

PUBLIC HEALTH GIS NEWS AND INFORMATION

May 1999 (No. 28)

Dedicated to CDC/ATSDR scientific excellence and advancement in disease control and prevention using GIS

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I. Public Health GIS (and related) Events

SPECIAL CDC/ATSDR GIS LECTURE: "American FactFinder," Amy Bishton, Data Access and Dissemination Staff, U.S. Bureau of the Census, **May 11, 1999**, NCHS Auditorium, 2:00-3:15 P.M. Sponsored by the NCHS Cartography and GIS Guest Lecture Series, CDC/ATSDR Behavioral and Social Science Working Group, and CDC Statistical Advisory Group [see abstract this edition; Envision is available to offsite CDC/ATSDR locations through your Envision Coordinator]

L Recently posted-National Conference on Violence and Reproductive Health: Science, Prevention, and Action, Centers for Disease Control and Prevention, June 14-16, 1999, Atlanta, GA [Contact: Jennifer Wingo at e-mail hzw2@cdc.gov]

K National HIV Prevention Conference, Centers for Disease Control and Prevention, August 29-September 1, 1999, Atlanta GA [See: http://www.cdc.gov/nchstp/hiv_aids/conferences/nhpc99.htm]

L Leading Survey And Statistical Computing Into The New Millennium, The Association for Survey Computing, The University of Edinburgh, September 22-24, 1999, Scotland, UK [See: <http://www.assurcom.demon.co.uk>]

K The Second International Workshop on Urban 3D/Multi-Media Mapping (UM3'99), Institute of Industrial Science(IIS), September 30-Oct. 2, 1999, The University of Tokyo, Japan [Contact: Zhongchao Shi at e-mail shizc@skl.iis.u-tokyo.ac.jp or see

<http://shiba.iis.u-tokyo.ac.jp/um3>]

L Annual Meeting of the North American Cartographic Information Society, October 20-23, 1999, Williamsburg, VA [Contact: Tom Patterson at voice (304) 535-6020 or e-mail patterson@ix.netcom.com]

K 7th ACM International Symposium on Geographic Information Systems, November 5-6, 1999, Kansas City, MO [See <http://www.dcc.unicamp.br/~cmbm/acmgis99> or contact Claudia Bauzer Medeiros at e-mail cmbm@dcc.unicamp.br]

L Annual Meeting of the Society for Public Health Education (SOPHE), "Celebrating 50 Years of Leadership and Vision for Health Education," November 5-7, 1999, Chicago, IL [See: <http://www.sophe.org>]

K 127th Annual Meeting of the American Public Health Association, "Celebrating a Century of Progress in Public Health," November 7-11 1999 in Chicago, IL [See: <http://www.apha.org/convention/fusion99/index.htm>]

L GEOMED'99, Second International Workshop on Geography and Medicine, November 22-23, 1999, Paris, France [See http://www.b3e.jussieu.fr/geo_med99]

II. News from GIS USERS

(Please communicate directly with colleagues on any issues)

A. General News (and Training Opportunities)

1. From **Tracey Snyder**, USGS (1999 Training Workshops): The U.S. Geological Survey of the Department of the Interior is presenting a series of

topical workshops pertaining to mapping, vegetation, photo-interpretation, remote sensing and Geographical Information Systems. The workshops are part of an effort to exchange information and provide access to spatial technologies developed at the center for natural resource survey. The workshops are available to the general public educators, state and federal agencies. Workshop participation by the international community is also greatly encouraged. Most of the workshops are 3 days long, creating compact presentation of materials. No previous experience in any of the topical workshop is assumed, except for advanced workshops. [Contact: Pat O'Neil at e-mail pat_o'neil@usgs.gov or visit <http://www.nwrc.usgs.gov>]

2. From **Harlan Onsrud**, UCGIS: In the near future you are likely to receive a preliminary program for the 1999 National Geodata Forum to be held at the Marriott at the Metro Center in Washington, D.C. on June 7-9 (www.fgdc.gov/99Forum). As you will recall from our summer meeting, we agreed that our major Washington D.C. event this year would be held in conjunction with this event. On Tuesday June 8, UCGIS will host an evening reception at the National Geographic Society showcasing UCGIS member institutions' geographic information science research, education and policy programs. Invited to this reception will be members of Congress from your state, Congressional scientific staff, federal agency personnel that fund GI science research, and attendees at the GeoData Forum. We also will attempt to identify and invite federal agency personnel directly involved in funding GI science research at their agencies. This should be a great opportunity to let the nation and your own members of Congress know about the importance of your university's geographic information programs and activities. [Contact: Harlan Onsrud, Chair, UCGIS Policy and Legislation Committee, University of Maine at voice (207) 581-2175 or e-mail onsrud@spatial.maine.edu]

3. From **David Mark**, NCGIA-Buffalo (Report Available-Workshop on Geographic Information Science and Geospatial Activities at the National Science Foundation): As you may recall, the goal to "work with NSF to create long-term programs or initiatives that would specifically fund GI Science research" was tied for highest priority among the 86 goals rated in the

UCGIS member needs survey last year. In January 1999, I co-chaired a 2-day workshop at the National Science Foundation that I hope will be useful to UCGIS in our efforts to secure increased research funding for GI Science. The workshop, entitled "Geographic Information Science and Geospatial Activities at the National Science Foundation," included 20 invited participants from outside of NSF, and 15 NSF observers. A participants list is included in the workshop report. A report on the workshop, entitled: "Geographic Information Science: Critical Issues in an Emerging Cross-Disciplinary Research Domain" was completed at the end of February and transmitted to NSF at that time. It is available on the Web at <http://www.geog.buffalo.edu/ncgia/workshopreport.html>. There will be a session at the UCGIS Summer Assembly to discuss this report, and strategies for using it and other material to influence funding policy. I would be very interested in hearing your comments on the report and its implications, and strategies for using it to increase funding available for GI Science research. [Contact: David at e-mail dmark@geog.buffalo.edu]

4. **National Conference on Violence and Reproductive Health: Science, Prevention, and Action** (see announcement Part I of this edition)- This groundbreaking conference will be the first to address the relationship between violence against women and reproductive health, including pregnancy, childbearing, reproductive decision making, contraceptive use, and risk of HIV/STD infection. The conference will bring together approximately 200 invited participants including health care professionals, victim advocates, program specialists, and policy makers. Conference goals are to increase awareness and understanding of the relationship between violence against women and reproductive health issues, and to lay the groundwork for future activities to reduce violence within the context of improving women's reproductive health. [Contact: Jennifer Wingo at e-mail hzw2@cdc.gov]

5. From **Ruth Detlefsen**, Census Bureau: The Federal Committee on Statistical Methodology (FCSM) Research Conference will be held on November 15-17, 1999 at the Key Bridge Marriott in Arlington, Va. Talks and demonstrations will be presented on a wide range of

topics including the use of administrative data, small area estimation, meta data and data warehousing, statistical data analysis, improvements and alternatives to census-taking, cognitive research methods, estimation and editing, impact of the American Community Survey, matching and record linkage, confidentiality, response issues, new technologies, seasonal adjustment, data collection, statistical software, and display, dissemination and integration of statistical information. The conference will provide a forum for experts around the world to discuss and exchange current research and methods on areas relevant to Federal government statistical programs. [Contact: Ruth at voice (301) 457-2665 or e-mail fcsn@ccmail.census.gov]

6. **Editor:** I want to take this opportunity to extend best wishes to **Dr. Linda Pickle** who is leaving NCHS to return to work at the National Cancer Institute. Many of you know Linda through her work on the Atlas of United States Mortality and her accomplishments in cancer research and statistical modeling. Linda is an outstanding research scientist and I'm sure we will be hearing more good things from her in the future. Chuck Croner

B. Technical News

7. From **Bob Roscoe**, NIOSH: You might be interested to note that the map on page 216 of the March 19, 1999 MMWR was done in ArcView GIS. After a great deal of debate concerning better ways to convey our message, the MMWR editorial people finally admitted that they knew of no better way than the map we originally created. Although this graphic does not use GIS in its more traditional way, I am aware of no other program that had the flexibility to place the histograms as we intended. The graphic was created by a Public Health Prevention Service fellow named Matthew Nwosu who co-authored the report with me while at NIOSH. Matt has since joined CDC's polio eradication program in Atlanta. Matt learned ArcView GIS while a grad student at the University of Michigan [Contact: Bob at voice (513) 841-4424 or e-mail rjr1@cdc.gov]

8. From **Rob Lake**, Case Western Reserve University (GIS and confidentiality): When I did some pro-bono work in visualizing and animating AIDS mortality on a county-by-county, week-by-week basis, the data was

required by CDC to be "corrupted" by averaging over a 12-week "boxcar" and eliminating any county with less than a threshold number of counts. In any case, the work can be viewed at <http://www.ciesin.org/datasets/cdc-nci/cdc-nci.html>. [Contact: Rob at e-mail rbl@po.cwru.edu]

9. From **Jerry McFaul**, USGS: Take a look at the LandView III software and data compiled by the EPA, CENSUS, NOAA, and USGS. There are 10 CD-ROM discs covering the entire country at a scale of 1:100K with lots of demographic and environmental data layers coming from CENSUS and EPA. We here at the USGS have contributed additional data layers to the LandView III project and find the GIS-type display capabilities of the LandView software to be very useful in many applications. It's easy to use, it's relatively powerful, and, best of all, in the public domain [Contact: Jerry at voice (703) 648-7126 or e-mail jmcfaul@usgs.gov]

10. From **Jimmie Givens**, NCHS (forwarded announcement-Public beta version of WordStat v2.0): Last June, we released the first version of WordStat, a new qualitative/content analysis module for Simstat. The response until now has been very positive both from our existing customers and from qualitative researchers and content analysis experts. Since then, two minor updates have been released mainly to provide additional features such as an integrated spell-checker (version 1.1) and the ability to code not only words but also expressions (version 1.2). We are now working on a major upgrade to WordStat. This new version 2.0 will include among new features: Integrated multidimensional scaling with 2D and 3D maps; Easier to use dictionary system with support for multi-level categorization and analysis; Improved dendrogram display with color coding of cluster solutions; Integrated thesaurus (English only) to assist the creation of categorization schema; Flexible record filtering on numeric or alphanumeric fields and on code occurrence (with AND, OR, and NOT boolean operators); Improved computation speed (from 2x to 20x faster); Customizable KWIC display (paragraph, sentence or user defined segment); Report function (displays all hits as a list of paragraphs, sentences or user defined segments); Ability to select a memo field linked to individual records to either write annotations, side notes, raters codes, etc., and; Analysis options and

dictionaries are now linked to data files. We are currently looking for beta testers for this new version of WordStat. [See <http://www.simstat.com/wordstat.htm> or contact Normand P-ladeau at e-mail www.simstat.com]

C. Internet News

11. From **Richard Hoskins**, Washington State Department of Health (WAPHGIS, another new listserv): The Northwest Center, in cooperation with the Washington State Department of Health, is pleased to announce the launching of another e-mail listserv: waphgis. This electronic mailing list is intended to foster discussion of issues surrounding the use of GIS for public health purposes. In short, the goal is to see how best to apply GIS in solving public health problems whether in Washington State or elsewhere. To subscribe to the list, send a message to listproc@u.washington.edu with the request "subscribe waphgis" followed by your name in the body of the message, like so: subscribe waphgis Jane Doe [Contact: Richard at voice (360) 236-4270 or at e-mail reh0303@doh.wa.gov or visit <http://healthlinks.washington.edu/nwcp/hp/waphgis.html>]
12. From **Bobby Milstein**, OPPE, OD CDC (Qualitative Research Methods Bibliography): If you haven't seen this yet, you might like to take a look at the extensive bibliography on qualitative research methods located at the following site: <http://www.quarc.de/literathanksture.html>. [Contact: Bobby at (404) 639-1492 or e-mail bym2@cdc.gov]
13. From **Lois Dean**, HUD: Check out the resources to be found on the HUD Web site. I was looking at the site for non-profits (<http://www.hud.gov/nplinks.html>) and came across this notice. It is a potential source of funding for GIS software and training for partnerships of local organizations and their colleges and universities: Urban Community Service Program- The Urban Community Service Program provides grants to urban institutions of higher education (IHEs) to assist projects designed to encourage the use of urban IHEs as sources of skills, talents and knowledge that can serve the urban areas in which they are located. [Contact: Sarah Babson, Department of Education, at voice (202) 260-3472]
Also, take a look at <http://www.hud.gov/cpd/2020soft.html>. HUD'S Community 2020 GIS software is targeted to community-based mapping in terms of its data, ease of use, price, and extensive local project data. It includes Census data to the block group level, 640 different census data elements, population estimates and projections to 2007, data for virtually all HUD projects and assisted housing (FHA-HOME-CDBG) and packaged in HUD's user-friendly data-access tools with Maptitude's set of design, data, mapping and analysis tools. You will find Community 2020's data and mapping useful for preparing applications for funding. [Contact: Lois at e-mail lois_dean@hud.gov]
14. From **Hortensia Amaro**, Boston University School of Public Health: It give me great pleasure to report that the Institute for Minority Health Research at Emory School of Public Health has created a WWW site for us to continue our work to Close the Gap in Racial and Ethnic Disparities in Health. I took many of your suggestions into consideration in creation of the site. In order to make this work I had to place the GAP program within the context of the ongoing activities of the Institute for Minority Health Research. It is my response to Dr. Satcher's charge for each of us to take responsibility for closing the gap. The new site (<http://www.sph.emory.edu/bshe/imhr>) includes WWW links to other sites and you can add to this list. Also, we are working to create a profile page so that minority health professionals can be listed after completing an online form. Be sure to check out the news and events and use this space to post information on upcoming meetings. [Contact: Hortensia at voice (617) 638-5146 or e-mail hamaro@bu.edu]
[Editor: In a related development, readers may wish to view online a new report from the Institute of Medicine entitled "The Unequal Burden of Cancer: An Assessment of NIH Research and Programs for Ethnic Minorities and the Medically Underserved," at <http://pompeii.nap.edu/books/0309071542/html/index.html>; the report deals with culture, race, ethnicity, and class issues in NIH-sponsored research]
15. From **Paul Anderson**, Illinois State University: In case you have not already had an article in the newsletter about the project mentioned below, you probably will want to include something about a UN site in the UK that

has free GIS software and utilities that have use for developing countries (and elsewhere). The reference is "Software Development and Recent Technological Innovations for Geographical and Statistical Applications for Population Activities" by Patrick Gerland, United Nations Statistics Division and Duy Man Vu, United Nations Statistics Division, Department of Economic and Social Affairs, accessible at <http://ubs1.ubs.ulst.ac.uk/~unfpa/papers/pgvdm98.htm>. [Contact: Paul at voice (309) 438-7360 or e-mail psanders@ilstu.edu]

16. From **Chet Moore**, NCID CDC Ft. Collins (Sensor Evaluation Web Page - NASA/CHAART): I received a note from Byron Wood at CHAART, NASA Ames Res. Control, noting that they have a new web page relating to human health aspects of remote sensing. The site includes some introductory material; a series of pages listing disease characteristics and geographic distribution; a bibliography of papers on RS and human/animal health, entomology, etc.; and an interactive sensor search for health applications ("...search through 167 potentially useful sensors to identify those that might have specific utility for some aspect of disease surveillance or control."). The Web site- <http://geo.arc.nasa.gov/sge/health/sensor/sensor.html>. Byron notes: "We would very much appreciate any comments you might have on the organization and usefulness of the interactive Sensor Evaluation pages."

17. From **Allen Hightower**, NCID CDC Atlanta (forwarded): The Department of Geography and Planning at Appalachian State University, Boone, NC, will offer a GIS training course June 9-11, 1999, focusing on the applications of geographic information systems (GIS) in International Health. Geographic information systems are powerful tools that can enhance the measurement, monitoring, mapping, and modeling of geographic data. The applications of GIS in International Health are far-reaching; topics introduced in this course will include the use of GIS to assess geographic access to health care, model health facility locations, monitor immunization rates, track the spread of infectious diseases, and model health personnel distributions. In addition, the course will cover such topics as the integration of global positioning system (GPS) and image processing technology in a GIS, the acquisition

and availability of digital cartographic data in developing countries, database design and management, and map interpretation and mapmaking. Classes will be held in the GIS and Image Processing Training Laboratory, which features state of the art GIS hardware and software. This course will be taught using ArcView GIS software by Environmental Systems Research Institute (ESRI), Inc. The cost, not including room and board, is \$50 for the course. [For more information contact Baker Perry at e-mail perrylb@appstate.edu]

D. ATLANTA GIS USERS NEWS

Excerpts: At the March 16, 1999 meeting Ralph Vaughn talked about an IRMO Internet initiative to fund and maintain a GIS server and software. The initiative is a five year project with annual funding. Support of the initiative needs to be communicated to management and administrative officers. Also, it was noted that according to the GSA schedule, an ArcView site license is \$685.00. There appeared to be some agreement in the group that ArcView site licensing decisions need to be Center specific. And, an initial committee structure for the Atlanta GIS Users was proposed. The following committees were suggested (names in parentheses indicate primary interest): 1. Education-Speaker invitations and coordination, training, and problem-solving (Michelle Casper); 2. Information Resources-Professional liaison responsibilities to the larger CDC/ATSDR GIS Users Groups in Hyattsville and CDC/ATSDR administrative structure; 3. GIS Technology Sharing - includes information sharing on hardware and software, new products, and other technology related issues (Dabo Brantley, Alda Thomas). 4. Special interest groups - for example, spatial statistics (Kent Wagoner).

III. GIS Outreach

(Editor: All solutions are welcome and will appear in the next edition; please note that the use of trade names and commercial sources that may appear in *Public Health GIS News and Information* is for identification only and does not imply endorsement by CDC or ATSDR)

F From **Jacquie Lucas**, NCHS: I am a statistician in DHIS. One of our ASPH fellows (Anjum Hajat) and I are interested in learning more about how to use

geographic mapping in the analysis and presentation of NHIS data. Specifically, we are interested in illustrating the geographic clustering of health behaviors/characteristics in various racial and ethnic subgroups. Any help one could provide in this would be greatly appreciated. [Contact: Jacquie, Health Statistician/Epidemiologist, at voice (301) 436-7089, ext. 141 or e-mail: jbw4@cdc.gov]

? From **Tom Brody**, EPA: I have been leading an effort in Region V to gather human health information in the areas of blood lead screening and asthma prevalence. Does CDC collect these data, and would it be possible to get them at levels as small as zip code or census tract for the Region V States (IL, IN, MI, MN, OH, WI)? [Contact: Tom at e-mail brody.tom@epamail.epa.gov]

F From **Karl Sieber**, NIOSH: I have a question concerning 3-dimensional mapping of rates, etc. Do you know if anyone at NCHS or elsewhere in CDC has done this? I notice the recently-released S-Plus/ARCVIEW module allows 3-d mapping; I am not sure of other software. The question came up when a researcher here commented that looking at different shades on the map might be more difficult than looking at peaks and valleys, say, representing different rates in different areas. This could be important for looking at areas where surveillance/or intervention programs might be targeted. [Contact: Karl at voice (513) 841-4231 or e-mail wks1@cdc.gov]

? From **Matthew Stefanak**, Mahoning County (Ohio) Health Commissioner: The ATSDR 2-day intro GIS course you mentioned in the March 1999 edition of Public Health GIS News and Information sounds interesting. How can I try to bring it to Ohio? ANSWER (from Virginia Lee, ATSDR): The program mentioned is an internal ATSDR training program. We don't really have the resources to take the course on the road. We are happy to share the course handouts and syllabus with anyone who requests them. [Contact: Virginia at voice (404) 639-6056 or e-mail cv11@cdc.gov]

F From **Jan Buhrmann**, EPA: I would like to see if any of you have some good sources of human health databases for the following states: Colorado, Montana,

Utah, Wyoming, North Dakota and South Dakota. I work for the EPA in Region 8 (Denver) for the Environmental Justice Program. We are currently developing a project to integrate human health data with our GIS mapping system (that currently includes minority populations, low-income populations, Superfund, and other regulated facilities). If you know of GIS compatible databases for any or all of these states, I'd very much appreciate your passing along the information. We are primarily interested in databases covering: blood lead levels, respiratory diseases, cancer rates, skin diseases (rashes; dermatitis), and thyroid problems/hyperthyroidism. Thanks in advance for any help you can provide. [Contact: Jan at voice (303) 312-6557 or e-mail Buhrmann.Jan@epa.gov]

? From **Paul Anderson**, Illinois State University: I would like to discuss how my local area mapping for GIS can be linked to disease issues, especially for malaria. I am trying to get more detailed info available for reading on the Web [Contact: Paul, Department of Geography-Geology, at e-mail psanders@ilstu.edu]

F From **Daniel Exeter**, University of Auckland: We are currently trying to establish an international data holding of population, mortality/morbidity, and environmental data. It is envisaged that this will contain both descriptive data and spatial data. Does anybody currently have a similar database? I am working on the New Zealand situation at the moment. What we want to know is what the data is, where it is located, the cost -if appropriate, and the accessibility to it (i.e if purchased does it become available to the public, or is it restricted to current research). Any help would be greatly appreciated. [Contact: Dan at e-mail d.exeter@geog.auckland.ac.nz]

? **Hugo Pilkington**, Unite de Parasitologie Medicale, CIRMF - Franceville, BP 769 Gabon : I am presently working on a GIS project in rural Gabon (Central Africa), to assess environmental components in malaria transmission. Part of this study has shown significant spatial differences over time in vector densities within the village. I have tried taking into account several factors to try and explain this spatial differentiation, nothing is very satisfactory, however. Does anyone have any comments, thoughts or experience with this kind of problem?

[Contact: Hugo at e-mail pilk@club-internet.fr]

F From **Mary Gillispie**, Fargo Cass Public Health, North Dakota: Data confidentiality is a real problem in areas of low population such as North Dakota. There are only about 600,000 in the entire state. In talking with the director of our state census data center, he said that their policy is to not break down populations below 30 people for any public release of data. Has anyone looked at national Census Bureau policies to serve as GIS confidentiality guidelines? [Contact: Mary is a MD Health Officer at e-mail magillispie@ci.fargo.nd.us]

IV. Special Reports

(Submissions are open to all)

~ ESRI Livable Communities Grant Series: Health & Human Services- The goal of this program is to foster and support the integration of geographic information system (GIS) software in health and human services organizations. Software and training grants totaling \$725,000 will be awarded to health and human services organizations within the United States. The ESRI® Livable Communities Grant Series: Health & Human Services has been established to provide assistance to organizations with responsibility for providing public health and human services by the establishment of organizational wide GIS projects; provide software for the establishment of georeferenced health and human service data; and establish organizational data sharing. The grant program consists of a \$725,000 GIS investment program. ESRI will provide software and training to a total of 100 organizations meeting the requirements of an eligible health and human services organization. Grant recipients will receive the following:

1. One copy of ArcView® GIS
2. One copy of GeoHealth, Inc. BodyViewer™
3. One copy of GeoHealth, Inc. PatientAccess™
4. One copy of GeoHealth, Inc. MedicareMapper™
5. One copy of GeoHealth, Inc. Health GeoData Mart™
6. One Copy of BusinessMap Pro™
7. One copy of SAIC CATS™
8. One copy of ArcExplorer™
9. One Introduction to ArcView GIS Class via ESRI's Virtual Campus

“Increasingly, health and human service departments are required to do more with less. The use

of GIS on an enterprise basis is a powerful way to leverage resources and demonstrate accountability. We are hopeful that the award of these grants will assist communities plan and deliver on their important community missions” (Bill Davenhall, Manager, Health Solutions Group). Eligibility: The grant is open to all forms of health and human service organizations. Examples of organizations that are eligible include: Local and regional health and/or human services organizations; Health Departments or Authorities - Social Services Departments or Agencies; and Human Service Departments or Agencies.

Priority is given to organizations demonstrating collaborative efforts with multiple departments within a single agency; Projects that create innovative approaches to health and human service planning, operations, promotion, or service delivery using GIS, and; Projects that demonstrate or encourage the sharing of geographically enabled health and/or human service data with other agencies, departments and community organizations.

Provisions: To meet the goals of the Livable Communities Grant Series: Health and Human Services, recipients must agree to: Use the GIS technology only for departmental, agency, organizational endorsed projects and share results of the GIS projects with other health and human service organizations and agencies. Performance Reporting: Grant recipients agree to provide to ESRI with a performance report on the status of the grant-funded project 12 months after the grant award.

Additional Information: The grant program is limited to one grant per eligible organization. Preferential consideration for grant awards will be given to organizations not currently using ESRI software. Maintenance for ESRI software becomes the responsibility of the grantee after the first year. Award Period: April 1, 1999, to November 1, 1999. Date of Notification: Grant awards will be announced in three phases. Applications received during the program will remain eligible throughout the entire award period. There is no need to reapply. All recipients must agree to have their organization's name used in ESRI press releases and direct mail campaigns. Notification of grant awards will be made on the following dates: Phase I– June 1, 1999; Phase II– August 16, 1999, and Phase III– November 1, 1999.

Procedure for Applying: Two (2) copies of the application must be received no later than 5:00 p.m., October 1, 1999. Each applicant must provide a typewritten response for each of the following in the format requested. Items D through I must be submitted on a maximum of three pages, double-spaced. A. Letter of support signed by agency/ organizational head (one page maximum). B. Provide organizational profile with the following details (one page maximum, double-spaced). 1. Organization name, 2. Organization mailing address, 3. Service area population, Organization contact, Contact phone, fax, and E-mail, and Organizational chart. C. Please provide a response to the statement, "Why my health and/or human services organization should be considered for the Livable Communities Health and Human Services grant (two pages maximum, double-spaced). D. Description of the use of any GIS/CAD software currently used by your organization. Description of key personnel: 1. Proposed management structure of GIS program, 2. Proposed GIS management personnel (specify title or staff member) and 3. Proposed GIS technical/professional staff (specify title or staff member). F. Description of plans to distribute GIS data and applications throughout your organization: 1. Describe managing department and 2. Describe how multiple department participation will be encouraged. G. Description of hardware to be used: 1. Information on computer(s) to be used and 2. Information on printer/plotting equipment. H. Description of proposed applications or use of GIS databases. I. Description of perceived benefits or return on investment.

Review Process: An internal team of ESRI composed of members of the Government Group will review all applications in the initial phase. The appropriate ESRI regional office will conduct the final phase of the review process that will result in the designation of finalists.

Submitting Your Application: **2 copies of the application must be received no later than 5:00 p.m., October 1, 1999.** Mail applications to- Grant Coordinator, Health and Human Service Grant Program, 380 New York Street, Redlands, CA 92373-8100. Contact Information-please direct all inquiries to Grant Coordinator at voice (909) 307-3110, FAX(909) 307-3039 or e-mail locgovgrant@esri.com. [Source: Jennifer Zoerkler at voice (703) 506-9515, Ext. 8055 or e-mail

jzoerkler@esri.com]

~ 1999 ESRI Federal User Group Meetings (April 29-30), National Geographic Society, Washington, D.C. (excerpts): About 200 federal users gathered at Explorer's Hall for very informative presentations on the Environmental Research Institute, Inc. (ESRI) GIS developments and uses of hardware and software. No one was more engaging than Jack Dangermond, ESRI President, who described the many ESRI GIS product investments with a perspective on the future. Jack's basic theme was "Geography and GIS brings all the parts together," that GIS is an integrative technology. In fact, a new initiative by the National Geographic Society, Association of American Geographers, and ESRI termed "GIS Day" will be held the last day (November 19) of Geography Awareness Week this year with a commemorative ESRI "Open House" planned in their new Washington, D.C. building.

Jack stressed we will all witness an increased use of GIS data in the future. Global Positioning Systems (GPS) chips will be integrated into cellular phone technology and already have shown 30 meter accuracy on 911 calls in several locations. By 2001, these will provide x,y locational accuracy and wireless communication will dominate. Server-based GIS will be offered by many agencies (GIS layered on top of the network).

He noted that ESRI has spent over \$100 million rewriting ArcView and ArcInfo over the past two and one-half years with the goal to make ArcInfo 8.0 easier to use than ArcView. ArcInfo 8.0 will have a toolbox function (wizard based) to add behavior to your data e.g., a new type of topology adding intelligence to the data. For example, in an object oriented data model designed for facilities a 10" pipe would know it couldn't be attached to a 12" pipe. Advanced geostatistics, such as kriging, cokriging and covariance analysis and modeling will be included. ArcInfo 8.0 will have a "componentized" GIS architecture e.g., objects that can be decomposed such as maps inside of applications through OLE COM and JAVA; about 8,000 embedded objects can be employed.

Jack also mentioned that ArcView 3.1 has been a large success and a variety of extension updates will release this year. ArcView 4.0 will be a lightweight version of ArcInfo, use 3X technology, and will be

available sometime in year 2000. Avenue will continue to be supported.

There were two other developments I noted. One, Jack drew attention to five communities that are successfully demonstrating the National Spatial Data Infrastructure (NSDI) in action e.g., fostering development of spatial data and spatial data sharing at all levels of government. These include Dane County, Wisconsin; Tillamook County, Oregon; Susquehanna-Lackawanna River; Tijuana River Watershed, and; Baltimore City Police Department, Maryland. Two, he believed the ESRI "Virtual Campus" to be very useful and cost effective at only \$80 per class. About 20 classes will be offered by the end of the year. ESRI also serves as a host site and can accommodate any agency's course offering as well. They offer a book store, certificates, and many other amenities that appeal to those enrolled.

Presentations on the use of ArcInfo and ArcView were demonstrated by other participants. Agency demonstrations included "Integrating ArcView GIS in Oracle Applications" (U.S. Forest Service); "Coastal and Offshore Resource Information System" (Minerals Management Service, U.S. Department of the Interior); "TIGER and the American FactFinder" (U.S. Census Bureau); "The National Atlas of the United States of America" (U.S. Geological Survey); "A Web-Based GIS for Integrated Regional Ocean Management" (U.S. National Oceanic and Atmospheric Administration); "GIS Mapping Applications at the Bureau of Indian Affairs" (U.S. Bureau of Indian Affairs); "BIA Land Title Mapper System" (U.S. Bureau of Indian Affairs); "Hurricane Mitch Disaster Relief" (U.S. Geological Survey); "ENGLink's Interactive Geospatial Components: Intranet GIS for Emergency Management (U.S. Army Corps of Engineers); "The National Spatial Data Infrastructure: Coordinating Geographic Data Acquisition and Access" (Federal Geographic Data Committee), and; "EnviroMapper: Internet GIS Assisted Environmental Analysis (U.S. Environmental Protection Agency).

V. GIS and Related Presentations and Literature

(This section may include literature citations, abstracts, syntheses, etc., and submissions are open to all)
NCHS Cartography and GIS Guest Lecture Series

"American FactFinder," Amy Bishton, Data Access and Dissemination Staff, U.S. Bureau of the Census, **May 11, 1999**, at the NCHS Auditorium (with Envision available to offsite CDC/ATSDR locations), 2:00-3:15 P.M. Abstract: This will be an online demonstration of the first production release of American FactFinder, a data access and mapping components World Wide Web technology tool for the general public. This new tool is designed to allow the public fast access to Census information concerning user communities. American FactFinder accesses data from the 1990 and 2000 Decennial Censuses of Population and Housing, the American Community Survey (with updates of the decennial census data collected every year beginning about 2002), and the 1997 Economic Census. One can search Census STF databases, with metadata description, and format the results to create customized tables (or download to spreadsheets), construct reference maps to show boundaries and features for geographic entities, and produce quick thematic maps to reveal geographic patterns in statistical data. There is ongoing discussion as to how the full Decennial microdata files data can be included with confidentiality filters. The main contractor for FactFinder is IBM, with ORACLE handling the database and ESRI the mapping components, respectively. One can visit the American FactFinder by following the link from <http://www.census.gov/dads/www/> to http://factfinder.census.gov/java_prod/dads.ui.homePage.HomePage. [Contact: Amy at voice (301) 457-3508 or e-mail abishton@census.gov]

National Conference on Health Statistics

(August 2-4, 1999)

Use of Geographic Information Systems (GIS) for Data Analysis, Concurrent Session U, Tuesday, **August 3, 1999**, National Conference on Health Statistics, "Health in the New Millennium: Making Choices, Measuring Impact," National Center for Health Statistics, Omni Shoreham Hotel, Washington, D.C. Public health applications that use GIS technology are presented in this session. A timely range of GIS topics is examined including geocoding, the incorporation of market research into epidemiologic data, spatial

statistical modeling of low birth weights, and mapping survey data with synthetic estimation. The program includes:

10:40-11:00 A.M. "Geocoding of New Jersey Births and Fetal Deaths for 1989-1996," Mark Fulcomer, Center for Health Statistics, New Jersey Department of Health and Senior Services. Abstract: Based on the development and successful application of an address standardization procedure, this presentation describes the results of a project geocoding all births and fetal deaths of New Jersey residents from 1989 to 1996. Over that eight-year time span, the database includes records for 971,830 births and 8,821 fetal deaths. By matching records to birth certificates, 7,981 infant deaths are also included. The address standardization procedure has built-in geocoding features that facilitate linkages among data sources for GIS areas, down to the census block-group level of detail. The vast majority of the 7,938 GIS areas are census block-groups, although some areas covering census tracts and entire municipalities are also necessary to account for missing or unusable addresses.

The database has been heavily utilized for school planning purposes, especially since it corrects confusions of boundaries between 624 zip-codes and 566 municipalities and allows enumeration at the sub-municipality level. For example, in the state's largest city (Newark) the 46,693 births were distributed across 263 distinct GIS areas, which has facilitated recent school planning and health assessment efforts there. Displays of the procedure's latitude and longitude information have also been employed in some cluster investigations of childhood cancers and birth defects. Other applications have included linkages to census indicators (e.g., income) to evaluate health program interventions. Starting in 1995, the statewide installation and implementation of an electronic birth certificate (EBC) system in all birthing facilities has greatly improved the accuracy and timeliness of the geocoding information. More recent EBC-related enhancements have included the reduction in the time required to match infant death records (as part of an immunization registry initiative) and the addition of a fetal death module.

11:00-11:20 A.M. "Geographic Information Systems, Public Health Data, and Syndicated Market Research Data Bases in Health Communication Planning," William E. Pollard and Susan D. Kirby,

Centers for Disease Control and Prevention. Abstract: Geographic information systems (GIS), public health data, and syndicated marketing research data can be used to complement each other in the design of health communication for at-risk populations. Syndicated marketing data bases containing information about population demographics, media habits, and lifestyle are widely-used in the commercial sector to segment the population into target audiences for message development and delivery. These data bases have potential for enabling more precisely targeted health communication than has previously been possible.

In this project the marketing data base, licensed by Claritas, Inc., contains an integrated set of U.S. Census data at the block group and higher levels of geography GIS boundary files and mapping capabilities, and data from Simmons Market Research Bureau survey of media habits, product use, and lifestyle. All block groups can be classified into one of 62 geodemographic segments or lifestyle clusters based on factor-and-cluster-analytic studies of census and marketing data by the developers of the data set. These clusters have distinct demographic and marketing characteristics that are relevant for communication design: identifying the clusters which comprise the target audience provides direction for choice of message content, format, and channels, and for selection of geographic areas for focused interventions.

For public health applications, epidemiological data on the geographic distribution of cases can be used in conjunction with the marketing data to identify the communication-relevant characteristics of at-risk populations. In this paper we describe examples linking epidemiological data, available in aggregate form by ZIP code, with the marketing data base for communication planning. We discuss statistical methods for relating ZIP code level case counts with the more precisely-classified block group clusters. Issues of confidentiality in GIS analyses using public health data files are addressed.

11:20-11:40 A.M. "Mapping Low Birth Weights in Colorado," Mark D. Egbert, Chun-Lo K. Meng, and Carol J. Garrett, Colorado Department of Public Health and Environment; James A. McGregor, Denver Health Medical Center. Abstract: Low birth weight has long been identified as a problem for Colorado's percentage of low weight births has been higher than the national average for each year since 1950.

Colorado is also ranked first in the nation for the highest percentage of low weight births among white mothers. Although much concern and research work has been generated about this topic, few attempts were made to examine the spatial distribution of low weight births. This project applied GIS technology to analyze the spatial trends, to identify the association between low weight births and environmental conditions, and to help health professionals identify communities where risk factors were highest.

A logistic regression model was used to identify the significance of various independent variables associated with low birth weights. Variables that were examined include; mother's age, race, education, marital status, maternal smoking status, mother's weight gain during pregnancy, gender of the child, prenatal care, the elevation of the mother's residence, selected medical risk factors, and complications of labor and delivery. All Colorado singleton births with complete information from births certificates during the period of 1989-1996 were included in this study.

Odds ratios or t-statistics were calculated for each of the independent variables to examine the significance of each factor. Furthermore, the expected percentages of low weight births were calculated at the census block group level in Colorado using the parameter estimates from the regression results. The residuals, the differences between actual and expected percentages of low weight births were also analyzed in order to identify any possible patterns associated with "unexplained" portion of this problem.

A series of maps were then prepared to examine the spatial distribution and relative severity of each variable. For mapping purposes, the data was summarized according to the 1990 Census block group designation of the mother's residence at the time of birth. Each variable was mapped separately, and color-coded according to that variable's relationship to the statewide mean for that variable. A number of proximal relationships, or "spatial trends" were identified from these maps. By examining these maps together, researchers were also able to identify very clear associations between the spatial distribution of low weight births and the spatial distribution of some of the variables in the statistical model.

Researchers found immediate value from utilizing this methodology; both as a way to identify proximal

relationships, and as a way to query specific communities. Through the use of this method, large spatial trends in the data were identified. These large trends are being used to identify problem areas, and "tailored" intervention programs (such as; education programs, prenatal care, smoking cessation programs, etc.) are being implemented in these problems areas.

11:40-NOON. "Mapping Survey Data Using Spatial Synthetic Estimation," Marcus Cheatham, Ingham County Health Department, MI. Abstract: One of the most interesting things that can be done with county survey data is to make estimates of the geographic distribution of social phenomena at the local level and plot these on surface maps. With surface maps your survey data story can be brought to life. This paper describes a method for mapping survey data, it describes the strengths and weaknesses of the method, and gives the results of an empirical test of the method.

Surface maps are used to show the estimated value of some variable--like the proportion of the population uninsured, the unemployment rate, etc.--at any point in a community. They consist of a plane whose surface corresponds to the geography of a community. The height of the surface gives the value of the mapped variable at a particular point.

When survey data are used to make surface maps, synthetic estimates of the distribution of phenomena of interest are made, and projected down to the local level. The estimates are based on the weighted survey results. The estimates are projected onto a rectangular grid of longitude and latitude coordinates. Each point on the grid represents the synthetic estimate as applied to the population in the area around the point--and it is these points that are mapped.

Since this method relies on survey data it is subject to all the biases and errors inherent in surveys, plus a few arising from downward projection. However, when we tested the method by attempting to use survey data to map unemployment, we found a very high correlation between estimated and actual unemployment. And we learned how to improve the quality of the estimates.

The March 1999 special issue (vol 5, no 2) of the *Journal of Public Health Management and Practice* should be of particular interest to our GIS and public

health subscribers [Editors: Thomas Richards, Charles Croner and Lloyd Novick]. The issue focus is "Geographic Information Systems in Public Health, Part 1," divided into two roundtable themes (1) an atlas of working maps prepared by public health practitioners at the state and local level, and (2) a toolbox of practical information for those practitioners who want to begin to use GIS technology. The first theme illustrates how state and local public health practitioners can use GIS to improve community health planning, decision making, and the effectiveness of community health programs. The theme of the second roundtable is on getting started with GIS, and includes: an overview of the steps in a GIS mapping project; options for GIS hardware and software; state initiatives in geocoding vital statistics data; methods to evaluate geographic access to health services; and an introduction to spatial statistics. [For additional details about the table of contents and ordering, see the ASPEN Web site <http://www.aspenpub.com/jphmp.htm>. Articles in the *Journal of Public Health Management and Practice* are now indexed under the National Library of Medicine Pub Med system, under "Health Star." On the Web, go to <http://igm.nlm.nih.gov/>, then select Health Star]

VI. Related Census, DHHS and Other Federal Developments

Public Health Service: NATIONAL COMMITTEE ON VITAL AND HEALTH STATISTICS, November 12-13, 1998, Washington, D.C., Meeting Minutes (excerpts)- HEALTHY PEOPLE 2010 AND DATA NEEDS FOR INITIATIVES TO ELIMINATE RACIAL AND ETHNIC DISPARITIES: HEALTHY PEOPLE 2010: Dr. Diane Wagener's Division of Health Promotion Statistics, NCHS, organizes the monitoring data for Healthy People 2000 and 2010 and gives statistical advice to the Office of Disease Prevention and Health Promotion (ODPHP).

Dr. Wagener reviewed the discussions of data issues at the first three of five regional meetings on Healthy People 2010. Much of the discussions have concerned how the data produced on national objectives can also be useful at the State and local level. Another major set of concerns stems from impending changes in age adjustment standards, ICD coding, and race/ethnicity classifications.

Dr. Wagener circulated tables analyzing the 2010 objectives. Many of the 531 objectives in the current volume are compound, making a total of 1,031 separate statistical measures. Some 40 percent of these are developmental objectives with no baseline, and NCHS hopes to work with NCVHS to identify ways to fill these gaps.

Dr. Carter-Pokras (OMH) and Mark Smolinski (ODPHP) reported on the data sessions they attended at the first three Healthy People 2010 regional meetings, elaborating on the same issues identified by Dr. Wagener. Mr. Smolinski also summarized trends in the public comments. They reported some mixed views about the wisdom of having single targets, aimed at eliminating disparities. Most supported it, but some are concerned that it will be demoralizing because it is unattainable within ten years.

Dr. Wagener also briefly discussed plans for volume 3 and reviewed a timetable for getting drafts of sections of Volume 3 to the Committee in the course of 1999.

The Committee approved a modified version of a letter brought forward by Dr. Starfield for the Subcommittee on Populations, with five recommendations on Healthy People 2010: 1) race/ethnicity and income targets for all objectives and the use of OMB categories; 2) the addition of a separate chapter on information systems and data needs; 3) indication of the most likely primary source of data for each objective; 4) the use of geocoding wherever possible, commensurate with privacy protection; and 5) more current framing of the objectives for primary care.

Jack Anderson (NCHS) and Tony D'Angelo (IHS) reported on two Department projects on racial and ethnic data, the subgroup on data needs for eliminating disparities and the Working Group on Racial and Ethnic Data. The mandate of the first is evident in its name; the other is charged with developing a long-term plan for improving the collection and use of racial and ethnic data. The two are coordinating their work, which links to Healthy People 2010. A framework is six areas selected by the Department as a focus over the next decade: infant mortality, cancer screening, cardiovascular disease, complications due to diabetes, HIV/AIDS, and immunizations. There are HHS work groups for each, plus a data work group to figure out how to get data to monitor these efforts. Another part of the initiative

involves demonstrations in communities, the number to be determined by the funding. The two groups will produce a joint report by spring, 1999.

Most of the discussion with the Committee focused on the community demonstration project, with the group agreeing that the project should focus on a few model communities to show what works. Dr. Wagener briefly reviewed the discussions of data issues at the first three of five regional meetings on Healthy People 2010. A great deal of local interest was expressed. States and locals want to understand how the calculations are done and to be able to produce their own data. States use the objectives for planning and to motivate and initiate local activities; thus much of the discussion in these meetings concerned use of the data at the local level. Very few of the 531 Healthy People 2010 objectives can be obtained at the local level; moreover, there is no consensus on what kind of data are needed locally. She noted the problems and controversies pertaining to both risk behavior and program evaluation statistics. The upshot is that it is thought best to provide States and locals with a panoply of objectives to choose from.

Concern was also expressed at the regional meetings about the impact of impending changes in age-adjustment standards, ICD coding, and race/ethnicity classifications. Comments stressed the need for advance communication to the public about the reasons for the changes and the fact that following trends will still be possible. Dr. Wagener then circulated tables analyzing the 2010 objectives. Many of the 531 objectives in the current volume are compound, making a total of 1,031 separate statistical measures. Some 40 percent currently have no data. NCHS hopes to work with NCVHS to identify ways to fill these data gaps, and the Department welcomes the Committee's active involvement. It is now organizing work groups to identify patterns in the types of data missing. This is a cross-Departmental initiative.

About 40 percent of the objectives are carried over from Healthy People 2000. Of the measurable objectives, 40 percent identify race as a breakout; 17 percent identify socioeconomic status; and 5 percent identify people with disabilities as an important breakout group. About 190 different data sources are used. Ninety-four objectives identify no baseline data or data system. Both the gaps and the breadth of data collection are problems. There is considerable dependence on

supplemental data sources, so the Department must find a way to sponsor the supplements; no single federal agency reflects all the data needs. Special data collections also will be necessary.

The objectives and discussion of each focus area are contained in Volume 2. Volume 1 is a brief policy document. Volume 3 will contain operational definitions and information on the major data systems, so that statistical staff can reproduce the objectives and statistics and monitor their particular populations.

Dr. Lumpkin deferred discussion of this presentation until later in the meeting, and welcomed Dr. Peggy Hamburg, Co-Chair of the HHS Data Council. The Committee approved a modified version of a letter brought forward by Dr. Starfield for the Subcommittee on Populations, with five recommendations on Healthy People 2010: 1) race/ethnicity and income targets for all objectives and the use of OMB categories; 2) the addition of a separate chapter on information systems and data needs; 3) indication of the most likely primary source of data for each objective; 4) the use of geocoding wherever possible, commensurate with privacy protection; and 5) more current framing of the objectives for primary care.

PUBLIC HEALTH DATA ISSUES: Dr. Nicole Lurie, Principal Deputy Assistant Secretary for Health, reported that the Office of Public Health has taken as its focus the five priority areas identified by Dr. Satcher: a healthy start for every child, mental health, eliminating disparities attributable to race and ethnicity, global health, and creating a climate that encourages healthy behaviors. One of her major responsibilities is the effort to eliminate disparities, with the Healthy People process as a major mechanism.

She enumerated several of the areas in which better data are needed in order to achieve key public health goals -- notably the elimination of racial and ethnic health disparities and the use of leading health indicators. Program evaluation, such as on CHIP, is another key area, as is assessing cultural competence. She hopes to be in dialogue with the National Committee about these and other endeavors. Dr. Starfield noted the Committee's interest, as well, in SES disparities. Dr. Iezzoni urged a serious look at the ICIDH, at least as a basis for a functional status measure. The Data Council will brief the Committee on its research in the latter area.

Minutes (excerpts) of September 15-16, 1998, Washington, D.C. UPDATES ON ICD-10-CM and ICD-10-PCS (Donna Pickett, NCHS, and Patricia Brooks, HCFA): NCHS is now reviewing 1200 comments on ICD-10-CM, following a comment period that ended in February. The general sentiment seems to be that ICD-10-CM is a significant improvement over ICD-9-CM, and what is needed is fine-tuning. Ms. Pickett described some of the modifications and promised to update the Committee when all of the comments have been reviewed.

Ms. Brooks reported that two clinical data abstraction centers (CDACs) have tested the new ICD-10-PCS, which was posted on the HCFA home page in July. The CDACs found that the new system has great promise; it is very logical, they were able to learn it quickly, and it meets NCVHS criteria for new systems. Phase II of testing is now beginning, using the CDACs. They will issue a report by March, and HCFA will issue a final report by April.

Committee asked a number of questions on such things as NOS codes, DRG revision, mapping, and the guidelines for coding rule-outs. Ms Pickett commented that with the transition to ICD-10-CM the inpatient coding rules for rule-outs will be revised to match the outpatient rules for the reporting of rule-outs. Ms. Brooks remarked on the general attitudinal change regarding ICD-10-PCS and the atmosphere of greater acceptance that they are observing. Asked about moving to a single procedure classification system, she predicted that this would be faced at a later juncture.

UPDATE FROM THE DEPARTMENT: Mr. Scanlon noted that the Data Council celebrated its third anniversary in August, a significant milestone. He reviewed its five major themes: data standards, health information privacy issues, HHS data collection strategy, serving as the HHS focal point for the relationship with NCVHS, and serving as the internal policy coordinating body on domestic and international issues.

Age adjustment: On the recommendation of the Data Council, the Secretary has approved adoption of a new Department-wide standard for age adjustment for mortality rates. It involves the Year 2000 projected population, and will begin with deaths occurring in 1999. The policy goes into effect in September. An HHS implementation team will be formed to work on

educational materials and the effect of the change on rates.

Web Site(s) of Interest for this Edition

Web Sites Concerned with Public Health, Epidemiology, and Geographic Information Systems: In response to an increased concern about infectious diseases and the effects of human activities on human health, Mitretek Systems has created a web application (<http://sonoran.mitretek.org/gismsr/bioevents/>) that allows users to view reported biological events by location on a map. The current version of the application is limited to documents from a well-known epidemiology newsfeed, ProMED, and covers only diseases and other biological events occurring in the United States. The current data set goes back to September 1998 but includes a few older postings as well. A PowerPoint briefing on the application is also available to download and view. It is hoped that this application will prove to be of value to members of the public health and national security communities in identifying and tracking disease processes over space and time. Other example web sites provide information about similar efforts to apply geographic information systems (GIS) technology in the public health area: http://www.geocities.com/Tokyo/Flats/7335/medical_geography.html (information about different ways to use GIS in medical applications); <http://www.planetdiary.com/current/index.html> (displays various kinds of recent events, including some concerned with public health, as clickable icons on a world map); http://www.vetmed.lsu.edu/whocc/mp_world.htm (web display map of World Occurrence of Anthrax, complete with underlying data on animal and human outbreaks on a country by country basis); <http://www.outbreak.org/cgi-unreg/dynaserve.exe/index.html> (provides timely information on disease outbreaks around the world, including an Outbreak Channel using "push" technology); <http://www.ph.ucla.edu/epi/software.html> (UCLA resource on Public Domain Software for Epidemiological Analysis); <http://cgi.umbc.edu/~chpdm/healthgeo/> (University of Maryland/Baltimore County has set up a Health Geographics Resources page containing links to a number of sites of interest); <http://www.who.int/ctd/html/hmap.html> (a joint WHO/UNICEF Programme based within the Division of Control of Tropical Diseases); <http://www.mapcruzin.com/>

(mapping of toxic release inventory and pollution) and; World Wide Web Virtual Library for Epidemiology).
<http://www.epibiostat.ucsf.edu/epidem/epidem.html> (a

Final Thought(s): Working Towards the National Spatial Data Infrastructure (NSDI)

Like anything worthwhile achieving, the National Spatial Data Infrastructure (NSDI) requires continuous and dedicated effort by many people in different settings. In fact, I think all of us who work with spatial databases and GIS have a role to play in order to achieve the important national goal to establish metadata standards to facilitate the documentation and exchange of digital spatial information. I represented DHHS at the Federal Geographic Data Committee's (FGDC) Coordinating Group (one level below Steering Committee) meeting this past month, hosted by the National Archives and Records Administration. These are truly a dedicated group of people. The meetings are chaired by FGDC Staff Director John Moeller (USGS). I was pleased to learn that the FGDC is preparing a formal invitation from Secretary Bruce Babbitt (Chair, FGDC Steering Committee), Department of the Interior, to Secretary Donna Shalala, DHHS, for public health representation on the FGDC Steering Committee. DHHS will join the other 16 member federal agencies responsible for NSDI policy decisions.

The FGDC Coordinating Group held a retreat January 19-20, 1999 at the U.S. Fish and Wildlife National Conservation Training Center in Shepherdstown, WV. The goal of the retreat was to determine how the FGDC Coordination Group would assist in the implementation of NSDI strategy. The product of the meeting would be action plans for the next 12 months. I want our readership to know of the impressive assembly of agencies represented at the retreat: Bureau of Land Management, Census Bureau, Corps of Engineers, Department of Energy, Department of Transportation, Environmental Protection Agency, Federal Emergency Management Association, Fish and Wildlife Service, International City Management Association, Lockheed Martin, Inc., National Academy of Sciences, National Archives and Records Administration, National Association of Counties, National Aeronautics and Space Administration, National Geodetic Survey, National Imaging and Mapping Agency, National Oceanic and Atmospheric Administration, National Science Foundation, National States Geographic Information Council, Natural Resource Conservation Service, Open GIS Consortium, Staff of Federal Geographic Data Committee, Tennessee Valley Authority, U.S. Geologic Survey, and the University Consortium for Geographic Information Science. The retreat produced a retreat overview and two appendices: A) Small Group Reports and B) A series of Group Action Plans: Federal Agencies; Coordination; Framework; Stakeholders; Working Groups and Subcommittees; and, Marketing, Education, Public Relations. [For the complete report see: http://www.fgdc.gov/fgdc/docs/retreatsum/results_of_retreat.html]

I also want to remind readers on upcoming FGDC sponsorship of the **1999 National GeoData Forum**- designed to further the development of the National Spatial Data Infrastructure (NSDI)- on June 7-9, 1999 in Washington, D.C. The 1999 National GeoData Forum is the third in a series, following forums in 1993 and 1995. This is a timely opportunity to learn more about NSDI and how everyone can play an integral role in its development. The NSDI is a national initiative launched by Executive Order in 1994 to advance the nation's capacity to develop, use, share and disseminate geospatial data. The NSDI is the term used to describe the web of technologies, digital data, public policies, people and institutions needed to put current and accurate geographic data in the hands of citizens and decision makers. [For more about the 1999 National GeoData Forum program see: www.fgdc.gov/99forum]

In keeping with the theme of being knowledgeable about NSDI, the following **"Don't Duck Metadata"** discussion (Spring 1999 FGDC Newsletter) is important reading: The 1999 NSDI Cooperative Agreements Program (CAP) is devoted to projects that will further framework data documentation and clearinghouse development. The Don't Duck Metadata Program will make awards to scores of federal, state, and local organizations nationwide. Up to \$1,400,000 is available for the grant program this year. Awardees will be announced at the 1999 National GeoData Forum in June.

The purpose of the Don't Duck Metadata Program is to provide grant funding to help organizations create descriptive information about digital geospatial data and to make those descriptions available for search and retrieval through a distributed electronically connected network of public, Internet-based clearinghouses. The long-range goal is to document and serve descriptions of all existing framework data sets, including, but not limited to, those data sets identified through the National States Geographic Information Council's Framework Data Survey (see related article under framework initiative in this newsletter). The framework data themes are geodetic control, orthoimagery, elevation, transportation, hydrography, governmental units, and cadastral information. The participants in this metadata program will develop descriptions or metadata for existing framework data sets, collect framework metadata, and serve these metadata through new or existing clearinghouse nodes. The program will develop searchable metadata, reach new geographic areas and organizations, and strengthen the framework and GIS coordination network.

The program is funding three types of efforts: Assisting organizations in their efforts to create metadata descriptions for their framework data sets and serving the metadata on NSDI clearinghouses, providing training and other technical assistance, and coordinating the provision of training and technical assistance to organizations in a region. "This program will rally the geospatial data community behind a clear and elevating goal that increases awareness and use of framework data, and quickly populates the clearinghouse," said John Moeller, FGDC staff director. [For more information, visit the FGDC website at www.fgdc.gov and/or attend the GeoData Forum]

Charles M. Croner, Ph.D., Editor, *PUBLIC HEALTH GIS NEWS AND INFORMATION*, Office of Research and Methodology, National Center for Health Statistics, at e-mail ccroner@cdc.gov. Although this report is in the public domain, the content should not be changed.

**“GIS is a visual language”...Jack Dangermond
1999 ESRI Federal User Group Meeting**