

# PUBLIC HEALTH GIS NEWS AND INFORMATION

January 1999 (No. 26)

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

**Selected Contents:** Conferences (pp. 1-2); (pp. 9-10); Special Reports (pp. 10-13); GIS Update (pp.14-18); Website(s) of Interest



News from GIS Users (pp. 2-8); GIS Outreach Lectures (pp. 13-14); DHHS and NCVHS (pp.18-19); Final Thoughts (p. 20)

## I. Public Health GIS (and related) Events

\*\*\*\*\*

**SPECIAL CDC/ATSDR GIS LECTURE:** February 10, 1999, “Using GIS to Measure Spatial Correspondence with the Standard Deviation Ellipse,” David W. S. Wong, PhD, Assistant Professor, Department of Geography and Earth Systems Science, George Mason University, sponsored by the NCHS Cartography and GIS Guest Lecture Series, and CDC/ATSDR’s Behavioral and Social Science Working Group, 2:00-3:15 P.M., NCHS Auditorium, Hyattsville, MD [see abstract this edition; Envision is available to offsite CDC/ATSDR locations]

**SPECIAL CDC/ATSDR GIS LECTURE:** February 25, 1999, “Applying the Science of Geographic Information Systems (GIS) to Public Health Theory and Practice: Opportunities and Precautions,” Gerard Rushton, Professor, Department of Geography, The University of Iowa, sponsored by CDC/ATSDR’s Behavioral and Social Science Working Group, 10:30-Noon, Executive Park (ATSDR, Building 35), Atlanta, GA [see abstract this edition; Envision is available to offsite CDC/ATSDR locations e.g., RM 700C reserved at NCHS, Hyattsville]

☞ National Symposium on Medical and Public Health Response to Bioterrorism, February 16-17, 1999, Arlington, VA [Contact: Visit <http://www.idsociety.org/meetings/symposium/index.html> and see announcement this edition]

☞ Conference on Mathematical Modeling of STDs, “Advances in Mathematical Modeling of Sexually Transmitted Diseases,” April 26-29, 1999, Santa Fe,

NM [Sponsored by the Centers for Disease Control and Prevention (CDC) and the American Sexually Transmitted Diseases Association; contact: LuEtta Schneider at voice (404) 639-8356 or e-mail lks5@cdc.gov]

☞ TeleGeo'99, First International Workshop on Telegeoprocessing, May 6-7, 1999, Lyon, France [Contact: Robert Laurini at e-mail Robert.Laurini@if.insa-lyon.fr; see announcement details this edition]

☞ 54th Annual Conference of the American Association for Public Opinion Research (AAPOR), May 13-16, 1999, St. Petersburg, FL [Contact: Paul Lavrakas at e-mail aapor99@osu.edu or visit <http://www.aapor.org/cfc/submit/index.html>.

☞ Fourth International Airborne Remote Sensing Conference and Exhibition, June 21-24, Ottawa, Canada [Contact: voice (734) 994-1200, ext. 3234 or see <http://www.erim-int.com/CONF/conf.html>]

☞ 63<sup>rd</sup> Annual Education and Exhibition, National Environmental Health Association, July 6-9, 1999, Nashville, TN [Contact: Exhibition representative at voice (303) 756-9090]

☞ 6th International Symposium on Spatial Databases, Hong Kong University of Science and Technology, July 20 - 23, 1999, Hong Kong [Contacts: Ralf Hartmut Gueting at e-mail gueting@fernuni-hagen.de or see <http://www.cs.ust.hk/~ssd99>]

☞ 4<sup>th</sup> International Conference on Geocomputation, July 25-28, Alexandria, VA [Contact: Judy Ehlen at voice (703) 428-6887 or see <http://www.tec.army>.

[mil/GeoComp99\]](#)

## II. News from GIS USERS

(Please communicate directly with colleagues on any issues)

### A. General News (and Training Opportunities)

1. From **Karl Sieber**, NIOSH CDC: We now have ARCVIEW 3.1 up and running at Cincinnati-NIOSH. It is being used first to look at the distribution of blood lead levels in our lead surveillance program, for an article to be submitted to MMWR. Other uses I envision are for hazard surveillance, some infectious disease work, and health radiation studies done at NIOSH. [Editor: I'm certain Karl also would like me to final remind everyone about the 7<sup>th</sup> Biennial CDC and ATSDR Symposium on Statistical Methods to be held January 28-29, 1999 in Atlanta. The theme of the symposium is "Emerging Statistical Issues in Public Health for the 21<sup>st</sup> Century." A Short Course entitled "Privacy, Confidentiality, and the Protection of Health Data- A Statistical Perspective," will precede the symposium on January 27. Karl has done an excellent job as symposium chair. Registration information is available from Bradford Myers at voice (404) 639-3806 or email [bam6@cdc.gov](mailto:bam6@cdc.gov)]

2. From **David Williamson**, EPO CDC: Recall that a few of us on OMB's Federal Committee on Statistical Methodology have been working on a project with NSF regarding research in survey methodology (See website given below). This is an exciting new program which will fund projects on survey issues with broad implications across federal agencies, facilitate interdisciplinary collaboration and integrate diversity into NSF and other federal programs. We encourage you to disseminate this announcement broadly to your colleagues outside CDC in hopes that they develop ideas which will benefit CDC and the federal system in general. The address is <http://www.nsf.gov/cgi-bin/getpub?nsf9935>.

3. **Lois Dean**, HUD (Putting Data Accuracy Standards to Use): Anyone who routinely uses USGS quadrangle maps is familiar with the statement, "This map complies with national map accuracy standards." The standards referred to have been in existence since the

1940's and help provide some indication of the map's quality. Last summer, the United States National Map Accuracy Standards were replaced with a new standard designed to better represent not just printed maps, but also the growing number of geographic databases. This new standard-the National Standard for Spatial Data Accuracy (NSSDA)- provides guidance in three areas. The NSSDA: 1) Identifies a well-defined statistic used to describe accuracy; 2) Describes a method to test spatial data for positional accuracy, and; 3) Provides a way to report that accuracy that makes it easier to evaluate the fitness for use of a database.

The Minnesota Governor's Council on Geographic Information Standards Committee recently released a draft handbook designed to help explain the new standard and guide data developers in evaluating the accuracy of their spatial databases. "Implementing the National Standard for Spatial Data Accuracy" explains how positional accuracy can be measured and reported for databases that contain geographic features like roads, rivers and property lines. Five practical examples walk you through the process using databases developed at the Minnesota Departments of Transportation and Natural Resources, the City of Minneapolis, Washington County and The Lawrence Group, a private mapping firm.

The handbook, with practical examples and formatted spreadsheets that make calculating the accuracy statistic easy, can be downloaded in PDF and Excel formats from the committee's web site at: <http://www.mnplan.state.mn.us/press/accurate.html>. And, a recent printed version of the handbook can be ordered through the web site or by contacting LMIC. [Your comments on the material included in the handbook and its overall usefulness are strongly encouraged and can be directed to Christopher Cialek at LMIC, voice (651) 297 2488 or email [gc@mnplan.state.mn.us](mailto:gc@mnplan.state.mn.us)]

4. From **Tom Richards**, PHPPO CDC: The following quote is from the 97-98 Annual Report for the National Association of Counties (NACo) at page 21: "**GIS Starter Kit** : NACo and Intergraph Corporation, a NACo Premier Member partner and leader in the geographic information system (GIS) industry, are offering at no cost a GIS "Starter Kit" to qualified

NACo member counties. The offer includes not only Intergraph's latest, industry leading GIS software package, Geomedia, but also the critical elements of an entire GIS infrastructure: data specific to member counties, initial software training and ongoing service support. NACo will announce this program to its membership at the Annual Conference.

Premier Member Program: The Information Technology (IT) Premier Member Program was established to develop partnerships with leading companies in the IT industry. This collaboration taps into the expertise of the private sector, informing county officials about hardware and software applications that improve their ability to communicate with constituents, deliver services to their citizens and address critical operational problems. NACo's current Premier Members are AT&T, EDS, GTE, IBM and Intergraph. Premier Members pay annual dues of \$15,000. NACo and current Premier Members are working together to identify additional Premier Members that can provide significant additional information technology to counties." [Source: see <http://www.naco.org/programs/infotech/gis/index.cfm>]

5. From **Gerry Rushton**, University of Iowa: I received a copy of "GIS and Health" today. Your readers may be interested in the full reference. Anthony C. Gatrell and Markku Loytonen (eds.) GIS and Health. London and Philadelphia: Taylor & Francis, 1998. xvii + 212. ISBN 0-7484-07790. [Contact: Gerry at voice (319) 335-0162 or email [gerard-rushton@uiowa.edu](mailto:gerard-rushton@uiowa.edu)]

6. From **Cynthia Warrick**, Howard University: The 1999 HBCU GIS Summer Faculty workshop will be divided into Introductory and Advanced tracks. The Introductory workshop will take place at the US Fish & Wildlife GIS training center in Shepardstown, WV, June 14-19, 1999. The Advanced workshop will take place during the African American Summit in Accra, Ghana, May 15-22, 1999. [Contact: Cynthia at email [cwarrick@osf1.gmu.edu](mailto:cwarrick@osf1.gmu.edu)]

7. From **Bob Rugg**, Virginia Commonwealth University: Dear colleagues, please consider

responding to our renewed and revised request for proposals to lead the "UCGIS/FGDC Workshop on Factors Affecting Participation in NSDI." The details are posted on the Research Management Committee web page, at [www.spatial.maine.edu/~max/ucgis\\_rmc.html](http://www.spatial.maine.edu/~max/ucgis_rmc.html) [Contact: Bob, Chair, UCGIS Research Management Committee at voice (804) 828-2489 or email: [rugg@vcu.edu](mailto:rugg@vcu.edu)]

8. From **John Horm**, NCHS CDC: Welcome Bob Krasowski to the NCHS Research Data Center (RDC). Bob will be researching, designing, and implementing advanced computer systems to allow intramural and extramural researchers to take greater advantage of NCHS data sources linked to external data sources such as census data, Area Resource File data, and user supplied data in the controlled environment of the RDC. The linkage of these and other data sets with NCHS data will allow extramural researchers to conduct analyses that are not currently possible and advance the process of linking and integrating data systems. [Contact: Bob at voice (301) 436-3915, Ext. 6 or email [rsk0@cdc.gov](mailto:rsk0@cdc.gov)]

9. From **David Parrish**, US Environmental Protection Agency (EPA Solicits Grants for Public Access to Environmental Monitoring): EPA is requesting applications from local governments for a total of approximately \$3.4 million in grants to establish local environmental monitoring pilot programs as part of a Presidential initiative called Environmental Monitoring for Public Access and Community Tracking (EMPACT). EMPACT is designed to provide public access to clear, understandable, timely and accurate environmental monitoring data in at least 75 of the larger U.S. metropolitan areas in all 50 states. Environmental monitoring consists of systematic measurements, evaluations, and communication of physical, chemical and biological information. This information on environmental conditions will assist the public in day-to-day decision-making concerning their health and the environment. These pilots will be developed through community partnerships between state, local, and tribal governments, universities, not-for-profit organizations and the private sector. Copies

of the application can be obtained at <http://www.epa.gov/empact>. [If you have questions regarding the EMPACT program please leave a message at 1-800-490-9194, and your call will be returned the next business day. All applications must be received by EPA on April 8, 1999 no later than 4 p.m; Source: David at email parrish.david@epamail.epa.gov]

10. From **Pierre Philippe**, University of Montreal: This note is to let you know that a new epidemiology journal has come out. Since such an event does not occur everyday, I surmised it might be worth underscoring the event. It is named the Brazilian Journal of Epidemiology (Revista Brasileira de Epidemiologia) and greets peer-review articles in portuguese, english and spanish. The Journal appears every four months. The first 1998 issue has now come out. People may subscribe (or get a complimentary copy) by dropping a line to: Revista Brasileira de Epidemiologia - Secretaria, Avenida Dr. Arnaldo, 715 -subsolo- sala S28, 01246-904 Sao Paulo, Brasil. [Source: Pierre, Listowner EPIDEMIO-L, at philipp@ere.umontreal.ca]

11. From **Nancy La Vigne**, National Institute of Justice (NIJ): "Mapping Out Crime: The Second Annual Crime Mapping Research Conference", was held December 10-12, 1998, in Arlington, VA. The conference was sponsored by NIJ's Crime Mapping Research Center and offered a variety of panels and workshops, from introductory through advanced topics. Highlights included: A Pre-Conference Primer, which covered the basics of crime mapping for those with little or no mapping experience; Workshops on mapping for community policing and problem solving, mapping gang information, and mapping and the Web; An "electronic poster session", which allowed practitioners to display and discuss their crime mapping applications via laptop; and a post-conference advanced workshop on clustering methods, predictive modeling, and spatial statistics. The conference was geared toward crime analysts, law enforcement officers of all ranks, researchers, criminal justice practitioners, urban planners, community

members, and anyone interested in crime mapping and Geographic Information Systems (GIS). [Contact: Nancy at voice (202) 616-4531 or email lavigne@ojp.usdoj.gov]

12. From **Andrew Paterson** (through health-GIS@who.ch) The next annual conference of the Society for Veterinary Epidemiology and Preventive Medicine (SVEPM) will be held from Wednesday 24 March to Friday 26 March 1999, University of Bristol, Bristol, UK. The workshop/discussion sessions will cover the following subjects: (1) Epidemiology in The Curriculum, (2) Geographical Information Systems, (3) Transmissible Spongiform Encephalopathies (Tses), and (4) Tuberculosis (Tb). Main Conference: The major subject areas covered by this year's conference are as follows: (1) Epidemiology in Decision Making, (2) Quality Assurance, (3) Surveillance Systems, (4) Scrapie, (5) Herd Health Programs, and (6) Three Open Sessions With a Wide Variety of Topics [Contact: Dr Laura Green, Department of Clinical Veterinary Science, University of Bristol at voice + 44 0117 928 9515 or email laura.green@bristol.ac.uk]

13. From **Robert Laurini**, Claude Bernard University of Lyon, France (First International Workshop on Telegeoprocessing): This conference aims at bringing together all people carrying out research in novel systems in telegeoprocessing, cross-fertilization between Geographic Information Systems (GIS) and Telecommunications. Telegeoprocessing can be defined as a new discipline based on real-time spatial databases updated regularly by means of telecommunications systems in order to support online decision making. Overall attention will be given to systems based on Global Positioning Systems (GPS) and all other technologies for sending data from sensors to GIS systems by means of wireless communications. Among others, we are especially looking for papers dealing with: Real-time GIS, especially based on GPS; Real-time spatial data structures; Real-time GIS indexing; Embarked GIS; Online Spatial Decision Support System; CASE tools for telegeoprocessing; Visual languages and user interfaces; Active hypermaps; Sensors and radio-

communications; Multi-source fusion especially for updating; Parallel and distributed GIS; Interoperability in telegeoprocessing; Geographic data interchange standards; GIS and internet working; Visualization and huge synoptics design; Animated cartography; Real time graphics semiology; Groupware and GIS; Client-server architecture for GIS; GIS and Java; Distributed spatial objects; Spatial knowledge engineering; Systems for spatial reasoning, and; Byzantine situations.

Among novel applications, overall attention will be paid to domains such as: Urban planning; Environmental planning; Risk prevention; Traffic management; Geological information systems, and; Fleet management. This conference will be organized under the aegis of the University of Southwestern Louisiana, USA, National Institute for Applied Sciences (INSA), Lyon, France, Claude Bernard University of Lyon, France, University of Versailles-Saint Quentin, France, Hassan II University of Mohammedia, Morocco, and GeoInformatica, International Journal on Advances of Computer Science for GIS [Contact: See announcement p. 1]

14. From **Monica Schoch-Spana**, Johns Hopkins University (Bioterrorism): The National Symposium on Medical and Public Health Response to Bioterrorism is an effort to create awareness among health professionals so that they can lend their expertise in developing informed measures against bioterrorism. The symposium brings together medical, public health, government, intelligence, and military experts to consider why current concerns about bioterrorism are real and not inflammatory, why medicine and public health communities must address this issue, which biological threats warrant the most concern, and what the aftermath of an act of biological terrorism could be. Secretary of Health and Human Services Donna Shalala and Assistant Secretary Margaret Hamburg will open and close the symposium, calling for health practitioners to be central players in planning responses to bioterrorism. Federal, state, and local officials will confront the issue of coordinating a strategic response to bioterrorism. National and international authorities

will appraise the reality of biological terrorism by examining the cases of Russia, Iraq, Japan's Aum Shinrikyo and the U.S. militia movement.

D. A. Henderson, Director of the Center for Civilian Biodefense Studies and former leader of the World Health Organization's Smallpox Eradication Program as well as John Bartlett, Chief of Infectious Diseases at Johns Hopkins and President-elect of the Infectious Diseases Society of America, invite their colleagues in medicine and public health to take part in this initial effort to develop the practical means of preventing and reducing the morbidity and mortality of a bioterrorist incident. [Contact: Monica, Center for Civilian Biodefense Studies, at voice (410) 223-1667 or email mschoch@jhsp.edu]

### B. Technical News

15. From **Tom Richards**, PHPPO (Local Government "Start-Up" Grants for GIS software): This announcement can be found on the ESRI web site ([www.esri.com](http://www.esri.com)) under the section on "State and Local Government" (might be of interest to some state and local public health agencies and/or local boards of health). This goal of this program is to foster and support the integration of GIS software in local government. Software and training grants totaling \$2.4 million will be awarded to local governments within the United States. Program Description- The ESRI Local Government Start-up Grant Program was established to provide assistance to local government agencies with the establishment of organizationwide GIS projects; provide software for the establishment of parcel, street right-of-way, and street centerline information; and establish data sharing.

The grant program consists of a \$2.4 million GIS investment program. ESRI will provide software and training to a total of 100 government agencies meeting the requirements of an eligible government organization. Grant recipients will receive the following: 1. One copy of ARC/INFO for Windows NT; 2. One copy of ArcView GIS; 3. One copy of MapObjects IMS; 4. MapObjects Internet Starter Application (a. General Map Utility, b. Property Information Utility, c. Event Notification Utility, d. Site Selection Utility, and e. Demographic Utility)



5.ArcExplorer 6.Links to ArcData Online Program  
7.One Introduction to ArcView GIS Class via ESRI's Virtual Campus.

**Eligibility:** The grant is open to all forms of local governments. Examples of agencies that are eligible for the ESRI Local Government Start-up Grant Program include: Councils of Governments (COGs), Metropolitan Planning Organizations (MPOs), Regional Planning Organizations, County Governments, City Governments, and Townships. Priority is given to organizations that do one or more of the following: Organizations demonstrating collaborative efforts with multiple departments; Projects that promote public access to GIS databases, and; Projects that communicate innovative government through the use of GIS.

**Provisions:** To meet the goals of the Local Government Start-up Grant, recipients must agree to develop GIS framework databases. These framework data must include 1.Parcel/Cadastral base, 2.Street right-of-way base, and 3.Street centerline base. Grant recipients must also agree to make available a minimum of one copy of the three designated framework databases to all government agencies for no more than the cost of reproduction media.

**Performance Reporting:** Grant recipients agree to provide to ESRI 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 government organization. Grants are intended to be awarded to organizations that do not currently use ESRI software. **Award Period:** August 1, 1998, to February 28, 1999. **Procedure for Applying:** Applications must be received no later than 5:00 p.m., February 1, 1999. [Contact: Christopher Thomas, State and Local Government Solutions Manager, Local Government Start-up Grant Program, 380 New York Street, Redlands, CA 92373-8100 or by voice at (909) 793-2853]

16. From **Julie Maitra**, NMD USGS: Since 1997, the International Organization for Standardization (ISO) Technical Committee 211, project item 15046-11, has been drafting an International Standard on Spatial

Referencing by Coordinates. In November 1998, the status of the ISO Standard on Spatial Referencing by Coordinates progressed from that of a working draft to a committee draft. With the status changed to that of a committee draft, a select larger geospatial data community can now review the proposed ISO Standard.

The ISO Standard on Spatial Referencing by Coordinates provides a standardized conceptual schema to fully define coordinate reference systems so that coordinates referenced to a particular coordinate reference system uniquely identify a position on the Earth. The proposed standard will facilitate data sharing and integration, particularly among data sets on different coordinate systems.

If you are interested in reviewing and commenting on the ISO Standard on Spatial Referencing by Coordinates and/or by helping to adjudicate the comments, you must register\* by contacting Julie Binder Maitra, U.S. technical expert to ISO/TC 211. [\*To register, you must be a United States citizen OR represent the interests of a United States domiciled organization. By registering, you will receive a copy of the ISO Standard Committee Draft on Spatial Referencing by Coordinates for the sole purpose of reviewing and providing comments on that document. The ISO Standard Committee Draft is a copyrighted document and therefore can not be copied in any forms without written consent of ISO. Contact Julie at voice (703) 648-4627 or email [jmaitra@usgs.gov](mailto:jmaitra@usgs.gov)]

17. **Kathy Covert**, USGS (1999 GeoData Forum Request for Input): The 1999 National GeoData Forum will be held June 7 - 9, 1999 in Washington, D.C. The FGDC seeks your ideas and suggestions for this event, the third in a series including forums in 1993 and 1995. It is five years since the Executive Order that formally launched extensive development of the National Spatial Data Infrastructure. Now is the time to bring together users, creators and commercial players in the various realms of geographic information, to listen to one another and to frame the future geospatial data activities.

What do you think are the critical issues that a national forum on geodata policy and application should address? A Forum Steering Committee has generated a list of issues that could be themes for the 1999 Forum (see below.) They suggest the objective of the Forum is to: expand the audience for GIS; deepen understanding of geospatial data users' needs; and showcase real examples of partnerships for sharing geospatial data. The Forum will be designed to be highly interactive and will balance presentations with group discussion and activity.

This is the first draft of possible themes. It will be narrowed down in January to a shorter list of priority items. Financing (including data economics); Incentives; Commerce/Business models; Organization and leadership; Marketing/Communicating; Education and training; Technology development (and the rate of change & the impact thereof); Y2K legacy; Data exchange policy (legal issues, including intellectual property, copyrighting); International component; Census, and; National initiatives (Digital Earth, Community/Federal Information Partnerships, etc.). Please tell us: What topics do you most want the Forum to address? Why are these your priorities? Suggestions for presenters or for interactive methods. Thank you for your input. We can consider all comments received by January 18, 1999. [Contact: Kathy at email [klcovert@usgs.gov](mailto:klcovert@usgs.gov)]

18. From **Stephen Ladek**, Red Hen Systems, Inc.: I would like to introduce you to the tool that will revolutionize the way you collect and analyze data in the future. It's called the VMS 200 Video Mapping System, from Red Hen Systems, Inc. (<http://www.redhensystems.com/vms>). The VMS 200 is the first GIS tool of its kind because it allows anyone with a computer and compatible camcorder to do their own video mapping: Efficiently and affordably add Spatial Multimedia (geographically referenced video) to your data sets, create web pages of your maps instantly, interact with any existing GIS, and take the subjectivity out of decision making. Best of all - simply bring a camcorder to the field with you to collect data. [Contact: Stephen at voice (800) 237-4182 or email [ladek@redhensystems.com](mailto:ladek@redhensystems.com)]

19. From **Daniel Hoffman**, The George Washington University: You might want to check out the EPI-INFO exercises available on the Global Environmental Epidemiology Network (GEENET's) Web page <http://who.unep.ch/geenet/epidoc/module.html>). They present five case studies on environmental or occupational exposures using the EPI-INFO software. You can download each of the five practice datasets directly into EPI-INFO. You can also download the five exercises in Wordperfect 6 format. The page provides links to the CDC Web page so you can download the latest version of EPI-INFO. It also provides a link to the LOGISTIC program, logistic regression software that is compatible with EPI-INFO and which is used in the case studies. You might also check out the DOEPI case studies on CDC's Web Page [Contact: Dan at the School of Public Health and Health Services, at email [sphdah@gwumc.edu](mailto:sphdah@gwumc.edu); see also related topic under Web Site(s) of Interest, this edition]

### C. Internet News

20. From **John Donnelly**, USGS Reston (Mortality Data now available through the National Atlas of the United States of America): Information from the Atlas of United States Mortality is now available in the online, interactive National Atlas of the United States. This data set contains mortality information for United States Health Service Areas (805 groups of counties). Included are mortality rates by sex and race (white and black) for the eleven leading causes of death, eight subset causes, and all causes combined, for 1988-1992. Age-adjusted rates are presented along with indicators of whether each rate is considered reliable and whether it is significantly different from the corresponding U.S. rate.

The U.S. Geological Survey and its partners (including the National Center for Health Statistics) began work on The National Atlas of the United States of America in 1997. The National Atlas is designed to promote greater geographic awareness through the development and delivery of products that provide easy to use, map-like views of our natural and sociocultural landscapes. The National Atlas is designed to serve the interests and needs of a diverse populace in many

ways; as an essential reference; as a framework for information discovery; as an instrument of education; as an aid in research; and as an accurate and reliable source for scientific information.

You can make interactive maps within your web browser using the National Atlas. All map layers can be selected, displayed, and queried. Zooming and roaming tools are provided. Also included is the data base of nearly 2,000,000 geographic place names in the United States. Mortality data is available for download in Shapefile and Spatial Data Transfer Standard-Topological Vector Profile formats. Here are the Universal Resource Locators for several National Atlas web sites: Home Page - <http://www-atlas.usgs.gov>; Online, Interactive Mapping System- <http://www-atlas.usgs.gov/mapit.html>; Data Warehouse - <http://www-atlas.usgs.gov/atlasftp.html> [Contact: John at email [jpdonnelly@usgs.gov](mailto:jpdonnelly@usgs.gov)]

21. From **William Craig** (through [ppgis-scope@igc.org](mailto:ppgis-scope@igc.org)): Public Participation GIS Papers Now Available- A Specialist Meeting on "Empowerment, Marginalization, and Public Participation GIS" was held in Santa Barbara October 14-17, 1998. The meeting was sponsored by Varenus, a project of the NCGIA (the National Center for Geographic Information and Analysis). A description of that meeting can be viewed at <http://www.ncgia.ucsb.edu/varenus/ppgis/ncgia.html>. A summary of the meeting itself will be available soon. Thirty-one research papers were presented at that meeting. Those papers are now available at <http://www.ncgia.ucsb.edu/varenus/ppgis/papers/index.html>. [Contact: Bill at email [wrcraig@atlas.socsci.umn.edu](mailto:wrcraig@atlas.socsci.umn.edu)]

22. From **Loren Hall**, EPA (On the topic of spatial autocorrelation): I'm not really familiar with the utility of various software packages, but have heard that SPlus has a version that is specifically designed to work with ArcView. Other possibilities include: SpaceStat (with an ArcView extension) at <http://www.spacestat.com>. and GS+ for Windows at <http://www.gammadesign.com/>. General info about spatial statistics software and related topics is at: <http://curie.ei.jrc.it/ai-geostats.htm> One reason to pursue special techniques such as

autocorrelation for spatial statistics is that spatial data tend to violate the assumptions of more traditional statistical analyses. A basic idea of the data used in developing (for example) a linear regression or least squares analysis is that each observation is independent of the others. Therefore, you can use these techniques to examine the relationship between the dependent and independent variables.

However, if you wanted to assess the association between (for example) proximity to a waste management facility and race, the reality is that each unit of race data (e.g., block or block group) is not independent. It is likely that the racial distribution of block X is more similar to the nearby blocks than those farther away. So, many of the spatial analyses of interest require specialized techniques to account for this. There's a more technically complete set of introductory material at: <http://esker.geog.utoronto.ca/reynolds/images/gisintro.html>. There's a list of technical materials and readings available as part of a college course description: [http://lion.icpsr.umich.edu/ICPSR/Other\\_Resources/Summer/Biblio/anselin.html](http://lion.icpsr.umich.edu/ICPSR/Other_Resources/Summer/Biblio/anselin.html) Another query about GIS and spatial statistics was apparently posted to a discussion list a few years ago, and the (fairly long) report of what the questioner found out can be seen at: <http://www.math.yorku.ca/Who/Faculty/Monette/Ed-stat/0140.html> [Contact: Loren at [hall.loren@epamail.epa.gov](mailto:hall.loren@epamail.epa.gov)]

23. From **Arlene Siller**, NCHS : Readers may be interested in taking a look at "Animations of Crime Maps Using Virtual Reality Modeling Language," by Lodha, Suresh K. and Arvind Verma. 1999. *Western Criminology Review* 1 (2) online at <http://wcr.sonoma.edu/v1n2/lodha.html>. "This process significantly enhances understanding a map by offering a feeling of reality beyond a picture on the computer screen. The paper demonstrates the usefulness of VRML by presenting the animation of different types of crime maps. This technique permits the user to navigate through these maps by translating, rotating, zooming, and tilting them to gain a better understanding of the data." [Source: J. T. Johnson, San Francisco State University at email [m@jtjohnson.com](mailto:m@jtjohnson.com)]



### 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)

☞ From **Gloria Bailey**, Department of Community and Human Services, Seattle (through epidemio-1): Recently I was looking for prevalence information. I was looking for (and continue to try to maintain data on) prevalence of mental illness among various sub-groups. One particular population of interest to us is the Medicaid population as that is the population from which we draw our clients in the publicly funded mental health system. I found this to be more complicated than I at first thought. First, and foremost, it depends on the definition of Medicaid eligibility which varies by State. I did obtain data for New York and Oregon as well as Washington just to use as a comparison, but in each case, the eligibility requirements for Medicaid differ. For instance, I found that utilization of mental health services among Medicaid recipients in New York State is about 6%. In Oregon, Utilization was about 3.8% for children and 10.3% for adults. For King County, Washington, we found in 1996 (and these are all 1996 figures) that 8.4% of the Medicaid recipients made use of the Mental Health Division tiered services. I would like to know if anyone else has looked at prevalence in this way. And especially, has anyone looked at particular diagnoses by poverty status (Census Definition) or by Medicaid eligibility. [Contact Gloria at voice (206) 205-1359 or email Gloria.Bailey@metrokc.gov]

☞ From **Hugo Pilkington**, Gabon: I'm currently working on a GIS project, part of which is determining which sites within a relatively small village area are best suited for breeding mosquitoes. To do this, I thought of using aerial photography to spot "wet zones". Does anyone know of a special kind of film, software processing technique or whatever that can help with this? [Contact: Hugo, Unite de Parasitologie Medicale, CIRMF-BP 769, Franceville-Gabon, at voice

(241) 67 70 92 or email hpilk@cirmfrv.fr]

☞ From **Juan Albertorio**, Gallaudet University: Currently, I work in an internship in NIDCD and the Gallaudet Research Institute. The goal of my internship is to develop my skills in research and methodology, specially with the deaf and hard of hearing population in the United States. My background is in Academic Research Psychology. Recently, my attention was called to the great use that I can make with a GIS software and the information that we have in our database -Annual Survey of Deaf and Hard of Hearing Children and Youth. Annually, in a voluntary fashion, we collect data of all the deaf and hard of hearing school age population in the United States. For 1997-98, we have already collected data for 48,000 children and youth across the nation.

Under a small proposal, I bought a beginner GIS software - MapViewer 3.0. Now I plan to create several maps to show several patterns of the deaf community in US. For that, I need to know what are the basic procedure of create a thematic map in MapViewer. [Contact: Juan at email juan.albertorio@gallaudet.edu or by mail at Gallaudet Research Institute, HMB Room 438 South, 800 Florida Avenue, NE, Washington, DC 20002-3695]

☞ From **Ann Ligi**, Bethlehem (PA) Health Bureau: My background in epi is the CDC course which I took as part of my coursework towards my MPH - masters in public health. In my position as the epidemiologist (new position) in a small city (pop. 71000), I am charged with the responsibility of setting up an epi system. I have visited other health departments, have access to the state's epi department, public health resources, etc. I was wondering if anyone on the listserve has any information or suggestions for setting up a new epi system. I would like to calculate rates, etc. One of the projects I have in mind is to review our communicable case reports - I am sure they are under reported. Also, can you recommend any resources, references, texts, etc. to give me a better understanding of the application of epi principles in a small health department setting? I am currently working on refreshing my statistics. Any suggestions would be

helpful. [Contact: Ann at voice (610) 865-7087 or email [aligi@prolog.net](mailto:aligi@prolog.net)]

[Early response received from Michael Fobbs at email [FobbsM@mail.health.state.mo.us](mailto:FobbsM@mail.health.state.mo.us): Principles and Practice of Public Health Surveillance by Steven M. Teutsch and R. Elliot Churchill is a nice book written by the folks at CDC for working epidemiologists]

✉ From **Gloria Tzuang**, New Mexico Department of Health: I would like to receive more info about the use of GIS in public health. Our program is trying to develop a computerized system for linking environmental exposures to health effects. It seems as if a GIS is the most effective way of doing so. If you can refer me to other web-sites/people/info sources to aid in my research, I'd much appreciate the help. [Contact: Gloria at voice (505) 476-3684 or email [gloriat@doh.state.nm.us](mailto:gloriat@doh.state.nm.us)]

✉ From **Michael Meuser**, University of California: I'm working on a project that compares values associated with census tracts. I would like to do spatial autocorrelation and I am wondering if anyone knows of an addon that could be used with Maptitude or ArcView? If not, the data is in dbase format and I can convert to almost any other format as required. So, if you now of any programs, scripts, algorithms, bits and pieces, clues, etc. please let me know. Thanks. [Contact: Mike at email [meuser@cats.ucsc.edu](mailto:meuser@cats.ucsc.edu)]

#### IV. Special Reports

(Submissions are open to all)

❖ HUD's Office of Policy Development and Research is proud to announce the availability of the State of the Cities Data Systems (SOCDS) on the HUD USER web site. SOCDS is a new and convenient way to obtain basic economic and demographic data on cities and their suburbs.

Content and Format. The three main strengths of the State of the Cities Data System (SOCDS) are: (1) it pulls together data from several sources into one easy-to-use format, (2) it provides information at the central city or cities, suburbs, and the total

metropolitan area levels of geography, and (3) the metropolitan level data are adjusted to match the most recent definitions of metropolitan boundaries. From the 1970, 1980, and 1990 decennial censuses, the SOCDS contains information on population counts and population characteristics, such as, race, income, poverty status, education, employment status by place of residence, employment by industry and occupation, housing counts, and housing by tenure. The population counts are updated to 1996 with estimates from the Census Bureau. For the Census data, the SOCDS contains data for all 539 metropolitan central cities and their associated metropolitan areas. In New England States, the user can choose whether metropolitan areas follow the standard MSA/PMSA definition, or the New England County Metropolitan Area (NECMA) definition. Data for the "Suburbs" are calculated as the data for the metropolitan area less the sum of the data for all central cities (if any) in the metropolitan area.

From the Bureau of Labor Statistics (BLS), the SOCDS contains counts of the labor force, employed persons, and unemployed persons by place of residence for each month for the years 1990 to 1997 and through the most recently available month in 1998. BLS uses statistical techniques to produce these estimates based on data from the current population survey. The SOCDS contains data for all of the U.S. central cities and metropolitan areas for which BLS publishes the data. "Suburbs" is computed as a residual, which means that the for those metropolitan areas where BLS does not publish data on one or more central cities, the definition of suburbs will differ from the definition used in SOCDS Census data tables. Specifically, in these cases, "suburbs" will include the omitted central cities.

The SOCDS includes a special tabulation of data for individual cities from the County Business Patterns data produced by the Bureau of the Census for HUD. It contains data for 114 central cities and their associated 101 > metropolitan areas for 1993, 1994, and 1995. These include the 100 largest central cities, plus 14 additional cities so that each State is represented. In New England States, metropolitan areas follow the New England County Metropolitan Area (NECMA) definition. The "Suburbs" in each

metropolitan area are defined as the metropolitan area total less the sum of data for all the central cities for which data are available and thus may differ from the decennial census and BLS suburb definitions.

The data are accessed through a series of screens. The first screen provides a choice of data sources (decennial census, BLS, or County Business Patterns special extracts data). The next screen aims you to a specific city by choosing its State or metropolitan area. After selecting a city, you are presented with a choice of topics. Selecting a topic produces data tables for the selected city, its metropolitan area and the suburbs. Thus, a user interested in populations counts for Macon, GA would first click on to "historical data from the 1970, 1980, and 1990 Census," then select Georgia from the list of States, Macon from a list of cities and finally select "total population" from a selection of data topics.

How to Find the SOCDs. The SOCDs can be accessed by going to the HUD USER site at: <http://www.huduser.org>, clicking the link "Data Available from HUD USER" and then "State of the Cities Data Systems." [Source: [hudusernews@aspensys.com](mailto:hudusernews@aspensys.com) (through [ppgis-scope@igc.org](mailto:ppgis-scope@igc.org))]

\*\*\*\*\*

❖Introductory Guide And Case Studies on GIS Available on Internet: NACCHO Releases New Guide And Case Studies on Geographic Information Systems, Pollution Prevention, and Public Health. The National Association of County and City Health Officials' (NACCHO) Pollution Prevention Project has developed an introductory geographic information systems (GIS) guide, *called GIS, Pollution Prevention, and Public Health*, and the companion document, *Geographic Information Systems Case Studies*. The GIS Guide and Case Studies provide an introduction to GIS and illustrate how local health departments are using GIS in conjunction with pollution prevention (source reduction) strategies to promote public health.

The goal of the Pollution Prevention Project is to increase local health department understanding of the potential uses of GIS in stimulating the integration of pollution prevention practices into local public health programs. The GIS Guide provides an

introduction to GIS and pollution prevention, potential GIS applications, program start-up, resources, and other information. The GIS Case Studies provide examples of innovative GIS applications of varying complexity and cost used in pollution prevention programs at three local health departments. The Guide and Case Studies illustrate that proper utilization of a GIS can strategically increase planning and analysis capabilities by reducing information redundancy, and decreasing the amount of time it takes to assemble, report, and analyze data from multiple sources.

Project Highlights. NACCHO has actively educated and encouraged local health departments to implement pollution prevention programs over the past 5 years. Pollution prevention has been highlighted to local health officials through articles, information, resources and events in newsletters and conference sessions. Specific pollution prevention activities include: Developing and distributing to all local health departments the fact sheet, *Pollution Prevention and Public Health: A Unified Approach to Disease Prevention and Environmental Protection*; Collaborating in the development of *Preventing Pollution in Our Cities and Counties*, with the National Association of Counties, the U.S. Conference of Mayors, and the National Pollution Prevention Roundtable; Collaborating with the League of Women Voters in the production of the national video conference, *Tools for Drinking Water Protection*, and creating the factsheet *Drinking Water, Pollution Prevention and Public Health: A Matrix for Disease Prevention and Environmental Protection*; Producing and distributing *GIS, Pollution Prevention, and Public Health* Guide, and the companion document, *Geographic Information Systems Case Studies* (Comes as set: Members \$3.00 Non-members \$6.00); and Conducting a P2 GIS demonstration session at the 1998 ASTHO/NACCHO Annual meeting.

Publications may be found online through the NACCHO Pollution Prevention Project Web Page at: <http://www.naccho.org>. All NACCHO publications may be purchased online through the NACCHO Publications Web Page or by calling the publication line at (202) 783-5550, ext. 237.

The National Association of County and City

Health Officials (NACCHO) is a non-profit member organization unique in the fact that it serves all 3,000 local health departments nation-wide-in cities, counties, townships, and districts. The Pollution Prevention Project is part of NACCHO's overall environmental health activities to increase the capacity of local health departments to address community concerns related to environmental health problems through assessment, policy development and adequate assurance for all populations. Other environmental health projects include: Superfund, Brownfields, community environmental health assessment, indoor air quality/radon, NACCHO's *Award for Excellence in Environmental Health*, Integration of Environmental and Community Health, and a pending food safety project. The NACCHO Pollution Prevention Project is funded through a grant from the Office of Pollution Prevention, Pesticides and Toxics of the U.S. Environmental Protection Agency (EPA). [Source and contact: Phillip Bouton, NACCHO Pollution Prevention Project at voice (202) 783-5550, ext. 213 or email PBouton@naccho.org]

\*\*\*\*\*

❖ Using GIS to Target a Wildlife Vaccination Program: With no natural barriers to prevent the westward migration of raccoons, the raccoon rabies epizootic in the eastern United States entered the Midwest from Pennsylvania through Mahoning County in 1997. State and local health officials quickly developed plans to immunize wild raccoons in order to contain the epizootic in Mahoning and other Ohio border counties. The oral vaccine used in this program is contained in a fishmeal bait that is distributed by plane and helicopter in rural areas and by hand from moving vehicles in more populated areas. One million vaccine-laden baits have been distributed in a 1,540 square mile area stretching from Lake Erie to the Ohio River since 1997 in twice-yearly baitings in an effort to maintain a *cordon sanitaire* against the epizootic.

At cost of almost \$1.50 for each vaccine-laden bait, the Ohio General Assembly has agreed to appropriate up to \$4 million for vaccine purchase and distribution through 1999. State and local health officials have come to rely upon GIS technology to

help determine the most cost-effective baiting zone in the affected areas. Sanitarians at the District Board of Health in Mahoning County maintain an active surveillance program to identify rabid animals by collecting and testing all roadkill and nuisance raccoons. Geographic coordinates for all animals are determined using hand-held GPS units on loan from CDC's Division of Viral and Rickettsial Diseases. The locations of positive cases are plotted with Atlas GIS software, and 10-mile wide frontal boundary lines are constructed around the westernmost cases. Oral vaccine baiting efforts are concentrated within this 10-mile barrier zone.

Active surveillance in Mahoning and the other border counties suggests that the baiting program has checked the spread of raccoon rabies in Ohio. Less than 2 percent of raccoons tested in Mahoning County in 1998 were rabid, and the number of rabid animals reported in the County dropped from 48 in 1997 to three in 1998. [Reported Matthew Stefanak, Mahoning County Health Commissioner, District Board of Health, 50 Westchester Drive, Youngstown, Ohio 44515 at voice (330) 270-2855/144 or email mchealth@cboss.com]

\*\*\*\*\*

❖ The First International Health Geographics Conference was an overwhelming success reports Ric Skinner, Health Geographics Consultant. "This conference was long overdue!" That was how one of the participants summed up the First International Health Geographics Conference, held recently in Baltimore, MD. The same sentiment was echoed on survey forms completed by a large number of the more than 200 participants, representing 25 countries and nearly 30 U.S. states. IHGC was conceived and developed by Co-Chairs Omar Khan (okhan@jhucp.org), Johns Hopkins University, Center for Collaborative Programs, Baltimore, MD and Ric Skinner (wskinner@fast.net), a health geographics consultant based in Allentown, PA to focus exclusively on the rapidly evolving area linking geography with health issues—or more specifically the use of Geographic Information Systems in health care, health services, health policy, health sciences, and the

‘business’ of health—collectively what has been termed ‘health geographics’.

Eminent keynote speakers set the tone for the conference theme: “Mapping Health into the Future,” and included Dr. Barry Levy, Past-President of the American Public Health Assn., Jack Dangermond, President of ESRI, Dr. Robert Lawrence, Associate Dean of the Johns Hopkins University School of Hygiene and Public Health, and Da Hsuan Feng, General Manager-HUBS, SAIC Corp.

The 3-day conference consisted of 6 concurrent workshops, 17 concurrent sessions with over 50 presentations, and 6 informal evening discussion groups. Also, there were 3 plenary sessions hosted by The World Bank, UNICEF, and the Pan American Health Organization. Twenty-two poster presentations filled out the program. IHGC drew major sponsors and exhibitors: Johns Hopkins University School of Public Health, Environmental Systems Research Institute, Inc., Geographic Data Technology, Inc., Applied Geographics, Inc., GeoHealth, Inc., Pangaea Consultants, Intergraph, Inc., Prescient International, Inc., United Nations Children’s Fund, and the World Computer Graphics Foundation.

From the outset, the IHGC was developed from the grass roots level by health geographics practitioners to foster dialogue between health care providers, researchers, managers, and policy analysts, i.e doctors, medical researchers, epidemiologists, environmental scientists, geographers, geologists, computer scientists, statisticians, hydrologists, entomologists, toxicologists, ecologists, business managers, regulators, and indeed, all those appreciative of the links between GIS and health.

The broad field of health is increasingly intertwined with global information issues, and thus involves the integration of many disciplines. A significant and important characteristic of health and medical information is the geographic relevance on the macroscale (e.g., nationwide access to health care, control of malaria, or climatic effects on disease), at the mesoscale (e.g., regional emergency services, local access to health facilities), and microscale (e.g., managing the treatment of melanoma on the human body). As the needs of the various health fields have

grown in size, scope and complexity, so too has the information technology necessary to capture/acquire, manage, analyze, present and otherwise support the information in ways that increase our knowledge base of the problems and issues confronting us, and inform sound and prudent actions based on this information.

GIS has evolved as an empowering technology, enabling the health geographics professional to use, analyze and present information in ways not possible with textual and numerical information systems (e.g., word processors, databases, spreadsheets). With GIS, the user is able to analyze the spatial relationships and pattern information inherent in the geographically based health data. In comparison with other relevant technologies, GIS allows a greater awareness and ability to respond to health care, medical and research issues at the appropriate scale. The robustness of GIS is illustrated best by a diverse variety of applications: space/time cluster analysis, spatial trends, siting of facilities, modeling heterogeneity with covariates, optimizing delivery of goods and services, predicting risk, exposure assessment, identifying at-risk populations and defining corrective interventions, image classification, spatial reasoning and cognition, spatial multimedia, animation, visualization, correlations, and many others.

Plans are already underway for the Second International Health Geographics Conference. Any individual who would like to help plan and organize next year’s conference or any company, association, organization or school interested in sponsoring or exhibiting at this high visibility event is invited to contact Omar or Ric at the above email addresses. More detailed information about this year’s conference can be found on the IHGC website: <http://www.jhsph.edu/ihgcc>, or contact the Johns Hopkins University Office of Public Affairs (410) 955-6878.

## V. NCHS Cartography and GIS Guest Lecture Series

(This section may include literature citations, abstracts, syntheses, etc., and submissions are open to all)

Using GIS to Measure Spatial Correspondence with the Standard Deviational Ellipse, David W. S. Wong, PhD, Assistant Professor, Department of Geography



and Earth Systems Science, George Mason University, on Wednesday, **February 10, 1999**, at the NCHS Auditorium [open to all]. **Abstract:** The standard deviational ellipse (SDE), a simplistic geostatistical technique that can show orientation or spatial trend, has existed for many years. However, its use for measuring spatial correspondence of different types of events has not been developed until recently (Wong, 1999, *Urban Geography*). These applications have focused on SDE uses to measure spatial segregation using ArcView GIS. In this presentation, the SDE and other simple descriptive geostatistics are reviewed. The use of this set of tools, especially the ellipse to summarize orientation in spatial distributions is demonstrated in the context of measuring spatial segregation. Its analogous use for potential applications in the study of disease distributions is discussed.

\*\*\*\*\*

Applying the Science of Geographic Information Systems (GIS) to Public Health Theory and Practice: Opportunities and Precautions, Gerard Rushton, PhD, Professor, Department of Geography, The University of Iowa, Thursday, **February 25, 1999**, 10:30-Noon, Executive Park (ATSDR, Building 35), Atlanta, GA [Editor: I will be in Atlanta to host this event for the CDC/ATSDR Behavioral and Social Science Working Group; Envision is available to offsite CDC/ATSDR locations; RM 700C at NCHS CDC, Hyattsville, has been reserved for this presentation and is open to all]. **Abstract:** Geographic Information Systems (GIS) tools now being applied to the analysis of human and animal disease occurrence, environmental exposure and risk, morbidity and mortality, health inducing behavior, and accessibility to preventive care and services have introduced a new era of geographic exploration, both theoretical and applied, in the field of public health. From GIS we are deriving spatial and space-time analytical models that provide the scientific basis for optimizing descriptive, inferential, and normative conclusions in disease surveillance and prevention. GIS supports geographic analysis methods, which in public health allows for new cost-effective use of often scarce disease prevention resources in (especially) state and

local settings. Using illustrations of my work on breast cancer surveillance (SEER), pre-natal screening for birth defects, and infant mortality, I will demonstrate the opportunities, and related precautions, associated with the use of GIS and its significant role to advance the CDC mission of disease control and prevention.

**VI. Related Census, DHHS  
and Other Federal Developments**  
**REPORT ON LEGISLATIVE ACTIVITIES:**  
**National Center for Health Statistics (Excerpts)**  
November 1998

The 105<sup>th</sup> Congress wrapped up and left town in late October after passing an enormous omnibus bill. Eight appropriations bills, an emergency spending bill, and a hodgepodge of other measures were folded into the omnibus bill. Even more legislative items that had languished for months were given new life in the waning days of the session as both chambers rushed through as much noncontroversial legislation as possible. Left aside in all the chaos were a number of high profile but contentious issues, including managed care protections and medical privacy. These issues will return when the next Congress convenes in January. In terms of numbers, that Congress will be similar to the one that just left. Republicans will continue to hold an edge in both chambers. Senate Republicans will retain their 55-45 majority, while House Republicans - after losing five seats - will have a slim majority of 223 seats to the Democrats' 211 (with one Independent).

NCHS REAUTHORIZATIONS. NCHS has been reauthorized through FY 2003. The reauthorization squeaked through in the flurry of legislative activity typical of the end of a session. There were actually two bills that included the NCHS reauthorization (and other measures) and both of them cleared the House and the Senate after intense behind the scenes negotiations to ensure that they had strong support in both chambers and that they contained nothing the least bit contentious. The bills then were passed under special procedures used only for noncontroversial bills.

The Women's Health Research and Prevention

Amendments (P.L. 105-340) includes provisions to reauthorize through FY 2003 both NCHS' general authorities and the minority grants program. The second measure, the Health Professions Education Partnerships Act (P.L. 105- 392) also reauthorizes NCHS through FY 2003. This law includes a major section on minority health, which modifies the responsibilities of and reauthorizes the Office of Minority Health within the Department; one of the responsibilities of the Deputy Assistant Secretary for Minority Health is to "ensure that NCHS collects data on the health status of each minority group." The law also reauthorizes the minority grants program for such sums as may be necessary through FY 2003.

The law makes other changes to NCHS' statute related to minority data collection. It requires the Secretary, through NCHS, to "collect data on Hispanics and major Hispanic subpopulation groups and American Indians, and for developing special area population studies on major Asian American and Pacific Islander populations." While this language highlights specific minority groups, it essentially reinforces authority already in place. The law authorizes funds of \$1M for this activity for FY 1998 and such sums as may be necessary for FY 1999 through 2002. Furthermore, the new provision is effective only to the extent that funds are specifically appropriated and only if funds appropriated to NCHS and the minority grants program are at least the level of FY 1997 appropriations. Neither of the reauthorizations included the "sworn agent" authority that we had sought to allow special sworn agents to come into the Center and, subject to NCHS confidentiality procedures, conduct analyses of NCHS data.

**OTHER HEALTH PROMOTION ISSUES.** Other CDC programs also were reauthorized in one or the other of the laws that included the NCHS' reauthorization. Programs reauthorized before the Congress adjourned included the breast and cervical cancer early detection program, cancer registries, prevention centers, tuberculosis and lead poisoning prevention activities, and immunization grant programs.

In other health promotion activities, two Senate

bills related to the disabled were enacted into law. The Rehabilitation Act Amendment, which reauthorizes job training and vocational rehabilitation programs for the disabled, was incorporated into a major job training bill and enacted (P.L. 105-220) in August. This law contains a provision reauthorizing the National Institute on Disability and Rehabilitation Research in the Department of Education. One of that Institute's responsibilities is to produce, along with several other agencies including NCHS, statistical reports and studies on the employment, health, income, and other demographic characteristics of individuals with disabilities, and to disseminate these reports.

The second Senate measure, a bill to enhance understanding of crimes committed against people with developmental disabilities, was also endorsed by the House and then signed into law. The Crime Victims with Disabilities Act (P.L. 105-301) requires the Attorney General to report within 18 months on the results of a study on crimes against individuals with developmental disabilities. Within two years the National Crime Victim's Survey must provide statistics on the nature of crimes against the developmentally disabled and the characteristics of crime victims with developmental disabilities.

Companion bills introduced in the summer and intended to reduce gun violence among children did not see action in either chamber. These bills included a provision to allow the Secretary to make grants for the establishment of surveillance systems on children's firearm-related injuries. This program would have been carried out through the director of CDC's Injury Center. Grants would have been used to collect information on fatal and nonfatal injuries involving children under age 21, including information on mortality, morbidity, disability, and type of firearm.

**PRIVACY AND CONFIDENTIALITY.** After lots of promising activity early on, the medical privacy issue stalled completely in the summer. Six bills were introduced and a number of hearings were held, but no further action occurred. Under terms the Congress has imposed on itself, legislation on the privacy of individually identifiable health information must be enacted by August of 1999 or the Secretary is required

to step in with regulations.

The last of the six medical privacy bills proposed over the two-year congressional session was introduced by Senator Bennett (R-UT) as the session drew to a close. He intends to reintroduce it in the next Congress. This bill, S. 2609, the Medical Information Protection Act, was similar to the others in its approach - it addressed both access to and disclosure of individually identifiable information. Unlike some of the others, however, it explicitly stated that one of its purposes was to address information acquired as part of the research process. The bill would have required an individual's authorization for disclosures of identifiable information about that individual for research, public health and other purposes; research disclosures would have been exempt from the authorization requirements, however, if the research had been approved by an IRB. The bill also included a section that would have allowed for analyses of health care records and medical archives if the research had been approved by a formal group (but not an IRB). The bill would not have allowed researchers to redisclose protected health information that they had received. Also, it would have mandated an IOM study on research issues related to protected health information.

The bill gave the NCVHS an advisory role to the Secretary in several areas. The Secretary would have been required to consult with the NCVHS in developing model notices of confidentiality practices and model authorizations for disclosure of protected information, in preparing regulations related to physical safeguards for confidential information, and in reporting on the adequacy of policies for protecting information while promoting its use in research.

S. 2609 proposed to preempt almost all state laws. In contrast to other bills, state laws related to the reporting of vital statistics would not have been explicitly preempted; rather, this bill included a provision that would have allowed health providers, health plans, and others to disclose protected health information to a public health authority for use in vital statistics reporting. Federal laws related to protected health information or access to it would not have been preempted.

Privacy and confidentiality issues were also

addressed as part of the patients' rights bills - none of which were enacted - as discussed above. In addition to the provisions related to the role of the NCVHS already mentioned, the House Republican leadership bill (which passed the House) would have charged GAO with conducting two studies: 1) a study and report on the effect of state laws on the confidentiality of protected health information on the provision of health care and securing payment for such care; and 2) a study and report on the effect of state laws on health-related research subject to IRB review with respect to the protection of human subjects. The House Republican leadership bill on patients' rights also would have delayed the deadline for congressional action on health information privacy legislation until six months after the research report was received. Finally, the bill addressed disclosure of health information and would have required authorization before an individual could have been used in a research study.

As public hearings on the standards for unique health identifiers got underway during the summer, reservations about that requirement generated several bills which would have repealed the unique identifier requirement entirely. Those bills were not acted on, but the omnibus appropriations act includes a provision providing that no FY 1999 funds may be used to adopt a final standard providing for a unique health identifier for an individual until legislation is enacted specifically approving the standard.

CENSUS 2000. Neither side has blinked so far in the census statistical sampling dispute. Republican leaders are holding fast to their view that sampling cannot be used to fill in the gaps in the traditional head count, and a ruling in August by a special three-judge panel bolstered this position. The Administration, however, is equally adamant that sampling is the way to go and has appealed the ruling to the Supreme Court. Arguments in that case were heard in late November. Not surprisingly, the sampling disagreement contributed to the delay in enacting appropriations bills. Ultimately, funding for the census was included in the omnibus bill, but it came with restrictions. FY 1999 funding for the Commerce, Justice, and State

Departments will end on June 15 unless a bill describing how the census will be conducted is enacted by that date. [Source: Kathy Moss, NCHS CDC at voice (436)-7142 x130]

\*\*\*\*\*

Public Health Service: NATIONAL COMMITTEE  
ON VITAL AND HEALTH STATISTICS

Excerpts of Meeting Minutes, June 16-17, 1998, Washington, D.C.

**HEALTHY PEOPLE 2010.** Overview by Deborah Maiese, ODPHP (see (*Healthy People Website*: <http://web.health.gov/healthypeople>): Ms. Maiese, the Senior Prevention Policy Advisor of the Office of Disease Prevention and Health Promotion (ODPHP), noted that Healthy People is the United States' contribution to the World Health Organization's call for health for all. The planners hope to release Healthy People 2010 in January of 2000, before the Presidential race. A Secretary's Council on National Health Promotion and Disease Prevention Objectives for the Year 2010 meets annually, supported by a Departmental steering committee. These two groups guide the policy for the initiative.

A consultation on a complete set of draft objectives will take place in Fall 1998. There will be five regional meetings, each with a formal hearing. Ms. Maiese issued the first of several appeals for NCVHS to participate in the consultation process. The public comment period (using the Website) closes around December 15, with a final set of objectives expected next summer. Publication of a three-volume set covering the objectives, policy, and data details is planned in the year 2000. About 62 percent of the 700 comments thus far have come from people listing no official affiliation.

Healthy People 2010 will have two types of objectives: 1) measurable ones for which baseline data are available and 2) about 200 "developmental objectives" for which there is no baseline. The "high hurdle" set for the latter is to be able to measure them by the year 2004 so that a 2010 target can be set in 2005. Since work began on the objectives for the current decade, the number without baseline data has been reduced from 91 to 11 because the objectives

have driven the development of new data systems -- e.g., on school health practices. The same role is expected for the 2010 objectives.

Audio conferences with the states have begun, focusing on data development and getting started for 2010. States are being encouraged to support healthy community and healthy city initiatives. In addition, to expand the audience beyond the public health community, the Robert Wood Johnson Foundation has funded the formation of a business advisory council for Healthy People 2010.

Another major and "audacious" characteristic of the 2010 objectives is the elimination of differential targets. Dr. Carter-Pokras took up that topic.

Eliminating disparities: Olivia Carter-Pokras, Office of Minority Health. By setting the goal of eliminating racial and ethnic disparities, the Department has taken on tough issues it has not addressed before. With respect to the year 2000 objectives, major racial and ethnic disparities remain and in some cases have worsened. There are major problems in monitoring these disparities because of the absence of national data for racial and ethnic minority groups and/or subgroups. One result has been the mistaken assumption that SES differentials account for all the disparities, when research shows that this is not the case.

The demonstrable link between the existence of Healthy People objectives and NIH funding makes it essential to set objectives relevant to all racial and ethnic groups. The developmental objectives now provide a way of pushing for data in new areas. One area where more data are needed is for racial/ethnic subgroups. Aggregate data mask huge disparities within broad racial or ethnic classifications -- e.g., births among Asian-American teenage mothers. The population-specific objectives are expected to shed light on areas of missing data.

Dr. Carter-Pokras described a nuanced approach to these public health and data issues. The President has embraced the elimination of health disparities in six focal areas (mentioned above by Dr. Hamburg). The Surgeon General's guidelines for the priority area work groups call for a single 2010 target

for those objectives that can be influenced by public health interventions or improvements in access to health services, and for those amenable to short-term behavioral change. For objectives that are unlikely to be influenced by interventions in the next decade, the target should represent an improvement for a substantial proportion of the population.

Stressing that these approaches are open to public comment, Dr. Carter-Pokras urged the Committee to participate. Finally, she noted that the success in eliminating the differential between black and white women in their rate of mammography use demonstrates the real possibility of eliminating disparities.

Data Issues: Richard Klein, NCHS. Mr. Klein noted the interesting interplay between data and policy issues surrounding Healthy People 2010. One practical issue is simply the size of the next iteration: the number of objectives may be double the number for 2000. The plan is to use electronic dissemination, allowing people to pull out what they are interested in.

One data issue stems from having multiple measures for an objective. NCHS is advocating for a single measure. Also, duplicate objectives in different areas have created "a numbering nightmare" in the past, and there is now agreement to use a single unique number.

The developmental objectives present several challenges. There are hundreds in the current document, and they present serious data collection problems with no clear strategy for how they will be collected. Another issue concerns comparability and consistency: for example, the change to ICD-10 will cause discontinuities in mortality statistics, and a new standard population for age adjustment will affect racial comparisons. Changes in OMB 15 guidelines, particularly the direction to check more than one race, create other complications. Mr. Klein observed that generally, Healthy People "assumes a comparability over time that really doesn't always exist...."

He then described the Institute of Medicine's work on "leading health indicators," aimed at finding a few core indicators that encapsulate or represent the nation's health status. The model is the leading

economic indicators. The IOM is considering the criteria for such measures, one of which is regular availability. He noted that such regularity depends in part on dependable funding, and NCHS staff are working with the Data Council on a data development plan for the next decade aimed at assuring a consistent funding stream -- something that has not existed in the past.

IOM is considering three models: a health status model, a health disparities model, and a summary measures/leading contributors approach. None of these is satisfactory to Dr. Sondik, who wants a tight analytic connection between risk factors and outcomes. NCHS is getting involved in summary measures such as quality-adjusted life years and disability-adjusted life years. These can yield a single number with which the health of the population can be summarized. NCHS will hold a conference with international experts in September, looking for two or three measures that can be used over a decade. The issue Dr. Sondik raises is, what does a change in years of healthy life mean? Considerable research is planned over the next decade to tighten the analysis in this area.

Dr. Detmer opened the discussion, which Dr. Starfield launched with a "Wow." She then asked whether Healthy People 2010 would frame the issues to give adequate visibility to the disparity in socioeconomic status and its effect on health status, in contrast with the year 2000 objectives. Noting Dr. Carter-Pokras' comment that "money follows objectives," she offered to work with the planners to frame the objectives so that this dimension receives attention. Ms. Maiese said a work group is focusing on SES, and she would relay the Committee's comments. [Source: <http://aspe.os.dhhs.gov/ncvhs>]

#### **Web Site(s) of Interest for this Edition**

[Editor- Ron LaPorte, Professor, University of Pittsburgh, has been developing a global supercourse e.g., library of lectures, on Epidemiology, Global Health and the Internet ([www.pitt.edu/~super1/](http://www.pitt.edu/~super1/)). This is an impressive activity and one that may have benefit for many of our Public Health GIS Users. Is this model applicable to our GIS and public health efforts? The



following is a recent communication from Ron (through EPIDEMIO-L) that may promote your own interests in this topic given its evolving success]

“Topic: Do you really want to teach another 600 years?: If you have taught or plan to teach you will have 1-2 "killer" lectures. These are the lectures that are on topics that you passionately love. When you give the lectures the 60 minutes fly by in only 10, and there are no students sleeping in class (now that is a miracle!). These are the lectures that come from your soul. For me (REL) it is a lecture on the epidemiology of childhood diabetes, a lecture on disease monitoring and a lecture on the Internet. This year, how many students will see your killer lecture? For me it is 50, of which 49 are Pittsburghers.

We just got data from the number of hits of the 60 on the supercourse. For my killer lectures, they will be seen by over 2500 people per year. Thus putting a lecture on the supercourse increases the number of people seeing it by 50 times...amazing. If we are successful, this will increase to 30,000 students each year seeing each lecture, I would have to teach 600 years to get the same exposure as one year of classroom teaching. To develop your most pizazzi lecture into a supercourse lecture takes 2-3 hours, and may increase the number of people seeing you and your lecture over 600 fold. Not too bad of cost/benefit pay off.

I had the fear that exposing my "baby", the lecture I cared about the most, Epidemiologists from around the world would be saying I was an idiot. I was scared as I put my first few lectures up. However, I was very pleased to see that of the 8 lectures I wrote, I received 10-84 comments, none of them were vitriolic, and only a few mildly negative. Nobody suggested that I drop out of epidemiology as I had expected! The comments were wonderful, as they were quite constructive, and helped to make my baby even prettier, in that the comments helped to sharpen it up quite a bit. You too will see that it is of remarkable benefit.

We are very pleased to see how epidemiologists are responding. We are creating in a way epidemiology shareware, you can use and modify my killer lectures, and I can use yours, we all benefit, and the students benefit the most. For faculty say in developing countries who do not have access to the literature, they can use our lectures to teach their students, and we can learn from them in the global epidemiology community. We have tried out the lectures twice in Japan, and once in South Africa on over 200 medical students. The interest was much better than we thought, at Jikei university in Japan, almost 3/4 of the virgin epidemiology medical students wanted to take another epidemiology course. One suspects that worldwide 1/100 medical students are interested in taking any epidemiology course.

We will describe this more in depth. We just submitted our grant to NIH to beef up the supercourse. In the next few weeks we will put the grant up on the web for all to see, and get comments. We are looking forward to hearing from you.” [Contact: Ron LaPorte, Director, Disease Monitoring and Telecommunications, WHO Collaborating Center, Graduate School of Public Health at email rlaporte@vms.cis.pitt.edu; Editor: note also that James Coopman, University of Michigan, provides Web-based lectures on a variety of epidemiology topics (for example, see <http://www.sph.umich.edu/group/epid/epid655/ThirdVar/index.htm>); the University of North Carolina School of Public Health has an Introduction to Epidemiology course (see <http://cdlhc.sph.unc.edu/course>); the University of Texas Health Science Center at Houston School of Public Health offers an outreach course that serves as an Introduction to Epidemiology (see <http://www.sph.uth.tmc.edu>) and; CDC offers several continuing education courses available on epidemiology, including a computer-based course called "DoEpi" (see <http://www.cdc.gov> and related recommendation under II.B. of this newsletter)]

### **Final Thought(s): GIS for State and Local Health Departments**

Although most of the nearly 3,000 state and local public health departments may not, as of yet, be GIS empowered, it appears that the momentum truly will begin to turn in this direction in 1999. There are a variety of developments, from GIS startup grants and starter kits to GIS Web-based applications to new community and regional data-sharing enterprise approaches, that will provide new opportunities for public health access in a limited resources environment. Within this emerging panorama of possibilities, there remain many roles for each of us to advance the cause of public health prevention effectiveness, using GIS.

Allow me to share with you one small illustration. Last month, Tom Richards (PHPPPO CDC) and I made a presentation entitled "Towards a Working Atlas of Model GIS Maps for State and Local Public Health Planning," which some of you attended or viewed offsite. We presented a variety of maps that were developed, in large part, by local health departments (LHDs) in response to our call earlier in the year for a national competition. The response to this effort far exceeded our expectations in several respects. We received nearly 130 maps from 59 contributors in 26 different states; from these, we selected 28 maps based on a variety of criteria. We sorted these into 10 categories: lead poisoning, immunization, pregnancy and prenatal care, injury, animal rabies control, toxic emissions, water pollution, distance-based training, community health profiles and access to care, and data analysis systems. We displayed a subset of these at the talk. The enthusiasm of those who participated in the map competition was excellent and the participants expressed their conviction that these GIS maps would have been extremely beneficial to them, in the past, when they were beginning GIS mapping. The response to this effort by the Director, NCHS, and many state and local health department representatives who attended the presentation, was similarly enthusiastic. In fact, the phone continues to ring with inquiries as to how others may obtain these as potential blueprints for new or startup mapping activities.

I am pleased to announce that the entire February issue of the *Journal of Public Health Management and Practice* (JPHMP) will be dedicated to publishing the 28 maps with software specifications and accompanying explanatory text. We believe this Map Roundtable will be an unprecedented compendium of community health applications of GIS. Many of these maps have already demonstrated innovative use or success in improving community health. In addition, the February issue will include a toolbox comprised of related articles on how to implement a GIS capacity in a public health agency.

Topics addressed in the February JPHMP issue include: an overview of the steps involved 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 spatial statistics for GIS and community health planning. Finally, a sequel issue this summer will address a variety of other related and timely GIS public health themes.

Charles M. Croner, Ph.D., Editor, **PUBLIC HEALTH GIS NEWS AND INFORMATION**, Office of Research and Methodology, National Center for Health Statistics <cmc2@cdc.gov>. Copyright Notice: This report is in the public domain but its contents are not to be altered or changed without prior written approval of the editor.

**Less than 12 months...to the next Public Health GIS Millennium**