I. Public Health GIS (and related) Events:
SPECIAL NCHS/CDC/ATSDR GIS LECTURES

January 13, 2004. **"The DC Atlas: Online Geospatial Functionality for Government and Citizens"**, presentation by Vicki DeFries, GIS Director, District of Columbia's Office of the Chief Technology Office, Washington D.C. See **abstract** this edition. Please join us for this NCHS Cartography and GIS Guest Lecture Series to be held at NCHS in RM1406, from **2:00-3:30PM**, Hyattsville, MD; The NCHS GIS Guest Lecture Series has been presented continuously since 1988. Envision is available to offsite CDC/ATSDR locations; Web access will be available on the Internet but only at the time of this presentation. Please contact me if you did not receive the URL. Cosponsors to the NCHS Cartography and GIS Guest Lecture Series include CDC's Behavioral and Social Science Working Group (BSSWG) and Statistical Advisory Group (SAG). [All NCHS Cartography and GIS presentations are open to the public. Contact: Editor, *Public Health GIS News and Information*]

[Note: Calendar events are posted as received; for a more complete listing see NCHS GIS website and prior reports]

* Third Annual Primary Care and Prevention Conference, Morehouse School of Medicine, October 30- November 1, 2003, Atlanta [See conference website and details: http://www.i3m.org/main/pcpc/pcpc_register.htm]

*26th annual Applied Geography Conference, November 5-8, 2003, Colorado Springs CO [See conference at: http://www.appliedgeog.org/html/main.htm]

*The Institute of Medicine and American College of Physicians Foundation conference, "Strategies to Improve Health Care by Removing Communication Barriers," November 17, 2003, Washington, D.C. [See: http://foundation.acponline.org/healthcom/hcc2_prog.htm]

* 2004 ESRI Federal User Conference, January 20-22, 2004, Washington D.C. [See details at the ESRI site: http://www.esri.com/events/feduc/index.html]

* GIS and Remote Sensing in Health Sciences conference, University of Mississippi Medical Center (UMMC), February 19-20, 2004, Biloxi MS [Contact: Fazlay Faruque, Director of GIS and Associate Professor of Health Systems, at FFaruque@son.umsmed.edu or visit http://www.msacad.org]

* International Conference on Emerging Infectious Diseases, February 29-March 3, 2004, Atlanta GA [See: http://www.cdc.gov/ICEID/index.htm]

* 2nd UK Crime Mapping Conference, The Jill Dando Institute of Crime Science (University College London), March 9-10, 2004, London [See details at website: http://www.jdi.ucl.ac.uk]

* Seventeenth Annual Geographic Information Sciences Conference: "Planning, Prevention, and Response: GIS and Homeland Security," The Center for Geographic Information Sciences at Towson University, March 22-23, 2004, Towson MD [See conference site and details at http://cgis.towson.edu/tugis2004]

*4th National Asthma Conference: "Winning with Asthma", CDC and American Lung Association, April 14-16, 2004 Atlanta GA [See conference details at: www.signup4.com/CDC/ASTHMA2004]

* 22nd National ASTDHPPHE/CDC Conference on Health Education and Health Promotion, *The Future of Health Promotion and Health Education: Transforming Vision Into Reality*, May 5-7, 2004, Orland FL [http://www.dhpe.org/nationalconference]

* GISVET 2004 conference, June 21-25, 2004, Guelph, Ontario, Canada [See: http://www.gisvet.org]

II. GIS News

(Public Health GIS Users are encouraged to communicate directly with colleagues referenced below on any items; *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*)

A. General News and Training Opportunities

1. **OMB Designates 49 New Metropolitan Statistical Areas**. The Office of Management and Budget released the list of revised definitions of Metropolitan Areas, and new definitions of Micropolitan and Combined Statistical Areas. The areas can be obtained by going to the website http://www.whitehouse.gov/omb. Go to "Bulletins" (on the left hand side of the page under "Information for Agencies") and then at the bottom of the announcement, Bulletin 03-04, there is the link to the PDF Attachment.

2. **Food borne Illness and the Principles of Public Health**: These are online courses sponsored by the Pacific Public Health Training Center (PPHTC). Food Borne Illness course describes different contaminants, specific illnesses, and prevention techniques related to food borne illnesses. The principles of Public Health course provides an overview of the most important issues and topics related to public health departments and public health practice. [For information on courses and topics see http://www.pphtc.org/training/courselist.htm]

3. **The University Consortium for Geographic Information Science** (UCGIS) will hold a three-day workshop on geospatial visualization and knowledge discovery research. The workshop is sponsored through a grant from the Advanced Research and Development Activity (ARDA) and the United States Geological Survey (USGS). The opening session of the workshop will be held on Tuesday, November 18th, from 10:00am to 2:30pm at the National Conference Center, Lansdowne VA and is open to all those interested in attending. This plenary session will provide an overview of the field's major research topics. Please register on-line at http://www.ucgis.org/Visualization by November 11th.

4. **Public Health Research Laboratories** (PHRL) presents a spatial-epidemiology training course for health workers [http://www.phrl.org]. This course is designed to provide researchers with an applied and essential understanding of the following disciplines for the prevention and control of disease including GIS, medical geography, spatial analysis, spatial statistics, spatial modeling, remote sensing and GPS. The next training course is January 5-16, 2004, at California State University, Chico. [Contact Bill Hoffman at email address whoffman@phrl.org]

5. **TerraSeer, Ann Arbor, MI**, will host back-to-back courses in geostatistical analysis December 2-3 and 4-5, 2003 [http://www.terraseer.com]. This set of two 2-day courses will cover the basics of geostatistical approaches to the modeling and exploration of geographic data. The first course, Geostatistical Analysis, will provide an introduction and overview, and the second, Advanced Geostatistical Analysis, will provide further applications and new approaches in the field. The workshop will be led by Dr. Pierre Goovaerts. [Contact: Dunrie Greiling at dunrie@terraseer.com]

B. Department of Health and Human Services
(http://www.hhs.gov)

6. Secretary Tommy Thompson pledged continued U.S. assistance to China in their efforts to detect, fight and treat diseases and named several steps that the U.S. will take to fulfill the nation's pledge. The Secretary also urged openness between Chinese and world health officials in the fight against the spread of diseases including HIV/AIDS, SARS while protecting the rights of people suffering from them. [See web source at: http://www.hhs.gov/news/newsletter/weekly]

Administration for Children and Families
http://www.acf.dhhs.gov

7. The Department of Health and Human Services fully supports the **Empowerment Zones/Enterprise Communities** (EZ/EC) project localities in their efforts to create long-term renewal. There is no doubt that healthy neighborhoods with strong institutions are vitally important for children and families. HHS has a network of staff in ten Regional Offices and the Washington-based Office of Community Services ready to work with any locality that is implementing an EZ/EC project or planning more general community building and community renewal activities.

Agency for Healthcare Research and Quality
http://www.ahrq.gov

8. **Providing Quality Care: Examining the Clinical**

and Cost Effectiveness of Community Pharmacist Intervention Conference, December 5, 2003, Arlington VA. In order to examine the growing body of research measuring the impact of community pharmacists' interventions on public health and safety, this conference will analyze current research and practice models and identify partnerships for the dissemination and adoption of best practices and future research.

Agency for Toxic Substances and Disease Registry
http://www.atsdr.cdc.gov

9. **ATSDR Issues Public Health Consultations for First Five National Asbestos Exposure Review (NAER) Sites**. In its public health consultations, ATSDR concludes that employees of facilities processing asbestos-contaminated vermiculite ore in these five cities were exposed to elevated levels of asbestos. Members of employees' households also may have been exposed to hazardous levels of asbestos fibers brought into the household on employees' clothing, skin and hair. Therefore, employees and those who lived in their homes may be at increased risk of asbestos-related diseases. NAER is an examination of more than 200 sites around the U.S. that received asbestos-contaminated vermiculite ore mined in Libby, Mont., from the early 1920s until 1990. ATSDR is working closely with EPA and state health partners to determine if a hazard to public health exists at any of the sites.

10. William Henriques will be the keynote speaker for the first **Public Health GIS Day** at the University of Texas School of Public Health, Houston. The event will be held November 9, 2003 [Contact: Cynthia Warrick at Cynthia.A.Warrick@uth.tmc.edu]

Centers for Disease Control and Prevention
http://www.cdc.gov

11. NCHS announces the release of **Health, United States, 2003**, the 27th annual report card on the Nation's health. This edition presents the latest findings from health surveys and other sources in more than 150 detailed tables, as well as a set of charts on trends in America's health. This year's *Health, U.S.* charts the steady gains in life expectancy and advances in preventive care, as well as a narrowing of gaps between the sexes and between black and white Americans. Amid the good news is evidence that the problem of diabetes is

getting worse. A special section on diabetes notes that the percentage of American adults diagnosed with diabetes has risen from 5.1 percent in 1997 to 6.5 percent in 2002- a significant increase. *Health, United States, 2003*, can be accessed electronically on the NCHS website at http://www.cdc.gov/nchs.

12. The National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP): **Preventing Chronic Disease** (*PCD*) is a new (January 2004) peer-reviewed electronic journal established to provide a forum for public health researchers and practitioners to share study results and practical experience. The mission of the journal is to address the interface between applied prevention research and public health practice in chronic disease. *PCD* focuses on chronic disease prevention, such as preventing cancer, heart disease, diabetes, and stroke, which are among the leading causes of death and disability in the United States. [See *PCD* website at: http://www.cdc.gov/pcd]

13. NCCDPHP announces a 2003-2004 **GIS Seminar Series** for CDC Epidemiology Intelligence Service (EIS) officers and NCCDPHP staff. Presenters include Charles Croner, NCHS (December), C. Virginia Lee and Janet Heitgard, ATSDR (January), Dan Wartenburg, NJ School of Public Health (February), Dabo Brantley, Michele Casper and Ishmael Williams, NCCDPHP (March), and Carol Gotway-Crawford, NCEH (April). [Contact: LoriA Pollack, EIS Officer at lop5@cdc.gov]

Centers for Medicare and Medicaid Services
http://cms.hhs.gov

14. **National Voluntary Hospital Reporting Initiative** (A Public-Private Partnership Effort Also Referred to as: *"A Public Resource on Hospital Performance"*). This site provides information on the quality of care in hospitals who have volunteered to report their data for selected clinical topics. This website (search by State, city or hospital name) is the result of a collaborative effort between the Centers for Medicare & Medicaid Services, national hospital organizations, accrediting organizations, consumer advocates and others. Improvements and updates will occur on a regular basis. [Note: Voluntary reporting has been "disappointing" according to CMS Administrator Tom Scully]

Food and Drug Administration
http://www.fda.gov

15. The President's initiative on **Countering Bioterrorism** is comprised of a number of essential elements for which FDA plays an integral role. One such element is the expeditious development and licensing of products to diagnose, treat or prevent outbreaks from exposure to the pathogens that have been identified as bioterrorist agents. Pathogens that have been identified as potential biological warfare agents include those that cause smallpox, anthrax, plague, botulism, tularemia, and hemorrhagic fevers.

Health Resources and Services Administration
http://www.hrsa.gov

16. HRSA announces new grants and a cooperative agreement to improve services for infants with Sickle Cell Disease (SCD) and their families. SCD is an inherited red blood cell condition characterized primarily by chronic severe anemia, infections and periodic episodes of pain.

Indian Health Service
http://www.ihs.gov

17. The HIV Center of Excellence is a clinically based center for HIV care, treatment, research, and intervention. The center is an Indian Health Service program at the Phoenix Indian Medical Center serving the tribal and IHS facilities in the Area.

National Institutes of Health
http://www.nih.gov

18. The National Institutes of Health is posting the *NIH Strategic Research Plan and Budget to Reduce and Ultimately Eliminate Health Disparities, Fiscal Years 2002-2006* (www.ncmhd.nih.gov) to invite public comment on the NIH health disparities research agenda. The NIH is seeking comments on its research plans for Fiscal Years 2004-2006.

Substance Abuse and Mental Health Services Administration
http://www.samhsa.gov

19. This **Substance Abuse Treatment Facility Locator System** is a searchable directory of drug and alcohol treatment programs that shows the location of facilities throughout the country that treat alcoholism, alcohol abuse and drug abuse problems. The Locator includes more than 11,000 addiction treatment programs, including residential treatment centers, outpatient treatment programs, and hospital inpatient programs for drug addiction and alcoholism. Listings include treatment programs for marijuana, cocaine, and heroin addiction, as well as drug and alcohol treatment programs for adolescents, and adults.

C. Historical Black Colleges and Universities (HBCUs) and Other Minority Health Activities
[A listing of HBCUs may be found at the website: http://www.smart.net/~pope/hbcu/hbculist.htm]

20. Over one in four Americans has high blood pressure. The number of cases is nearly 40 percent higher for African Americans than Caucasians, and the effects of hypertension are more frequent and severe. African Americans may also experience greater organ damage resulting from the condition. Young African -American men in particular have the lowest rates of awareness, treatment and control of hypertension of any population group in the United States. These men's low socioeconomic status and higher risk factors such as obesity, smoking, and alcohol and drug use contribute to the high incidence of hypertension and the lack of its control. [http://www.hhs.gov/news/newsletter/weekly]

21. Influenza and pneumococcal diseases are key causes of mortality among persons aged ≥65 years, accounting for approximately 36,000 and 3,400 deaths per year, respectively, during 1990-1999. Substantial racial/ethnic disparities in adult vaccination have been documented in national surveys. Although the national health objective for 2000 of 60% receipt of influenza vaccination during the preceding 12 months by persons aged ≥65 years (objective no. 20.11) was met in 1997, and the objective of 60% for pneumococcal vaccination was nearly met in 2000, vaccine coverage levels among non-Hispanic blacks and Hispanics were 31% and 30%, respectively, compared with 57% for non-Hispanic whites [See http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5240a3.htm]

D. Other Related Agency or Business GIS News
22. Economic Research Service, US Department of Agriculture. **Measuring rurality: rural-urban continuum codes**. Rural-urban Continuum Codes form a classification scheme that distinguishes metropolitan (metro) counties by the population size of their metro

area, and nonmetropolitan (nonmetro) counties by degree of urbanization and adjacency to a metro area or areas. The metro and nonmetro categories have been subdivided into three metro and six nonmetro groupings, resulting in a nine-part county codification. The codes allow researchers working with county data to break such data into finer residential groups beyond a simple metro-nonmetro dichotomy, particularly for the analysis of trends in nonmetro areas that may be related to degree of rurality and metro proximity. [See website location at: http://www.ers.usda.gov/Briefing/Rurality]

23. **Emergency Mapping Symbol Initiative**: The Open GIS Consortium, Inc. (OGC) is issuing a Call for Sponsors for an Emergency Mapping Symbology (EMS) Initiative. This call seeks interested Sponsors to provide input on technology requirements and concepts to address interoperability needs for emergency mapping and homeland security. The EMS Initiative will mature OGC's specification framework for interoperable geographic symbolization while simultaneously testing emerging standard map symbol sets for emergency response and homeland security developed by national-level mapping organizations.

The development of standards for emergency mapping will strengthen coordination, communication and interoperability. These results enhance the ability of planners and emergency managers to better understand mapped information at a glance during crucial decision-making moments. From an operational perspective, standardized emergency mapping symbol sets implemented over standard-based web mapping architectures will support the quick and easy development of multi-source common operating pictures, giving users a vital shared view of the emergency at hand. Systems generating common operating pictures using standards-based software will access spatial and related content from many sources and symbolize them in a common consistent manner, independent of the underlying feature classification schemes, data structures or data models. [Contact: Jeff Harrison at jharrison@opengis.org]

24. The Open GIS Consortium (OGC) announces a new white paper, *The Importance of Going "Open"*. Standardization is the reason for the success of the Internet, the World Wide Web, e-Commerce, and the emerging wireless revolution. The reason is simple: our world is going through a communications revolution on top of a computing revolution. Communication means "transmitting or exchanging through a common system of symbols, signs or behavior." Standardization means "agreeing on a common system." The paper concludes that buyers of geoprocessing software, data and services should review their requirements and draft "open architectures" that lead to purchase of solutions that implement the appropriate OpenGIS Specifications." [http://www.opengis.org/docs/2003/20030923_OpenWP.pdf]

25. **Prototype Application Underway for WebTIGER**: Another OGC initiative, the WebTIGER application will allow those with a Web browser to view and download Topologically Integrated Geographic Encoding and Referencing (TIGER®) data encoded in a vendor neutral format-Geography Markup Language (GML)-an OGC specification for encoding geographic features in XML. This new TIGER/GML data format is being tested for public acceptance as a standards-based alternative to the TIGER/Line® format currently used to distribute TIGER data. In addition to managing the nation's collection of demographic and economic statistical data, the US Census Bureau is responsible for a critical collection of geographic data that gives the location of the people and businesses the summary statistics describe without disclosing personal identity. The Geography Division manages this geographic data in TIGER®. TIGER is a nationwide database of streets and address ranges as well as other linear features and legal and statistical areas. It includes governmental unit boundary information for all legal areas in the United States. [Source: OGC News at www.opengis.org]

26. From GeoLytics, Inc: The Long Form Version of the **Neighborhood Change Database(NCDB)** is about to be released. This is a joint project of GeoLytics, Inc (http://www.geolytics.com) and the Urban Institute, with funding support from the Rockefeller Foundation. The updated Neighborhood Change Database expands on the earlier version by adding nearly 2,500 new variables. The NCDB upgrade has about 1,800 variables from the 2000 Census Long Form. In addition, it has over a thousand variables from the 1970, 1980 and 1990 Long Form censuses. These data sets are available in their year-specific boundaries as well as being normalized to the 2000 boundaries for real apples-to-apples comparisons of

the areas over the 40 year time period. [Contact: Katia Cohen at Katia@geolytics.com]

III. GIS Outreach

[Editor: All requests for Public Health GIS User Group assistance are welcomed; readers are encouraged to respond directly to colleagues]

IV. Public Health GIS Presentations and Literature
NCHS Cartography and GIS Guest Lecture Series

January 13, 2003. **"The DC Atlas: Online Geospatial Functionality for Government and Citizens"**, Vicki DeFries, GIS Director, District of Columbia's Office of the Chief Technology Office, Washington D.C. **Abstract**: State and local governments are key players in this new era of geospatial preparedness and response. Location-based information is a valuable asset to all agencies but it requires investment, planning and management. This past year, the District of Columbia successfully launched the **DC Atlas**, a web-based GIS Intranet tool for mapping and location-based information. It provides quick and easy access for employees to pooled and standardized geographic information, including crime and public safety, across the District's agencies. This Intranet GIS functionality will be extended this year to an Internet **DC Citizen Atlas**. The citizen atlas is an exciting development that will become a one-stop geospatial resource for the public. For example, a powerful search capacity will allow detailed (block level) online route determination. Many other data layers, including aerial photography, neighborhood characteristics, health advisories and related resources also will be accessible. And still to be unveiled is the innovative **Emergency Information Atlas** that will be the definitive source for public emergencies in the nation's capital. [Vicki at Vicki.defries@dc.gov]

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CDC's *Emerging Infectious Diseases* and *MMWR*
Emerging Infectious Diseases

Emerging Infectious Diseases (EID) is indexed in Index Medicus/Medline, Current Contents, Exerpta Medica, and other databases. Emerging Infectious Diseases is part of CDC's plan for combating emerging infectious diseases; one of the main goals of CDC's plan is to enhance communication of public health information about emerging diseases so that prevention measures can be implemented without delay The November 2003 edition 2003 is now web available at the site

http://www.cdc.gov/ncidod/EID/index.htm]. Advance:

December 2003 (9):12 Dispatch, *West Nile Virus in Mexico: Evidence of Widespread Circulation since July 2002*.

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Morbidity and Mortality Weekly Report

Selected articles from CDC's ***Morbidity and Mortality Weekly Report*** (MMWR): [Readers may subscribe to MMWR and other CDC reports, without cost, at site http://www.cdc.gov/subscribe.html as well as access the MMWR online at http://www.cdc.gov/mmwr]: Vol **52**, No. **42**-Infant Health Among Puerto Ricans: Puerto Rico and U.S. Mainland, 1989-2000; Vol. **52**, No. **RR-15***, Preventing Skin Cancer: Findings of the Task Force on Community Preventive Services on Reducing Exposure to Ultraviolet Light*; Vol. **52**, No. **41**- Notice to Readers: Publication of *Health, United States, 2003*; *with Chartbook on Trends in the Health of Americans* Vol. **52**, No. **40**- Cigarette Smoking Among Adults-United States, 2001; West Nile Virus Activity-United States, October 2-8, 2003; Notice to Readers: Recommended Adult Immunization Schedule-United States, 2003-2004; Vol. **52**, No. **39**-Recognition of Illness Associated With Exposure to Chemical Agents, United States, 2003; Vol. **52**, No. **38**- Local Transmission of *Plasmodium vivax* Malaria-Palm Beach County, Florida, 2003.

Titles

- Community participation and geographic information systems, Craig WJ, Harris TM, Weiner D Jankowski P, Book Review, *Int J Geogr Info Sci* 17 (7): 715-716 OCT-NOV 2003;

- Determinants of Geographic Variation in Helicobacter pylori Infection among Children on the US-Mexico Border, O'Rourke KJ, Goodman MG,

Thomas R, and Day RS, *Am J Epi* 158: 816-824, OCT 2003;

- Defining equity in physical access to clinical services using geographical information systems as part of malaria planning and monitoring in Kenya, Noor AM, Zurovac D, Hay SI, Ochola SA, Snow RW, *Trop Med Int Heal* 8 (10): 917-926 OCT 2003;

- Spatial analysis for environmental health research: Concepts, methods, and examples, Jerrett M, Burnett RT, Goldberg MS, Sears M, Krewski D, Catalan R, Kanaroglou P, Giovis C, Finkelstein N, *J Toxicol Env Heal* A 66 (16-19): 1783-1810 AUG-OCT 2003;

- A geospatial study of the potential of two exotic species of mosquitoes to impact the epidemiology of West Nile virus in Maryland, Kutz FW, Wade TG, Pagac BB, *J Am Mosquito Contr* 19 (3): 190-198 SEP 2003;

- Geographic information systems and health applications, Khan OA and Skinner R, Higgs (book review), *Environ Plann B* 30 (5): 791-792 SEP 2003;

- Geo-data acquisition through mobile GIS and digital video: an urban disaster management perspective, Montoya L, *Environ Modell Softw* 18 (10): 869-876 2003;

- Influence of traffic patterns on particulate matter and polycyclic aromatic hydrocarbon concentrations in Roxbury, Massachusetts, Levy JI, Bennett DH, Melly SJ, Spengler JD, *J Expo Anal Env Epid* 13 (5): 364-371 SEP 2003;

- Pesticide exposure and risk of breast cancer: a nested case-control study of residentially stable women living on Long Island, O'Leary ES, Vena JE, Freudenheim JL and Brasure J, Envir Res (Corrected Proof, In Press, Online);

- Race/Ethnicity, gender, and monitoring socioeconomic gradients in health: A comparison of area-based socioeconomic measures--The Public Health Disparities Geocoding Project, Krieger N, Chen JT, Waterman PD, Rehkopf DH, Subramanian SV. *Am J Public Health* 2003; 93:1655-1671;

- Using geographic information systems (GIS) to inform community-based diabetes prevention programs, Gesler W, Hayes M, Nash S, Skelly A, Arcury T, Dougherty M, *Diabetes* 52: A207-A207 Suppl. 1 JUN 2003.

National Academies

Board on Earth Sciences and Resources, National Academies. Recently completed Committee on Geography reports: **GIS for Housing and Urban Development** (2003); **Community and Quality of Life: Data Needs for Informed Decision Making** (2002) **Research Opportunities in Geography at the U.S. Geological Survey** (2002) **Down to Earth: Geographic Information for Sustainable Development in Africa** (2002) [http://www7.nationalacademies.org/besr/Geography.html]

GAO Report

September 11: Overview of Federal Disaster Assistance to the New York City Area. Summary: The federal government has been a key participant in the efforts to provide aid to the New York City area to help it respond to and recover from the September 11 terrorist attacks. The President pledged, and the Congress subsequently authorized, about $20 billion in federal aid. This federal aid was provided primarily through four sources: the Federal Emergency Management Agency (FEMA), the Department of Housing and Urban Development (HUD), the Department of Transportation (DOT), and the Liberty Zone tax benefits-a set of tax benefits targeted to lower Manhattan. These sources provided 96 percent, or $19.63 billion, of the committed federal aid to the New York City area.

It has been over 2 years since the attacks occurred, and many efforts have been undertaken to aid the New York City area to cope with the disaster and its many impacts. GAO was asked to describe how much and what type of federal assistance was provided to the New York City area through these four sources and how the federal government's response to this disaster differed from previous disasters. [Source: October 31, 2003, see http://www.gao.gov/new.items/d0472.pdf]

Invitation

American Journal of Preventive Medicine **Supplement on Prostate Cancer and Geographic Information**

Systems. Call for Contributions: The purpose of this Supplement is to: 1) disseminate the results of geographic information system (GIS) research on prostate cancer; and 2) provide an educational resource on how GIS technology and methods can be applied in cancer prevention and control. Potential contributors must send an abstract by no later than December 2, 2003 to Thomas Richards, NCCDPHP. Abstracts will be reviewed by Editors (Richards TB, Pickle LW, Rushton G, Hankey BF and Miller BA) of the Supplement, and the Editors will recommend the manuscripts to be invited. Authors will be notified in January 2004 as to their acceptance to develop a manuscript for this Supplement. [Contact: Tom Richards, Division of Cancer Prevention and Control, at tbr1@cdc.gov]

Special Reports
Fairfax County Community Services Board Emergency Response System: Notifier

Lathan S. Dennis, MSc., GIS Analyst, Human Services and Jim Callahan, GIS & Mapping Services, Fairfax County, VA.
Abstract: Notifier is a GIS enabled Windows desktop Emergency Response System that was developed for the Fairfax County Community Services Board (CSB). It was built using Microsoft Visual Basis 6.0 in conjunction with ESRI MapObjects 2.1. MapObjects is a library of both visual and virtual components which allows the programmer to add just the right amount of GIS functionality into an application. The vector based geographic data used by this application is stored as Shapefiles which are in a very basic non-proprietary data format and are usable by most GIS systems. The Aerial photography is stored in MrSID compressed image format. Using these "low-budget" formats allows the entire geographic database to be stored on a single CD-ROM. The look and feel of the application is based on popular GIS desktop software such as ArcGIS and MapInfo.

Introduction. The Fairfax-Falls Church Community Services Board (CSB) is responsible for the provision of quality mental health, mental retardation, alcohol and drug, and early intervention services to more than 20,000 people a year. Services are provided in more than 16 outpatient clinics and 350 residential sites throughout Fairfax County and the Cities of Fairfax and Falls Church, Virginia. Federal and State mandates provide directives for protective measures to be undertaken by service providers in the event of a terrorist attack or natural disaster. The CSB Emergency Response System evolved from the need to integrate agency administrative data with existing County GIS data layers for emergency and disaster planning. The notification procedure (Notifier) within the Emergency Response System follows the County Emergency Operations Plan for response, evacuation and recovery of all county facilities and sites occupied by populations with special needs.

CSB emergency response system (interface)
GIS is helping make the CSB's emergency management program a faster, more accurate means of assisting CSB providers and clients in coping with disaster. A secure GIS-CSB program site database has been developed which is used to pinpoint outpatient and residential sites that may be in the path of disaster. Once the County's Emergency Operations Center conveys information to the CSB about a particular disaster, this real time information is used by the CSB's Emergency Management Team to assess the need for an evacuation and/or sheltering-in-place.

The CSB Notifier organizes critical information and displays the information in a format that can be immediately analyzed and reported in the event of an emergency. The quick response system displays a group of interactive maps (layers) and GIS screens allowing the first responder to immediately access and view the location of the incident. The system upon query, returns data on the location of CSB programs and lists all affected sites within a specific radius of the point of incident. Further, it presents a hierarchical phone tree of staff who should respond to the emergency; the level and availability of responders is made available from the list of sites identified through the query.

As a stand-alone system on the first responder's laptop computer, the CSB application is designed to operate independently of the County's electronic power supply source in the event of a situation where all central electronic systems are impaired and communication hampered. Wireless technology enhances the value of the response system by allowing information from the incident site to be disseminated. The CSB first responder informs other responders in the line of command who in turn notify the sites/programs of the developments and procedures to be followed. The CSB Notifier enables the first responder to access and view the location of the incident, providing essential data on program population

at risk to other CSB personnel and program areas.

Details of the Notifier Functionality

The user can query a location by street address or intersection. That location is displayed together with the various information layers that have been selected from a menu. Figure 1 presents a display of a query location.
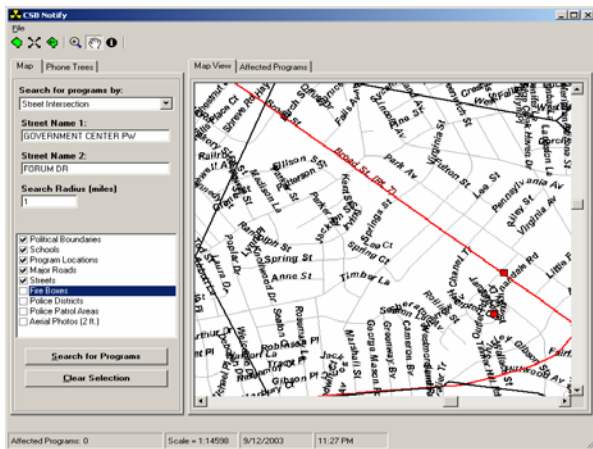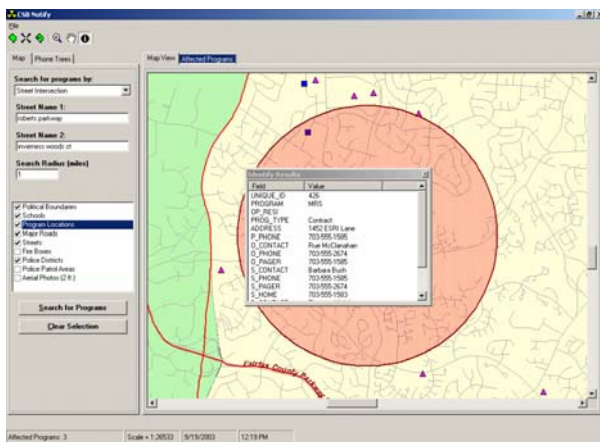

Figure 2 presents data on the location of CSB programs within a specific radius of the point of incident and

illustrates how the user can identify CSB sites or other data base items in the display and access detailed information on the particular entity. The auxiliary information in Figure 2 is displayed in a separate dialog box. With the zoom capabilities of Notifier (not shown), users can view impacted areas at various scales or evaluate an affected location's relationship to larger portions of the County.

The data base includes aerial photography for all of Fairfax County. Figure 3 illustrates the high level of detail that is achieved by zooming the aerial photography rendering of the location. Such detail is expected to be quite valuable in response planning and communication
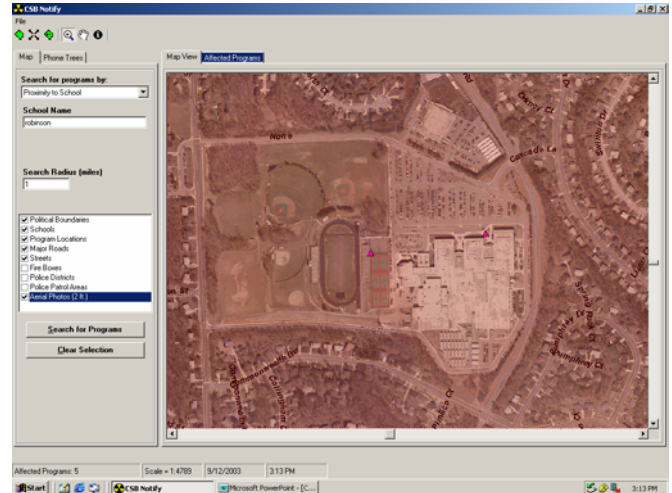
between responders. Fairfax County's excellent existing aerial photography data base was utilized to provide this option in Notifier.

Notifier Phone Trees. An important functionality that motivated the development of Notifier was the need to identify and communicate with those responders who needed to be notified of their role in the emergency response. A phone tree application is built into Notifier to provide this capability.

Summary

Notifier was designed and implemented for the CSB to demonstrate the value of a GIS based support system for emergency planning. The project was facilitated by Fairfax County's existing sophistication in GIS infrastructure including analytic expertise and data bases. Notifier demonstrations have led other County offices to seek similar GIS based emergency response support. The goal is to continue development of the Notifier system as a viable emergency or case management tool for County Social Services.

Systems Management for Human Services. [Contact: Lathan at lathan.dennis@fairfaxcounty.gov]

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V. Related Census, HHS, FGDC and Other Federal/State Developments
Federal Geographic Data Committee (FGDC)

[The Federal Geographic Data Committee (FGDC) is an interagency committee, organized in 1990 under OMB Circular A-16, that promotes the coordinated use, sharing, and dissemination of geospatial data on a national basis. The FGDC is composed of representatives from seventeen Cabinet level and independent federal agencies. The FGDC coordinates the development of the National Spatial Data Infrastructure (NSDI). The NSDI encompasses policies, standards, and procedures for organizations to cooperatively produce and share geographic data. The 17 federal agencies that make up the FGDC, including HHS, are developing the NSDI in cooperation with organizations from state, local and tribal governments, the academic community, and the private sector. See http://www.fgdc.gov]

Supporting Homeland Security with Geographic Information Systems and Spatial Data Development
[The following National States Geographic Information Council (NSGIC) Resolution **"Supporting Homeland Security with GIS and Spatial Data"**, was introduced and approved at the NSGIC 2003 annual conference; permission to publish has been granted by NSGIC]
WHEREAS: The Office of Domestic Preparedness (ODP) administers a homeland security grant program that was designed to equip first responders in the U.S. to effectively respond to terrorism events; and
WHEREAS: The ODP grant program includes limited guidance on the allowable equipment expense for Terrorism Incident Prevention Equipment (Terrorism Early Warning, Prevention, and Deterrence Equipment and Technologies including geographic information system information technology and software);" and
WHEREAS: The ODP guidance document suggests information sharing is a critical component for homeland security; and
WHEREAS: The ODP guidance document does not provide any allowance for acquisition of Spatial Data to be used with Geographic Information System applications and software; and
WHEREAS: Geographic Information System software without data or data separate from software is useless; and
WHEREAS: The first line of defense in a community is the ability to effectively use Enhanced 911 capabilities and these systems must be able to effectively identify the

caller's geographic location; and
WHEREAS: On September 11th, 2002 NSGIC President Rick Miller and Al Leidner of New York GIS jointly signed "Saving Lives and Saving Money-An Urgent Call to Build the National Spatial Data Infrastructure in Support of Public Safety" Which to date has been signed by 37 states; and
WHEREAS: Information sharing and systems integration are key elements of the National Strategy for Homeland Security and through the President's Geospatial One Stop initiative, a national information sharing network should be developed to allow federal, state and local governments; private industry; and citizens to leverage investments already made in geospatial data and technology; and
WHEREAS: NSGIC has developed success measures and coordination criteria that represent a guideline for successful geospatial coordination. Many states embody these model characteristics and can offer geospatial coordination for Administering Agencies within each state; and
THEREFORE: Let it be resolved that NSGIC calls upon the Office of Domestic Preparedness to include clear geospatial guidance in subsequent rounds of the program. The guidance should: enable state administering agencies to create Geographic Information Systems for homeland security purposes that are built upon National Spatial Data Infrastructure principles in support of the National Map; and require coordination with state geospatial coordination councils (http://www.nsgic.org/state_gis/index.cfm) to eliminate data redundancy; and that geospatial data development and maintenance costs are allowable expenses in support of emergency responders; and that geospatial data be shared to support the Geospatial One Stop initiative. [See NSGIC resolution on the web at: http://www.nsgic.org/hot_topics/security/NSGIC_Homeland_Security _ResolutionV6.doc]

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Web Site(s) of Interest for this Edition
http://dsol-smed.hc-sc.gc.ca/wnv/map600_e.phtml Health Canada's **West Nile Virus Surveillance Information**. Online maps and data on dead birds submitted for West Nile Virus diagnosis by Health Region, Canada (as of October 27, 2003)

http://www.askthespider.com/SearchPage.do A new service offered by IONIC Software to empower **geographic information discovery and**

interoperability. You may search for OpenGIS conformant spatial web services such as WMS and WFS. Search can be done by geographic zone, by type of service, ISO data content category, keywords and owner name. You are invited to register your own OpenGIS conformant Service today and join the network.

http://sal.agecon.uiuc.edu/csiss/geoda.html GeoDa is the latest incarnation in a long line of software tools (replaces SpaceStat) developed by Luv Anselin and co-workers designed to implement techniques for **exploratory spatial data analysis** (ESDA) on lattice data (points and polygons). It is intended to provide a user friendly an graphical interface to methods of descriptive spatial data analysis, such as spatial autocorrelation statistics and indicators of spatial outliers.

http://www.ers.usda.gov/Briefing/Rurality The Office of Management and Budget (OMB) was urged by various sources in the last decade to delineate the entire land surface of the country into areas, and not leave the territory outside of metro areas as an undifferentiated residual. As a partial response, OMB designated micro

areas using the same procedure as that for metro areas. Any nonmetro county with an urban cluster of at least 10,000 persons or more becomes the central county of a micro area.

http://thomas.loc.gov Proposed legislation introduced by Representative Wm. Lacy Clay, Missouri, entitled **"The Geospatial Preparedness Act"** H.R. 3186, relating to geospatial data and homeland security. Do a text search at this site on Geospatial Preparedness Act.

http://maximus.cvm.uiuc.edu/wnv/index.mhtml The collaboration between the Illinois Department of Public Health and College of Veterinary Medicine provides a detailed animation of West Nile virus movement over time. The maps are set on a base map of Illinois and show aggregate case locations over a four-month period in the Summer of 2002. You can browse through each frame of the animation and view extended case data relevant to the maps.

Final Thoughts
"Orientation to GIS and Public Health for CDC EIS Officers"
CDC GIS Seminar Series-December 11, 2003

Dear CDC EIS Colleagues and Other Guests:

I am honored to have the opportunity to speak with you today and initiate a series of GIS presentations scheduled over the next five or so months. Because of your advanced training and dedication to serve society, you occupy a special place in the heart and core of this outstanding public health service agency. Your being here assures continuation of the invaluable and world recognized CDC traditions of disease surveillance, detection, and control, and the prevention of avoidable injury, occupational health risk, and disability, to people everywhere.

My purpose today is to provide an orientation on the topic of Geographic Information Systems (GIS) and what I believe is an indispensable technology that supports the mission of CDC and public health. GIS is a digital georeferencing technology that can help us to better identify, model and predict, more so than at anytime in our public health history, a wide range of suspected disease risks and their associative conditions. As with any other mapping process, it must be employed with scientific rigor and integrity, and a conscious commitment by you to uphold the privacy and confidentiality of potentially identifiable individuals in geospatial data bases. Somewhat challenging, GIS application is both science and art.

In our short time together, I thought I would try to convey some of the lessons I've learned in the use of GIS in public health. I am confident you will uncover numerous others, and even make new discoveries of your own. Consider briefly the following:

(1) The geospatial toolkit, including GIS, Global Positioning Systems (GPS) and other mobile, remote and wireless mapping tools, is well suited for our data collection activities. The potential is substantial for integrating these tools into sample design and selection procedures of many of our health surveys, improving precision of estimates and saving costs. By geocoding, we can address reference the location of people, households and events, and derive new and more meaningful analysis of disease association in time and space. Georeferenced vital and reportable infectious disease occurrences can lead to more responsive disease surveillance, detection and prevention;

(2) GIS requires teamwork. In public health especially we need the collective expertise of epidemiologists, survey and bio statisticians, geographers and computer scientists. Depending on the topics, it also may require behavioral and cognitive scientists, mathematicians, earth scientists and representatives of other fields. Working as a team of experts insures the scientific rigor we seek. Additional input from knowledgeable community organizations and citizens, where applicable, will insure a robust effort and successful GIS;

(3) GIS in public health can benefit substantially through cooperative agreements with institutions in other fields. For example, expertise in political, administrative and population issues resides at the Census Bureau; environmental measures at the U.S. Environmental Protection Agency (EPA); housing at the U.S. Department of Housing and Urban Development (HUD); earth science at the U.S. Geological Survey (USGS); weather and climate at the National Oceanic and Atmospheric Administration (NOAA), earth observation at the National Aeronautics and Space Administration (NASA); and exists in other agencies, as well as in academia and the private sector. This institutional cross fertilization can be crucial to investigations of potential associations in exposure, risk and outcome. We have not yet fully engaged the benefits of institutional partnerships;

(4) GIS depends on georeferenced data which often originates with State and local public health departments. Investment in our nation's public health infrastructure will prove cost effective (repeated use and sharing of data) and be the essential stimulus for building the public health piece of our National Spatial Data Infrastructure (NSDI). NSDI depends on timely public health data, whether related to routine disease events, natural and man-made catastrophes, bioterrorist readiness and response, or other conditions;

(5) GIS is perhaps the most powerful visual tool available to help comprehension of disease and risk in time and space. Never before have we had this enormous computing capacity to document, examine and model disease etiology and outcome in real time. We are launched on a spatial statistical exploration of disease and space-time associations. The capability to discern, respond to, and prevent bioterrorist outcomes, as well as normal disease expectation--on a daily basis--is unprecedented in public health history. And, it will truly expand our understanding and control of chronic disease as we improve geospatial documentation of individual, and cumulative lifetime, exposure and risk. This is an exciting journey; and,

(6) Lastly, and perhaps most basic, successful GIS maps are in the details. They must be constructed taking into account the completeness and quality of the data, with special consideration for map design. Design issues of projection, scale, color, class breaks (data intervals), uncertainty, and readability (audience comprehension) require careful study and sometimes testing (focus groups, cognitive experiments, etc).

We enter an era of geospatial change and leadership challenges for DHHS, CDC and public health. I know that CDC and its outstanding EIS Officer corps, through the use of GIS, will make significant contributions to the future of public

health. At this point I would like to move to the demonstration part of this presentation (for those in attendance). Appreciation is extended to **LoriA Pollack**, MD, CDC's Division of Cancer Prevention and Control, and **Maura Whiteman**, Ph.D., for their leadership in organizing this CDC GIS Seminar Series. Other topics will follow and build upon this introduction over the next months. [Contacts: LoriA at lop5@cdc.gov or Maura at acq5@cdc.gov]

Charles M. Croner, PhD, Geographer and Survey Statistician, and Editor, *Public Health GIS News and Information***, Office of Research and Methodology, National Center for Health Statistics, and DHHS Representative, Federal Geographic Data Committee, at cmc2@cdc.gov. Celebrating our 55th edition with continuous reporting since 1994.**

The NCHS GIS home page contains current GIS events, archived GIS reports and other GIS links
http://www.cdc.gov/nchs/gis.htm