

What is County GIS and Where is it Working?

National GIS + County Government

- 3100+ Counties Nationwide
- Most (75%+) using GIS in some form
- Primary functions (nationally):
 - Land ownership records + parcel information
 - Road planning + maintenance
 - Utility planning + maintenance
 - Comp planning and zoning ordinances
 - Parks and recreation planning

GIS + **Maine** County Government

- 16 Counties
- Most using some GIS, but in very limited ways
- Core mapping functions:
 - Emergency management applications
 - Law Enforcement
 - Basic location and event mapping

Reference Applications

- **Deed Registries**
- **Homeland Security/ EMA Agencies**
- **Public Safety/Law Enforcement**
- **General Applications**

Deeds Registries

- **Most US counties manage both deeds/parcel geometry**
- **In New England most parcels are managed by towns**
- **Effective applications have been developed that fuse these two sets of records**

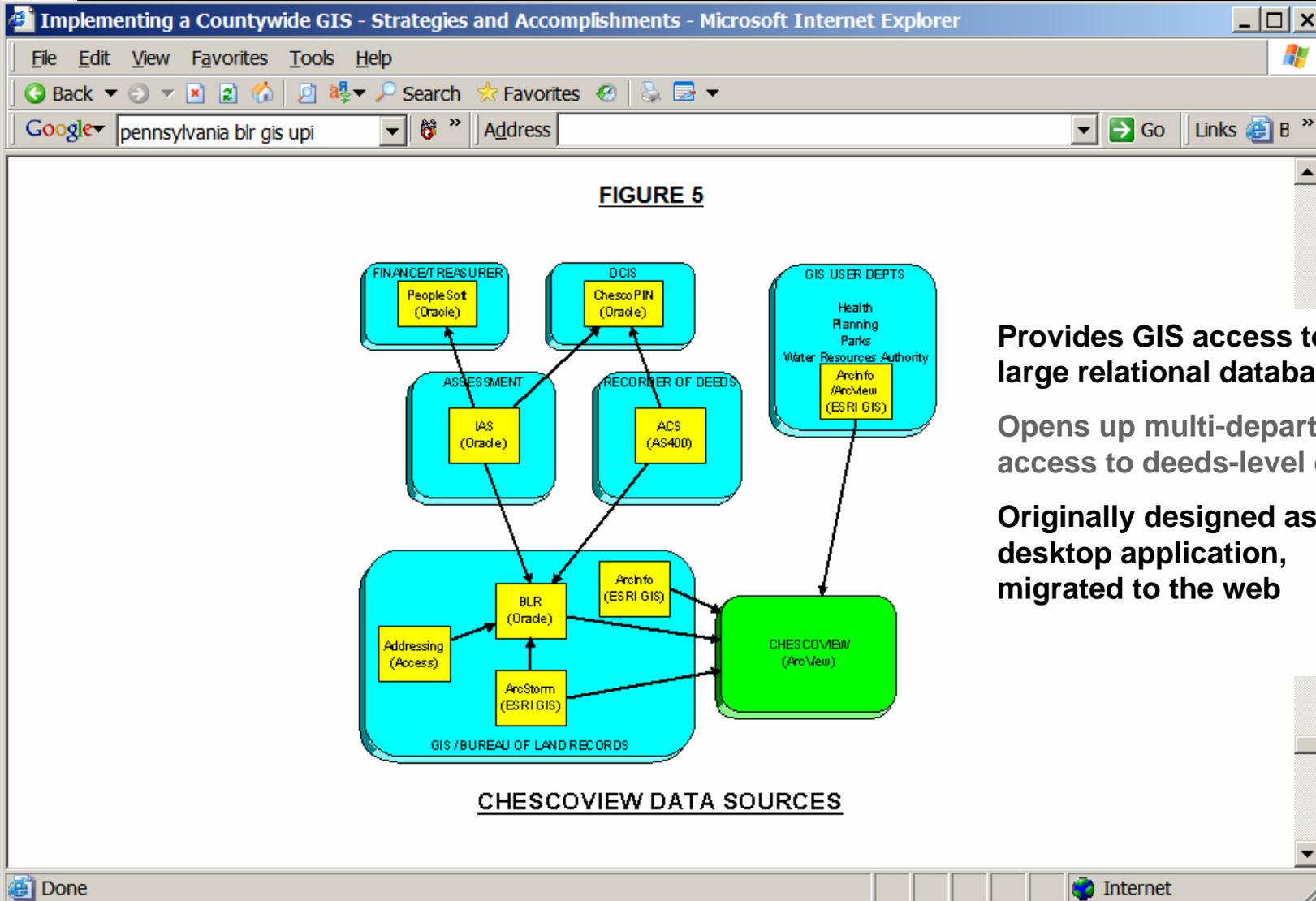
Reference Application: **Deeds** Pennsylvania (Chester County)

- Pennsylvania legislation (1988) provides for Uniform Parcel Identification (UPI).
- Uses the UPI number as a permanent referencing key to relate tax maps and legal descriptions.
- Cross-references UPI numbers with relevant maps and uses UPI numbers in place of full legal descriptions on deeds and other legal documents.
- **Makes the county a repository** for related maps and UPI numbers.
- A modest fee is captured at the Registry; Since February 2001, the program has verified more than 400,000 UPI numbers, which resulted in revenues exceeding \$2 million.

Reference Application: Deeds

County-wide Deeds – GIS Integration

Chester County, PA



Provides GIS access to a large relational database

Opens up multi-departmental access to deeds-level data

Originally designed as desktop application, migrated to the web

Public Safety: Crime Mapping

- **Crime locations are frequently captured by GPS (global positioning system) in patrol cars**
- **Provides opportunity to build a catalog of locations linked to incident records**
- **These may be analyzed for clustering and hot spots**

Reference Application: Public Safety / Law Enforcement

Tulsa County, Oklahoma

http://www.tulsapolice.org/mapmanual/tutorial/crime_tutorial.htm - Microsoft I...

TULSA POLICE DEPARTMENT CRIME ANALYSIS CRIME REPORTED IN THE YEAR 2001

Legend

- Highway / Expressway
- Arkansas River
- Minor Roads
- major rds
- Autotheft
- Residential Burglary

8100 S MEMORIAL DR

Map created by Tulsa Police Department Crime Analysis

Locate Results

| # | Address | Score |
|---|-----------------------|-------|
| 1 | 8100 S MEMORIAL DR 75 | |

Locate Another Address

Locate Address

Done Internet

Simple query and display site for examining crime locations back five years

Updated Daily

tutorial.htm - Microsoft I...

THE YEAR 2001

Layers

Visible Active

- Highway / Expressway
- Arkansas River
- Minor Roads
- major rds
- Autotheft
- Burglary From Vehicle
- Commercial Burglary
- Larceny
- Residential Burglary
- Vandalism
- Felony Assault
- Homicide
- Robbery
- Sexual Assault

Autotheft

| Rec | ADDRESS | START_DATE | START_DAY | START_TIME | END_DATE | END_DA |
|-----|---------|------------------|-----------|------------|------------------|--------|
| 1 | S 77 EA | Thu, 22 Feb 2001 | THU | 19:00 | Fri, 23 Feb 2001 | FRI |
| 2 | S 77 EA | Sun, 4 Mar | SUN | 01:00 | Sun, 4 Mar | SUN |

Select Rectangle

Done Internet

Emergency Management Agencies: Hazards and Sensitive Features

- **Considerable Homeland Security funding has been driving work in this area since 9/11**
- **Web-based tools developing for distributed data gathering (lots of local points of contact into a single database through the map)**

Reference Application: EMA Massachusetts Data Capture + Modification Tools

Maine Counties GIS Forum

The screenshot displays the MEMA (Massachusetts Emergency Management Agency) web application interface, which is used for data capture and modification. The interface is divided into several functional areas:

- Upload CEM Plan Files:** A section for uploading files, listing various document types such as FORMS, FA, SOP, and HM documents.
- Create and Edit Buildings:** A module for managing building data, featuring an aerial photo view and a 'Show Aerial Photo' checkbox.
- Emergency Managers Contact List:** A table listing emergency managers across various towns, including their names, phone numbers, and email addresses.
- CEM Plan Status Report:** A table providing a summary of CEM plan status for various communities, including the review stage and start date.
- Attributes of facilities:** A table showing details for specific facilities, including their ID, shape, town, and name.
- Attributes of PoliceStation.csv:** A table showing details for police stations, including their ID, facility ID, community, and facility type.

Reference Application: Targeted Functions

Jackson County, Oregon

Jackson County Front Counter Application - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites

Address http://www.smartmap.org/FCA/index.cfm

INTRODUCTION | HELP | DISCLAIMER | DATA DICTIONARY | SMARTMAP | JACKSON COUNTY Front Counter Application

ZOOM TO REGION ZOOM IN ZOOM OUT ZOOM BACK ZOOM FULL PAN SELECT TAXLOT DESELECT TAXLOT BUFFER TAXLOT PRINT MAP ASSESSOR MAP

Intro & Tips Search Map Layers

Layer | Legend | Text Only Mode

- All Streets
- Bike Routes

3. Click the Update Map Layers button to redraw the map:
Update Map Layer

- Public Services

2. Select or deselect layer to draw:
Check box to display layer.
Click name to display metadata.

- Hospitals
- Medical Services
- Fire Stations
- Law Enforcement
- Schools
- Libraries
- City Halls

3. Click the Update Map Layers button to redraw the map:
Update Map Layer

- Water

2. Select or deselect layer to draw:
Check box to display layer.
Click name to display metadata.

- Rivers and Lakes

Open Help Menu Internet

Basic display and query for a large number of layers

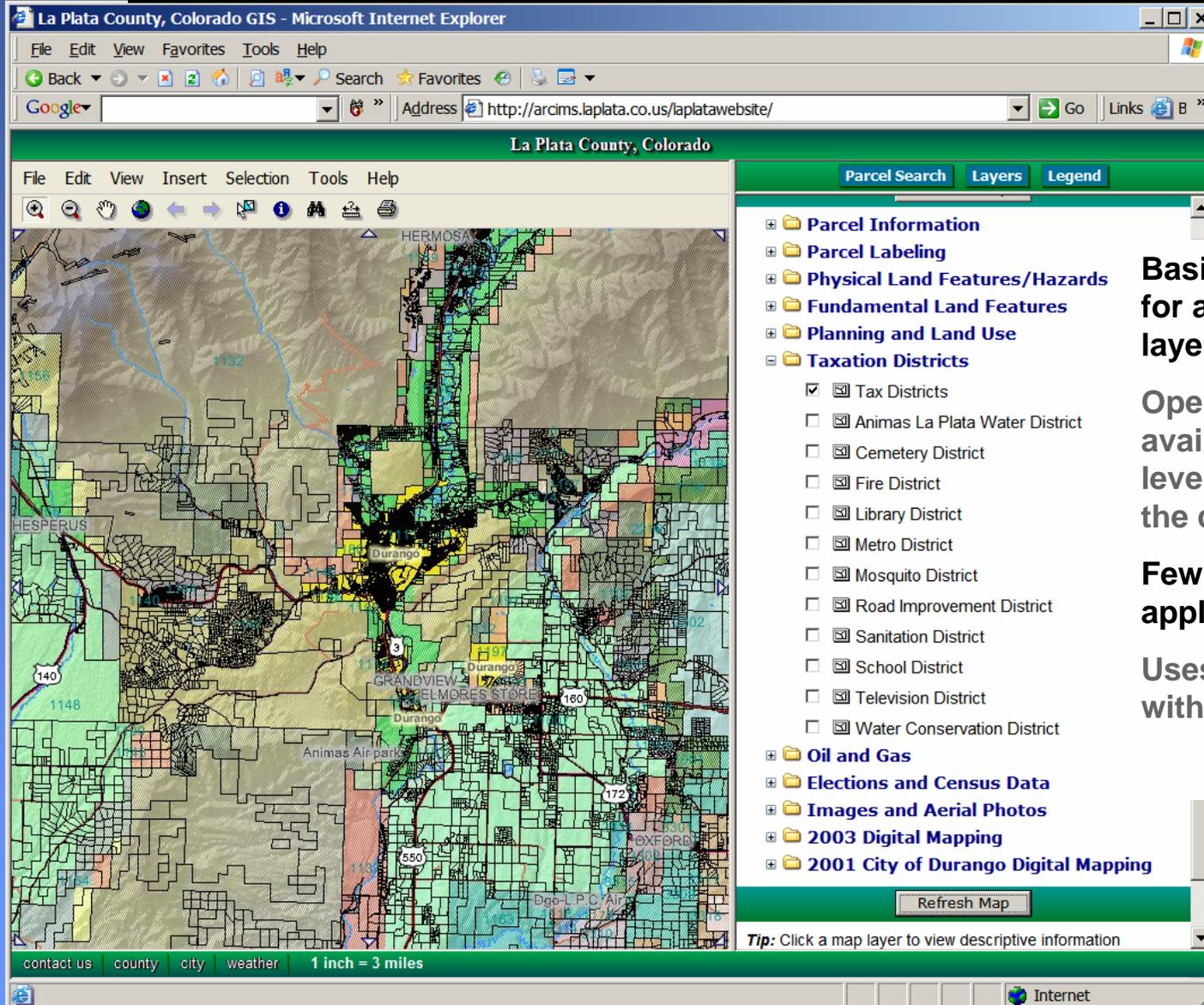
Some Applications targeted to Land Records Management and Floodplain Identification

General Purpose Public Access Data Browsers and Query Tools

- **Largest class of deployed mapping websites**
- **Allow for a broad array of point and click data queries**
- **Rarely answer specific or complex questions.**

Reference Application: **Data Browser**

La Plata County, Colorado



Basic display and query for a large number of layers

Opens up existing data available at the state level and managed by the county

Few or no targeted applications

Uses Visual Basic .NET with ActiveX connector

Targeted Applications

- Built to answer a specific question or set of questions rather than browse
- Serve to automate frequent queries and de-burden staff at government offices
- Become more the norm as the novelty of general web mapping wears off

Reference Application: County-Based Demographics US Census / KnightRider

The screenshot shows a web browser window displaying a GIS application. The browser address bar shows a URL: `http://161.188.204.80/maps/charlotte/jtw51.asp?sql=Select+*+from+jco+Where+rfipco%3D`. The application features a map of Maine counties, a legend, and a data table for the selected county, Penobscot, ME.

Legend:

- County
- State
- Selected county
- More than 5,000
- 501 to 5000
- 1 to 500

Where Penobscot residents work

| Counties | 2000 | 1990 |
|---------------------|--------|--------|
| Penobscot Co. ME | 62,819 | 61,750 |
| Hancock Co. ME | 1,276 | 1,103 |
| Somerset Co. ME | 1,121 | 1,106 |
| Piscataquis Co. ME | 729 | 615 |
| Waldo Co. ME | 677 | 175 |
| Kennebec Co. ME | 473 | 403 |
| Aroostook Co. ME | 380 | 401 |
| Cumberland Co. ME | 173 | 150 |
| Washington Co. ME | 128 | 145 |
| Knox Co. ME | 119 | 22 |
| Outside US | 76 | 21 |
| Middlesex Co. MA | 53 | 32 |
| Suffolk Co. MA | 45 | 12 |
| York Co. ME | 42 | 3 |
| Sagadahoc Co. ME | 39 | 10 |
| Oxford Co. ME | 37 | 88 |
| Hillsborough Co. NH | 35 | 43 |
| Lincoln Co. ME | 33 | 29 |
| Franklin Co. ME | 29 | 53 |
| Harris Co. TX | 24 | 14 |
| Androscoggin Co. ME | 21 | 76 |
| Buckingham Co. NH | 20 | 28 |

Selected county: Penobscot, ME

| Commuting | 1990 | 2000 |
|---------------------------------------|---------------|---------------|
| Working here | 69,809 | 72,131 |
| Live & work here | 61,750 | 62,819 |
| Live elsewhere & work here | 8,059 | 9,312 |
| % workforce commuting in | 12% | 13% |
| Live here & work elsewhere | 4,821 | 5,833 |
| % resident workers commuting out | 7% | 8% |

Source: US Census Bureau

KNIGHT RIDDER
Computer-Assisted Reporting

Highly Specialized “one trick pony” application

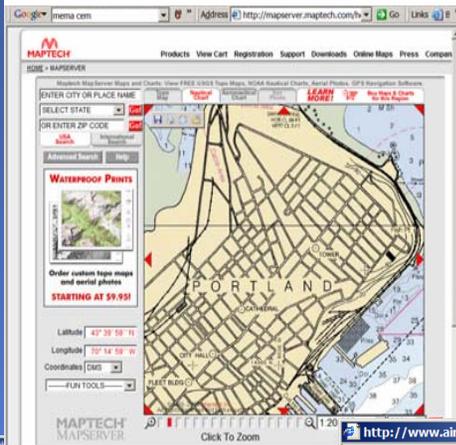
Example of performing one task quickly and well:

Where do workers here come from?

Many Quality Maine (non-county) Map Applications Available **Now**

Maine Counties GIS Forum

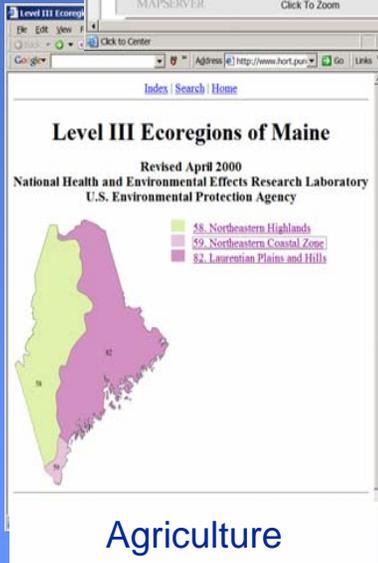
Chart Viewers



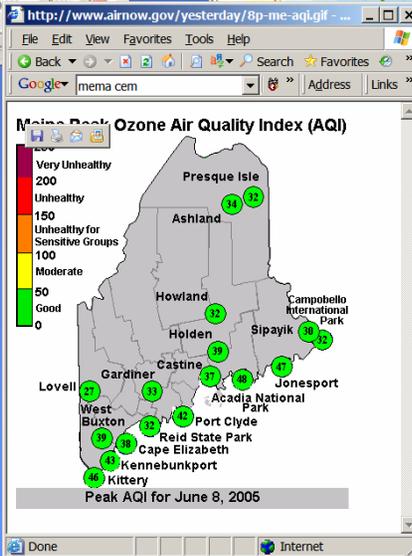
Coastal/Dynamic Monitoring



Municipal



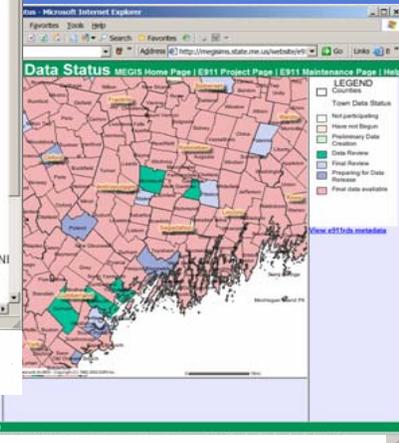
Agriculture



Environmental Monitoring



Wildlife / Fisheries Info



MeGIS Thematics/Status

100+ Links from:
http://www.appgeo.com/clients/MeCounties/MapLinks_ME.htm

Application Demonstration

Albemarle County, Virginia

County of Albemarle - GIS-Web - Map - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Refresh Search Favorites

Google Address <http://beta.appgeo.com/AlbemarleCova/Map.aspx> Go Links B

County of Albemarle, Virginia

SEARCH: GO

HOME | SITEMAP | CONTACT | CALENDAR | FAQs | EMPLOYEES

GIS-Web Navigation

[Welcome and Basic Search](#)
[Advanced Search](#)
[New Address Search](#)
[Location Search](#)
[Go To Mapping](#)
[Full Disclaimer](#)
[Help with Mapping](#)

[Contact](#)

Geographic Data Services
 Room 227
 401 McIntire Road
 Charlottesville, VA 22902
 (434) 296-5832
 FAX (434) 296-4126
 TDD (434) 972-4012
[Email the Department](#)

Zoom Out
 WEST
 EAST
 SOUTH
 NORTH

0 11 Miles

Scale 1" = 57197'

Map Title

Theme [custom] Format 8-1/2" x 11"

[Email Map](#) [Clear Graphics](#) [Create Printable Map](#)

Owner [no target parcel selected]
 Address
 Parcel ID

Overview Legend Target Selection

Click to recenter the main map, or draw a box to set the extent of the main map.

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 Aerial Imagery © 2002 Commonwealth of Virginia
 GIS-Web v0.10.0 [beta] Built by [AppGeo](#)

DIGITAL COUNTIES SURVEY
 2003 & 2004 Top 10 winner

virginia.gov

Trusted sites

**PowerPoint presentation and other Forum materials
are posted at:**

www.appgeo.com/clients/MeCounties