



*Texas*

### ***1. Organizational Approach to GIT:***

The Texas Forest Service (TFS) is a member of The Texas A&M University System, with the agency's state office located in College Station, Texas. (<http://txforestservicetamu.edu>). TFS has 370 employees in 55 offices across the state. GIT usage in TFS is directed toward program-level applications currently, but an enterprise approach within TFS is in sight upon completion of a statewide base map project by the Texas Strategic Mapping Program (StratMap) (<http://www.tnris.state.tx.us/stratmap/index.htm>). TFS has a new Information Resource manager, one computer manager and two GIS coordinators, which provide agency-wide GIS coordination within TFS, as well as application and data development, analysis and distribution. The Lead GIS Coordinator has several duties, including designing and implementing a web-based system that integrates current technologies to facilitate public access to all TFS information resources; developing GIS applications for forest resource development; managing contracted GIS development projects; coordinating GIS efforts with other agencies; and providing GIS training to TFS personnel. High resolution digital orthophotos (1m and 2.5m) in East Texas have been acquired from the Texas Natural Resources Information System (TNRIS) (<http://www.tnris.state.tx.us/>) and distributed to all TFS regional offices by CD-ROM since 2000. Additionally, GIS software has been used by staff in most of the regional offices as a mapping and analytical tool since 1996. GIS is still considered new and exciting to TFS. Work continues on development of its information resource development plan (GIS is a part of the plan). GIS usage at TFS is still at program level and most of its data come from public domain and cooperating state agencies such as TNRIS, which manages the state's geospatial data clearinghouse for both digital and analog data (<http://www.tnris.state.tx.us/>). GIS will play a more important role as a decision-making tool to help TFS staff manage and analyze forest resources in the foreseeable future (including Internet GIS applications), as described below.

### ***2. GIT Applications and Data Utilized:***

TFS is expanding its GIT efforts. It has been taking black and white aerial photographs (15-minute quadrangle) of the forested region of East Texas since 1979. These photos are available for purchase. GPS is used to geo-reference the photographs. In one current project at TFS, light detection and ranging system technology (LIDAR) and digital orthophoto color infrared images are being used to develop a high-resolution dataset to assist in determining **land cover**, vegetation, and the heights of buildings. This high-resolution dataset will be merged with field data to develop a detailed forest classification dataset for use with GIS in **urban** areas, including digital cover maps. In another project, a practical protocol is being developed to perform rapid forest resources damage assessment for natural resource disasters and **emergencies** in Texas. In this project, GIS will be used as a tool to map and analyze field data collected by TFS airplane and ground crew. Other TFS projects that involve GIS include the integrating of GIS with statewide Forest Inventory and Analysis (FIA) program data to aid in **forest characterization**, and the Keetch-Byram Drought Index, which was specifically developed to equate the effects of drought with potential **fire** occurrence ([http://txforestservicetamu.edu/fire\\_protection/keetch\\_byrum\\_drought\\_index.html](http://txforestservicetamu.edu/fire_protection/keetch_byrum_drought_index.html)). In addition, TFS is developing easy access to valuable forest resource information for a variety of users in the state through Internet GIS applications. To reach all these goals, ESRI based GIS software (including ArcInfo, ArcIMS, etc.) and Microsoft SQL2000 will work as the GIS enterprise system platform for TFS in the near future.

### ***3. Statewide and Other GIT Linkages:***

The Office of GIS Coordination at the Department of Information Resources (DIR) (<http://www.dir.state.tx.us/>) serves as the lead for GI/GIT in the state, while TNRIS serves as the state

clearinghouse for both digital and analog data (<http://www.tnris.state.tx.us/>). DIR guides and supports appropriate use of GI/GIT by setting policies and technical standards, by integrating GI/GIT planning into the state's overall IT planning, and by providing administrative support to the Texas Geographic Information Council (TGIC). The TGIC is the primary GIS coordination group in the state and TFS is one of its active members. Since TFS is a member of the Texas A&M system, it has ready access to GIS/RS expertise at Texas A&M University and can acquire software (ESRI and Microsoft) through the university site license program.