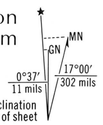
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

ATLAS OF URBAN AND REGIONAL CHANGE

This looseleaf Atlas is one prototype product of experiments in land use change detection using remote sensors on aircraft and Earth-orbiting satellites. Sensor data and census data are being compared for a sample of urban test sites. These efforts are parts of Department of the Interior's Earth Resources Observations System (EROS) Program and National Aeronautics Space Administration's Earth Observations program. Photography for change detection by NASA, 1970, 1971, and 1972. Photogrammetry, cartography, and computer operations by divisions of U.S. Geological Survey. Analysis and applications development by Geographic Applications Program, Office of Chief Geographer, USGS.

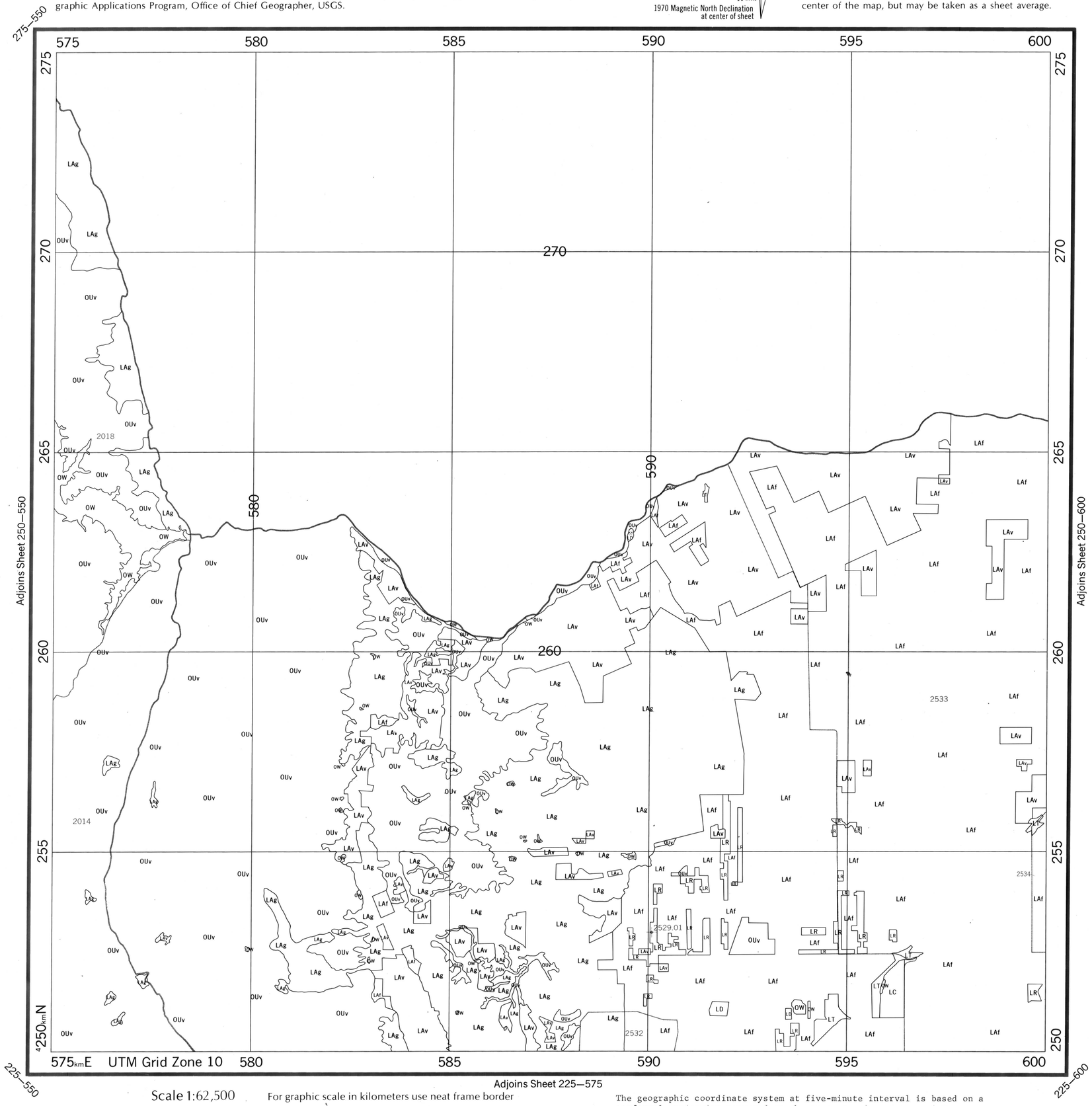
Declination Diagram



1970 Magnetic North Declination at center of sheet

There are three Norths on this map. The vertical grid lines represent Grid North. A meridian line connecting grid ticks represents True North, according to the map projection. Grid North and Magnetic North decline from True North as shown in the diagram. These values are for the center of the map, but may be taken as a sheet average.

San Francisco 250–575



Scale 1:62,500 For graphic scale in kilometers use neat frame border

Thousands of Feet: 5 0 5 10 15 20 25 30

Statute Miles: 1 0 1 2 3 4 5 6

The geographic coordinate system at five-minute interval is based on a conformal projection centered on the area mapped. Universal Transverse Mercator (UTM) coordinate system is shown with grid interval of five kilometers. This grid forms the basis for sheetlines, sheet numbering, and location control for computer mapping. The map is based on an orthophoto mosaic made from high altitude aircraft photography acquired by U.S. Geological Survey, May 1970. Mosaic, projection and control by USGS.

ATLAS OF URBAN AND REGIONAL CHANGE

Open File 1973

San Francisco

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This preliminary map series shows land use in the nine-county San Francisco Bay Region at the time of the 1970 Census. It is derived primarily by interpretation of high altitude color infrared photography, but a limited field check has also been made. Sensor data and census data are being correlated, and changes in land use between 1970 and 1972 are being compiled. The latter will also serve to evaluate imagery from satellite sensors. Results may be made available at half the present scale and sheet-size to facilitate joint use of the maps with computer tabulations, and to facilitate use with other maps at 1:125,000 emanating from the San Francisco Bay Regional Environment and Resources Planning Study, a joint effort by USGS and the U.S. Department of Housing and Urban Development. Inquiries and suggestions may be addressed to the Director, U.S. Geological Survey, Washington, D.C. 20244.

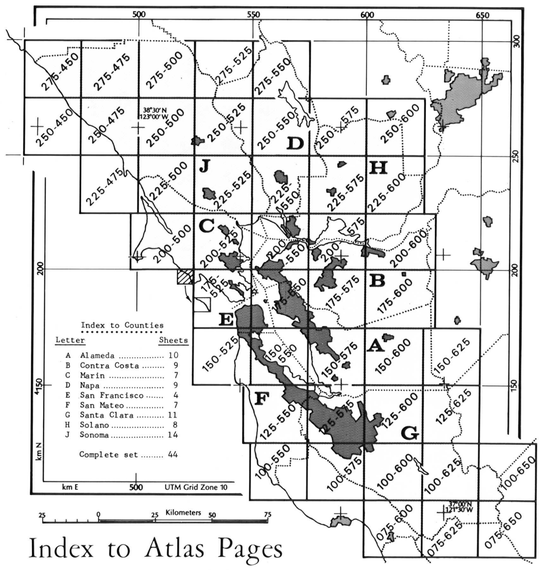
Census Areas 1970

County boundary	
Census tract boundary	
Census tract centroid and number	3560

Land Use 1970

Livelihood	Primarily industry	13 LD
	Extractive industry	14 LD
	Transportation	15 LT
	Commercial; public and private services	12, 16 LC
	Strip and cluster development	17 LR
Residential	Multi-family residence	11 RM
	Single-family residence	11 RS
Other, Mostly Open	Improved open space (park, cemetery, etc.)	19 OP
	Unimproved open space	var OUv
	Unimproved open space, wetland	60 OUm
	Agriculture with residence, field crop	21 LAf
	Agriculture with residence, vineyard/orchard	22 LAv
	Agriculture with residence, grassland/pasture	21 LAg
	Water	50 OW

Land use in transition shown: ∗. The letter codes are for one classification scheme being tested for urban land use mapping at this scale using high altitude aerial photography. The numerical codes are corresponding designations proposed for possible nation-wide applications. See USGS, Geological Survey Circular 671.



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