disclaimer out of the way, we wanted to note that Dick Swinnerton, Chief of NCIC since the Center's inception in 1974, has left us. Dick was recently chosen as Chief of the Topographic Divisions's Western Mapping Center (a move up and, geographically at least, to the left)

When Dick arrived NCIC consisted of 4 briefing books and an interesting concept. 3 years later we have 10 books and a thriving organization. We shall miss him.

This issue contains what we hope is an interesting collection of cartographic news, including articles about recent Federal mapping agreements, new publication announcements, notes on the second NCIC coordinating conference, and a cumulative index for the spring 1975 to summer 1977 issues.

The regional NCIC offices, Western, Rocky Mountain, Mid-Continent, and Eastern have all set up shop. Lee Aggers, chief of Western NCIC, asked us to describe once more what and who NCIC is--okay, one more time, and then new readers will have to figure out what NCIC is by reading the newsletter or contacting us.

NCIC was set up to fill the void of information about available cartographic data. Much money is spent each year for mapping, aerial photographs, and general data collection for land-use planning, field studies, specialized mapping, digital studies, flood control, and reforestation. Of all the agencies in the Federal Government, nearly 40 are involved in mapping to some extent. As Hollis Vail said at the coordinating conference, "The gathering of information about the Earth's surface is a tough, expensive, difficult job, and really nobody wants to do it if they can get somebody else to."

So, to meet the need for information coordination, NCIC opened shop in 1974, replacing the Map Information Office (MIO) sponsored by the old Federal Board of Surveys and Maps from 1919

to 1941 and thereafter by the Geological Survey. NCIC is concerned with everything knowable about cartographic data, what there is, where, who has it, how can the user get it, and for how much. Most of the data that NCIC deals with is held by other agencies or by groups within the Survey. For instance, space imagery orders are referred to the USGS EROS Data Center in Sioux Falls, S. D., and most requests for geodetic control are referred to the National Geodetic Survey Information Center, in Rockville, Md.

NCIC is developing information systems for cataloging and indexing cartographic data. The Aerial Photography Summary Record System (APSRS) already contains descriptive data on aerial photographs of the United States. The new Map and Chart Information System (MCIS), still in the design stage, will store information on U.S. maps.

In addition to these tasks NCIC also carries out such mundane activities as taking orders for Geological Survey cartographic products and helping to maintain current and historical records of published maps.

NCIC has one State-level affiliate, the Texas Natural Resources Information System (TNRIS) in Austin. TNRIS gathers cartographic information concerning Texas for NCIC files and, in return uses NCIC provided data to answer questions for local users.

Now for some final newsletter business. With the last issue, the Superintendent of Documents at the Government Printing Office began requisitioning 850 copies of each newsletter for Federal depository libraries. So, if the librarians among you have started receiving two copies, one from SupDocs (as he's affectionately referred to in the business) and one from your original Newsletter subscription, let us know.

Nancy Faries
Editor

CARTOGRAPHIC NEWS

Digital Cartographic Applications Project

The Geological Survey recently established a team to plan and guide the application of digital cartography within the Topographic Division. The principal objective is to develop the ability to supply large volumes of base-category data in digital

form within a reasonable time period. Base-category data include such features as elevations, transportation networks, political boundaries, and surface hydrography. The digital data produced should be equal in accuracy and detail to standard 7.5-minute USGS quadrangle maps.

Some of the major activities of the Digital Applications Team will be coordinating the development of standard feature codes and data formats with other agencies, acquiring appropriate digital data hardware and software, establishing a prototype production facility, and participating in several pilot projects to provide needed data immediately and to test data production procedures.

Members of the Digital Applications Team are Dr. Atef Elassal, Dr. Robert McEwen, John McLaurin, Warren Schmidt, Doyle Smith, and Lowell Starr, with McLaurin and Starr co-leading.

John McLaurin
Digital Applications Team

Soil Conservation Service cost-sharing mapping agreement

Somewhere in its long agricultural history, the Soil Conservation Service (SCS) acquired the responsibility to inventory, by county, all U.S. prime and unique farmland--which is a lot of land to muck around with deciding what will and won't grow. For years USGS has provided SCS with base maps for their inventory. All-in-all the arrangement has worked well, but there have been some problems because what SCS really needs are scales suitable for county mapping, while USGS maps are published at local (1:24,000) and regional (1:250,000) scales.

When USGS began producing a new series of multipurpose intermediate scale maps at 1:100,000 SCS, interested in seeing that more were produced, signed an agreement under which USGS will compile 1:100,000-scale planimetric maps of 116 counties needing immediate prime (high yield) and unique (high yield of a single crop) farmland inventories. SCS and USGS will split the cost of the mapping.

SCS will receive from the Survey negative and positive feature-separation plates for printing 1:100,000-scale maps. SCS cartographers are planning to enlarge the maps to 1:50,000 and add overlays

depicting farmland classifications. For more information on the SCS mapping program or the USGS intermediate-scale series, contact NCIC (address on p. 1).

Land Use and Land Cover Maps and Data Program

Editor's note: All of 4 issues and almost a year and a half ago we drafted an article about Geological Survey land use mapping. Since then the article has been continually booted from issues for lack of space. This spring the Land Use Data and Analysis program (LUDA) began to refer to their program with a new name, the Land Use and Land Cover Map and Data Program, and in celebration of that feat, we are shoehorning in a few descriptive words about the program from its leader, Dr. James Anderson.

The program was established in fiscal year 1975, and designed to alleviate or remedy many of the shortcomings of various types of published land use and land cover data. Maps of current land use and land cover for the entire Nation are being compiled at scales of 1:250,000 and 1:100,000--when new intermediate-scale maps are available. Additional maps of Federally-owned lands; political units; census tracts and county subdivisions, and hydrologic units are being prepared in overlay form to relate to the current land use and land cover data.

The classification system for mapping land use and land cover was developed after consultation with many Federal and State agencies. It is presented in USGS Professional Paper 964, A Land Use and Land Cover Classification System for Use With Remote Sensor Data. The system incorporates common terminology and can accommodate land use and land cover data gathered at many levels of detail. The classification contains nine basic Level I categories: urban or built-up land, agricultural land, rangeland, forest land, water, wetland, barren land, tundra, and perennial snow or ice. These 9 basic classes are further divided into 37 Level II categories. If local, State, regional, or national users of land use /land cover data need even more detail, they can devise their own systems of subdividing the 37 Level II categories into third, fourth, or even finer levels of detail.

Available land use and land cover and associated maps are shown on the "Status of Land Use and Land Cover Mapping" index maps. Copies are available on request (see pp. 15-16). Once completed, master sets of land use and land cover and associated maps are placed on open file at USGS Regional Mapping Centers responsible for the areas. Reproductions of these can be bought from the regional Mapping Centers (same street addresses as NCIC regional offices).

Technical information about land use and land cover and associated maps can be obtained from the USGS Geography Program (see address p. 16).

Dr. James Anderson
U.S. Geological Survey

Federal Highway Administration mapping manual

Federal Highway Administration (FHWA) representatives came to NCIC's first coordinating conference two and a half years ago, took a lot of notes, and went home. At least we thought that was the extent of their early involvement in coordinating cartographic data with NCIC. Last fall, however, the Data Acquisitions section suddenly began receiving reports on aerial photography being flown by or for the State highway departments. We entered the information into the APSRS system, told the highway departments how useful their contributions were, and then began to wonder why they were sending us much needed but as-yet-unsolicited information. The answer came in the new FHWA's State Planning Program Manual for mapping, which includes a section describing NCIC and comments that our information is distributed to one and all but its usefulness is directly related to the cooperation and support we receive from users. The manual then advises the State highway departments to check with NCIC for available aerial photographs before starting map revision projects and to send NCIC descriptions of new photographic coverage obtained by the agencies directly or on contract.

Better late than never, NCIC is working out a management agreement with FHWA. We're also preparing packages with more information on NCIC programs for distribution to the highway departments.

Update on USGS experimental folded map survey

As we announced in the summer/fall 1976 issue, USGS is conducting a survey of new map formats. Last summer an experimental Mount Rainier National Park folded map was published in a paper jacket. Response to a questionnaire distributed with each map, showed a 6 to 4 preference for the folded map over the flat map. At the same time another style of folded map--minus a cover--of the Orsino, Fla. 7.5 minute quadrangle was handed out at the Cape Kennedy Space Center Bicentennial Exposition. There the questionnaires indicated an almost 3 to 1 preference for folded maps and a 4 to 1 preference for a protective cover.

More recently 22 folded quadrangles were issued in 5 1/4" x 8" red, white, and blue plastic pouches with zip-lock tops. These dust and waterproof pouches were designed to provide protection for maps used by skiers, hunters, fishermen, and other outdoor enthusiasts. With the zip-lock top the maps can also be preserved, pickled, or frozen. Statistics on the survey will be available in 4 or 5 months.

Another type of folded map, a 1:24,000-scale map of Yosemite Valley, complete with printed geological history of the area, will be field tested this summer in Yosemite National Park. The map has a glued-on plastic-coated cover and folds into 4 1/2 " x 9 3/4." This style has long been popular in other countries and it will be interesting to see how it is received here.

If you would like to see what the folded critters look like, the maps listed below and on the next page can be purchased for \$1.25 at the Survey's Public Inquiry Offices or through the 2 Branches of Distribution (see p. 16 for addresses).

Note for librarians:

Several responses from librarians expressed concern that all maps will be folded in the future. Regardless of how many folded maps are included in the Survey's mapping program, flat maps of the same areas with the same information will continue to be distributed.

Ray H. Hill
Cartographer
U.S. Geological Survey

Write Eastern Branch of Distribution (see page 16 for address)

Decatur, Ala.	7.5'	TVA recreational area
Orsino, Fl.	7.5'	Cape Canaveral orthophotoquad
Lake Placid, N.Y.	15'	Site of 1980 Winter Olympics
Peekskill, N.Y.	7.5'	Where the Appalachian Trail crosses the Hudson River
Vienna, Va.-Md.	7.5'	Location of USGS, Reston, Va.
Waynesboro East, Va.	7.5'	Area where I-64 crosses the Blue Ridge Mtns. and Appala- chian Trail

Harpers Ferry, Va.- Md.-W.Va.	7.5'	Historical park
Madison West, Wis.	7.5'	State capitol, University of Wisconsin
Western Branch of Distribution (see page 16 for address)		
Anchorage A-7, Alaska	1:63,360	Recreational and ski area southeast of Anchorage
Juneau B-2, Alaska	1:63,360	State capital
Bright Angel, Ariz.	15'	Shaded relief, Grand Canyon area
Bull Shoals, Ark.-Mo.	7.5'	Bull Shoals Lake with under- water contours
Mt. Whitney, Calif.	15'	Sequoia National Park
Mt. Wilson, Calif.	7.5'	North of Los Angeles
Aspen, Colo.	7.5'	White River National Forest
Longs Peak, Colo.	7.5'	Rocky Mtn. National Park
Alexandria, La.	7.5'	City and River area
Columbia, Mo.	7.5'	City, University of Missouri area
Garrison Dam North, N. Dak.	7.5'	Recreational area
Mt. Hood South, Ore	7.5'	Mt. Hood ski area
Panther Junction, Tex.	7.5'	Big Bend National Park head- quarters
Jenny Lake, Wyo.	7.5'	Grand Teton National Park area
Folded map of Mount Ranier National Park, Wash. in paper jacket, \$2. Folded map of Yosemite Valley, Calif. with cover, \$2.		

NCIC NEWS

II. Coordinating Conference

On January 19, NCIC held its second coordinating conference for the Federal, State, and private organizations interested in NCIC's progress and plans. Our godfathers as it were. The primary intent of the conference was to report on the information and data coordinating services set up since the Center began in 1974. In August of that year, we asked the 33 Federal agencies interested in mapping activities to join us in a one day conference to set goals.

This year's conference was divided into two sessions. The morning session concerned NCIC systems, Federal agency coordination, and

Federal and State coordination. Descriptive papers were presented by representatives of the Agricultural Stabilization and Conservation Service, the Department of Housing and Urban Development, and the Texas Natural Resources Information System. The afternoon was devoted to small group discussions of various topics ranging from priorities for future data acquisition to complementary roles between libraries and information centers.

The coordinating conference wasn't a really wild session and can even be classed as a moderate success. Nobody advocated mayhem, overthrow or rebellion against the mapping status quo, and we didn't lie and tell anybody that all the mapping data and maps committed on paper in the United States are described in our information files. We told the participants what we have accomplished, and they told us what they want further. And, since organizing cartographic information is an task of infinite patience and plodding, we'll probably just continue, however slowly, along the primrose path to greater coordination.

Housing and Urban Development/NCIC management agreement

In December USGS signed an agreement with the Department of Housing and Urban Development (HUD) for assistance in coordinating their mapping activities. Since NCIC is a clearinghouse for cartographic data, we have the responsibility of providing HUD contractors and grantees with cartographic information.

Six HUD programs involve extensive large-scale mapping, photographs and data collection. For example, to prepare a community for the HUD Flood Insurance program, flood-hazard areas are mapped, followed by remapping to mark 100- and 500-year flood lines. Up to the time of the new agreement, HUD handed out millions of dollars to contractors to compile maps, often simply assuming that adequate maps didn't exist when they did.

When the agreement is completely implemented HUD contractors receiving money for base mapping and aerial photographs will be required to check with NCIC to see if the cartographic information they need is already available. We then have 30 days to check our files and reply. In return for our assistance, HUD contractors will send NCIC descriptions of the base maps and photographs they produce.

In its brief history NCIC has usually gone to Federal agencies and inquired what information services they needed to help carry out their programs. Usually this has resulted in referencing

cartographic information for large geographic areas. The HUD agreement signals a radical change in NCIC's information file requirements, with our coordination emphasis expanding to cover large as well as small scale mapping.

The Center will first concentrate on providing HUD contractors base and planimetric maps while new information systems and user service procedures are being designed to handle an annually expected 1,100 HUD-related inquiries.

NCIC at ASP/ACSM convention

In March NCIC designed part of the Geological Survey's exhibit for the American Society of Photogrammetry and the American Congress on Surveying and Mapping annual spring conference. Basically, we were allotted 10 by 20 feet of naked floor space at the back of the basement hall of the Washington Hilton and told to come up with an exhibit illuminating our spirit and function in life.

What we eventually settled on was an exhibit concentrating on our aerial imagery systems, the Aerial Photography Summary Record System, and our aerial photography/spectral imagery ordering network.

The most interesting part of the exhibit consisted of two Burroughs TD832 video screen terminals, hooked by a direct telephone line to the EROS Data Center (EDC) computer in Sioux Falls, South Dakota, and two microfilm readers with cassettes of Landsat imagery and Skylab, NASA, and Geological Survey photographs. Using a visitor's home town as a reference, technicians called requests over the telephone to Sioux Falls, and the terminal answered with printouts describing available imagery, including location on the microfiche cassettes. The technicians then pulled the proper cassette and displayed imagery of the area on the microfilm viewer.

Besides showing off our flashy technology, we handed out NCIC pamphlets, catalogs, order forms, and copies of the newsletter. At one point or another, and some several times, the 2,654 surveyors, cartographers, and geographers registered at the convention and hundreds of unregistered visitors stopped by the exhibit, talked to our representatives from User Services, and lifted leaflets.

Walt Wagner
Cartographer, NCIC

PRODUCTS

Second Edition of APSRS catalogs printed

The second edition of the Aerial Photography Summary Record System (APSRS) catalogs and microfiche were printed in March. The new edition contains updated information on planned and in-progress photo projects and lists several new participants in the system. New Federal contributors are the Bureau of Land Management, the Bureau of Reclamation, and Army, Air Force, and Navy. Also contributing data for the first time are the States of Arkansas, Iowa, and Texas and Keystone Aerial Surveys, Aerial Map Industries, and Mark Hurd Aerial Surveys.

The number of records in APSRS now total 140,000, representing coverage for 850,000 7.5-minute topographic quads, or enough photo projects to cover the United States more than 16 times. At an average of 18 frames per quadrangle, these records contain 15 million aerial photographs. What these fleet-of-mind statistics mean is that you can find coverage, and probably duplicate coverage, for any area you are interested in.

The catalogs retail at \$1, the supplementing microfiche \$4. Write the nearest NCIC office for specific ordering and application information (addresses p. 16).

Tom Lauterborn
Cartographer, NCIC

NEW PUBLICATIONS

ERTS-1 A New Window on Our Planet (PP929)

With great regularity the Geological Survey scientists crank out professional papers of varying public interest. One of the latest releases, ERTS-1 A New Window on our Planet is a fascinating excursion into the world of earth satellite imagery.

ERTS-1 (now called Landsat-1) was launched in 1972 as the first of a series of satellites developed to inventory the Earth's resources globally and to aid in evaluating man's impact on the world. The book that followed consists of 362 pages of stunning color illustrations and scientific reports discussing Landsat imagery applications in the fields of cartography, geology,

geophysics, water resources, land-use mapping and planning, environmental monitoring, conservation, and oceanography. While the reports are oriented primarily to the technical reader who needs to evaluate Landsat data for possible applications in his own scientific/organizational field, they vary in complexity and can be enjoyed without a degree in the earth sciences.

Professional paper 929 can be ordered from the Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, Va. 22202 for \$13 a copy. The Survey insists on prepayment.

Cartographic research guides for the Western Hemisphere

The Pan American Institute of Geography and History (PAIGH), a specialized Institute within the Organization of American States (OAS), is producing a series of cartographic Research Guides for the Western Hemisphere.

The PAIGH publications are an updating and expansion of similar works produced by the Pan American Union in 1966. The first part of each guide contains index maps to Earth satellite photographs, radar imagery, aerial photographs, topographic and planimetric maps, geologic maps, and several areas of special subject maps, as well as addresses where they can be obtained. A geographic bibliography is contained at the end of each guide.

The first volume issued, Research Guide to Colombia, was published in 1975. Guides for Honduras, Guatemala, Costa Rica, El Salvador, Nicaragua, Panama and, Peru are in preparation and should be published in 1977. Remaining countries, including Canada and the United States will be compiled later.

Research Guide to Colombia can be purchased by writing:

Servicios Bibliograficos
Secretaria General del IPGH
Ex-Arzobispado 29
Mexico 18, D. F.
Mexico

The price of the Colombian guide is \$5, available in English and Spanish editions.

Arthur L. Burt
Vice-President, PAIGH

Mapnotes newsletter

The Department of Geography and the Map Library of Northern Illinois University have started a regional newsletter, MAPNOTES, partly an accessions list of recently acquired northern Illinois maps and partly an information exchange for area planners and map users. It is a nice addition to the field of cartographic information. Subjects covered in the first issue, fall 1976, include a discussion of cross-tab mapping to show projected county growth, a wrap-up of current USGS topographic and ortho-photoquad mapping, and a list of public transportation route maps.

Subscription is free; contact the Northern Illinois MAPNOTES, Department of Geography, Northern Illinois University, DeKalb, Ill. 60115. Prof. Richard Dahlberg, chairman of the Geography Department, is the editor and the man to harass if your copy has a page missing. MAPNOTES is also actively soliciting news items, meeting notices, and descriptions of new maps and map-related publications. If you have relevant information, please pass it on to Professor Dahlberg.

MEETINGS AND CONVENTIONS

July to December 1977

National Association of Counties	Detroit, Michigan July 24-26
XI General Assembly and Meetings of Consultation, PAIGH	Quito, Ecuador August 15-29
Third U.N. Conference on Geographical Names	Athens, Greece August 17-Sept.7
Third Symposium on Antarctic Geology and Geophysics	Univ. of Wis. Madison, Wisconsin August 22-27
American Institute of Planners	Kansas City, Missouri October 8-12
Fourth Regional Cartographic Conference for Africa	Abidjan, Ivory Coast October/November

International Symposium on Image Processing

Technical University
Graz, Austria
October 3-5

ASP-ACSM Meeting

Little Rock, Arkansas
October 18-20

Sensing of Environmental Pollutants

New Orleans, Louisiana
November 6-11

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Land Use and Land Cover Maps and Data Program

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345 Middlefield Road
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710 National Center
Reston, Virginia 22092
703-860-6256

Folded maps

Branch of Distribution
U.S. Geological Survey
1200 South Eads Street
Arlington, Virginia 22202
703-557-2781

Branch of Distribution
U.S. Geological Survey
P.O. Box 25046
Denver Federal Center
Denver, Colorado 80225
303-234-3832

Second Edition APSRS catalogs

See addresses for NCIC regional
offices

ERTS-1 A New Window on our Planet

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Research Guides for the Western
Hemisphere

Servicios Bibliograficos
Secretaria General del IPGH
Ex-Arzobispado 29
Mexico 18, D.F.
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MAPNOTES newsletter

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