

- 1 URBAN OR BUILT-UP LAND**
- 11 Residential
 - 12 Commercial and services
 - 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 rocks
 - 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

For definitions of Level I and Level II categories see U.S. Geological Survey Professional Paper 964, *A land use and land cover classification system for use with remote sensor data*, 1976, by J. R. Anderson, E. E. Hardy, J. T. Roach, and R. E. Winter.

The development of a geographic information system incorporating digital land use data is described in U.S. Geological Survey Professional Paper 1059, *GISAS: A geographic information retrieval and analysis system for handling land use and land cover data*, 1977, by W. B. Mitchell, S. C. Cugli, K. E. Anderson, R. G. Feagan, and C. A. Hallam.

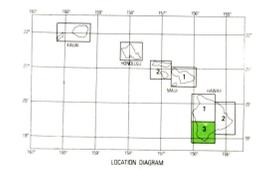
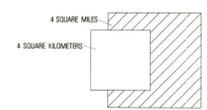
Land use and land cover information compiled from source materials dated 1976-78.

Minimum mapping units are: 4 hectares (10 acres) for Level II categories 11-17, 23-24, 51-54, 75, and urban occurrences of 76; and 16 hectares (40 acres) for all other Level II categories.

For compilation specifications see U.S. Geological Survey Open-file report 77-555, *Specifications for land use and land cover and associated maps*, 1977, by G. L. Loekes, Jr.

Compilation verified by field check.

Base from U.S. Geological Survey, 1980
10,000-meter Universal Transverse
Mercator grid, zone 2.



**LAND USE AND LAND COVER, 1976-78
HAWAII COUNTY, HAWAII Sheet 3 of 3**

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