Preconference Introduction to GIS in Health and Human Services

Ann Bossard

Global Hospitals and Health Systems Specialist, ESRI

Welcome
and
…thanks for coming!

- **Who is ESRI?**
- **Who are you?**
- **What does GIS do?**
- **What's happening in the days ahead?**

Join us this evening at the

Welcome Social

5:00 p.m. – 7:00 p.m.
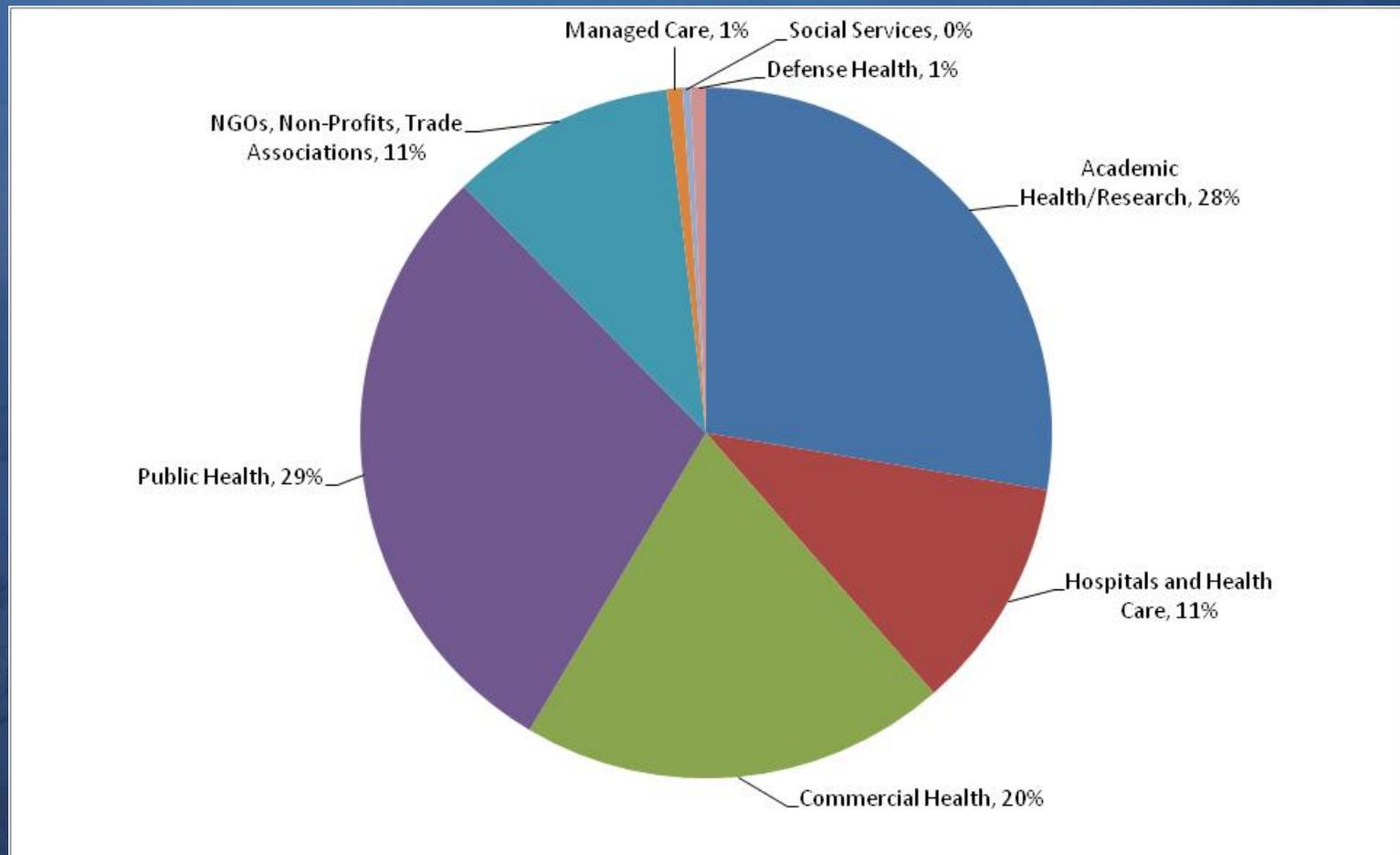## Fire View and Terrace (Lobby Level)

In case of rain, this event will move to
Congressional A/B (Ballroom Level)

Who is ESRI?

- **Headquarters in Redlands, CA**
- **4,000+ employees around the world**
- **12 US Offices**
- **85 International Offices**
- **1 million+ Users**
- **Founded in 1969**
- **Privately Held**
- **CEO – Jack Dangermond**

Who are you?

You are here from 21 countries and many different types of organizations!

Managed Care, 1% Social Services, 0%
Defense Health, 1%
NGOs, Non-Profits, Trade Associations, 11%
Academic Health/Research, 28%
Public Health, 29%
Hospitals and Health Care, 11%
Commercial Health, 20%

What is Health GIS?

The creation of intelligence relevant to the diagnosis, treatment, remediation of human disease.

A process by which data, relevant to human health, is digitally integrated, spatially enabled, analyzed, and communicated.

Why is GIS important to Health and Human Services?

1. Integrates data

2. Improves accuracy

3. Accelerates understanding

4. Increases value

5. Compels action

Our World is Changing Rapidly

…there is evidence everywhere

SARS – Avian Influenza – H5N1 – Drug Resistance – MRSA - Chronic Disease - Starvation – Premature Death

Violent Death - Child Exploitation – Adult Abuse – Homelessness – Refugees – HIV/Aids – Malaria - Cholera

. . . Increasingly In Need of Geographic Knowledge

GIS: provides the context for understanding population health

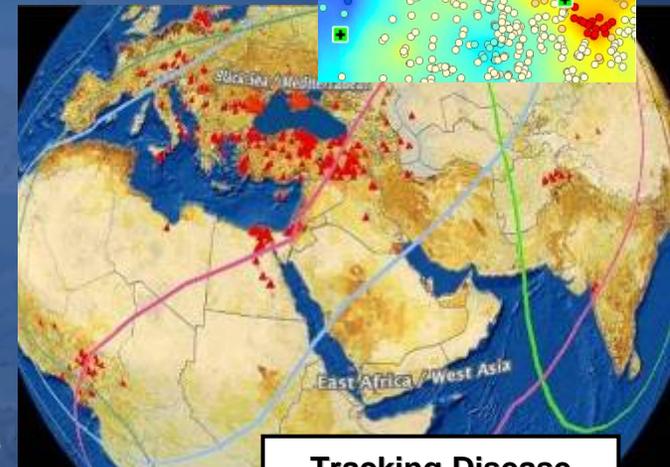*…Modeling the Physical, Social and Cultural Knowledge of our World*

Providing
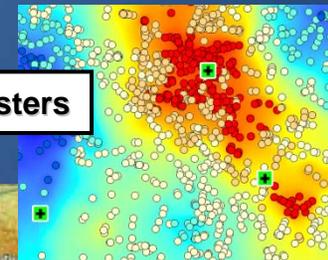
- **Systematic Knowledge**
- **An Integrated Framework**
- **Analytic Methods**
- **Intuitive Visualization**

The Thematic Layers

Mapping Disease Clusters

Tracking Disease

. . . Creating Analytical Frameworks
. . . Defining Interconnections and Interdependence
. . . Providing a Broad Understanding of Natural and Human Ecology

Geography is medical destiny*
2 + 2 = 5

- **Where you live affects:**

  - Your access to health and social resources
  - The likeliness of receiving a correct diagnosis
  - Experiencing successful medical outcomes
  - Ability to receive affordable and timely care
  - Your risk of hazardous environmental exposures

- **Improving the quality of geographical data improves medical intelligence:**

  - Physicians and patients have "new" information
  - Healthcare providers better understand disease dynamics
  - Personal healthcare seeking is improved
  - Health policy is more sound and accountable

* John Wendberg, M.D., Dartmouth College, USA

Why care about global health?

- **Health is fundamentally organic – it has no solid or static state.**

It ebbs and flows in unpredictable ways within individuals, communities, and nations.

- **Health can easily change as the result of interventions.**

The more we understand about health the more likely we can act to alter negative outcomes.

- **Health responds to "vectors" such as people, germs, animals, and environments.**

Each "vector" introduces agents capable of broad geographical re-distribution.

- **Competition over the deployment of scarce health resources will limit what level of health is actually attainable by anyone.**

So why is GIS unique in shaping global health?

- GIS is not a political science. It does not care about the underlying reasons why things exist, persist, or alter.

- GIS is a way of understanding non-traditional interactions by integrating various measurements taken from the environment, humans, plants, and animals and all their activity.

- GIS strengthens the body of collective knowledge about individual health status by creating evidence of its connection to the environment.

- GIS provides the "connectivity" required to understand the geographical scope of global health - from the smallest of villages to the largest of urban spaces.

GIS Contributes to Global Public Health through Worldwide Distribution of Specialized ESRI Applications

- **HealthMapper – World Health Organization**
  - 10,000 distributed since 1993

- **EpiMap – United States Centers for Disease Control and Prevention (CDC)**
  - 1,000,000 distributed since 1996

- **SigEpi – Pan American Health Organization (PAHO)**
  - 5,000 distributed since 1998

ESRI Global Health Footprint

- **93 National Health Ministries**

- **100% of all US State Health Departments**

- **800+ Local Health Agencies (cities and counties)**

- **Major Governmental, UN Agencies & Affiliates (WHO, PAHO,FAO)**

- **Major NGOs – (Red Cross, Pacific Disaster Center)**

- **200+ Hospitals & Major Medical Centers in US**

- **85% of European Union Member Nations**

- **All accredited US Schools of Public Health use GIS**

National Health Ministries using ESRI GIS

Angola
Argentina
Armenia
Australia
Austria
Bangladesh
Belgium
Belize
Bolivia
Botswana
Bulgaria
Brazil
Cambodia
Canada
China
Colombia
Congo, Republic of
Croatia
Czech Republic
Denmark
Dominican
Republic
Egypt
El Salvador
Finland
France
Georgia
Germany
Gabon
Gambia
Ghana
Greece

Guatemala
Honduras
Hong Kong
Hungary
Iceland
India
Indonesia
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kenya
Kyrgyzstan
Laos
Latvia
Lebanon
Lithuania
Malaysia
Mexico
Moldova
Myanmar
Nepal
Netherlands
New Zealand
Nicaragua
Niger
Norway
Panama
Peru

Philippines
Poland
Portugal
Puerto Rico
Qatar
Rwanda
Saudi Arabia
Serbia
Sierra Leon
Singapore
Slovakia
Slovenia
South Africa
Spain
Sri Lanka
Swaziland
Sweden
Switzerland
Syria
Taiwan
Tanzania
Thailand
Tunisia
Uganda
United
Kingdom
United States
Uruguay
Vietnam
Yemen
Zambia
Zimbabwe

Who is the ESRI Health Team?

How to get involved …

- HealthyGIS Newsletter

- Health & Human Services User Group (HUG)

- ESRI User Conference (San Diego)

- **ESRI Health GIS Conference**

- www.esri.com/health

HealthyGIS Newsletter

Quarterly circulation of 40,000

Sign up at www.esri.com/health

The latest issue is in your conference tote bag!

Health & Human Services User Group

www.esri.com/jointhehug

- *Take this opportunity to network with a global group of health and GIS professionals who use ESRI technology for health related applications*
- *HUG is open to individuals who work for health related organizations using GIS (ESRI software)*
- *Currently has 900+ members worldwide*
- *Join by using the on-line registration form*

HUG Meeting and Social
Tuesday, September 30
5:15 p.m. – 6:30 p.m.

- *Members only drawing for prizes*
- *Refreshments will be served*
- *Everyone is invited to attend*
- *You may join right now at www.esri.com/jointhehug*

Thank you to

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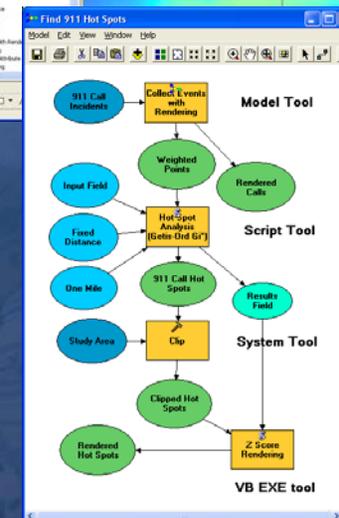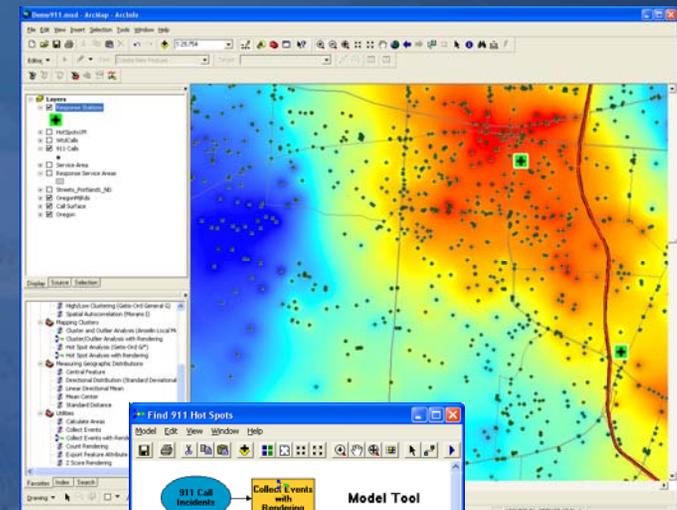
for your generous support of this event

Find GIS Resources in the GIS Solutions EXPO
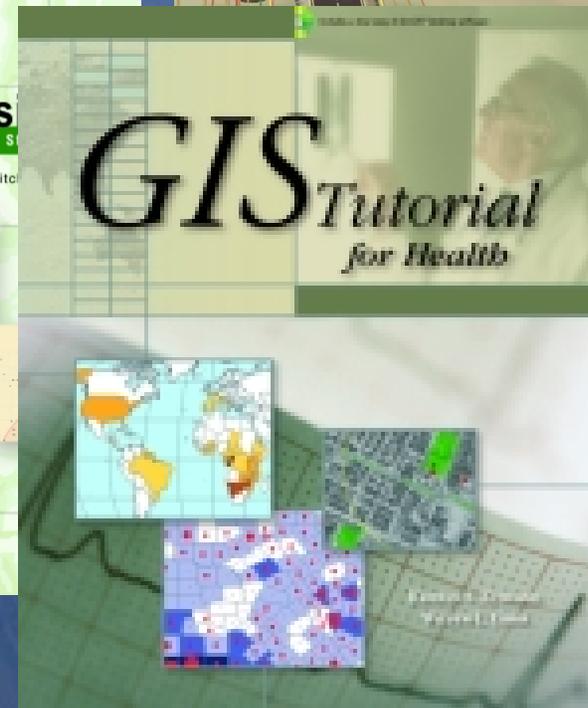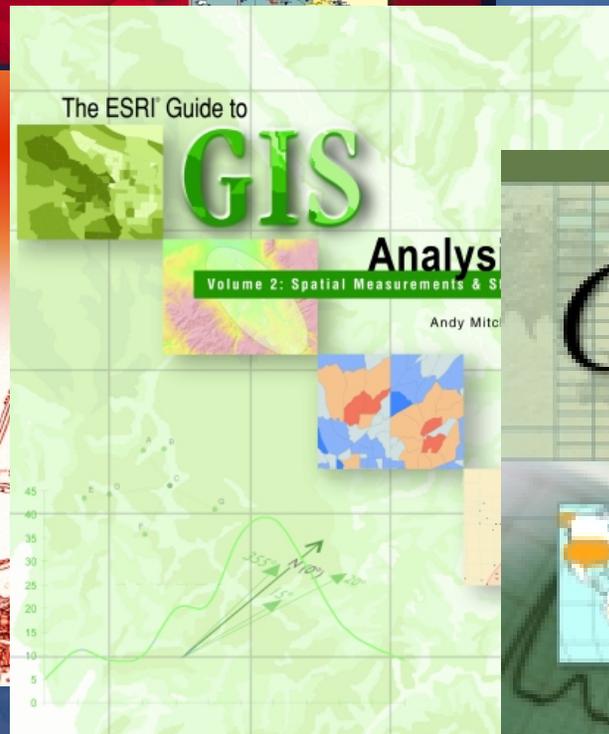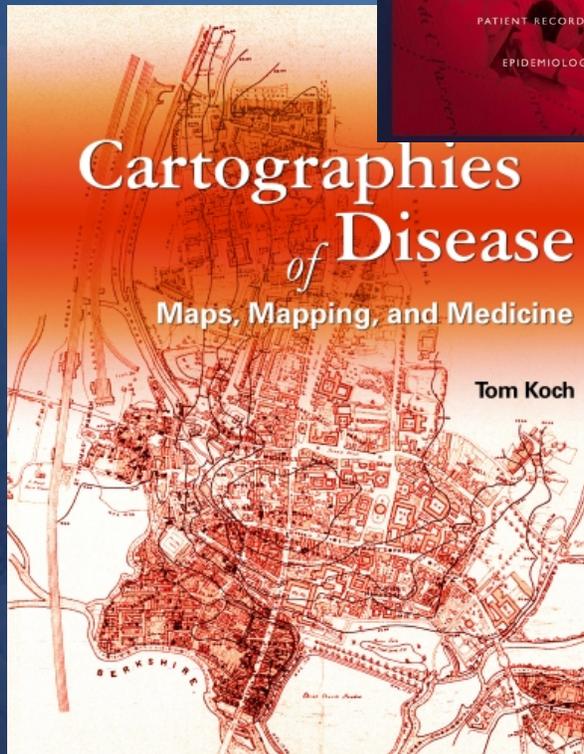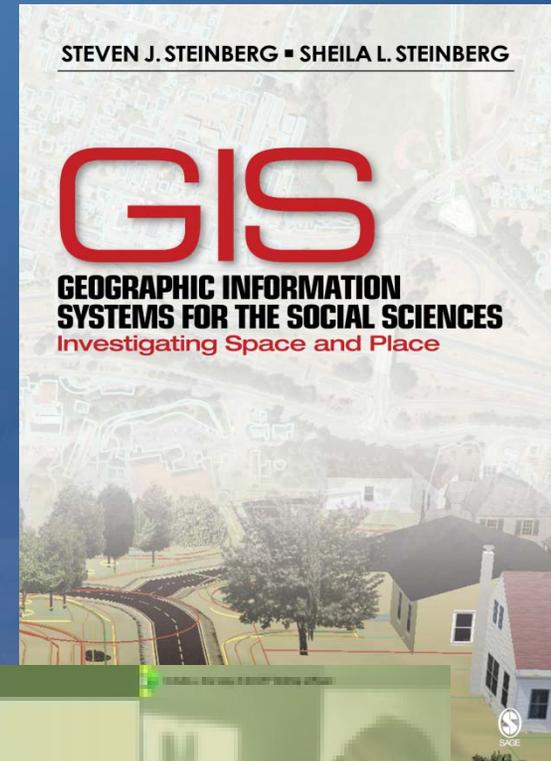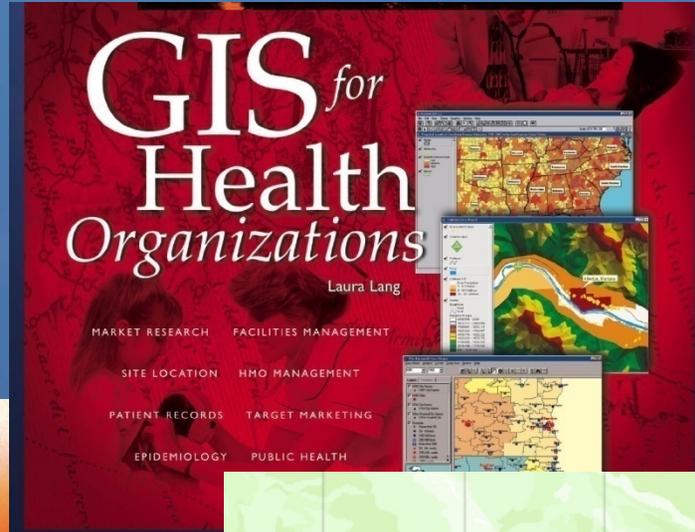
GIS Solutions EXPO

Renaissance Ballroom Foyer

- **Monday**
  4:00pm – 7:00pm

- **Tuesday**
  8:00am- 12:00 noon

GIS Solutions EXPO, Map Gallery, Academic Health Fair

Monday, September 29, 4:00 p.m. – 7:00 p.m.

Renaissance Ballroom Foyer

Special thank you to

New Light Technologies

*for sponsoring the
EXPO Opening Reception*

5th Annual Academic GIS Health Fair

## Monday, 4:00-7:00 p.m.
during the GIS Solutions EXPO

- Carnegie Mellon University
- HealthLandscape
- Edward Via Virginia College of Osteopathic Medicine
- George Mason University
- Johns Hopkins University, Bloomberg School of Public Health
- Loma Linda University
- Public Health Data Standards Consortium (PHDSC)
- Association of American Geographers (AAG)
- University of Nebraska

Thank you to our exhibitors!
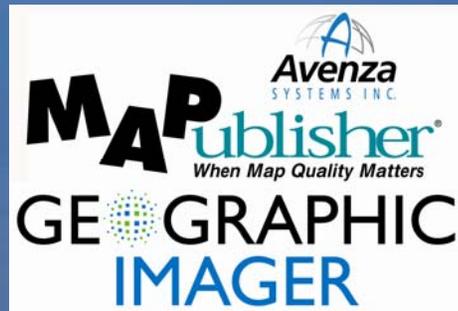
ESRI Booth in the GIS Solutions EXPO

- **Ask ESRI technical staff about product features**

- **Bring your technical questions**

- **See software demos**

- **Learn more about ESRI health data**
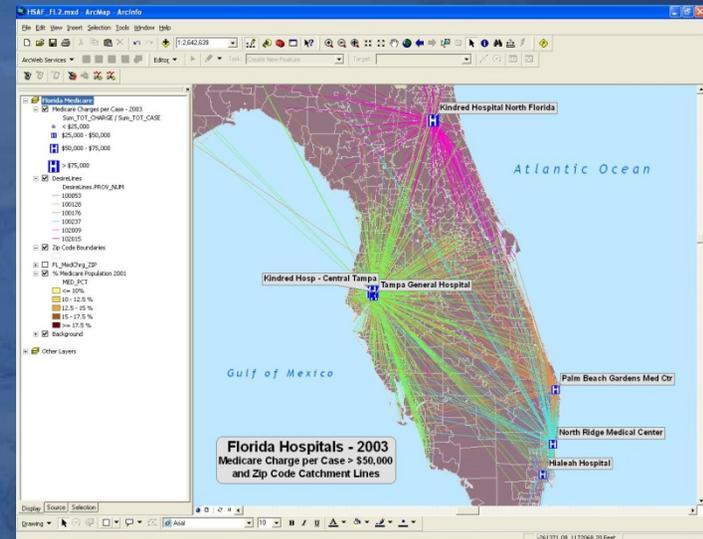
GIS Solutions EXPO
and
Hands-On Learning Center

Tuesday, September 30

8:00 a.m. – 12:00 p.m.

- **8:00 – 8:30 Continental Breakfast in EXPO**
- **10:00 a.m. – 11:00 a.m. Refreshment Break**

New in 2008! Hands-On Learning Center

Hands-On Learning Center

Tuesday, September 30, 8:00 a.m. – 12:00 p.m.
Renaissance Ballroom Foyer

The Hands-On Learning Center provides an opportunity to explore ESRI software and GIS topics at your own pace using training modules with hands-on exercises. Each lesson is approximately 45 minutes and no advance registration is required.

Courses available include:

- Intro to ArcGIS Desktop
- Creating a Map in ArcGIS
- Intro to ArcGIS Explorer
- Intro to ArcGIS Server

- Basics of the Geodatabase
- Getting Started with Animation
- Intro to Spatial Analyst
- Geoprocessing Using ModelBuilder
- Geoprocessing Using Python

Pre-Conference Sessions Today
See page 7 of your conference agenda for more information!

	Meetings Rooms 12-13-14	Auditorium
2:00 – 3:15 p.m.	GIS for All Health Organizations	ModelBuilder for Workflow Automation and Spatial Analysis
3:30 – 4:45 p.m.	Uses of GIS to Target Quality of Care Improvement & Public Preparedness Interventions	Spatial Statistics Seminar

Thank You & Enjoy the Conference!

See you at the

Welcome Social

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Fire View and Terrace (Lobby Level)

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