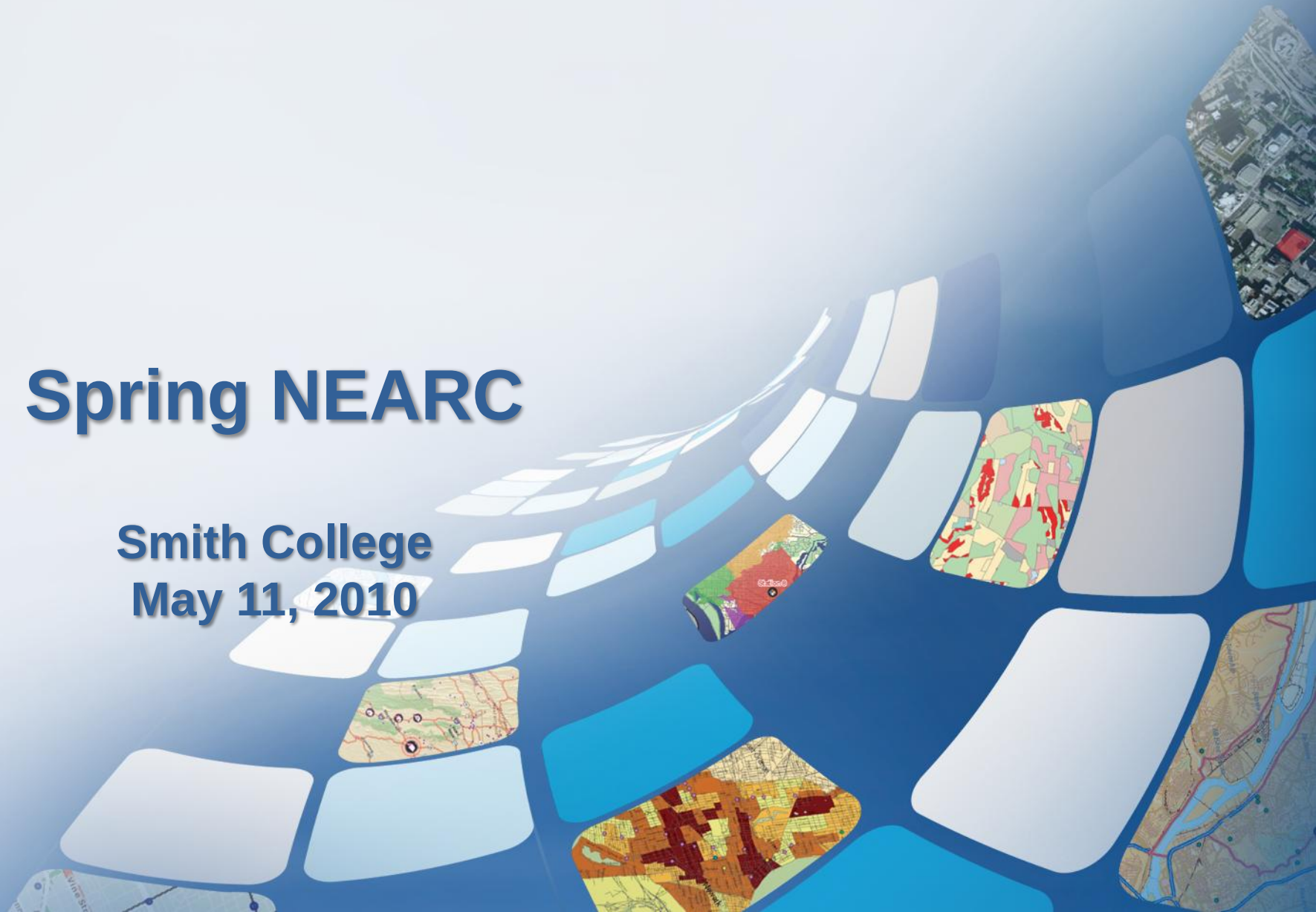
Spring NEARC

Smith College
May 11, 2010



ArcGIS 10: New Frontiers

Spring NEARC

Smith College
May 11, 2010

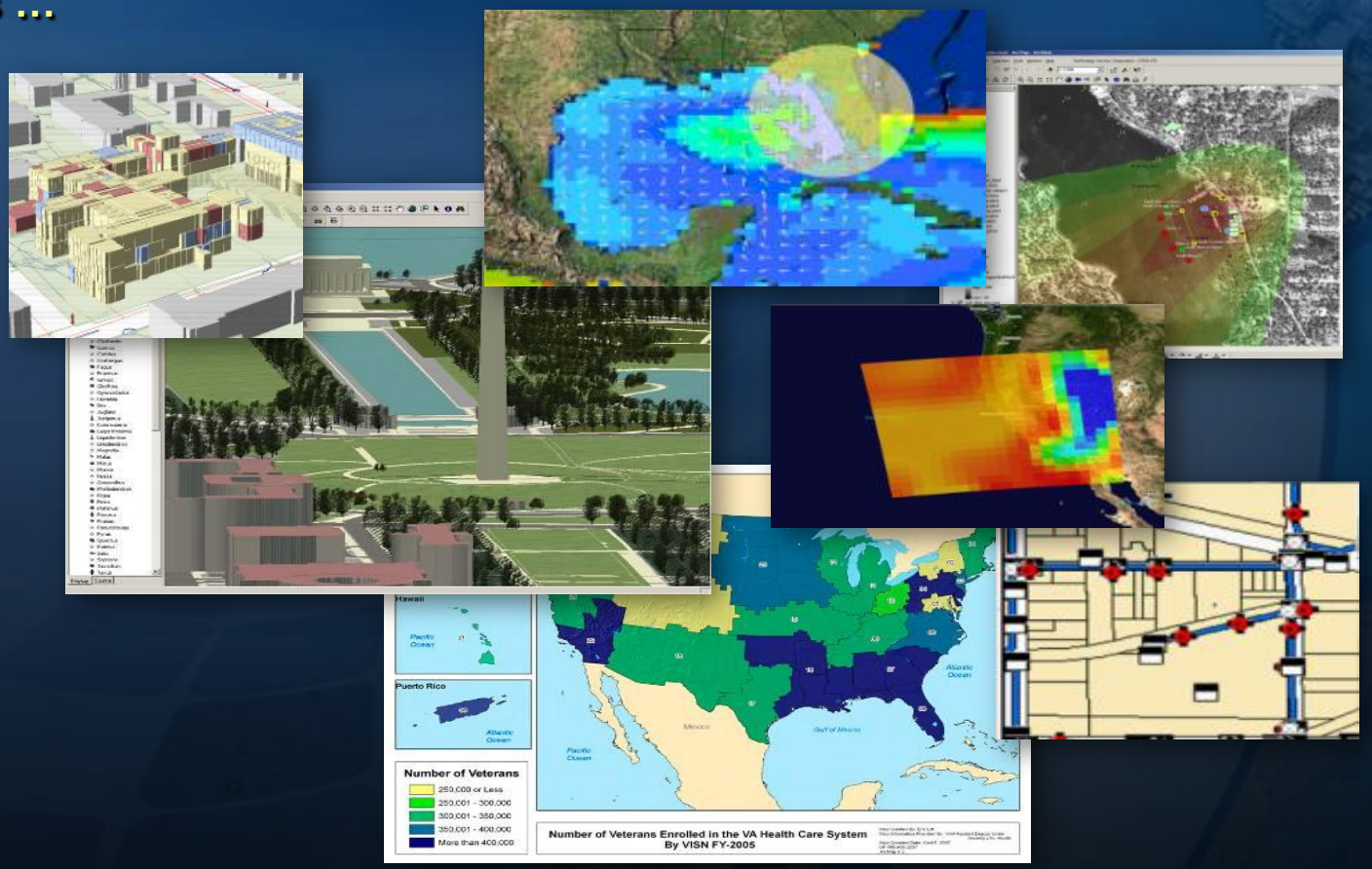
GIS Is Changing

Geospatial Knowledge Has Gone Mainstream

Your GIS Work Provides the Evidence

… in many industries …

- Federal government
- State & local government
- Natural Resources
- Utilities
- Transportation & Logistics
- Intelligence
- Defense
- Science & Technology
- Public Safety
- Homeland Security
- Environmental
- Water/Wastewater
- Telecommunications
- Health Care
- Agriculture
- Energy
- Mining
- Insurance/banking
- Retail
- Real Estate
- Education



A New GIS Platform Is Emerging

Easier, Accessible and Collaborative

Enabled By

- **Cloud Architecture**
- **Web Services**
- **Information Integration**
- **Crowd Sourcing**
- **Open Data Sharing Policies**

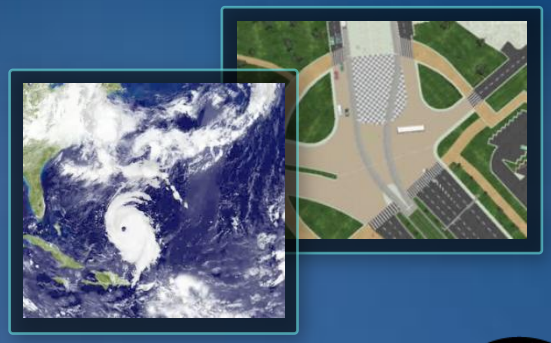
. . . And ArcGIS Software

Empowering the GIS Professional . . .
And the Broader Community

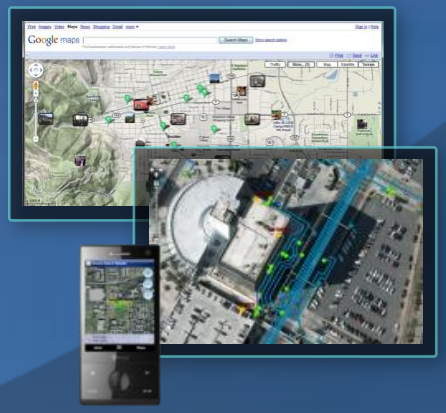
Web and Services Focused

Richer, Easier and More Pervasive

New Styles, Patterns and Techniques



New Services



New Media

Many Opportunities for Creative Work . . .

. . . And Spreading Geography Everywhere

Organizations Are Creating Geo-Services

Moving from Data Sharing to Shared Services (Maps, Models, Data . . .)

- RESTful Services
- Easily Discovered
- Open Standards Based
- Easy-to-Use Clients
- Customizable (API's)

Providing Access to Many New Users

. . . Enabling a New Kind of Sharing

A Web Based GIS Is Emerging

. . . A Distributed Network of Systems and Services

Providing a New **Shared** Platform

Integrating GIS Activities . . .

Supporting Access, Sharing and Collaboration

You Are Building Web Applications

Extending the Reach of Geographic Knowledge to Everyone

- Authoritative Data
- High Quality Maps
- Analysis and Models
- Rich Applications

Leveraging GeoServices. . .

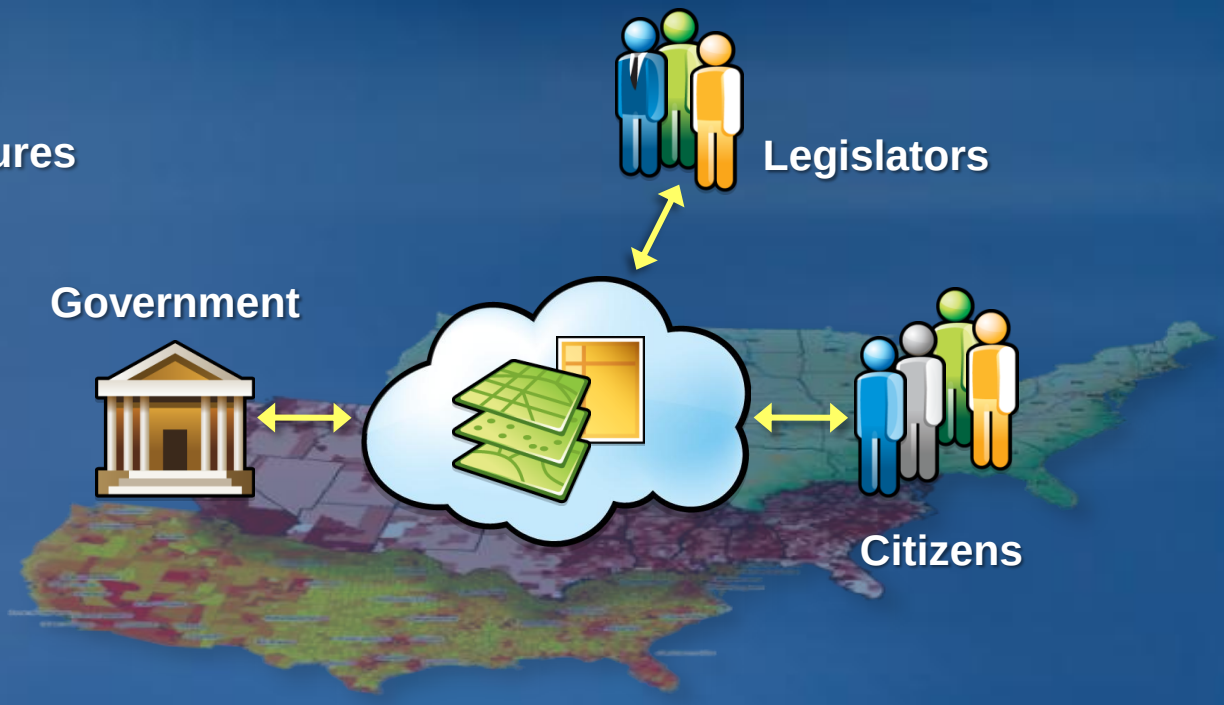
. . . To Serve Multiple Users

Emerging Applications

Transparency and Accountability

Communicating What the Government Is Doing

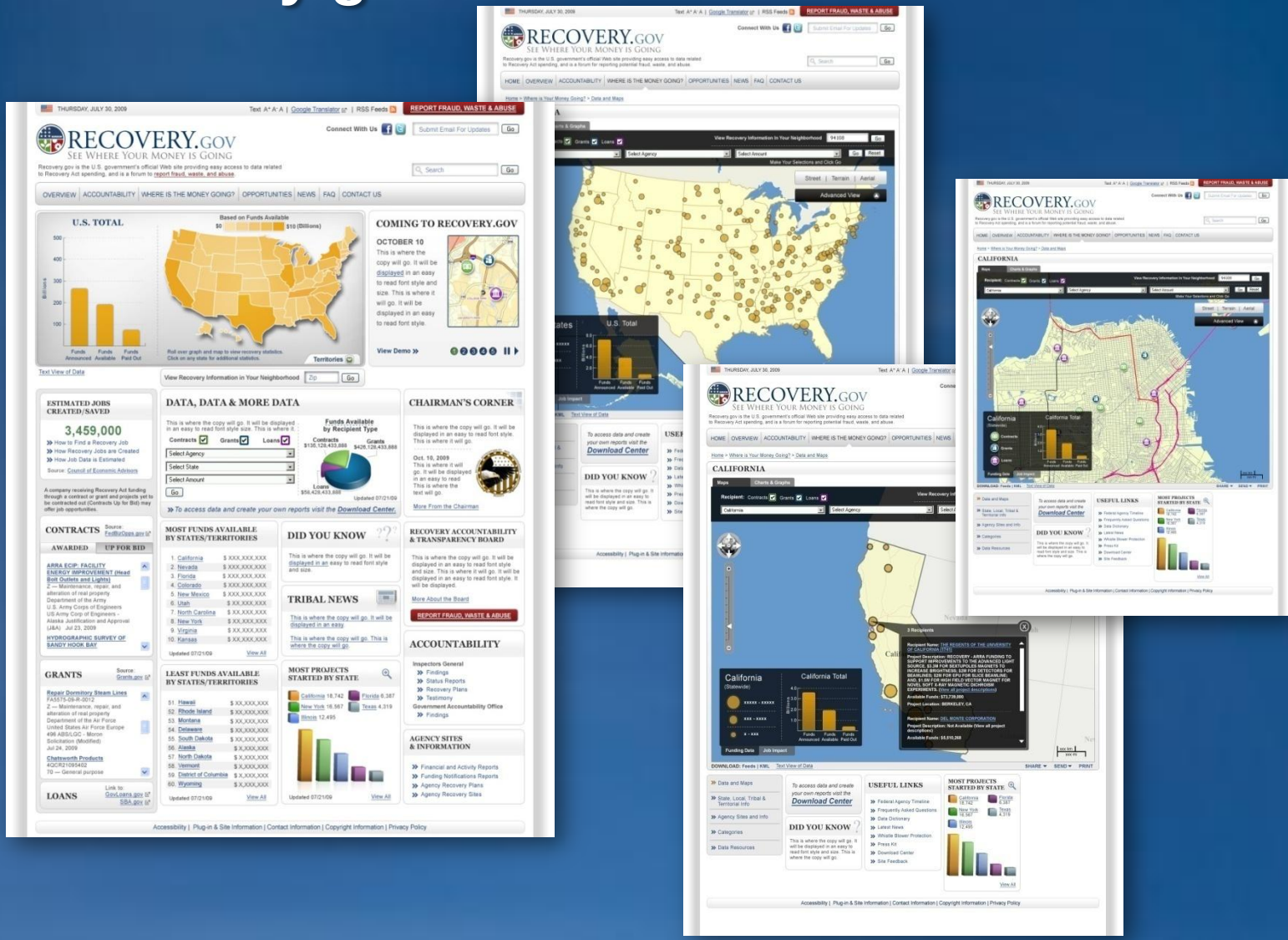
- Projects
- Status
- Expenditures
- Needs



Enabling a New Era of Open Government . . .

. . . Strengthening the Democratic Process

Recovery.gov



Many Agencies Are Doing This

Providing a New Way of Doing Business . . .

. . . There's No Going Back

Place-Based Approaches

Increasing the Impact of Government Programs and Projects

- Coordinating Projects and Programs
- Developing Coordinated Plans
- Supporting Integrated Decision Making

Using Geography and GIS as a Framework for Integrated Problem Solving

Crowd Sourcing

Volunteered Geographic Information (VGI)

Engaging Citizens in Spatial Data Collection and Civic Action

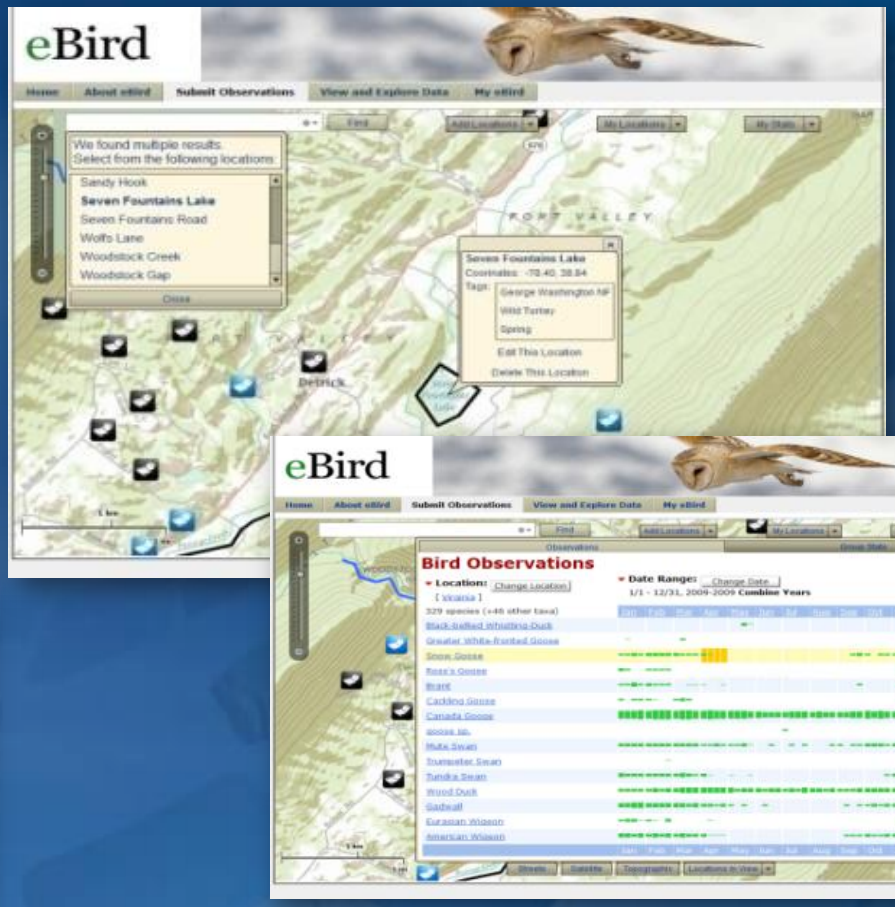
- **Observations**
  - **Conditions (i.e. 311 . . .)**
  - **Delinquent Behavior**
  - **Citizen Science**
  - **Events**
  - **….**
- **Opinions and Feedback**
- **Systematic Data Collection**

Every Citizen is a Sensor

Empowering Everyone to Participate and Contribute

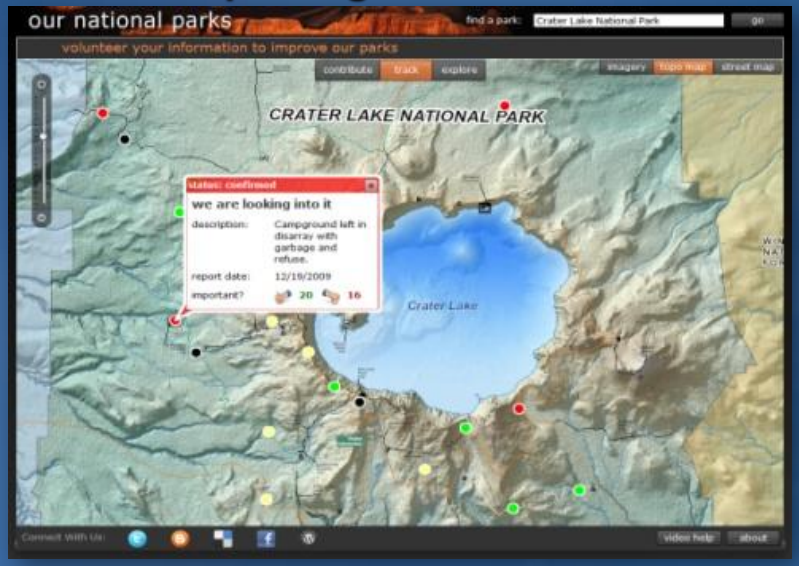
Volunteer Geographic Information

Citizen Science



Columbia University

Citizen Reporting



NPS

GIS Supports Gov 2.0

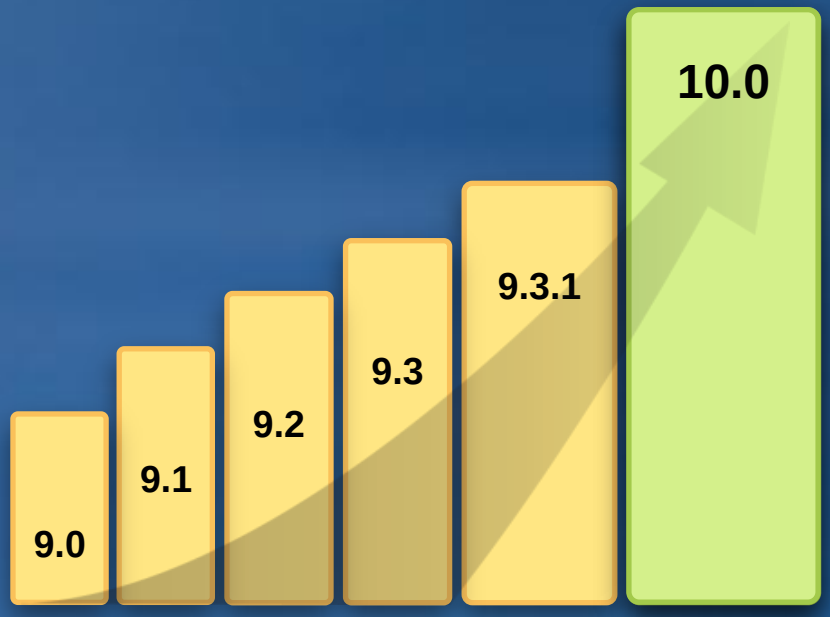
Government as a Platform for Improving Society

. . . Enabling Success of Others

The Platform

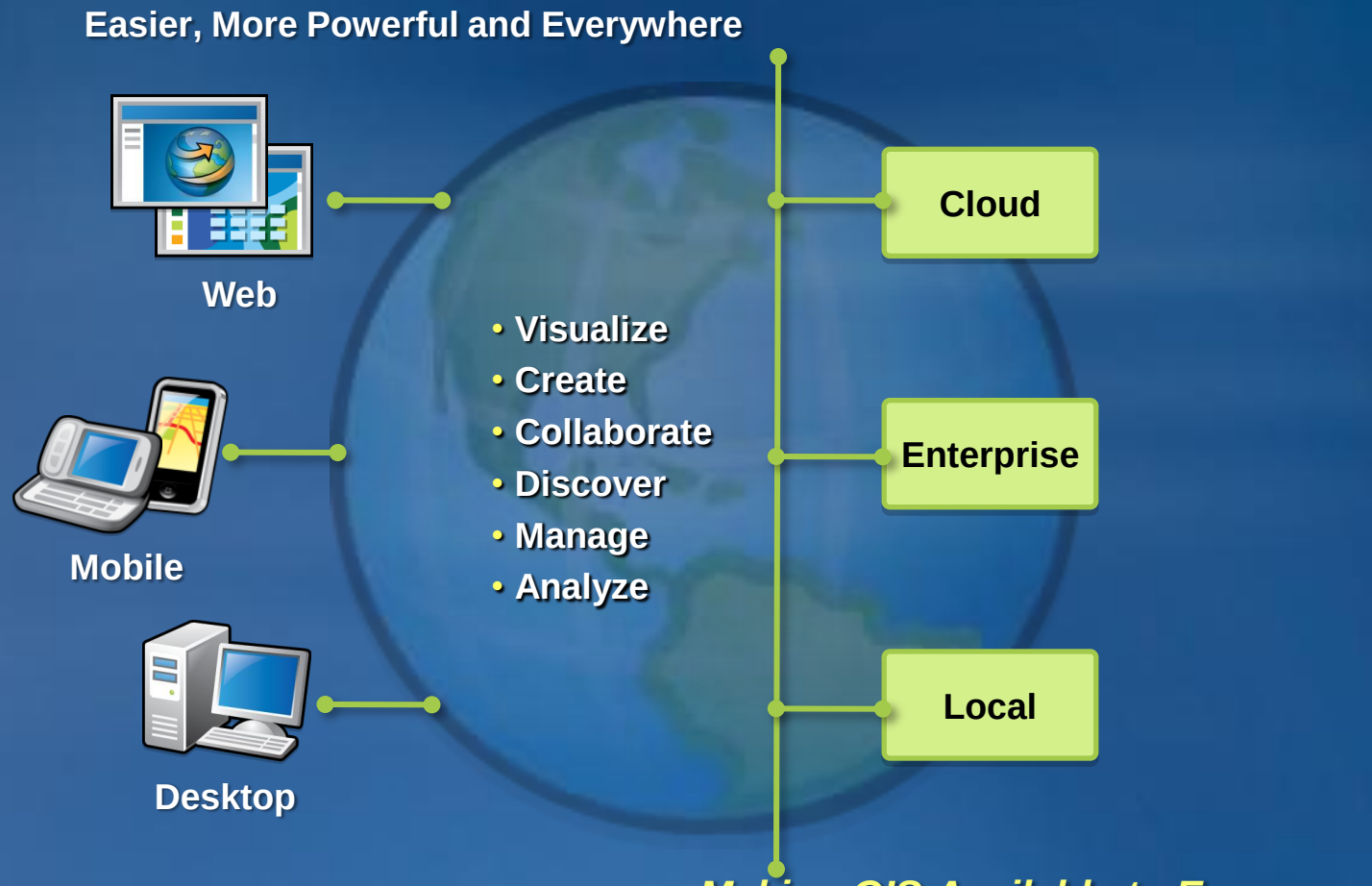
ArcGIS 10

Extending The Reach



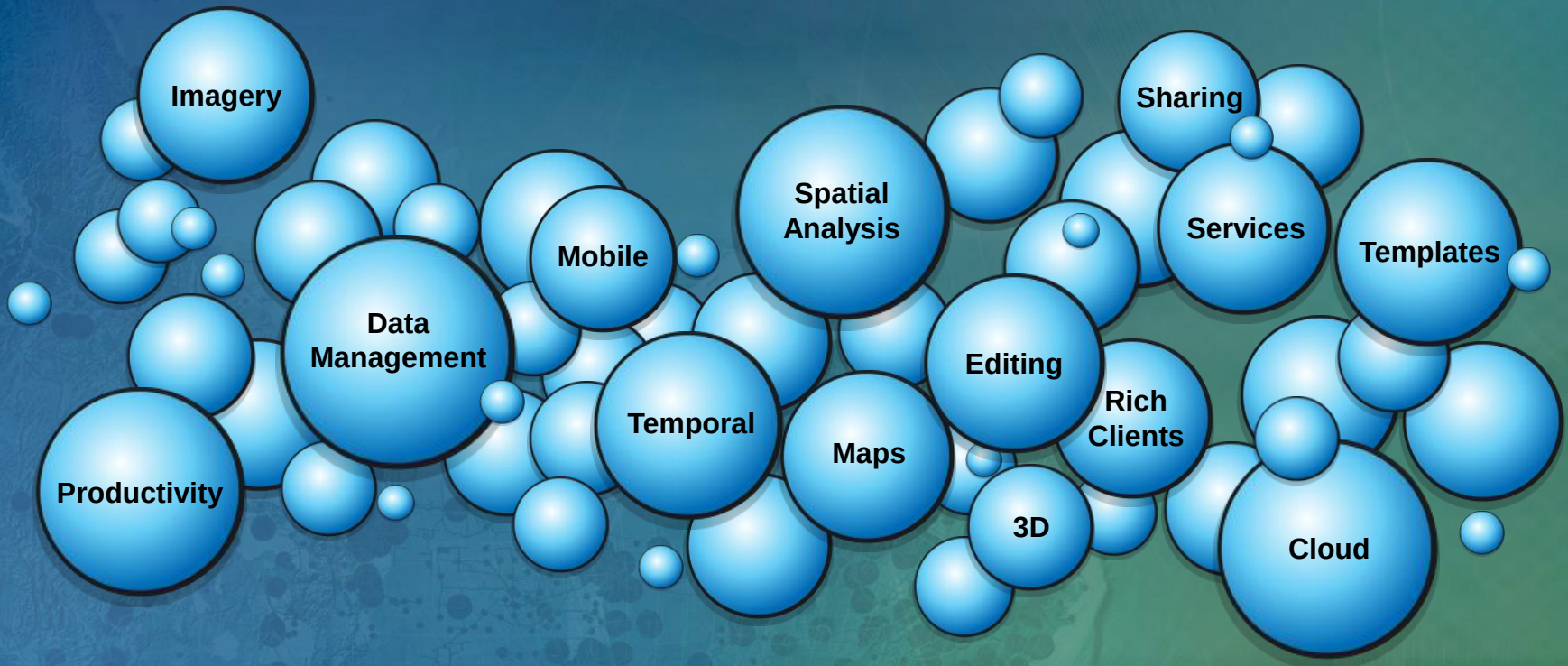
A Simpler GIS

A Pervasive System for Using Maps and Geographic Information



Themes

Usability, Performance and Functionality



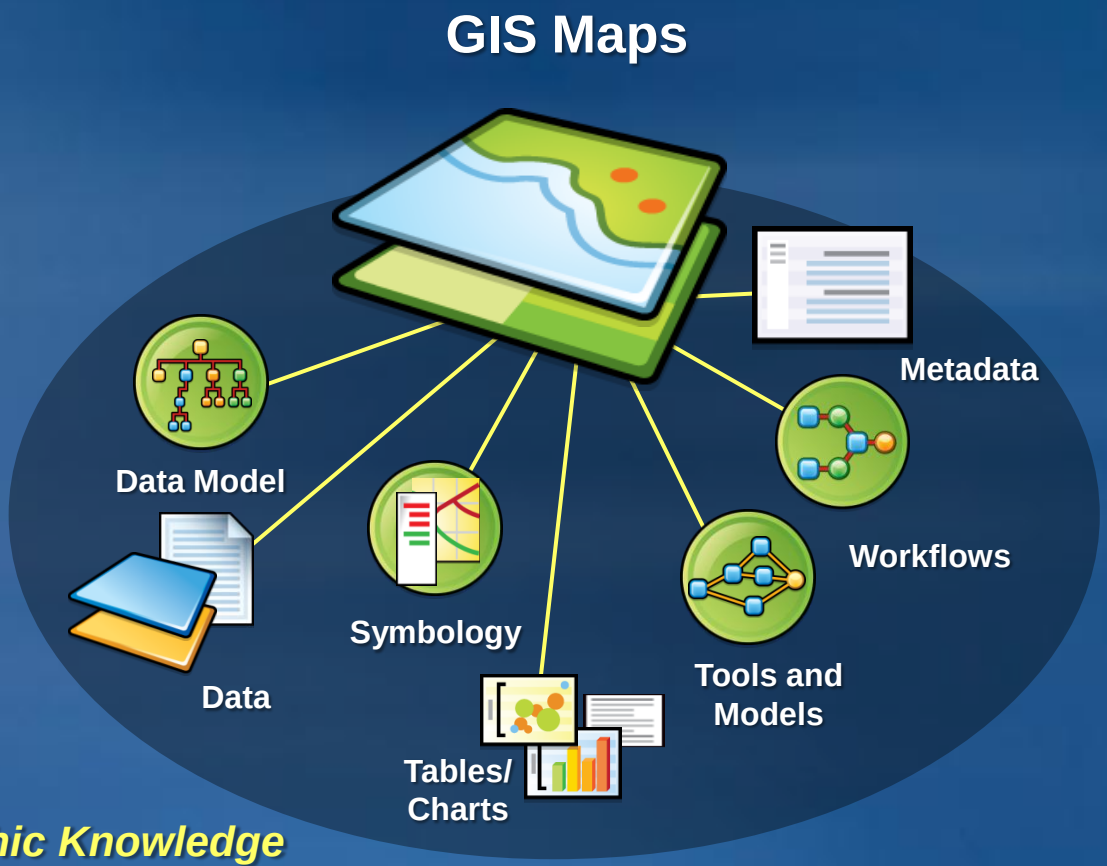
Making Users More Productive . . .

. . . And Their Knowledge Available to Everyone

The Map Is The Focus

Simplifying Working With a GIS

- Interact
- Query
- Edit
- Share
- Analyze
- Combine



Geographic Knowledge

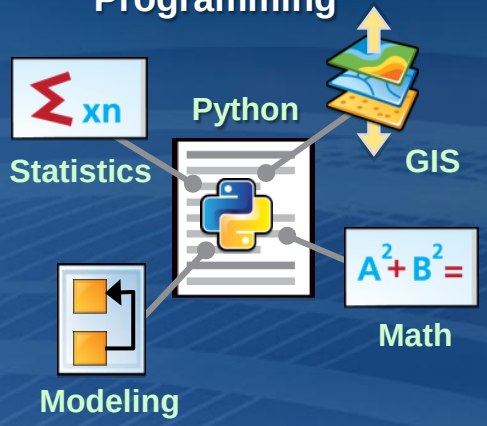
Organized As Sharable Templates

Many New Advancements

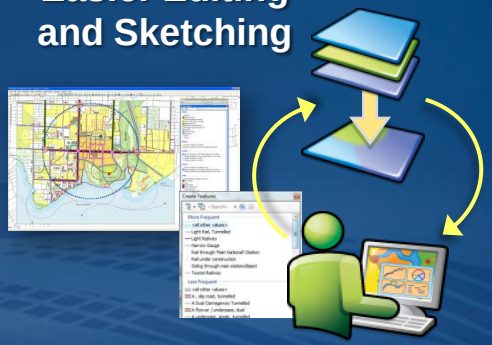
Making GIS Easier and More Productive

Fast Display

Integrated Scientific Programming



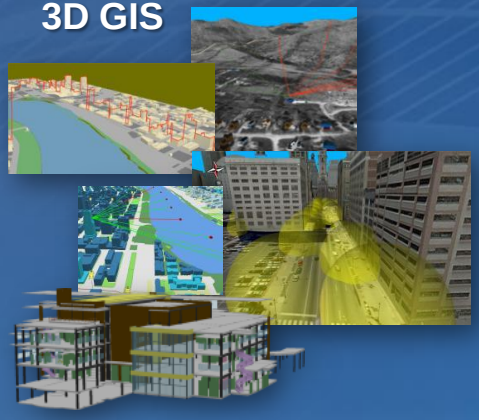
Easier Editing and Sketching



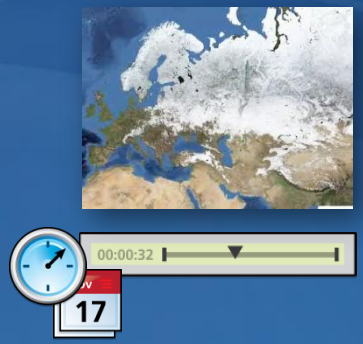
Crowd Sourcing

Integrated Search

3D GIS



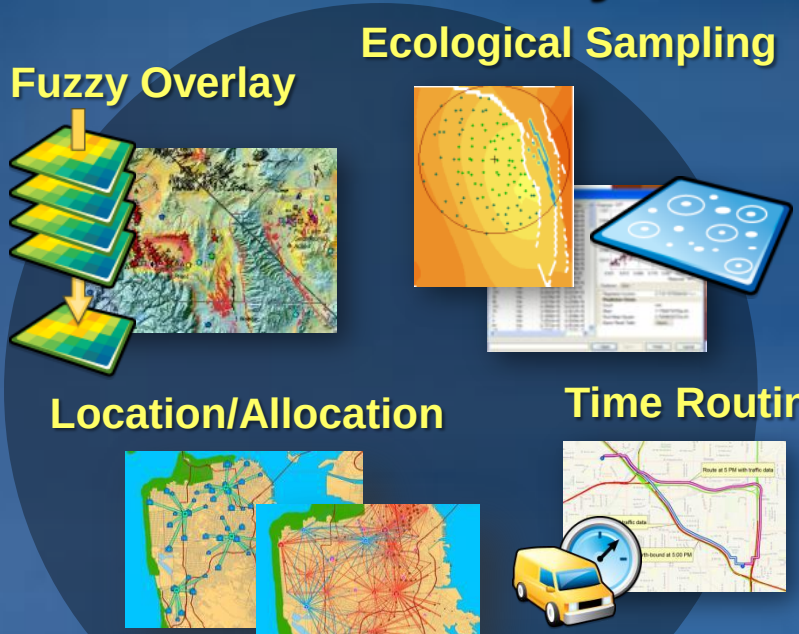
Time Aware

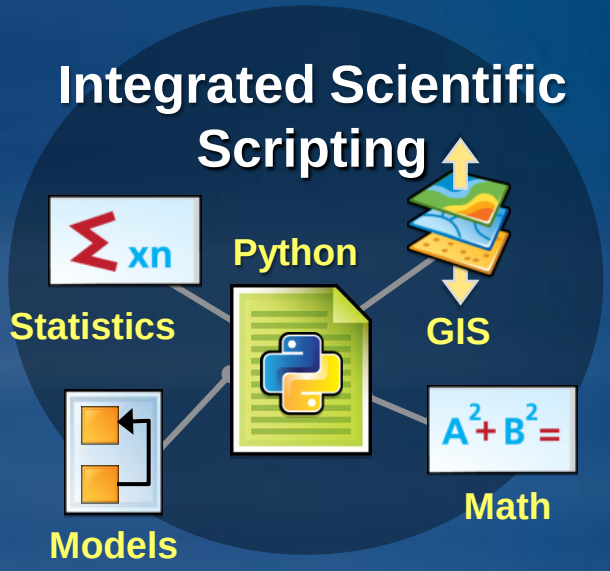


Advanced Spatial Analysis

Advancing Spatial Analysis

- Better Raster Analysis

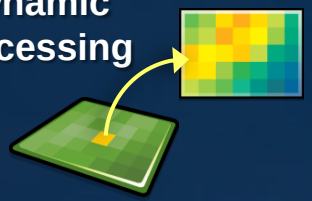




Integration of Imagery

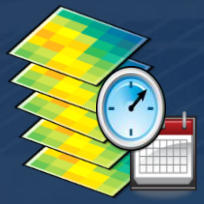
Fast Display, Analysis and Scalability

Dynamic Processing



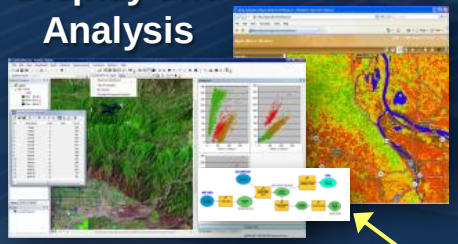
On-the-Fly Analysis

Dynamic Fast Display



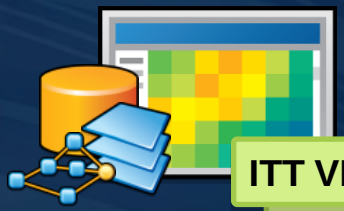
Supporting Time

Display and Analysis



Any Client

Advanced Analysis and Extraction



ITT VIS

BAE

...

Many Partners

Image Service

Massive Scalability

Providing Data Management, Exploitation and Dissemination

Empowering You with 3D GIS

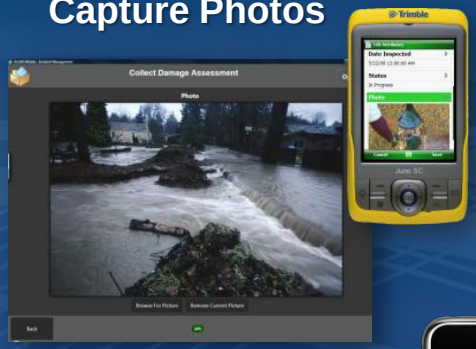
- Visualization
- Creation/Editing
- Analysis

Mobile Integration

. . . Connect Mobile Workers

. . . Making them Part of the Enterprise

Capture Photos



Smart Phones

Tablet

Customizable Applications

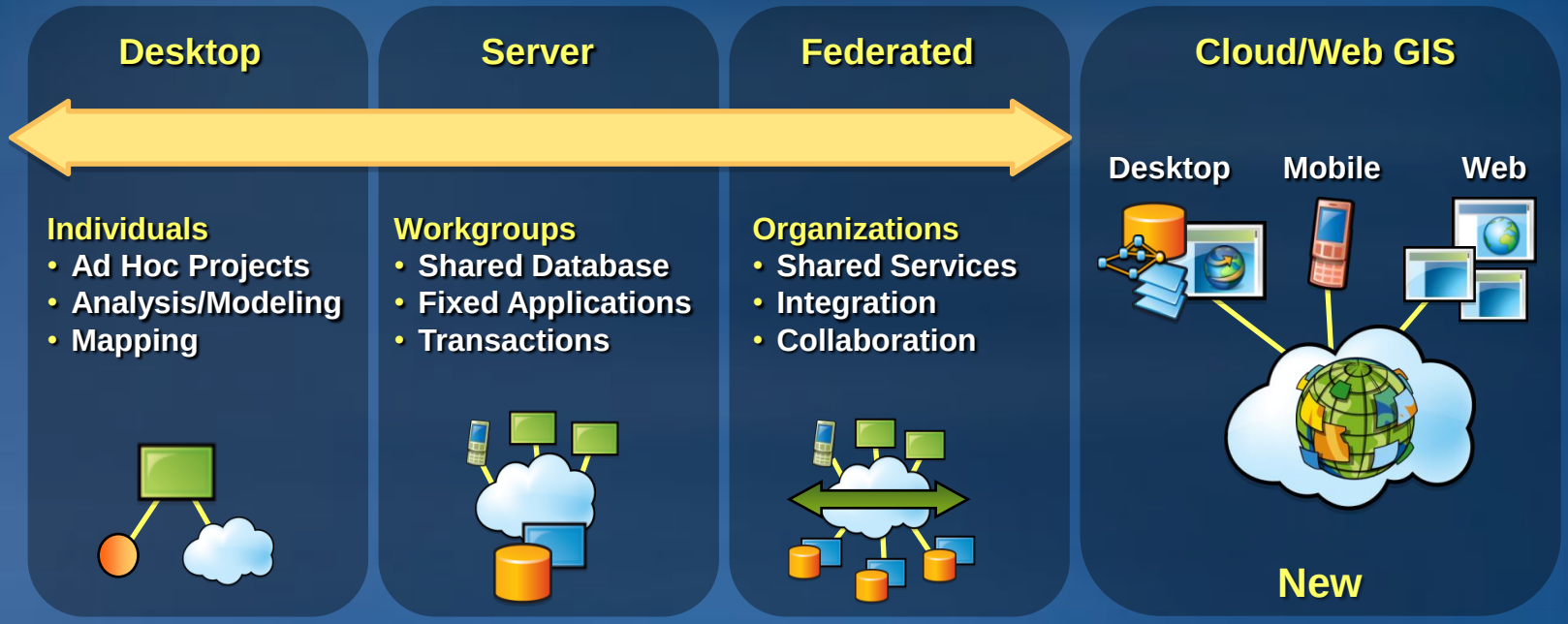
. . . Providing Real-Time Situation Awareness

Demonstration

Implementation Patterns

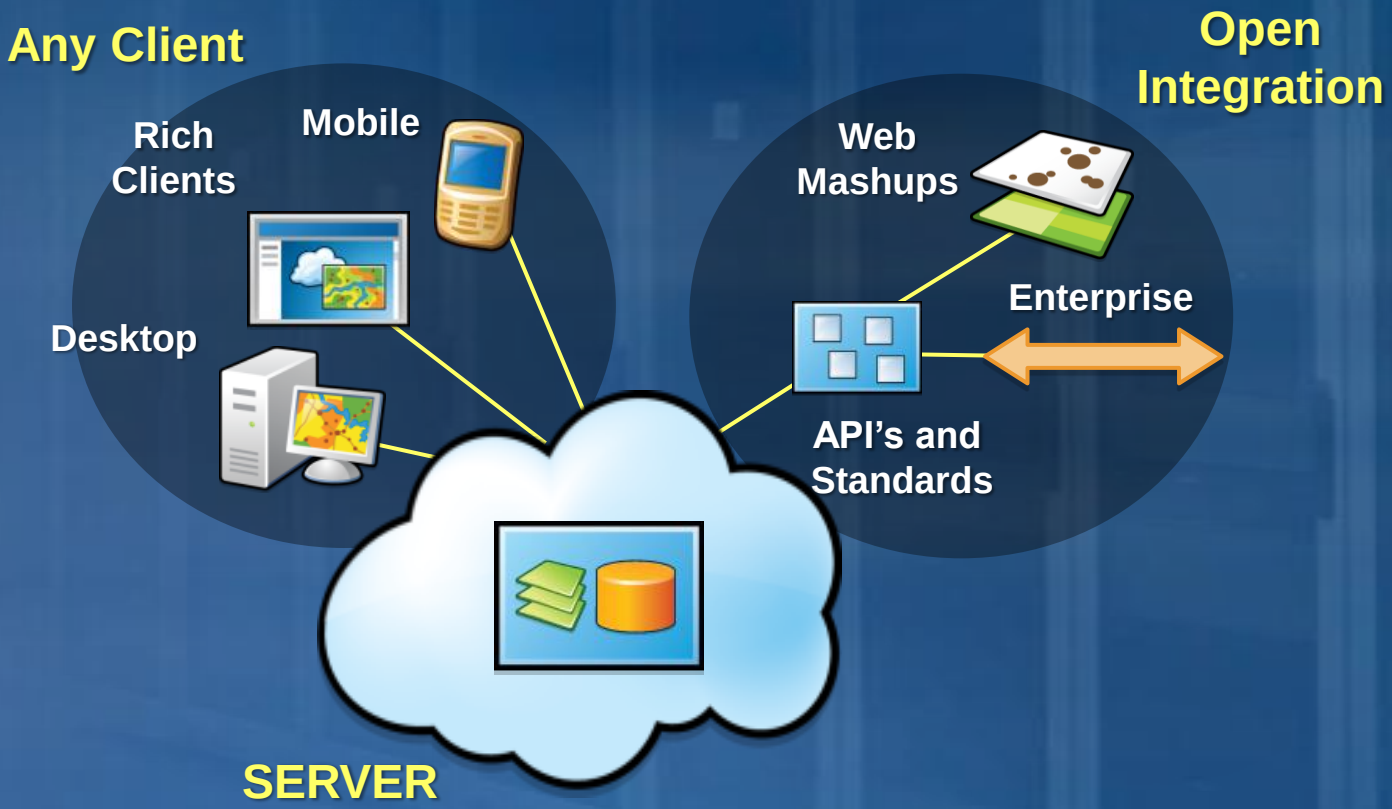
GIS Implementations Follow Common Patterns

Supporting Enterprise and Pervasive Computing



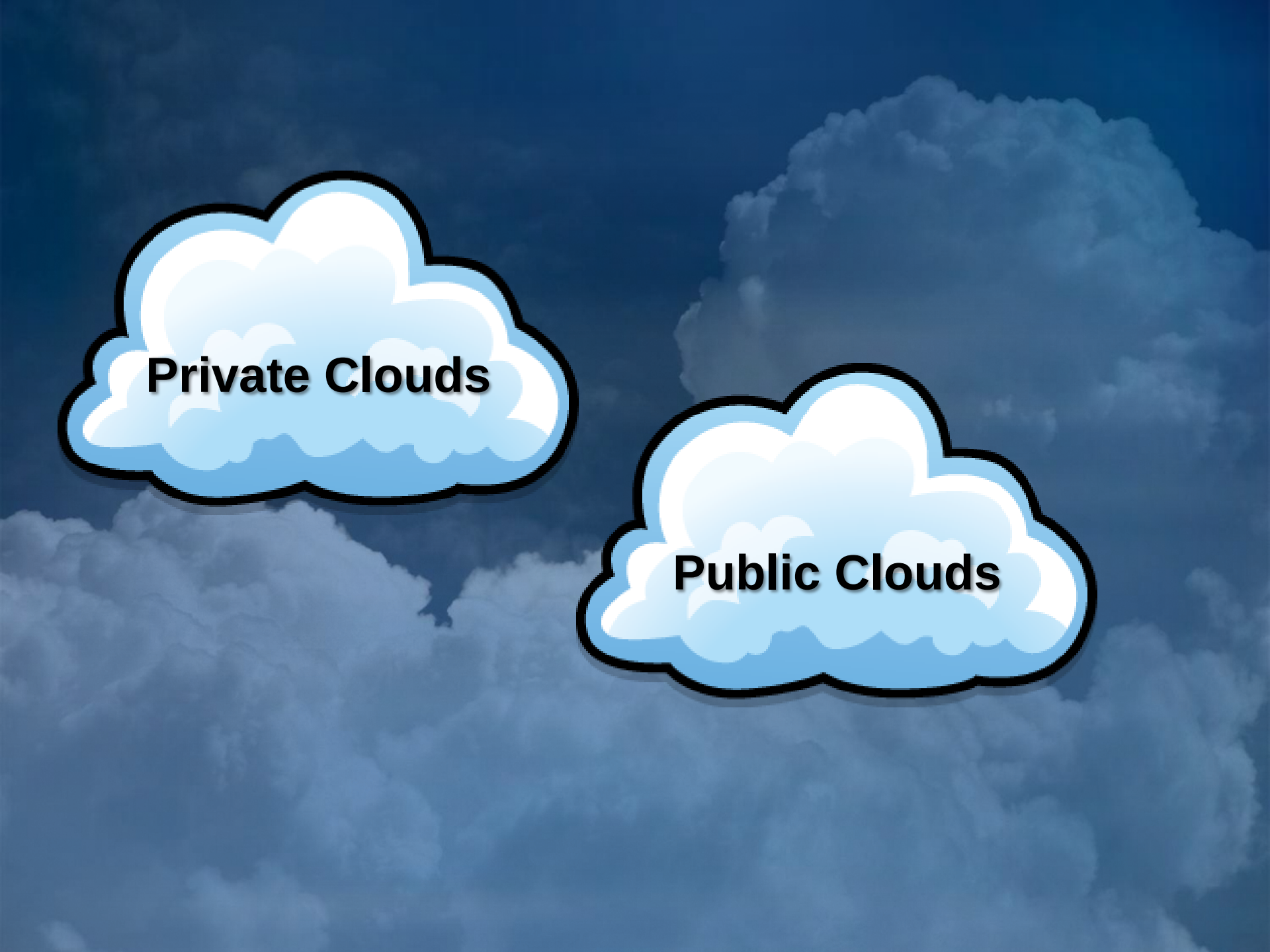
ArcGIS 10 Is Cloud Ready

Supporting Enterprise and Web Deployments



Transforming GIS Access, Usability and Collaboration

The Cloud


Private Clouds
Public Clouds

Clear

Partly Cloudy

Cloudy

What Is the Cloud?

Software as a Service (SaaS)	End-user applications delivered as a service rather than on-premises software
Platform as a Service (PaaS)	Application platform or middleware on which applications can be built
Infrastructure as a Service (IaaS)	Compute, storage, or other IT infrastructure as a service
Software + Services (S+S)	Leveraging hosted services with locally installed software applications

ArcGIS 10

The new platform for cloud GIS

Cloud Computing

- ArcGIS Server on Amazon
- Hosting by ESRI
- Others . . .

Solutions

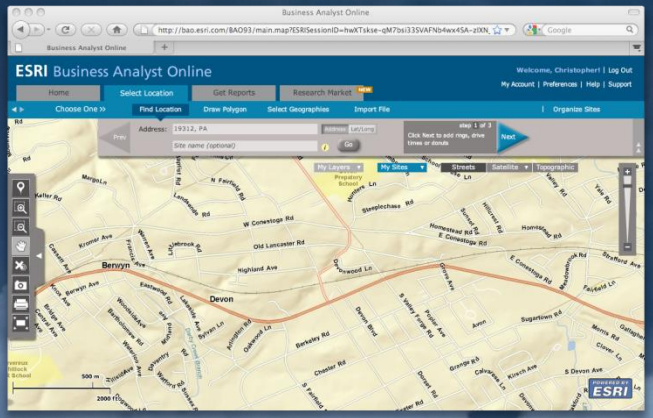
- Business Analyst
- ArcLogistics
- Partners . . .

Maps & Apps

- Content
- APIs

ESRI SaaS Solutions

Focused applications in the cloud



ESRI Business Analyst Online

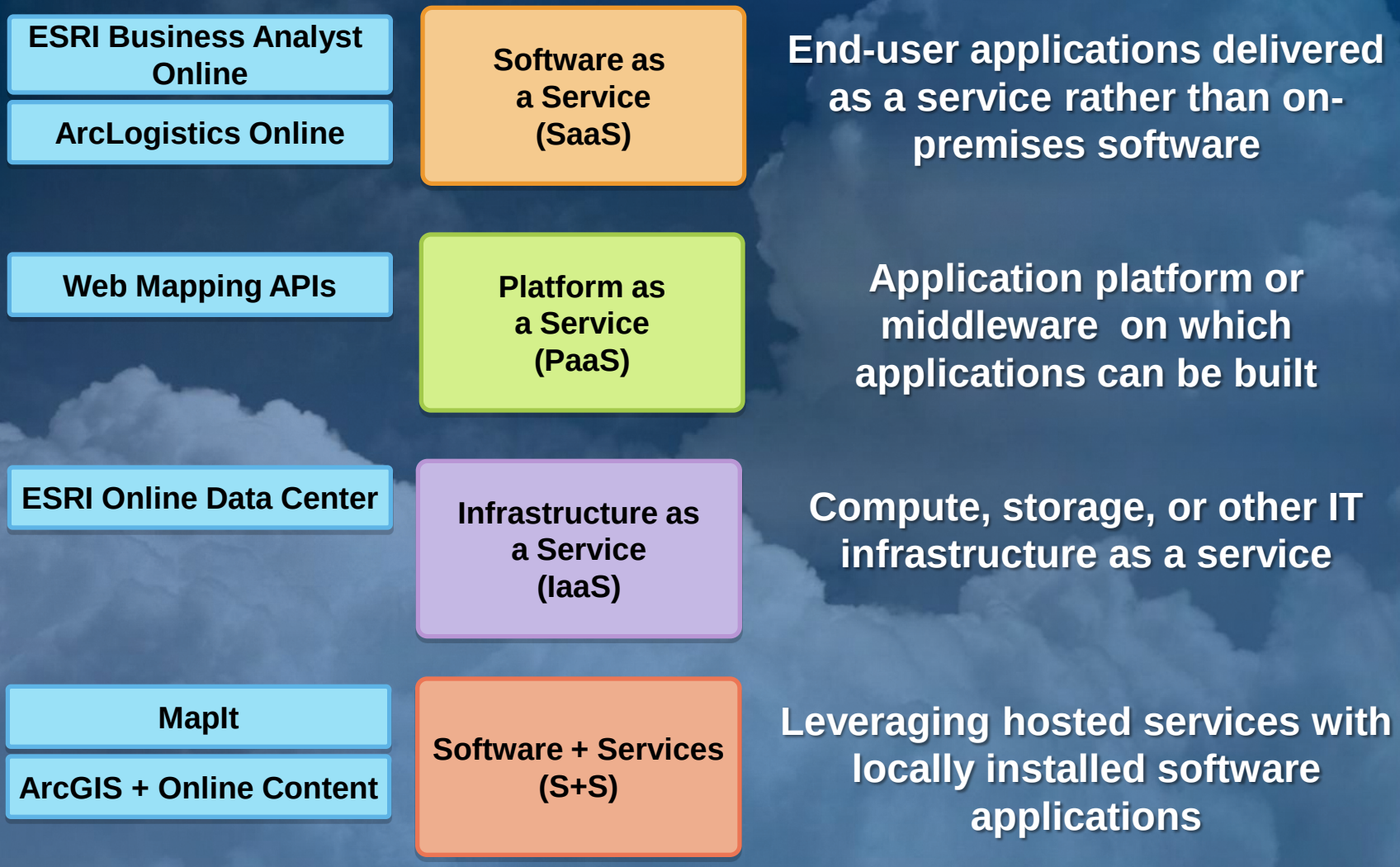
- Focused business application
- Priced by the user

ESRI ArcLogistics Online

- Focused logistics application
- Priced by the vehicle

. . . both are available now

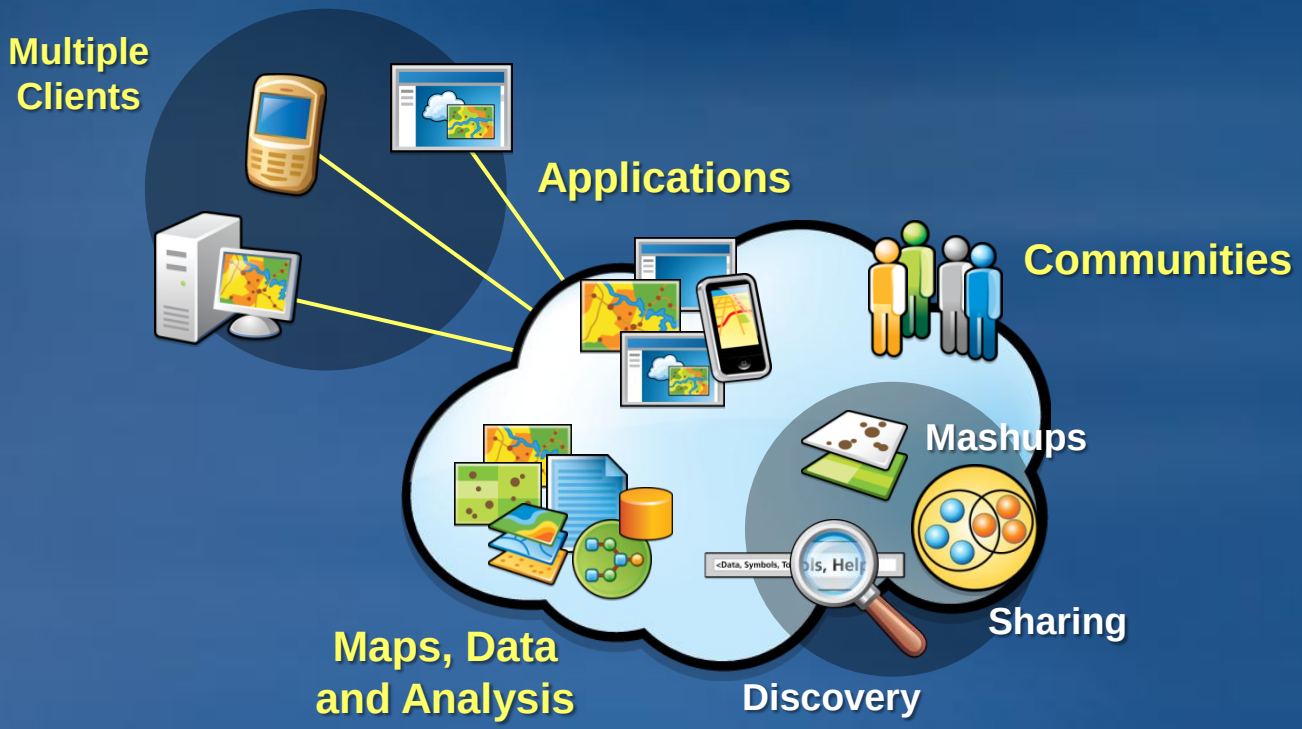
ESRI and the Cloud



The New Pattern

ArcGIS.com

A Complete GIS Implemented In the Cloud



Users Can Create, Share, Find and Use . . .

. . . Data, Maps and Applications

ArcGIS Online - Windows Internet Explorer

http://www.arcgis.com/home/

Bing

Favorites | Web Slice Gallery

ArcGIS Online

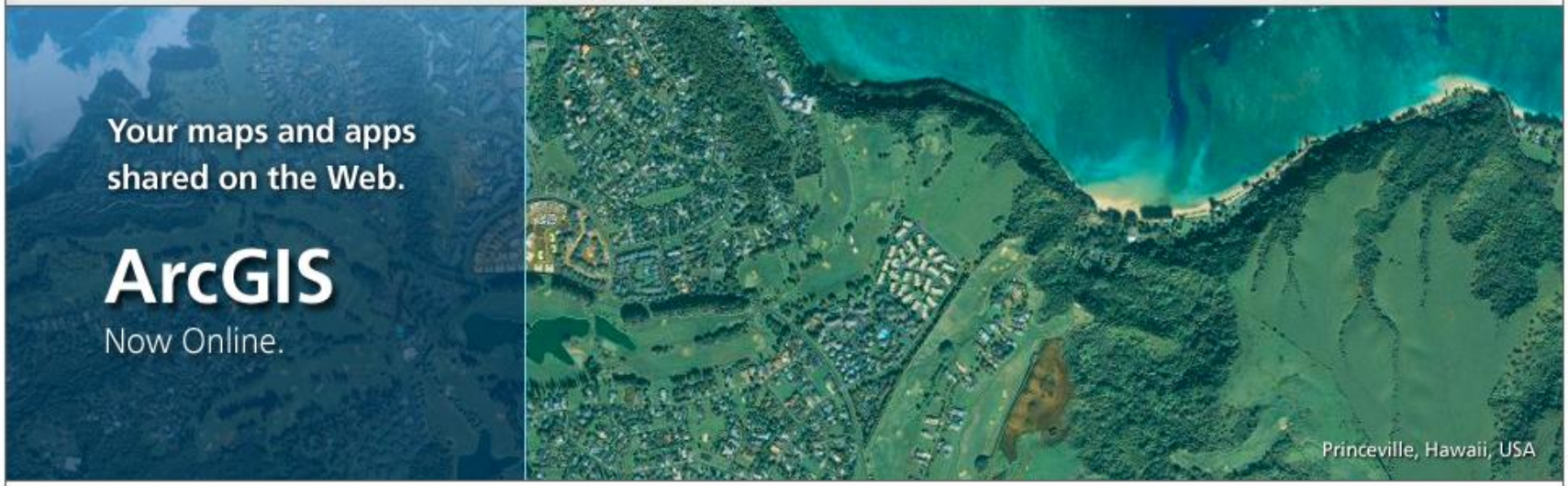
Page | Safety | Tools

Visit ESRI.com | Show: Web Content Only | Matthew Davis | Notifications (1) | Help | Sign Out

ArcGIS BETA

GALLERY | MAP | GROUPS | MY CONTENT | RESOURCE CENTER

Find maps, applications and more...



Get Started

Finding and using geographic information on the Web has never been easier.

View the Gallery Make A Map

Changing How You Do GIS

ArcGIS is an online system for using geographic information everywhere.

Learn More About ArcGIS

Try ArcGIS Explorer Online

ArcGIS Explorer is a rich client for using, creating, and sharing ArcGIS maps online.

Start Explorer

Internet | Protected Mode: On

100%

Demonstration

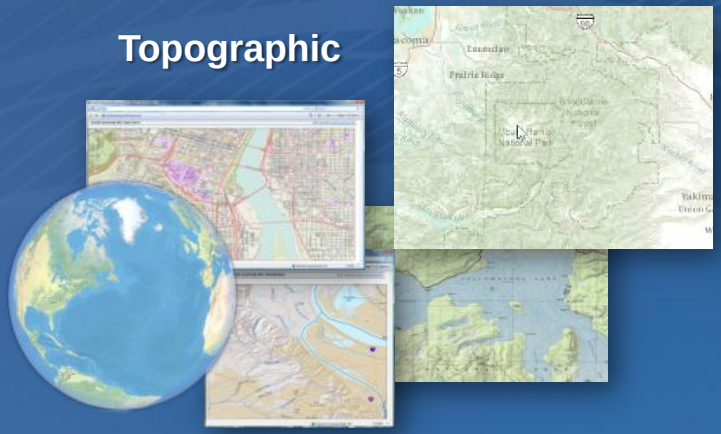
ArcGIS.com Provides Free and Fee Based Content

Many Ready-to-Use Map and Image Services

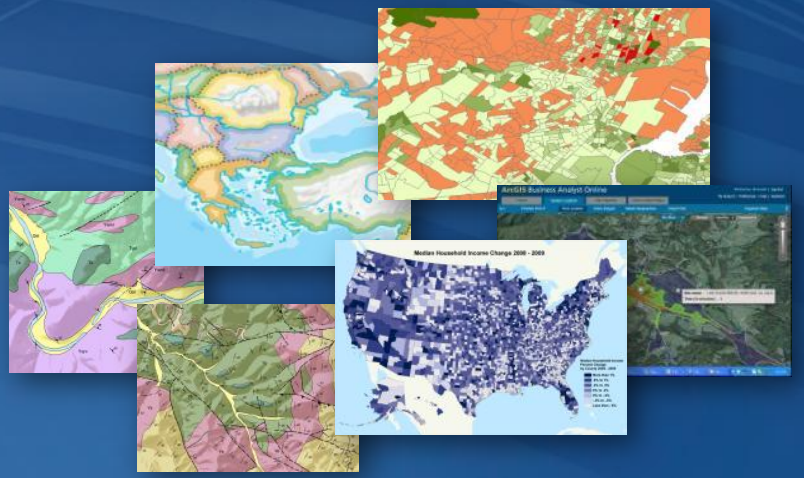
Streets

Imagery

Topographic



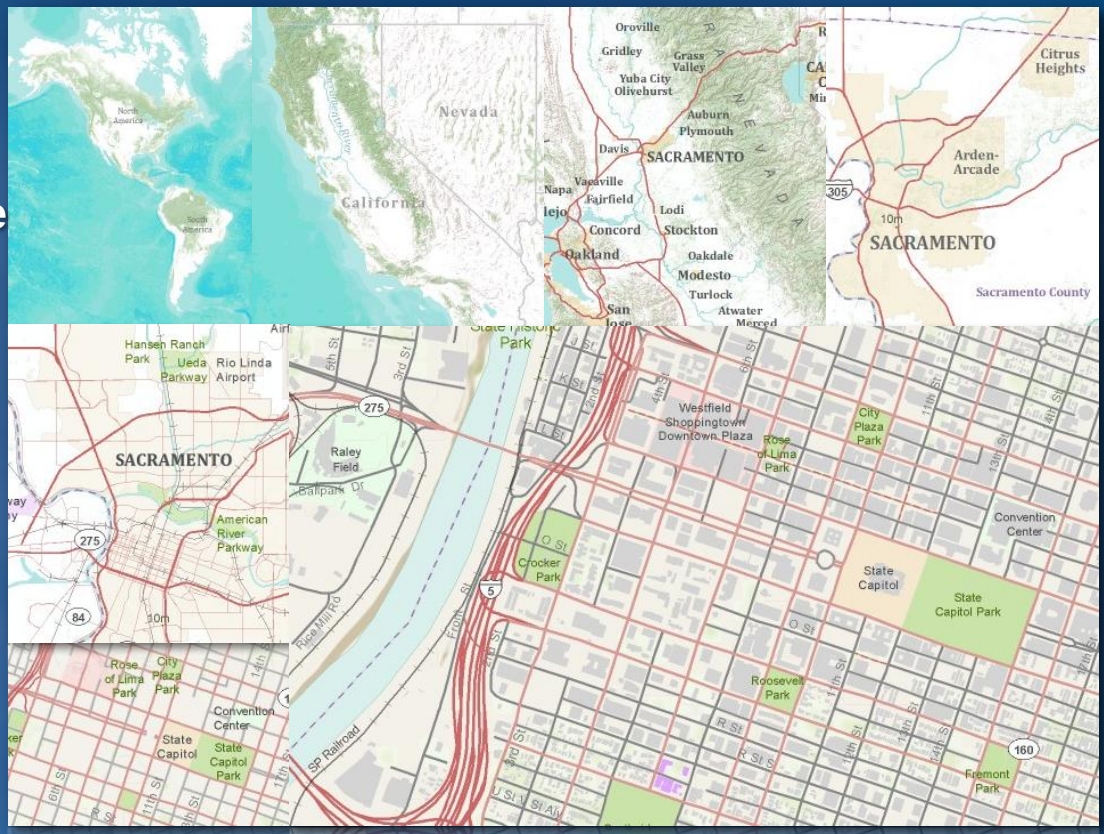
Demographic and Thematic



ESRI Is Creating a Community Topographic Basemap

A New Opportunity to Share and Collaborate

- Collaborative
- Multi Scale
- Authoritative Source
- Template Based



A Free and Open Service for GIS Users

ArcGIS.com Empowers You

Many Free Services, Tools and API's

Services

- Mapping
- Geo-coding
- Mashups
- Spatial Analysis
- Routing
- 3-D Visualization
- Navigation

API's

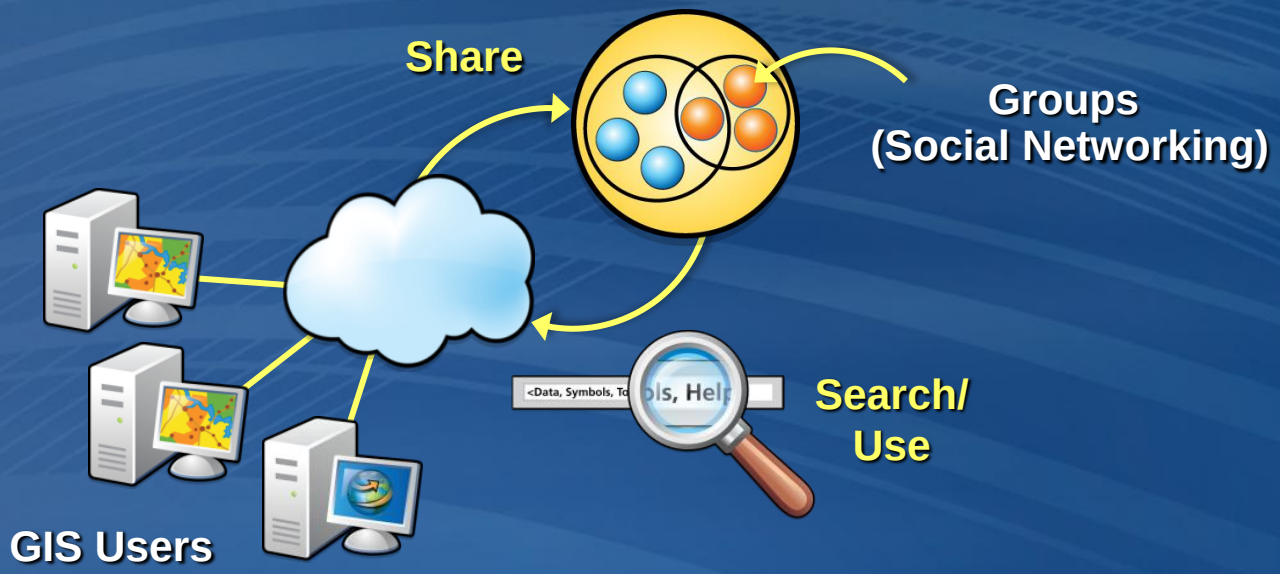
- JavaScript
- Flex
- Silverlight
- SharePoint

For Rapidly Building Rich Internet Applications

ArcGIS.com Helps Us Share

Maps, Data and Applications

SHARING



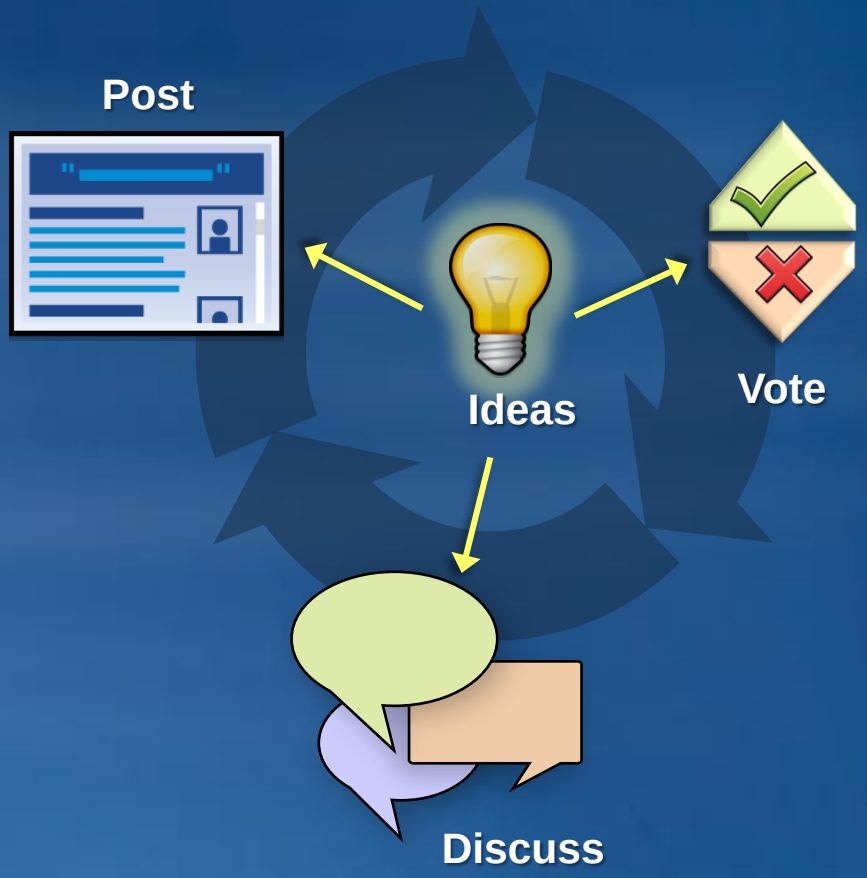
. . . An Online Resource for ArcGIS Users

Ideas Portal

Making Community Involvement In Our Development Easier

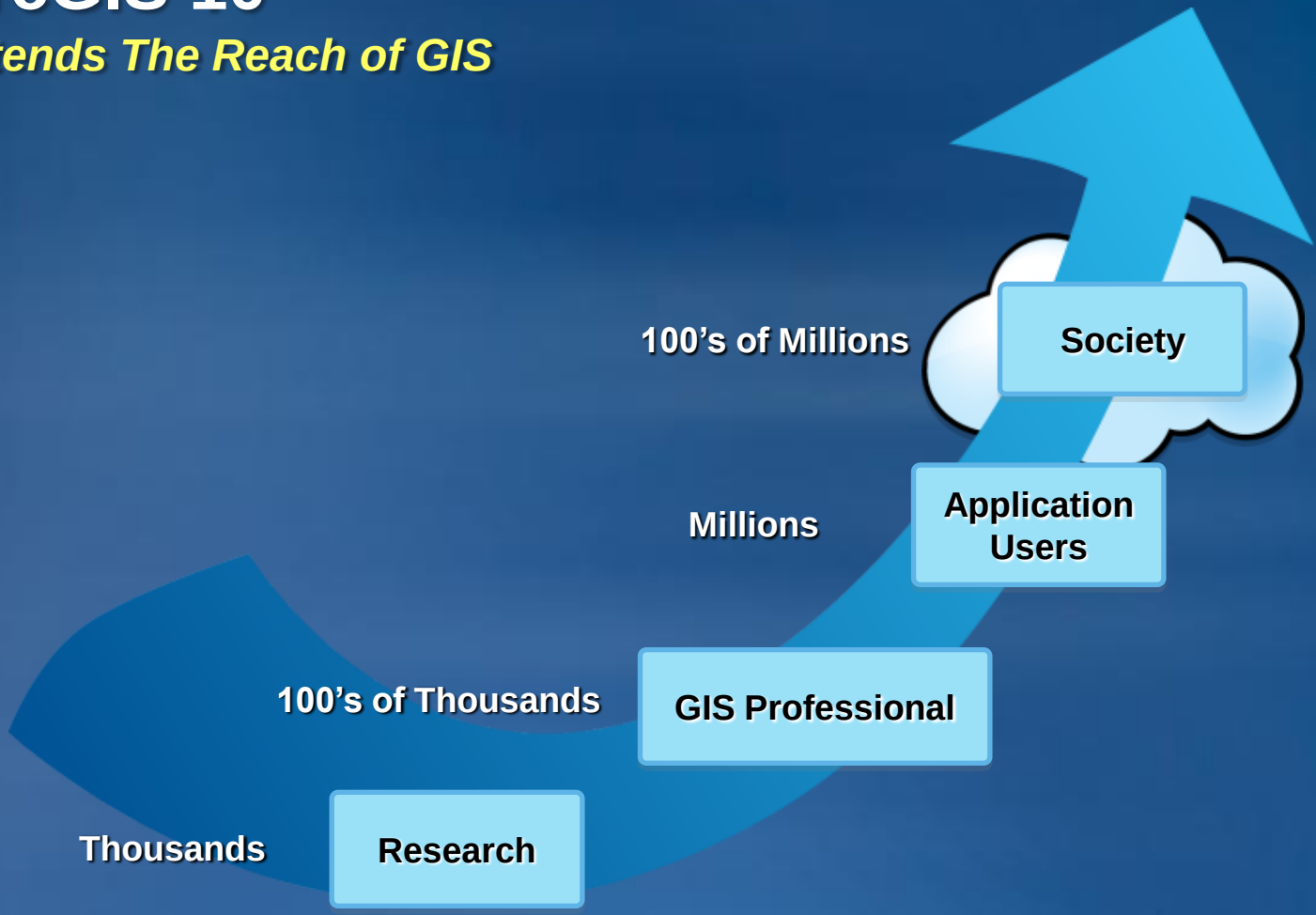
- Post Your Ideas On What We Should Do Next
  - Vote
  - Discuss
- Accessible to Everyone

ideas.esri.com
(coming soon)



ArcGIS 10

Extends The Reach of GIS



Leveraging Your Investments . . .

. . . Revolutionizing the Way we Use Geographic Information

GIS Is Changing . . .
. . . Becoming Pervasive

Users Are Increasingly Serving Their Geospatial Knowledge . . .

. . . Establishing a New Foundation for Collaboration

. . . Developing New Applications

New Technology. . . Is Easier, More Productive and Available

. . . Creating New Ways of Doing Things

Implementing This Vision . . .

Will Take Your Knowledge, Collaboration

. . . And Commitment

Our Collective Work Will Extend The Reach Of GIS

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SRI - The GIS Software Leader | Map...

Page | Safety | Tools

Store | Contact Us | Careers

ESRI | GIS Software that Gives You THE GEOGRAPHIC ADVANTAGE

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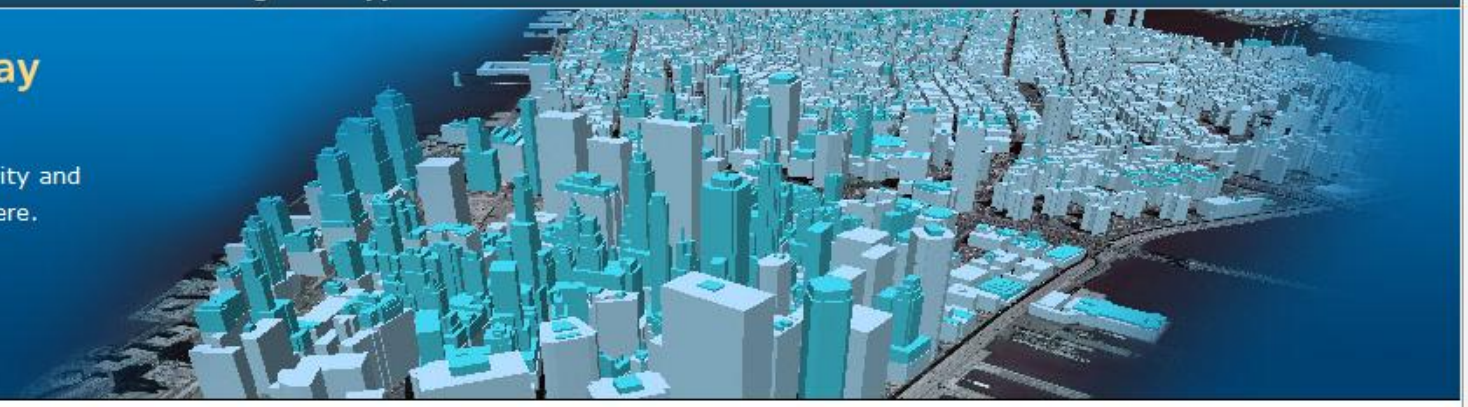
Transform the Way You Use GIS

ArcGIS 10 improves productivity and makes GIS available everywhere.

Learn More



Starting Points

Getting Started for

Executives | Developers | IT

New Developments

Technology Topics | GeoDesign

Learn the Basics

What Is GIS?

Mapping for Everyone

Create and Share Maps for Free

Announcements

Try the New ArcLogistics for 30 Days

See immediate savings on vehicle-related costs such as fuel and overtime. Download it for free and start building efficient routes and schedules today.

Publish More Than Map Services with ArcGIS Server

Deliver geodata, geoprocessing, globe, image, KML, mobile, and Open Geospatial Consortium, Inc. (OGC), Web services.

Modern Strategies Outlined in *Land Administration for Sustainable Development*

This ESRI Press book describes land policies countries need for social equality, economic growth, and environmental protection.

Read more news...

GIS Community

Singapore Government Launches OneMap

OneMap is an integrated map system that allows government agencies to deliver location-based services and information.