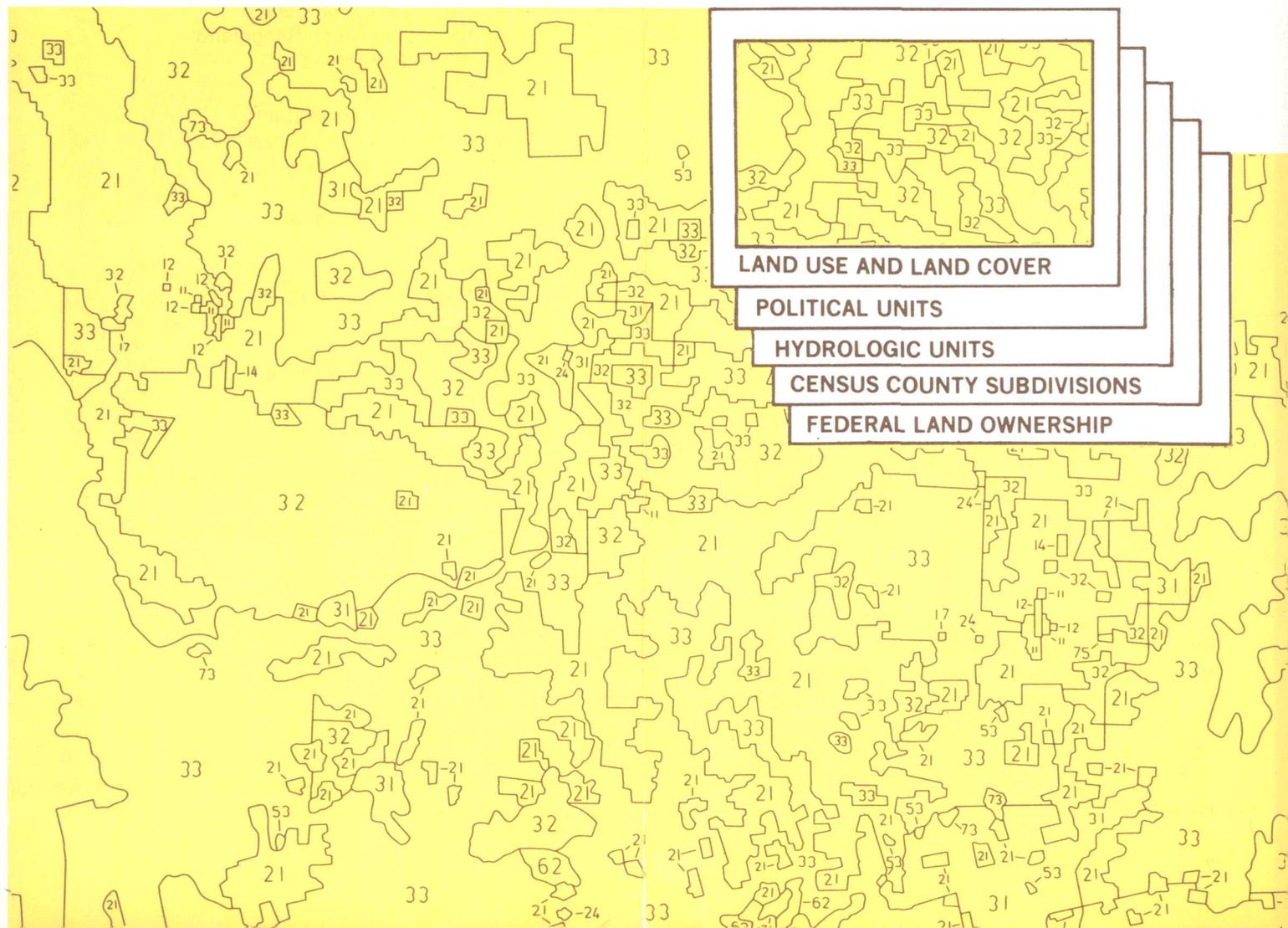




As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

Land Use and Land Cover and Associated Maps



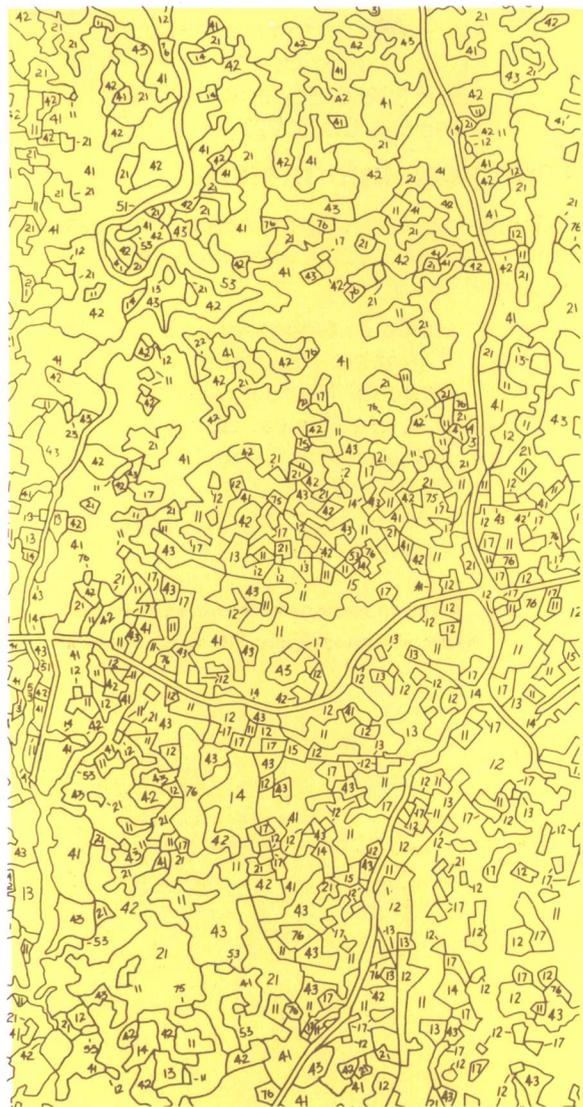
Land Use and Land Cover and Associated Maps

The Geological Survey is compiling land use and land cover and associated maps for the entire United States. *Land use* refers to man's activities which are directly related to the land. *Land cover* describes the vegetation, water, natural surface, and artificial constructions at the land surface. These maps will help satisfy a longstanding need for a consistent level of detail, standardization of categories, and appropriate use of scales of compilation for a type of data frequently used by land use planners, land managers, resource management planners, and others. Specifically, these maps and data have been used for river basin planning, analysis of land use and land cover change on barrier islands in relation to recreational and other uses, river quality assessments, preparation of environmental impact statements, study of onshore impacts of offshore oil development, studies of urbanization, and other such studies at the multicounty regional, State, and Federal levels. Once the baseline series of maps is completed, the proposed updating of the maps will provide a much needed tool for analyzing trends and problems related to changes in land use and land cover patterns.

The land use and land cover maps are being compiled using a classification system that has a framework of nine general Level I categories that are further subdivided into 37 more specifically defined Level II categories.

The Level I and Level II land use and land cover categories are:

- 1 Urban or Built-up Land
 - 11 Residential
 - 12 Commercial
 - 13 Industrial
 - 14 Transportation, Communications, and Utilities
 - 15 Industrial and Commercial Complexes
 - 16 Mixed Urban or Built-up Land
 - 17 Other Urban or Built-up Land
- 2 Agricultural Land
 - 21 Cropland and Pasture
 - 22 Orchards, Groves, Vineyards, Nurseries, and Ornamental Horticultural Areas
 - 23 Confined Feeding Operations
 - 24 Other Agricultural Land
- 3 Rangeland
 - 31 Herbaceous Rangeland
 - 32 Shrub and Brush Rangeland
 - 33 Mixed Rangeland
- 4 Forest Land
 - 41 Deciduous Forest Land
 - 42 Evergreen Forest Land
 - 43 Mixed Forest Land
- 5 Water
 - 51 Streams and Canals
 - 52 Lakes
 - 53 Reservoirs
 - 54 Bays and Estuaries
- 6 Wetland
 - 61 Forested Wetland
 - 62 Nonforested Wetland
- 7 Barren Land
 - 71 Dry Salt Flats
 - 72 Beaches
 - 73 Sandy Areas Other Than Beaches
 - 74 Bare Exposed Rock
 - 75 Strip Mines, Quarries, and Gravel Pits
 - 76 Transitional Areas
 - 77 Mixed Barren Land
- 8 Tundra
 - 81 Shrub and Brush Tundra
 - 82 Herbaceous Tundra
 - 83 Bare Ground Tundra
 - 84 Wet Tundra
 - 85 Mixed Tundra
- 9 Perennial Snow or Ice
 - 91 Perennial Snowfields
 - 92 Glaciers



The area shown is a portion of the Charlotte, North Carolina, 1:250,000-scale land use and land cover map.

The classification system developed by the Geological Survey was reviewed by a committee of representatives from the Geological Survey, the National Aeronautics and Space Administration, the Soil Conservation Service, the Association of American Geographers, and the International Geographical Union, as well as by many others, and was designed to be used

primarily with data obtained from remote sensors on aircraft and satellites. However, the system can also be used in classifying land use and land cover from field surveys. The system and the categories are explained in the U.S. Geological Survey Professional Paper 964, "A Land Use and Land Cover Classification System for use with Remote Sensor Data." This Professional Paper (at \$1.75 per copy) is available from:

Eastern Distribution Branch
U.S. Geological Survey
1200 South Eads Street
Arlington, VA 22202

When ordering, please enclose a check or money order payable to U.S. Geological Survey.

A mapping unit having a minimum size of 10 acres (4 hectares) is the smallest area mapped for all urban areas and bodies of water. It is also the minimum area mapped for surface mines, quarries, gravel pits, and certain agricultural areas. A minimum mapping unit of 40 acres (16 hectares) is used for all other categories. These minimum mapping units are the smallest areas appropriate for use on maps of 1:250,000 and 1:100,000 scales. Thus, a residential area less than 10 acres would not be shown on the land use and land cover map. Likewise, an area of cropland and pasture less than 40 acres would not be shown.

Aerial photographs and other remotely sensed data serve as the primary sources used in compiling the land use and land cover maps. Secondary sources include earlier land use maps and other maps prepared by field-survey methods. Such maps are generally available at larger scales and for small areas such as parts of metropolitan regions.

After compilation, the Survey's land use and land cover maps are field checked for accuracy if unresolved compilation problems exist.

Associated Maps

Sets of four associated maps are prepared at the same scale as the land use and land cover maps in order to relate the land use and land cover maps to other data. For example, land use data can be combined with the socioeconomic data compiled by the Bureau of Census by census county subdivisions or census tracts or can be compared to hydrologic data compiled for hydrologic units. These associated maps are:

| | |
|----------------------------|--|
| POLITICAL UNITS | Depict county and State boundaries as shown on U.S. Geological Survey maps. |
| HYDROLOGIC UNITS | Delineate hydrologic units, as established by the Water Resources Council and published by the Survey's Water Resources Division on 1:500,000-scale State maps. |
| CENSUS COUNTY SUBDIVISIONS | Show minor civil divisions or equivalent areas. Census tracts also are shown within Standard Metropolitan Statistical Areas (SMSA). |
| FEDERAL LAND OWNERSHIP | Delineates surface ownership in a minimum mapping unit size of 40 acres (16 hectares) for lands owned and administered by Federal agencies. Subsurface ownership rights are not shown. |

Base Maps and Map Scales

The land use and land cover and associated maps are compiled on planimetric base maps prepared by the Geological Survey at scales of 1:250,000 (1 inch on the map represents about 4 miles on the ground) or 1:100,000 (1 inch on the map represents 1.57 miles on the ground). As more 1:100,000-scale planimetric base maps become available, more map sets will be prepared at

that scale. Most of the maps will be published at a scale of 1:250,000. Updating of land use and land cover maps will be at a scale of 1:100,000 for areas where such a scale should be used to properly represent complex land use and land cover patterns.

Status of Available Maps

The land use and land cover and associated maps currently available are shown in the "Index to Land Use and Land Cover and Associated Maps" published by the U.S. Geological Survey and available free from the Distribution Branches and NCIC offices.

After these maps are placed on open file, the land use and land cover maps are published in the L series. On the L maps a green base is used to show base map features and black is used to delineate the land use and land cover information. The availability of the L maps is also indicated on the "Index" mentioned above.

Ordering Maps

Master sets of the land use and land cover and associated maps for a particular area are on open file and are available for reproduction at the U.S. Geological Survey National Cartographic Information Center (NCIC) unit that has responsibility for that part of the United States, as shown on the map on page 9.

Reproductions of land use and land cover and associated maps can be made on the following types of material to permit a wide range of uses:

- (1) Stable base film positive, clear or matte;
- (2) Semi-stable diazo foil, matte; or
- (3) Paper diazo.

Cost of reproduction varies with the type of material requested; the film positive is the most expensive and the paper diazo the least expensive. Current price information may be obtained from regional NCIC offices.

Copies of maps reproduced on the previously described materials may be

purchased from:

Eastern National Cartographic
Information Center
U.S. Geological Survey
536 National Center
Reston, VA 22092
Telephone: (703) 860-6336
FTS 928-6336

Mid-Continent National Carto-
graphic Information Center
U.S. Geological Survey
1400 Independence Road
Rolla, MO 65401
Telephone: (314) 341-0851
FTS 277-0851

Rocky Mountain National Carto-
graphic Information Center
U.S. Geological Survey
Box 25046, Stop 504,
Federal Center
Denver, CO 80225
Telephone: (303) 234-2326
FTS 234-2326

Western National Cartographic
Information Center
U.S. Geological Survey
345 Middlefield Road
Menlo Park, CA 94025
Telephone: (415) 323-8111, ext. 2427
FTS 467-2427

Printed copies of L maps may be purchased for \$2 each (2 colors), as shown below:

Maps of areas east of Mississippi River, including Minnesota, Puerto Rico, and the Virgin Islands:

Eastern Distribution Branch
U.S. Geological Survey
1200 South Eads Street
Arlington, VA 22202

Maps of areas west of Mississippi River, including Alaska, Hawaii, Louisiana, Guam, and American Samoa:

Western Distribution Branch
U.S. Geological Survey
Box 25286, Federal Center
Denver, CO 80225

Technical Information

Technical information about land use and land cover and associated maps may be obtained from:

Office of Geographic and Cartographic Research
National Mapping Division
U.S. Geological Survey
521 National Center
Reston, VA 22092
Telephone: (703) 860-6341
FTS 928-6341

Areas of responsibility for units of the National Cartographic Information Center



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Eastern Distribution Branch
U.S. Geological Survey
604 South Pickett Street
Alexandria, VA 22304

or Western Distribution Branch
U.S. Geological Survey
Box 25286, Federal Center
Denver, CO 80225