

1990 LAND USE AND LAND COVER

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

DATA LAYER NAME: LU90
DATA LAYER DESCRIPTION: 1990 land use/cover categorized according to the Florida Land Use and Cover Classification System (FLUCCS). The features were photointerpreted from aerial photographs and tied to 1:24,000 USGS quadrangles.
SECTION/DEPARTMENT: Mapping and GIS/Resource Data Department
REVISION/DATE: 2.0/January 2000

These data were not collected under the supervision of a licensed Professional Surveyor and Mapper.

Use caution when performing change detection between this data layer and the 1995 land use and land cover data set. These data layers were generated using different source materials, with different positional accuracy, and using different mapping methodologies. Attempts to conduct change detection analysis between these two data layers will result in false changes and silver polygon features.

LINEAGE

Description of Source Material(s)

Name: USGS 7.5 quadrangles
Scale (ratio): 1:24,000
Projection: UTM or Polyconic
Datum: NAD 27
Source Media: Color mylar
Condition of Media: Excellent
Date of Materials: Dates range from 1954 - 1989
Update Schedule: Unknown

Creator Organization or Individual

Name: USGS, Eastern Mapping Division
Address: National Center, Reston, VA
Phone: 1-800-USA-MAPS

Comments: None

Name: Color infrared aerial photography
Scale (ratio): 1:40,000 for Polk, Hardee, Highlands, Desoto, eastern

Hillsborough, Manatee, Sarasota and Charlotte counties
1:24,000 for the remainder of the District

Projection: Photographic
Datum: Not Applicable
Source Media: Color infrared transparencies
Condition of Media: Fair to excellent
Date of Materials: Dates range from December 1989 and January 1991
Update Schedule: Every five years

Creator Organization or Individual

Name: Southwest Florida Water Management District
Address: 2379 Broad Street, Brooksville, FL 34609-6899
Phone: (352)796-7211

Comments: None

Derivation Methods for Data

Pre-automation Compilation

Description: Land use and land cover was photointerpreted from 1:24,000 and 1:40,000 color infrared aerial photography by Geonex staff as part of a contract with the District. All photointerpreters had prior experience in land use/cover or wetland mapping. The Florida Department of Transportation's Land Use, Cover and Forms Classification System (FLUCCS) was used for all mapping. Uplands were mapped using a 5 acre minimum mapping unit and using FLUCCS Level II categories. (In some areas there are uplands mapped to Level III.) Wetlands were mapped using a .5 acre minimum mapping unit (where possible) and using FLUCCS Level III categories. Upland features such as transportation and power line corridors were mapped where they were significantly different from the surrounding land uses and covers. Streams were mapped wherever they could be defined as a polygon using a 6XXX drafting pen at 1:24,000.

Ancillary materials used during the photointerpretation included land use maps for most counties and major urban areas, USDA/NRCS county soil atlases and National Wetland Inventory maps. Additionally, District and Geonex staff made pre- and post-interpretation helicopter overflights of selected areas.

The land use and land cover was mapped from the center portions of the color infrared stereo-pairs to transparent mylar overlays. Adjacent mylar sheets were then edgematched during the photointerpretation process. The linework on the mylars was recompiled to stable 1:24,000 quadrangle basemap using Bausch and Lomb Zoom

Transfer Scopes. The resulting 1:24,000 land use/cover maps were then edgematched between quadrangles and prepared for digitizing.

Date of Compilation: September 1990 and November 1991

Creator Organization or Individual

Name: Geonex, Inc.
Address: 8950 Ninth Street North, St. Petersburg, FL 33702
Phone: (727)578-0100

Comments: None

Automation Methods

Description: Mylar transparencies containing linework and polygon attributes were scanned at 400 dots per inch using the ANA Tech scanner. The Eagle software was then used to convert the resulting raster images into vector linework. Additional edits were made using Arc/INFO version 5.0 software and Altek back-lit digitizing tables.

A minimum of four control points per quadrangle were used. These points were located at the four corners of the USGS quadrangles. If necessary, additional points were located at latitude and longitude tics on the quadrangles.

The vectorized linework was then transferred to Arc/INFO and cleaned with a fuzzy tolerance of 1 meter. Any remaining errors were fixed using ArcEdit. During this process linework between adjacent sheets were coordinate edgematched.

Polygon labels were created using the Arc/INFO CREATELABELS command and attribution was done using ArcEdit. Visual inspections and the DISSOLVE command was used for quality control.

Date of Automation: September 1990 to November 1991

Creator Organization or Individual

Name: Geonex, Inc.
Address: 8950 Ninth Street North, St. Petersburg, FL 33702
Phone: (727)578-0100

Equipment Used: The ANA Tech Eagle scanner was connected to an Intergraph 340 computer and was operated at 400 dots per inch. The Altek table has a resolution accuracy of .001 and tolerance of .003 inches.

Software Used: The Eagle software was used to operate the ANA Tech scanner. Arc/INFO version 5.0 was used to TRANSFORM and edit the data.

Comments: None

COMPLETENESS OF FEATURE CAPTURE

Method: Visual inspection of overlay on a light table of check plots with source materials.

Value: 100% of all linework found on the original photointerpretation maps was captured.

Date Determined: Checks were made between August of 1990 and November of 1991, depending on the particular map sheet.

Comments: None

POSITIONAL ACCURACY

Method: Overlay of land use and land cover maps on 1:24,000 USGS quadrangle maps and comparison of relatively well-defined features such as shorelines. From this check and a knowledge of the mapping procedures, a deductive estimate was made.

Value: Estimated to be 13 - 100 meters

Date Determined: Checks were made between August of 1990 and November of 1991, depending on the particular map sheet.

Comments: The goal of the project was to meet National Map Accuracy Standards for 1:24,000 maps. Errors introduced during drafting and digitizing are not known, but comparison to quad sheets indicate that these are small. Additionally, land use and land cover boundaries are inherently "fuzzy", or poorly defined. Visual inspections with digital orthophoto quadrangles for Plant City West and Myakka City Northwest indicate that positional accuracies of linework ranges from 13 to 100 meters. Shapes and sizes of land use/cover polygons are generally correct and therefore it is expected that for a given geographic subset of the data, acreage figures should be correct.

ATTRIBUTE ACCURACY

Method: Visual inspection of overlay on a light table of check plots with source materials.

Value: It is estimated that the classification accuracy is approximately 90% for Level II classes.

Date Determined: Checks were made between August of 1990 and November of 1991, depending on the particular map sheet.

Comments: A systematic sample of a minimum of 35 points per Level II Land Cover class was generated and verified using photo- and ground inspections. Based on these samples and an evaluation of the resulting error matrix, no classes were found to be less than 90% accurate.

ATTRIBUTE DESCRIPTION

Attribute Name	Attribute Description
FLUCCSCODE	Land use and land cover classification as defined in the Florida DOT's FLUCCS classification system.
DATESTAMP	The date the feature was last edited or entered into the map libraries by SWFWMD staff.
LEV1	Very general classification of land use/cover as defined in the Florida DOT's FLUCCS classification system.
LEV2	Land use classification more detailed than Lev 1 as defined in the Florida DOT's FLUCCS classification system.
LEV3	Detailed classification of Land use/cover as defined in the Florida DOT's FLUCCS classification system.
LEV4	Very specific classification of Land Use/cover as defined in the Florida DOT's FLUCCS classification system.