Section 1. Goals and Accomplishments

Goal 1: Research Excellence: Develop a nationally recognized research program focused on the application of geospatial technologies to address important issues at a local, regional and national scale.

- Secured new research funding through the NSF, U.S.D.A. (Agricultural Research Service, Ogallala Aquifer Program), and The University of Texas System (University Lands).
- Developed an internal proposal for President Bailey to establish the Center for Geospatial Technology as a decision center - modeled after the NSF Decision Making Under Uncertainty Program (DMUU).
- Worked with colleagues from Stephen F. Austin State University, the University of Texas at El Paso Lamar University and the Texas Natural Resources Information System to secure funding for a federal initiative to support the Columbia Regional Geospatial Service Center System. The Columbia System was funded for $4 million in the federal budget for FY 2009 and the Center is expected to receive approximately $1 million.
- Met with colleagues from the Columbia System and the Texas State Guard at Camp Mabry in Austin to discuss research and education projects being undertaken as part of the federal appropriation.
- Continued development and analysis of the geodatabase for the Ogallala Aquifer in Texas. The results from the Ogallala research have generated considerable scientific and political interest. The research on the usable lifetime of the aquifer suggests a marked decline in center pivot irrigation on the Texas High Plains over the next 20-30 years. The effects of groundwater depletion are likely to be far greater than any effects of projected climate change. Under one likely scenario, we might see a transformation of the economy away from irrigated agriculture toward an economy based on wind energy.
- Completed the development of a geodatabase containing center pivot irrigation systems on the High Plains in Texas. The project was funded through the U.S.G.S. Texas View Remote Sensing Consortium.
- Completed work on the EcoHydro project. Delivered a report and data to colleagues on the project.
- Worked to develop an application to map near real-time data streaming from the West Texas Mesonet.
- Continued work on the development of a geodatabase and applications to manage mineral leases. The project is funded through the University of Texas System - University Lands.
- Began work on a project to map the presence of wind turbines across the Texas High Plains.
- Met with the U.S. Fish & Wildlife Service, National Wetlands Inventory, Region 2 in Albuquerque, New Mexico to discuss future research on playa lakes and continued funding.
- Continued work to develop a GIS data clearinghouse. The effort in 2008 included the development of an ArcGIS Server application to access data and maps.

Goal 2: Human Resources and IT Infrastructure: Actively engage in the development of the human resources and the IT infrastructure necessary to support the research activities of the Center.

- Hired a new administrative assistant to assist in the administration of the Center.
- Secured funds to acquire additional servers and storage as part of the Columbia Regional Geospatial Service Center System.

Goal 3: Education and Training: Promote, facilitate and support the use of geospatial technologies through education and training.

- Employed six undergraduates and three graduate students to work on research projects.
- Hosted three 4-day educational workshops for members of the Texas State Guard. The workshops taught members of the Guard about the use of GPS for emergency response and wide-area damage assessment.
- Taught two ESRI Authorized ArcGIS courses as part of the Texas Natural Resources Information System sponsored technology workshops. The courses were taught at TWDB facilities in Austin.

Goal 4: Engagement and Service: Promote, facilitate and support the use of geospatial technologies within the local community, regional and state agencies, local area schools and the university.

- Invited speaker at the Floyd V. Studer Banquet and Lecture hosted by the Panhandle Archeological Society in Canyon, Texas.
The lecture focused on the connection between the Late Tertiary landscape of West Texas and its influence on the saturated thickness of the Ogallala Aquifer and spatial patterns of modern land use.

- Invited presentation to the Texas Water Development Board in Austin, Texas. Presentation focused on the relationship between land use and recent changes in the saturated thickness of the Ogallala Aquifer.
- Invited presentation at the Texas GIS Forum sponsored by the Texas Natural Resources Information System in Austin, Texas. The presentation described the research being conducted at the Center to map the usable lifetime of the Ogallala Aquifer in Texas.
- Invited presentation as part of the Department of Biological Sciences Seminar Series. The presentation focused on the relationship between land use and the loss of playa wetlands on the Texas High Plains.
- Invited presentation as part of the Castro County CARE Fair, Landowner Education Session. The presentation provided an overview of the relationship between the Ogallala Aquifer and land use in Castro County.
- Invited presentation to the USDA, Agricultural Research Service to provide USDA scientists with an overview of our work on the Ogallala Aquifer, land use and playa lakes on the Texas High Plains.
- Hosted President Bailey as part of a tour of research facilities in the College of Arts and Sciences.
Section 2. Universal Quantitative Data

There are no Universal Quantitative Data for this area/unit.
## Area/Unit Specific Information

### Section 3a. Quantitative Information

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There is No Area Specific Data in Fall Section.
There is No Area Specific Data in Fiscal Year Section.
Section 3b. Qualitative Information.

There is no qualitative information for the current year.
Commentary:
The Center for Geospatial Technology is continuing to grow and is making good progress on the four goals outlined in this assessment.

Implementation Plan:
There are no significant changes in the strategic goals of the Center. Activities in the Center will continue to focus on 1) research excellence, 2) the development of human resources and IT infrastructure, 3) education and training and 4) community engagement and service.