



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

Forestry functions in Arizona are conducted by the Arizona State Land Department (ASLD) (<http://www.land.state.az.us/>). ASLD manages 9.3 million acres of State Trust Land and began to use GIT with the introduction of the LANDSAT program in the 1970s. The Commissioner of State Lands is the State Forester. Within the ASLD are the Fire Management Division (FMD) (<http://www.land.state.az.us/asld/htmls/fire.html>), the Natural Resources Division (NRD) ([http://www.land.state.az.us/asld/htmls/natural\\_99.htm](http://www.land.state.az.us/asld/htmls/natural_99.htm)), and the Resource Analysis Division (ARAD), as described below, which serves as the official statewide GI/GIT center according to state statute. Administratively, Arizona is unusual because fire is such a large part of its forestry activities. As a result, forestry programs take place within the context of the state's fire division, rather than the reverse. Under this arrangement, the State Lands Commissioner/State Forester defers to the Director of FMD on fire issues.

FMD and NRD are modest users of GIT at this time. Applications within both Divisions are on an individual project level and neither division has any dedicated GIT personnel. FMD's Director authorizes, prioritizes, monitors and evaluates all fire-related projects, including use of GIT. He is also directly involved in some individual projects. FMD has 23 staff people that use GIT on a part time basis, which is primarily GPS use at this time. The Systems Administrator for FMD works on GIT issues part-time, and has several responsibilities in addition to GIT. Eleven FMD district office staff use GPS and GIS in district offices in Tucson, Flagstaff and Phoenix. In addition, GPS and GIS are used by two staff located in each of two field offices that are satellites for the Flagstaff and Phoenix district offices, and eight staff people in FMD's Central Dispatch office in Phoenix. The Northern Arizona University (NAU) School of Forestry provides some assistance to FMD concerning GIS use, computer decision support systems, and remote sensing (RS).

In comparison, NRD has 17 people throughout the Division that utilize GIT, with 12 staff people using GPS and GIS in the Phoenix office and five other staff persons shared among three District offices. NRD's Director directs and oversees all natural resource-related programs and issues, including the use of GIT. Neither division has specific policies concerning GIT. Issues regarding GIT use for both divisions center on funding. FMD needs increased funding for additional staffing, while NRD needs funding to purchase additional equipment.

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

ASLD initiated use of GIT over 20 years ago. Early efforts included use of satellite imagery with the U.S. Forest Service (USFS). FMD now uses GPS in both regional and central offices to pinpoint **fire** and aircraft locations. FMD has utilized LANDSAT data and GIS to help coordinate the combating of wildfires by monitoring fire size, location and other factors. However, GIS use within FMD has decreased due to recent budget constraints. FMD formerly used historical fire occurrence mapping and forest fire inventory data statewide. This system is not currently operational due to Oracle database updates and incompatibilities between the systems. FMD also has used LANDSAT for statewide land cover analysis and vegetation modeling of entire state except the Navajo Nation, and Yuma and LaPaz counties. However, this capability has also been sidelined because of recent system incompatibilities, and is not expected to be updated in the near future. FMD has also used GIS with USFS for insect and disease mapping and to help manage digitized aerial flight routes in **forest health** applications. The Arizona Game and Fish Department (AGFD) uses GIS for several **wildlife** applications, and plans to use imagery to support its efforts to inventory and study old growth forests. As mentioned above, FMD receives assistance from NAU in its GIS use, computer decision support systems and remote sensing. However,

NRD does not work with NAU in this regard and its sole application of GIT is its use of GPS and GIS on **state and private lands** for its Parcel and Land Mapping System (PALMS). This system incorporates a customized ArcView™ 3.1 GIS interface, is available on all NRD desktop computers, and is networked to ASLD's other databases for access to numerous data layers. Other parts of ASLD use GIS, particularly for **state lands management**.

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

The Arizona Land Resource Information System (ALRIS) (<http://www.land.state.az.us/alris/>) and Arizona State Cartographer's Office (SCO) ([http://www.land.state.az.us/agic/web\\_n/web/sco.htm](http://www.land.state.az.us/agic/web_n/web/sco.htm)) are located in the ASLD's Administration and Resource Analysis Division (ARAD). Together, ARAD serves as the official statewide GI/GIT center according to state statute. Selected duties include maintaining a clearinghouse of information, described below, and a central repository for map and imagery products and digital cartographic data. ARAD also works with other state, federal and local agencies to coordinate activities in Arizona relating to the collection, compiling, producing and processing cartographic materials, satellite imagery and land resource information. The Arizona Geographic Information Council (AGIC) serves as Arizona's primary forum and omnibus group for GI/GIT coordination (<http://www.land.state.az.us/agic/agichome.html>). AGIC's duties are to evaluate GIT user needs, help define standards and categories of data, coordinate map production and data development, and study issues and recommend actions in this regard. Although ASLD acts as administrative staff for AGIC and provides technical support for some of its projects, FMD and NRD are not formally associated with AGIC or its efforts at this time.

The Arizona Node of the National GeoSpatial Data Clearinghouse (<http://130.11.52.184/>) provides access to over 550 metadata records and includes metadata from over five government agencies. The Clearinghouse is currently managed through a cooperative agreement between the SCO and the U. S. Geological Survey's (USGS) Biological Survey at the University of Arizona. In addition, ALRIS manages and provides a statewide database for use with GIS.