Title:
GIS - Driving Force of Land Records System in Beaufort County

Author:
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Presented on Mr. Morgan's behalf by Neil Duxbury and Gary Waters of NovaLIS
Technologies

Abstract:
The driving force behind Beaufort County, South Carolina's integrated land
records management solutions was GIS. The County's enterprise GIS-based
land development tracking and building management system incorporates GIS
with land use activities such as planning, zoning, and building inspections.
Beaufort selected ESRI's ArcGIS software as the platform for their enterprise
GIS. The implementation of the Land Development Office^{TM} solution has
enabled the County to view land information in both spatial and tabular formats;
access the most up-to-date land information with the click of a button; and avoid
duplication of database administration among departments through data sharing.
For example, it has eliminated much of the paper that passed from zoning and
planning departments and the deeds and tax assessor's offices.

Paper Body
During a time of growth, Beaufort County, South Carolina's land management
system faced problems caused by limited accuracy, integration, and workflow
management. In order to overcome these problems, the County implemented a
GIS-centric land management solution.

Beaufort County is the fastest
growing county in South Carolina
with a population of over 125,000.
Stretching 30 miles along the
Atlantic Ocean, the 587 square mile
county includes 64 major islands
and thousands of small islands.
Managing the land information
during this time of growth has been
a priority for the county.

When Daniel R. Morgan, GIS
Division Director, joined the County
nearly 10 years ago, he faced a
variety of land management
challenges. The primary concerns
were:

Location of Beaufort County in South Carolina.
(http://quickfacts.census.gov/qfd/maps/south_carolina_map.html)
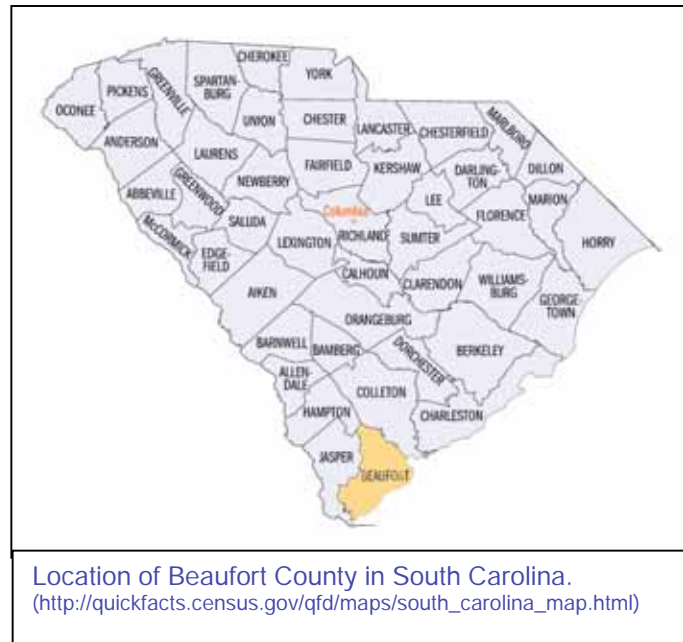
- Accuracy: With only tabular data, maintaining accuracy of the information was difficult. Mis-zoning errors and the assurance of proper address assignments were problematic.
- Integration between departments: Each department was managing overlapping land information in different ways, which made the sharing of information difficult.
- Accountability and Workflow Management: The permitting process, which overlapped several departments with different information systems, was not streamlined. Bottlenecks occurred and customer service suffered.

With the increased growth in the County, it was clear that a new land information system was required.

Beaufort County selected ESRI's ArcGIS™ for their enterprise GIS and NovaLIS Technologies' Land Development Office™, Assessment Office™, Parcel Editor™ and GATE™ products. The integrated system improves sharing of land records data, and coordination in land planning services and assessment.

Land Development Office is a spatially oriented land development system. The information from the attribute database is integrated with spatial information from the Geodatabase whereby spatial changes trigger changes in the related attribute data. Both databases are therefore synchronized.

In the new Beaufort system, address and parcel records are created from ArcMap and create new related records in the Land Development Office application.   In addition, spatially derived attributes from the GIS are applied to the appropriate objects in the Land Development Office database. This all allows a spatially derived cross-reference from the location of address and parcel features.
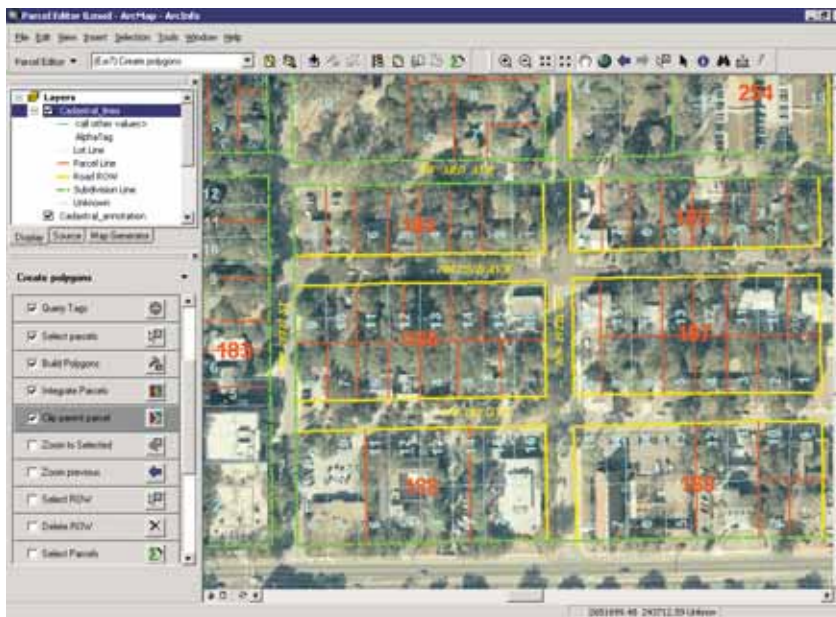
Creating Polygons files with Parcel Editor.

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The system is made even easier to use by the Parcel Editor product.   Parcel Editor provides a step-by-step entry process that guides users from plat submittal to completion.   Subdivisions may be entered using any number of methods including CAD import, digitizing, or COGO entry. GATE, a transitional based system, then integrates the Land Development Office and Parcel Editor products. It manages the spatial changes and maintains edit session Meta data over multiple edit sessions.
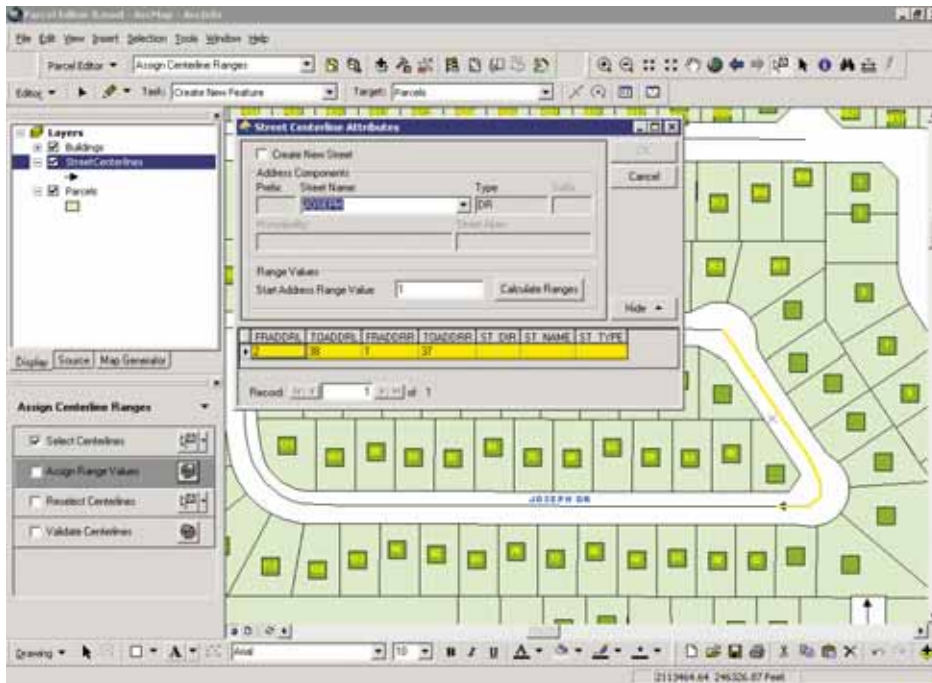
Assigning addresses using Parcel Editor addressing tools.

At this time, Beaufort County is utilizing the Land Development Office product. The Assessment Office product and a web component are in the implementation stage.   Benefits of the Land Development Office product have already been realized. It enables the users to see the data and the map which has minimized errors with mis-zoning and has ensured correct addresses. All of the departments now have the same processes, which improves workflow. Bottlenecks can be easily identified and customers can be better served by offering them an up-to-date status of their requests.   Finally, using the GIS to generate parcel numbers with a GeoPin eliminates human error and ensures accuracy of the data. Beaufort County has overcome its land management problems through the implementation of a GIS-centric solution.

Author Information.
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