Users

A Global Network of International Development Professionals
Monitoring Environmental Change

Sea Level Rise
- Connecticut

Ocean Temperature

Deforestation
- South America

Bat Habitat
- Missouri

Micro Climate Change
- Historic Drought
- Horn of Africa

Chesapeake Bay
- National Geographic

Coastal Erosion
- USDOI

Fish and Wildlife Service

Horn of Africa

Willapa National Wildlife Refuge
Managing Natural Resources

- Forest Inventory
- Forest Disease
- Forest Health
- Biomass Inventory
- Groundwater
- Carbon Accounting
- Geologic Exploration
- Oil and Gas
- Ecosystem Habitat
- Caribou Habitat
- Russia
- Idaho
- USA
- Indonesia
- Czech Republic
- Newfoundland
Planning for the Future

**Economic Development**
- Kenya

**Urban Design**
- Singapore
- Ar Riyadh, Saudi Arabia

**Land Use**
- Prague

**Land Use and Noise**
- Maryland

**Capital Improvements**
- Texas

**Bike Routes**
- Wisconsin

**Hajj Pilgrimage Planning**
- Mecca, Saudi Arabia

**Housing**
- Hong Kong

**Redevelopment**
- Boston

**Conservation**
- South Africa
Managing Land Information

- Cadastre Information System
- Parcel Mapping
- Property Boundaries
- Legal Notification
- Railroad Cadastre
- Valuation Changes
- Foreclosures
- Digital Assessment

Locations:
- Portugal
- Belgium
- France
- Texas
- Colorado
- Illinois
- Nigeria
Managing Utilities and Telecommunications

Fiber Network Engineering
- Canada

Mobile Networks
- Tennessee
- China

Broadband Speed
- Canada

Water Network Condition
- China

Electrical Assets Management
- Germany
- Canada

Workflow Management
- Germany
- Canada

Outage Analysis
- Canada

Inspections
- Hong Kong

Inspections
Economic Development and Business Management

Market Analysis
- Market Share
  - Korea
  - Toronto

Business Intelligence
- LBS for Real Estate
  - Texas

Accessibility
- Helsinki

Rent Trends
- Maryland

Competitive Analysis
- Rent Trends

Insurance
- California

Supply Chain Optimization
- Japan

Retail Suitability
- Los Angeles
Understanding Demographics and Human Health

Population and Environment

Density

Population Change

Election Tracking

Density of Population

 Physician Visits

Tuberculosis

Ethnicity

India

Europe

Saudi Arabia

Amazon

Flu Incidents

Lithuania

Holland

Hospital Access
Planning for and Responding to Natural Disasters

- **Firestorm**
  - Texas
- **Flooding**
  - North Dakota
- **Fire Simulation**
  - California
- **Tornado Damage Assessment**
  - Alabama
- **Situational Awareness (COP)**
- **Tsunami Forecast, Earthquake Damage Assessment**
  - Tohoku, Japan
- **Quake Tracking**
  - Fukushima, Japan
- **Radiation Exposure**
Engaging Citizens and Crowdsourcing

Transparency

Citizen Science

Twitter Earthquake Commentary

311 Reporting Services

Ushahidi Flood Reporting

Storm Reporting

Streetlight Outage Reporting

City of Los Angeles

Australia

USA

Japan Earthquake

Denmark

Spain
GIS is now Mainstream Technology

Helping to Improve Decision Making….

- Increase Efficiency
- Organize Information
- Solve Problems
- Make Informed Decisions
- Share Knowledge
- Improve Communication

...Using Cutting Edge Technology to Reveal Trends & Patterns
GIS Is a Practical System for Problem Solving
Supporting Individuals, Groups, and Organizations

Integrating and Synthesizing Information from Many Sources
Facilitating Communication and Collaboration
Breaking Down Barriers Between Institutions, Disciplines and Cultures

Becoming an Essential New Language for Understanding
GIS Is Changing

Coevolving with Other Enabling Technologies

Access
Bandwidth
Collaboration
Social Networking
Connectivity
Wireless
Predictive
Real Time
Science
Analytics
Modeling
Lidar
GPS
Services
Web Enabled
Collaboration
Data
Volume
Ownership
Access
Privacy
Tracking
Sensor Network
Real Time
Measurement
GPS
Remote Sensing
Lidar
Distributed
Security
Computing
Performance
Visualization
Cloud
SaaS
Bandwidth
Collaboration
Access
Connectivity
Social Networking
Real Time
Tracking
Sensor Network
Real Time
Measurement
GPS
Remote Sensing
Lidar
Distributed
Security
Computing
Performance
Visualization
Cloud
SaaS
GIS
Open Access
Usability
Multidimensional
Location
GIS
Mobile
Data Management
Analysis
Solutions
Helping Us Understand Our World
GIS Supports Multiple Implementation Patterns

Working Independently and As An Integrating System

Desktop  Server  Cloud / Web GIS

Enabling Enterprise and Pervasive GIS
A New GIS Pattern is Emerging

Making GIS Accessible to Everyone

Desktop

Server

Lightweight

Mobile

... Virtually Anywhere and on Any Device
This Pattern Will Open and Extend GIS

Providing Access to the Vast Network of Geographic Knowledge

GIS Professionals

Knowledge Workers

Managers

Policy Makers

Citizens

Extending the Reach of GIS . . .
Empowering Others to Participate . . .
. . . Providing Shared Understanding
GIS is Advancing Rapidly

Many New Capabilities

- Geospatial Platform
- Social Networks
- Location Based Services
- Open Data
- Cloud
- The Web
- Workflow
- 3D
- User Experience
- GIS Solutions
- Very Large Spatial Databases
- VGI
- Data Quality Networks
- Visualization
- Temporal Templates
- Integration of Imagery and Remote Sensing
- Mapping
- Applications
- Security Generalization
- Education Mobility

Improving Quality, Performance, and Usability
Advancing Geographic Science

New Analytic Tools Providing New Insights

Multi-scale Spatial Auto Correlation

Empirical Bayesian Kriging

Areal Interpolation

Grouping Analysis

Space/Time Cluster

Exploratory Regression

Fast Drive Time Analysis

Geodesic Buffers

... Creating Better Understanding
Image Integration

Supporting Visualization, Analysis, Management and Dissemination

Fast Visualization

Analysis

Advanced Processing

Any Imagery

Dynamic Mosaicking

Massively Scalable

Simplifies Workflows and Automates Processing
Mobile GIS

Ruggedized Devices, Smart Phones, Tablets

Windows (Phone/Mobile)

iOS

Android

Connecting with Field-Workers and Citizens . . .

. . . Supporting You Anytime You Are Not at Your Desk
Cloud GIS - A New GIS Pattern

An Open Platform for Maps and Geographic Information

... Easy and Accessible by Everyone
Intelligent Web Maps Are the New Medium

Integrating Services (Data, Maps, Models . . . )

Intelligent Maps

Supporting
- Visualization
- Editing
- Pop-ups
- Analysis
- Time

Easily Created and Shared

Services and Data

Simplifying GIS . . .

. . . Connecting and Providing Open Access
Intelligent Web Maps Can Be Used Everywhere

Any Device

Smart Phones

Tablets

Desktop

Social Media

Web Sites

Browsers

One Map

ArcGIS Online

Enhancing Access and Collaboration
Unlocks Geospatial Assets

Making Them Easily Accessible and Integrated

Policy Makers

Managers

Knowledge Workers

Citizens

Providing an Open System for Sharing and Using GIS
A Growing Collection of Online Content

Ready to Use, Authoritative and Beautiful

Landsat Services

Imagery

World Ocean Map

Census

World Street Map

National Geographic World Map

World Topographic Map

... Providing a Foundation
Successful GIS Systems

Require More Than Technology

• Vision and Leadership
• Understanding of How GIS Contributes
• Management Support
• Planning
  - Technical Architecture
  - Data Models/Templates
  - Organization
• Governance
• Implementation Work
• Good People

...and a Spirit of Collaboration
Esri — Serving Our Users

Understanding Our World

Our Goals

• Advancing GIS and Geographic Science
• Promoting Spatial Thinking

Our Status

• Financially Strong and Growing
• Many Strong Relationships

Making a Difference

. . . And Contributing to Society
Special Relationships

Leveraging GIS Technology to Support Shared Goals
Non Profit Organization Program
Provides ArcGIS Training and Support

- Thousands of Organizations
- 80+ Countries

... Helping Those Who Help Others
Discussion