

RESEARCHES ON THE OPTIMAL METHODOLOGY FOR CREATING GEOGRAPHIC DATABASES FOR FOREST MANAGEMENT PLANNING

MARIUS DUMITRU, DAN NITU, ION BUDICA

Forest Research and Management Institute, Bucharest, Romania

ABSTRACT

Steps for creating GIS databases for Forest Management Planning:

1. Scanning of forest management planning maps, equipped by forest planning specialists. Output: cartographic digital database in raster form
2. The raster maps are projected into local coordinate system (Stereographic 1970)
3. Color strata, corresponding with cartographic elements, are extracted for an efficient vectorisation
4. Cartographic feature extraction, from raster maps, into vector form
5. Digital cartographic database and management planning attributes integration
6. Database management:
 - 6.1. Geodatabase querying
 - 6.2. Forest Management planning maps and plotting
 - 6.3. Digital terrain model
7. CD recording of the geodatabase

Complex exploitation of the geodatabase within GIS offers huge possibilities including:

fast data query, extraction and analyze, rapid localization of forest management units according to specific criteria, thematic maps (including forest management planning maps) build, 3D models, etc.

Keywords: Scanning, georeferencing, vectorisation, querying, plotting, geodatabase, GIS, DE, DTM