

CENSUS CITIES EXPERIMENT IN
URBAN CHANGE DETECTION

James R. Wray, Principal Investigator

This map is one prototype product of experiments in land use change detection using remote sensors aboard aircraft and Earth-orbiting satellites. Contemporaneous sensor data and census data are being compared for a sample of urban test sites. Work in Washington is also related to multi-discipline inter-agency experiments in the Central Atlantic Regional Ecological Test Site (CARETS). All of these efforts are parts of the Department of the Interior's Earth Resources Observations Systems (EROS) Program and the National Aeronautics and Space Administration's Earth Observations Program. This map, and other experimental products, are test demonstrations of a system of new tools to assess and monitor urban and regional environments, especially those undergoing rapid change.

The photo mosaic base is made from the same photography used in the land use analysis. The geographic coordinate system is shown by cross ticks at a five-minute interval and is based on a conformal projection. The Universal Transverse Mercator (UTM) coordinate system is shown with grid intervals of 1, 5, and 10 kilometres. Positioning of the UTM grid meets the following standard: ninety percent of randomly selected control points are correctly positioned to within one millimetre at map scale. The UTM grid forms the basis for sheetlines, sheet-numbering, and location control for computer mapping. The open legend space is for other superimposed data (such as census statistical area boundaries, etc.) plus any other distributions generated by the user.

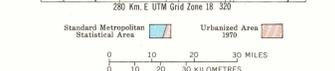
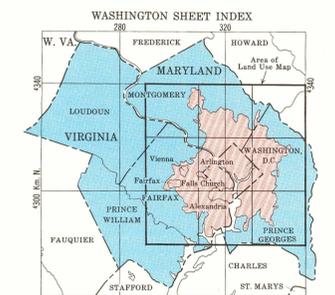
LAND USE CHANGE, 1970-1972

	From-To
Commercial and services	0 0
Industry	1 1
Transportation	2 2
Multi-family residence	3 3
Single-family residence	4 4
Strip and cluster development	5 5
Agriculture, with residence	6 6
Improved open space	7 7
Unimproved open space	8 8
Water	9 9

Change polygons are identified by a two-digit number; the first digit indicates the land use in 1970 and the second digit the land use in 1972. For example, a change polygon coded 64 means that the land use changed from Agriculture (6) in 1970 to Single-family residence (4) in 1972. Land use in transition is shown by an asterisk (*) following the use code.

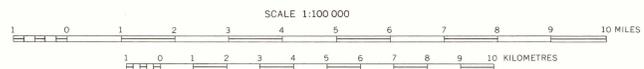
The land use change is determined by comparing 1970 and 1972 photography. The change polygons are outlined on a mosaic base compiled from the 1970 photography. In their reference to the 1970 land use, the notations of land use change on this map incorporate some reclassifications not appearing on "Land Use Map, 1970, Washington Urban Area, D. C., Md. and Va., USGS I-858-A, 1:100,000, 1974.

- Land Use Change completed, 1970-1972, with change code
- Land Use Change in transition, 1972, with change code
- Boundary of Urban Area, 1970, based on land use
- Boundary of Urban Area added between 1970 and 1972



STANDARD METROPOLITAN STATISTICAL AREA, CENSUS AND URBANIZED AREA, 1970.

MAP AREA DESIGNATION (290-290/60)
The numbers in the map area designation (290-290/60) define the location and extent of the map coverage. The first three digits indicate the location of the southwest corner of the sheet in kilometres North of the Equator; the prefix 4-4,000 km or 4,000,000 m—is omitted. The next three digits are the sheet corner's location in kilometres East. These coordinates are the lowest Northings and Eastings on the sheet. The map covers a square extending 60 km northward and eastward, hence the last two digits in the area designation.
Photography from National Aeronautics and Space Administration, 1970 and 1972.



LAND USE CHANGE MAP, 1970-1972, WASHINGTON URBAN AREA, D. C., MD., AND VA.

By
U.S. GEOLOGICAL SURVEY
1975

Copies of this map are available at cost in transparent scale-stable material from the U.S. Geological Survey, Reston, Va. 22092
For sale by U.S. Geological Survey, price 75 cents