



New Jersey

1. Organizational Approach to GIT:

The New Jersey Division of Parks and Forestry (<http://www.state.nj.us/dep/forestry/parknj/divhome.htm>), located in the Department of Environmental Protection (NJDEP) (<http://www.state.nj.us/dep/>) has an enterprise-wide approach to GIT, integrating it across a wide range of forestry applications. In addition, NJDEP has had an enterprise-wide approach to GIT since 1986. The Division is self-sufficient in its GIT use, makes extensive use of GIS, and supports GIS platforms open to the public in all regional offices. Although its GIS Specialist is the Division's only full-time dedicated GIT staff, all other staff are thoroughly trained and use GIT on a regular basis. The GIS Specialist supervises large scale projects and provides advice on others. No formal GIT policies exist, but the Division does have written standards and guidelines for its GIT products. Specifically, all information generated must be in digital format and is routinely posted on an Intranet for access by other state agencies. This protocol has greatly decreased the response time when seeking project approvals. A challenging problem is the need for hardware updates in the Division's effort to upgrade to ArcGIS 8.1.

2. GIT Applications and Data Utilized:

The Division's leading applications of GIS and GPS include **forest characterization** via forest inventory, **state lands** management, silviculture, forest restoration activities, **ecosystem** management, **forest health** monitoring, and **fire** applications involving prescribed burning and wildfire tracking and mapping. For wild fires larger than 100 acres, the Division uses GPS equipped helicopters; smaller fires are handled by vehicles and ground personnel with GPS units. Digitized orthophotos are used for prescribed burning efforts. The Division also makes use of Natural Resource Conservation Service (NRCS) SURGO digital soils data, 3-meter resolution panchromatic, and 1-meter false color infrared digital orthophotos. NJDEP and others have funded participation in the U.S. Geological Survey's (USGS) National Aerial Photography Program (NAPP) and NJDEP is currently contracting a new flight for 2002. NJDEP provides many of these data sets on CDs for the cost of reproduction.

Additional GIS and GPS projects involve **forest health** applications, such as the Bacterial Leaf Scorch (BLS) research project and the Community Forestry Assessment (CFM) project. The BLS project incorporated a statewide aerial and ground survey, taking over 1300 samples to assess the extent and severity of the disease and address the wood-lot issue. The CFM project is an on going health assessment of New Jersey's **urban** forests, which started in 1994. The Division also uses GIS for **education** purposes by conducting periodic training sessions for employees, which are also open to the private sector.

The Division coordinates with other DEP and state programs, the U.S. Forest Service (USFS), nonprofit groups and universities. Current examples are the Division's work with the USFS on the National Hierarchical Framework of Ecological Units (NHFEU), and its efforts in the New York-New Jersey Highlands study. This study uses GIS in a **land cover** application to evaluate land use change patterns and the relation to ecological land types. Data utilized include digital vector coverages for the initial base data, and LANDSAT imagery to address updated conditions.

As mentioned above, NJDEP has been an enterprise-wide user of GIT for over 15 years. NJDEP has used remotely sensed (RS) data to support **watershed** planning and management. In 1995, a NJDEP project evaluated the effectiveness of LANDSAT TM data used to provide an overview of water quality in Barnegat Bay. After comparing satellite data with field samples in the bay, it was determined that the imagery could supplement and reduce the work required of traditional water quality monitoring efforts. NJDEP has long term plans to make more extensive use of satellite imagery. It is currently working with

the Rutgers University Center for Remote Sensing and Spatial Analysis (CRSSA) using 1-meter imagery for land use and **land cover** updates.

NJDEP staff is also using GPS to accurately locate everything from monitoring sites to public water supply wells to freshwater **wetlands**. Over the past several years a pool of 22 Trimble GPS units have been purchased, a training program established, and a base station with electronic bulletin board access has been installed. A massive GPS project concerning **private** facility regulation is presently underway, and will fill a major gap in environmental data. This project will create a comprehensive statewide database through which all permits associated with regulated entities, such as industry and gas stations, will be incorporated into a GIS and tracked. This data information will provide a spatial perspective of regulated facilities in context to the surrounding community.

3. Statewide and Other GIT Linkages:

The New Jersey Office of GIS (NJOGIS) serves as the official statewide GI/GIT coordination entity in the state (<http://www.state.nj.us/ogis/>). The office is located in the Office of Information Technology (OIT), and was created in 1999 to guide the development of GIT capacity in state agencies and ensure that GI can be accessed across all State agencies. New Jersey has three primary State GI/GIT coordinating groups, including the State Agency GIS Team, the Geographic Information Council, and the State Mapping Advisory Committee (SMAC). The Team prepared an agreement that sets forth several essential principles and actions for State agencies to work cooperatively to implement GIS technology and share geographic data. The Council serves as an umbrella organization for all GI/GIT stakeholder groups in New Jersey. SMAC is a volunteer group representing all relevant stakeholders and conducts a variety of GI/GIT coordination activities, and is also recognized by the Federal Geographic Data Committee (FGDC) as a Cooperating Group in building the National Spatial Data Infrastructure (NSDI) (<http://www.fgdc.gov/stakeholders/partnerships/partrost.html>). The Division's GIS Specialist attends meetings regularly with state GIS groups, including SMAC and others.

The New Jersey Spatial Data Clearinghouse web site provides users with on-line access and search functions for GIS data and applications (<http://njgeodata.state.nj.us>). Over 650 users are currently registered and 450 GIS data layers are documented. Managed by NJOGIS and affiliated with FGDC and NSDI, the goal of the site is to provide New Jersey citizens and the GIS community with a comprehensive site to find and share GIS information, spatial data, interactive mapping applications and resources.