Bp Humanitarian Assistance & Hurricane Response Effort 2005

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Agenda

What we did?

- Humanitarian effort to help our employees

Why we did it?

- Inadequacy of manual methods of mapping

How we did it?

- GIS Technology

What we learned?

- Awareness and Preparedness
- Integration of Applications

Humanitarian Assistant Team

Provide resources and assistance to BP employees impacted by Hurricanes Katrina and Rita:

- Salary continuation
- Supplies: food, fuel, generators
- Cash, Wal-Mart gift-cards for basic replacement needs
- Interest free loans until homeowner's insurance delivers
- Temporary lodging for employee & immediate family
- Clearinghouse for volunteer housing offers

Initial Problem

Manually identifying employee location was proving to be inefficient and frustrating…

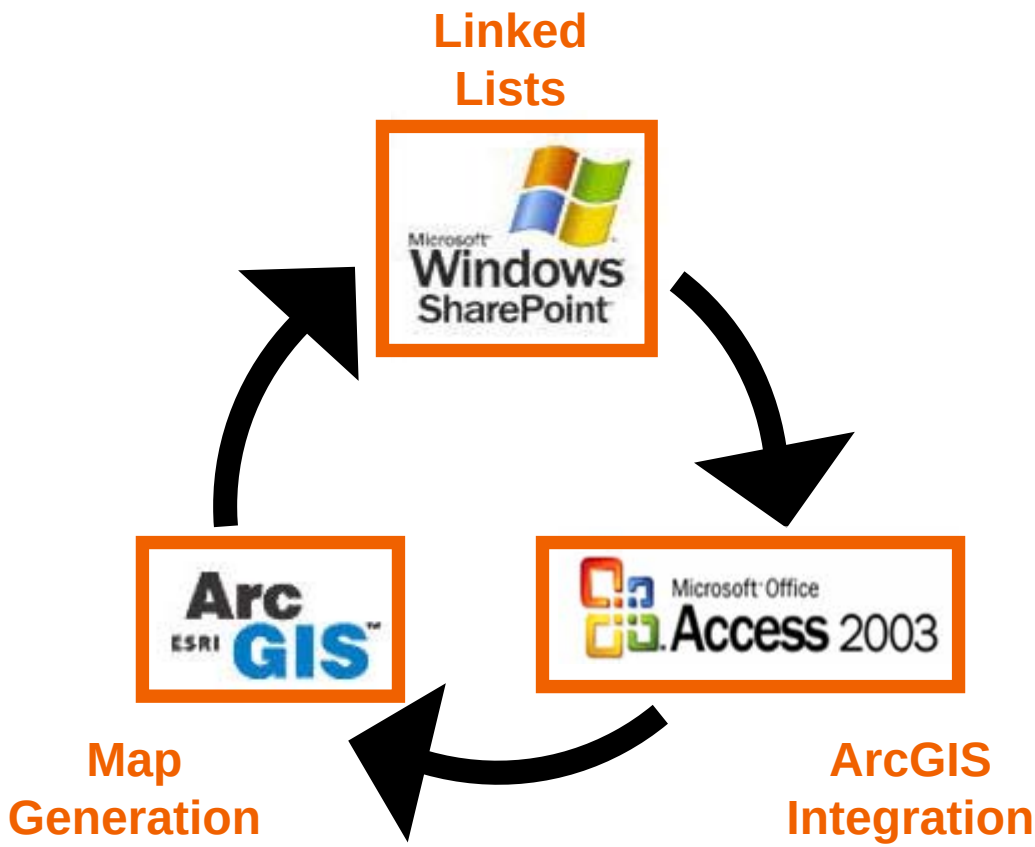
- Road maps & markers
- Prioritize critically impacted employees

Potential benefits of GIS technology was recognized and implementation began ***several days after*** Katrina's landfall

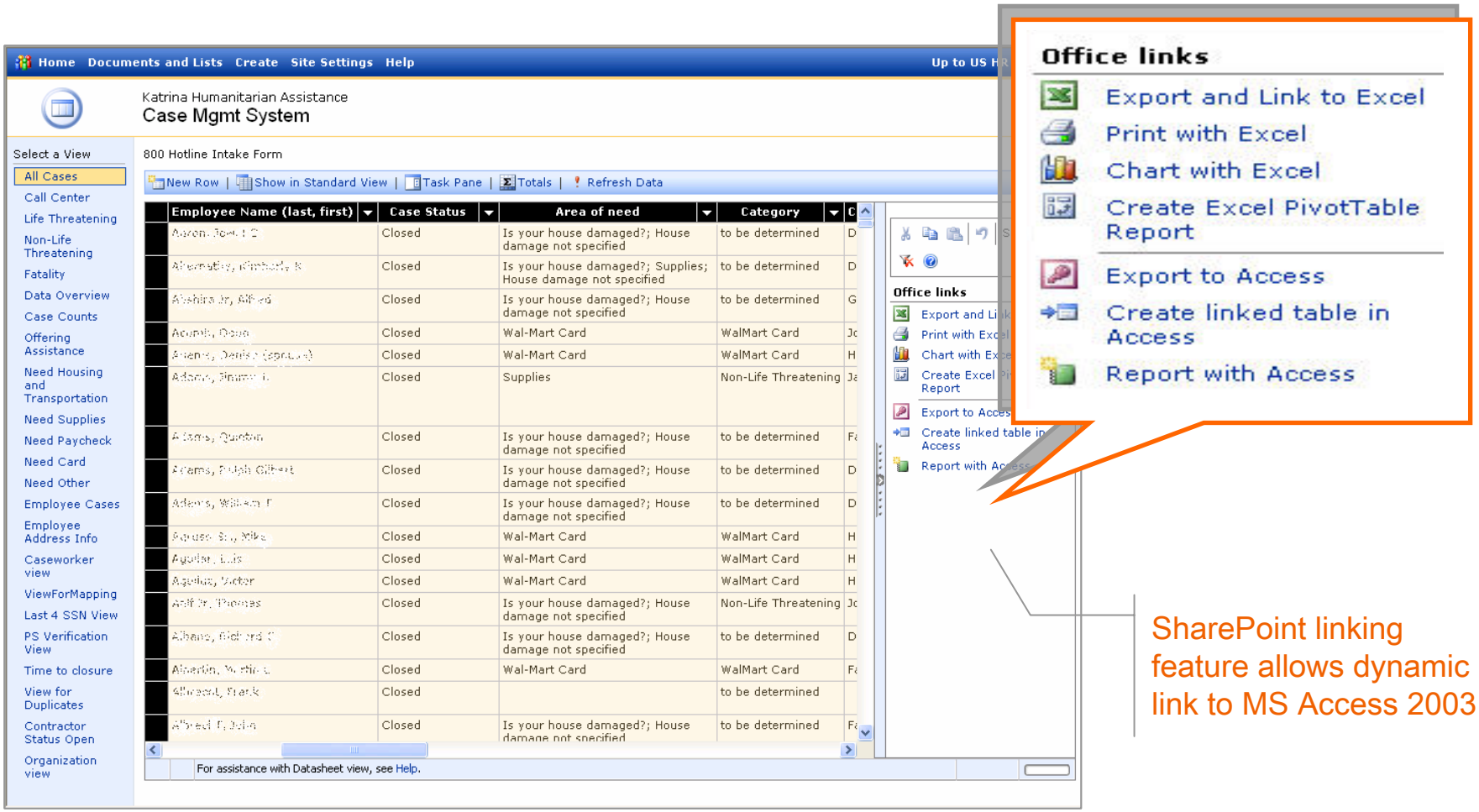
GIS for Hurricane Response

- Visualization
  - Dynamic symbology
  - Integration of a variety of layers
- Dynamic Data
  - SharePoint Lists
  - MS Access Tables and Queries
- GIS Tools
  - Geocoding
  - Geoprocessing
  - Dynamic Mapping

Integration of Applications

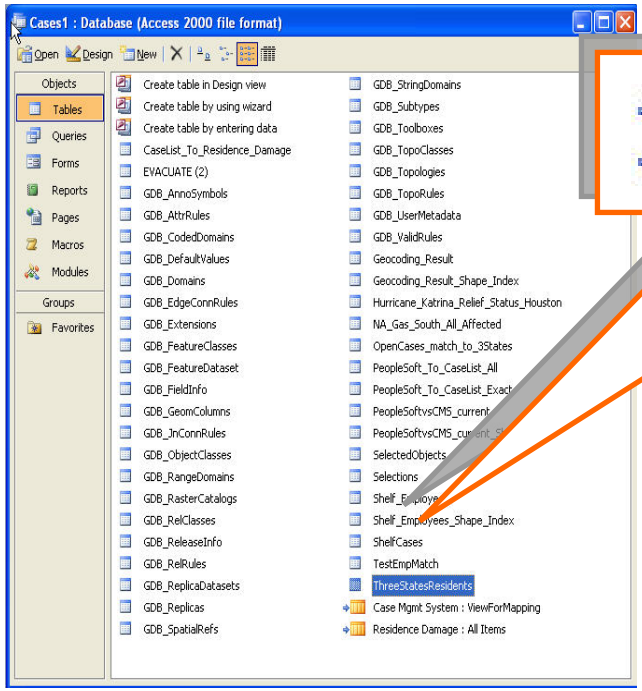


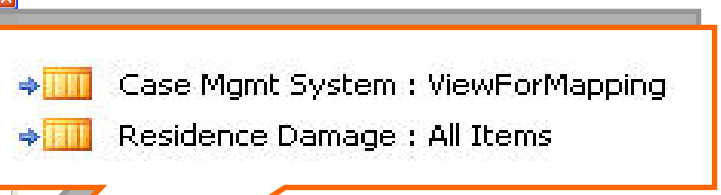
SharePoint to MS Access 2003



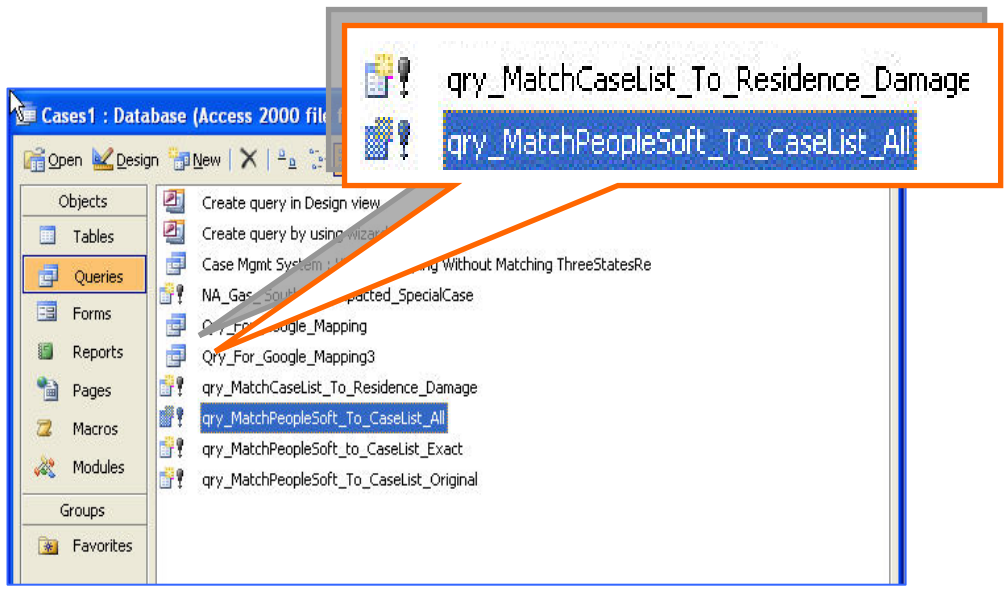
SharePoint linking feature allows dynamic link to MS Access 2003

Dataset Structure in MS Access 2003





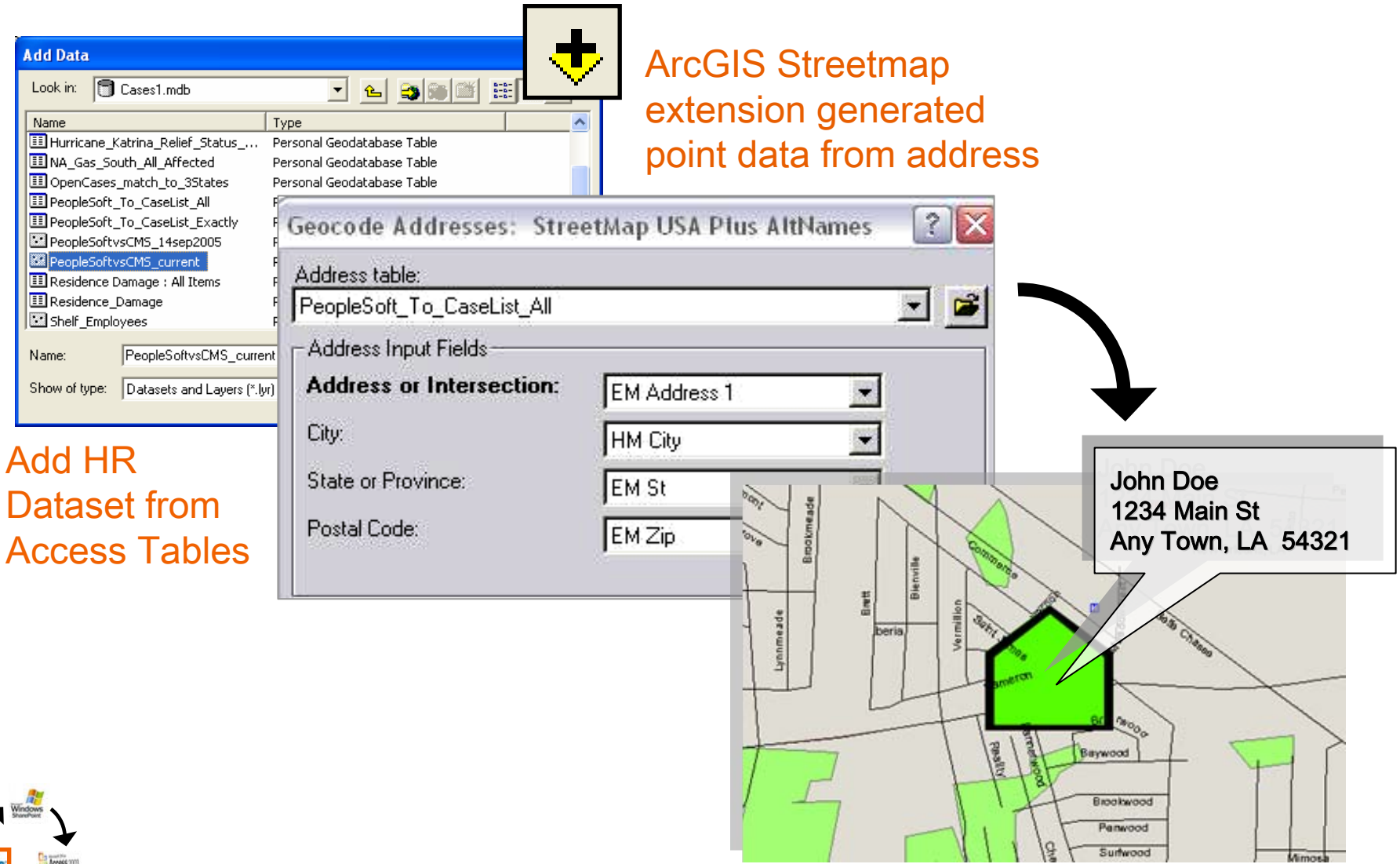
Virtual tables from SharePoint appear in the Table Objects in MS Access and are dynamically linked to SharePoint.



Access Queries:

- Required to import into ArcGIS
- Join SharePoint linked lists and HR tables
- Allow data formatting

Access to ArcGIS Data

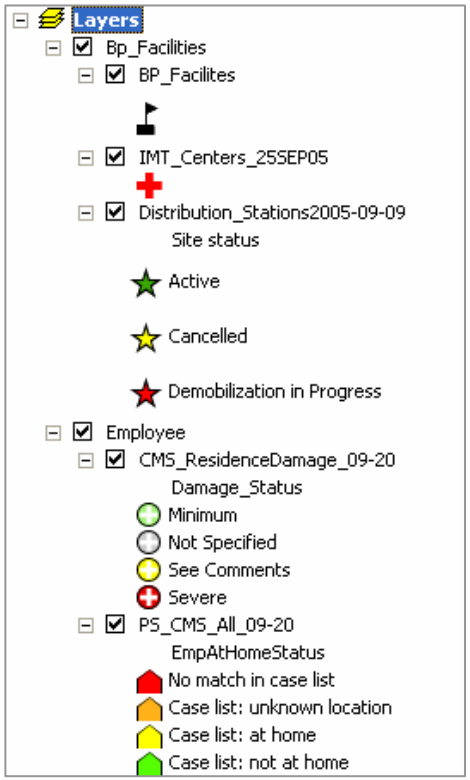


ArcGIS Streetmap extension generated point data from address

Add HR Dataset from Access Tables

ArcGIS Map Layers & Symbology

People & Facilities Layers



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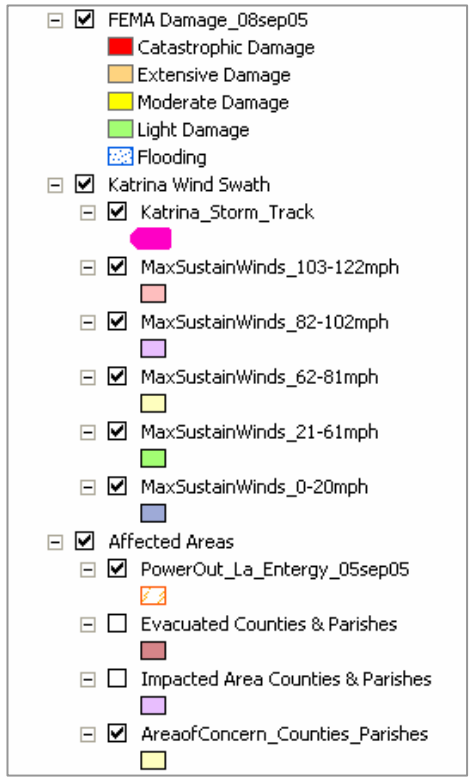
Situation Layers



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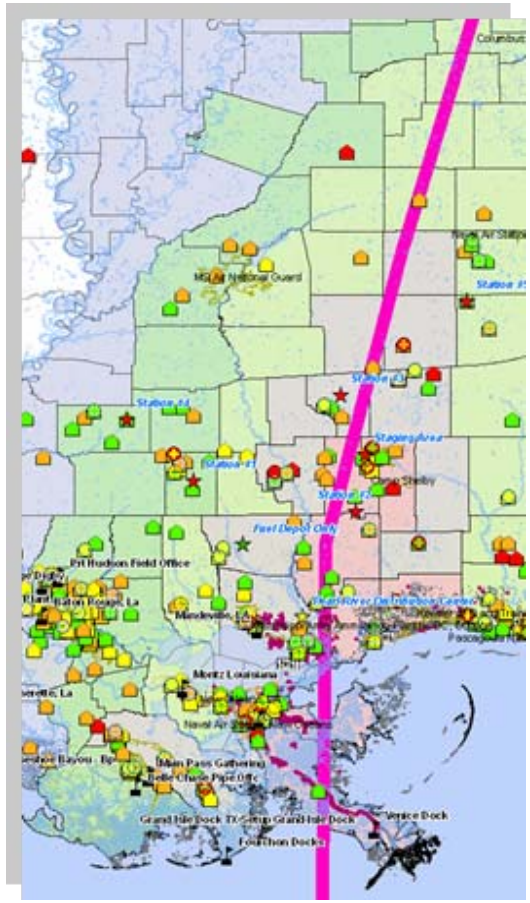
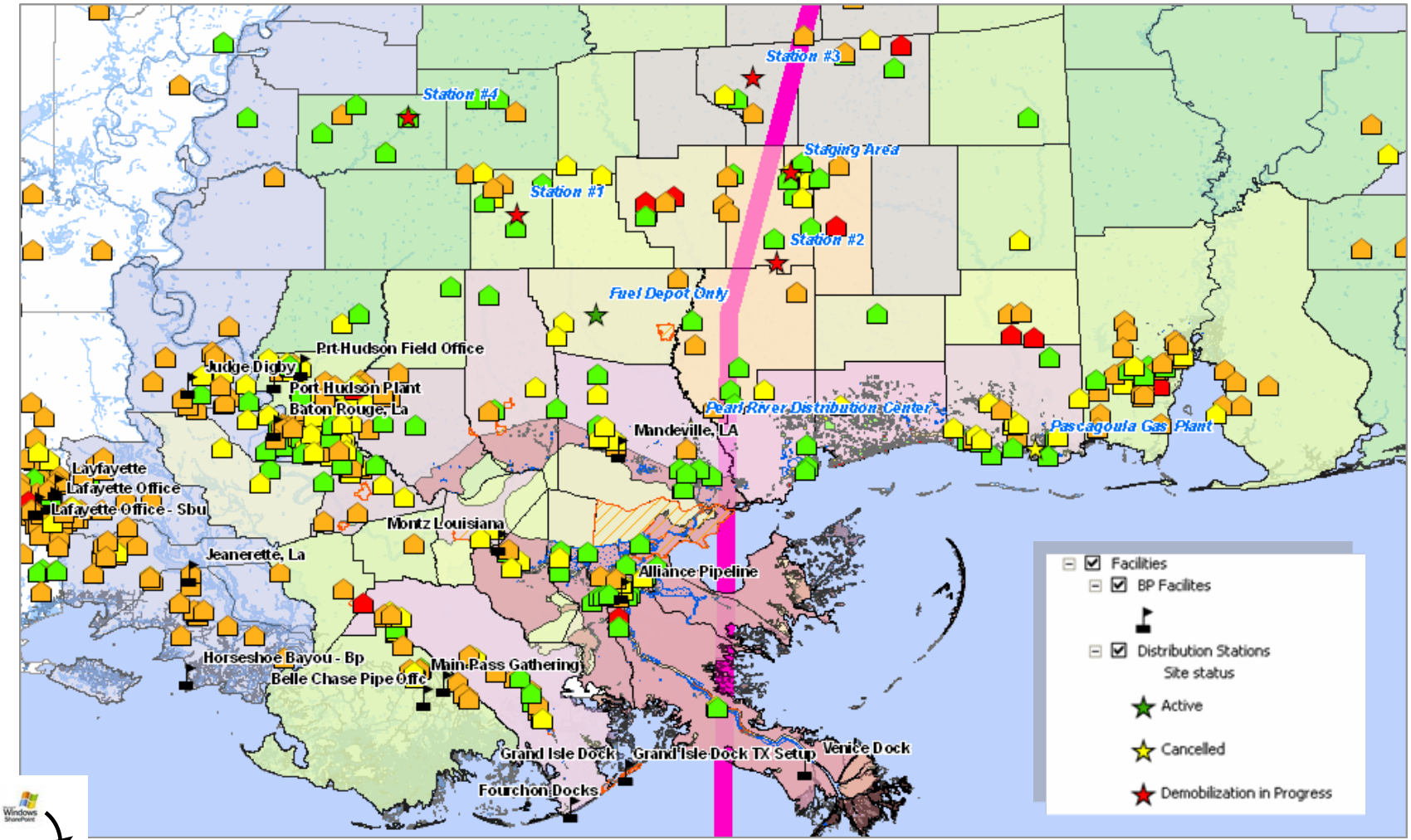
Dynamic Map

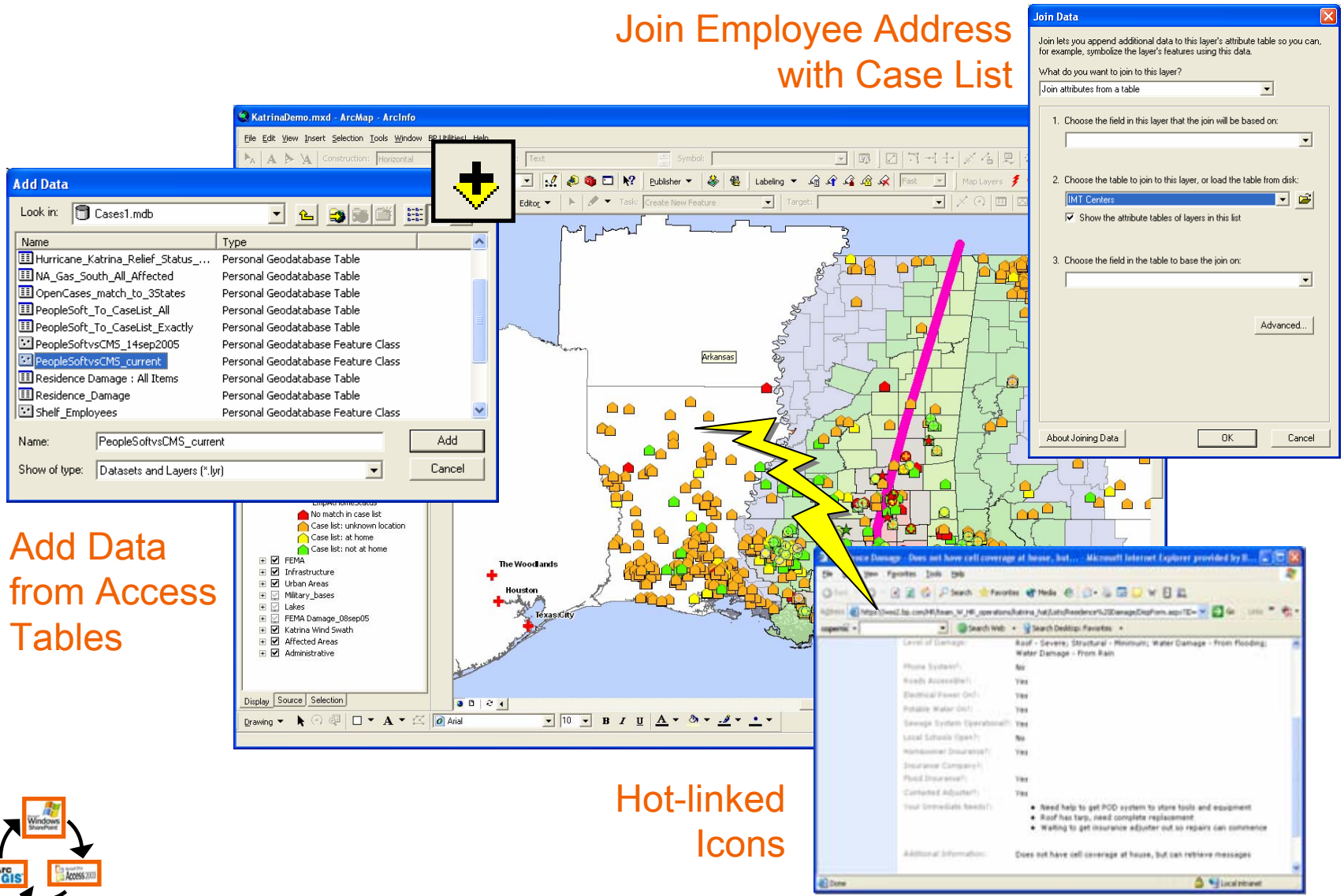


ArcGIS Map Layers



Access to ArcGIS to SharePoint

Join Employee Address with Case List

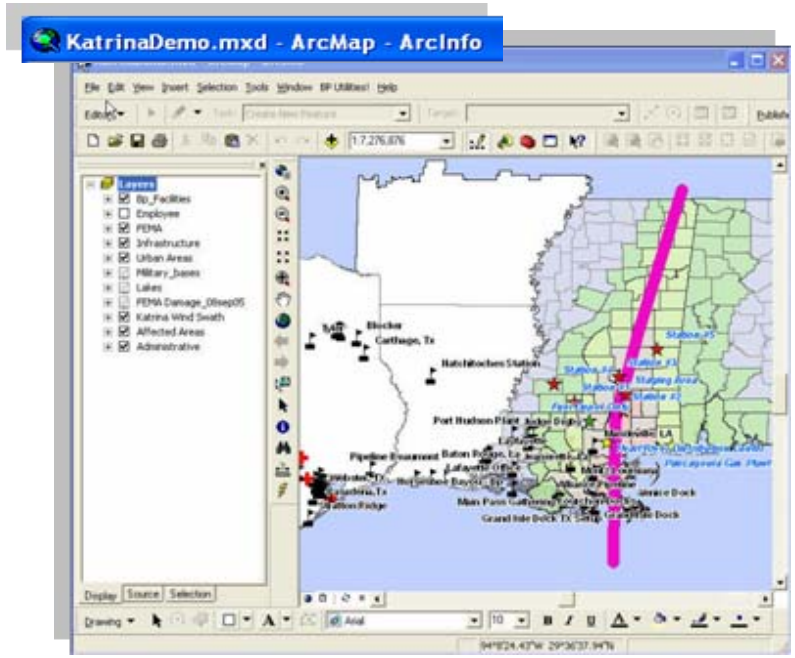


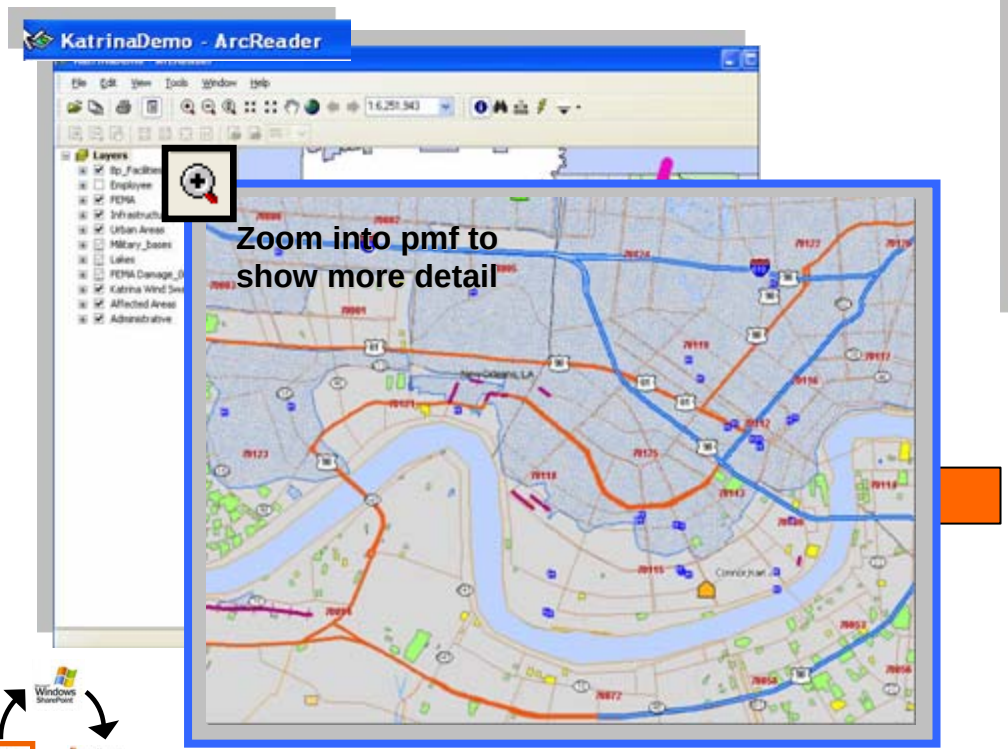
Add Data from Access Tables

Hot-linked Icons

ArcGIS to ArcReader

Map layers are created and grouped as an MXD in ArcGIS





ArcPublisher produces a PMF viewable in ArcReader

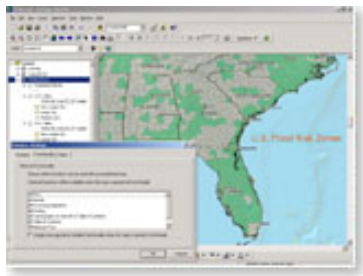
Data Sources

- FEMA Damage assessments
- Navy storm tracks
- USGS elevations
- Entergy, Web power outages
- ESRI base map data (roads, cities, hospitals)

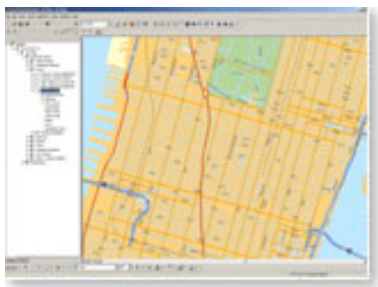
Vendor Support

ESRI Support was Exceptional:

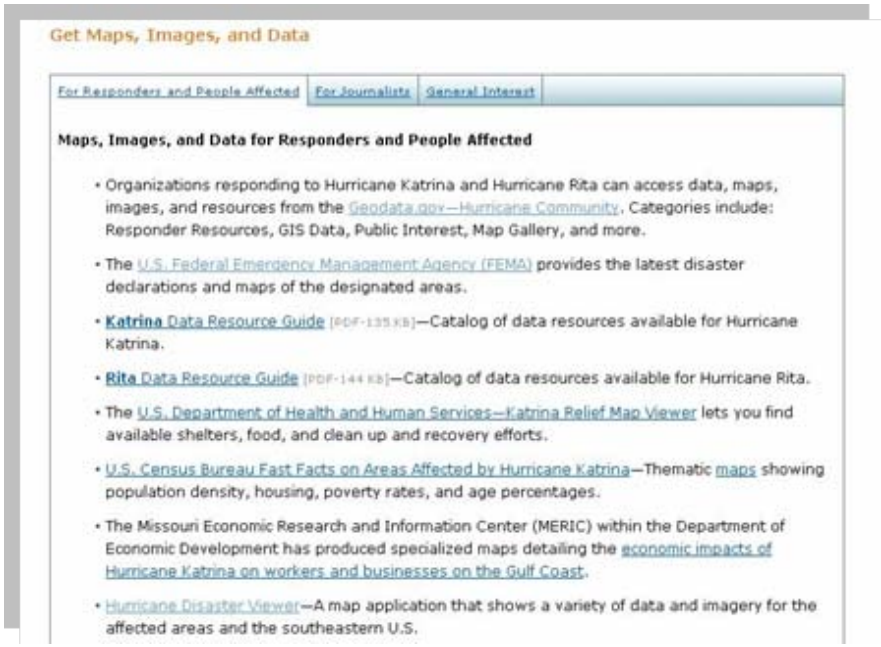
- Provided software
- Web Resources



Publisher Extension



StreetMap Extension



Get Maps, Images, and Data

For Responders and People Affected | For Journalists | General Interest

Maps, Images, and Data for Responders and People Affected

- Organizations responding to Hurricane Katrina and Hurricane Rita can access data, maps, images, and resources from the Geodata.gov—Hurricane Community. Categories include: Responder Resources, GIS Data, Public Interest, Map Gallery, and more.
- The U.S. Federal Emergency Management Agency (FEMA) provides the latest disaster declarations and maps of the designated areas.
- Katrina Data Resource Guide [PDF-135 KB]—Catalog of data resources available for Hurricane Katrina.
- Rita Data Resource Guide [PDF-144 KB]—Catalog of data resources available for Hurricane Rita.
- The U.S. Department of Health and Human Services—Katrina Relief Map Viewer lets you find available shelters, food, and clean up and recovery efforts.
- U.S. Census Bureau Fast Facts on Areas Affected by Hurricane Katrina—Thematic maps showing population density, housing, poverty rates, and age percentages.
- The Missouri Economic Research and Information Center (MERIC) within the Department of Economic Development has produced specialized maps detailing the economic impacts of Hurricane Katrina on workers and businesses on the Gulf Coast.
- Hurricane Disaster Viewer—A map application that shows a variety of data and imagery for the affected areas and the southeastern U.S.

Lessons Learned

- Anticipate the need for GIS *before* the storm.
- Communicate GIS capabilities to leadership team.
- Define unique ID's for datasets.
- Capture accurate data to ensure a clean dataset
- Develop a backup plan.

Humanitarian Assistance Team 2005