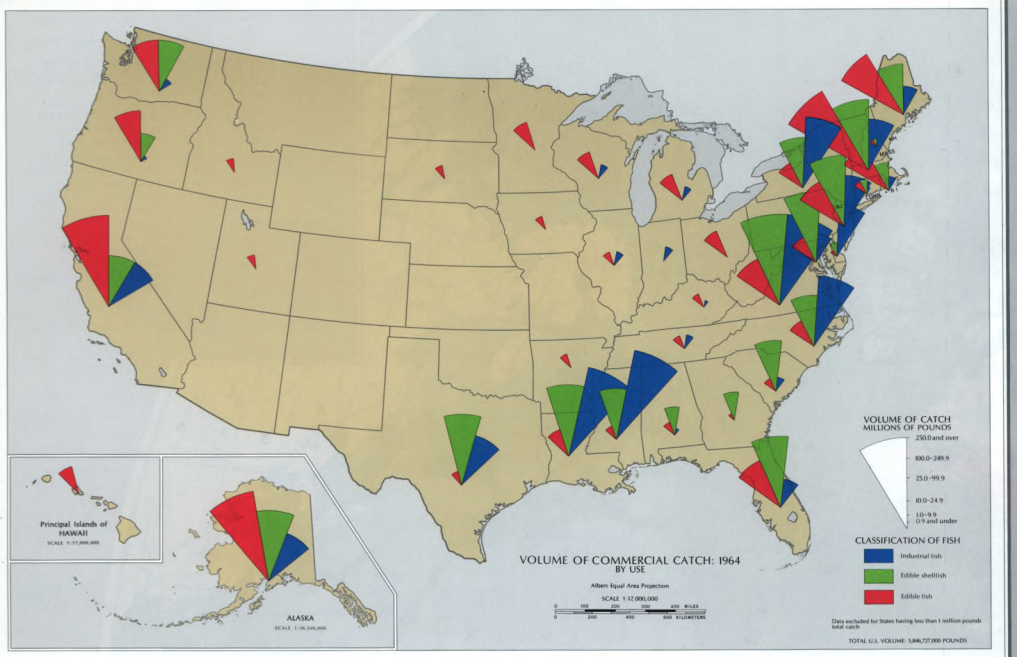
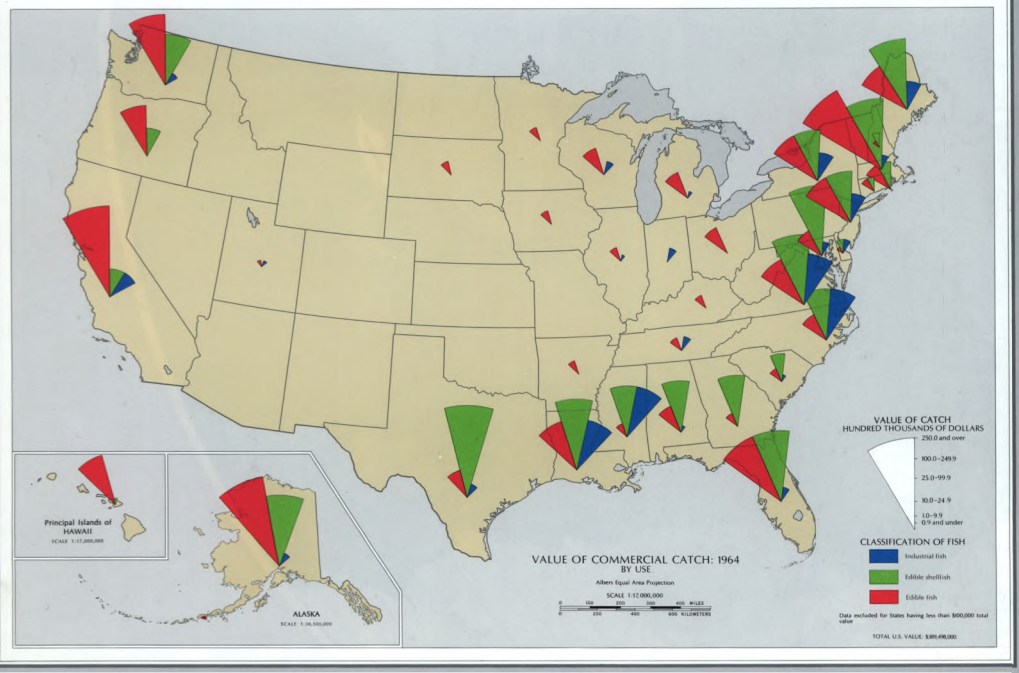
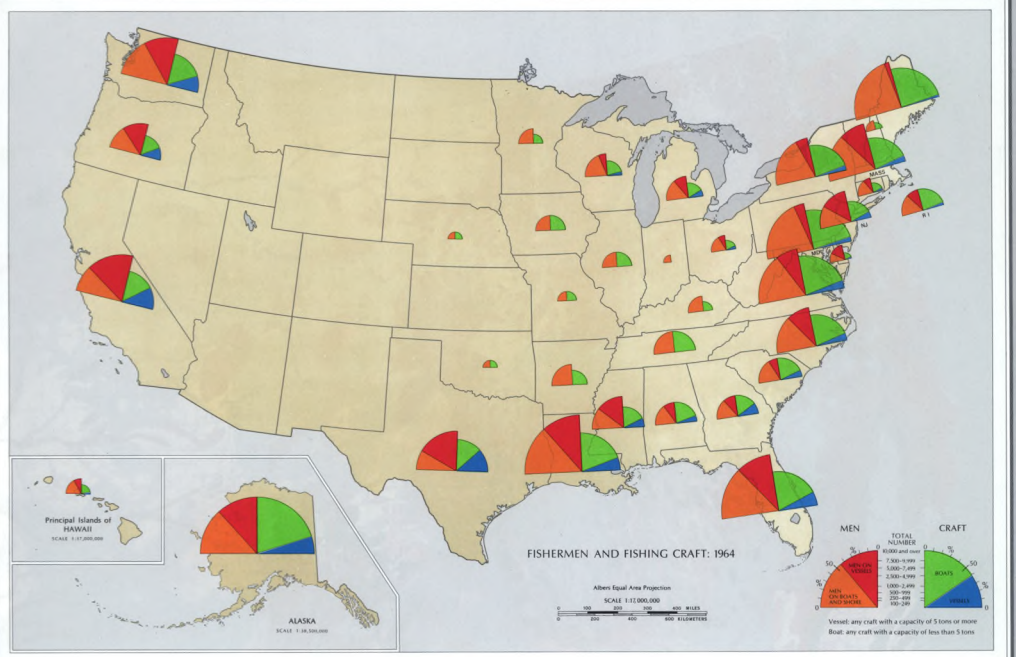


Compiled from information provided by U.S. Bureau of Commercial Fisheries, 1968





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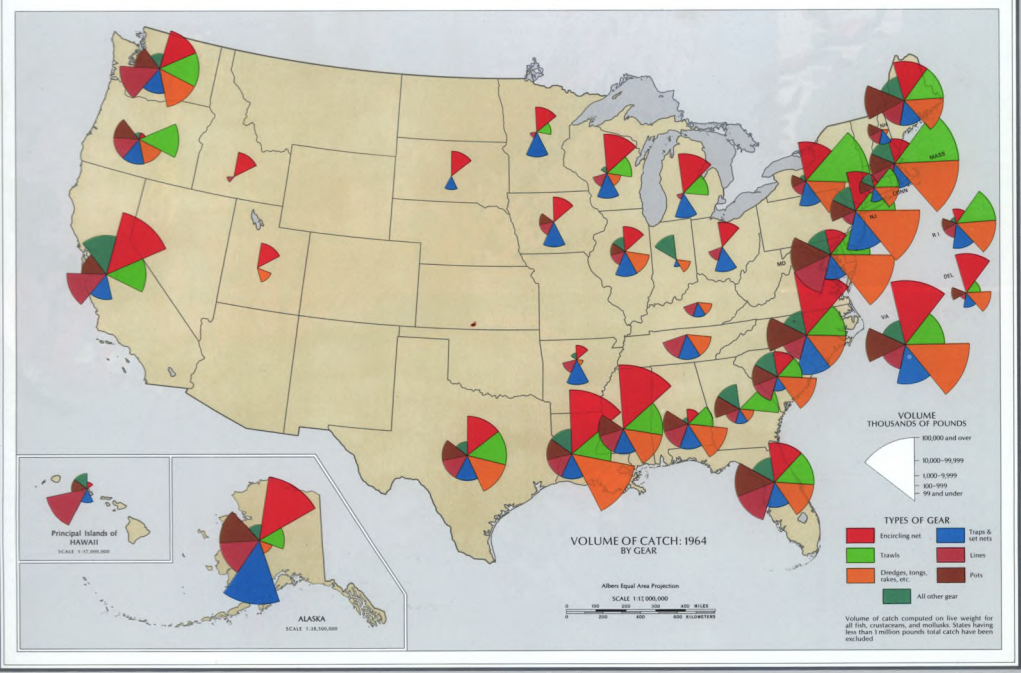
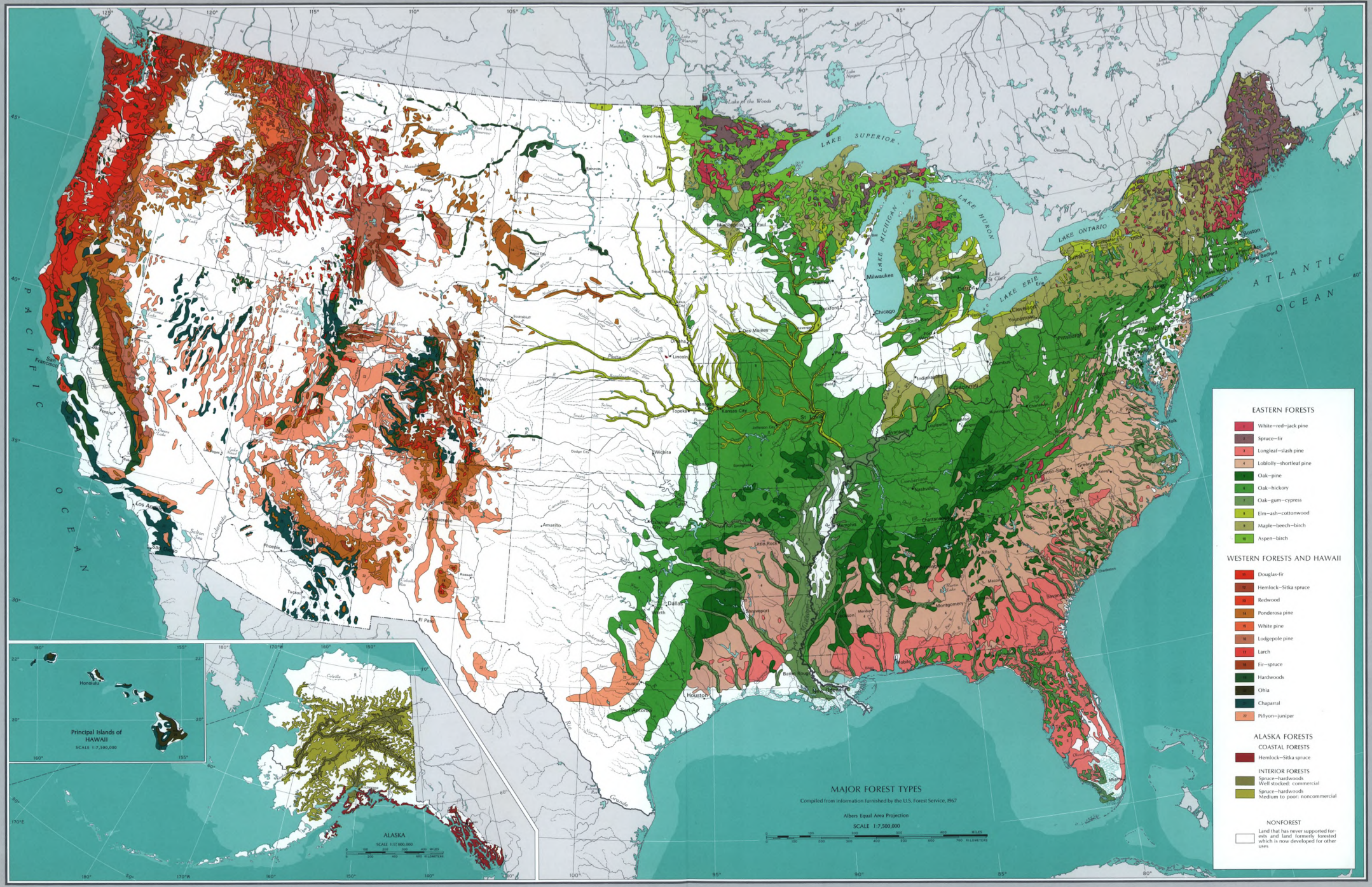
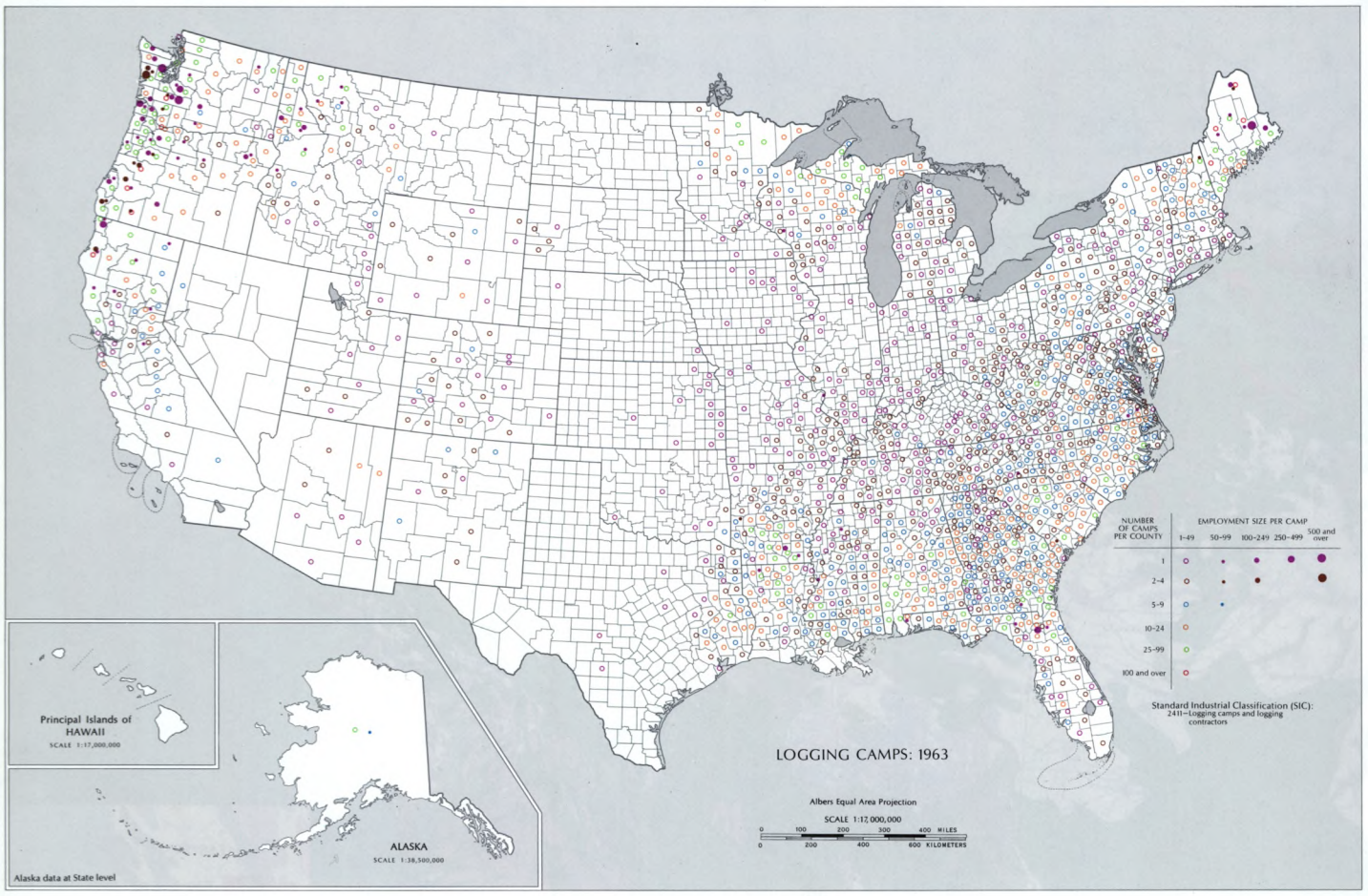


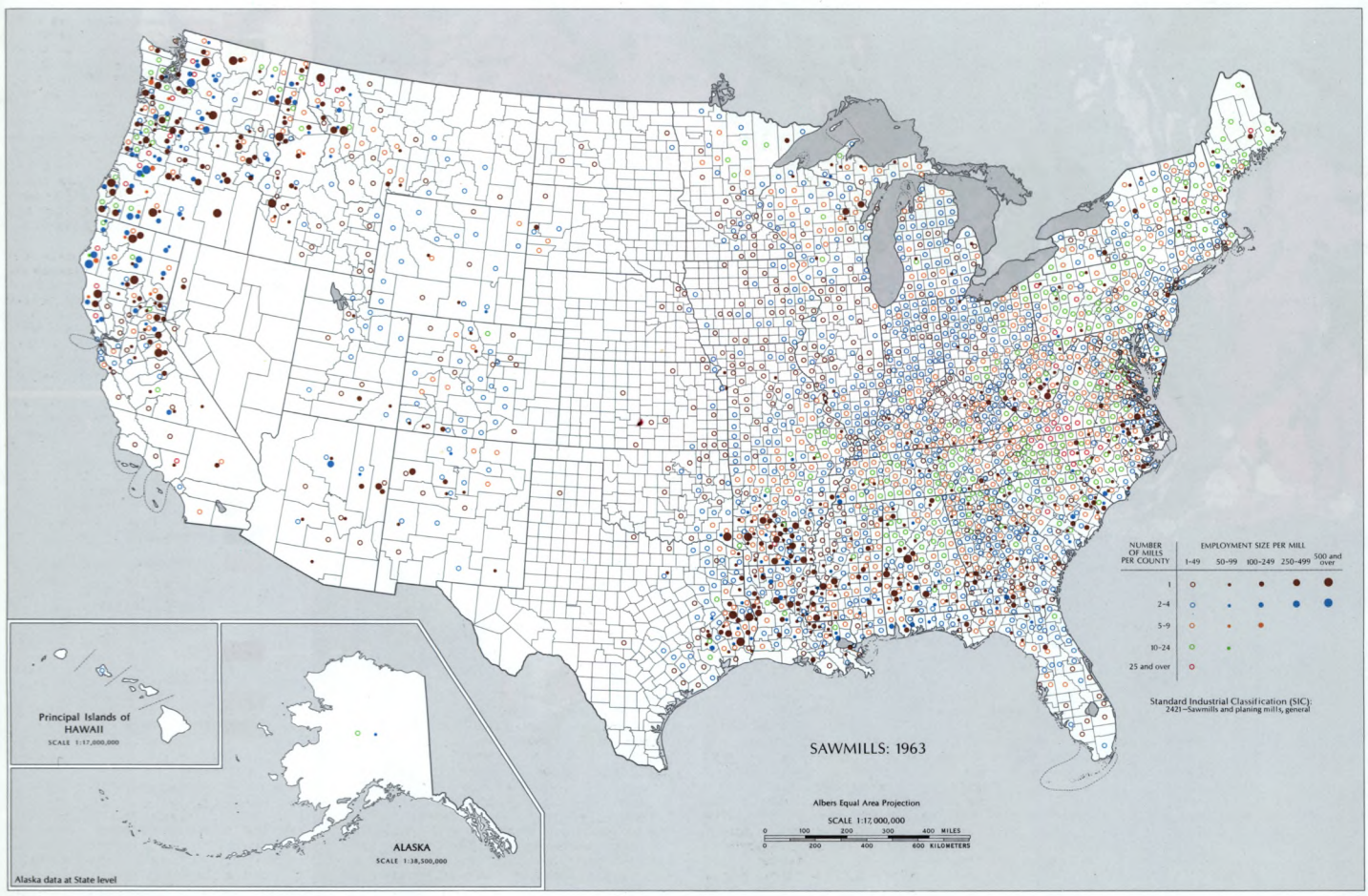

LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
PACIFIC OCEAN
ATLANTIC OCEAN
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:12,000,000
MAJOR FOREST TYPES
Compiled from information furnished by the U.S. Forest Service, 1967
Albers Equal Area Projection
SCALE 1:7,500,000
EASTERN FORESTS
1 White–red–jack pine
2 Spruce–fir
3 Longleaf–slash pine
4 Loblolly–shortleaf pine
5 Oak–pine
6 Oak–hickory
7 Oak–gum–cypress
8 Elm–ash–cottonwood
9 Maple–beech–birch
10 Aspen–birch
WESTERN FORESTS AND HAWAII
11 Douglas-fir
12 Hemlock–Sitka spruce
13 Redwood
14 Ponderosa pine
15 White pine
16 Lodgepole pine
17 Larch
18 Fir–spruce
19 Hardwoods
20 Ohia
21 Chaparral
22 Piñyon–juniper
ALASKA FORESTS
COASTAL FORESTS
Hemlock–Sitka spruce
INTERIOR FORESTS
Spruce–hardwoods
Well stocked: commercial
Spruce–hardwoods
Medium to poor: noncommercial
NONFOREST
Land that has never supported forests and land formerly forested which is now developed for other uses



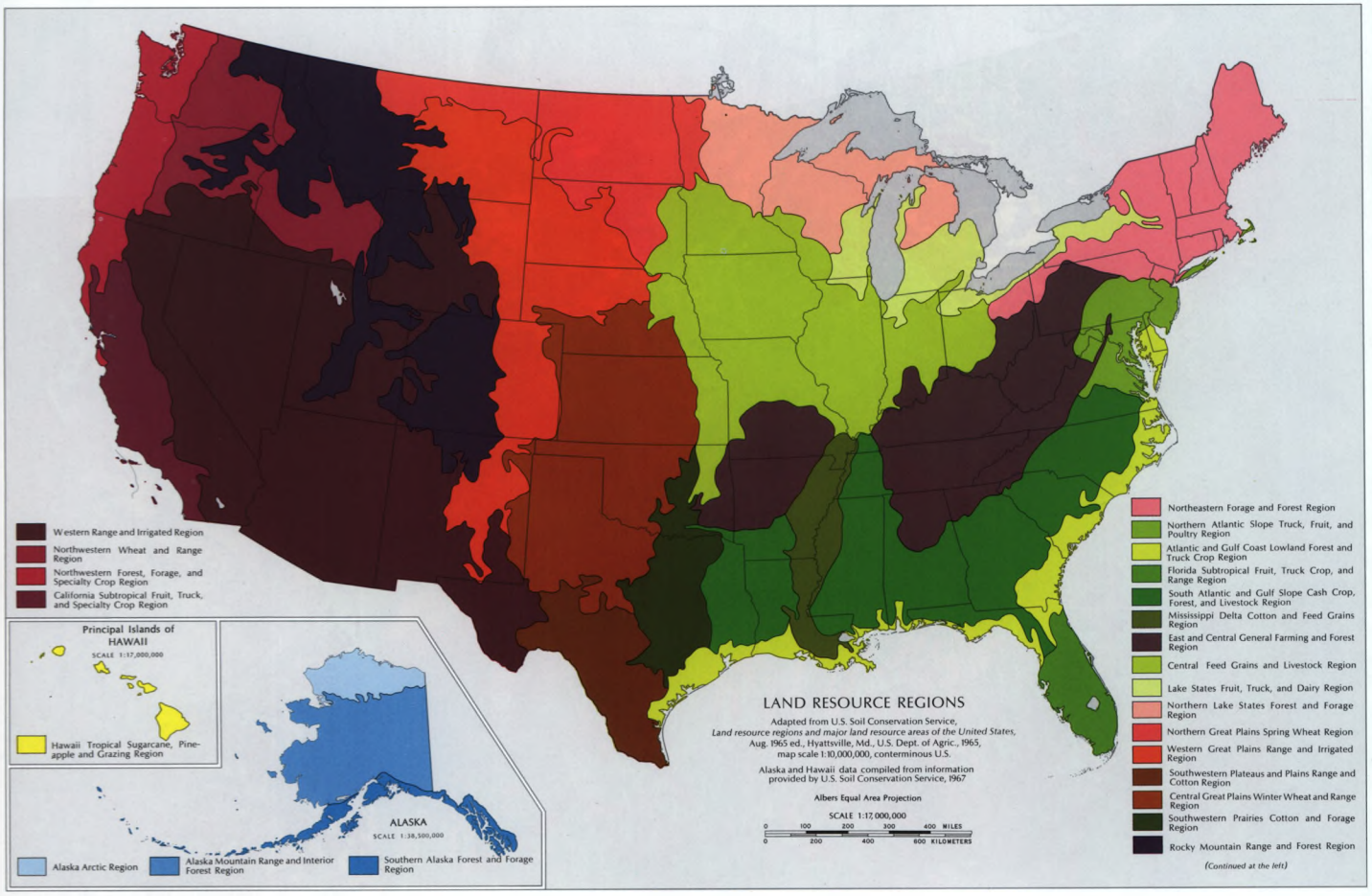
Standard Industrial Classification (SIC): 2411—Logging camps and logging contractors

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967

Compiled from U.S. Bureau of the Census, *Census of manufactures, 1963*, Spec. Rept. MC63(S)-3.3, Washington, U.S. Govt. Print. Off., 1966



Standard Industrial Classification (SIC): 2421—Sawmills and planing mills, general



Agriculture constitutes a basic sector of the American economy. Although relatively less important now than in the past, agricultural production is still a vital and integral part of the nation's total economic complex. The maps in this section of *The national atlas of the United States of America* depict the present areal characteristics of American agriculture. Maps pertaining to the physical or environmental bases of agriculture, such as climate, soils, land-surface forms, and vegetation, may be studied elsewhere in the *National Atlas.*

Agricultural information is presented cartographically at the three basic Atlas scales—1:7,500,000, 1:17,000,000, and 1:34,000,000. Dots, choropleths, and pie graphs are the principal techniques used to present the available statistical information.

On some maps more than one pattern has been shown by using dots of different colors. Multiple patterns permit a more effective emphasis of some closely related agricultural information. The maps on page 161 presenting the four main types of farm tenure are examples where dots of different colors are used to show related information. On other Atlas maps, particularly those on pages 170–175 showing distribution, multiple dot patterns are used mainly for convenience.

Other maps show information by choropleths. This technique uses contrasting colors to present areal variations by counties in the percentage of the total land area used for farmland, cropland, grazing, and forest, and expenditures for the major inputs in agricultural production. A summary of related statistical data by States is also shown by choropleths on most of the dot maps.

Because statistical information on agricultural monetary assistance programs is not readily available for counties, proportional pie graphs are used to show State and regional allocations. "Commodity Credit Corporation Loans, 1933–65," page 169, are shown by States at a scale of 1:17,000,000. Farm-production regions, which are used for regional summarization of agricultural data by the Department of Agriculture, are used as areal units for presenting information about other major assistance programs at the smaller scale of 1:34,000,000.

Regional variations in land resources shown on the map of "Land Resource Regions," above, give an integrated view of the several physical conditions as these relate to major patterns of agriculture, grazing, and forestry. The map was compiled from detailed information obtained from the National Inventory of Soil and Water Conservation Needs completed in 1960. The compilation includes mainly data based on physical conditions, particularly on soils, rather than on quantitative economic data. Other major uses of land, such as forestry and grazing, are systematically presented.

The delineation and categorization of land resource regions on the above map resembles earlier maps which dealt with regionalization of agriculture. The map of "Natural Land-Use Areas of the United States," compiled by Carleton P. Barnes and Frances J. Marschner, was published in 1933 at a scale of 1:4,000,000 by the former Bureau of Agricultural Economics. The map "Generalized Types of Farming in the United States," originally published in 1933 at a scale of 1:7,500,000 by the Bureau of Census and the former Bureau of Agricultural Economics and last revised in 1949, has been widely used in the regionalization of American agriculture; the maps showing types of farming were a direct outgrowth of O. E. Baker's map, "Agricultural Regions of North America."

The map "Major Land Uses," on pages 158–159, depicts in more detail the dominant patterns of land use. The original compilation of "Major Land Uses" was done over a 3-year period at a scale of 1:1,000,000 on U.S. Geological Survey State base maps and was completed by Frances J. Marschner. The map was published by the U.S. Department of Agriculture in 1950 at a scale of 1:5,000,000. The unpublished manuscript maps have been placed in the National Archives as a record of land-use conditions in the United States in the 1940's. Aerial photographs taken between 1937 and 1947 and existing land-use maps prepared at larger scales were the basic sources used in assembling the data for the map. Statistical information from the 1945 Census of Agriculture was used in presenting the distribution of cropland by the dot-ratio method in which dot size was calculated to make each dot equal to 10,000 acres of cropland.

It was necessary to revise the Marschner map for presentation in the *National Atlas.* Patterns of land use were updated to conform to changes in the status of land use occurring since the original compilation. Revisions were also made to the categories of land use to simplify the display of information at the 1:7,500,000 National Atlas scale.

The 16 categories of land use delineated on the map may be summarized under the following widely recognized groupings of major uses of land. The groupings are used by the Department of Agriculture and other Government agencies in making statistical and other reports dealing with land-use patterns and trends. The four groups of major uses and the explanatory definitions of the kind of specific cover and activity conditions which generally characterize these groups are briefly presented below:

1. Cropland includes land used for produce crops, pasture, and soil-improvement crops and cropland left idle. Land used for crops includes cropland harvested, land on which crop failure occurred, and cultivated summer fallow used in the production of wheat and other small grains in subhumid areas. Cropland used only for pasture is mainly in the crop-rotation system, although some of this type of land may remain in pasture for several consecutive years. Cropland used for soil-improvement crops includes land used for cover crops, land plowed under for soil improvement, and grasses and legumes planted under the Soil Bank Program. Idle cropland is generally left unplanted only for a year or two; however, some of it is the poorer land that may be withdrawn from crop uses.
2. Pasture and grazing land includes all land used primarily for the grazing of livestock, exclusive of cropland used only for pasture and forest and woodland pastured or grazed. This category includes the shrub and brushland types of grazing land, such as sagebrush, scattered mesquite, and some other shrub types in the West, scattered brushland pasture in the East, and all tame and wild or native grasses and legumes and other forage used for pasture or grazing.
3. Forest and woodland include (a) lands which are at least 10-percent stocked by trees of any size and capable of producing timber or other wood products or of exerting an influence on the climate or on the water regime, (b) lands from which the trees described in (a) have been removed to less than 10-percent stocking and which have not been developed for another use, (c) afforested areas, and (d) chaparral areas. The term "woodland" is generally applied to arid areas of the West having trees of little commercial value and to the smaller wooded areas on farms in the East that have had limited value for commercial forestry.
4. Other land consists of several different specific uses of land. Two divergent subtypes of land must be recognized within this major grouping:
   (A) Special-use areas include a wide variety of land-using activities, such as highways, roads, railroad rights-of-way, airports, farmsteads, urban and town areas, parks, wildlife refuges, national defense areas, flood-control areas, and watershed-protection areas. Many of these uses occur in unit areas that are too small to be shown at the scale of 1:7,500,000. Therefore, with the exception of urban areas, these uses are included with uses that have a greater areal dominance.
   (B) Miscellaneous uses of land are those which, for the most part, may be characterized as having a particular type of vegetation cover rather than as having specific land-using activities. These land areas include marshland, ungrazed desert shrubland, moist tundra and muskeg, alpine meadows, mountain peaks above the timberline, sparse dry tundra, lava flows, and barren land.

In compiling the map "Major Land Uses," it was necessary to accommodate the intermixture of some of these major uses over extensive areas. When the intermixture is of little significance, the category specifies only the dominant use. When a marked degree of intermixture occurs for areas extensive enough to be recognized at the scale of 1:7,500,000, the combination of uses is shown in the category designations. An approximate percentage value is used in separating a category having one combination of uses from another having a different composition.

Cropland intermixed in varying degrees with pasture and grazing land and forest and woodland is the main kind of intermixture that has to be accommodated in the selection of a land-use classification scheme suitable for generalizations at the National Atlas map scale. Four categories having an intermixture of cropland with other uses are depicted. A category designated as "Mostly cropland" is used for areas having more than 60 percent of the total land area used for that purpose. "Cropland with grazing land" has approximately 30–60 percent of the total area used as cropland. "Cropland with pasture, woodland, and forest" involves a significant intermixture with two major uses instead of one; areas designated in this category also have approximately 30–60 percent of the total land area used as cropland. The predominant use in the category designated as "Woodland and forest with cropland and pasture" is definitely woodland and forest, and cropland and pasture generally occupy less than 30 percent of the total land area.

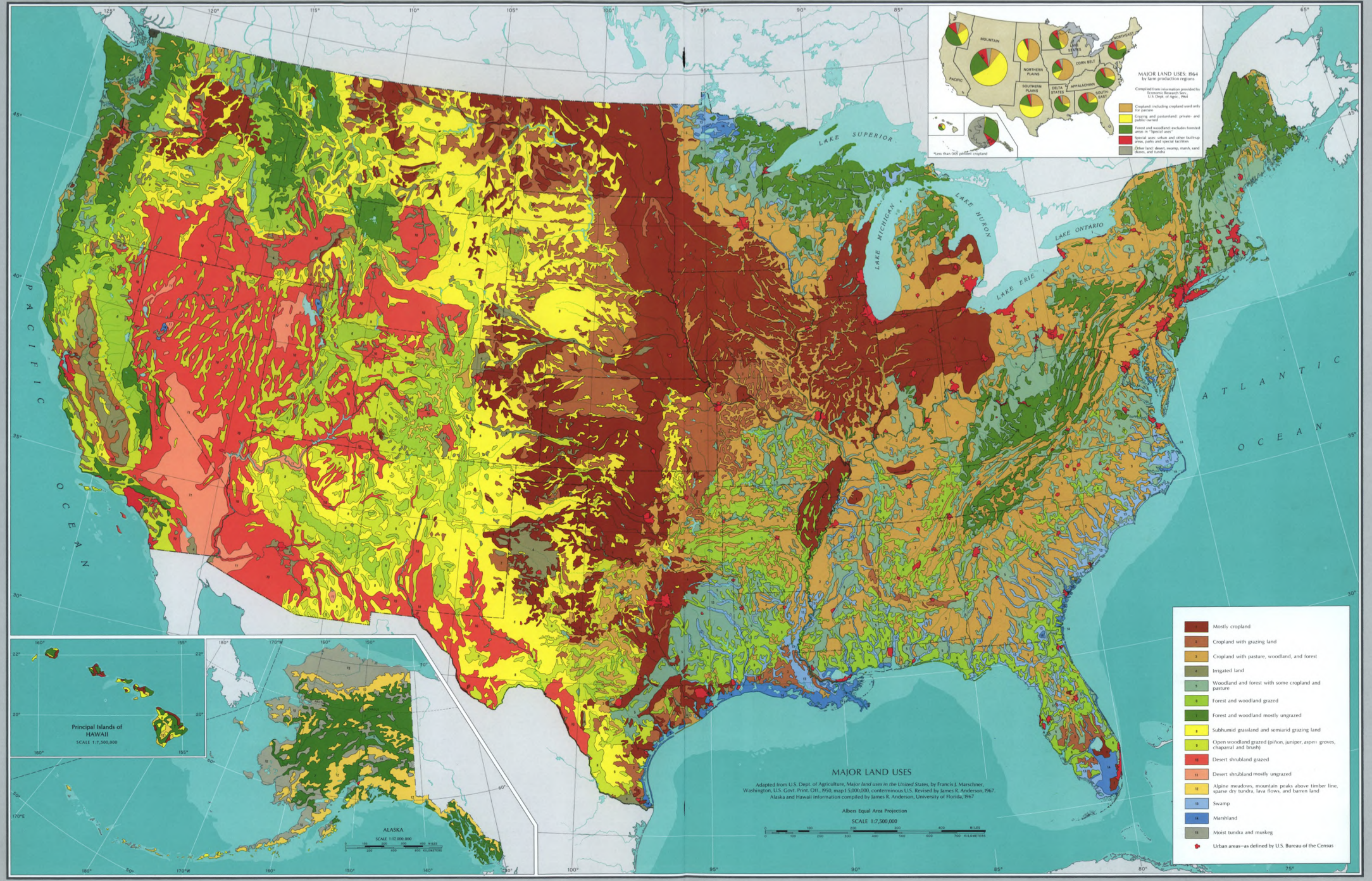
"Irrigated land" is designated as a separate category because of marked intensification of agricultural production that generally occurs with the artificial application of water to crops and pastures. Most of the irrigated land is used for crop production; however, pasture is often irrigated, particularly when rotated with crops. Many of the areas of irrigated agriculture are relatively small and could not be represented effectively at the scale used in the *National Atlas.*

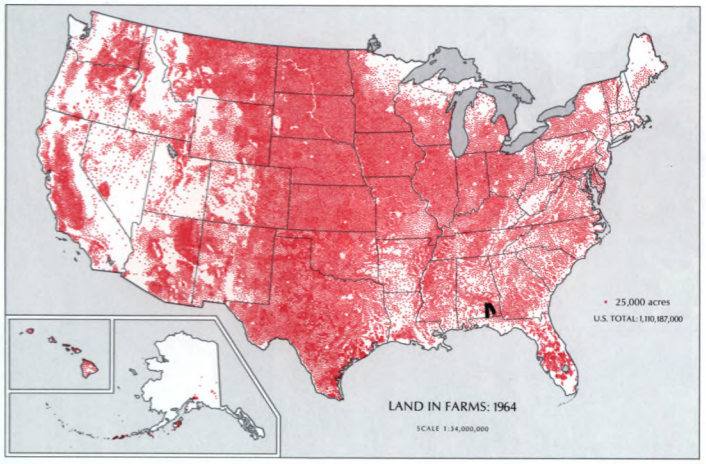
In addition to the categories having an intermixture of forest and woodland with cropland, pasture, and grazing land, the map of "Major Land Uses" shows four categories of forest and woodland: forest and woodland grazed; forest and woodland mostly ungrazed; open woodland grazed, which consists of piñon, juniper, aspen groves, chaparral, and brush; and swamp, which is mainly forested land occupying low wet areas. Grazing of forest and woodland in open stands of trees is particularly common in parts of the South and West.

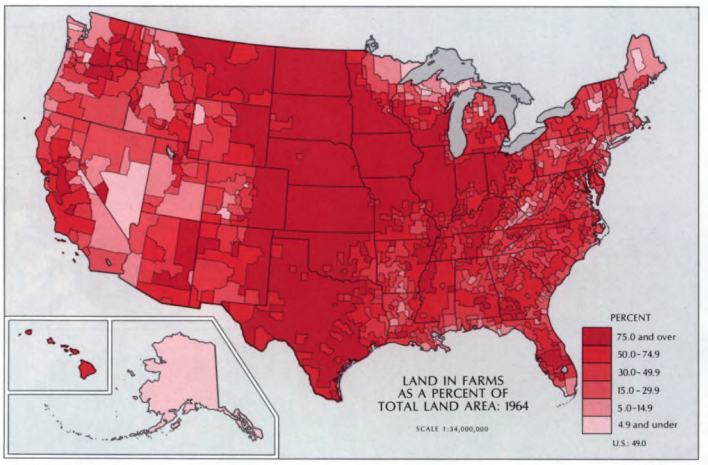
Especially important land uses occupying extensive areas in the western part of the United States are subhumid grassland, semiarid grazing land, and desert shrubland grazed. In the eastern part of the country, pasture and grazing land does not occur in extensive contiguous areas except in parts of the South, particularly Florida.

Five uses of land are conveniently grouped together as "Other land" even though great contrasts in the character and function of these uses obviously exist. These categories are: "Desert shrubland ungrazed"; "Marshland"; "Moist tundra and muskeg"; "Alpine meadows, mountain peaks above timberline, sparse dry tundra, lava flows, and barren land"; and "Urban areas."

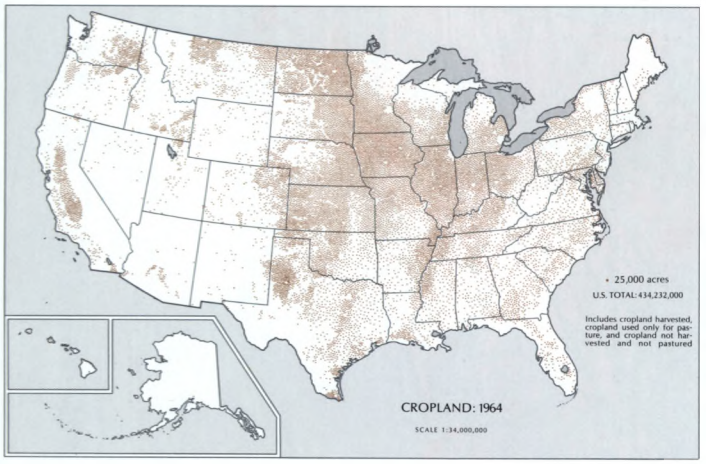
In addition to the map of "Major Land Uses," separate maps on page 160 showing the distribution of cropland, grazing, and forest place additional focus on agriculture and related uses of land. The grazing and forest maps are based on data from the National Inventory of Soil and Water Conservation Needs; the map showing the distribution of cropland was compiled from data in the 1964 Census of Agriculture.

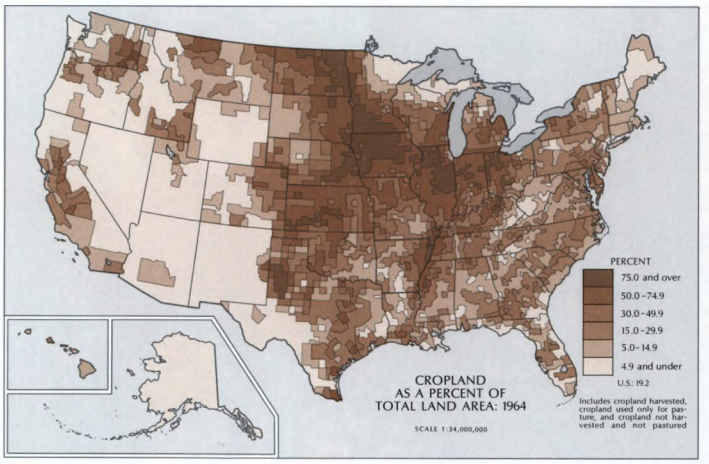

MAJOR LAND USES: 1964
by farm production regions
Compiled from information provided by Economic Research Serv., U.S. Dept. of Agric., 1964
Cropland: including cropland used only for pasture
Grazing and pastureland: private- and public-owned
Forest and woodland: excludes forested areas in "Special uses"
Special uses: urban and other built-up areas, parks and special facilities
Other land: desert, swamp, marsh, sand dunes, and tundra
*Less than 0.05 percent cropland
MOUNTAIN
PACIFIC
NORTHERN PLAINS
SOUTHERN PLAINS
LAKE STATES
CORN BELT
DELTA STATES
APPALACHIAN
SOUTH EAST
NORTHEAST
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ONTARIO
LAKE ERIE
PACIFIC OCEAN
ATLANTIC OCEAN
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:12,000,000
MAJOR LAND USES
Adapted from U.S. Dept. of Agriculture, Major land uses in the United States, by Francis J. Marschner, Washington, U.S. Govt. Print. Off., 1950, map I:5,000,000, conterminous U.S. Revised by James R. Anderson, 1967. Alaska and Hawaii information compiled by James R. Anderson, University of Florida, 1967
Albers Equal Area Projection
SCALE 1:7,500,000
1 Mostly cropland
2 Cropland with grazing land
3 Cropland with pasture, woodland, and forest
4 Irrigated land
5 Woodland and forest with some cropland and pasture
6 Forest and woodland grazed
7 Forest and woodland mostly ungrazed
8 Subhumid grassland and semiarid grazing land
9 Open woodland grazed (piñon, juniper, aspen groves, chaparral and brush)
10 Desert shrubland grazed
11 Desert shrubland mostly ungrazed
12 Alpine meadows, mountain peaks above timber line, sparse dry tundra, lava flows, and barren land
13 Swamp
14 Marshland
15 Moist tundra and muskeg
Urban areas—as defined by U.S. Bureau of the Census

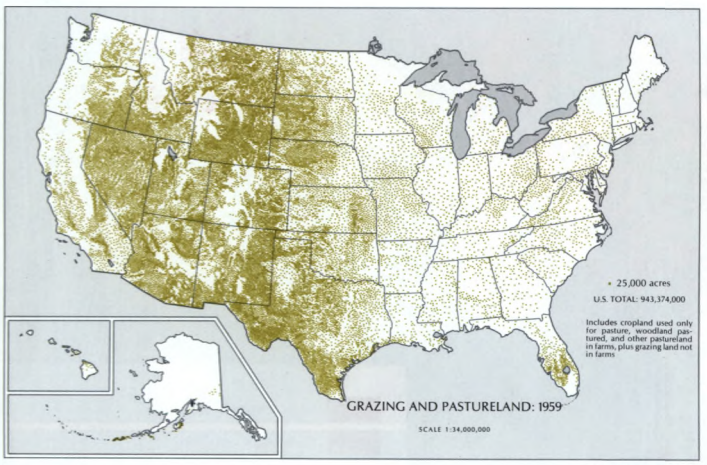


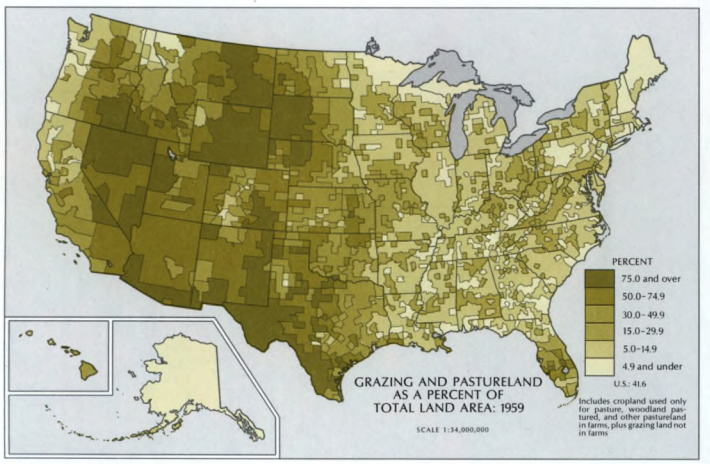


Compiled from U.S. Bureau of the Census, *Census of agriculture: 1964*, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 1

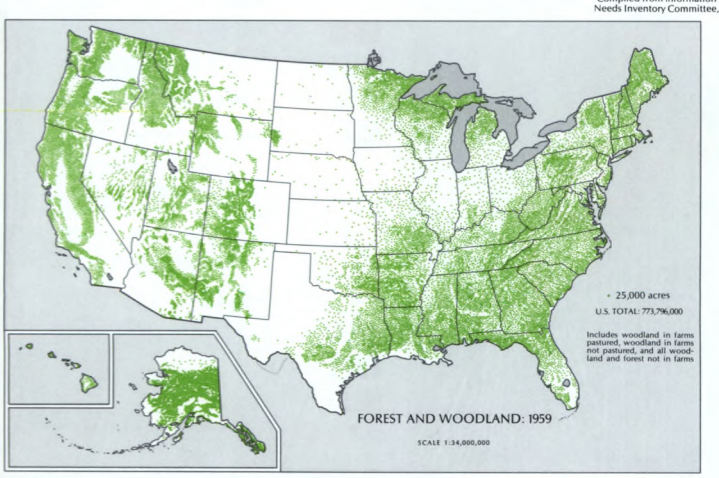


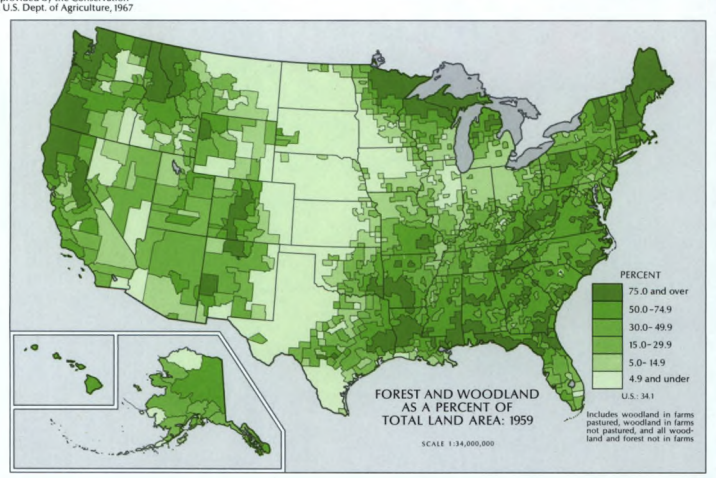


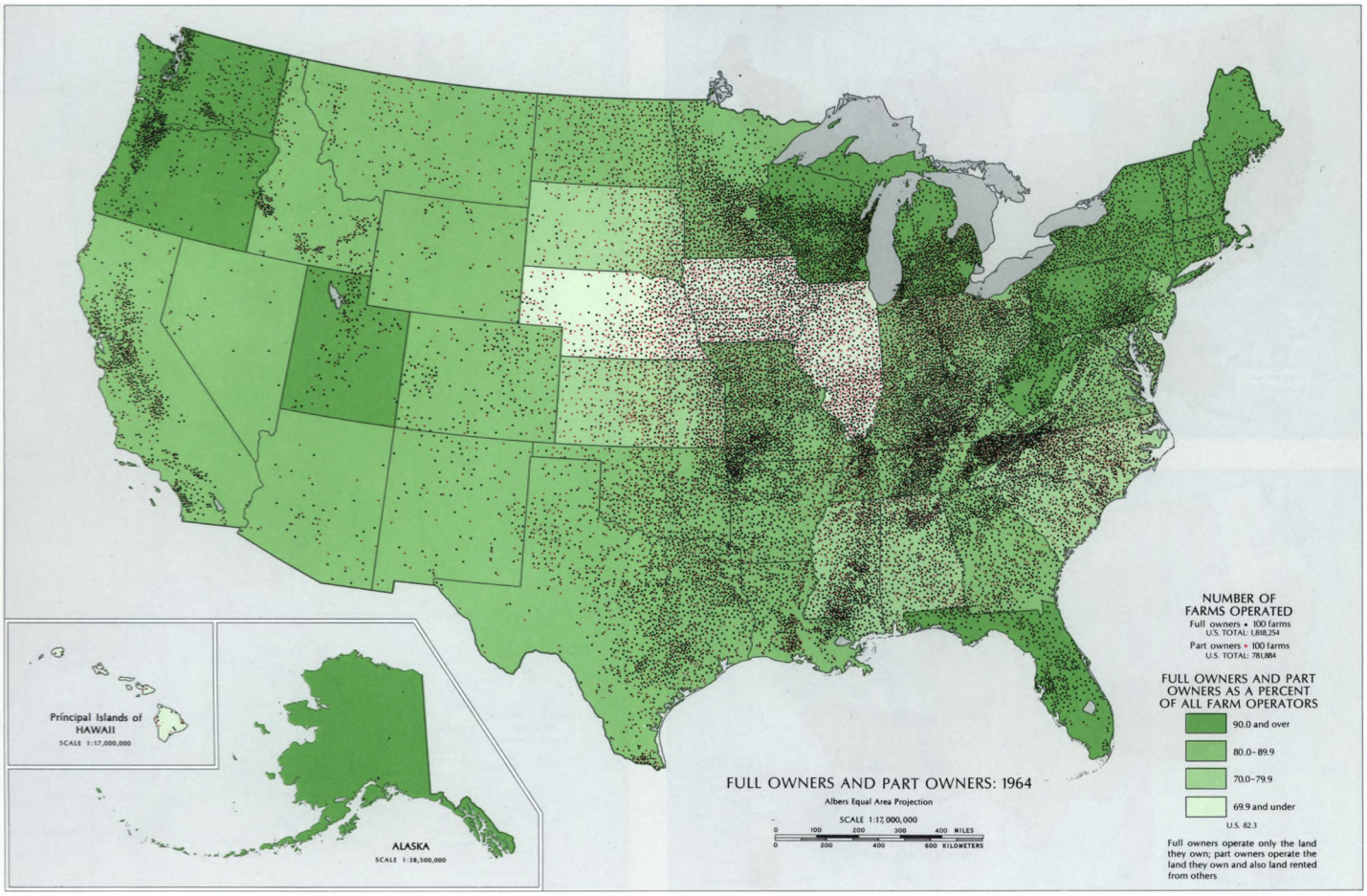




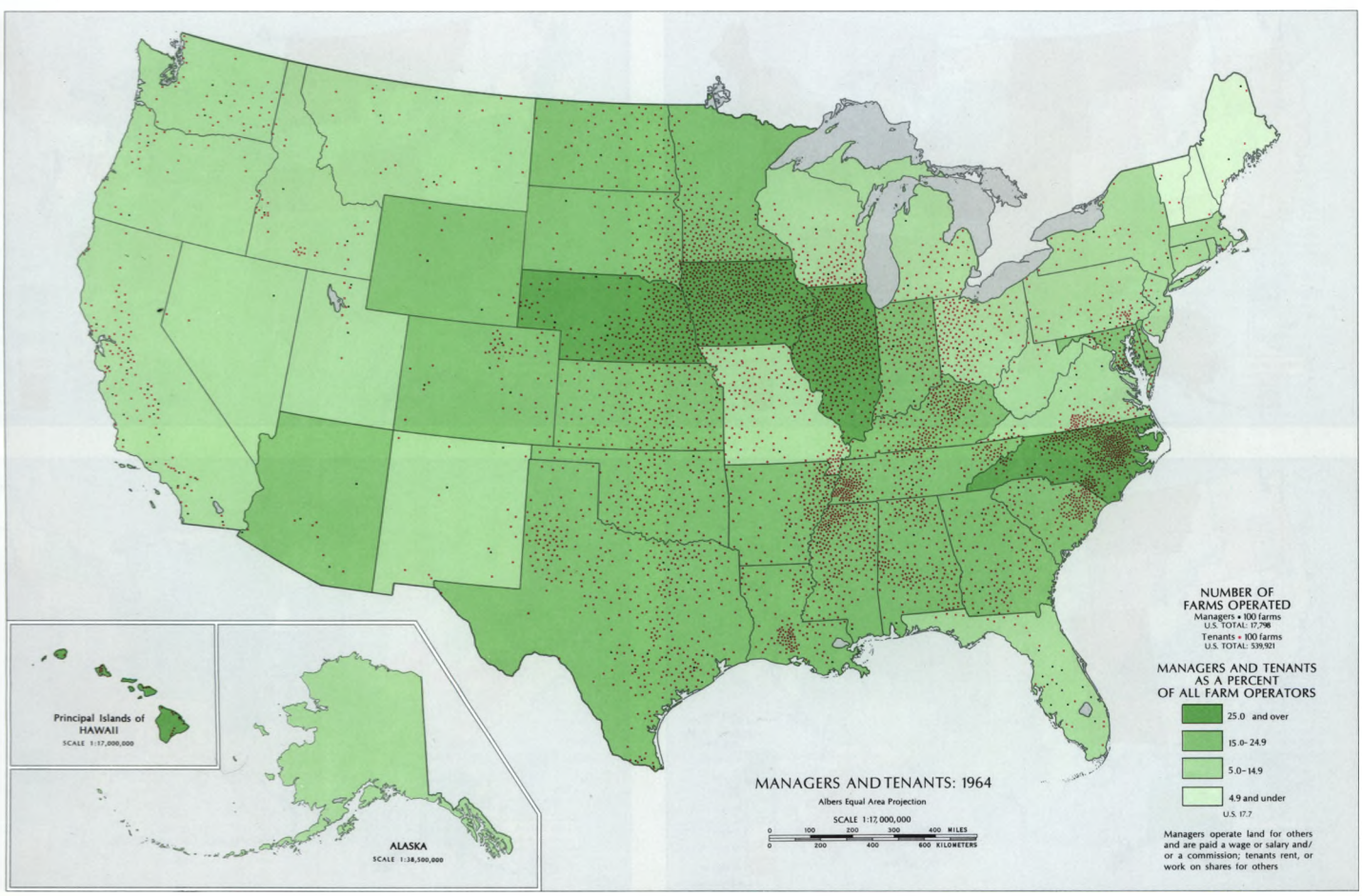
Compiled from information provided by the Conservation Needs Inventory Committee, U.S. Dept. of Agriculture, 1967

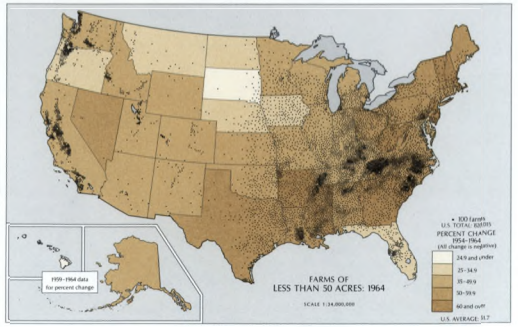


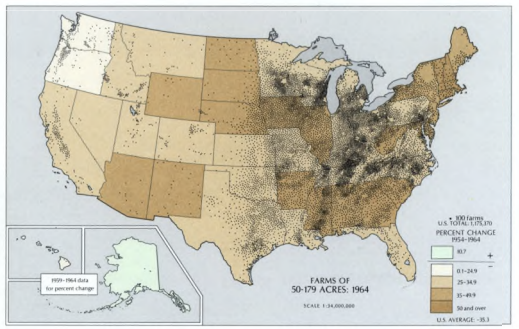


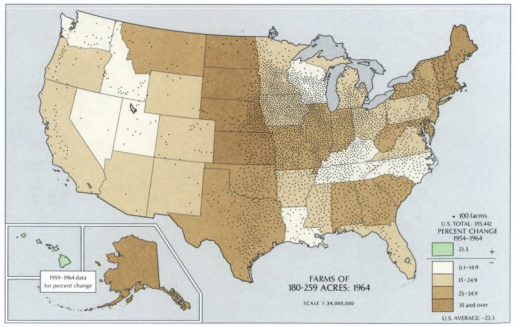


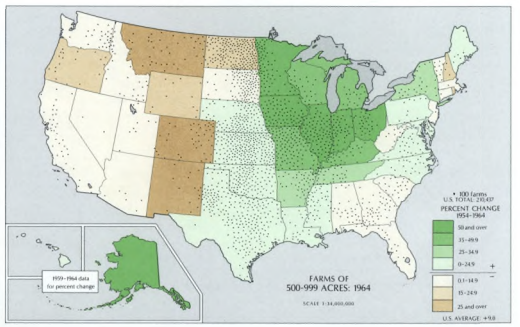
Compiled from U.S. Bureau of the Census, *Census of agriculture: 1964*, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 4 and State table 3

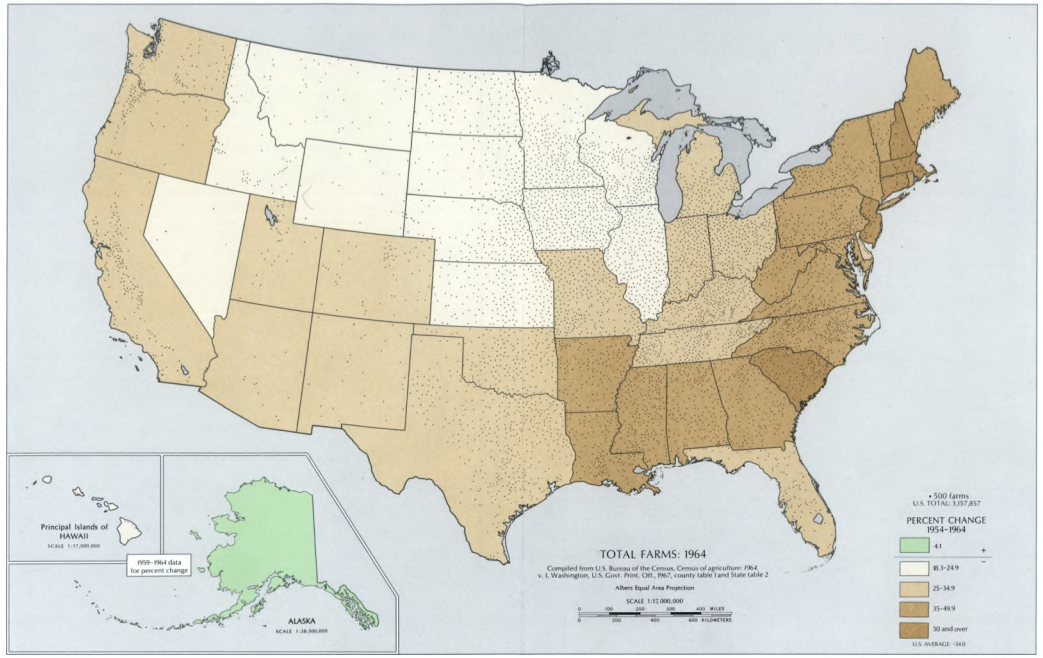




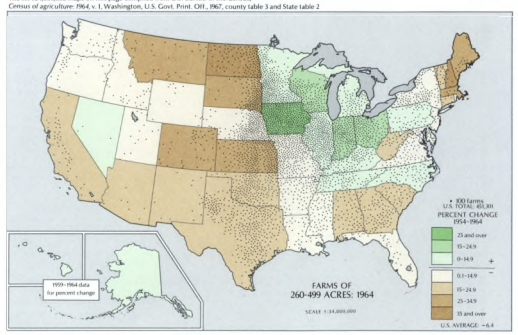


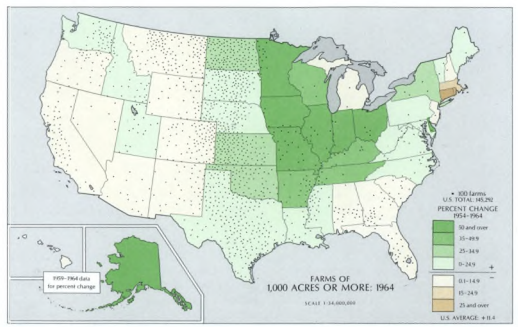






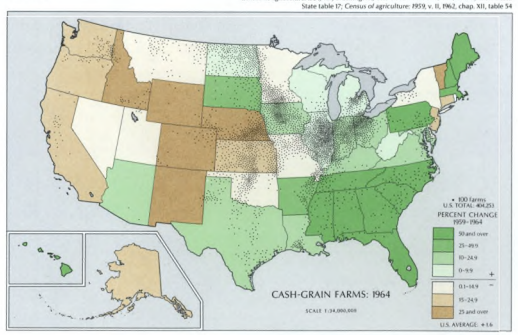
The six 1:34,000,000 maps on this page compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 3 and State table 2

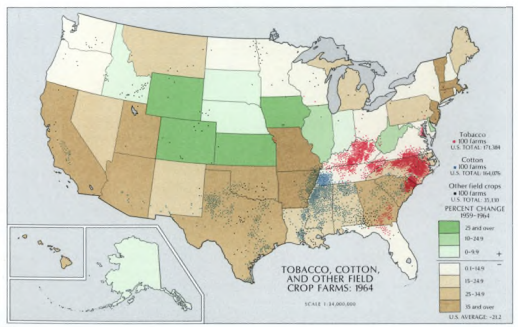


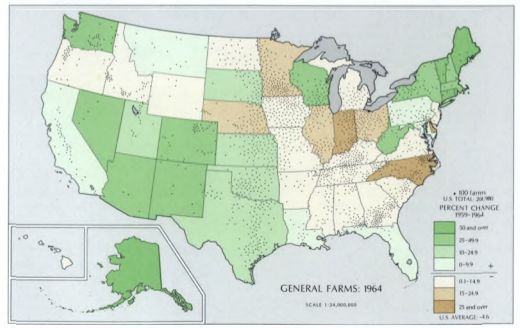


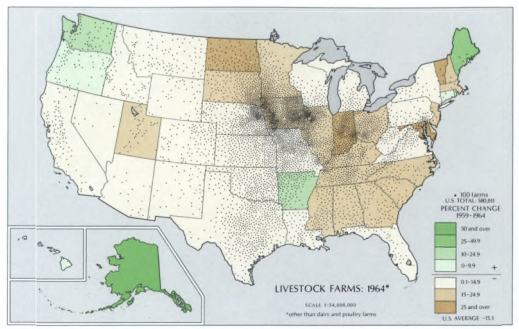
Production is negligible in uncolored areas

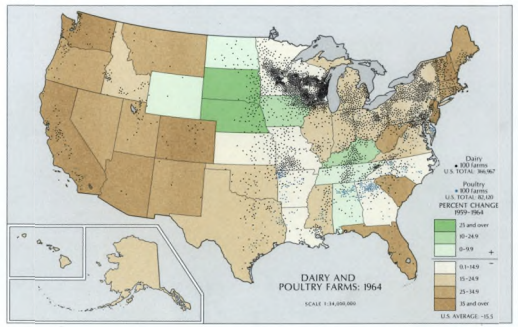
The six 1:34,000,000 maps on this page compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 6 and State table 17; Census of agriculture: 1959, v. II, 1962, chap. XII, table 54

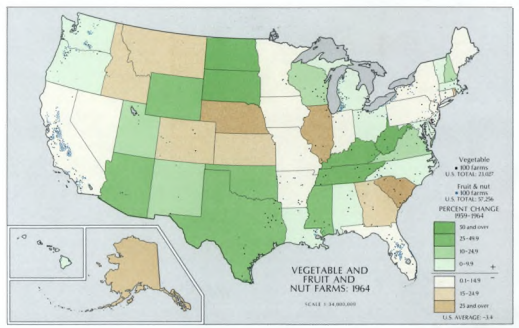


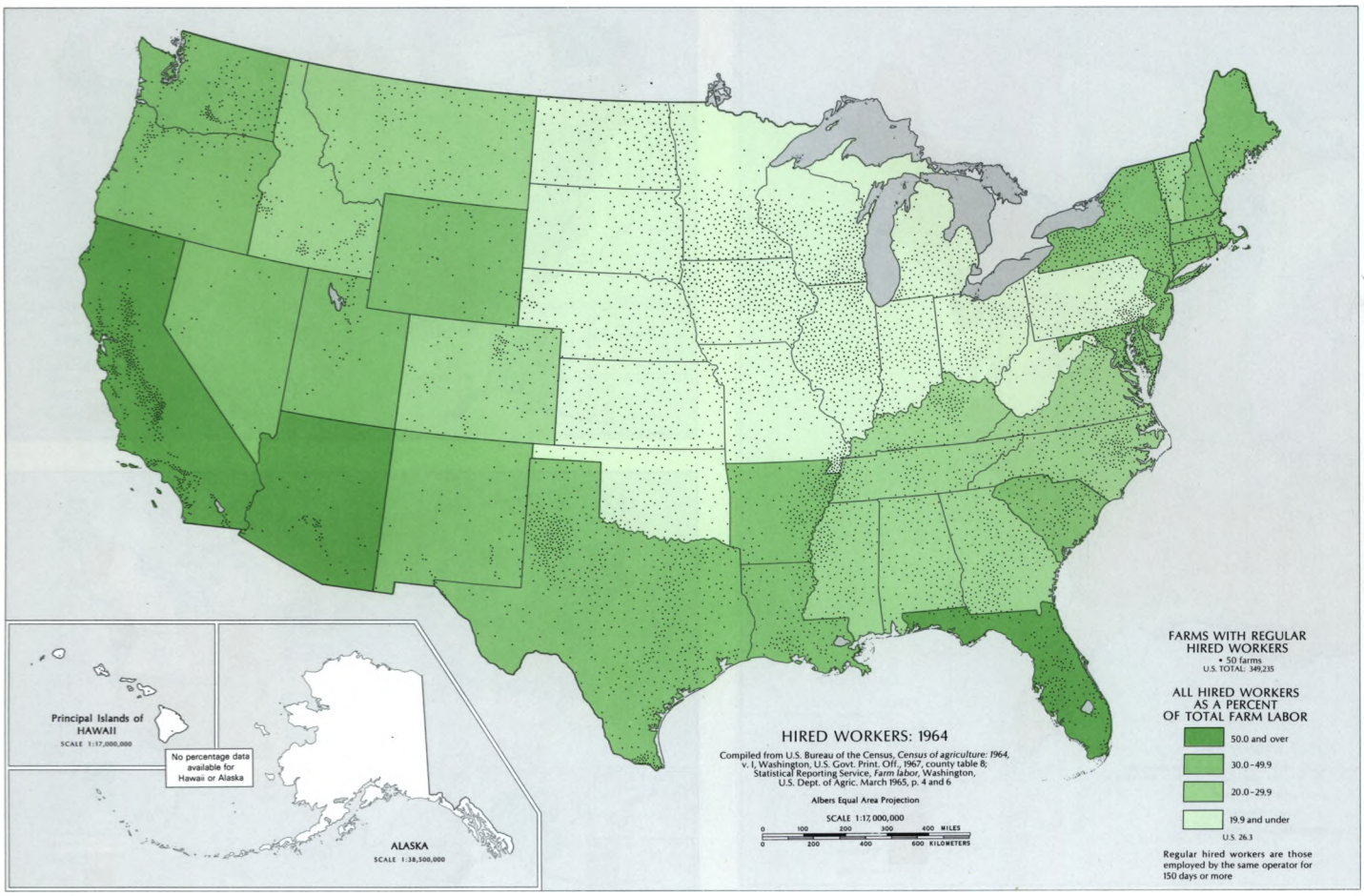


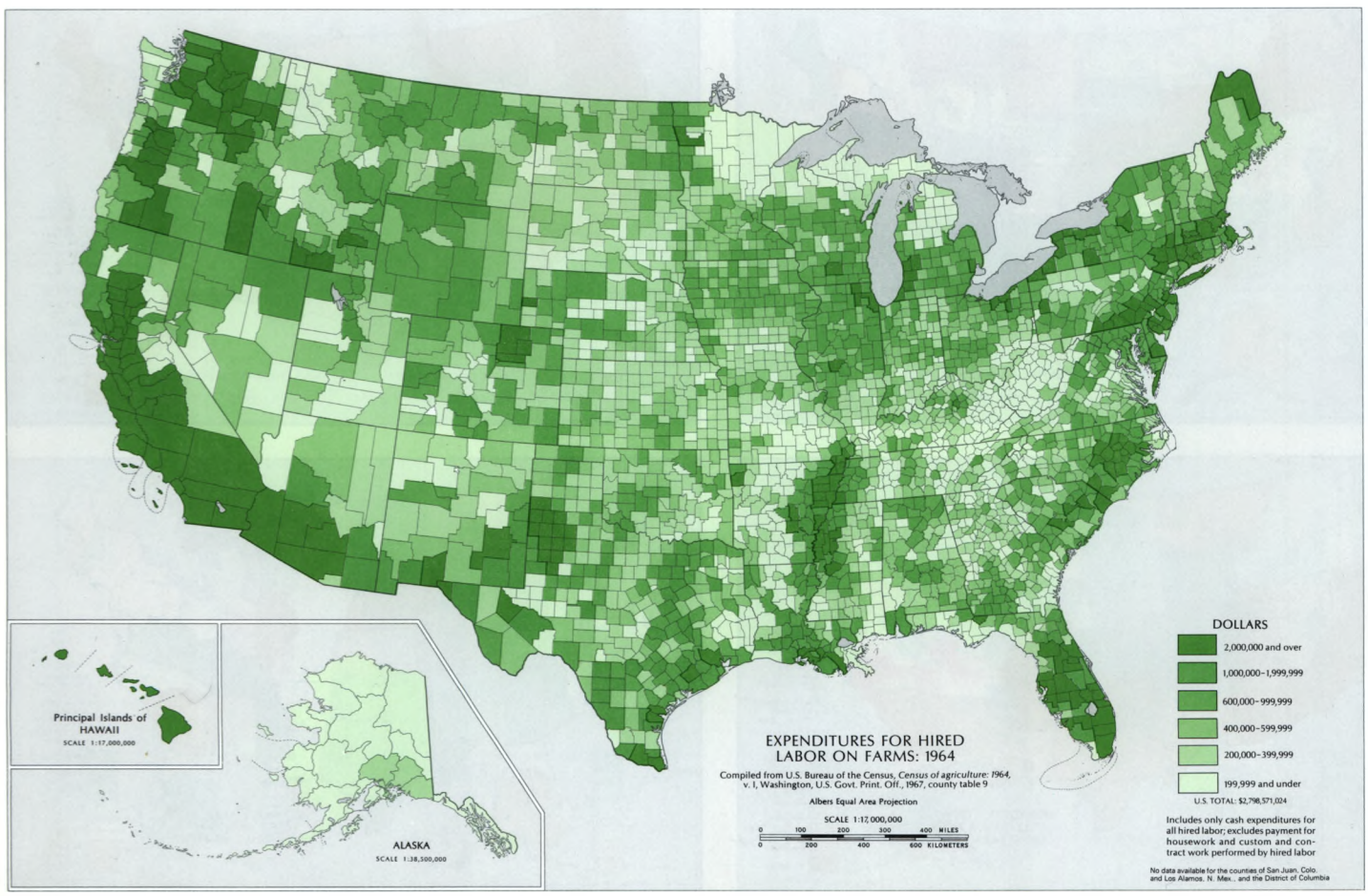


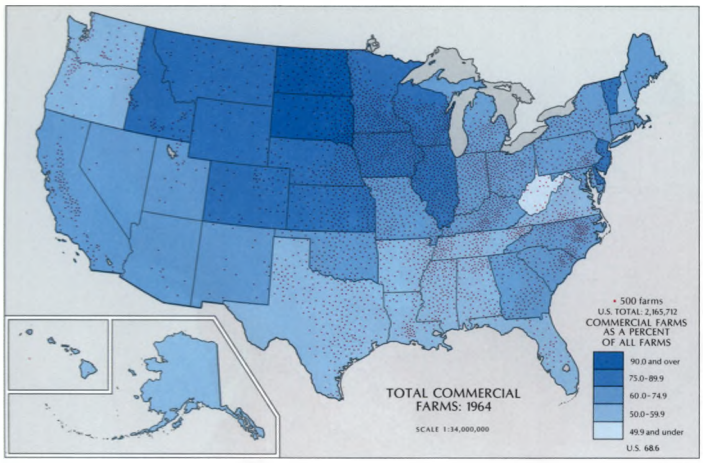


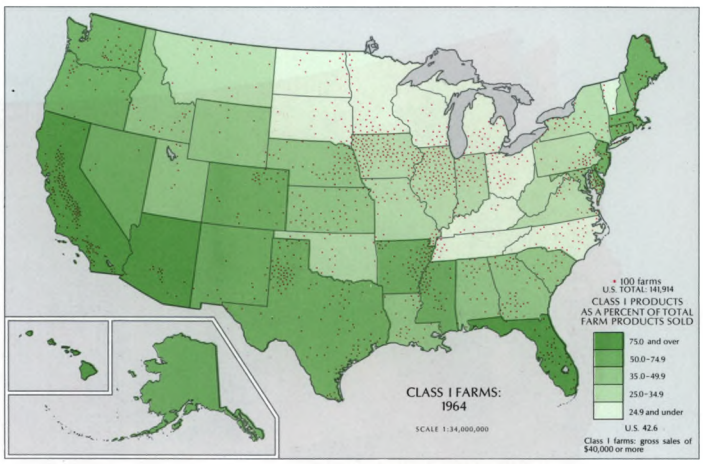


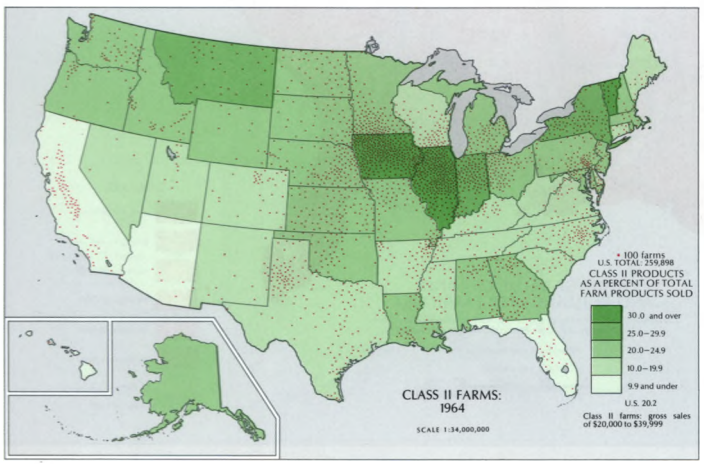


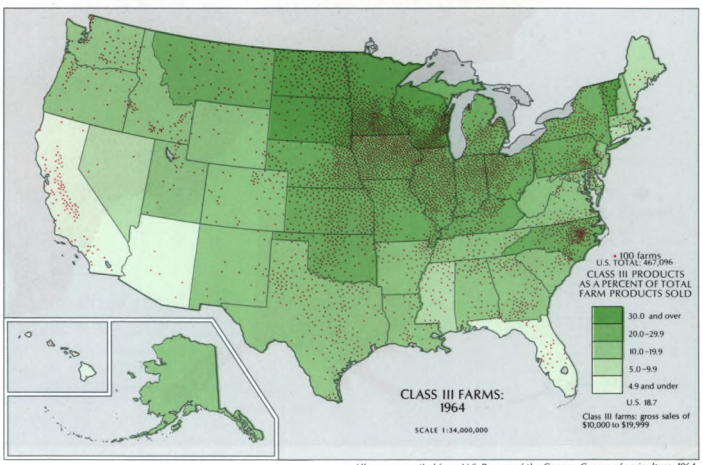

Principal Islands of HAWAII
SCALE 1:17,000,000
No percentage data available for Hawaii or Alaska
ALASKA
SCALE 1:38,500,000
HIRED WORKERS: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 8; Statistical Reporting Service, Farm labor, Washington, U.S. Dept. of Agric. March 1965, p. 4 and 6
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS
FARMS WITH REGULAR HIRED WORKERS
• 50 farms
U.S. TOTAL: 349,235
ALL HIRED WORKERS AS A PERCENT OF TOTAL FARM LABOR
50.0 and over
30.0–49.9
20.0–29.9
19.9 and under
U.S. 26.3
Regular hired workers are those employed by the same operator for 150 days or more


Principal Islands of HAWAII
SCALE 1:17,000,000
ALASKA
SCALE 1:38,500,000
EXPENDITURES FOR HIRED LABOR ON FARMS: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 9
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS
DOLLARS
2,000,000 and over
1,000,000–1,999,999
600,000–999,999
400,000–599,999
200,000–399,999
199,999 and under
U.S. TOTAL: $2,798,571,024
Includes only cash expenditures for all hired labor; excludes payment for housework and custom and contract work performed by hired labor
No data available for the counties of San Juan, Colo. and Los Alamos, N. Mex., and the District of Columbia

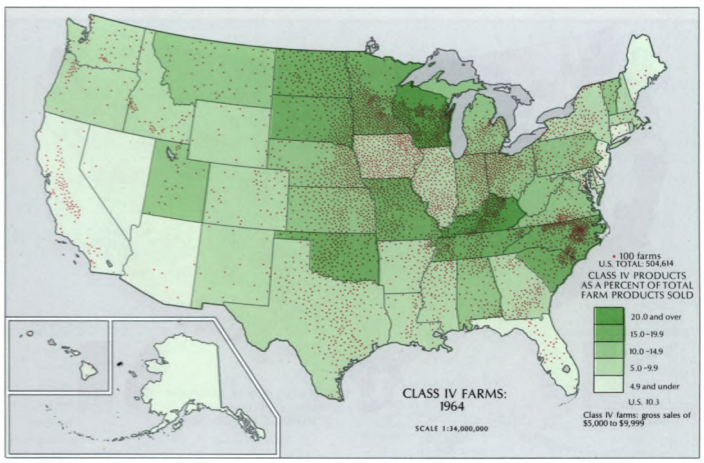


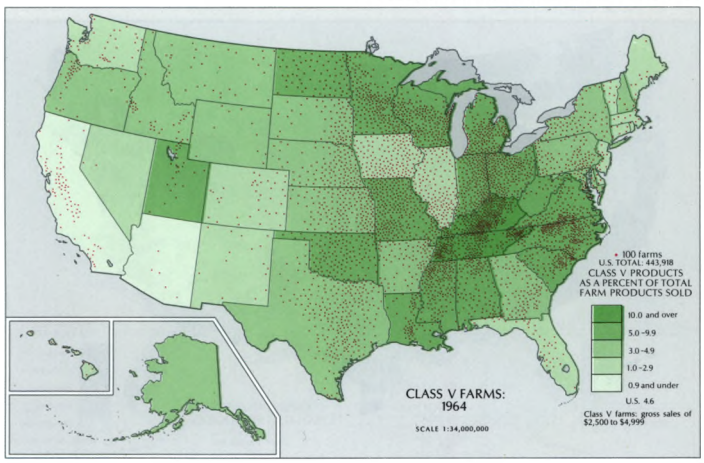


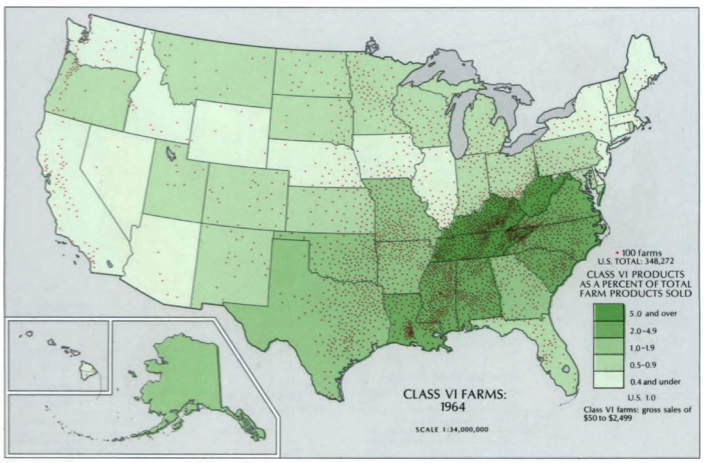


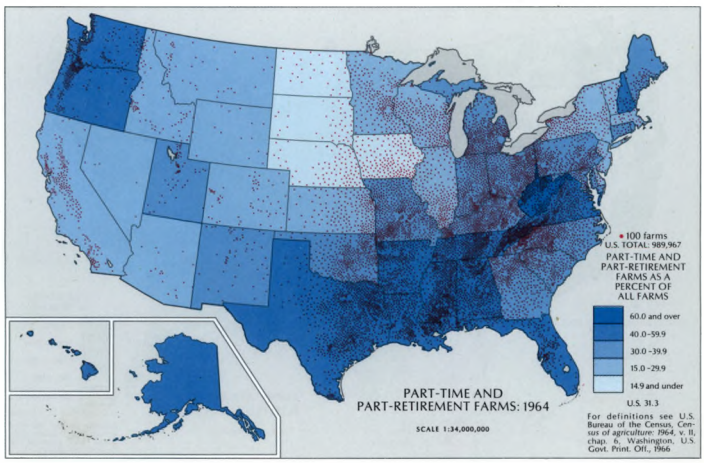


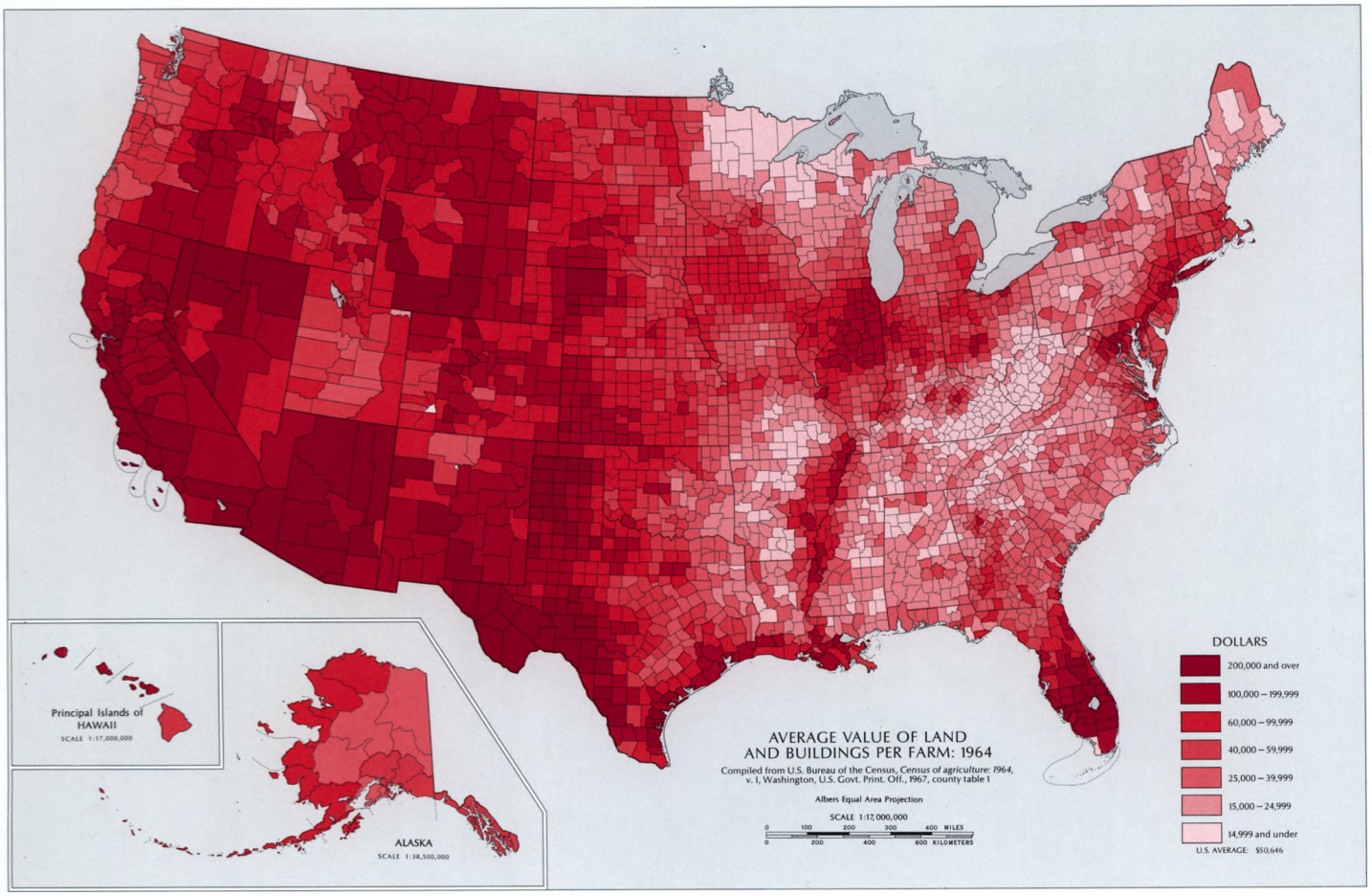
All maps compiled from U.S. Bureau of the Census, *Census of agriculture: 1964*, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 6 and State table 17



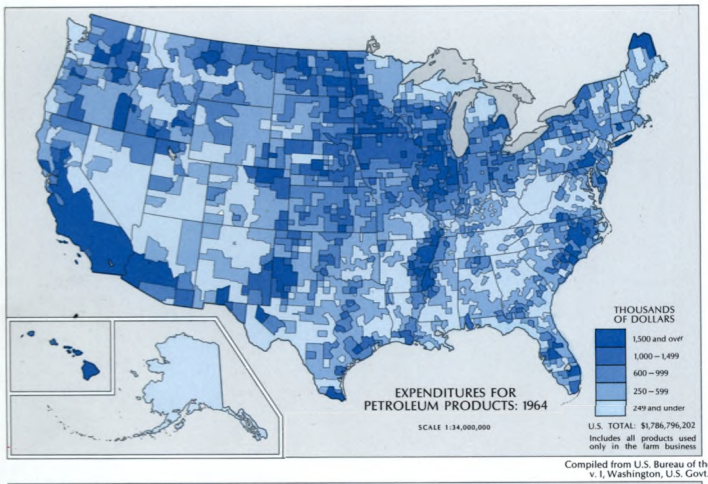


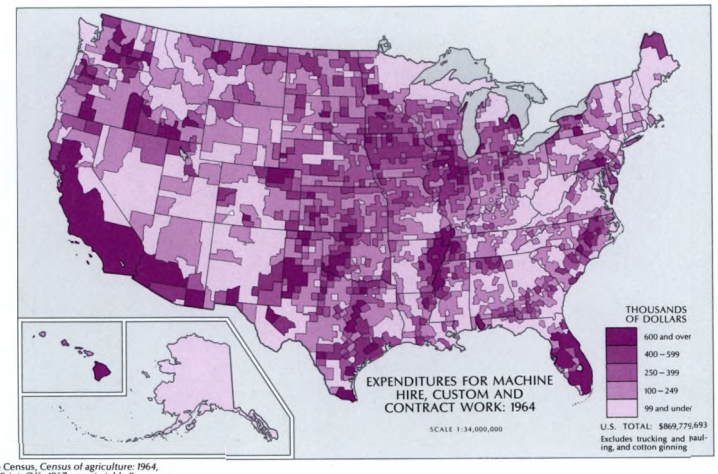




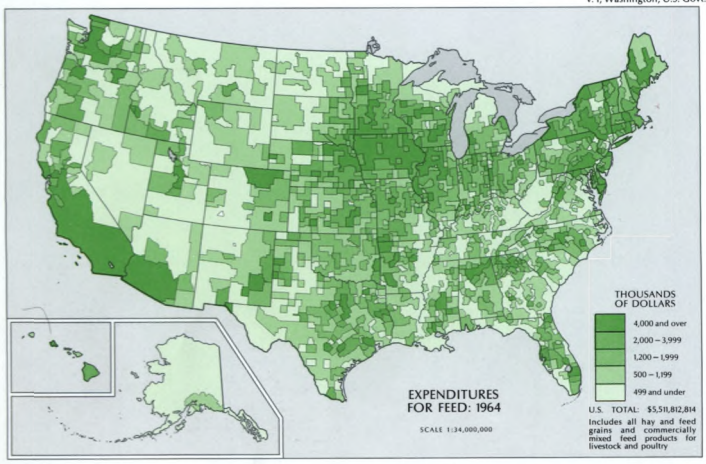


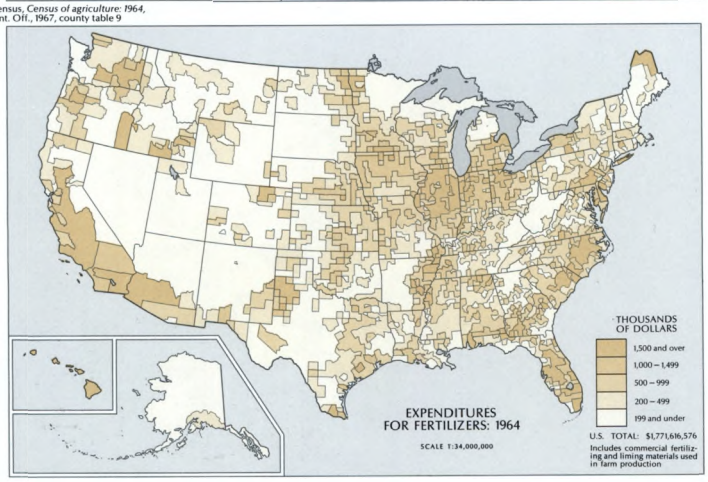
No data available for the counties of San Juan, Colo. and Los Alamos, N. Mex., and the District of Columbia

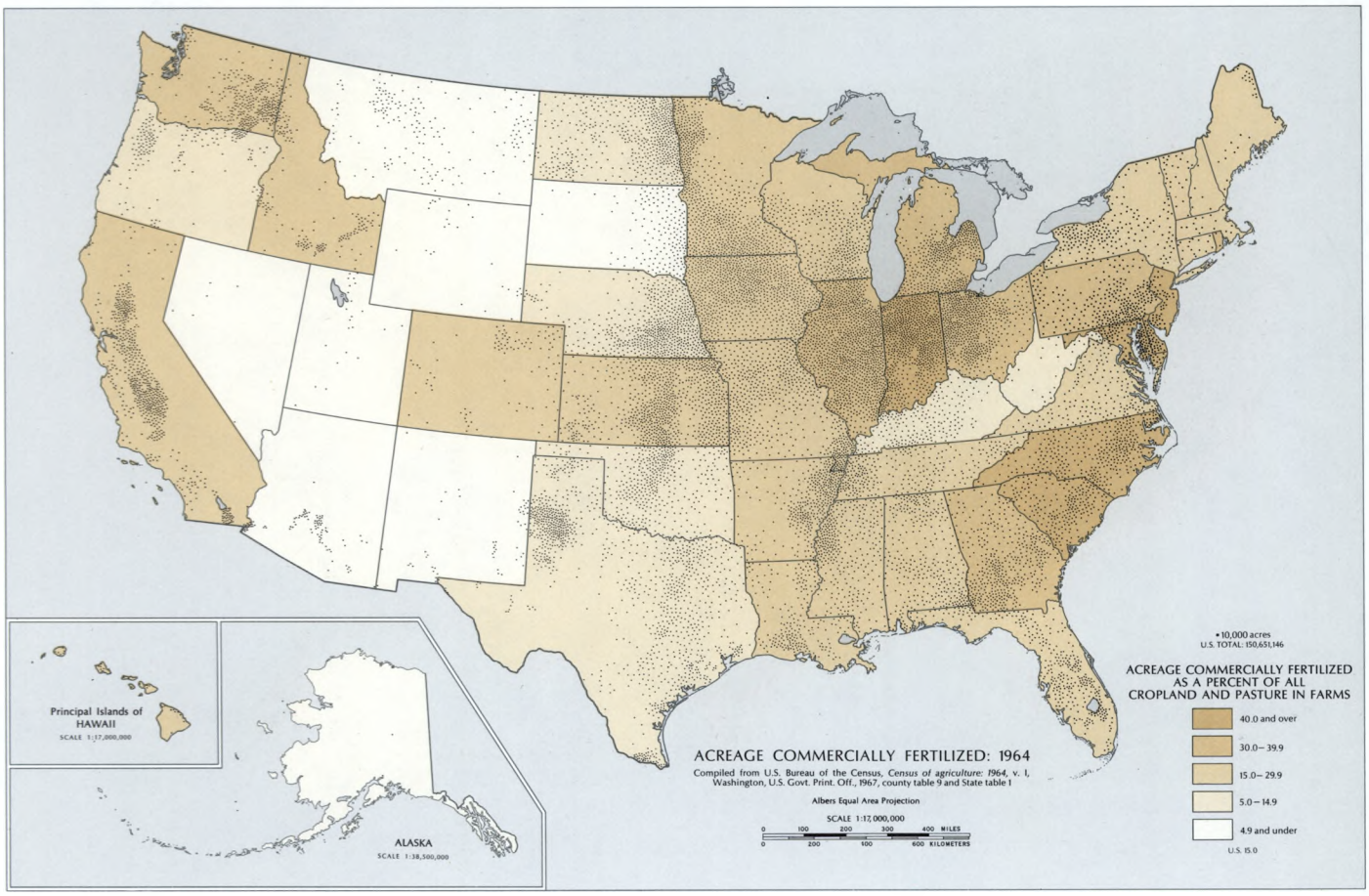


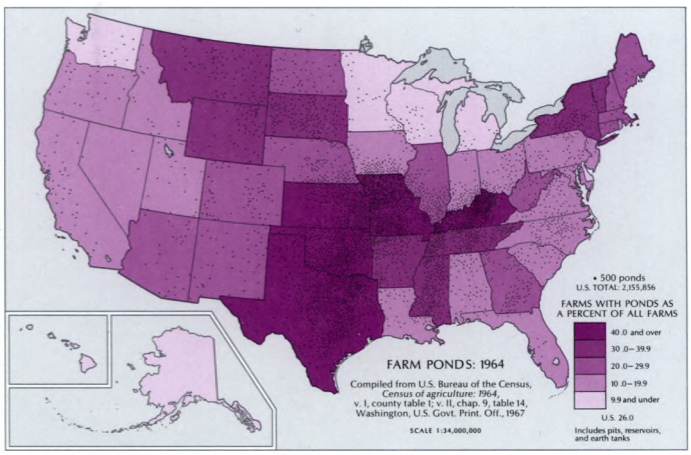


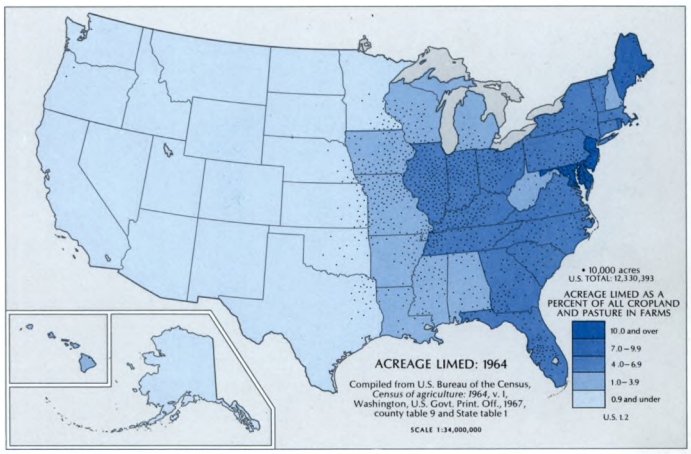
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 9

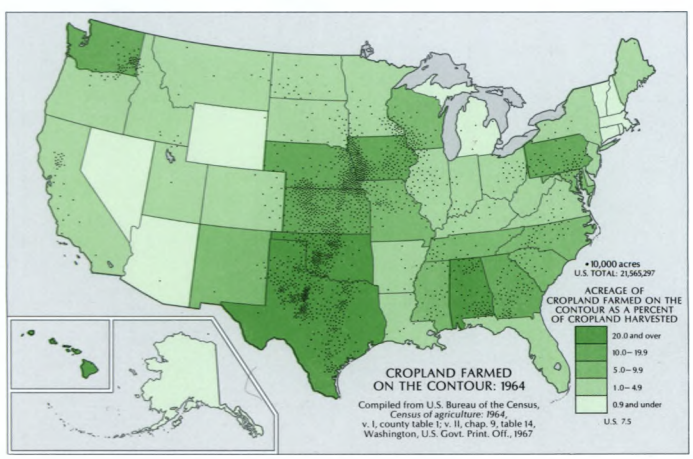


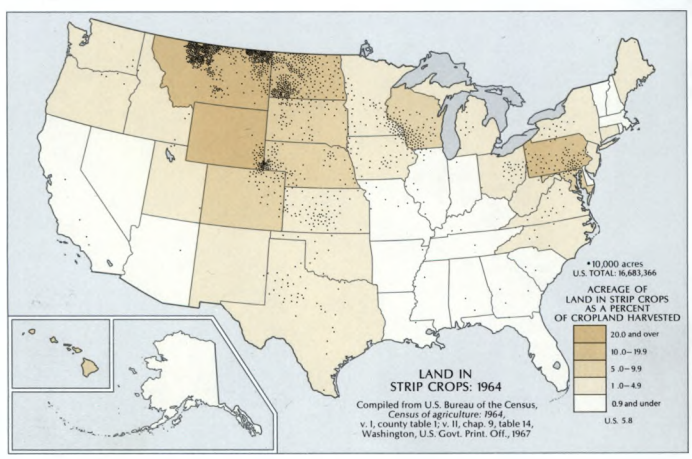


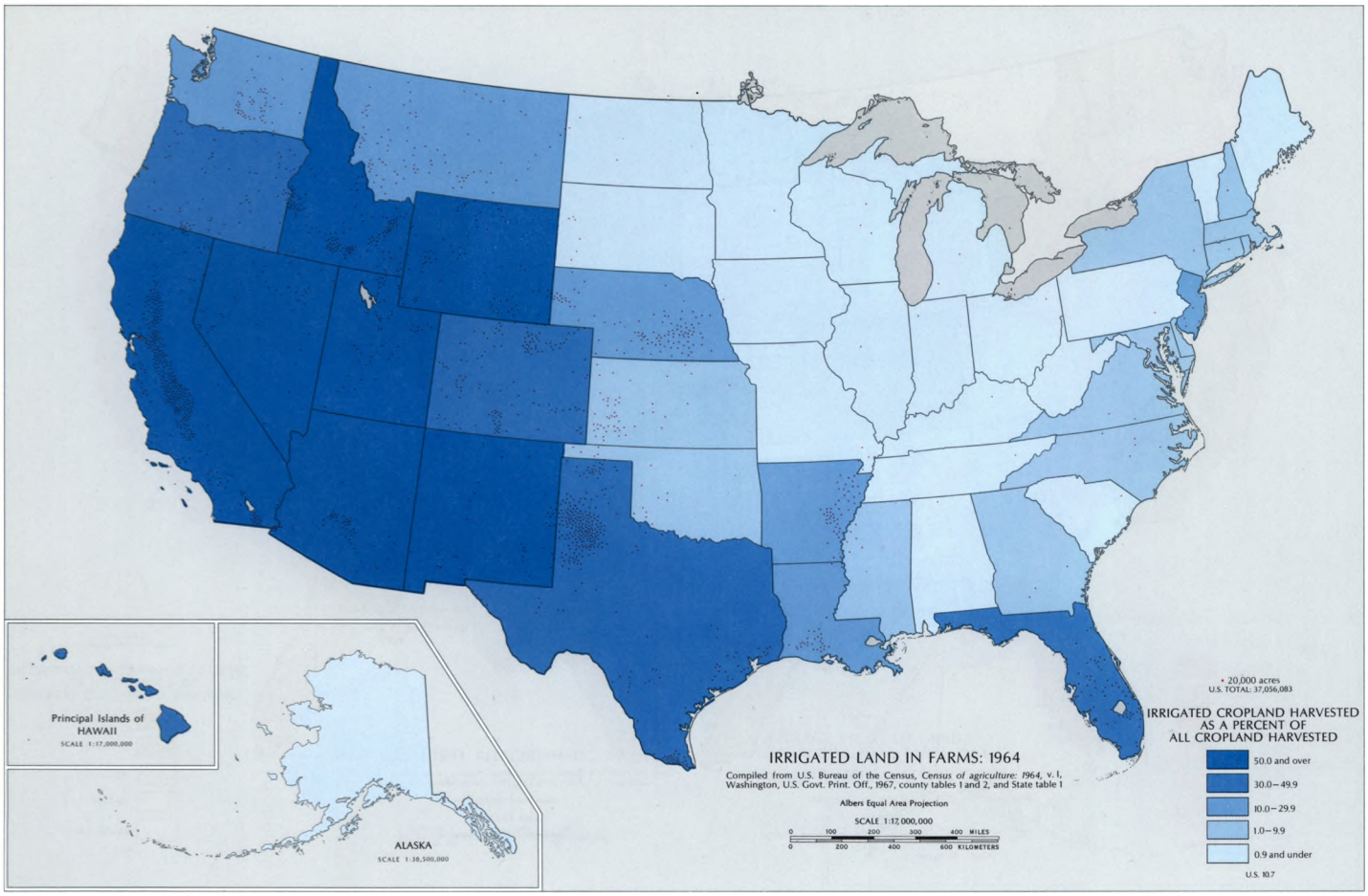

Principal Islands of HAWAII
SCALE 1:17,000,000
ALASKA
SCALE 1:38,500,000
• 10,000 acres
U.S. TOTAL: 150,651,146
ACREAGE COMMERCIALLY FERTILIZED AS A PERCENT OF ALL CROPLAND AND PASTURE IN FARMS
40.0 and over
30.0 – 39.9
15.0 – 29.9
5.0 – 14.9
4.9 and under
U.S. 15.0
ACREAGE COMMERCIALLY FERTILIZED: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 9 and State table 1
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS

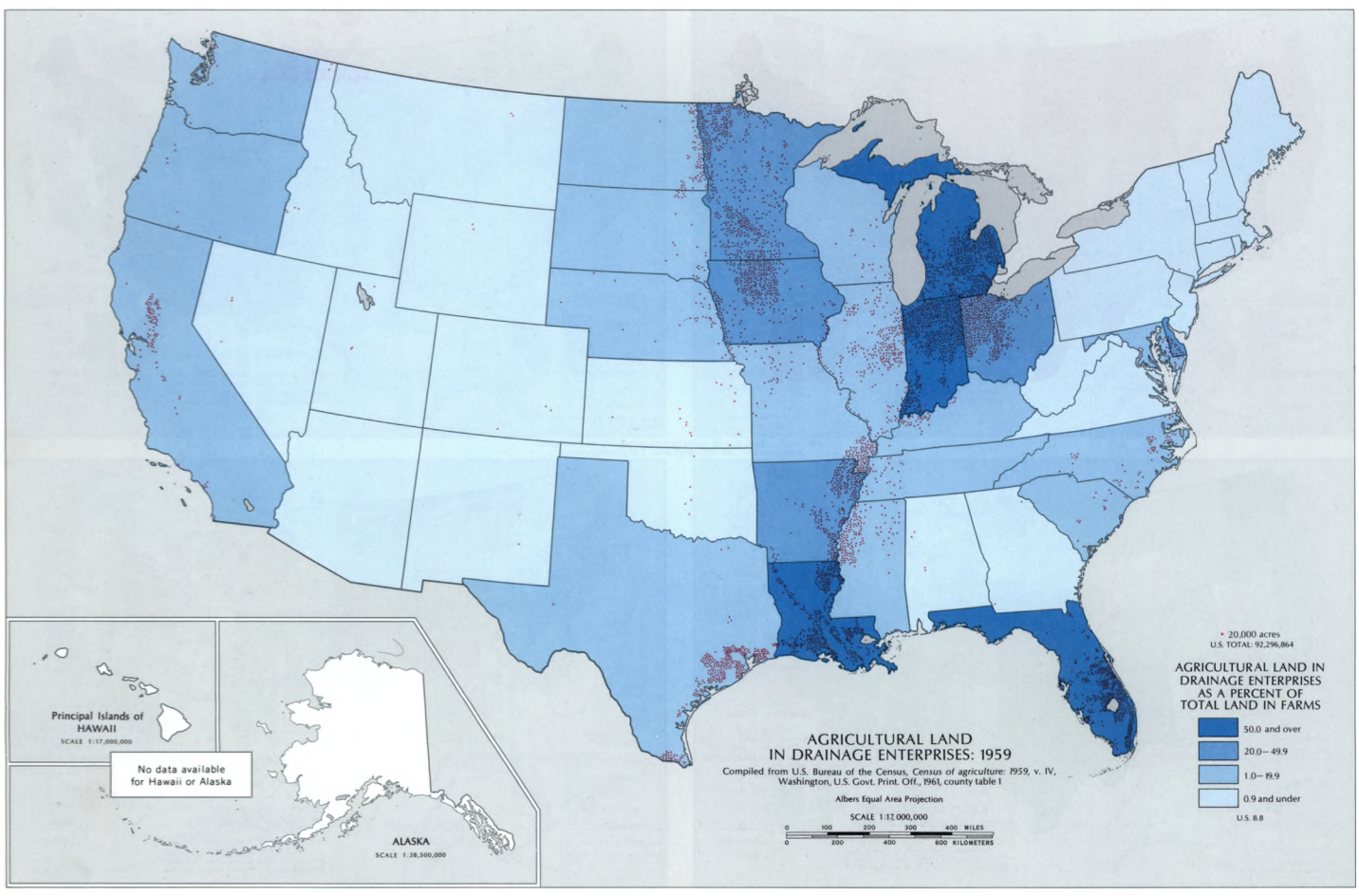

• 500 ponds
U.S. TOTAL: 2,255,856
FARMS WITH PONDS AS A PERCENT OF ALL FARMS
40.0 and over
30.0 – 39.9
20.0 – 29.9
10.0 – 19.9
9.9 and under
U.S. 26.0
Includes pits, reservoirs, and earth tanks
FARM PONDS: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, county table 1; v. II, chap. 9, table 14, Washington, U.S. Govt. Print. Off., 1967
SCALE 1:34,000,000

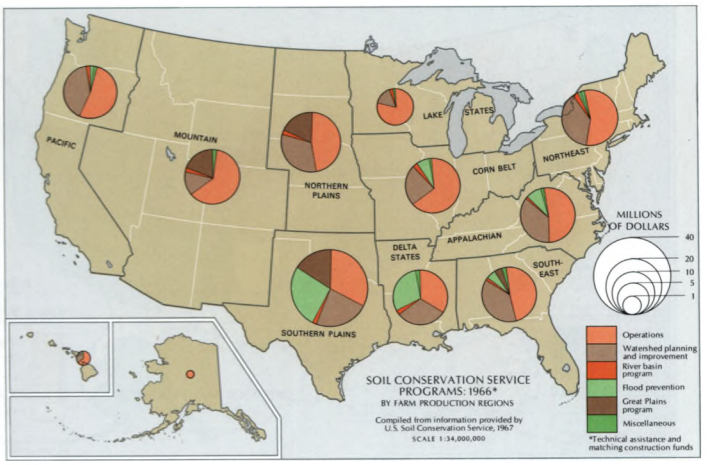

• 10,000 acres
U.S. TOTAL: 12,330,393
ACREAGE LIMED AS A PERCENT OF ALL CROPLAND AND PASTURE IN FARMS
10.0 and over
7.0 – 9.9
4.0 – 6.9
1.0 – 3.9
0.9 and under
U.S. 1.2
ACREAGE LIMED: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 9 and State table 1
SCALE 1:34,000,000

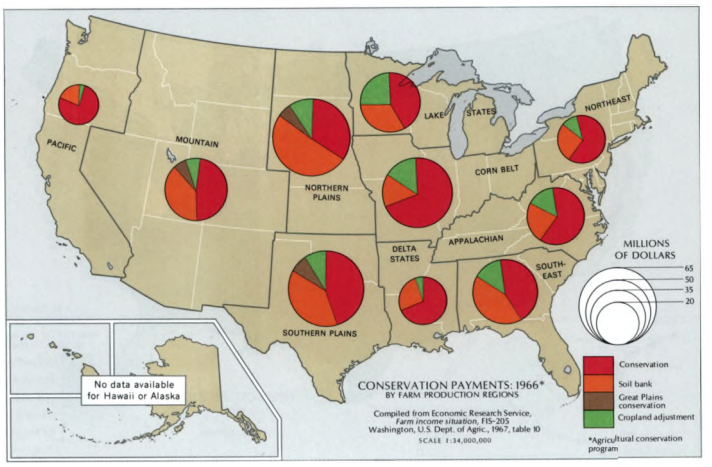

• 10,000 acres
U.S. TOTAL: 21,565,297
ACREAGE OF CROPLAND FARMED ON THE CONTOUR AS A PERCENT OF CROPLAND HARVESTED
20.0 and over
10.0 – 19.9
5.0 – 9.9
1.0 – 4.9
0.9 and under
U.S. 7.5
CROPLAND FARMED ON THE CONTOUR: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, county table 1; v. II, chap. 9, table 14, Washington, U.S. Govt. Print. Off., 1967

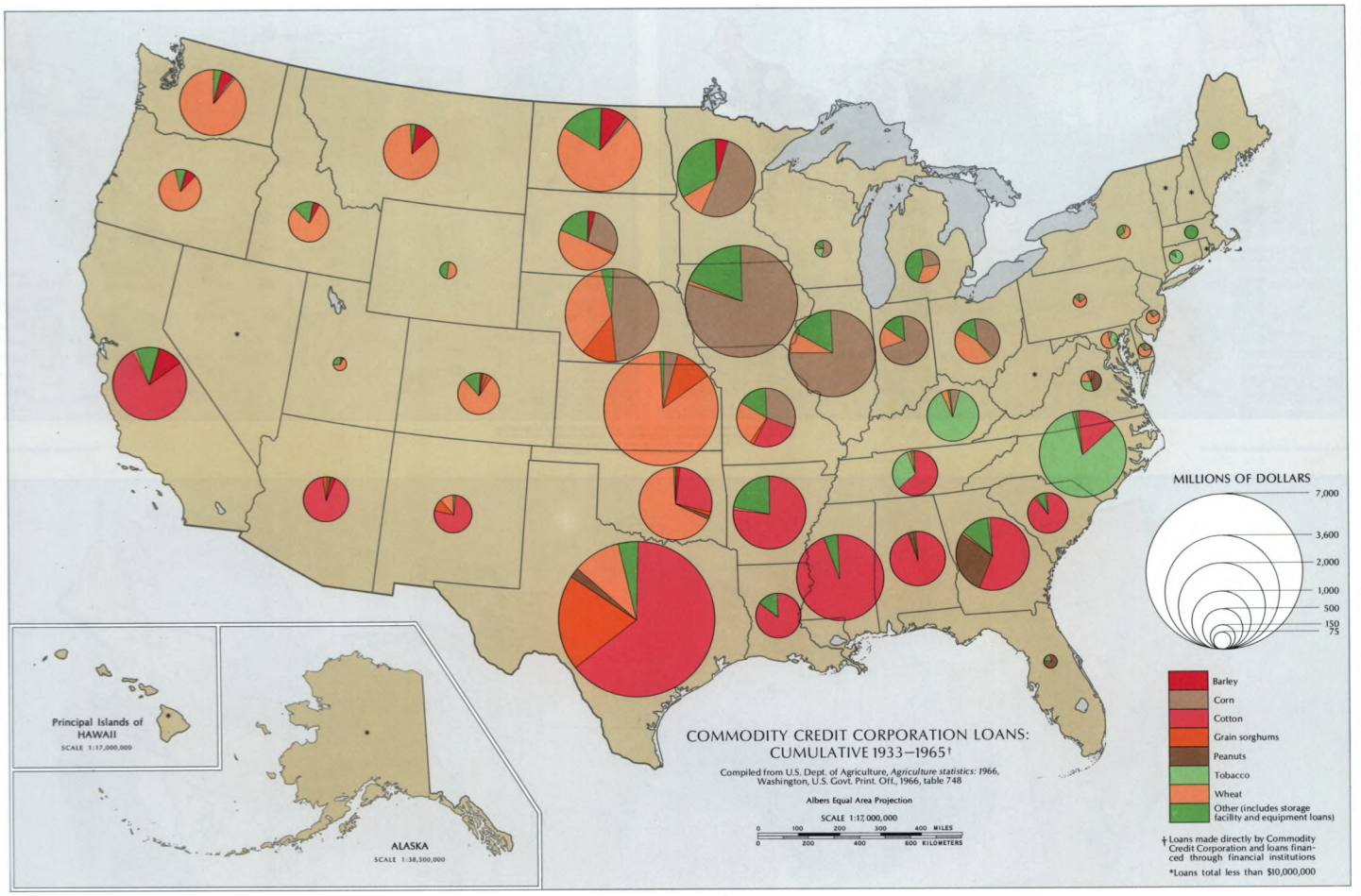

• 10,000 acres
U.S. TOTAL: 16,683,366
ACREAGE OF LAND IN STRIP CROPS AS A PERCENT OF CROPLAND HARVESTED
20.0 and over
10.0 – 19.9
5.0 – 9.9
1.0 – 4.9
0.9 and under
U.S. 5.8
LAND IN STRIP CROPS: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, county table 1; v. II, chap. 9, table 14, Washington, U.S. Govt. Print. Off., 1967

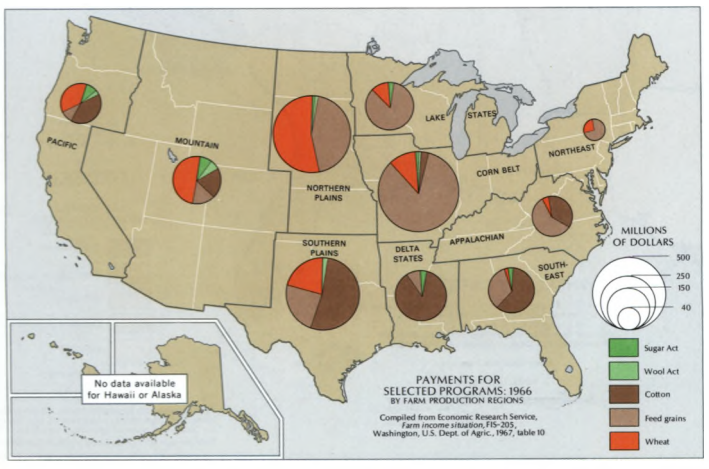

Principal Islands of HAWAII
SCALE 1:17,000,000
ALASKA
SCALE 1:38,500,000
IRRIGATED LAND IN FARMS: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county tables 1 and 2, and State table 1
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS
• 20,000 acres
U.S. TOTAL: 37,056,083
IRRIGATED CROPLAND HARVESTED AS A PERCENT OF ALL CROPLAND HARVESTED
50.0 and over
30.0–49.9
10.0–29.9
1.0–9.9
0.9 and under
U.S. 10.7

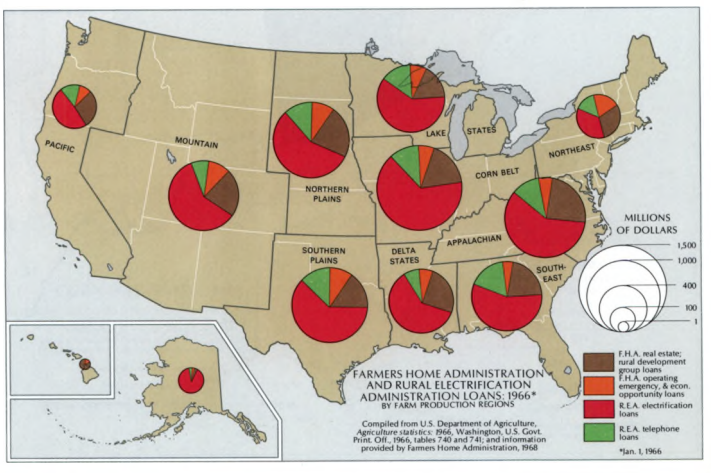

Principal Islands of HAWAII
SCALE 1:17,000,000
No data available for Hawaii or Alaska
ALASKA
SCALE 1:38,500,000
AGRICULTURAL LAND IN DRAINAGE ENTERPRISES: 1959
Compiled from U.S. Bureau of the Census, Census of agriculture: 1959, v. IV, Washington, U.S. Govt. Print. Off., 1961, county table 1
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS
• 20,000 acres
U.S. TOTAL: 92,296,864
AGRICULTURAL LAND IN DRAINAGE ENTERPRISES AS A PERCENT OF TOTAL LAND IN FARMS
50.0 and over
20.0–49.9
1.0–19.9
0.9 and under
U.S. 8.8

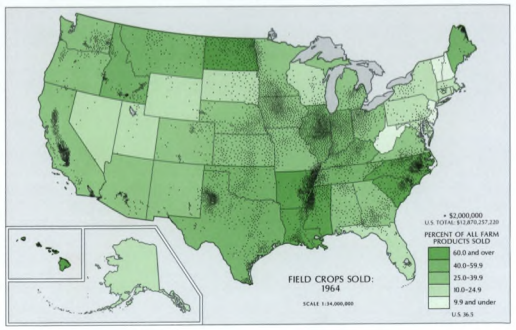

PACIFIC
MOUNTAIN
NORTHERN PLAINS
LAKE STATES
CORN BELT
NORTHEAST
DELTA STATES
APPALACHIAN
SOUTH-EAST
SOUTHERN PLAINS
MILLIONS OF DOLLARS
40
20
10
5
1
Operations
Watershed planning and improvement
River basin program
Flood prevention
Great Plains program
Miscellaneous
*Technical assistance and matching construction funds
SOIL CONSERVATION SERVICE PROGRAMS: 1966*
BY FARM PRODUCTION REGIONS
Compiled from information provided by U.S. Soil Conservation Service, 1967
SCALE 1:34,000,000

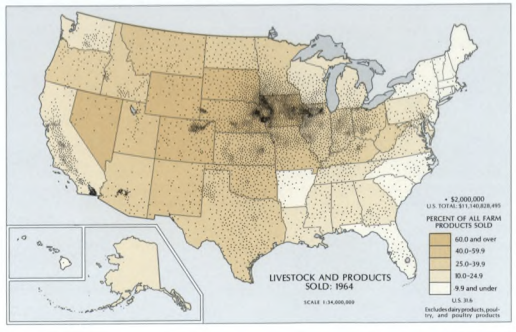

PACIFIC
MOUNTAIN
NORTHERN PLAINS
LAKE STATES
CORN BELT
NORTHEAST
DELTA STATES
APPALACHIAN
SOUTH-EAST
SOUTHERN PLAINS
No data available for Hawaii or Alaska
MILLIONS OF DOLLARS
65
50
35
20
Conservation
Soil bank
Great Plains conservation
Cropland adjustment
*Agricultural conservation program
CONSERVATION PAYMENTS: 1966*
BY FARM PRODUCTION REGIONS
Compiled from Economic Research Service, Farm income situation, FIS-205
Washington, U.S. Dept. of Agric., 1967, table 10
SCALE 1:34,000,000

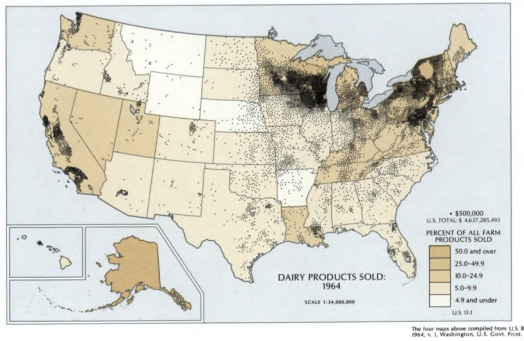

Principal Islands of HAWAII
SCALE 1:17,000,000
ALASKA
SCALE 1:38,500,000
MILLIONS OF DOLLARS
7,000
3,600
2,000
1,000
500
150
75
Barley
Corn
Cotton
Grain sorghums
Peanuts
Tobacco
Wheat
Other (includes storage facility and equipment loans)
† Loans made directly by Commodity Credit Corporation and loans financed through financial institutions
*Loans total less than $10,000,000
COMMODITY CREDIT CORPORATION LOANS: CUMULATIVE 1933–1965†
Compiled from U.S. Dept. of Agriculture, Agriculture statistics: 1966, Washington, U.S. Govt. Print. Off., 1966, table 748
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS

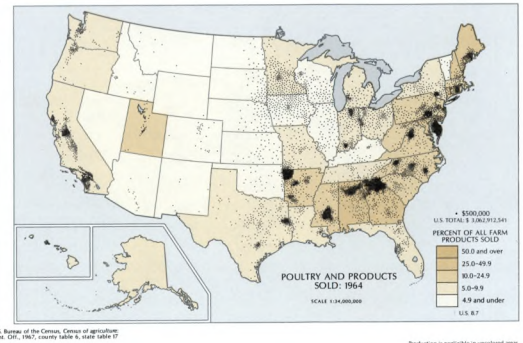

PACIFIC
MOUNTAIN
NORTHERN PLAINS
LAKE STATES
CORN BELT
NORTHEAST
SOUTHERN PLAINS
DELTA STATES
APPALACHIAN
SOUTH-EAST
No data available for Hawaii or Alaska
MILLIONS OF DOLLARS
500
250
150
40
Sugar Act
Wool Act
Cotton
Feed grains
Wheat
PAYMENTS FOR SELECTED PROGRAMS: 1966
BY FARM PRODUCTION REGIONS
Compiled from Economic Research Service, Farm income situation, FIS-205, Washington, U.S. Dept. of Agric., 1967, table 10


PACIFIC
MOUNTAIN
NORTHERN PLAINS
LAKE STATES
CORN BELT
NORTHEAST
SOUTHERN PLAINS
DELTA STATES
APPALACHIAN
SOUTH-EAST
MILLIONS OF DOLLARS
1,500
1,000
400
100
1
F.H.A. real estate; rural development group loans
F.H.A. operating emergency, & econ. opportunity loans
R.E.A. electrification loans
R.E.A. telephone loans
*Jan. 1, 1966
FARMERS HOME ADMINISTRATION AND RURAL ELECTRIFICATION ADMINISTRATION LOANS: 1966*
BY FARM PRODUCTION REGIONS
Compiled from U.S. Department of Agriculture, Agriculture statistics: 1966, Washington, U.S. Govt. Print. Off., 1966, tables 740 and 741; and information provided by Farmers Home Administration, 1968



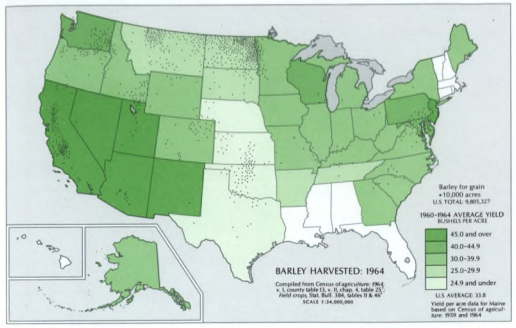


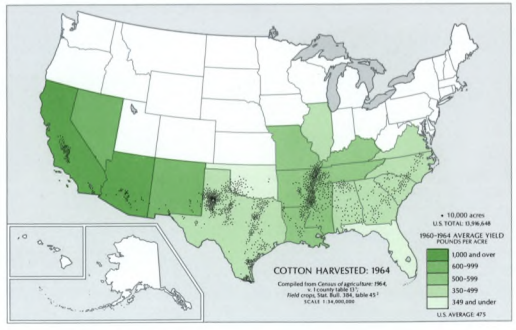


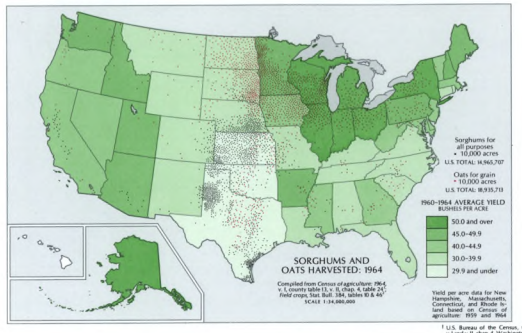


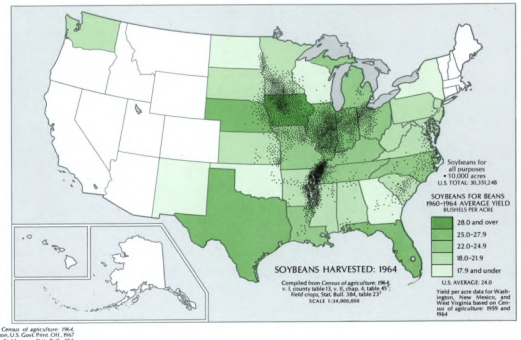
The four maps above compiled from U.S. Bureau of the Census, *Census of agriculture: 1964*, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 6, state table 17

Production is negligible in uncolored areas





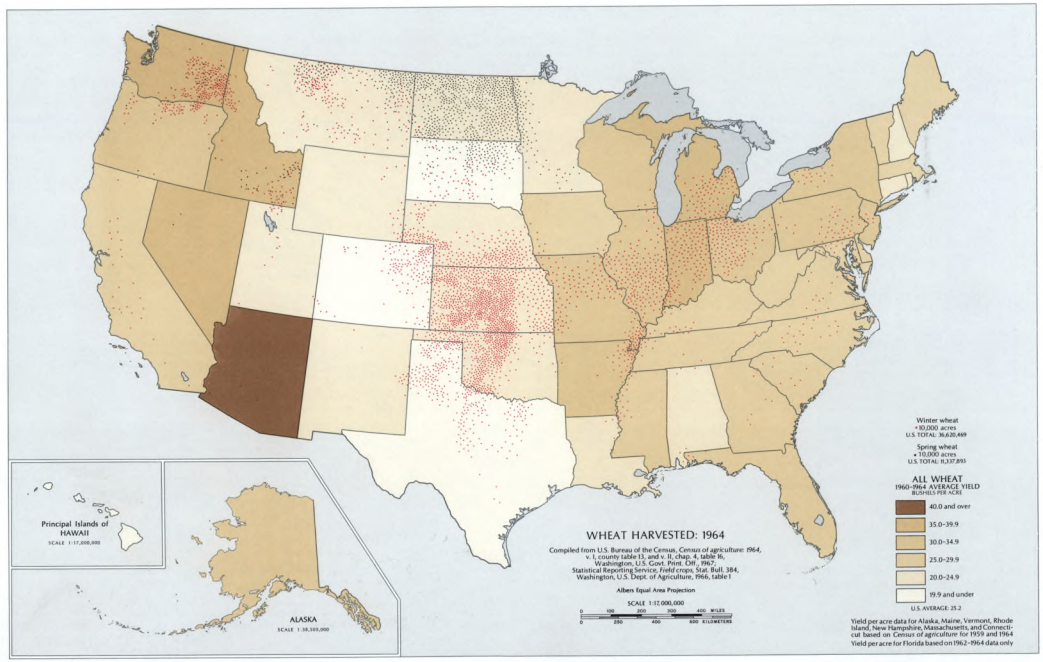


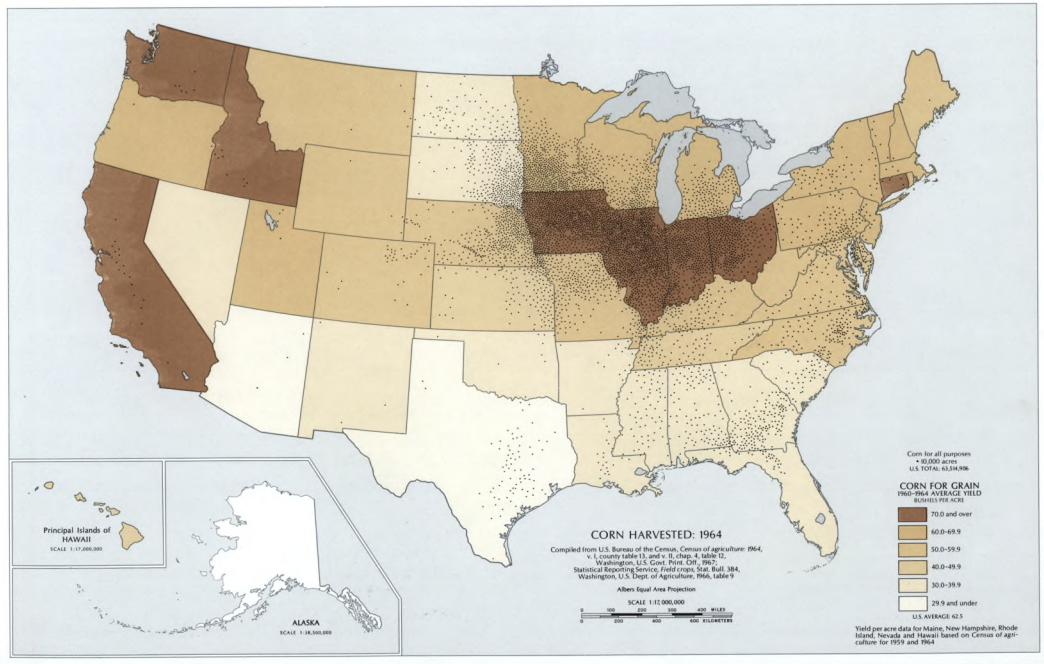


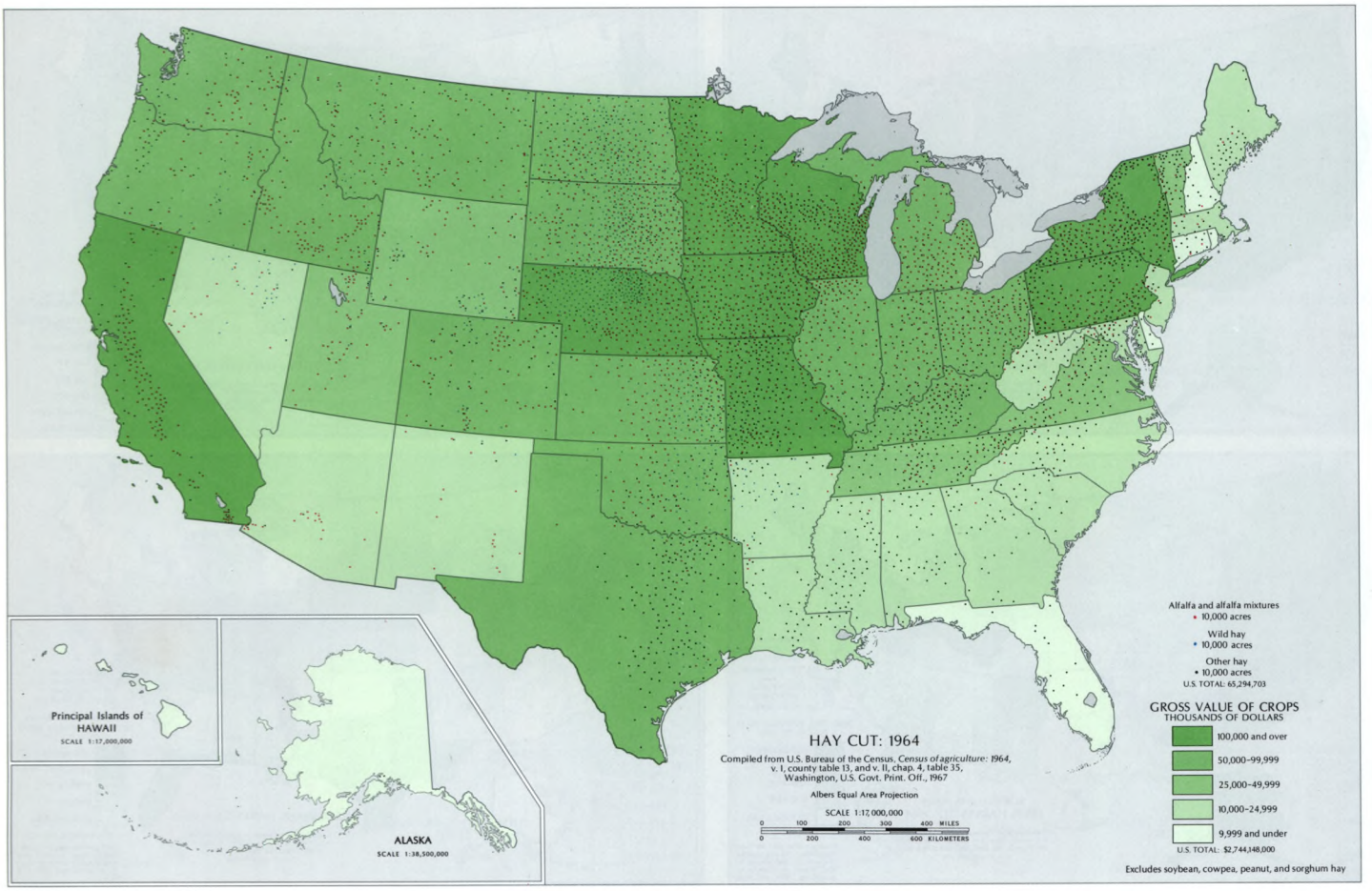
[1] U.S. Bureau of the Census, *Census of agriculture: 1964*, v. I and v. II, chap. 4. Washington, U.S. Govt. Print. Off., 1967

[2] Statistical Reporting Service, *Field crops*, Stat. Bull. 384. Washington, U.S. Department of Agriculture, 1966

Production is negligible in uncolored areas







HAY CUT: 1964

Compiled from U.S. Bureau of the Census, *Census of agriculture: 1964*, v. I, county table 13, and v. II, chap. 4, table 35, Washington, U.S. Govt. Print. Off., 1967

Albers Equal Area Projection

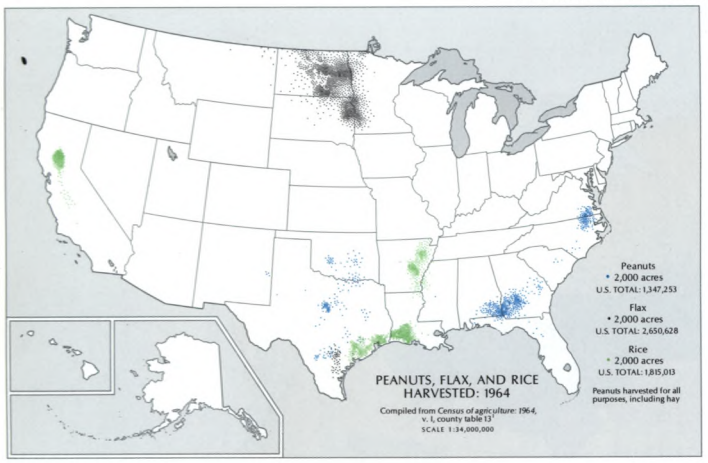
SCALE 1:17,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

[1]U.S. Bureau of the Census, *Census of agriculture: 1964*, v. I, Washington, U.S. Govt. Printing Office, 1967
[2]Statistical Reporting Service, *Potatoes and sweet potatoes*, Stat. Bull. 409, Washington, U.S. Dept. of Agric., 1967
[3]Statistical Reporting Service, *Field and seed crops*, Stat. Bull. 404, Washington, U.S. Dept. of Agric., 1967

Production is negligible in uncolored areas



PEANUTS, FLAX, AND RICE HARVESTED: 1964

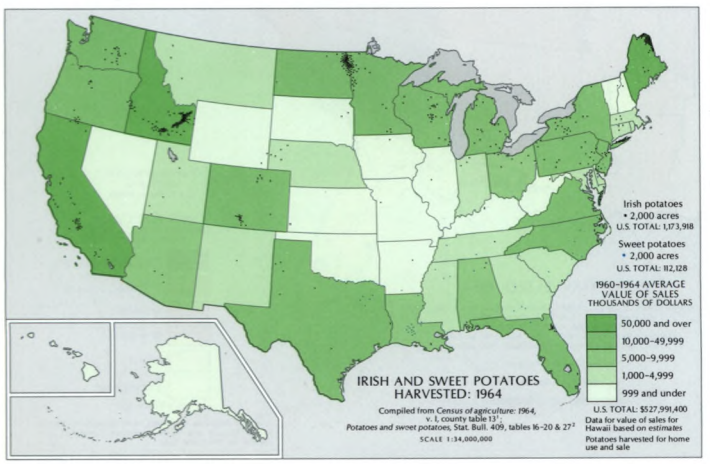
Compiled from *Census of agriculture: 1964*, v. I, county table 13[1]

SCALE 1:34,000,000

TOBACCO, SUGAR CANE, AND SUGAR BEETS HARVESTED: 1964

Compiled from *Census of agriculture: 1964*, v. I, county table 13[1]

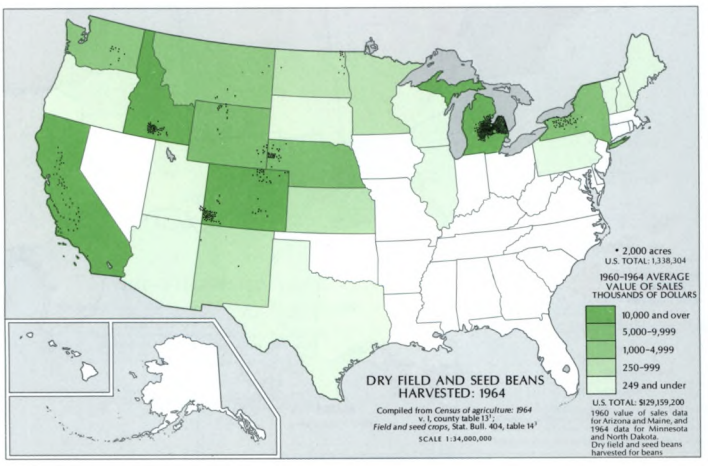
SCALE 1:34,000,000



IRISH AND SWEET POTATOES HARVESTED: 1964

Compiled from *Census of agriculture: 1964*, v. I, county table 13[1]; *Potatoes and sweet potatoes*, Stat. Bull. 409, tables 16–20 & 27[2]

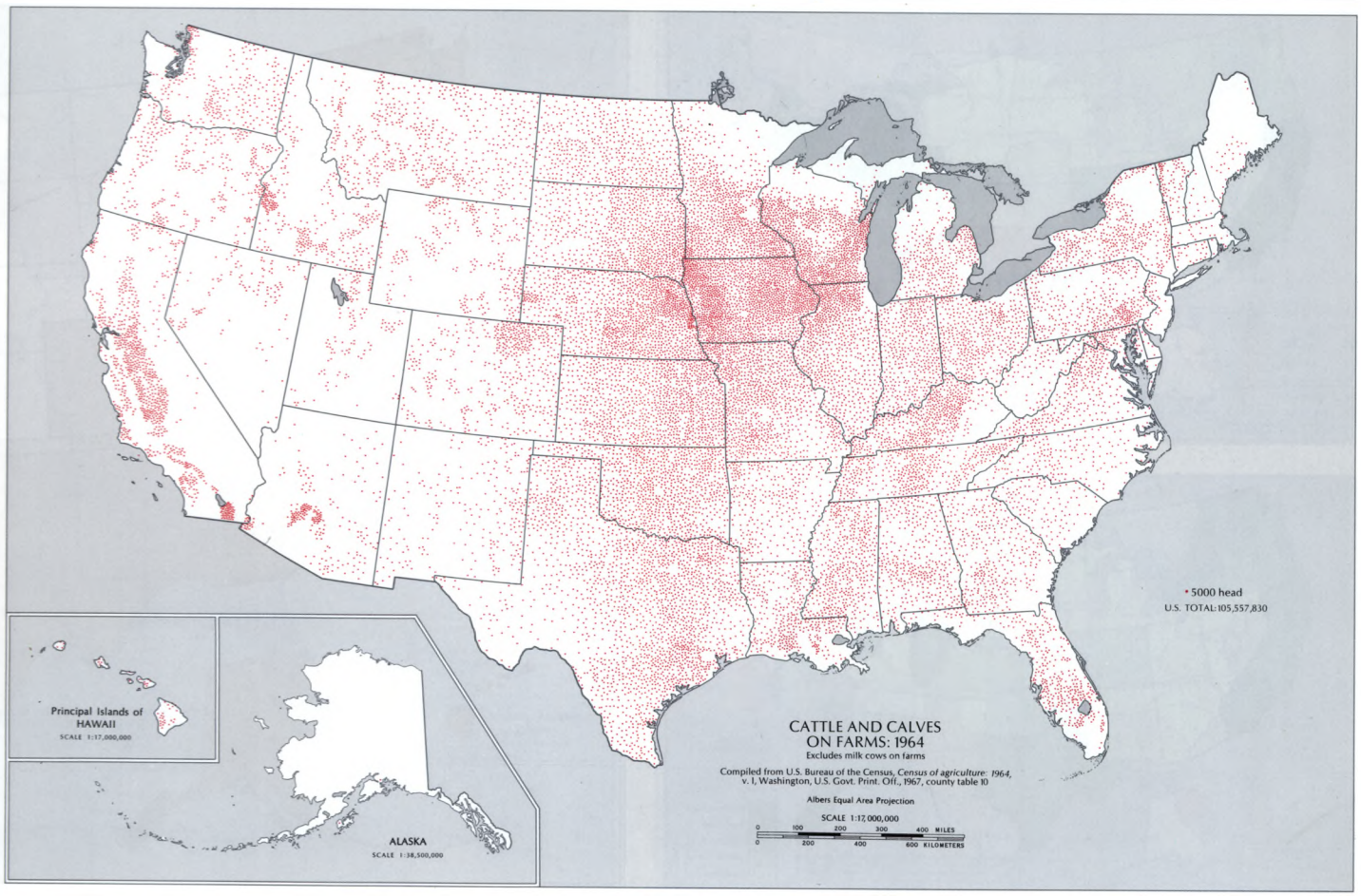
SCALE 1:34,000,000

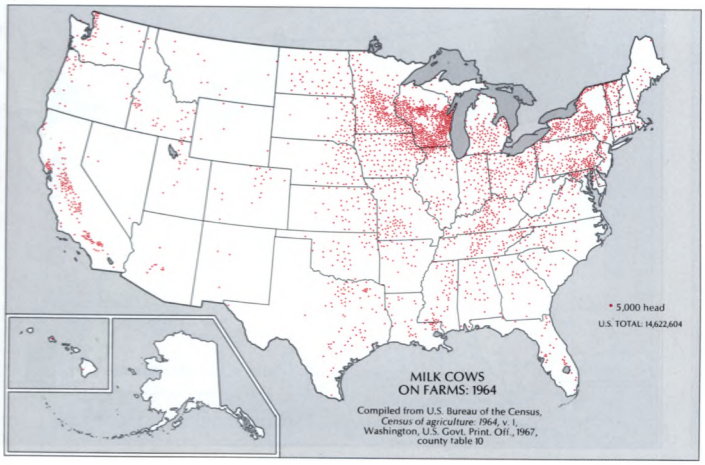


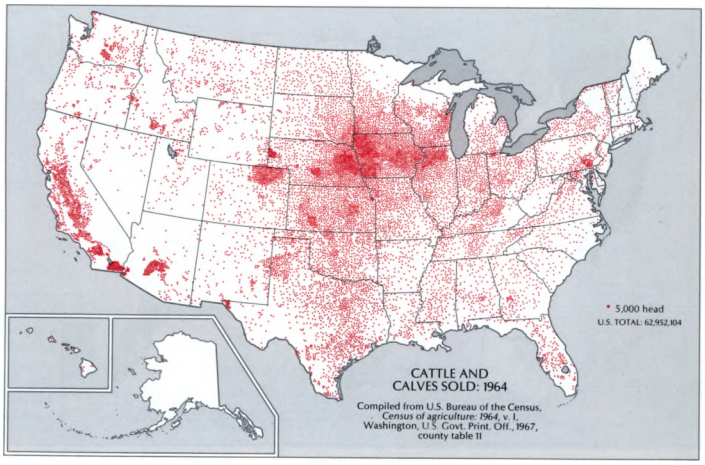
DRY FIELD AND SEED BEANS HARVESTED: 1964

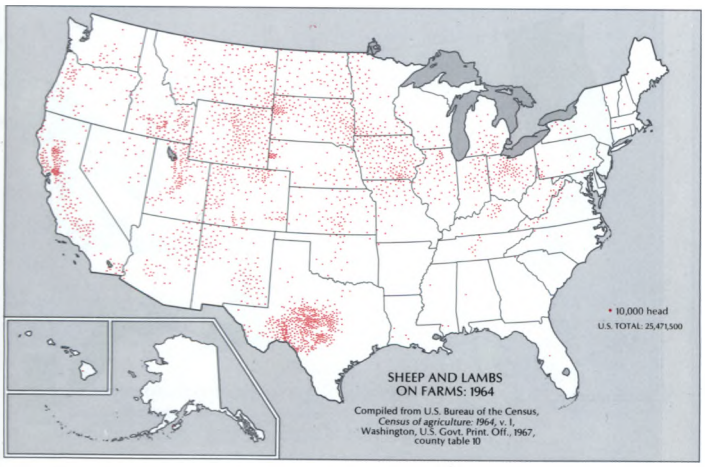
Compiled from *Census of agriculture: 1964* v. I, county table 13[1]; *Field and seed crops*, Stat. Bull. 404, table 14[3]

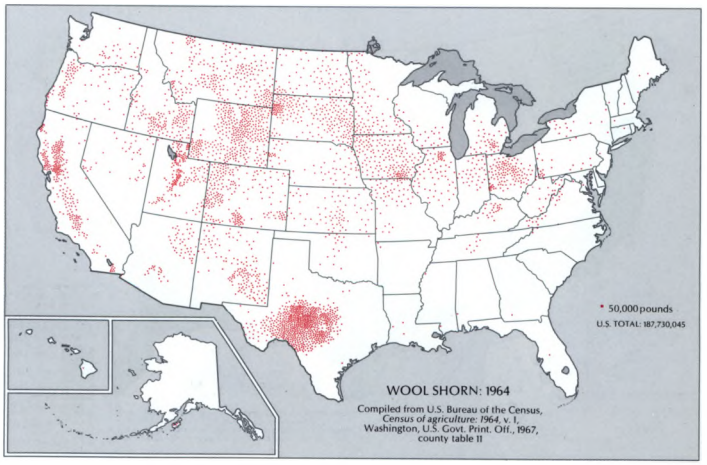
SCALE 1:34,000,000

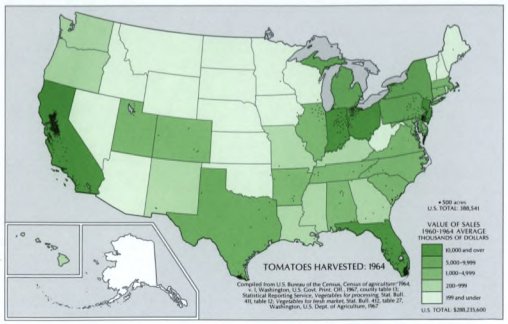

• 5000 head
U.S. TOTAL: 105,557,830
Principal Islands of HAWAII
SCALE 1:17,000,000
ALASKA
SCALE 1:38,500,000
CATTLE AND CALVES ON FARMS: 1964
Excludes milk cows on farms
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 10
Albers Equal Area Projection
SCALE 1:17 000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS


• 5,000 head
U.S. TOTAL: 14,622,604
MILK COWS ON FARMS: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 10


• 5,000 head
U.S. TOTAL: 62,952,104
CATTLE AND CALVES SOLD: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 11

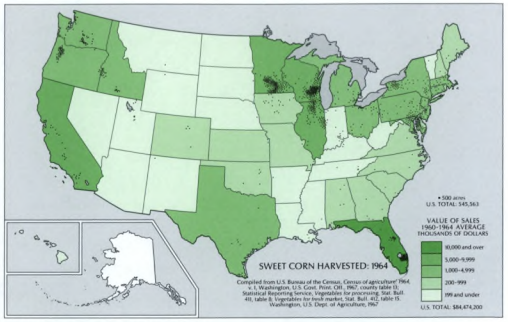

• 10,000 head
U.S. TOTAL: 25,471,500
SHEEP AND LAMBS ON FARMS: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 10


• 50,000 pounds
U.S. TOTAL: 187,730,045
WOOL SHORN: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 11



TOMATOES HARVESTED: 1964

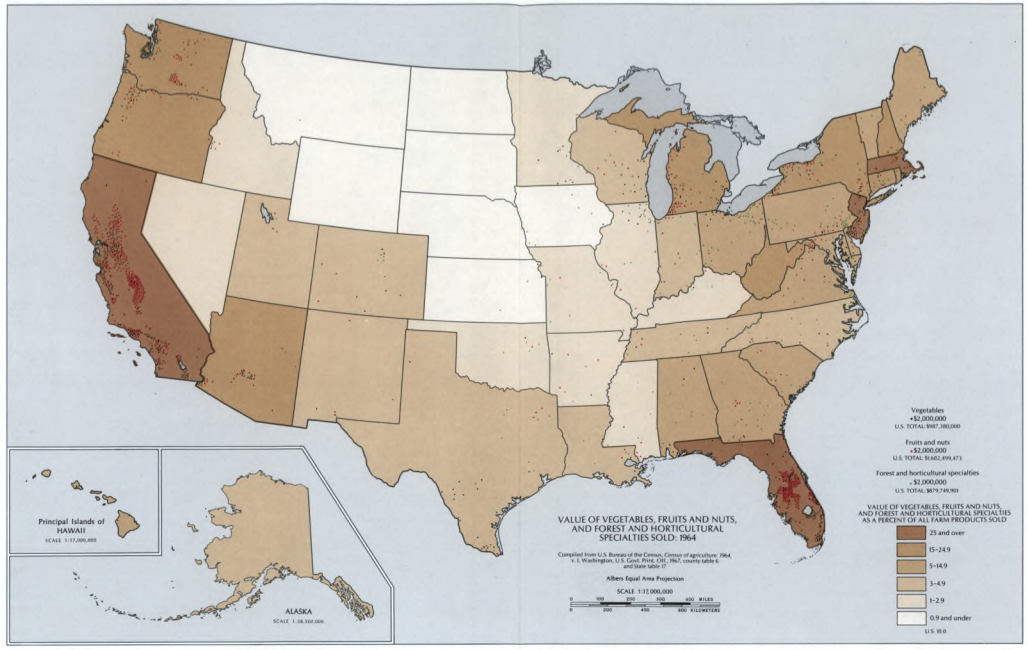
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Vegetables for processing, Stat. Bull. 411, table 12; Vegetables for fresh market, Stat. Bull. 412, table 27. Washington, U.S. Dept. of Agriculture, 1967



SWEET CORN HARVESTED: 1964

Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Vegetables for processing, Stat. Bull. 411, table 9; Vegetables for fresh market, Stat. Bull. 412, table 15. Washington, U.S. Dept. of Agriculture, 1967

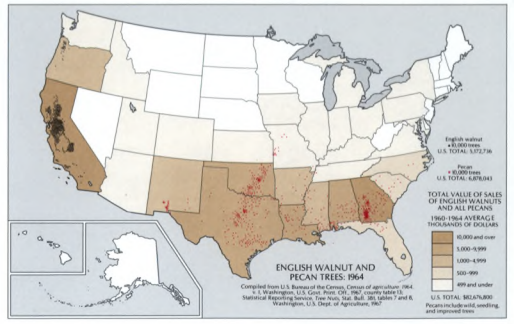
Vegetables harvested include only those for sale for fresh market and processing



VALUE OF VEGETABLES, FRUITS AND NUTS, AND FOREST AND HORTICULTURAL SPECIALTIES SOLD: 1964

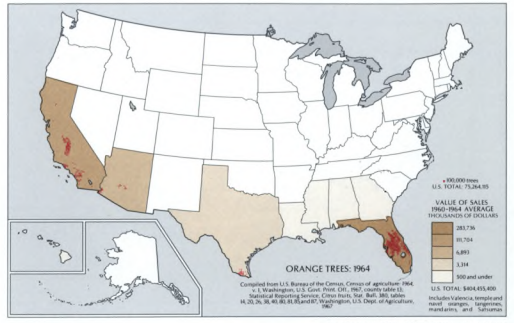
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 6, and State table 37

Production is negligible in uncolored areas



ENGLISH WALNUT AND PECAN TREES: 1964

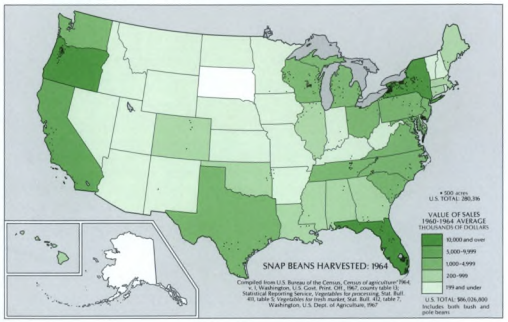
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Tree Nuts, Stat. Bull. 385, tables 7 and 8. Washington, U.S. Dept. of Agriculture, 1967



ORANGE TREES: 1964

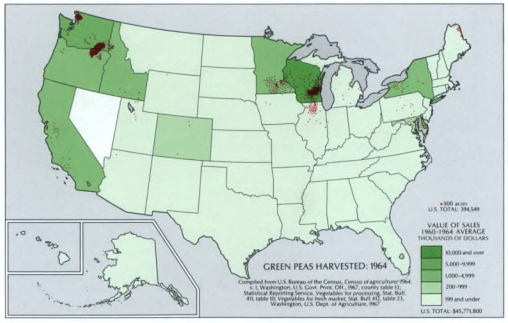
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Citrus fruits, Stat. Bull. 385, tables 14, 20, 26, 38, 49, 80, 81, 93 and 87. Washington, U.S. Dept. of Agriculture, 1967

Trees and vines include those of all ages, bearing as well as nonbearing



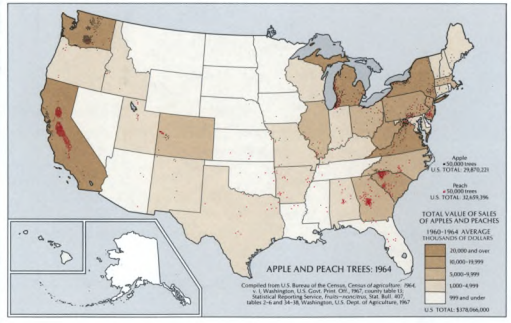
SNAP BEANS HARVESTED: 1964

Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Vegetables for processing, Stat. Bull. 411, table 5; Vegetables for fresh market, Stat. Bull. 412, table 7. Washington, U.S. Dept. of Agriculture, 1967



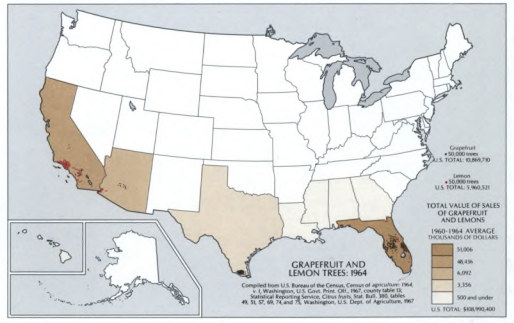
GREEN PEAS HARVESTED: 1964

Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Vegetables for processing, Stat. Bull. 411, table 10; Vegetables for fresh market, Stat. Bull. 412, table 23. Washington, U.S. Dept. of Agriculture, 1967



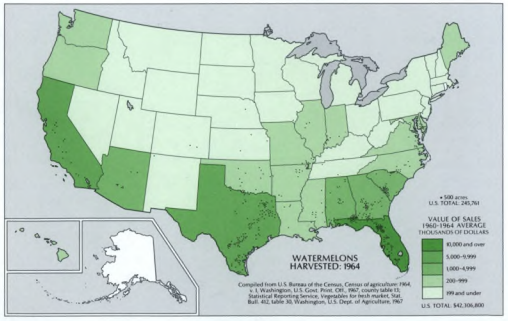
APPLE AND PEACH TREES: 1964

Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Fruits—noncitrus, Stat. Bull. 407, tables 2–6 and 34–38. Washington, U.S. Dept. of Agriculture, 1967



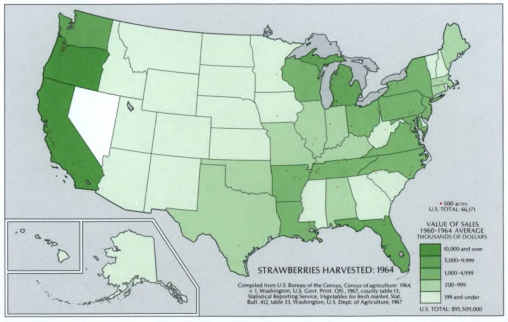
GRAPEFRUIT AND LEMON TREES: 1964

Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Citrus fruits, Stat. Bull. 385, tables 49, 51, 57, 69, 74, and 75. Washington, U.S. Dept. of Agriculture, 1967



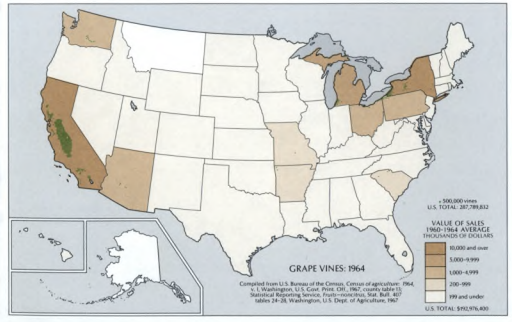
WATERMELONS HARVESTED: 1964

Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Vegetables for fresh market, Stat. Bull. 412, table 30. Washington, U.S. Dept. of Agriculture, 1967



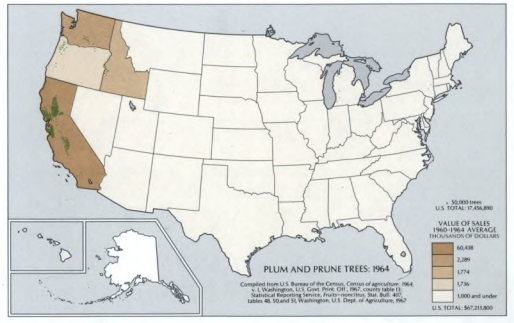
STRAWBERRIES HARVESTED: 1964

Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Vegetables for fresh market, Stat. Bull. 412, table 33, Washington, U.S. Dept. of Agriculture, 1967



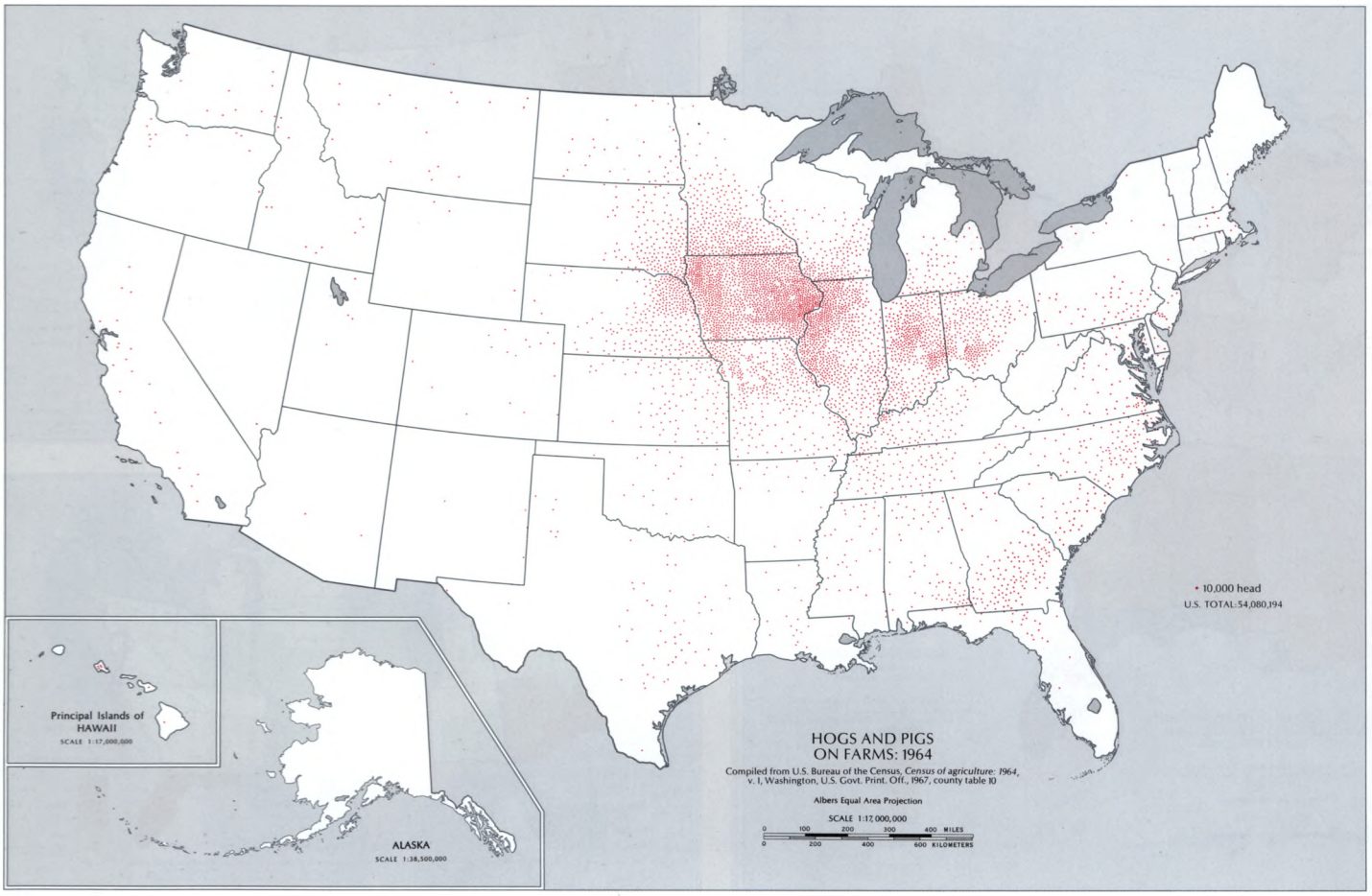
GRAPE VINES: 1964

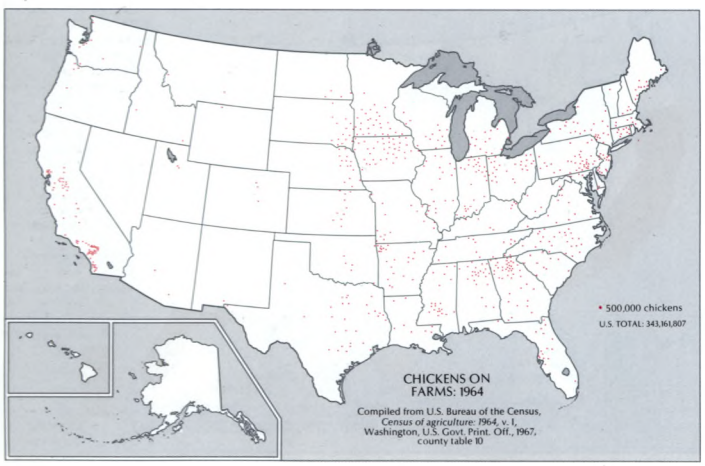
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Fruits—noncitrus, Stat. Bull. 407, tables 24–28, Washington, U.S. Dept. of Agriculture, 1967

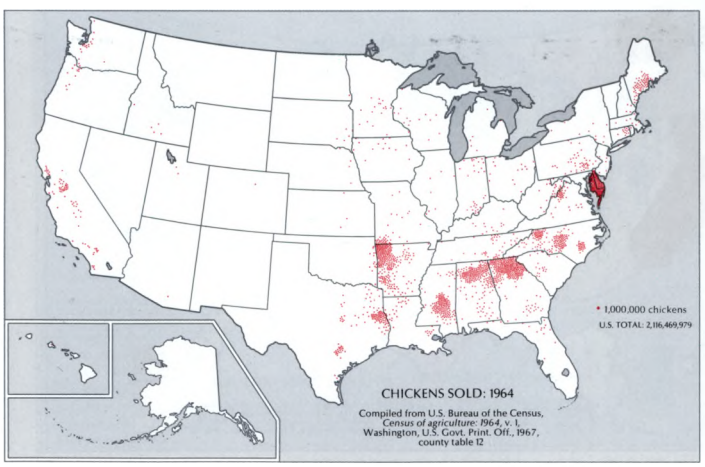


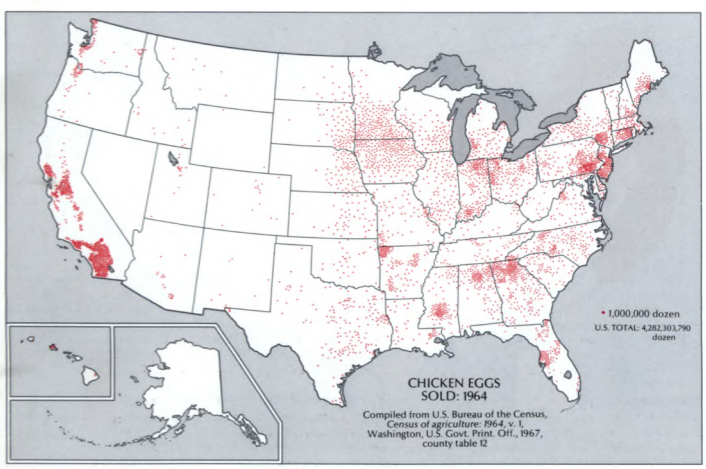
PLUM AND PRUNE TREES: 1964

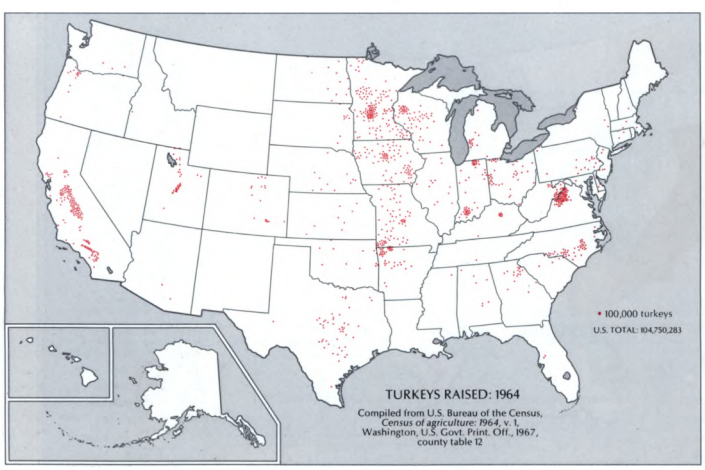
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 13; Statistical Reporting Service, Fruits—noncitrus, Stat. Bull. 407, tables 48, 50 and 51, Washington, U.S. Dept. of Agriculture, 1967


• 10,000 head
U.S. TOTAL: 54,080,194
Principal Islands of HAWAII
SCALE 1:17,000,000
ALASKA
SCALE 1:38,500,000
HOGS AND PIGS ON FARMS: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 10
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS


• 500,000 chickens
U.S. TOTAL: 343,161,807
CHICKENS ON FARMS: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 10


• 1,000,000 chickens
U.S. TOTAL: 2,116,469,979
CHICKENS SOLD: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 12


• 1,000,000 dozen
U.S. TOTAL: 4,282,303,790 dozen
CHICKEN EGGS SOLD: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 12


• 100,000 turkeys
U.S. TOTAL: 104,750,283
TURKEYS RAISED: 1964
Compiled from U.S. Bureau of the Census, Census of agriculture: 1964, v. I, Washington, U.S. Govt. Print. Off., 1967, county table 12

MINERAL AND ENERGY RESOURCES

The mineral-resource maps portray some of the most basic assets of the United States because the growth and continued expansion of our economy are linked very closely to the Nation's large and varied store of natural resources. Energy from mineral fuels, machinery from fabricated metals, and chemicals and construction materials from a wide variety of mineral and rock products are used daily by everyone, yet seldom do we ask where the ingredients come from that make the many products and services possible. The buildings in which we live and work, the roads and sidewalks, and the vehicles of travel are in large part made from rock products. Even our food and fiber crops depend increasingly on mineral fertilizers and on harvesting and processing machinery. Development of the Nation's minerals has not only provided the raw materials for our growth up to the present but also assures our continued ability to meet expanding needs.

Mineral resources include all the different kinds of rocks and rock-derived materials for which some use has been found. Human ingenuity being what it is, some use has been found for nearly all the chemical elements and chemical compounds and for most varieties of rocks and their constituent minerals. The list of mineral and mineral-fuel commodities is large and continues to expand, some production now being listed for more than 130 different kinds of mineral raw materials. Major markets exist for more than 50 of these.

The United States is the world's major producer and consumer of minerals and mineral fuels. The bulk of our needs is supplied from domestic sources; mineral output in 1968 was valued at nearly $25 billion. Large as this production is, additional requirements led to mineral imports valued at about $3 billion. Production of fuels accounted for two-thirds of the value; of the remaining third, the value of construction materials and chemical and industrial minerals was about double that of metals.

Mineral-production data for individual States for 1964–1968 are shown in the table below. The eight leading States in terms of average annual value of mineral production are Texas, Louisiana, California, Oklahoma, Pennsylvania, West Virginia, New Mexico, and Illinois, and all are States in which the value of fuel production exceeds that of all other minerals. Nonmetals account for over half the value of the minerals produced in Michigan, the ninth ranked State, and metals dominate production in Arizona, the 10th ranked state.

AVERAGE ANNUAL VALUE OF MINERAL PRODUCTS: 1964–1968

STATE	NUMERICAL RANK, 5-YEAR TOTAL VALUE	AVERAGE ANNUAL VALUE (MILLIONS OF DOLLARS)	PORTION OF VALUE BY TYPE OF MINERAL (PERCENT)		
			FUELS	NON-METALS	METALS
Alabama	21	249	51	45	4
Alaska	29	118	68	30	2
Arizona	10	564	1	8	91
Arkansas	27	184	47	43	10
California	3	1,669	65	32	3
Colorado	17	345	43	14	43
Connecticut	45	22	0	100	0
Delaware	50	2	0	100	0
Florida	19	277	3	94	3
Georgia	28	148	0	98	2
Hawaii	46	20	0	100	0
Idaho	31	106	0	40	60
Illinois	8	617	72	27	1
Indiana	23	228	43	57	0
Iowa	30	114	3	97	0
Kansas	11	561	86	13	1
Kentucky	14	496	87	12	1
Louisiana	2	3,497	94	6	0
Maine	47	17	0	97	3
Maryland	38	74	7	93	0
Massachusetts	43	39	0	100	0
Michigan	9	592	10	56	34
Minnesota	12	529	0	9	91
Mississippi	25	214	85	14	1
Missouri	22	231	7	63	30
Montana	24	222	43	21	36
Nebraska	35	80	56	44	0
Nevada	32	102	1	31	68
New Hampshire	48	8	0	100	0
New Jersey	37	77	1	88	11
New Mexico	7	830	67	15	18
New York	18	296	3	90	7
North Carolina	40	70	0	100	0
North Dakota	33	97	88	11	1
Ohio	15	489	43	57	0
Oklahoma	4	967	94	5	1
Oregon	36	77	0	84	16
Pennsylvania	5	904	60	25	15
Rhode Island	49	4	0	100	0
South Carolina	42	45	0	100	0
South Dakota	41	53	1	54	45
Tennessee	26	186	13	64	23
Texas	1	5,040	92	7	1
Utah	16	412	27	13	60
Vermont	44	27	0	100	0
Virginia	20	272	56	41	3
Washington	34	84	1	84	15
West Virginia	6	886	92	8	0
Wisconsin	39	74	0	88	12
Wyoming	13	529	78	12	10

The size of the U.S. mineral industry can be expressed in a variety of ways. In recent years, about 25 tons of mineral raw materials have been produced annually for each person in this country. Domestic mineral production accounts for 3 percent of the gross national product, and more than $42 billion additional income is derived directly from the manufacturing of principal mineral products. Some 628,000 people are employed in extracting the raw materials, and some 908,000 are employed in processing these mineral products. Employment, value added, and capital expenditures in the mineral industries are shown in the maps on page 192.

The use of mineral resources is expanding spectacularly both in total volume of materials consumed and in the increasing variety of materials needed as new technology finds uses for nearly every substance known. Our present world population is using more and more mineral raw materials, and the United States alone, as the world's leading consumer of mineral products, has used more minerals and fuels in the past 30 years than the entire world in all previous history.

Mineral production in the United States exceeds that of any other country and has been growing at a rate of nearly 6 percent annually. Our mineral consumption has increased even more, so that we depend to a growing extent on mineral imports. We are virtually self-sufficient in our developed resources of the 54 most significant mineral commodities, and our excess production capacity in some of these minerals supplies a valuable export trade in such basic needs as coal, phosphate rock, borates, and molybdenum. Domestic supplies of 22 other major commodities are augmented by imports, with competition for the existing markets depending on such economic factors as production and transportation costs. We are almost entirely dependent on imports for 17 mineral commodities. No large deposits of some of these, including industrial and gem diamonds, tin, and platinum metals, have been found in this country of sufficient grade to support economic recovery. Domestic resources of several indispensable ferroalloy materials such as manganese and chromium have supported production in the past but are lower in grade or much smaller than large foreign deposits that currently supply the bulk of the world's production.

Oil, gas, and coal, the mineral fuels, together account for two-thirds of the value of all domestic mineral production and are used mainly to produce energy, which in 1968 was being consumed in the U.S. at an annual rate of 62 quadrillion Btu's. This amount of energy is equal to the heat contained in about 12 tons of bituminous coal for each person in the country. Domestic fuel consumption in 1968 was about one-half billion tons of coal, more than 4 billion barrels of petroleum, and 17 quadrillion cubic feet of gas. Oil supplied 43 percent of the total energy requirement; gas, 31 percent; coal, about 22 percent; hydroelectric power, 4 percent; and nuclear power, 0.1 percent. The fossil fuels not only furnish most of the power for man's machines and heat or cooling for his comfort but are also the source of a large variety of material products such as plastics, synthetic rubber, and fibers.

Deposits of coal, oil, and gas, the principal fossil fuels, are widely distributed in the United States as shown on pages 186–187. Cumulative production of these resources is shown in the four maps at the top of page 185, together with an estimate of the known reserves in each State. Production data for the Nation and the leading States are also shown graphically at the bottom of page 185. The changing pattern of use is evident in the historical graph for consumption of different fuels on page 185, and the relative amounts of the different fuels used in each State are shown in the map at the top of page 188. Additional existing and potential sources of energy are also shown on page 185 (oil shale, tar sands, and nuclear materials) and on page 188 (developed and undeveloped hydroelectric power).

The generation of electricity is one of the principal methods by which fossil fuels are converted into energy. Fossil fuels supplied 82 percent of the 1,442 billion kilowatt-hours of electricity produced in the United States in 1969, with coal accounting for 49 percent; gas, 23 percent; and oil, 10 percent. The generation and transmission of electric energy are shown on page 190–191, and patterns of production and consumption appear on page 189.

Energy requirements are expected to increase substantially in the coming years in response to population growth and continuing changes in technology. A key assumption of all such economic projections is that adequate sources of energy will be available. The presently known availability of conventional fossil fuel resources, as shown in the four maps at the top of page 185, can be expected to provide some part of the increased demand. Additional sources will continue to be needed, and new discoveries of petroleum and natural gas will require increasingly more costly exploration and development. Alternate sources of energy, such as nuclear materials, oil shale, and tar sands may supply a growing share of the energy market.

The nonmetallic mineral commodities include all the rocks and minerals that are useful to man except those used for fuels and as sources of metals. In 1968, more than $5.5 billion worth of nonmetals were used as construction materials or in production of such basic industrial materials as chemicals, ceramics, refractories, and abrasives. The amounts produced and values of some of the major nonmetallic materials are shown in the graph on page 181.

Construction materials account for much of the sheer bulk of our national mineral production, and their use is growing rapidly, as shown in the graph inset on page 183. In 1968 almost 1.6 billion tons of crushed stone, sand, and gravel were consumed in roads and other public and private construction. Manufactured rock products such as cement, brick and tile, glass, plaster, wallboard, and a host of other, more specialized construction products required more than 300 million additional tons of raw materials such as limestone, clay, and gypsum. This segment of the national mineral industry is widespread, as shown in the map of major construction materials resources on pages 182–183, and the bulk of the mines, quarries, and open pits are clustered near population centers or major construction projects. These mineral products are bulky, and transportation charges make up much of their cost to the consumer, so that distance effectively limits the market areas for each producing site. Some production of these construction materials is recorded in each State annually, as indicated, for example, by the map on page 184 showing the amount of sand and gravel produced in each State in 1965 together with cumulative values for the period 1950–1965.

The chemical industry consumes a significant part of the national production of such nonmetallic minerals as salt, phosphate rock, lime, sulfur, potash, and a wide variety of other mineral raw materials. Such ingredients are processed into acids, alkalies, fertilizers, detergents, and a broad range of other basic industrial compounds and consumer products. The distribution of known resources of these materials is shown in the salines map on page 181 and in the industrial and chemical minerals map on page 184. Other industrial minerals that are shown in additional maps on page 184 are used in ceramics, refractories, abrasives, mineral fillers, and many other products.

Much of the glamour of the mineral industry is associated with the metallic elements, especially such easily recognized forms of wealth as gold and silver. The recovery of metal from ores by early man was a major turning point in his civilization, as it provided him with durable tools with which to master any environment. The smelting of metals and alloys, which undoubtedly began by accidental discovery around cooking fires, gave rise to one of the first specialized occupations. The skilled smith, who could recognize which rocks to heat and who could arrange for the molten metal to drop into a shaped mold, let it harden, and then sharpen the edges to form a useful tool or weapon, provided a product of very high unit value. Recognition of sources of ores of the useful metals brought about the establishment of industrial sites and routes of commerce. The native metals, gold, copper, and silver, were recognized and used first; next, man developed bronze, an alloy of copper with one or more other metals such as tin, zinc, silver, and lead.

Smelting of iron required higher temperatures and more careful mixing of raw materials to release the molten metal from its ores, but the greater hardness, strength, and toughness of tools fashioned from this superior metal provided adequate incentive. By slow increments primitive metallurgists developed skills in casting and forging iron and in alloying iron with additives to produce steel.

Iron and steel are being used in ever increasing amounts. In 1968, domestic consumption of steel exceeded 100 million tons; iron ore requirements for the steel production exceeded 130 million long tons, of which about two-thirds came from domestic resources. The distribution of these resources is indicated on pages 178–179. Major deposits in the Lake Superior area continue to furnish much of the production. A growing percentage of the iron ore is now marketed in concentrated and pelletized form.

Growth in the use of aluminum has been greater than that of any other major metal. Although aluminum now ranks second in the amount of metal used, domestic resources of bauxite, the principal ore of aluminum, provide only about one-eighth the amount used in the domestic production of over 3 million tons of new metal each year; consumption of aluminum is over 5 million tons annually.

Domestic resources of bauxite, not shown on the accompanying maps, are rather limited; over 95 percent of domestic production comes from a small area in Pulaski County, Arkansas, and the remainder comes from other small areas in Alabama and Georgia.

Copper is third in the amount of metal used, with U.S. consumption exceeding 3 million tons in most years. Domestic production of copper ore provides nearly half of this supply. Distribution of copper resources is shown on pages 178–179. Many major deposits are clustered in Arizona and adjacent parts of New Mexico; other large deposits are in Utah, Montana, Nevada, Michigan, Tennessee, Pennsylvania, Idaho, and Colorado.

Domestic consumption of zinc is 1.75 million tons annually, and domestic production of zinc ores supplies slightly more than one-half million tons. Zinc is consumed in growing quantities for zinc-base alloys used in die casting, for galvanizing, and for brass; in oxide form it is used in rubber, paints, ceramics, cosmetics, pharmaceuticals, and textiles. Domestic resources of zinc ore (p. 178–179) are fairly widespread in contrast to other major metals. Tennessee, New York, Idaho, Colorado, and Pennsylvania are leading producers, although deposits have been exploited in many other States.

Lead consumption amounts to about 1.25 million tons annually, with domestic production of lead ores supplying about 300,000 tons. Major uses for lead are in storage batteries, gasoline antiknock compounds, and pigments; it is also used in bearing metals, type metal, solders, and metal sheets and foil. National resources are widespread as shown on pages 178–179, although production is dominated by Missouri, Idaho, Utah, and Colorado.

The precious metals, gold and silver, were the basis for much of the early development of mining in this country and are still much prized for their monetary and decorative aspects. Their use in industry, however, is growing very rapidly; industrial gold and silver consumption increased 80 and 70 percent respectively in the 5-year period 1963 through 1967. Although production of gold has been relatively widespread (p. 178–179), significant recent production and known domestic resources of gold are largely in the Homestake Mine in South Dakota, in two recently developed mines at Carlin and Cortez, Nev., and in many deposits mainly in Western States in which gold is recovered during the processing of ores for associated copper, silver, zinc, and lead. Silver production and domestic resources are largely from deposits containing associated metals. The Silver Belt in the Coeur d'Alene mining district of Idaho is the major producer, and Utah, Arizona, Montana, and Colorado are also significant producers; lesser deposits are in numerous other States (p. 178–179).

The ferroalloy metals, which include the 11 metals shown in maps on page 180, are used in widely varying amounts in the production of various kinds of steel. Manganese, for example, is indispensable in scavenging impurities from molten iron and is the one alloying metal added to all steel. An average of 13 pounds of manganese is used for each ton of steel. Domestic resources of this material are generally low grade, and in recent years domestic production has furnished only about 1 percent of the more than 2 million tons used.

Resources and domestic production of chromium and tin also are limited. Domestic resources of the other ferroalloy metals are small for cobalt, niobium, nickel, and tantalum, moderate for vanadium and tungsten, and large for molybdenum.

The many kinds of mineral resources are not evenly distributed in nature, so man has learned to search for different kinds of material in different geologic terranes. For example, petroleum, coal, limestone, salt, sulfur, phosphate rock, potash, gypsum, and many other useful minerals have been deposited in sequences of sedimentary rocks. In areas that have been subjected to mountain-building processes, such materials as copper, lead, zinc, silver, gold, mercury, and fluorspar have been concentrated in deposits associated with igneous intrusive and volcanic rocks. In the geologic process of weathering, constituent parts of different rocks may be concentrated because of their chemical inertness, weight, or superior hardness. Less soluble materials, such as the ores of aluminum and some kinds of iron ore and manganese, form as residual accumulations in areas of intense or long-continued chemical weathering. Other materials, such as gold and tin, accumulate in placer deposits that result from the sorting and winnowing action of streams on rock debris.

The first mineral resources to be exploited in this country were used to make spear and arrow points, clay pots, and other simple stone implements many thousands of years ago. Our knowledge of the first nomadic immigrants to America is based almost entirely on the evidence furnished by their tools. By the time European explorers arrived, numerous mineral resources were in common use, including salt, gold, silver, natural pigments, and a variety of ceramic materials. The early settlers from Europe found local sources of iron for their tools, lead for their bullets, and quartz sand to make glass.

The need for raw materials spurred development of the young country, and in large measure the location of specific resources established sites for particular industries and set population patterns. Commerce in mineral products required development of transportation, further serving to open up new territory. Few examples could be more striking than the rush westward when gold was discovered in California in 1849; yet the less dramatic opening of iron mines in the Lake Superior area had an even larger influence in establishing industry and commerce in the central region of the country later in the 19th century.

The early search for gold and silver extended throughout this country and led to discovery of far more valuable resources of the major metals, iron, copper, zinc, and lead, as well as a host of other metals of increasing importance. Progress in technology has found uses for most of the metallic elements, and progress in mineral exploration has found sources of most of the needed commodities, although not always in deposits that were numerous enough or large enough to supply all that could be used, or of sufficient metal content to be developed economically. Growth in the use of metals has been especially rapid since World War II. In recent years, metal usage for each person in the United States has averaged about 980 pounds of iron, 37 pounds of aluminum, 24 pounds of copper, 14 pounds of zinc, 9 pounds of lead, and a few pounds each of the major ferroalloy metals, manganese, chromium, and nickel.

The ready availability of most mineral raw materials has challenged the inventiveness of the Nation's industries. New uses have led to new products; these in turn give rise to new industries to produce consumer items and the machines and tools needed in making and distributing them. Growth in consumption of materials in many instances has exceeded local supplies of raw materials that were the basis for original plant sites. Minerals have been supplied from increasing distances until, on a national basis, after 150 years as a net exporter of minerals, the United States became a net importer of mineral commodities during World War II.

Knowledge of the availability of particular mineral resources is constantly increasing. Early explorers and pioneer settlers recognized and developed the obvious exposed deposits of the minerals they needed, including salt, clay, lime, iron ore, and lead. Gold, silver, and other higher value mineral products were sought intensively as new areas were opened, but deposits of less valuable minerals were usually passed by. Knowledge of these potentially useful deposits accumulated until need for them developed.

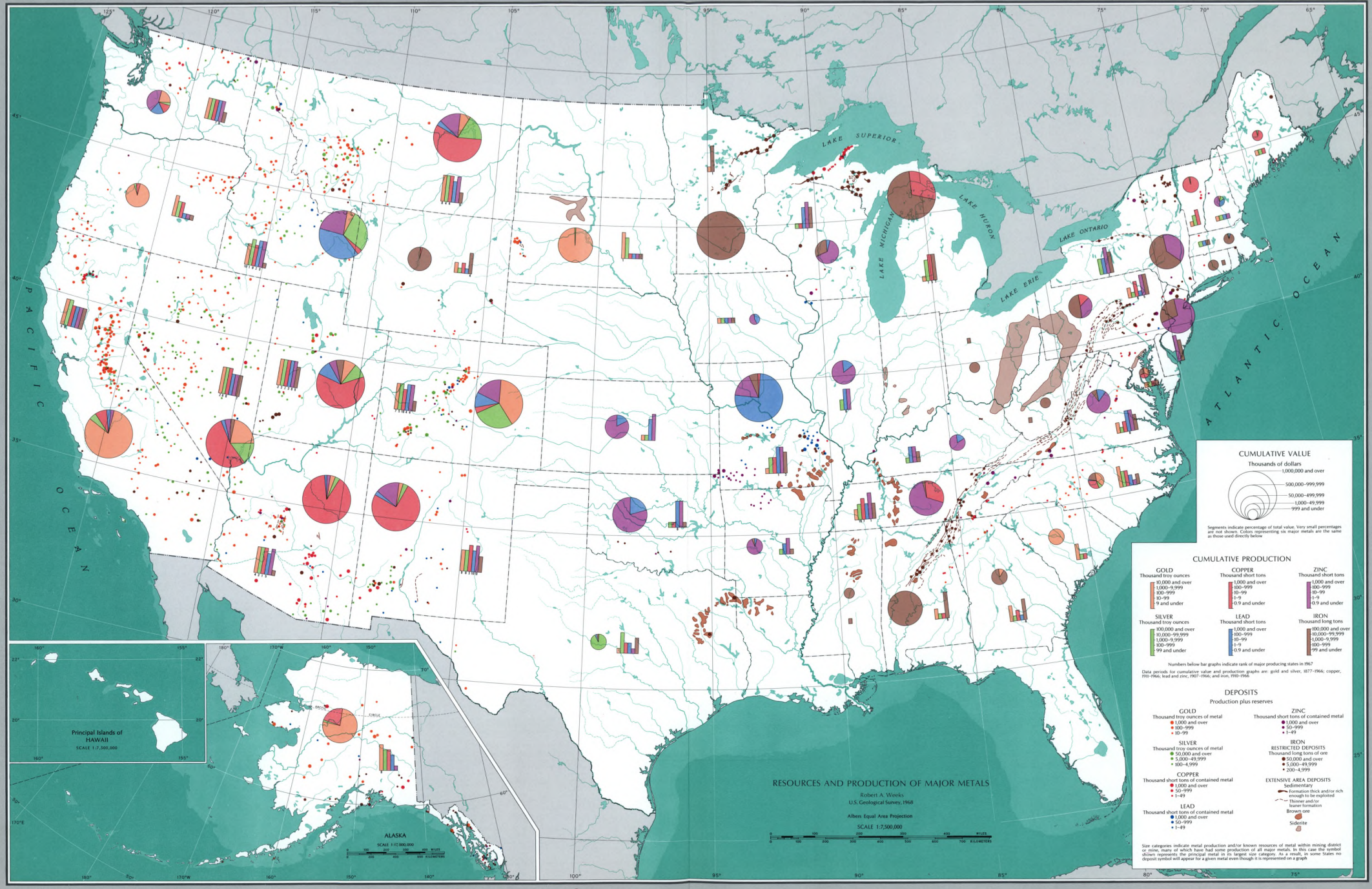
Knowledge of how to search for mineral resources has also increased, so that information gained in exploiting the more easily found deposits near the surface is now being used to guide the search for concealed deposits. Accumulated information on prospecting methods and exploration techniques, together with detailed studies of the geologic distribution of specific mineral commodities, has enabled the mineral industry to keep pace with demands for materials.

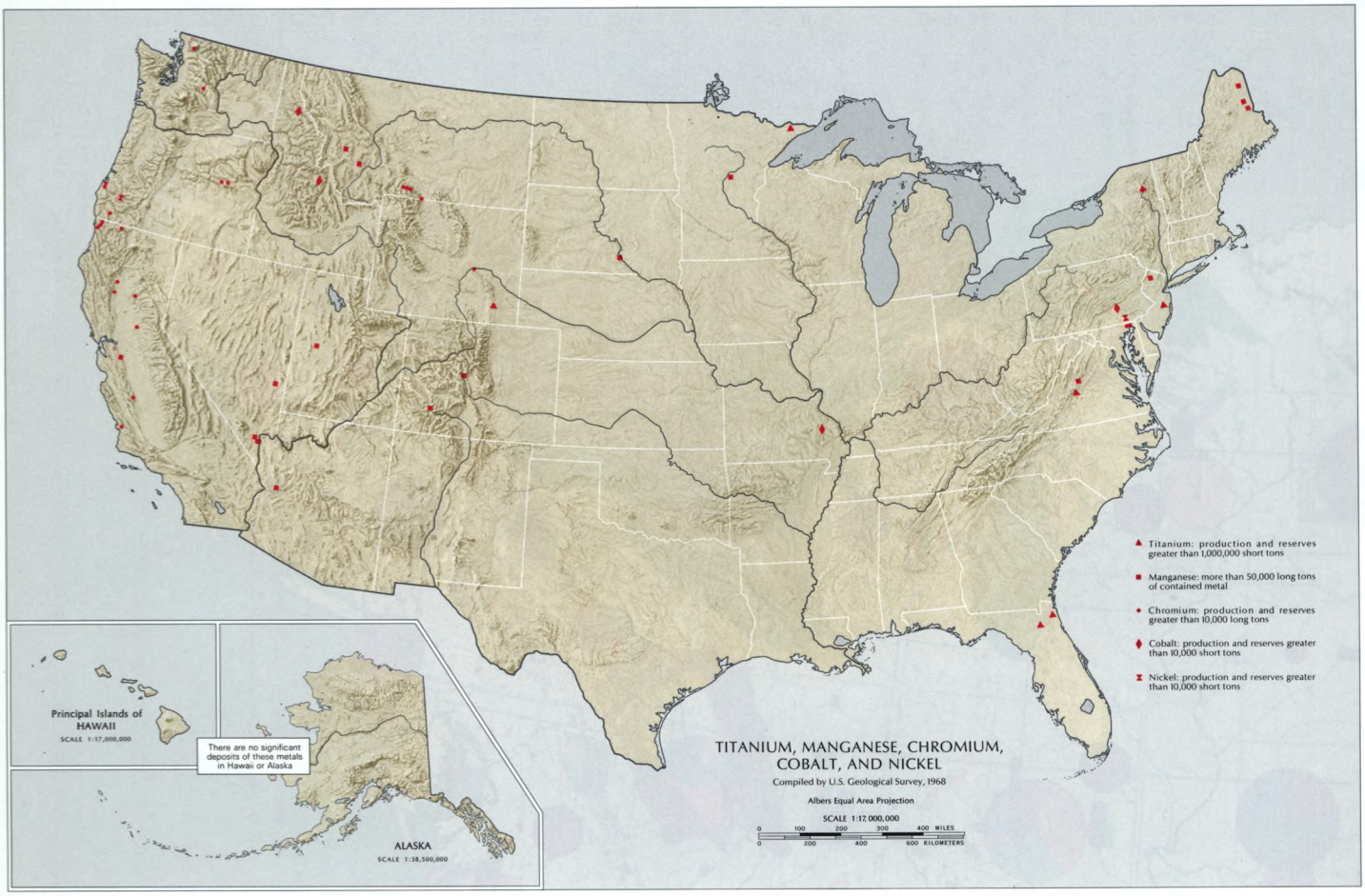
An outstanding example of the response of the mineral industry to new demands is shown in the successful search for uranium that began in the period following World War II. A guaranteed and attractive price stimulated an intensive search, information acquired in an earlier search for sources of radium had identified the more favorable areas, and newly available radiation detectors provided a powerful prospecting tool. Initial success in finding numerous small to intermediate-sized deposits near the surface was followed by systematic drilling and development of regional patterns that has led to discovery of major resources. Other improvements and new developments in instrumented search methods provided new geophysical and geochemical techniques that aid the industry in its quest for new resources of all mineral commodities. Distribution patterns of one commodity frequently provide additional information on geologically associated materials, so that as new uses are found for lesser known materials, the search for their resources can be guided.

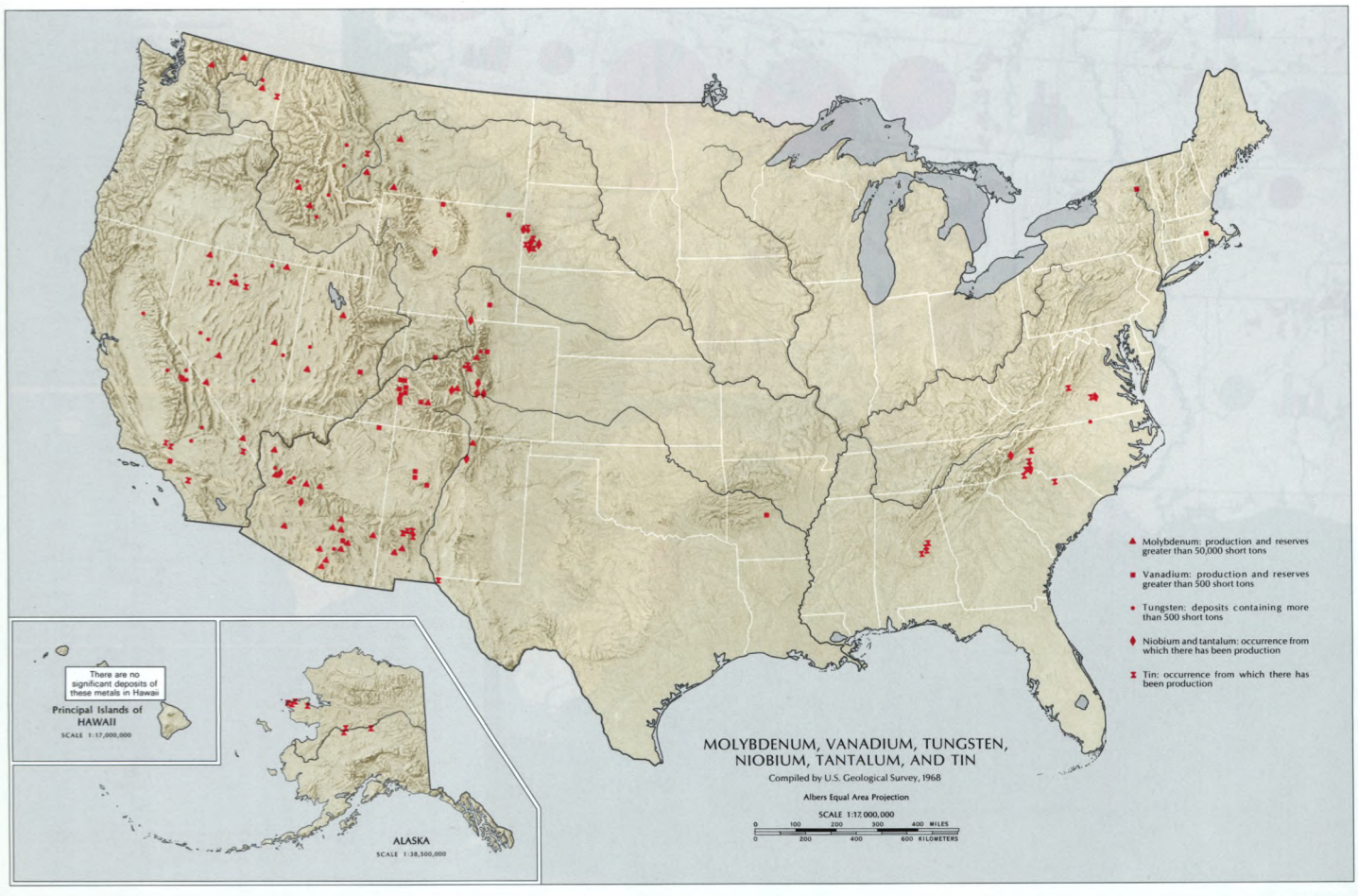
Methods of mining, processing, and refining have also kept pace with increased demands. Materials-handling techniques have changed drastically from the pick, shovel, and mule-drawn carts to a wide variety of mechanized drilling, cutting, loading, and conveying equipment. Equally significant changes have mechanized the separation of ore from waste rock, as well as the refining of metals and chemicals from these ores. In the processes of concentrating the ores and refining the products, a wide variety of byproduct and coproduct material adds to the total value recovered, and more uses are being found for the former "waste" rock.

As a result of mechanization, the cost of handling materials has dropped so that useful material can be recovered economically from much lower grade ores now than previously, providing that the deposits are large enough to merit the investment in machines.

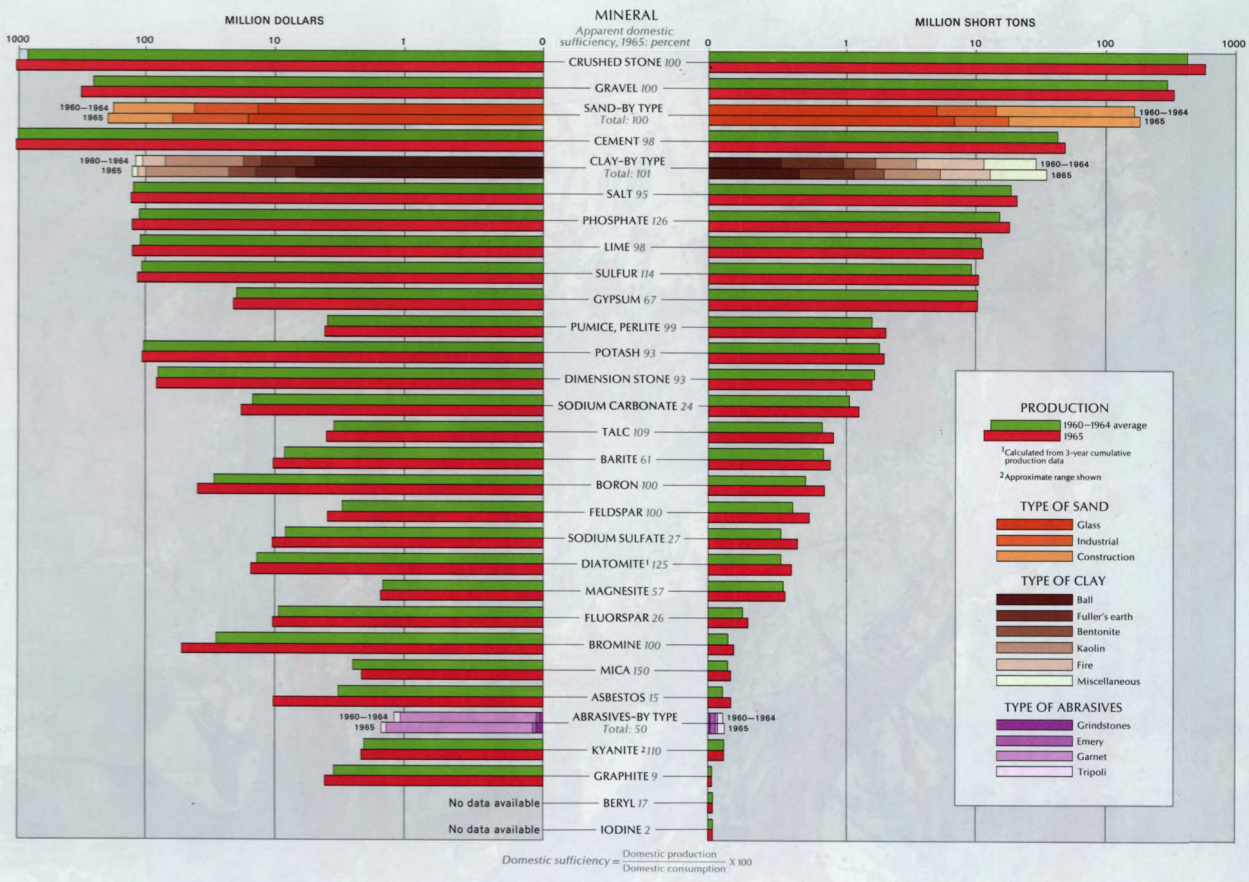
In summary, the United States has a large mineral heritage. Development of many of its mineral resources has established its present position as the leading producer and consumer of mineral raw materials. As projections indicate an increasing demand on our presently known resources, added search for new resources will continue to be needed.


LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
PACIFIC OCEAN
ATLANTIC OCEAN
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:17,000,000
CUMULATIVE VALUE
Thousands of dollars
1,000,000 and over
500,000–999,999
50,000–499,999
1,000–49,999
999 and under
Segments indicate percentage of total value. Very small percentages are not shown. Colors representing six major metals are the same as those used directly below
CUMULATIVE PRODUCTION
GOLD
Thousand troy ounces
10,000 and over
1,000–9,999
100–999
10–99
9 and under
COPPER
Thousand short tons
1,000 and over
100–999
10–99
1–9
0.9 and under
ZINC
Thousand short tons
1,000 and over
100–999
10–99
1–9
0.9 and under
SILVER
Thousand troy ounces
100,000 and over
10,000–99,999
1,000–9,999
100–999
99 and under
LEAD
Thousand short tons
1,000 and over
100–999
10–99
1–9
0.9 and under
IRON
Thousand long tons
100,000 and over
10,000–99,999
1,000–9,999
100–999
99 and under
Numbers below bar graphs indicate rank of major producing states in 1967
Data periods for cumulative value and production graphs are: gold and silver, 1877–1966; copper, 1911–1966; lead and zinc, 1907–1966; and iron, 1910–1966
DEPOSITS
Production plus reserves
GOLD
Thousand troy ounces of metal
1,000 and over
100–999
10–99
SILVER
Thousand troy ounces of metal
50,000 and over
5,000–49,999
100–4,999
COPPER
Thousand short tons of contained metal
1,000 and over
50–999
1–49
LEAD
Thousand short tons of contained metal
1,000 and over
50–999
1–49
ZINC
Thousand short tons of contained metal
1,000 and over
50–999
1–49
IRON
RESTRICTED DEPOSITS
Thousand long tons of ore
50,000 and over
5,000–49,999
200–4,999
EXTENSIVE AREA DEPOSITS
Sedimentary
Formation thick and/or rich enough to be exploited
Thinner and/or leaner formation
Brown ore
Siderite
Size categories indicate metal production and/or known resources of metal within mining district or mine, many of which have had some production of all major metals. In this case the symbol shown represents the principal metal in its largest size category. As a result, in some States no deposit symbol will appear for a given metal even though it is represented on a graph
RESOURCES AND PRODUCTION OF MAJOR METALS
Robert A. Weeks
U.S. Geological Survey, 1968
Albers Equal Area Projection
SCALE 1:7,500,000


Titanium: production and reserves greater than 1,000,000 short tons
Manganese: more than 50,000 long tons of contained metal
Chromium: production and reserves greater than 10,000 long tons
Cobalt: production and reserves greater than 10,000 short tons
Nickel: production and reserves greater than 10,000 short tons
Principal Islands of HAWAII
SCALE 1:17,000,000
There are no significant deposits of these metals in Hawaii or Alaska
ALASKA
SCALE 1:38,500,000
TITANIUM, MANGANESE, CHROMIUM, COBALT, AND NICKEL
Compiled by U.S. Geological Survey, 1968
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS

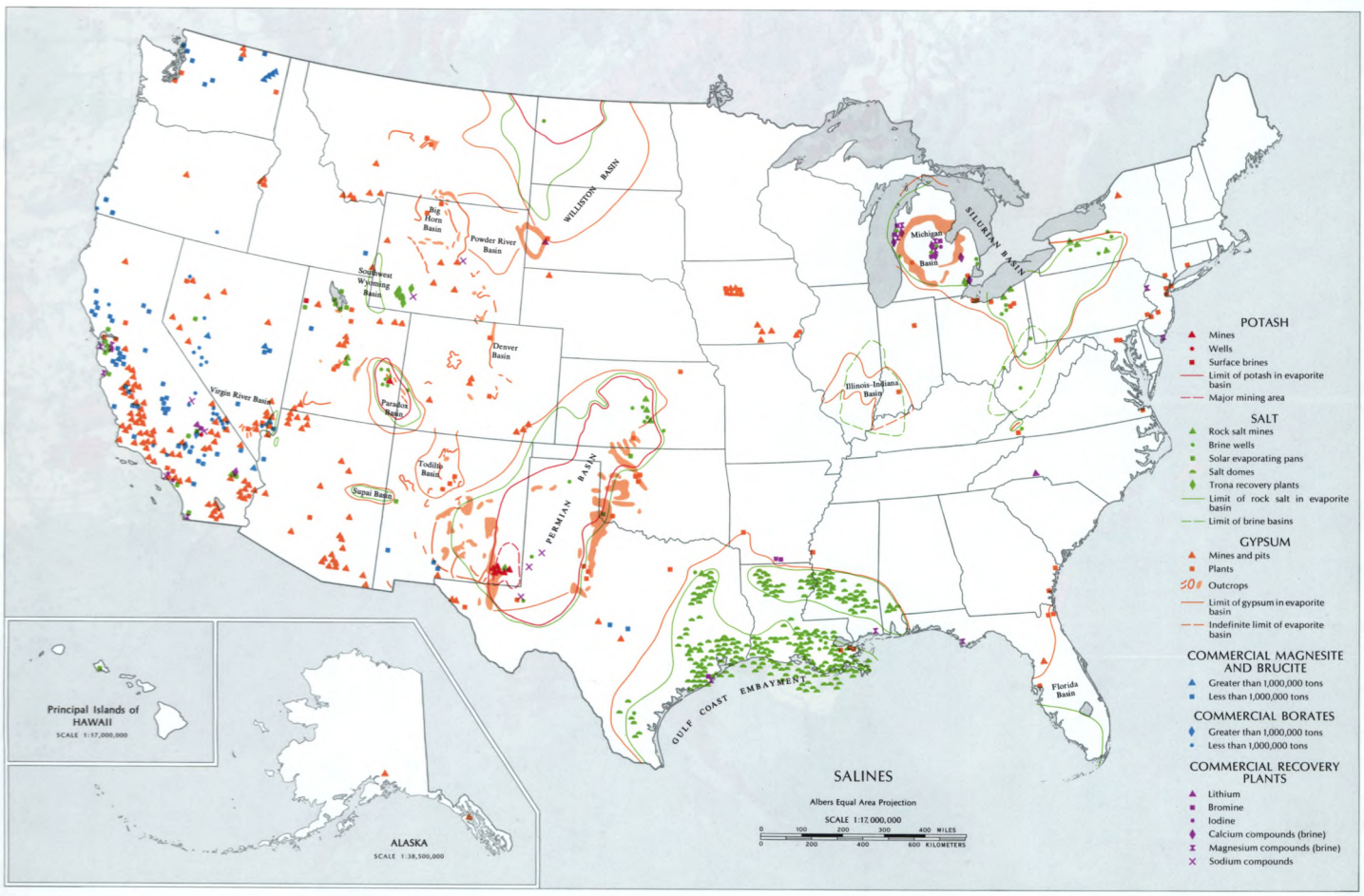

Molybdenum: production and reserves greater than 50,000 short tons
Vanadium: production and reserves greater than 500 short tons
Tungsten: deposits containing more than 500 short tons
Niobium and tantalum: occurrence from which there has been production
Tin: occurrence from which there has been production
There are no significant deposits of these metals in Hawaii
Principal Islands of HAWAII
SCALE 1:17,000,000
ALASKA
SCALE 1:38,500,000
MOLYBDENUM, VANADIUM, TUNGSTEN, NIOBIUM, TANTALUM, AND TIN
Compiled by U.S. Geological Survey, 1968
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS

NONMETALLIC MINERAL PRODUCTION

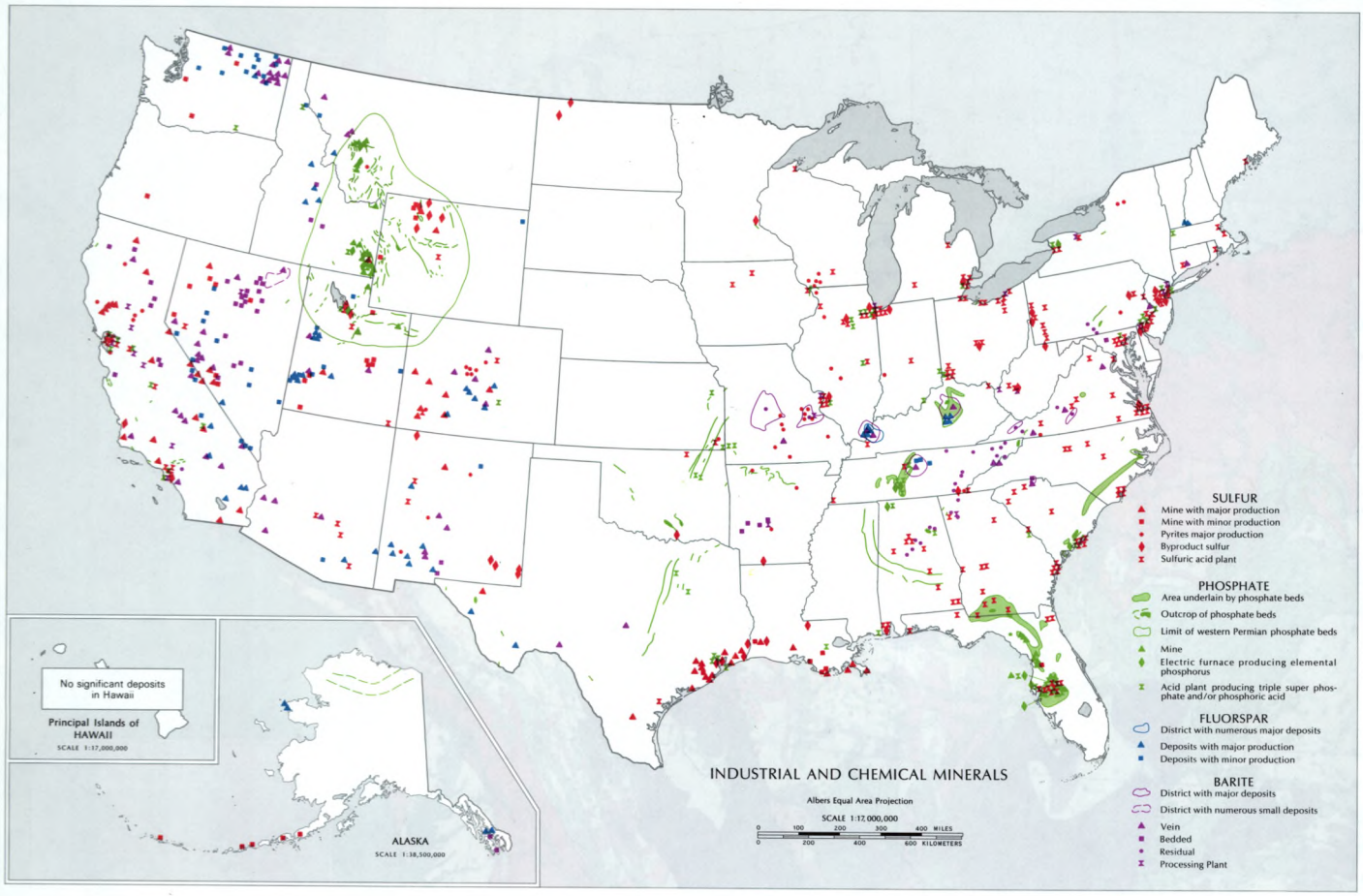


$$\text{Domestic sufficiency} = \frac{\text{Domestic production}}{\text{Domestic consumption}} \times 100$$

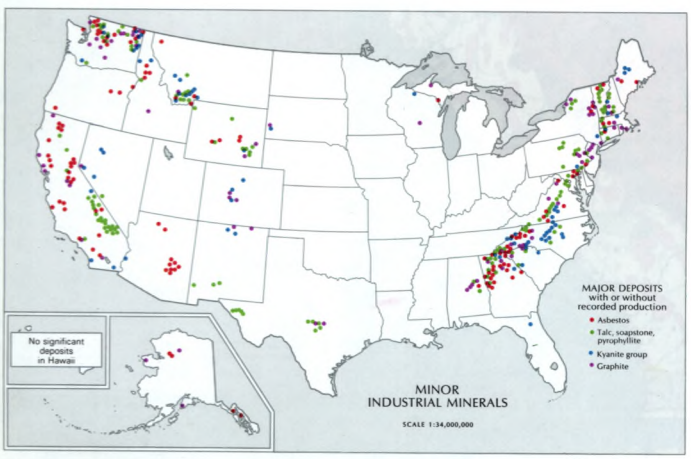
Compiled by U.S. Geological Survey, 1968

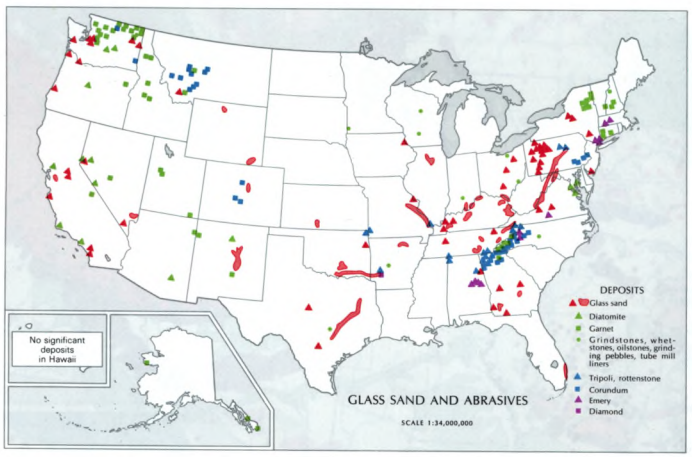


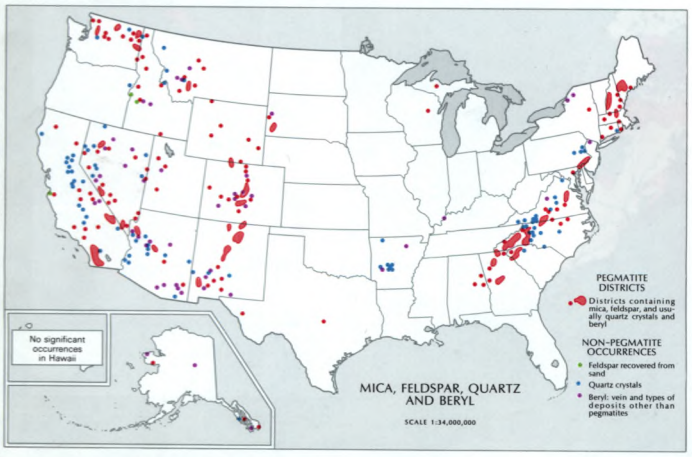

LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
PACIFIC OCEAN
ATLANTIC OCEAN
OPERATIONS
Light weight aggregate
Portland cement
Natural cement
Triangle in the appropriate color represents five operations
CEMENT CONSTRUCTION MATERIALS
PRODUCTION OF CONSTRUCTION MATERIALS
MILLIONS OF SHORT TONS
Crushed stone
Gravel
Sand
Cement
Non-agricultural lime
Pumice and cinders
Dimension stone
1951
1955
1960
1965
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:17,000,000
CONSTRUCTION MATERIALS
Granite and other crystalline and/or igneous rocks
Carbonate rocks including limestone, dolomite, and marble
Sandstone and quartzite
Slate
Clays: refractory, brick, and tile
Pumice, pumicite, scoria, and volcanic ash
Dot in the appropriate color shows active or recently active quarries and pits, or small deposits
Line in the appropriate color shows narrow outcrop bands
MINERAL RAW MATERIALS FOR CONSTRUCTION
Alice E. French
U.S. Geological Survey, 1967
Albers Equal Area Projection
SCALE 1:7,500,000
MILES
KILOMETERS

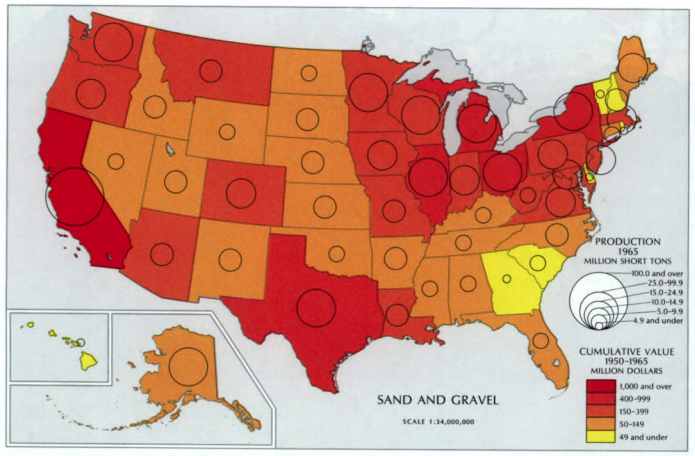


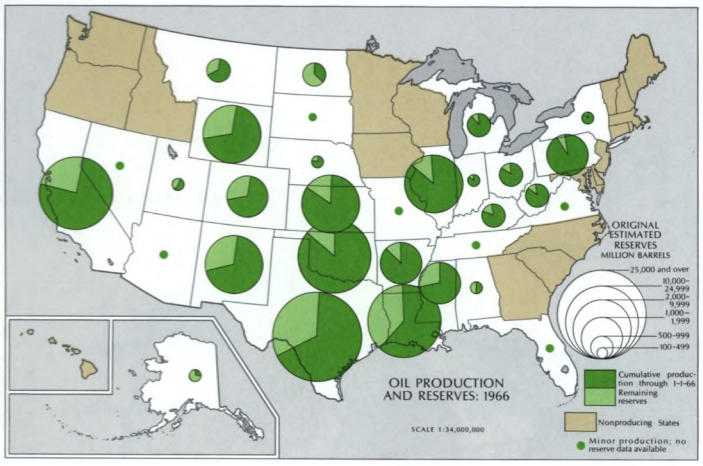
Compiled by U.S. Geological Survey, 1968

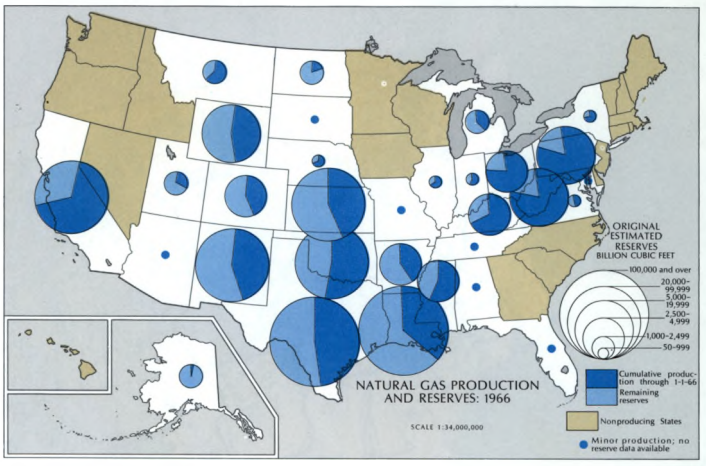


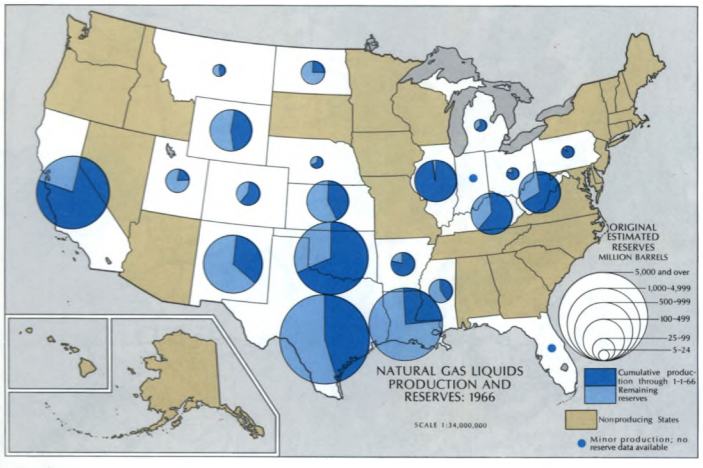


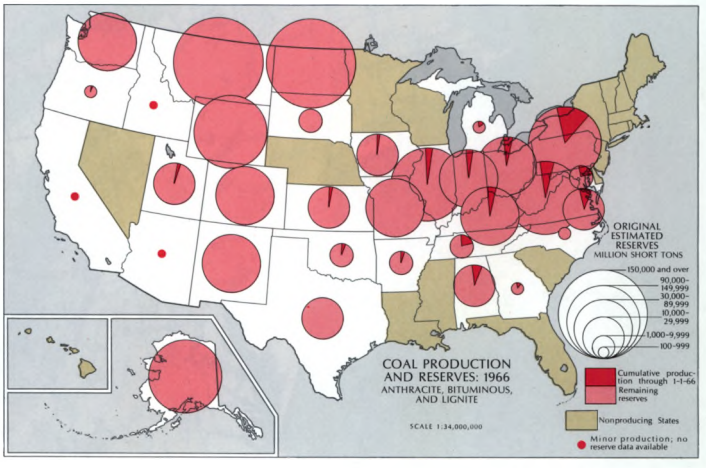




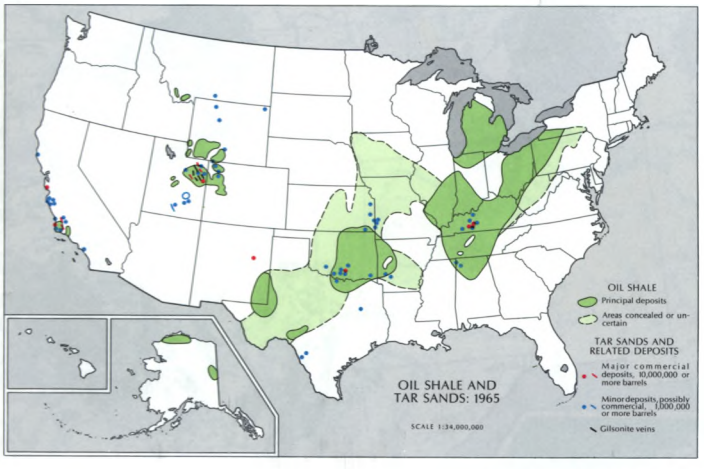


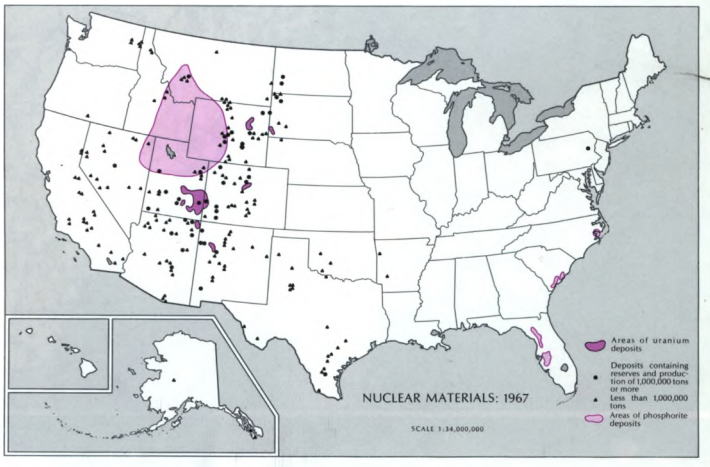




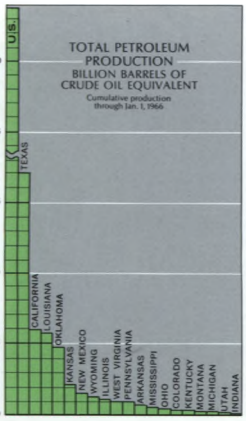


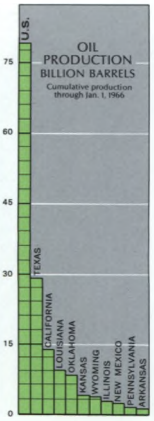
Compiled by U.S. Geological Survey, 1968

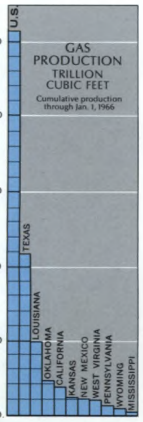


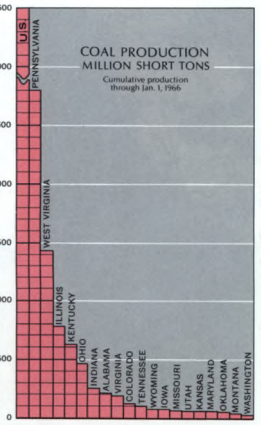


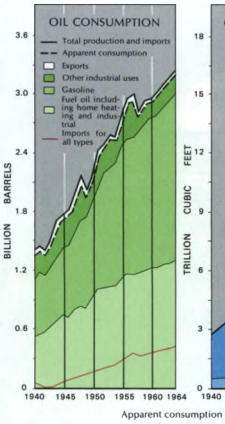
ORGANIC FUELS, PRODUCTION AND CONSUMPTION

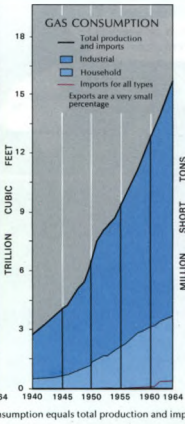


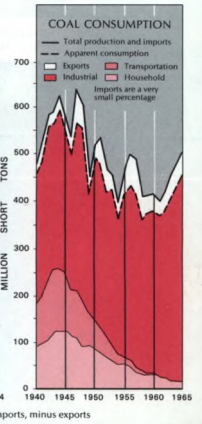




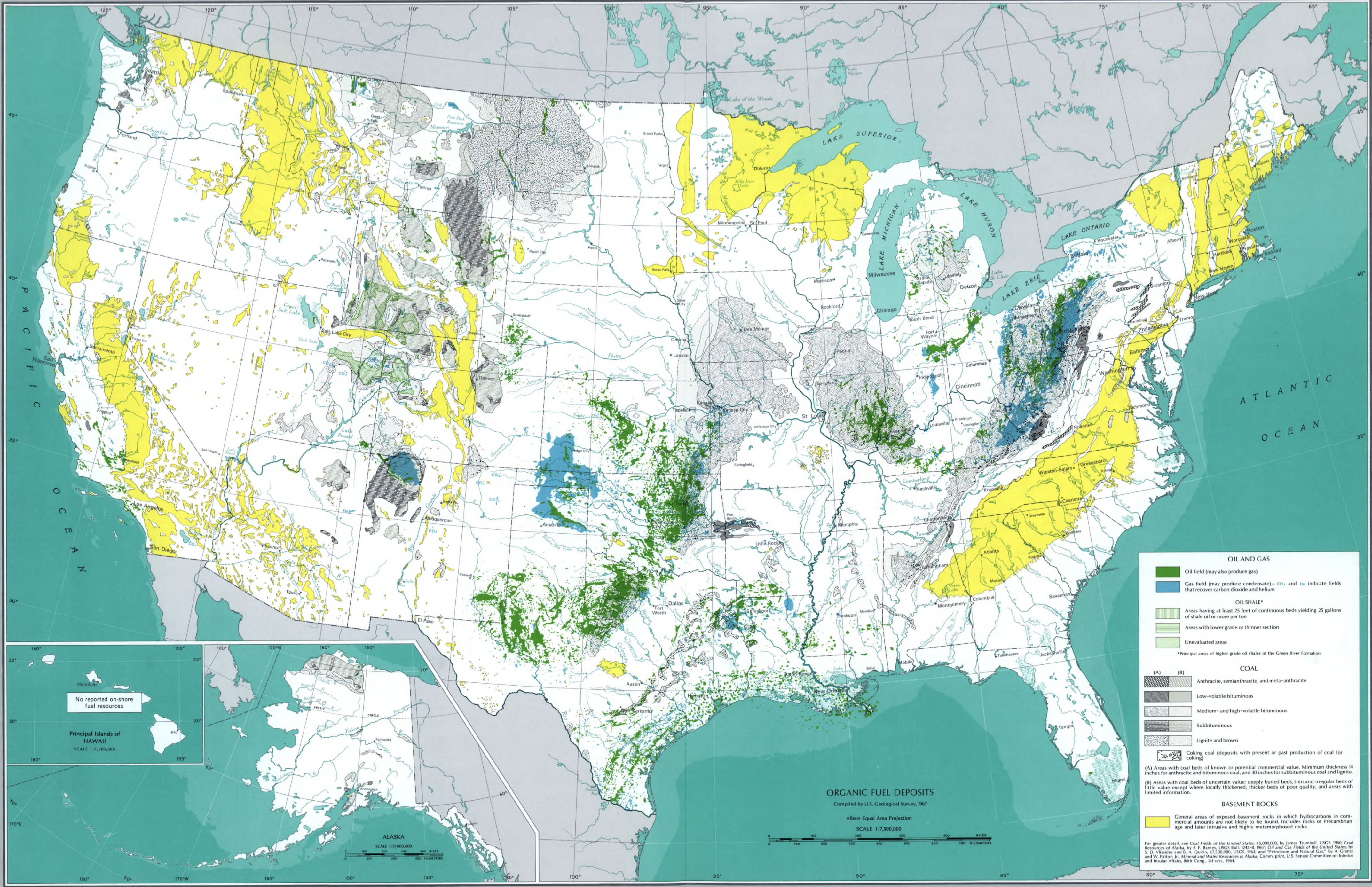


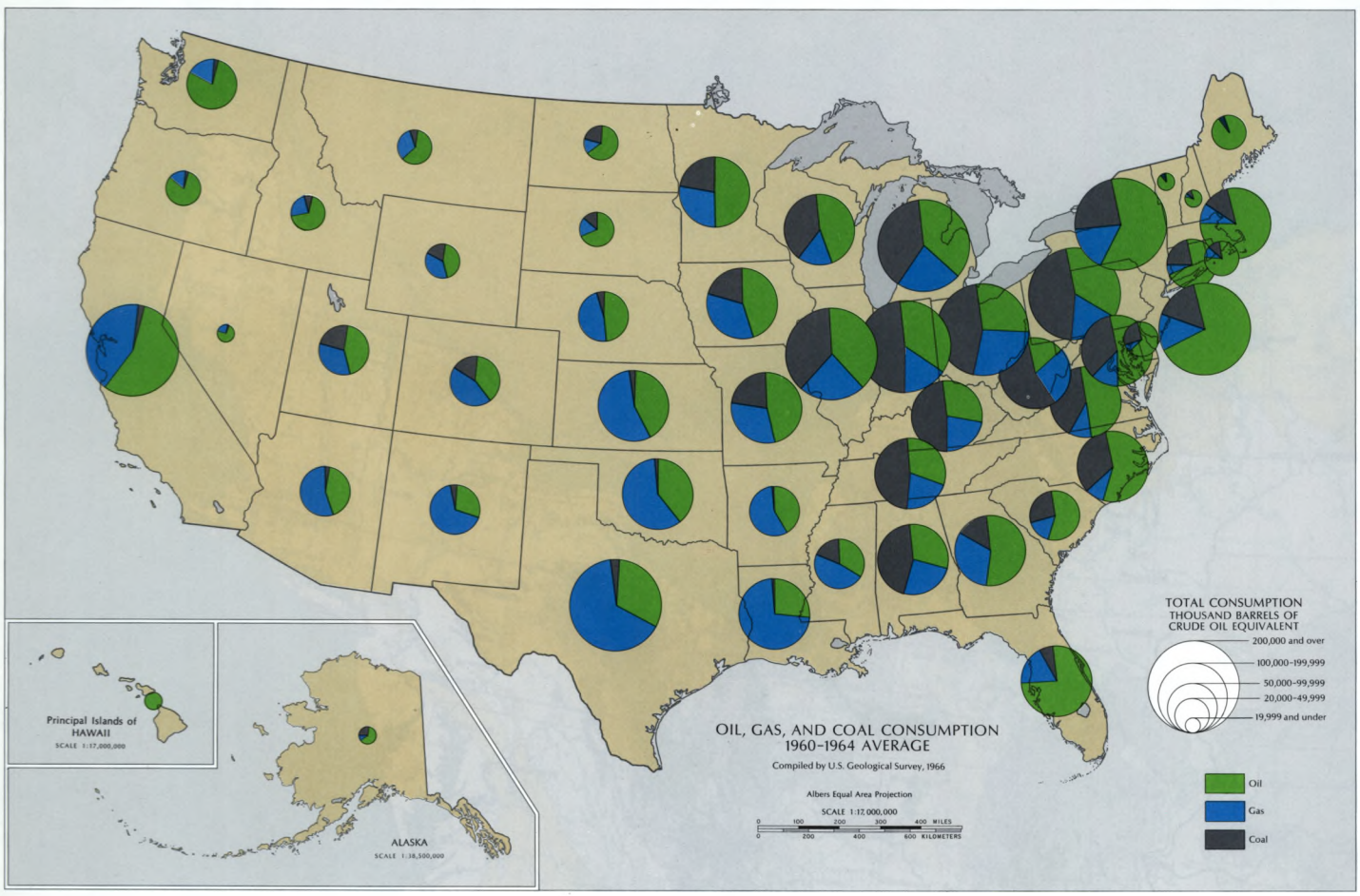


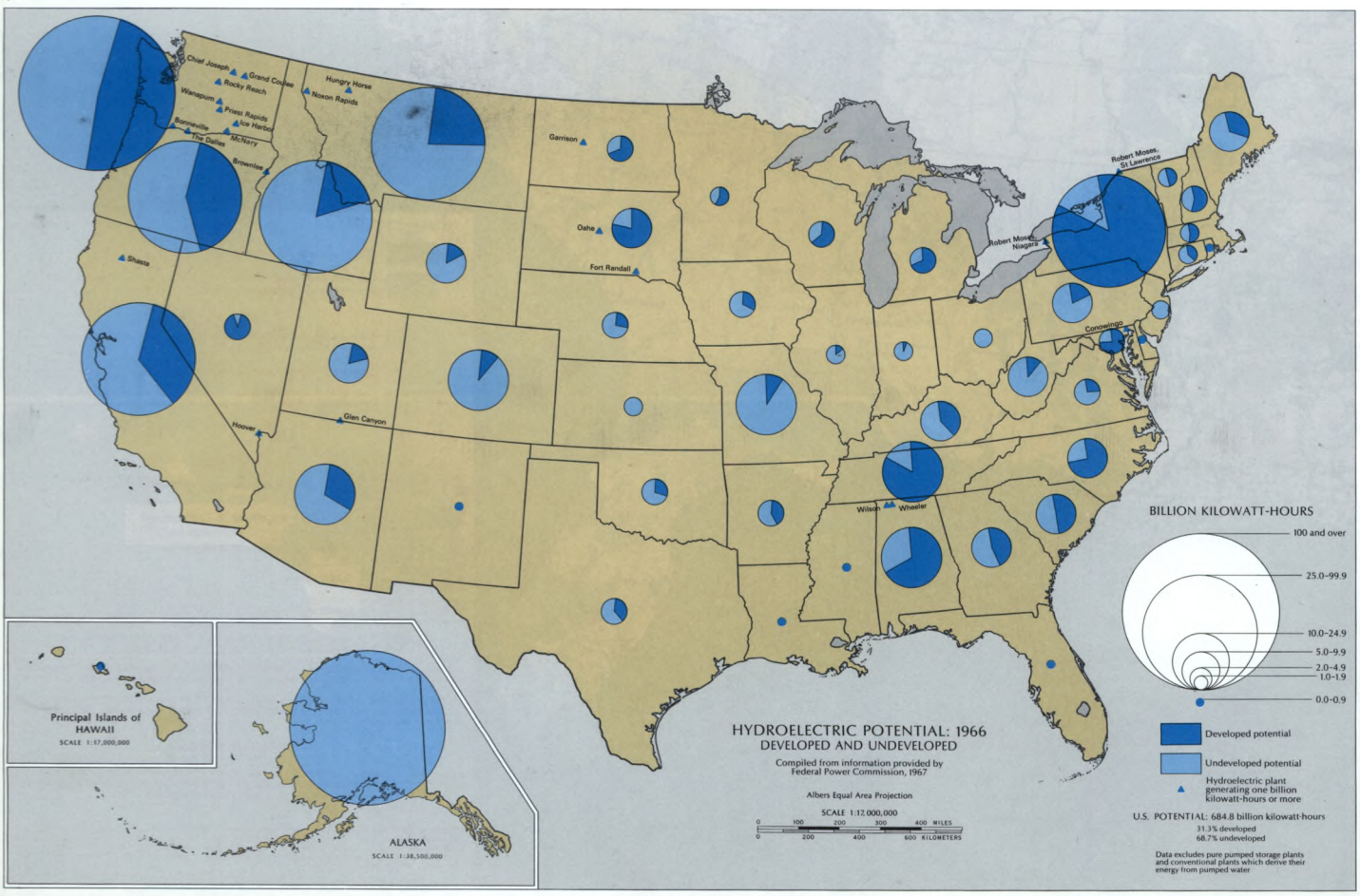


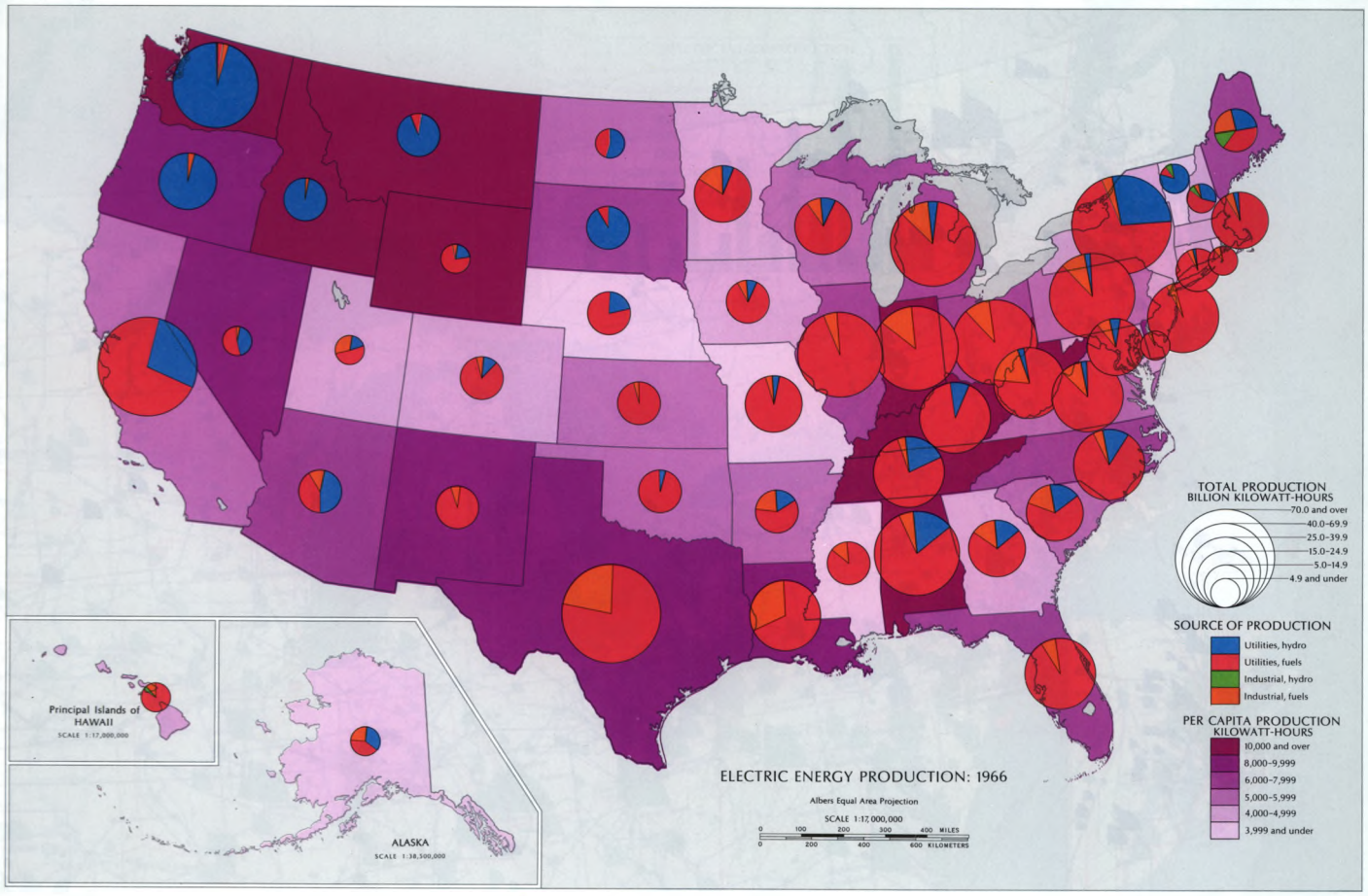


Apparent consumption equals total production and imports, minus exports


ORGANIC FUEL DEPOSITS
Compiled by U.S. Geological Survey, 1967
Albers Equal Area Projection
SCALE 1:7,500,000
PACIFIC OCEAN
ATLANTIC OCEAN
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ONTARIO
LAKE ERIE
Principal Islands of HAWAII
SCALE 1:7,500,000
No reported on-shore fuel resources
ALASKA
SCALE 1:12,000,000
OIL AND GAS
Oil field (may also produce gas)
Gas field (may produce condensate)— CO₂ and He indicate fields that recover carbon dioxide and helium
OIL SHALE*
Areas having at least 25 feet of continuous beds yielding 25 gallons of shale oil or more per ton
Areas with lower grade or thinner section
Unevaluated areas
*Principal areas of higher grade oil shales of the Green River Formation.
COAL
(A) (B)
Anthracite, semianthracite, and meta-anthracite
Low-volatile bituminous
Medium- and high-volatile bituminous
Subbituminous
Lignite and brown
Coking coal (deposits with present or past production of coal for coking)
(A) Areas with coal beds of known or potential commercial value. Minimum thickness 14 inches for anthracite and bituminous coal, and 30 inches for subbituminous coal and lignite.
(B) Areas with coal beds of uncertain value: deeply buried beds, thin and irregular beds of little value except where locally thickened, thicker beds of poor quality, and areas with limited information.
BASEMENT ROCKS
General areas of exposed basement rocks in which hydrocarbons in commercial amounts are not likely to be found. Includes rocks of Precambrian age and later intrusive and highly metamorphosed rocks.
For greater detail, see Coal Fields of the United States, 1:5,000,000, by James Trumbull, USGS, 1960; Coal Resources of Alaska, by F. F. Barnes, USGS Bull. 1242-B, 1967; Oil and Gas Fields of the United States, by S. D. Vlissides and B. A. Quirin, 1:7,500,000, USGS, 1964; and "Petroleum and Natural Gas," by A. Grantz and W. Patton, Jr., Mineral and Water Resources in Alaska, Comm. print, U.S. Senate Committee on Interior and Insular Affairs, 88th Cong., 2d sess., 1964.


TOTAL CONSUMPTION
THOUSAND BARRELS OF
CRUDE OIL EQUIVALENT
200,000 and over
100,000–199,999
50,000–99,999
20,000–49,999
19,999 and under
Oil
Gas
Coal
OIL, GAS, AND COAL CONSUMPTION
1960–1964 AVERAGE
Compiled by U.S. Geological Survey, 1966
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS
Principal Islands of HAWAII
SCALE 1:17,000,000
ALASKA
SCALE 1:38,500,000

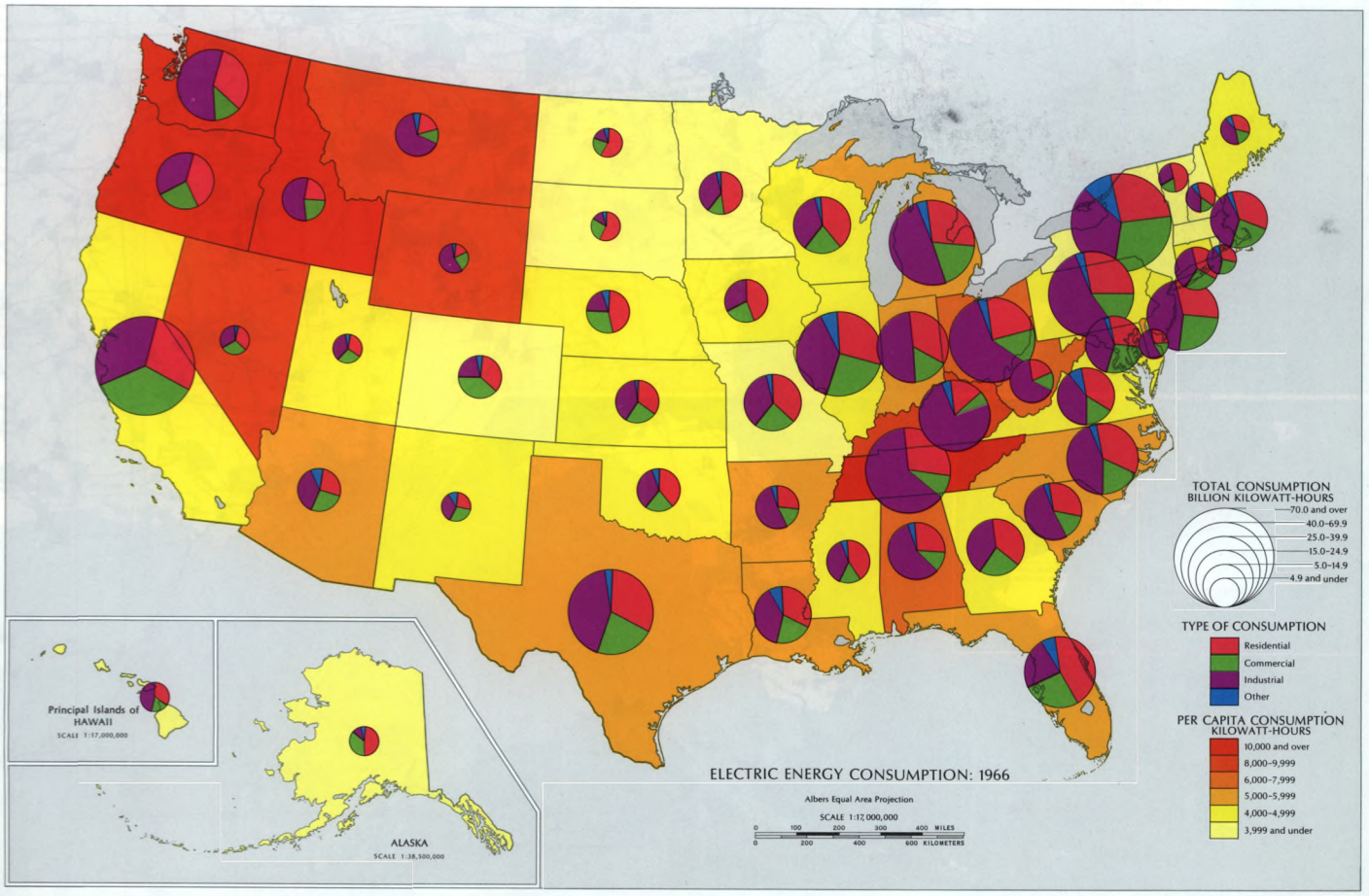

Chief Joseph
Grand Coulee
Rocky Reach
Wanapum
Priest Rapids
Ice Harbor
Bonneville
The Dalles
McNary
Brownlee
Hungry Horse
Noxon Rapids
Shasta
Hoover
Glen Canyon
Garrison
Oahe
Fort Randall
Robert Moses, St Lawrence
Robert Moses, Niagara
Conowingo
Wilson
Wheeler
BILLION KILOWATT-HOURS
100 and over
25.0–99.9
10.0–24.9
5.0–9.9
2.0–4.9
1.0–1.9
0.0–0.9
Developed potential
Undeveloped potential
Hydroelectric plant generating one billion kilowatt-hours or more
U.S. POTENTIAL: 684.8 billion kilowatt-hours
31.3% developed
68.7% undeveloped
Data excludes pure pumped storage plants and conventional plants which derive their energy from pumped water
HYDROELECTRIC POTENTIAL: 1966
DEVELOPED AND UNDEVELOPED
Compiled from information provided by Federal Power Commission, 1967
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS
Principal Islands of HAWAII
SCALE 1:17,000,000
ALASKA
SCALE 1:38,500,000

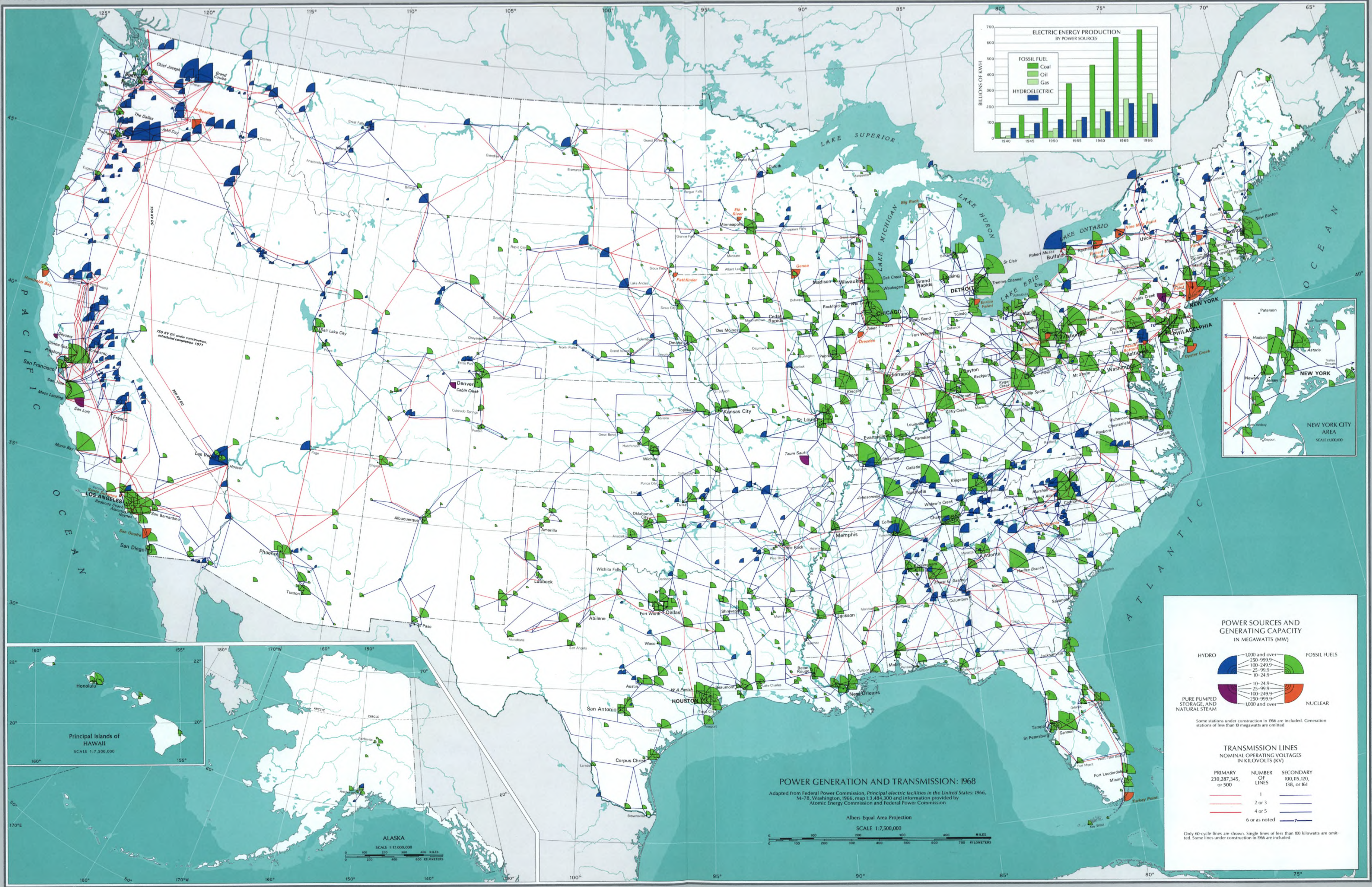


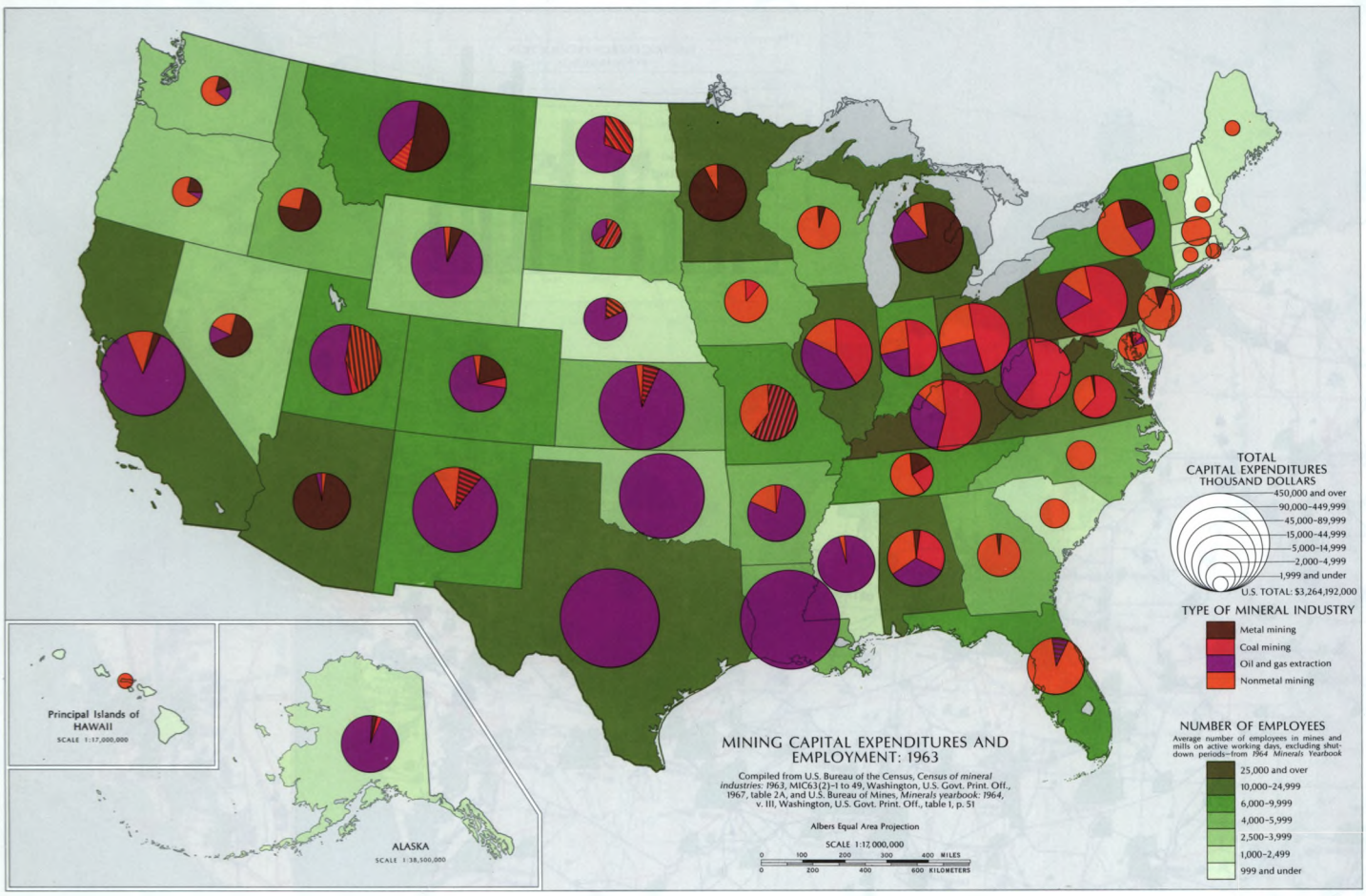
Categories less than two percent not shown

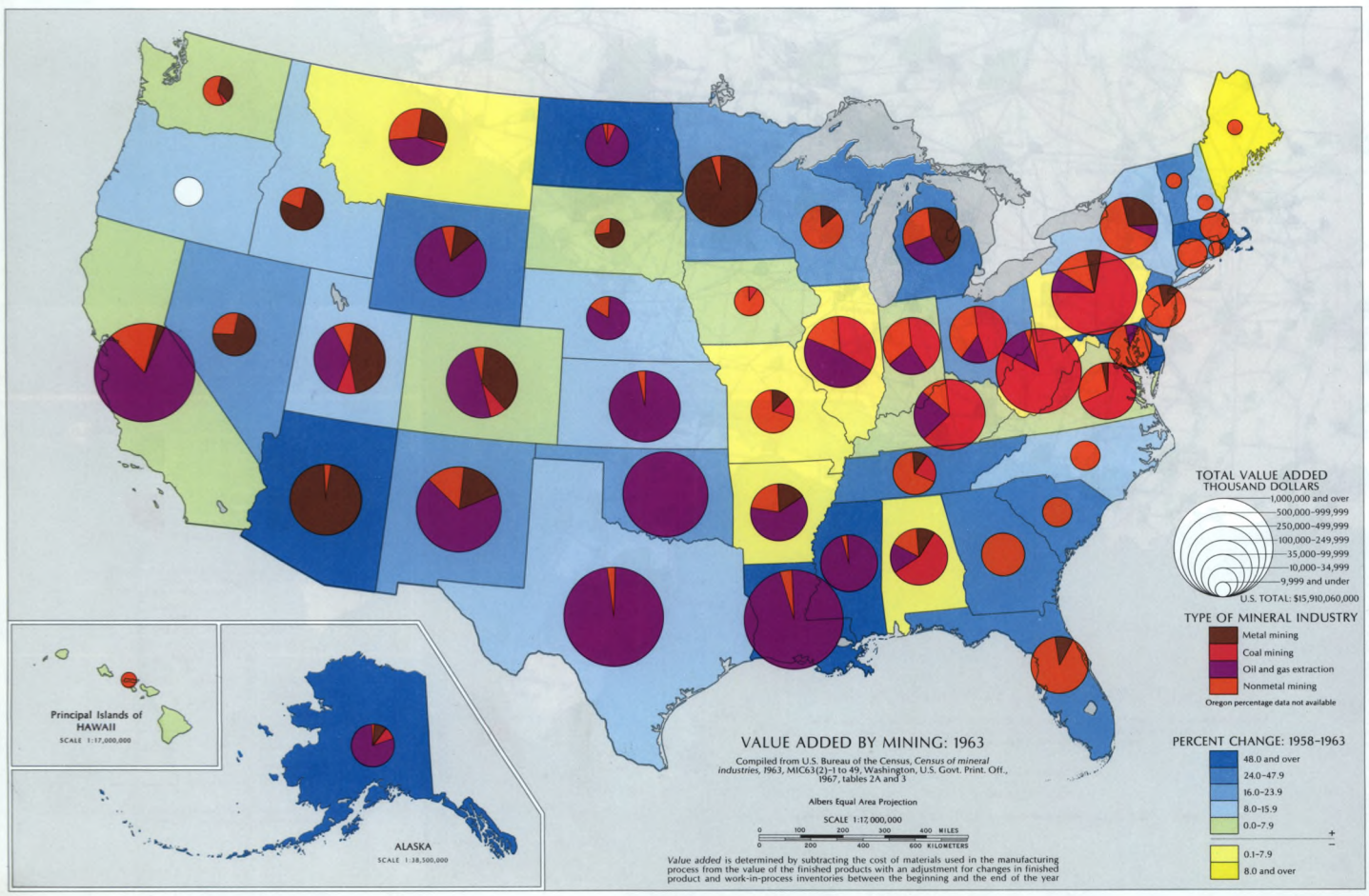
All District of Columbia data combined with Maryland

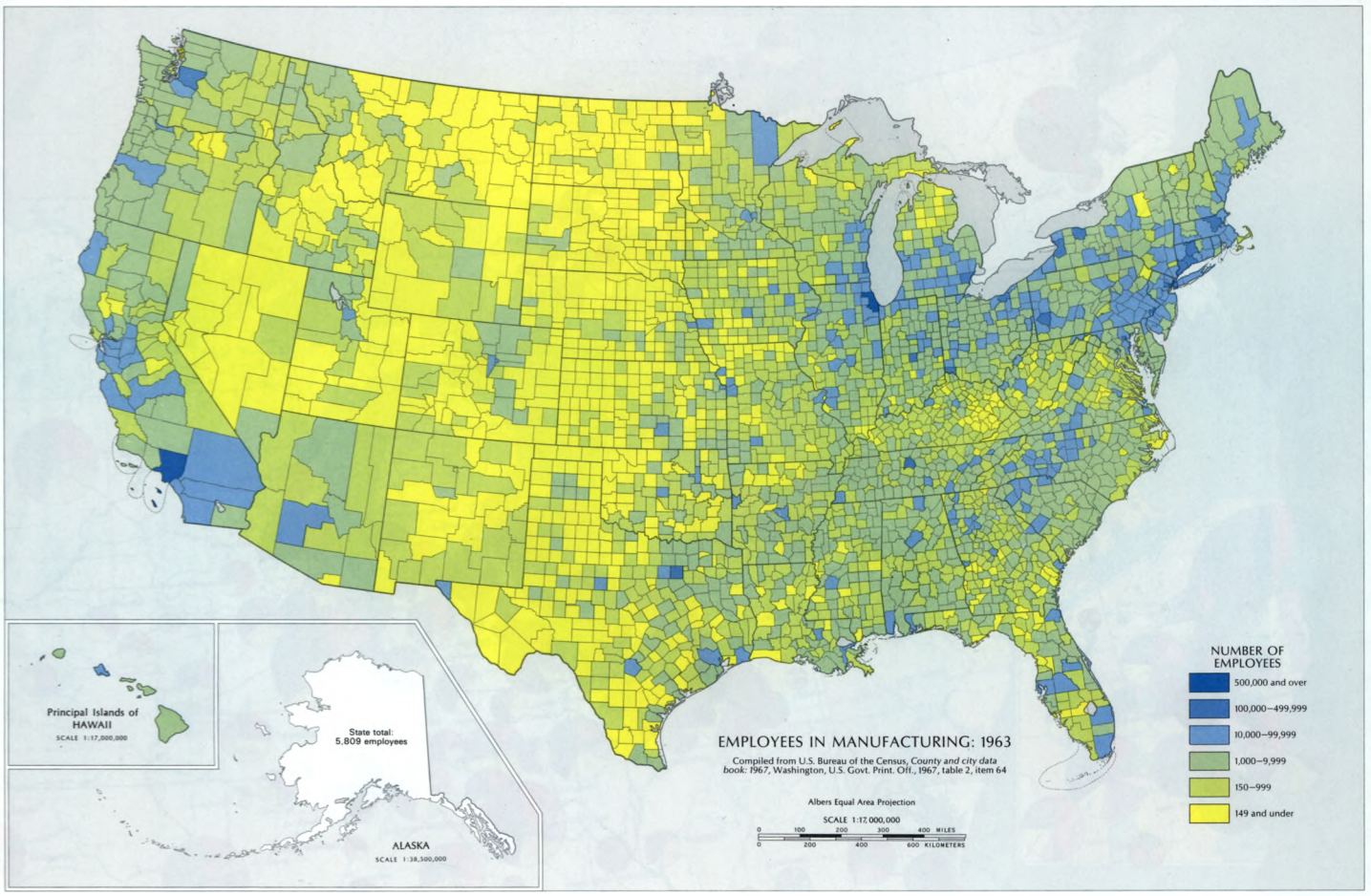
Compiled from Federal Power Commission, *Electric power statistics*, monthly repts., Washington, U.S. Govt. Print. Off., 1966, tables 1, 2, and 9




ELECTRIC ENERGY PRODUCTION
BY POWER SOURCES
BILLIONS OF KWH
FOSSIL FUEL
Coal
Oil
Gas
HYDROELECTRIC
0
100
200
300
400
500
600
700
1940
1945
1950
1955
1960
1965
1966
POWER GENERATION AND TRANSMISSION: 1968
Adapted from Federal Power Commission, *Principal electric facilities in the United States: 1966*, M-78, Washington, 1966, map 1:3,484,300 and information provided by Atomic Energy Commission and Federal Power Commission
Albers Equal Area Projection
SCALE 1:7,500,000
MILES
KILOMETERS
POWER SOURCES AND GENERATING CAPACITY
IN MEGAWATTS (MW)
HYDRO
FOSSIL FUELS
1,000 and over
250-999.9
100-249.9
25-99.9
10-24.9
PURE PUMPED STORAGE, AND NATURAL STEAM
NUCLEAR
Some stations under construction in 1966 are included. Generation stations of less than 10 megawatts are omitted
TRANSMISSION LINES
NOMINAL OPERATING VOLTAGES IN KILOVOLTS (KV)
PRIMARY 230,287,345, or 500
NUMBER OF LINES
SECONDARY 100,115,120, 138, or 161
1
2 or 3
4 or 5
6 or as noted
Only 60-cycle lines are shown. Single lines of less than 100 kilowatts are omitted. Some lines under construction in 1966 are included
NEW YORK CITY AREA
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:17,000,000
PACIFIC OCEAN
ATLANTIC OCEAN
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ONTARIO
LAKE ERIE
750 KV DC under construction; scheduled completion 1971
LOS ANGELES
San Francisco
San Diego
Las Vegas
Hoover
Phoenix
Tucson
Albuquerque
El Paso
Denver
Salt Lake City
Chief Joseph
Grand Coulee
The Dalles
John Day
Portland
Minneapolis
Des Moines
Omaha
Kansas City
St Louis
Wichita
Oklahoma City
Tulsa
Dallas
Fort Worth
Houston
San Antonio
Corpus Christi
Austin
Waco
Abilene
Lubbock
Amarillo
Shreveport
Memphis
Jackson
New Orleans
Nashville
Louisville
Atlanta
Birmingham
Jacksonville
Tampa
Miami
Turkey Point
CHICAGO
Milwaukee
Madison
DETROIT
Toledo
Cleveland
Pittsburgh
Buffalo
Robert Moses
Utica
NEW YORK
PHILADELPHIA
Baltimore
Washington
Richmond
Norfolk
Boston
Duluth
Bismarck
Billings

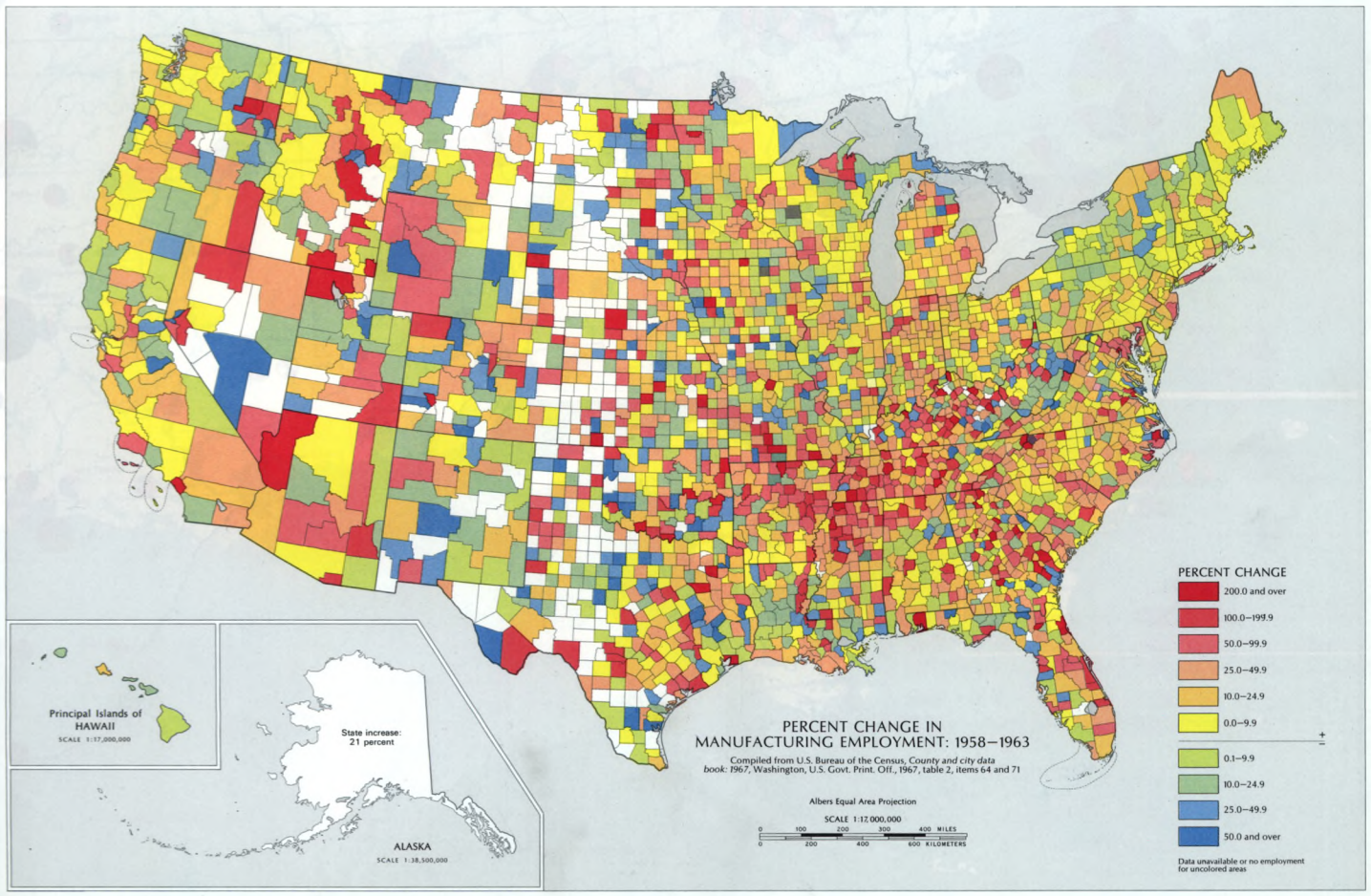

TOTAL
CAPITAL EXPENDITURES
THOUSAND DOLLARS
450,000 and over
90,000–449,999
45,000–89,999
15,000–44,999
5,000–14,999
2,000–4,999
1,999 and under
U.S. TOTAL: $3,264,192,000
TYPE OF MINERAL INDUSTRY
Metal mining
Coal mining
Oil and gas extraction
Nonmetal mining
NUMBER OF EMPLOYEES
Average number of employees in mines and mills on active working days, excluding shut-down periods—from 1964 Minerals Yearbook
25,000 and over
10,000–24,999
6,000–9,999
4,000–5,999
2,500–3,999
1,000–2,499
999 and under
Principal Islands of HAWAII
SCALE 1:17,000,000
ALASKA
SCALE 1:38,500,000
MINING CAPITAL EXPENDITURES AND EMPLOYMENT: 1963
Compiled from U.S. Bureau of the Census, Census of mineral industries: 1963, MIC63(2)-1 to 49, Washington, U.S. Govt. Print. Off., 1967, table 2A, and U.S. Bureau of Mines, Minerals yearbook: 1964, v. III, Washington, U.S. Govt. Print. Off., table 1, p. 51
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS
Categories less than two percent not shown
Delaware–Maryland–D.C. data combined


TOTAL VALUE ADDED
THOUSAND DOLLARS
1,000,000 and over
500,000–999,999
250,000–499,999
100,000–249,999
35,000–99,999
10,000–34,999
9,999 and under
U.S. TOTAL: $15,910,060,000
TYPE OF MINERAL INDUSTRY
Metal mining
Coal mining
Oil and gas extraction
Nonmetal mining
Oregon percentage data not available
PERCENT CHANGE: 1958–1963
48.0 and over
24.0–47.9
16.0–23.9
8.0–15.9
0.0–7.9
+
–
0.1–7.9
8.0 and over
Principal Islands of HAWAII
SCALE 1:17,000,000
ALASKA
SCALE 1:38,500,000
VALUE ADDED BY MINING: 1963
Compiled from U.S. Bureau of the Census, Census of mineral industries, 1963, MIC63(2)-1 to 49, Washington, U.S. Govt. Print. Off., 1967, tables 2A and 3
Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS
Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



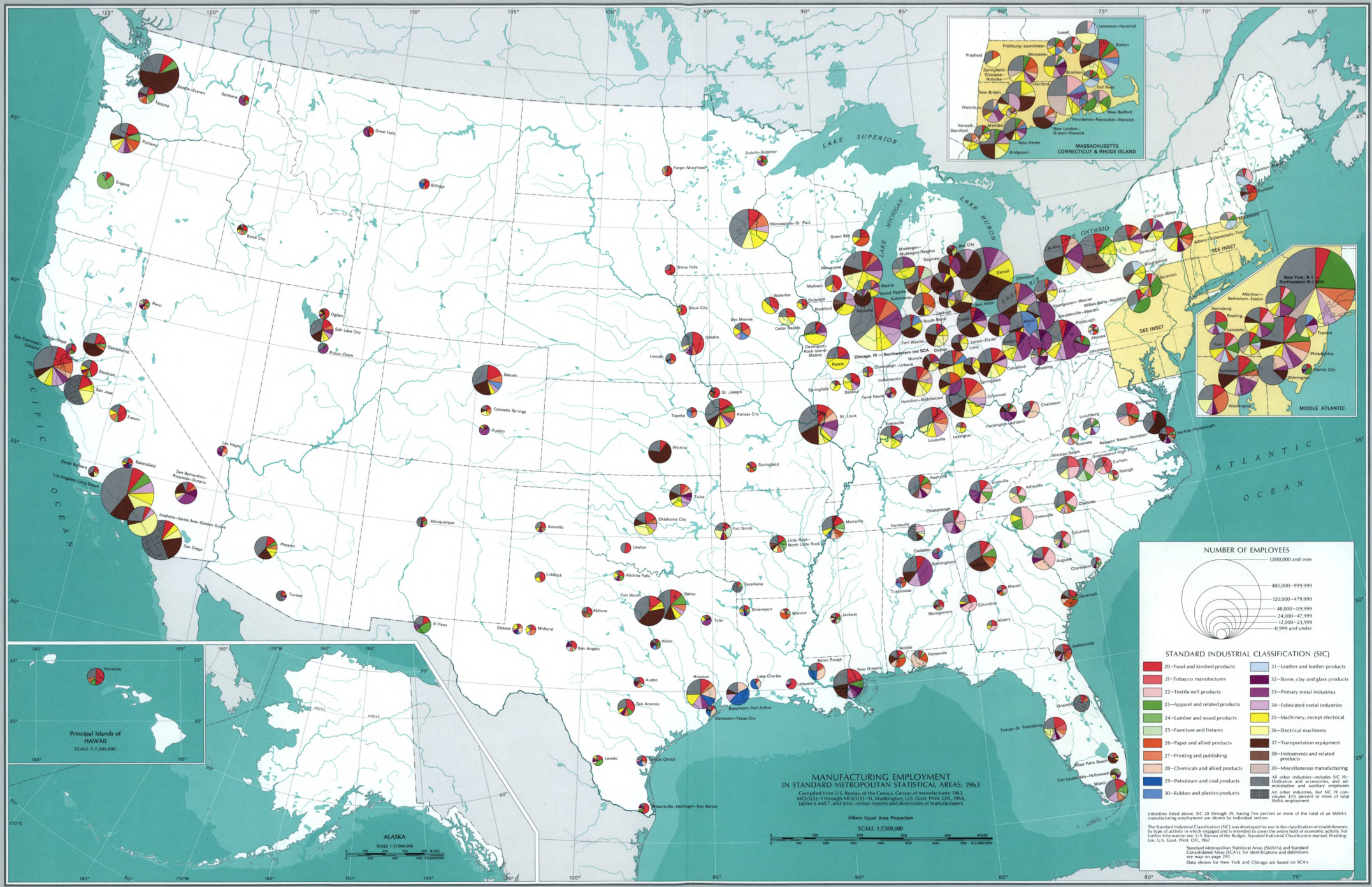
EMPLOYEES IN MANUFACTURING: 1963

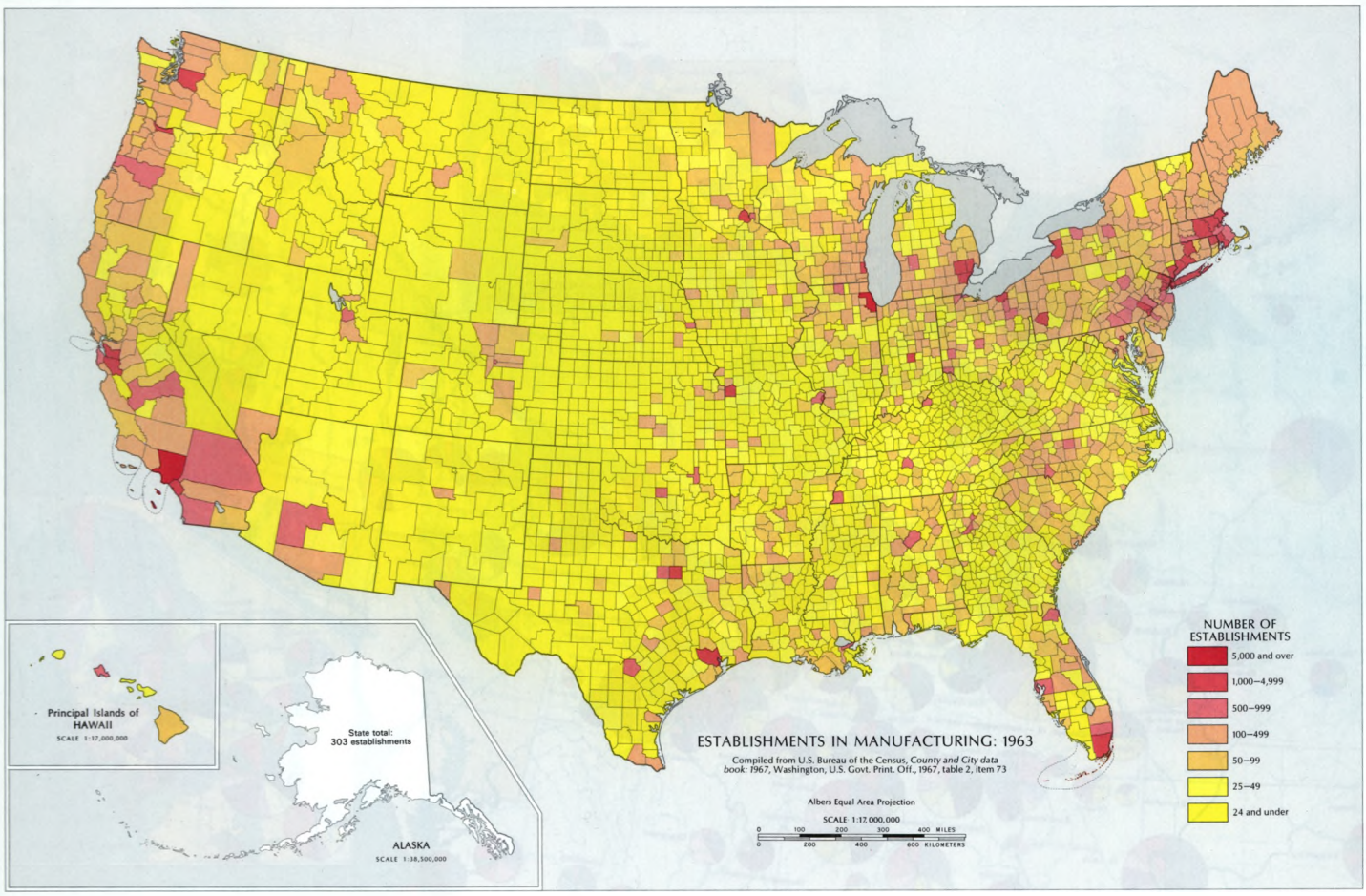
Compiled from U.S. Bureau of the Census, *County and city data book: 1967*, Washington, U.S. Govt. Print. Off., 1967, table 2, item 64



PERCENT CHANGE IN MANUFACTURING EMPLOYMENT: 1958–1963

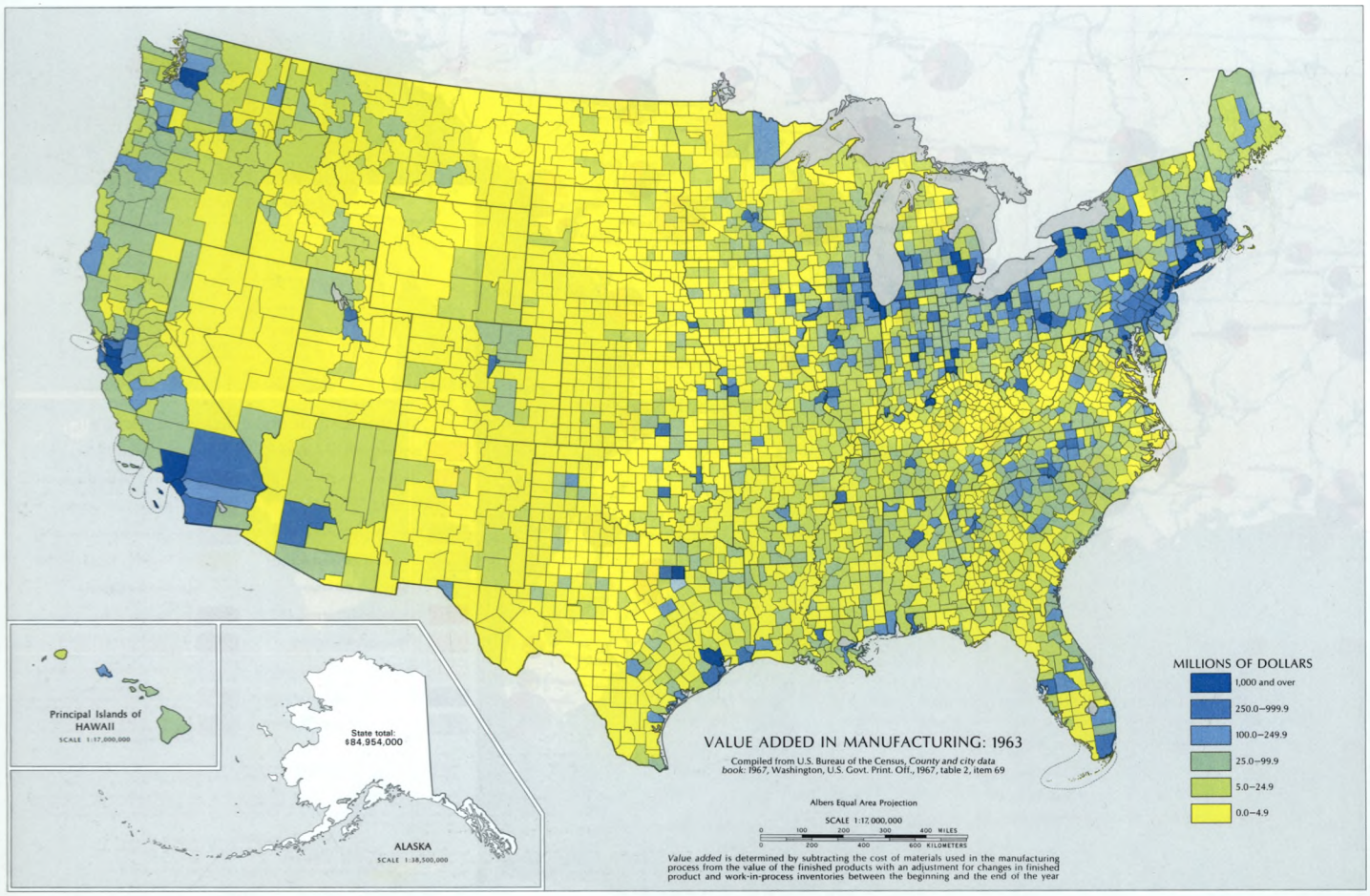
Compiled from U.S. Bureau of the Census, *County and city data book: 1967*, Washington, U.S. Govt. Print. Off., 1967, table 2, items 64 and 71


MASSACHUSETTS
CONNECTICUT & RHODE ISLAND
SEE INSET
SEE INSET
MIDDLE ATLANTIC
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:17,000,000
Albers Equal Area Projection
SCALE 1:7,500,000
NUMBER OF EMPLOYEES
1,000,000 and over
480,000–999,999
120,000–479,999
48,000–119,999
24,000–47,999
12,000–23,999
11,999 and under
STANDARD INDUSTRIAL CLASSIFICATION (SIC)
20—Food and kindred products
21—Tobacco manufactures
22—Textile mill products
23—Apparel and related products
24—Lumber and wood products
25—Furniture and fixtures
26—Paper and allied products
27—Printing and publishing
28—Chemicals and allied products
29—Petroleum and coal products
30—Rubber and plastics products
31—Leather and leather products
32—Stone, clay and glass products
33—Primary metal industries
34—Fabricated metal industries
35—Machinery, except electrical
36—Electrical machinery
37—Transportation equipment
38—Instruments and related products
39—Miscellaneous manufacturing
All other industries—includes SIC 99—Ordnance and accessories, and administrative and auxiliary employees
All other industries, but SIC 19 constitutes 33% percent or more of total SMSA employment
Industries listed above, SIC 20 through 39, having five percent or more of the total of an SMSA's manufacturing employment are shown by individual sectors
The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, Standard Industrial Classification manual, Washington, U.S. Govt. Print. Off., 1967
Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293
Data shown for New York and Chicago are based on SCA's
MANUFACTURING EMPLOYMENT
IN STANDARD METROPOLITAN STATISTICAL AREAS: 1963
Compiled from U.S. Bureau of the Census, Census of manufactures: 1963, MC63(3)—1 through MC63(3)—51, Washington, U.S. Govt. Print. Off., 1964, tables 6 and 7, and misc. census reports and directories of manufacturers
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
PACIFIC OCEAN
ATLANTIC OCEAN
Seattle–Everett
Tacoma
Spokane
Portland
Eugene
Great Falls
Billings
Boise City
Reno
Ogden
Salt Lake City
Provo–Orem
San Francisco–Oakland
Vallejo–Napa
Sacramento
Stockton
San Jose
Fresno
Las Vegas
Santa Barbara
Bakersfield
Los Angeles–Long Beach
San Bernardino–Riverside–Ontario
Anaheim–Santa Ana–Garden Grove
San Diego
Phoenix
Tucson
Albuquerque
Denver
Colorado Springs
Pueblo
Amarillo
Lubbock
Odessa
Midland
El Paso
Abilene
San Angelo
Wichita Falls
Lawton
Oklahoma City
Tulsa
Wichita
Lincoln
Omaha
Sioux City
Sioux Falls
Topeka
Kansas City
St. Joseph
Springfield
Fort Worth
Dallas
Waco
Austin
San Antonio
Houston
Laredo
Corpus Christi
Brownsville–Harlingen–San Benito
Galveston–Texas City
Beaumont–Port Arthur
Lake Charles
Lafayette
Baton Rouge
New Orleans
Shreveport
Texarkana
Tyler
Monroe
Jackson
Little Rock–North Little Rock
Fort Smith
Memphis
Duluth–Superior
Fargo–Moorhead
Minneapolis–St. Paul
Green Bay
Milwaukee
Racine
Madison
Waterloo
Dubuque
Rockford
Sheboygan
Des Moines
Cedar Rapids
Davenport–Rock Island–Moline
Peoria
Chicago, Ill.—Northwestern Ind SCA
Champaign–Urbana
Springfield
Decatur
Terre Haute
Indianapolis
St. Louis
Evansville
Louisville
Lexington
Hamilton–Middletown
Cincinnati
Huntington–Ashland
Muskegon–Muskegon Heights
Saginaw
Bay City
Detroit
Ann Arbor
Jackson
South Bend
Fort Wayne
Lorain–Elyria
Canton
Akron
Cleveland
Erie
Youngstown–Warren
Steubenville–Weirton
Wilkes-Barre–Hazleton
Pittsburgh
Altoona
Johnstown
Columbus
Zanesville
Dayton
Springfield
Wheeling
Charleston
Huntington–Ashland
Lynchburg
Roanoke
Richmond
Norfolk–Portsmouth
Newport News–Hampton
Greensboro–High Point
Winston-Salem
Durham
Raleigh
Asheville
Knoxville
Nashville
Chattanooga
Huntsville
Gadsden
Birmingham
Tuscaloosa
Montgomery
Mobile
Pensacola
Macon
Columbus
Albany
Augusta
Charleston
Savannah
Jacksonville
Orlando
Tampa–St. Petersburg
West Palm Beach
Fort Lauderdale–Hollywood
Miami
Buffalo
Rochester
Utica–Rome
Syracuse
Binghamton
Scranton
Albany–Schenectady–Troy
Lewiston
Portland
Manchester
New York, N.Y.–Northeastern N.J. SCA
Allentown–Bethlehem–Easton
Harrisburg
Reading
Lancaster
York
Trenton
Philadelphia
Atlantic City
Wilmington
Baltimore
Washington
Lowell
Lawrence–Haverhill
Boston
Fitchburg–Leominster
Worcester
Pittsfield
Springfield–Chicopee–Holyoke
Brockton
Hartford
Fall River
New Britain
Waterbury
New Bedford
Providence–Pawtucket–Warwick
Norwalk
Stamford
Meriden
New London–Groton–Norwich
New Haven
Bridgeport



ESTABLISHMENTS IN MANUFACTURING: 1963

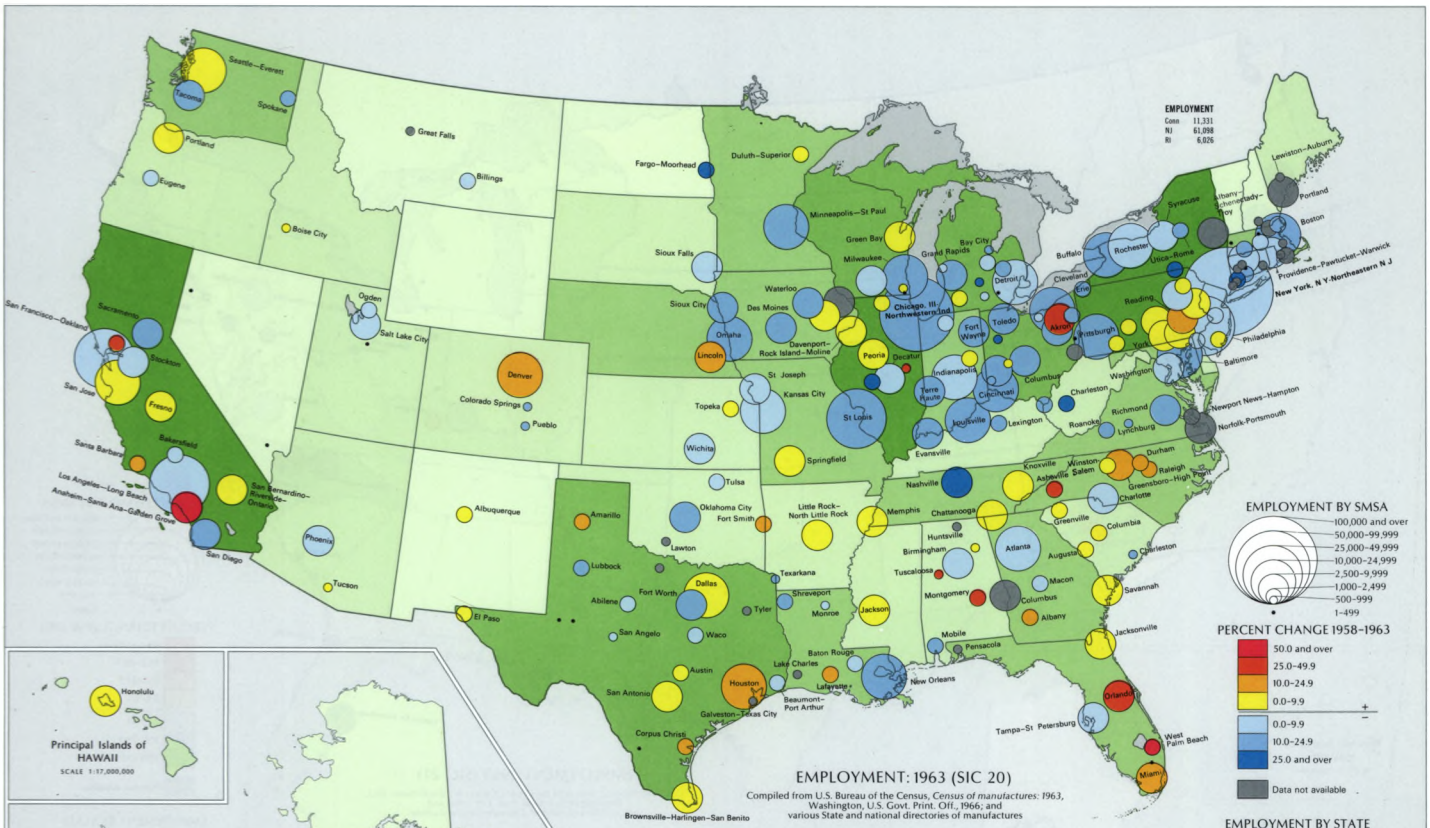
Compiled from U.S. Bureau of the Census, *County and City data book: 1967*, Washington, U.S. Govt. Print. Off., 1967, table 2, item 73



VALUE ADDED IN MANUFACTURING: 1963

Compiled from U.S. Bureau of the Census, *County and city data book: 1967*, Washington, U.S. Govt. Print. Off., 1967, table 2, item 69

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 20)

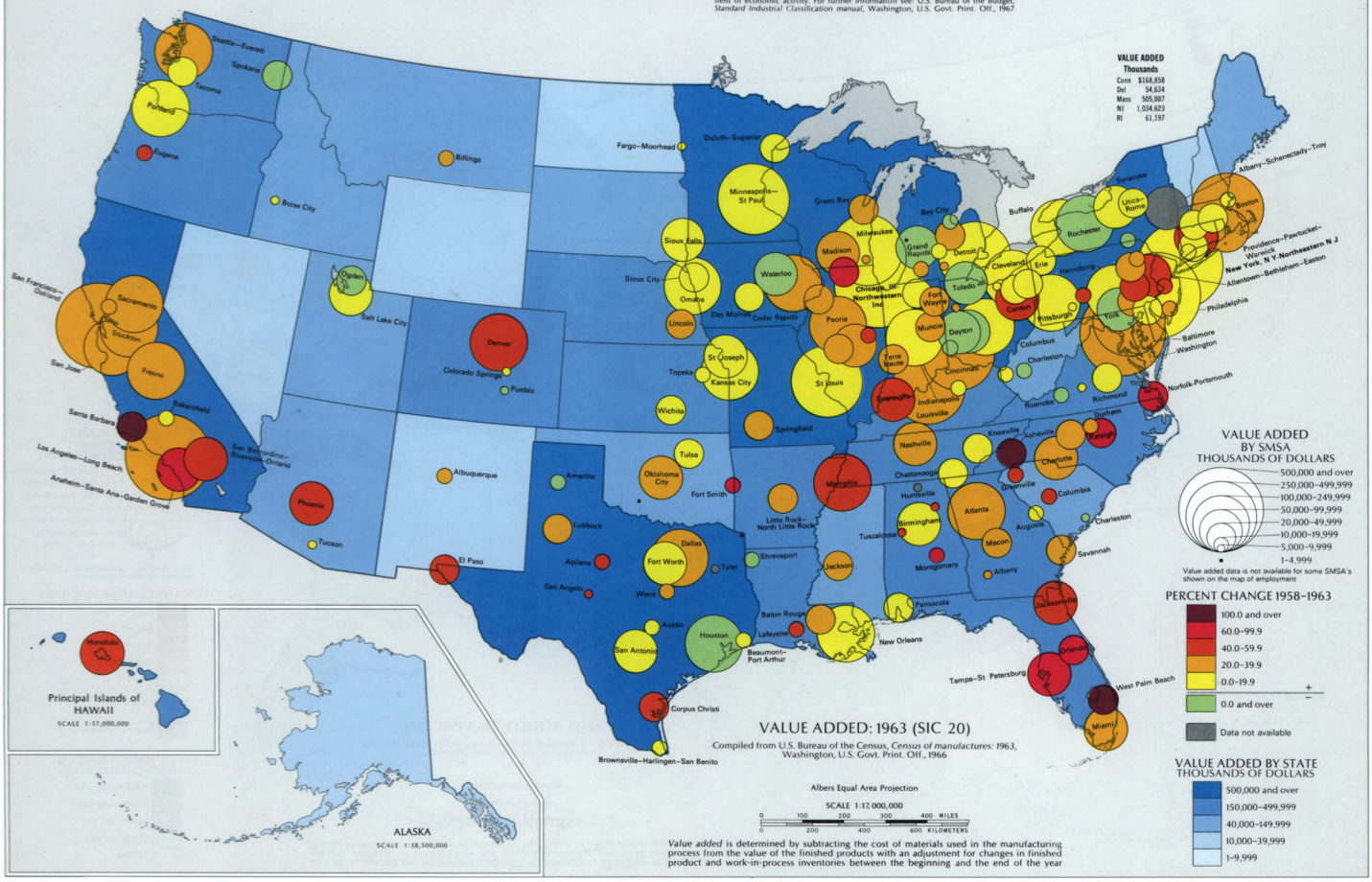
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 20—FOOD AND KINDRED PRODUCTS includes establishments manufacturing foods and beverages for human consumption, and certain related products, such as manufactured ice, chewing gum, vegetable and animal fats and oils, and prepared feeds for animals and fowls.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 20)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

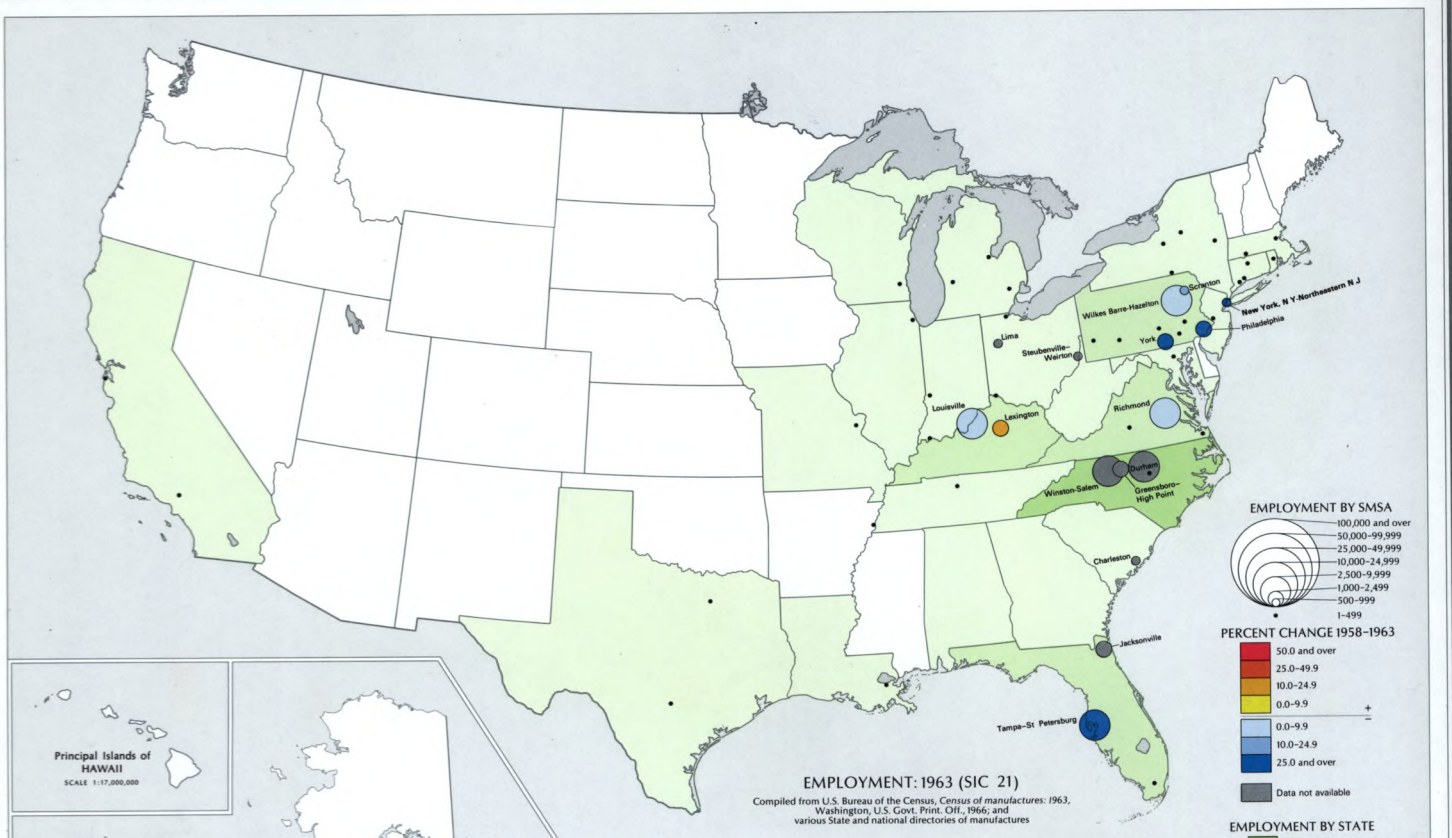
Albers Equal Area Projection

SCALE 1:17,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 21)

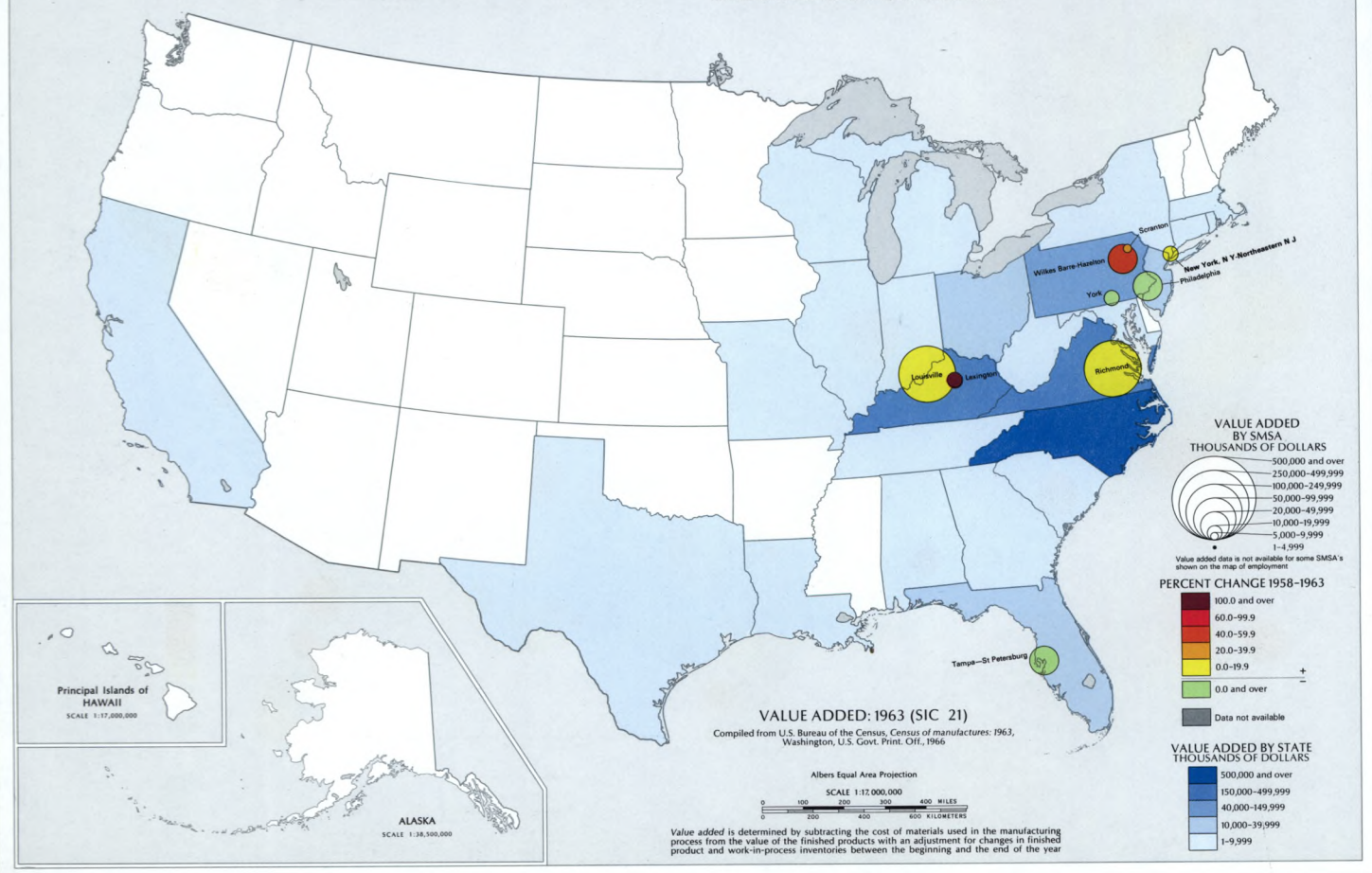
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC21 — TOBACCO MANUFACTURES includes establishments engaged in manufacturing cigarettes, cigars, smoking and chewing tobacco, and snuff, and in stemming and redrying tobacco.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 21)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

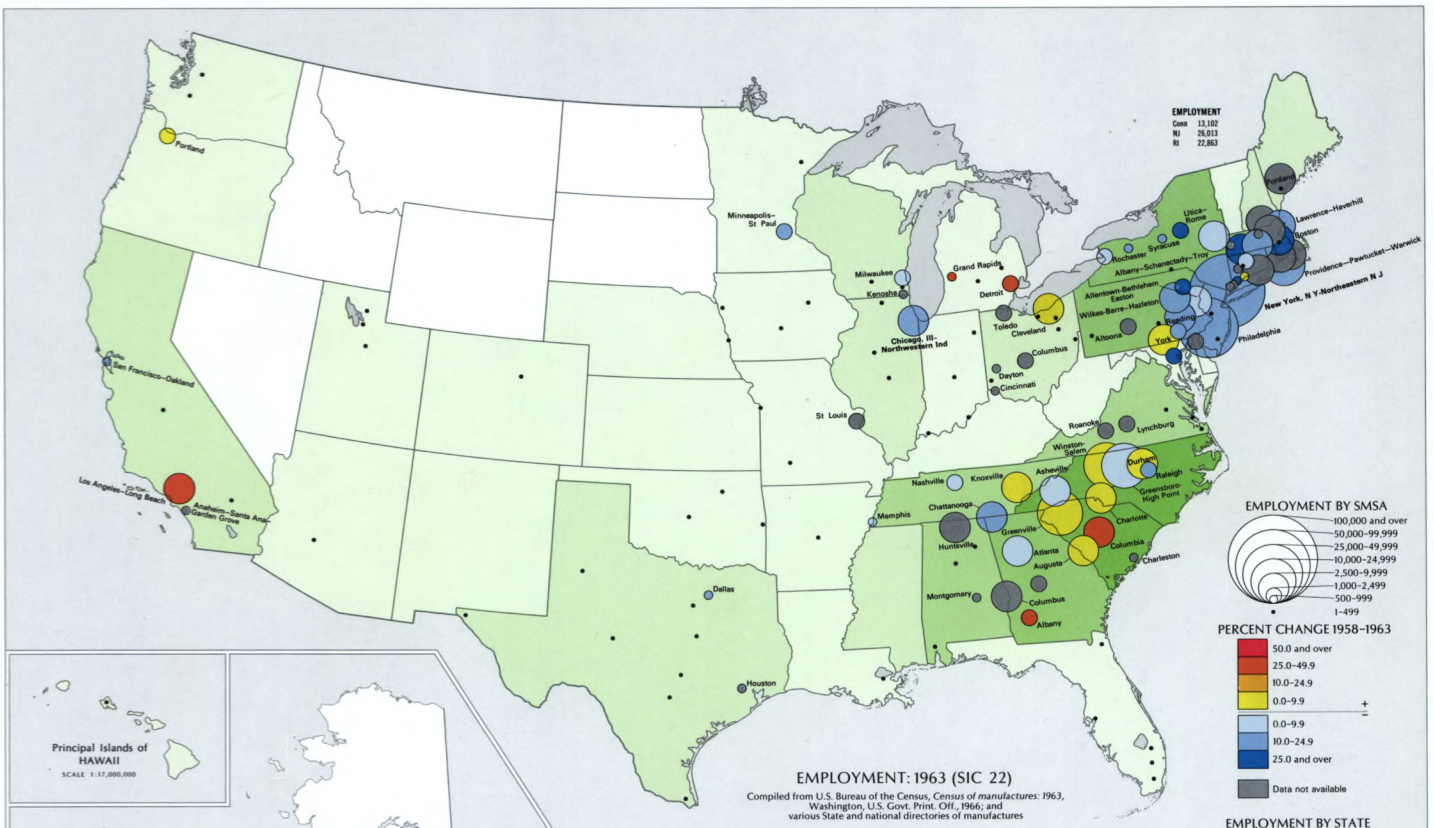
Albers Equal Area Projection

SCALE 1:17,000,000

0 100 200 300 400 MILES

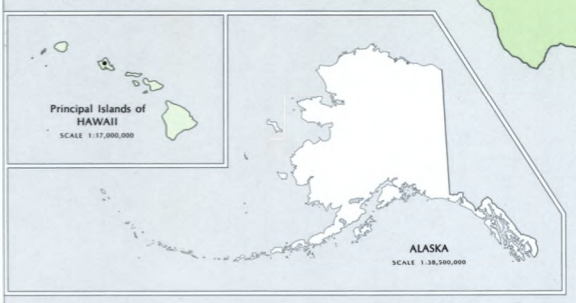
0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 22)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

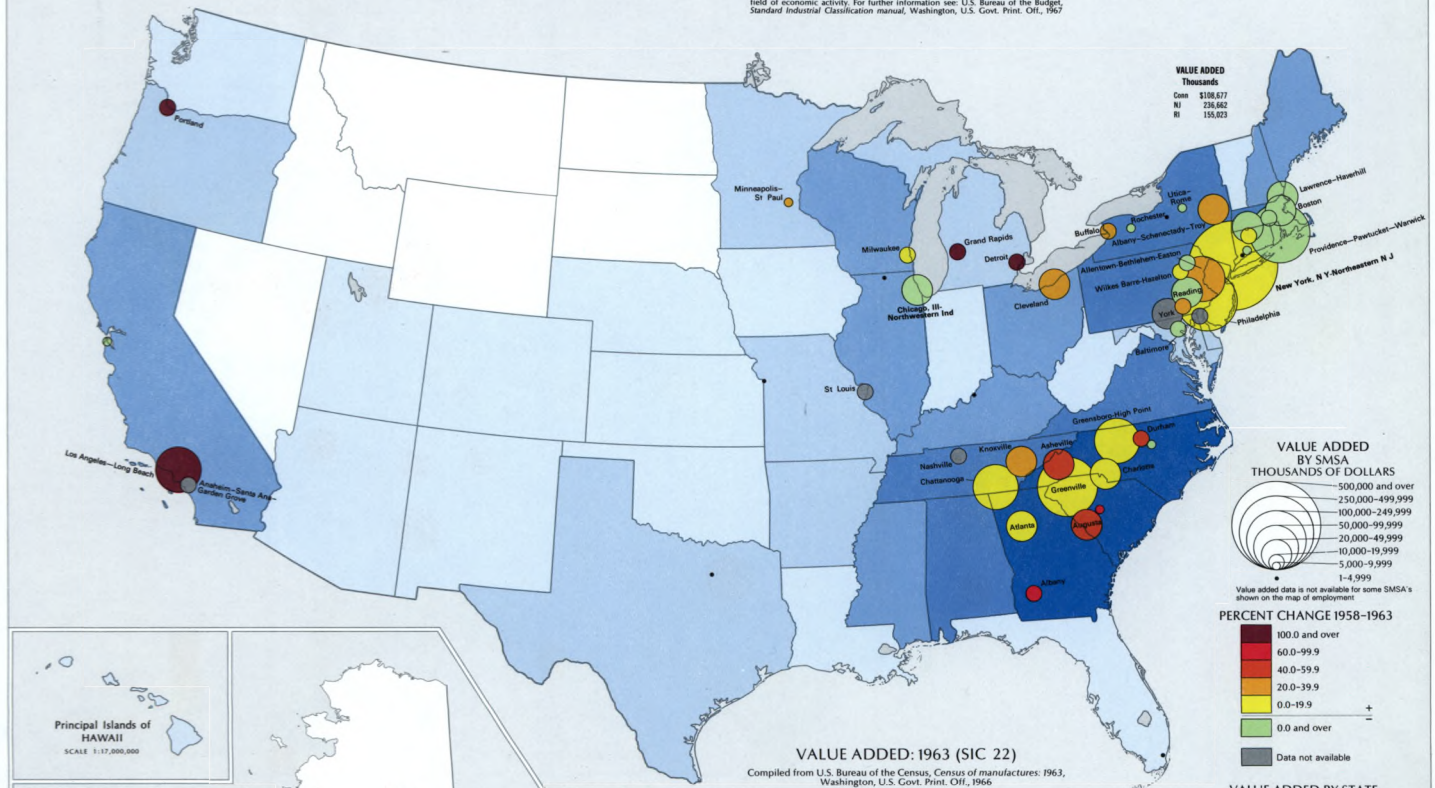


Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 22—TEXTILE MILL PRODUCTS includes establishments engaged in performing any of the following functions: (1) preparation of fiber and subsequent manufacturing of yarn, thread, braids, twine, and cordage; (2) manufacturing broad woven fabric, narrow woven fabric, knit fabric, and carpets and rugs from yarn; (3) dyeing and finishing fiber, yarn, fabric, and knit apparel; (4) coating, waterproofing, or otherwise treating fabric; (5) the integrated manufacture of knit apparel and other finished articles from yarn; and (6) the manufacture of felt goods, lace goods, bonded-fiber fabrics, and miscellaneous textiles.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 22)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

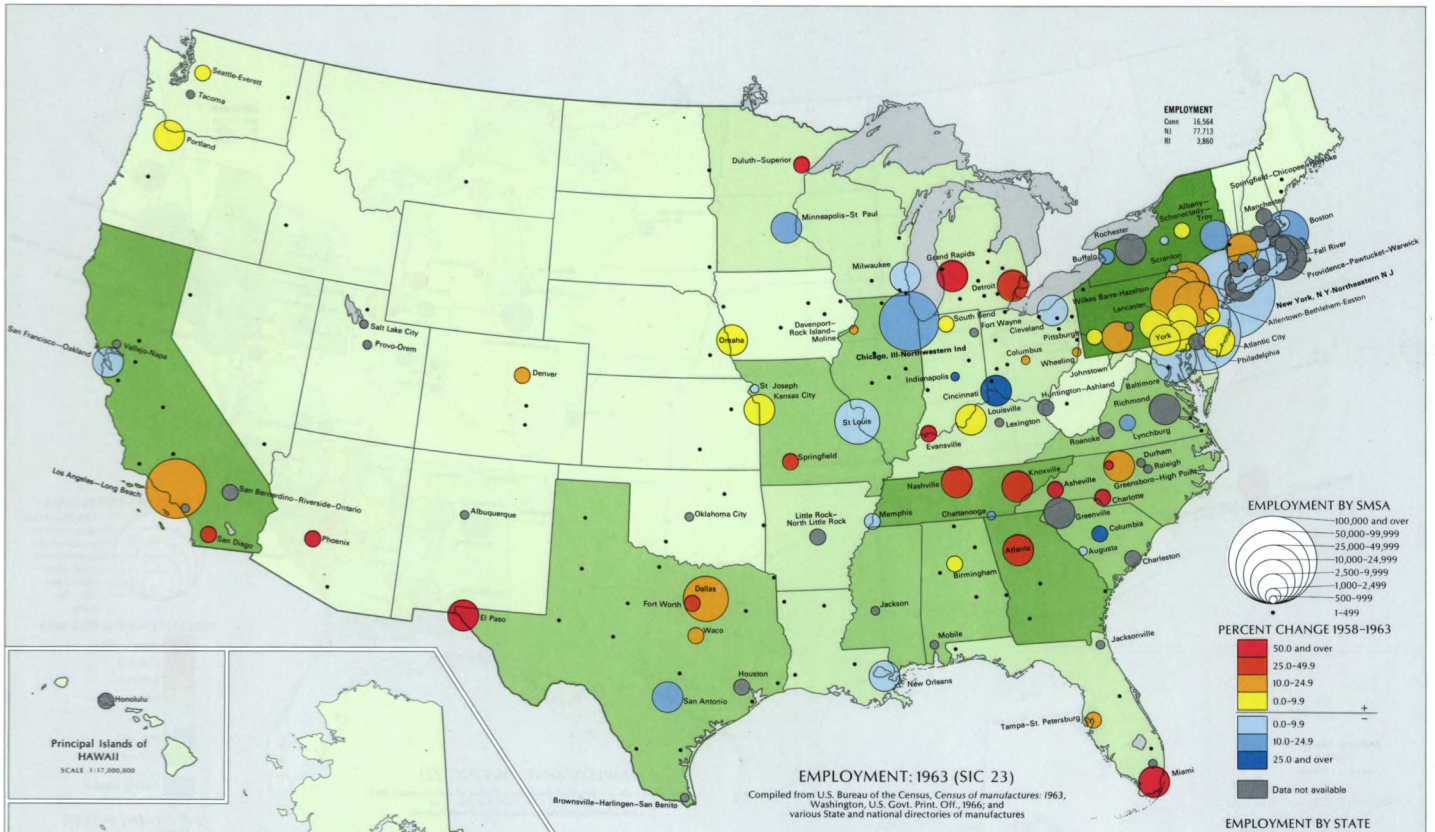
Albers Equal Area Projection

SCALE 1:17,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 23)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

EMPLOYMENT BY SMSA
- 100,000 and over
- 50,000–99,999
- 25,000–49,999
- 10,000–24,999
- 2,500–9,999
- 1,000–2,499
- 500–999
- 1–499

PERCENT CHANGE 1958–1963
- 50.0 and over
- 25.0–49.9
- 10.0–24.9
- 0.0–9.9 (+)
- 0.0–9.9 (−)
- 10.0–24.9 (−)
- 25.0 and over (−)
- Data not available

EMPLOYMENT BY STATE
- 100,000 and over
- 50,000–99,999
- 25,000–49,999
- 5,000–24,999
- 1–4,999

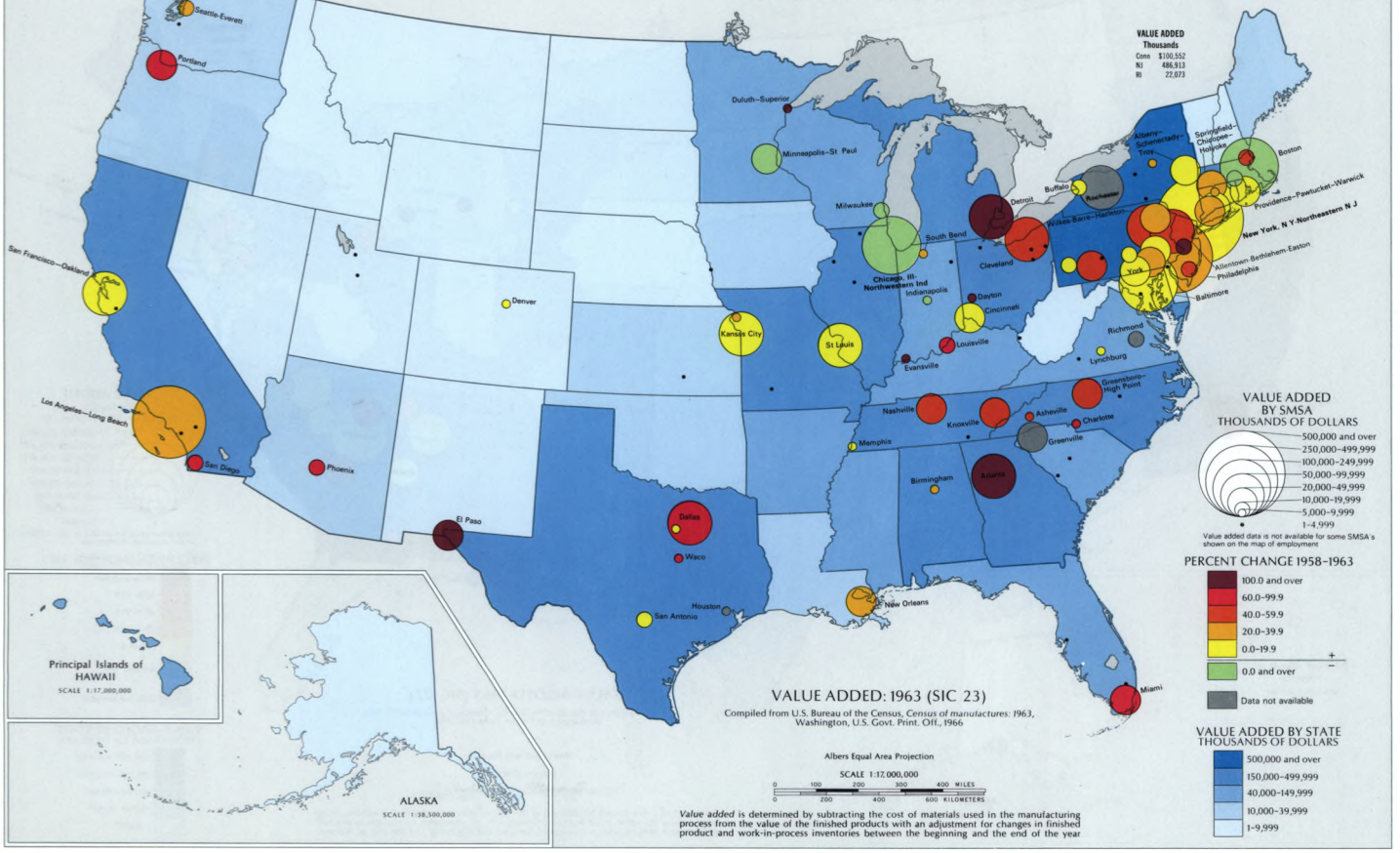
Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 23—APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS known as the cutting-up or needle trades, includes establishments primarily producing apparel and fabricated products by cutting and sewing purchased woven or knit textile fabrics and related materials such as leather, rubberized fabrics, plastics and furs.

The major group also includes manufacturers of fabricated textile products (other than apparel) from purchased fabrics, typically by cutting and sewing or the performance of sewing and related services on textile and similar materials for the trade.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 23)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

Albers Equal Area Projection

SCALE 1:17,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

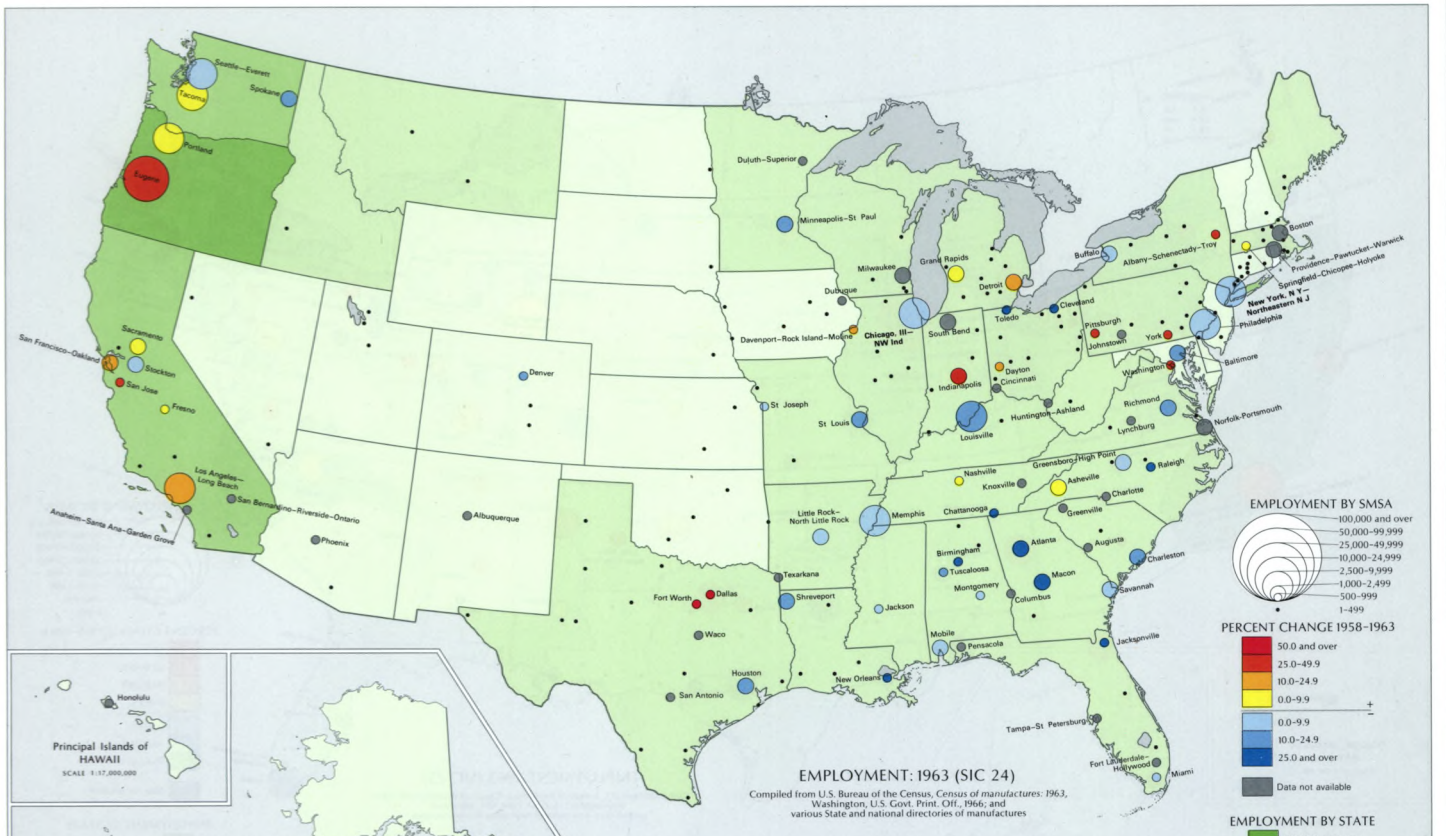
Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year

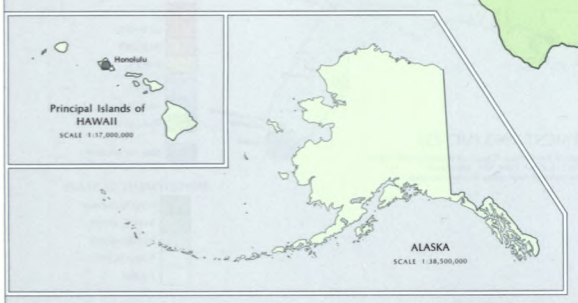
VALUE ADDED BY SMSA
THOUSANDS OF DOLLARS
- 500,000 and over
- 250,000–499,999
- 100,000–249,999
- 50,000–99,999
- 20,000–49,999
- 10,000–19,999
- 5,000–9,999
- 1–4,999

Value added data is not available for some SMSA's shown on the map of employment

PERCENT CHANGE 1958–1963
- 100.0 and over
- 60.0–99.9
- 40.0–59.9
- 20.0–39.9
- 0.0–19.9 (+)
- 0.0 and over (−)
- Data not available

VALUE ADDED BY STATE
THOUSANDS OF DOLLARS
- 500,000 and over
- 150,000–499,999
- 40,000–149,999
- 10,000–39,999
- 1–9,999





EMPLOYMENT: 1963 (SIC 24)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

EMPLOYMENT BY SMSA
100,000 and over
50,000–99,999
25,000–49,999
10,000–24,999
2,500–9,999
1,000–2,499
500–999
1–499

PERCENT CHANGE 1958–1963
50.0 and over
25.0–49.9
10.0–24.9
0.0–9.9 +
0.0–9.9 −
10.0–24.9
25.0 and over
Data not available

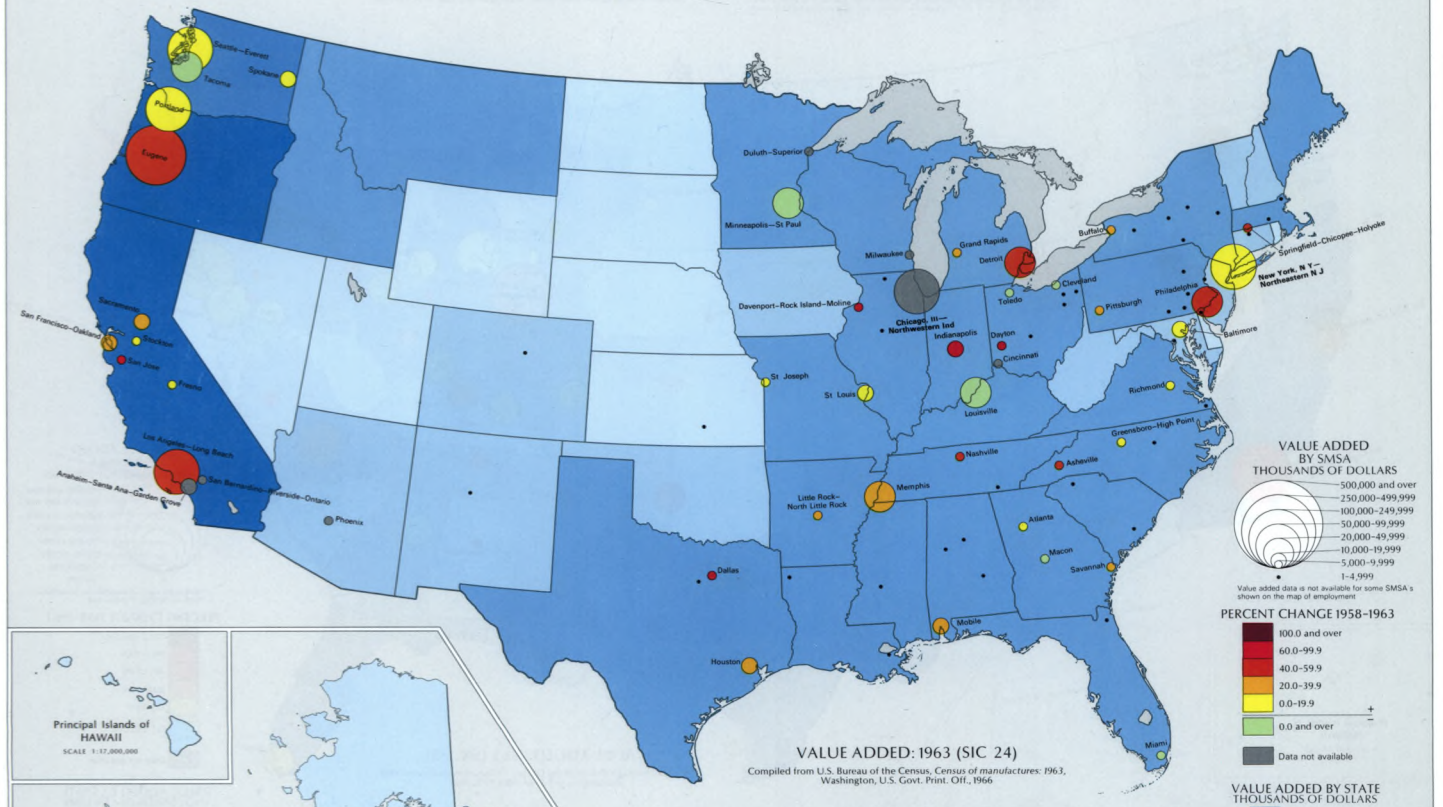
EMPLOYMENT BY STATE
100,000 and over
50,000–99,999
25,000–49,999
5,000–24,999
1–4,999

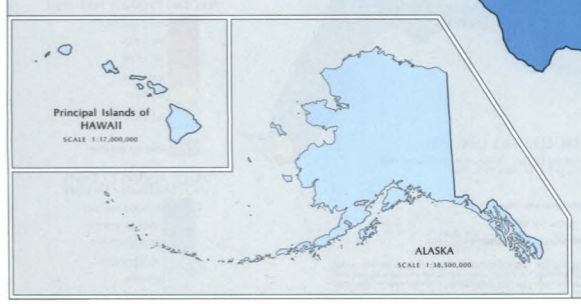
Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 24—LUMBER AND WOOD PRODUCTS, EXCEPT FURNITURE includes logging camps engaged in cutting timber and pulpwood; merchant sawmills, lath mills, shingle mills, cooperage stock mills, planing mills, and plywood mills and veneer mills engaged in producing lumber and wood basic materials; and establishments engaged in manufacturing finished articles made entirely or mainly of wood or wood substitutes.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967





VALUE ADDED: 1963 (SIC 24)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

Albers Equal Area Projection

SCALE 1:17,000,000

0 100 200 300 400 MILES
0 200 400 600 KILOMETERS

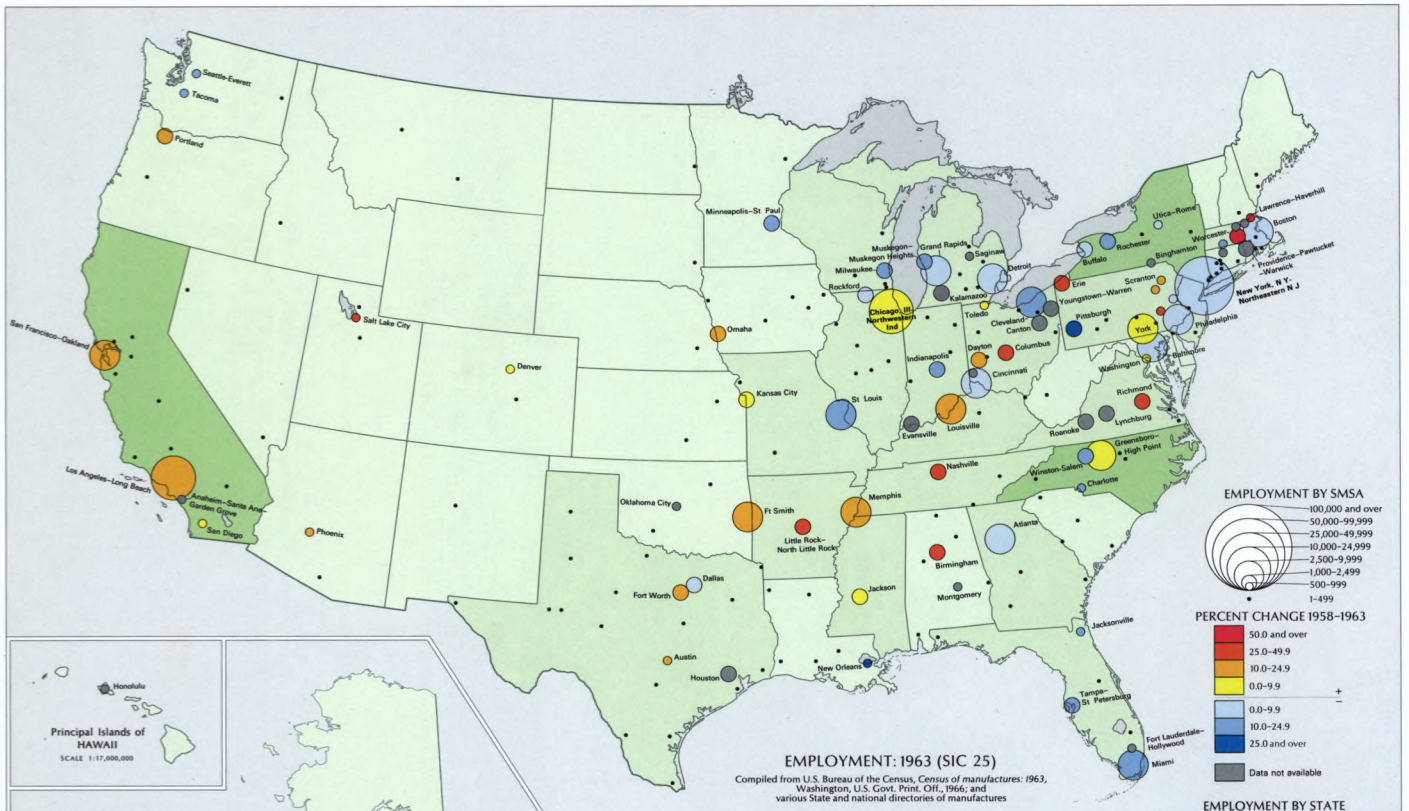
Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year

VALUE ADDED BY SMSA
THOUSANDS OF DOLLARS
500,000 and over
250,000–499,999
100,000–249,999
50,000–99,999
20,000–49,999
10,000–19,999
5,000–9,999
1–4,999

Value added data is not available for some SMSA's shown on the map of employment

PERCENT CHANGE 1958–1963
100.0 and over
60.0–99.9
40.0–59.9
20.0–39.9
0.0–19.9 +
0.0 and over −
Data not available

VALUE ADDED BY STATE
THOUSANDS OF DOLLARS
500,000 and over
150,000–499,999
40,000–149,999
10,000–39,999
1–9,999



EMPLOYMENT: 1963 (SIC 25)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

EMPLOYMENT BY SMSA

100,000 and over
50,000–99,999
25,000–49,999
10,000–24,999
2,500–9,999
1,000–2,499
500–999
1–499

PERCENT CHANGE 1958–1963

50.0 and over
25.0–49.9
10.0–24.9
0.0–9.9 +

0.0–9.9
10.0–24.9
25.0 and over −

Data not available

EMPLOYMENT BY STATE

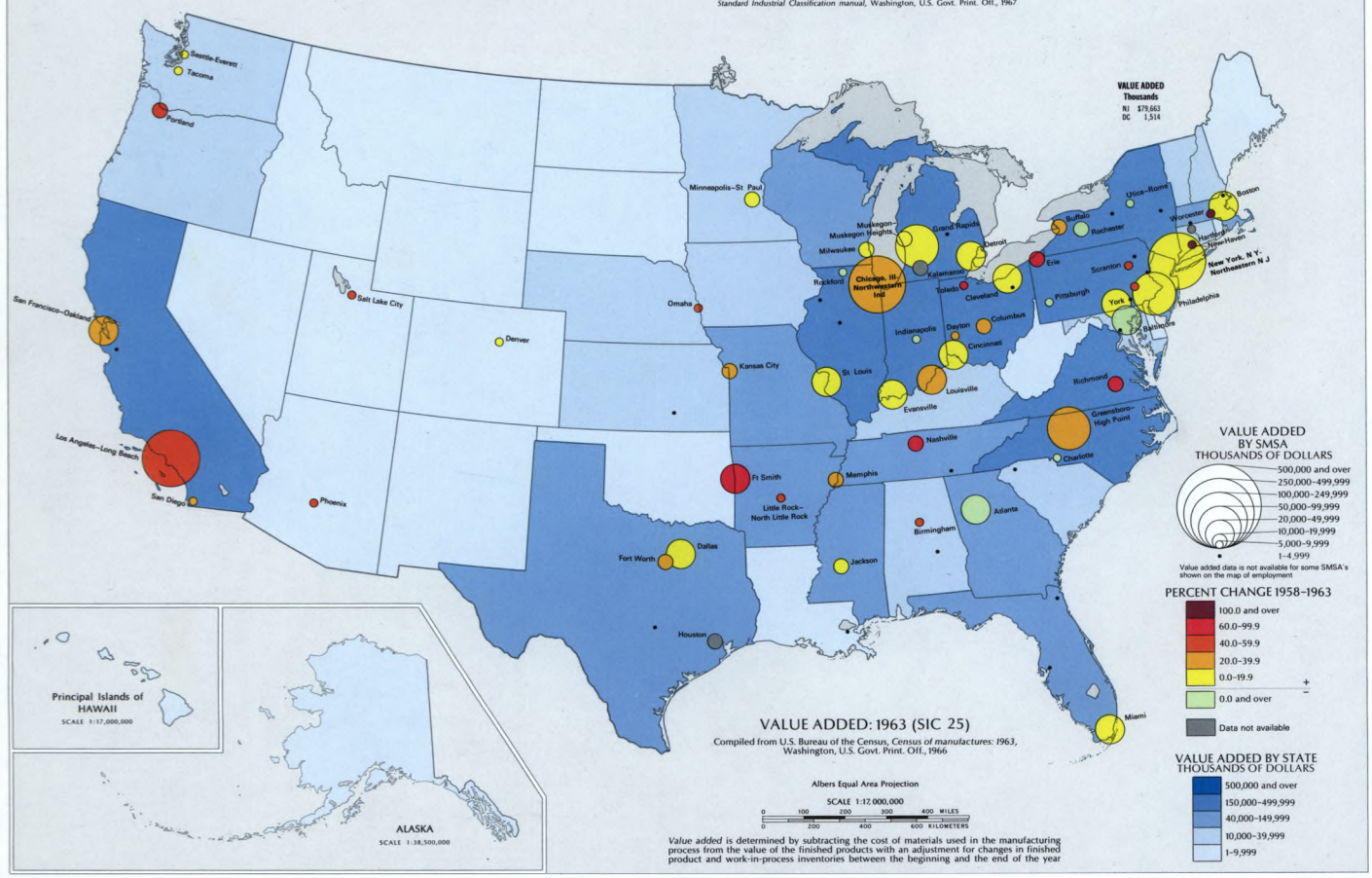
100,000 and over
50,000–99,999
25,000–49,999
5,000–24,999
1–4,999

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identification and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 25—FURNITURE AND FIXTURES includes establishments engaged in manufacturing household, office, public building, and restaurant furniture; and office and store fixtures.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 25)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

VALUE ADDED BY SMSA
THOUSANDS OF DOLLARS

500,000 and over
250,000–499,999
100,000–249,999
50,000–99,999
20,000–49,999
10,000–19,999
5,000–9,999
1–4,999

Value added data is not available for some SMSA's shown on the map of employment

PERCENT CHANGE 1958–1963

100.0 and over
60.0–99.9
40.0–59.9
20.0–39.9
0.0–19.9 +

0.0 and over −

Data not available

VALUE ADDED BY STATE
THOUSANDS OF DOLLARS

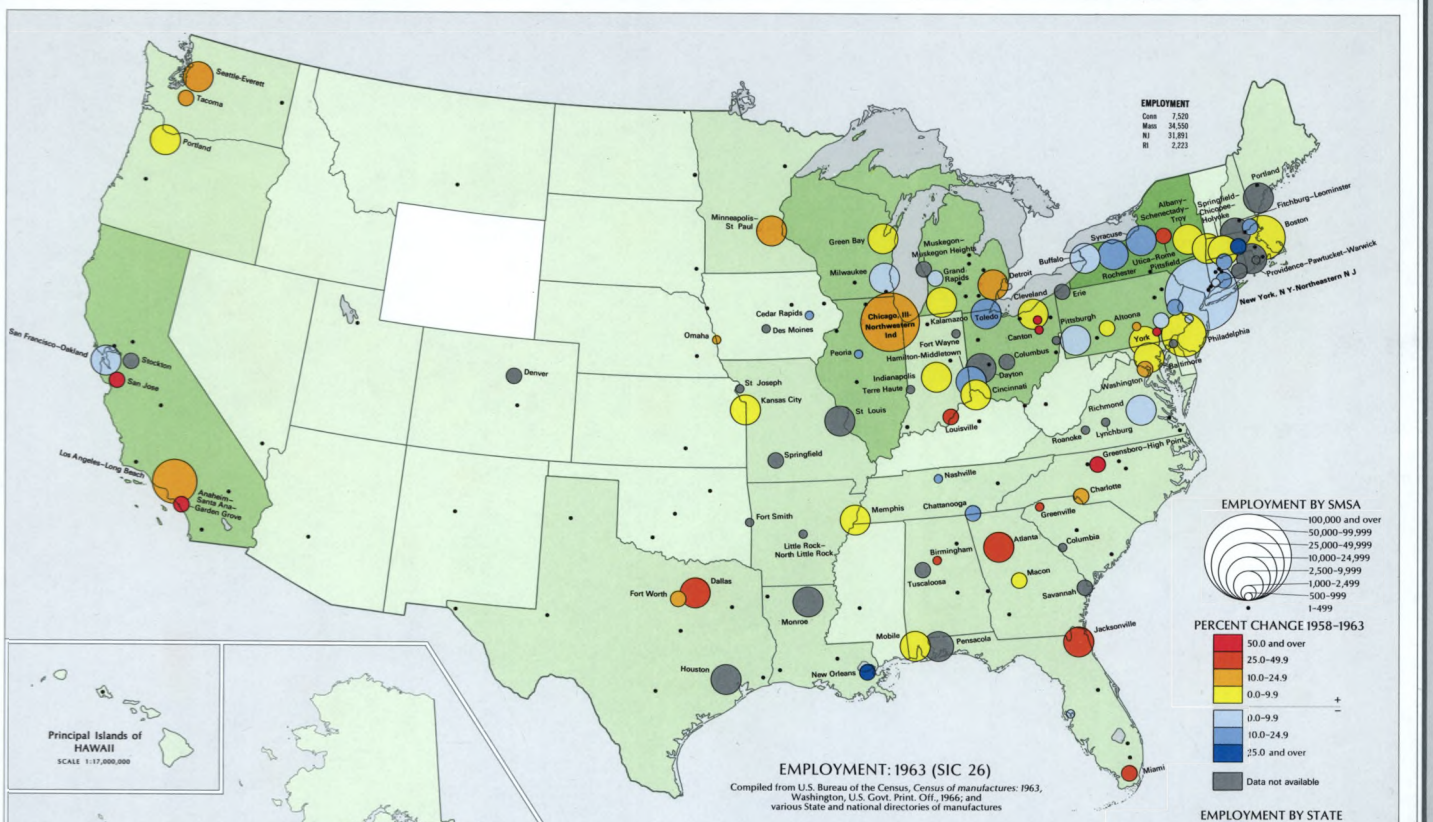
500,000 and over
150,000–499,999
40,000–149,999
10,000–39,999
1–9,999

Albers Equal Area Projection

SCALE 1:17,000,000

0 100 200 300 400 MILES
0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 26)

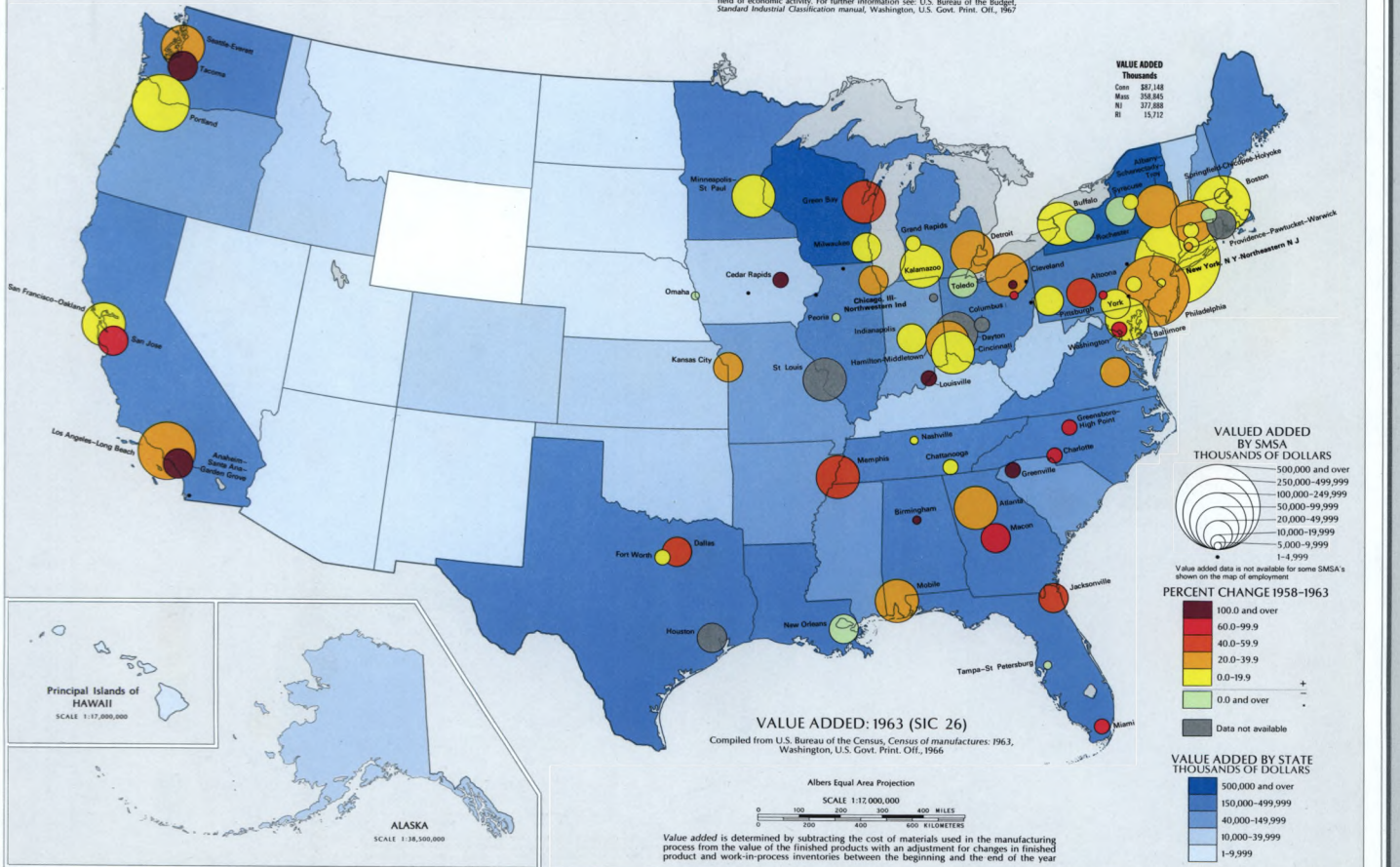
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 26—PAPER AND ALLIED PRODUCTS includes the manufacture of pulps from wood and other cellulose fibers, and rags; the manufacture of paper and paperboard; and the manufacture of paper and paperboard into converted products such as paper coated off the paper machine, paper bags, paper boxes, and envelopes.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 26)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

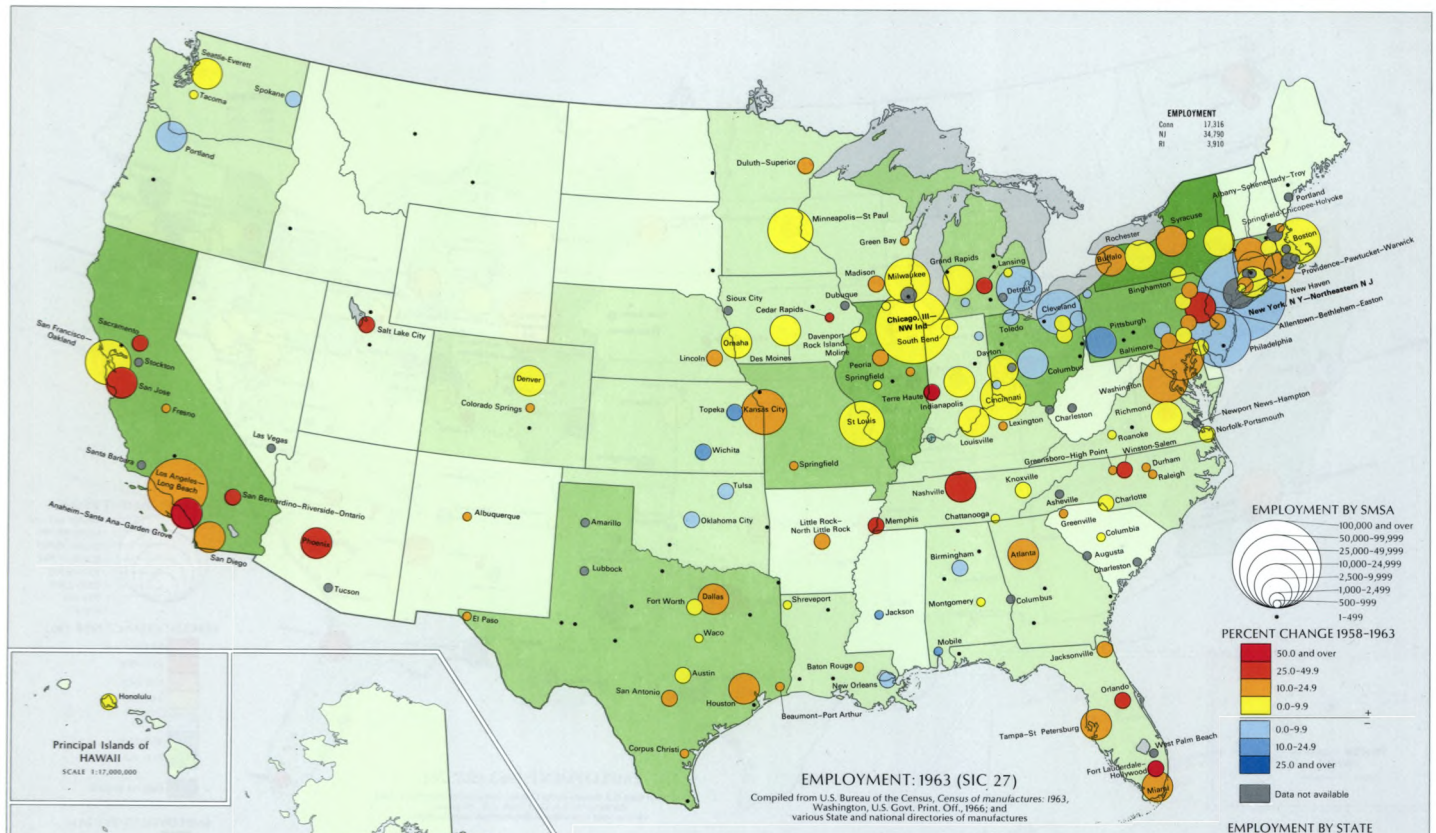
Albers Equal Area Projection

SCALE 1:12,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 27)

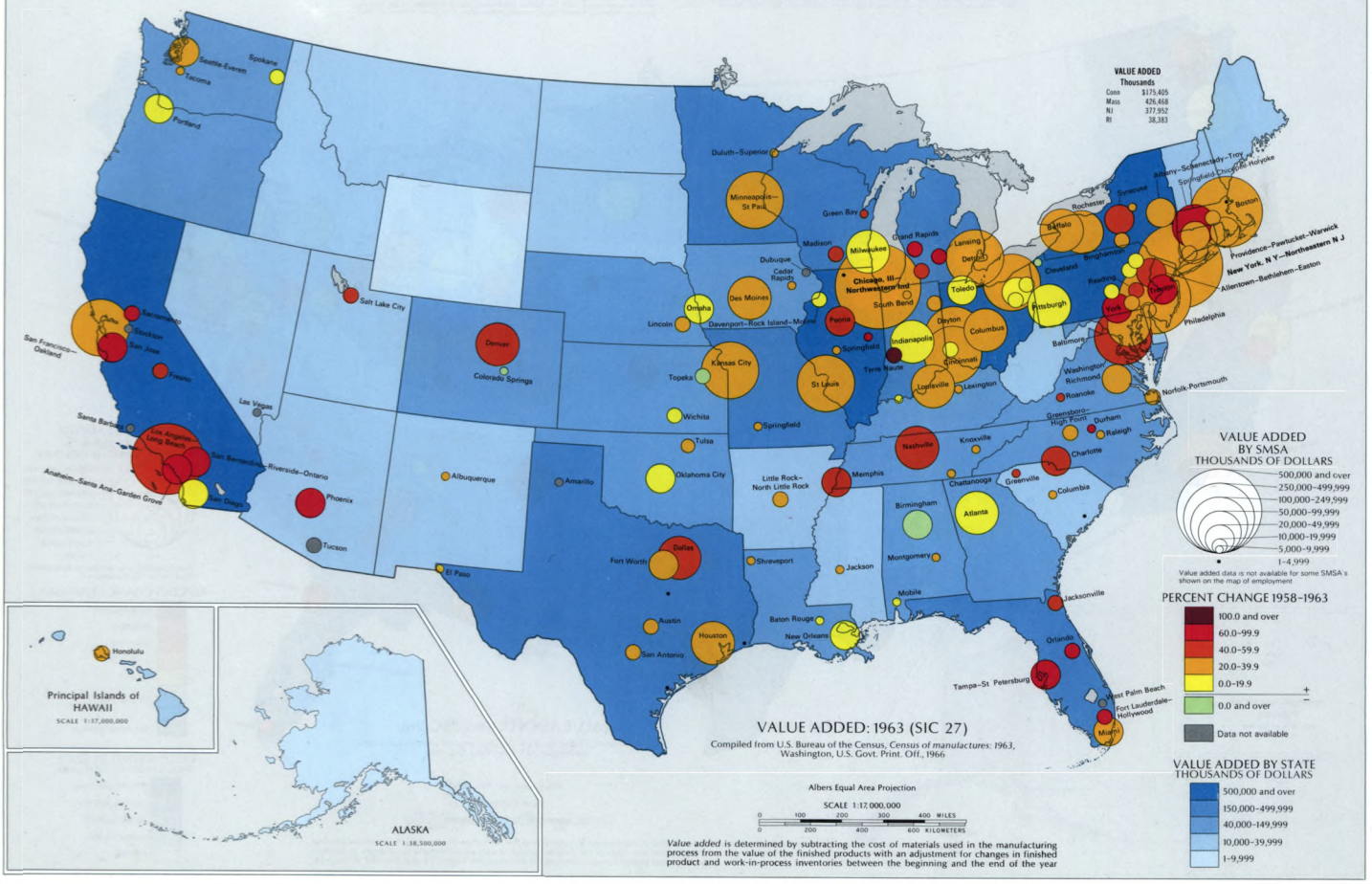
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293.

Data shown for New York and Chicago are based on SCA's

SIC 27—PRINTING, PUBLISHING, AND ALLIED INDUSTRIES includes establishments engaged in printing by one of more of the common processes, such as letterpress, lithography, gravure, or screen; and those establishments which perform services for the printing trade, such as bookbinding, typesetting, engraving, photoengraving, and electrotyping. This major group also includes establishments engaged in publishing newspapers, books and periodicals, whether or not they do their own printing.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 27)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

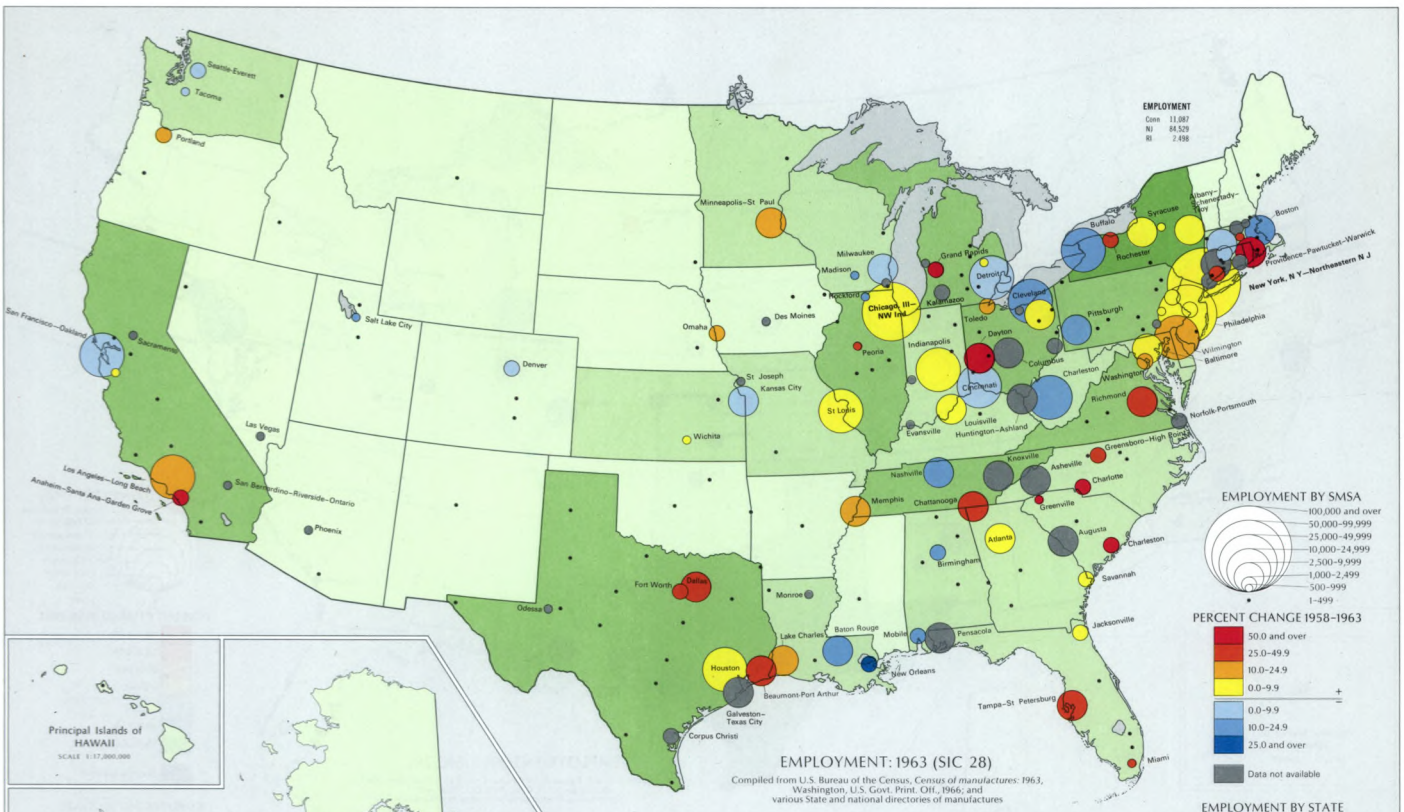
Albers Equal Area Projection

SCALE 1:17,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 28)

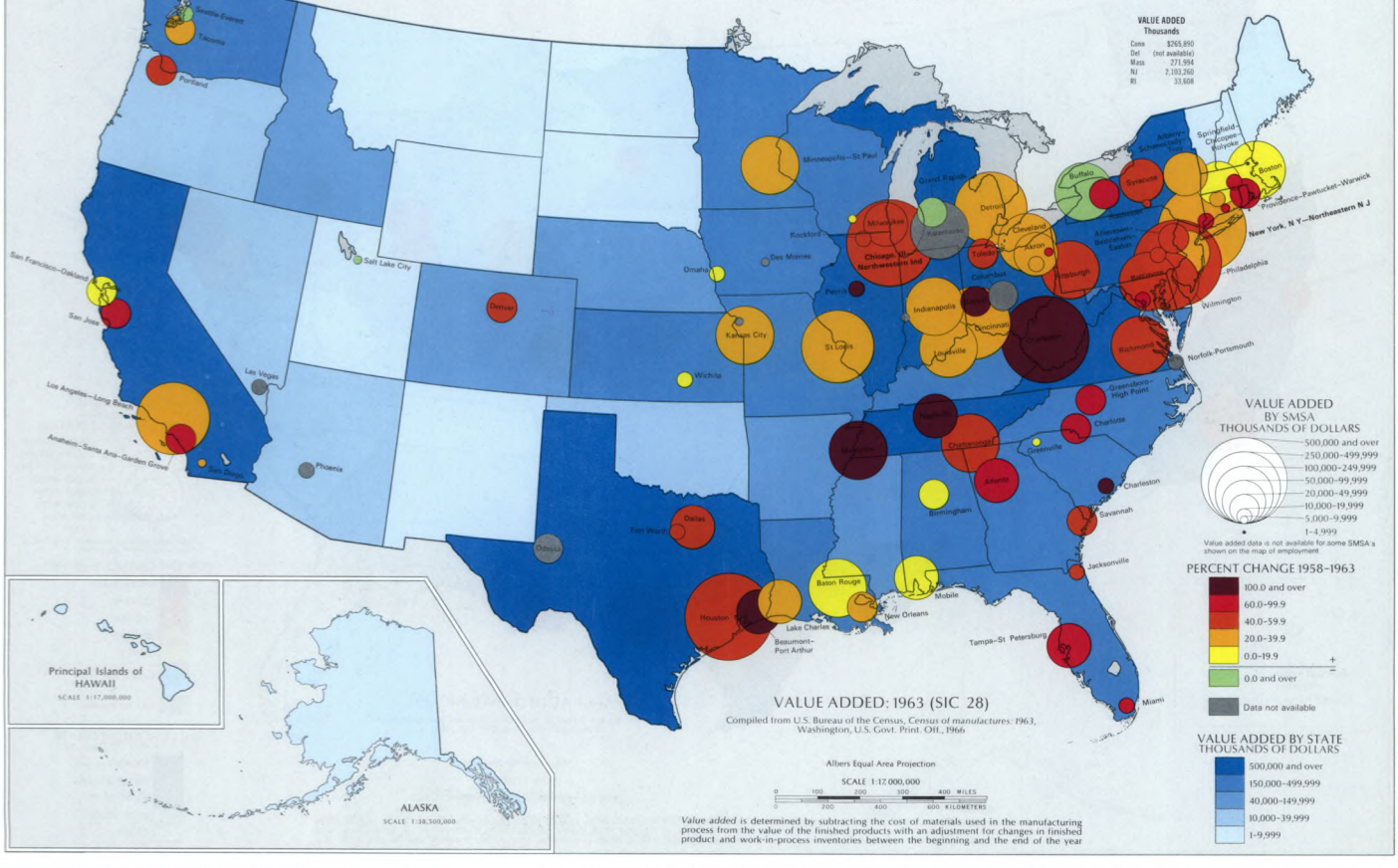
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's.

SIC 28—CHEMICALS AND ALLIED PRODUCTS includes establishments manufacturing products by predominantly chemical processes. Establishments classified in this major group manufacture three general classes of products: (1) basic chemicals such as acids, alkalies, salts, and organic chemicals; (2) chemical products to be used in further manufacture such as synthetic fibers, plastics materials, dry colors, and pigments; (3) finished chemical products to be used for ultimate consumption such as drugs, cosmetics, and soaps; or to be used as materials or supplies in other industries such as paints, fertilizers, and explosives.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 28)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

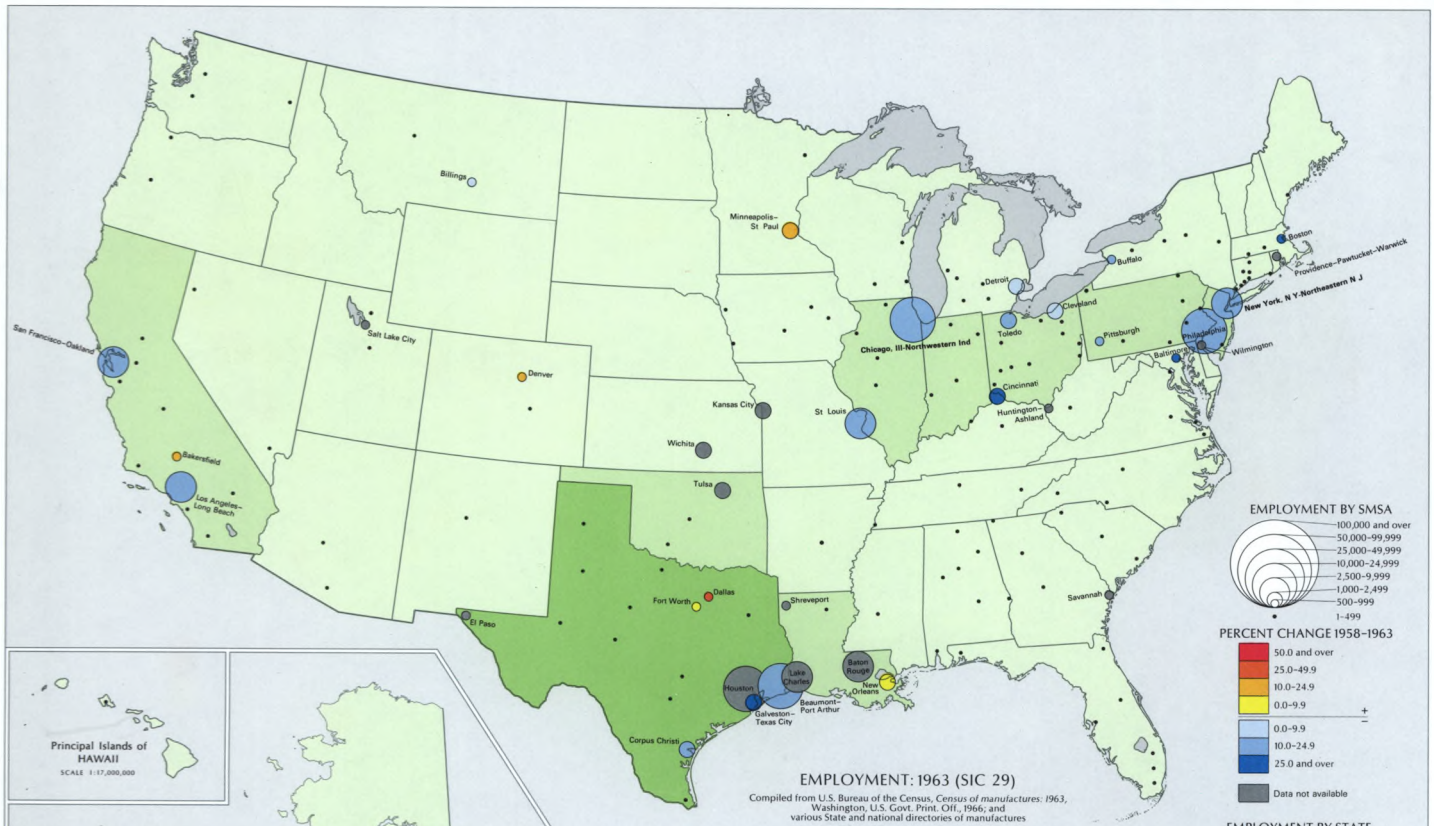
Albers Equal Area Projection

SCALE 1:12,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 29)

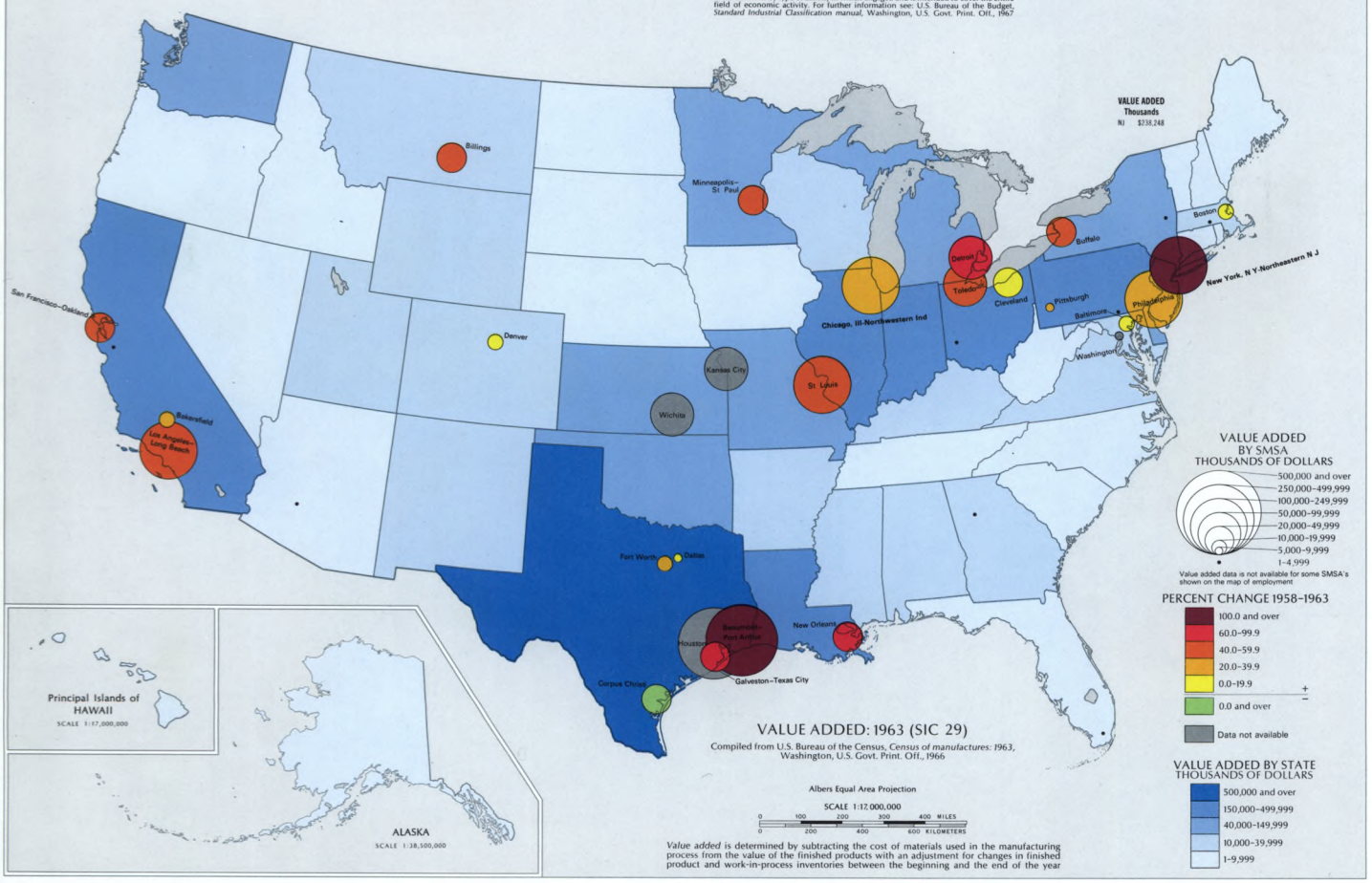
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 29—PETROLEUM REFINING AND RELATED INDUSTRIES includes establishments primarily engaged in petroleum refining, manufacturing paving and roofing materials, and compounding lubricating oils and greases from purchased materials.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 29)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

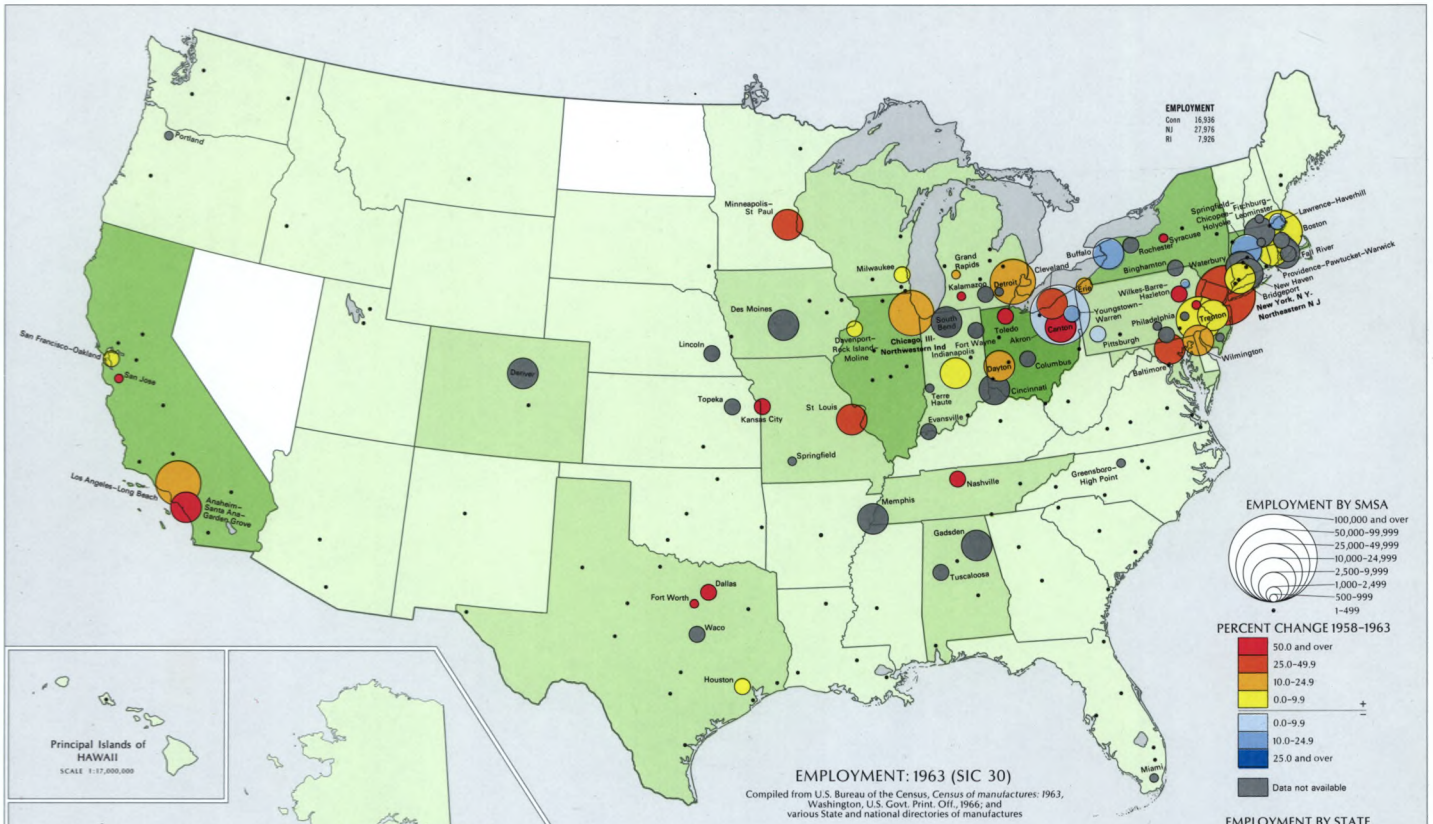
Albers Equal Area Projection

SCALE 1:12,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 30)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

EMPLOYMENT BY SMSA
- 100,000 and over
- 50,000–99,999
- 25,000–49,999
- 10,000–24,999
- 2,500–9,999
- 1,000–2,499
- 500–999
- 1–499

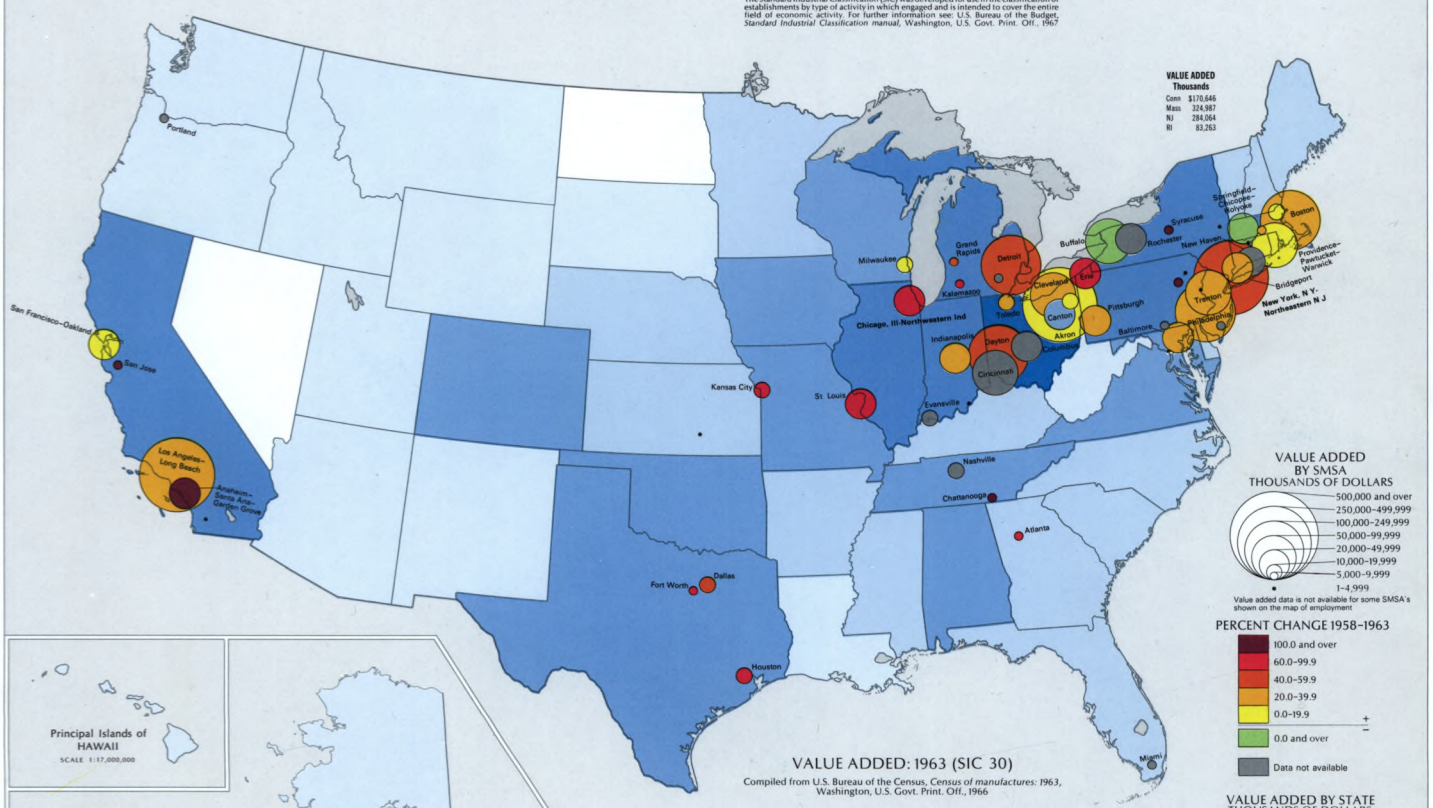
PERCENT CHANGE 1958–1963
- 50.0 and over
- 25.0–49.9
- 10.0–24.9
- 0.0–9.9 (+)
- 0.0–9.9 (−)
- 10.0–24.9 (−)
- 25.0 and over (−)
- Data not available

EMPLOYMENT BY STATE
- 100,000 and over
- 50,000–99,999
- 25,000–49,999
- 5,000–24,999
- 1–4,999

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293
Data shown for New York and Chicago are based on SCA's

SIC30—RUBBER AND MISCELLANEOUS PLASTICS PRODUCTS includes manufacturing from natural, synthetic, or reclaimed rubber, gutta percha, balata, or gutta siak, rubber products such as tires, rubber footwear, mechanical rubber goods, heels and soles, flooring and rubber sundries. This group also includes establishments engaged in molding primary plastics for the trade, and manufacturing miscellaneous plastics products.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 30)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

VALUE ADDED BY SMSA
THOUSANDS OF DOLLARS
- 500,000 and over
- 250,000–499,999
- 100,000–249,999
- 50,000–99,999
- 20,000–49,999
- 10,000–19,999
- 5,000–9,999
- 1–4,999

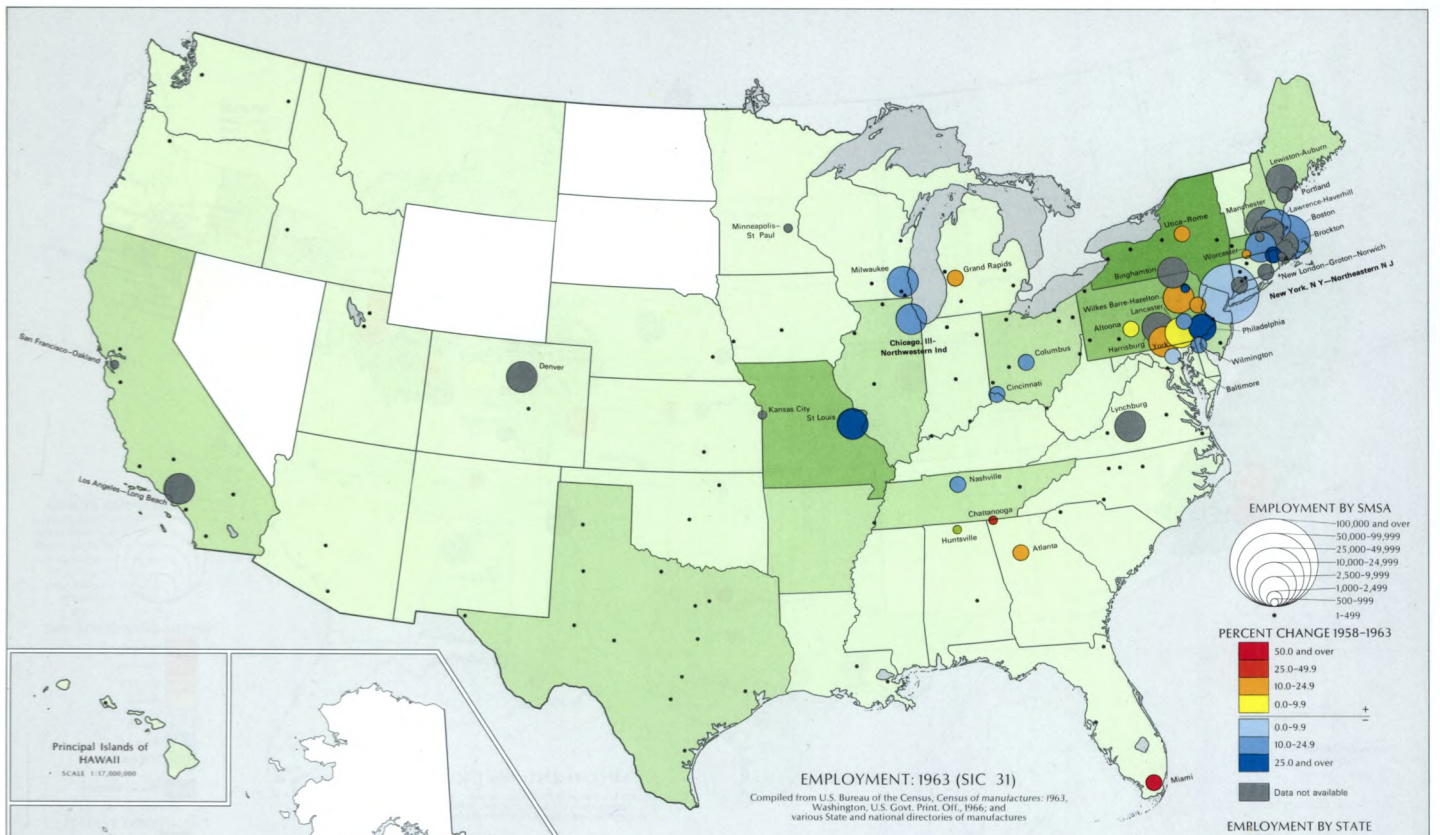
Value added data is not available for some SMSA's shown on the map of employment

PERCENT CHANGE 1958–1963
- 100.0 and over
- 60.0–99.9
- 40.0–59.9
- 20.0–39.9
- 0.0–19.9 (+)
- 0.0 and over (−)
- Data not available

VALUE ADDED BY STATE
THOUSANDS OF DOLLARS
- 500,000 and over
- 150,000–499,999
- 40,000–149,999
- 10,000–39,999
- 1–9,999

Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT BY SMSA

- 100,000 and over
- 50,000–99,999
- 25,000–49,999
- 10,000–24,999
- 2,500–9,999
- 1,000–2,499
- 500–999
- 1–499

PERCENT CHANGE 1958–1963

- 50.0 and over
- 25.0–49.9
- 10.0–24.9
- 0.0–9.9

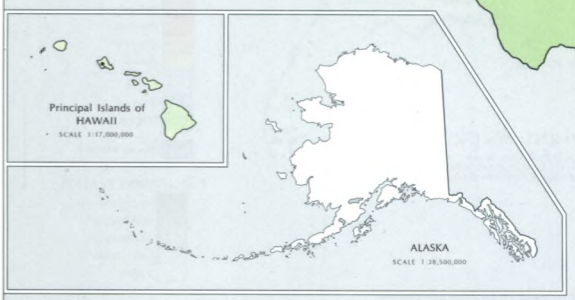
+

−

- 0.0–9.9
- 10.0–24.9
- 25.0 and over
- Data not available

EMPLOYMENT BY STATE

- 100,000 and over
- 50,000–99,999
- 25,000–49,999
- 5,000–24,999
- 1–4,999



EMPLOYMENT: 1963 (SIC 31)

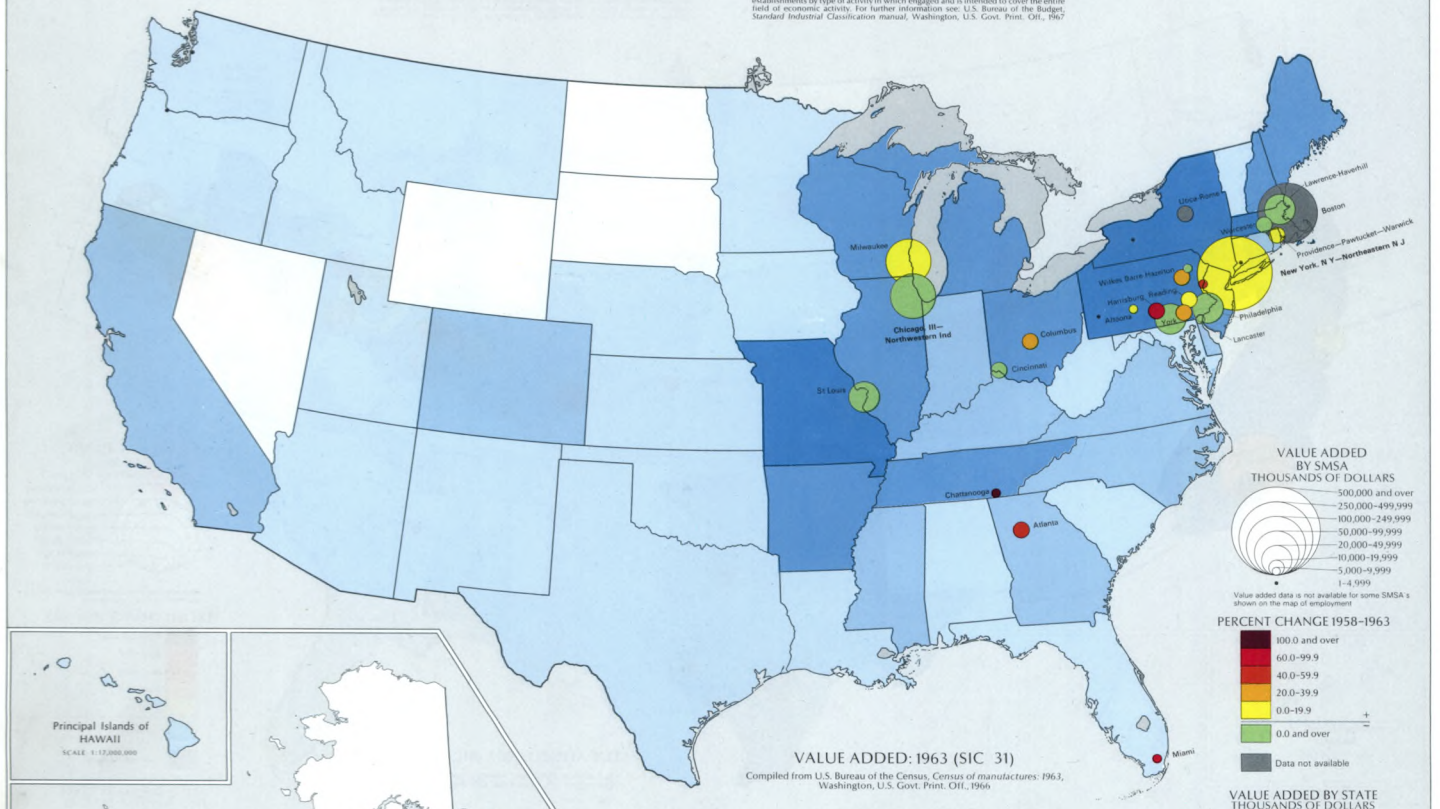
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 31– LEATHER AND LEATHER PRODUCTS includes establishments engaged in tanning, currying, and finishing hides and skins, and establishments manufacturing finished leather and artificial leather products and some similar products made of other materials. Leather converters are also included; such converters purchase hides and skins and have them processed into leather on a contract basis.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED BY SMSA
THOUSANDS OF DOLLARS

- 500,000 and over
- 250,000–499,999
- 100,000–249,999
- 50,000–99,999
- 20,000–49,999
- 10,000–19,999
- 5,000–9,999
- 1–4,999

Value added data is not available for some SMSA's shown on the map of employment

PERCENT CHANGE 1958–1963

- 100.0 and over
- 60.0–99.9
- 40.0–59.9
- 20.0–39.9
- 0.0–19.9

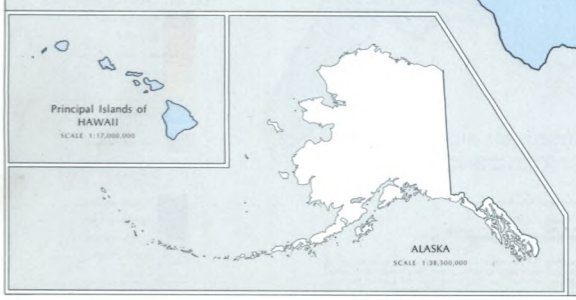
+

−

- 0.0 and over
- Data not available

VALUE ADDED BY STATE
THOUSANDS OF DOLLARS

- 500,000 and over
- 150,000–499,999
- 40,000–149,999
- 10,000–39,999
- 1–9,999



VALUE ADDED: 1963 (SIC 31)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

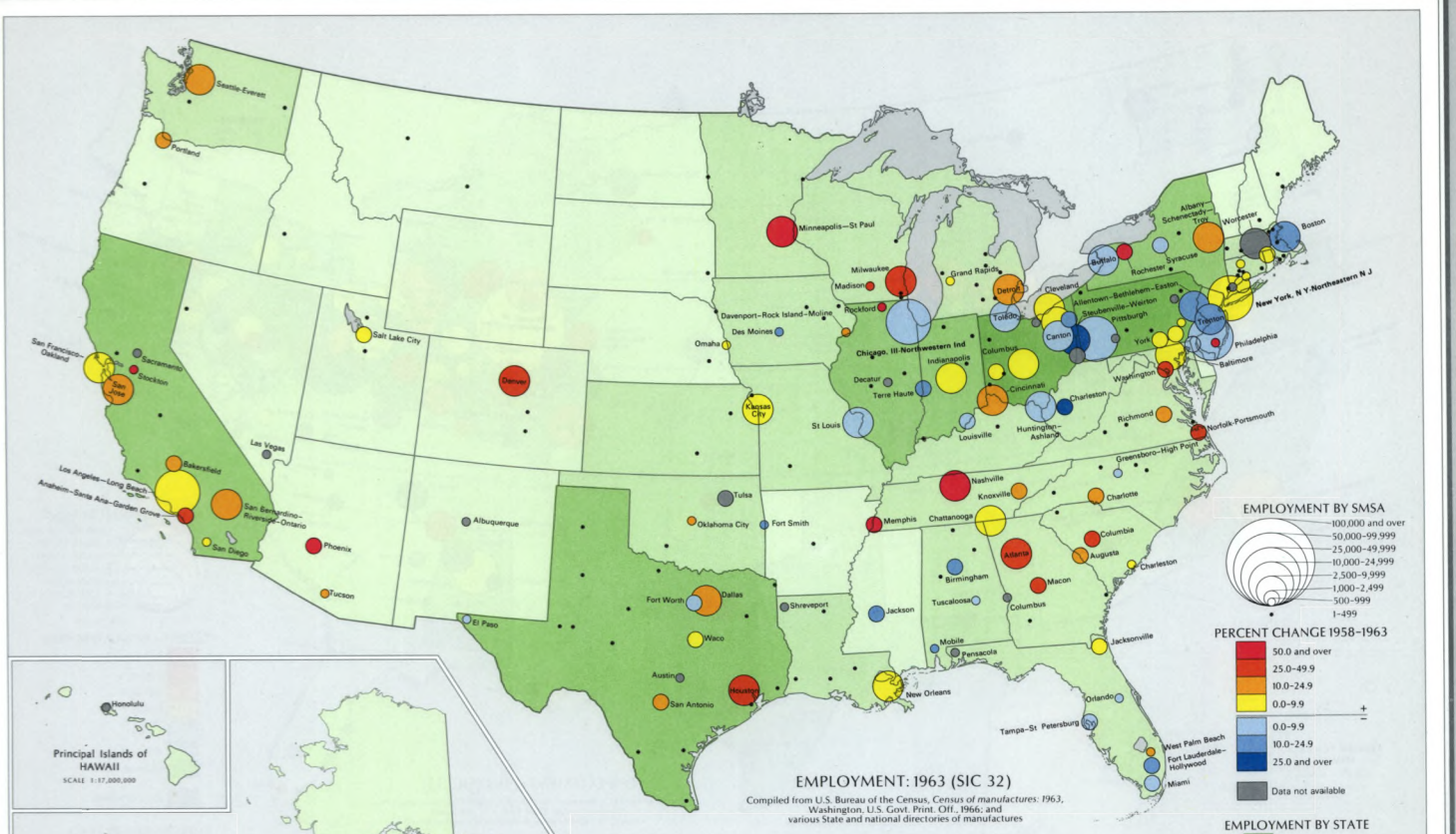
Albers Equal Area Projection

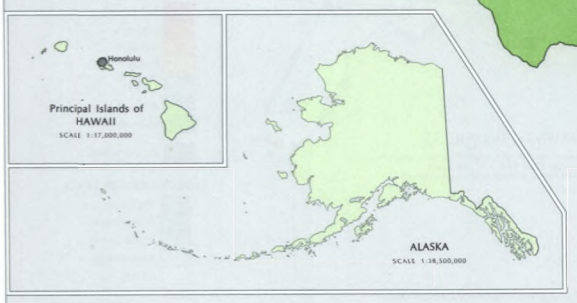
SCALE 1:17,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year





EMPLOYMENT: 1963 (SIC 32)

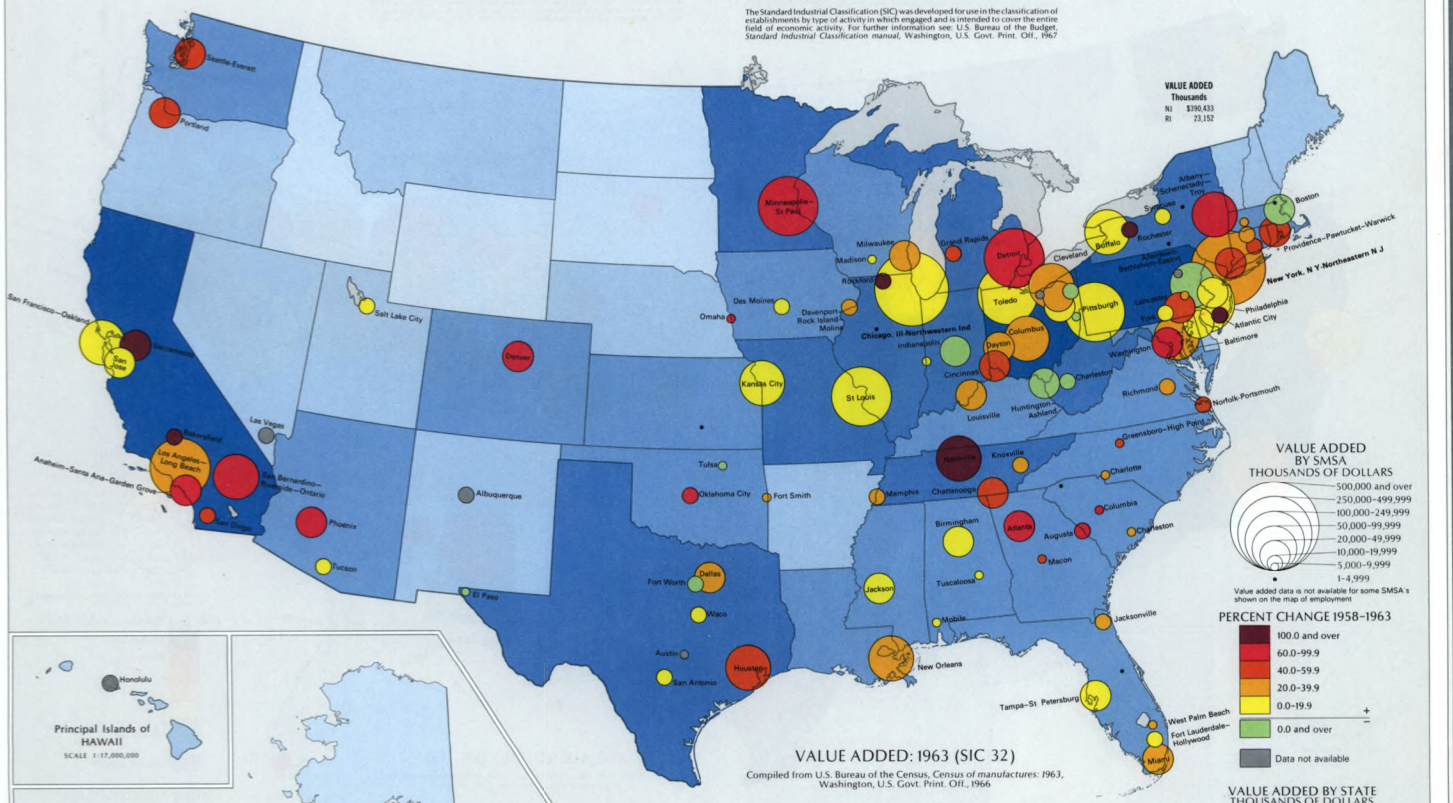
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

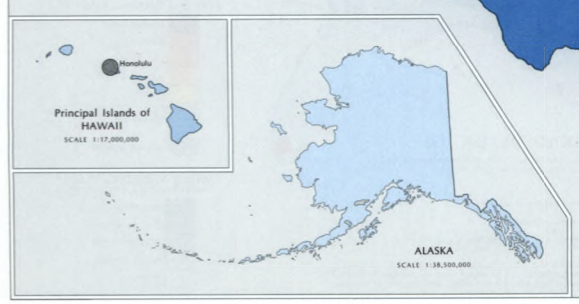
Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 32—STONE, CLAY AND GLASS PRODUCTS includes establishments engaged in manufacturing flat glass and other glass products, cement, structural clay products, pottery, concrete and gypsum products, cut stone products, abrasive and asbestos products, etc., from materials taken principally from the earth in the form of stone, clay and sand. When separate reports are available for mines and quarries operated by manufacturing establishments classified in this major group, the mining activities are classified in mining industries; when separate reports are not available, the mining activities are classified with the manufacturing operations and classified herein.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967





VALUE ADDED: 1963 (SIC 32)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

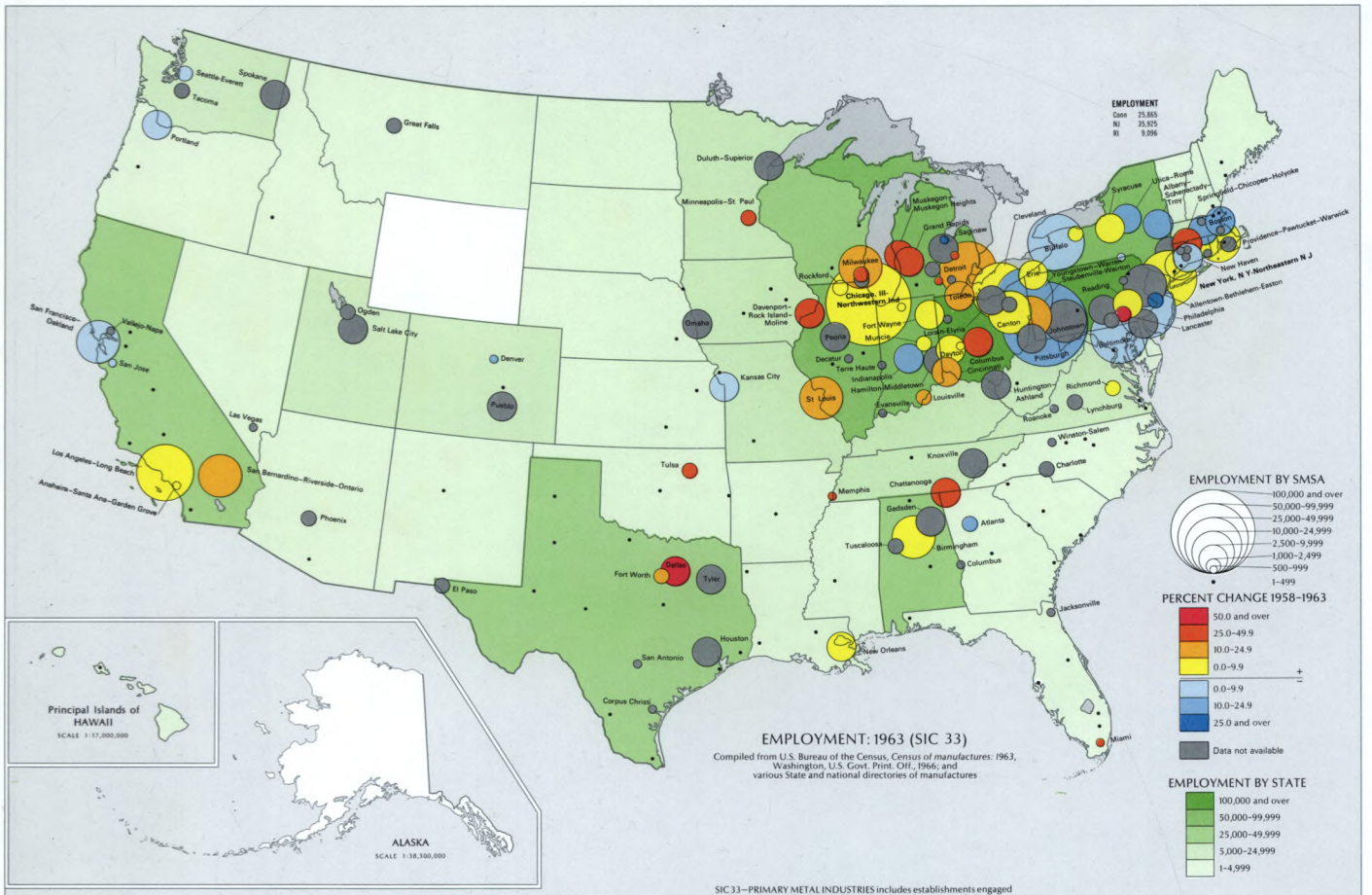
Albers Equal Area Projection

SCALE 1:12,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



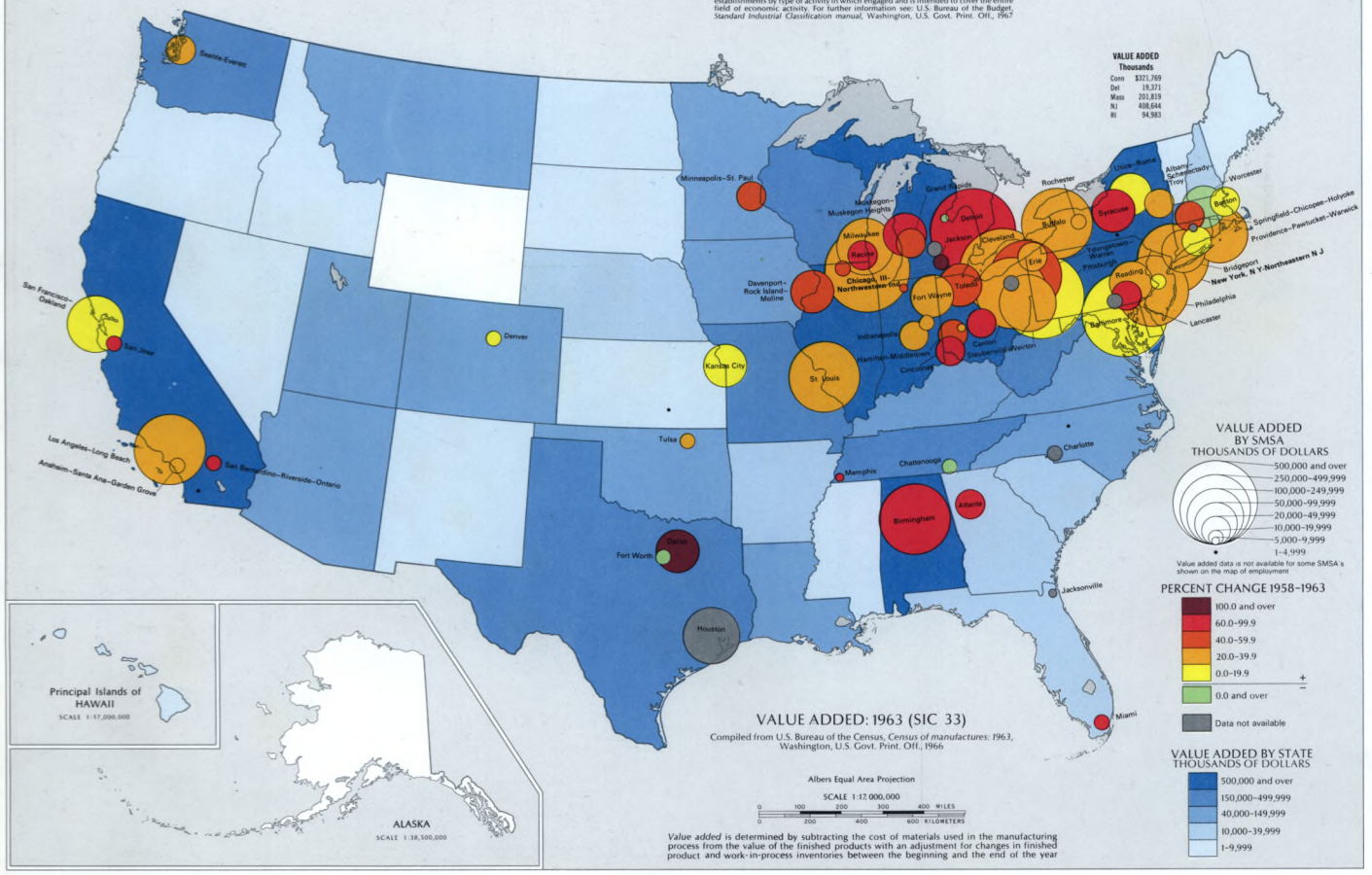
EMPLOYMENT: 1963 (SIC 33)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identification and definitions see map on page 293
Data shown for New York and Chicago are based on SCA's

SIC 33—PRIMARY METAL INDUSTRIES includes establishments engaged in the smelting and refining of ferrous and nonferrous metals from ore, pig, or scrap; in the rolling, drawing, and alloying of ferrous and other basic products of ferrous and nonferrous metals; and in the manufacture of nails, spikes, and insulated wire and cable. This major group also includes the production of coke.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967

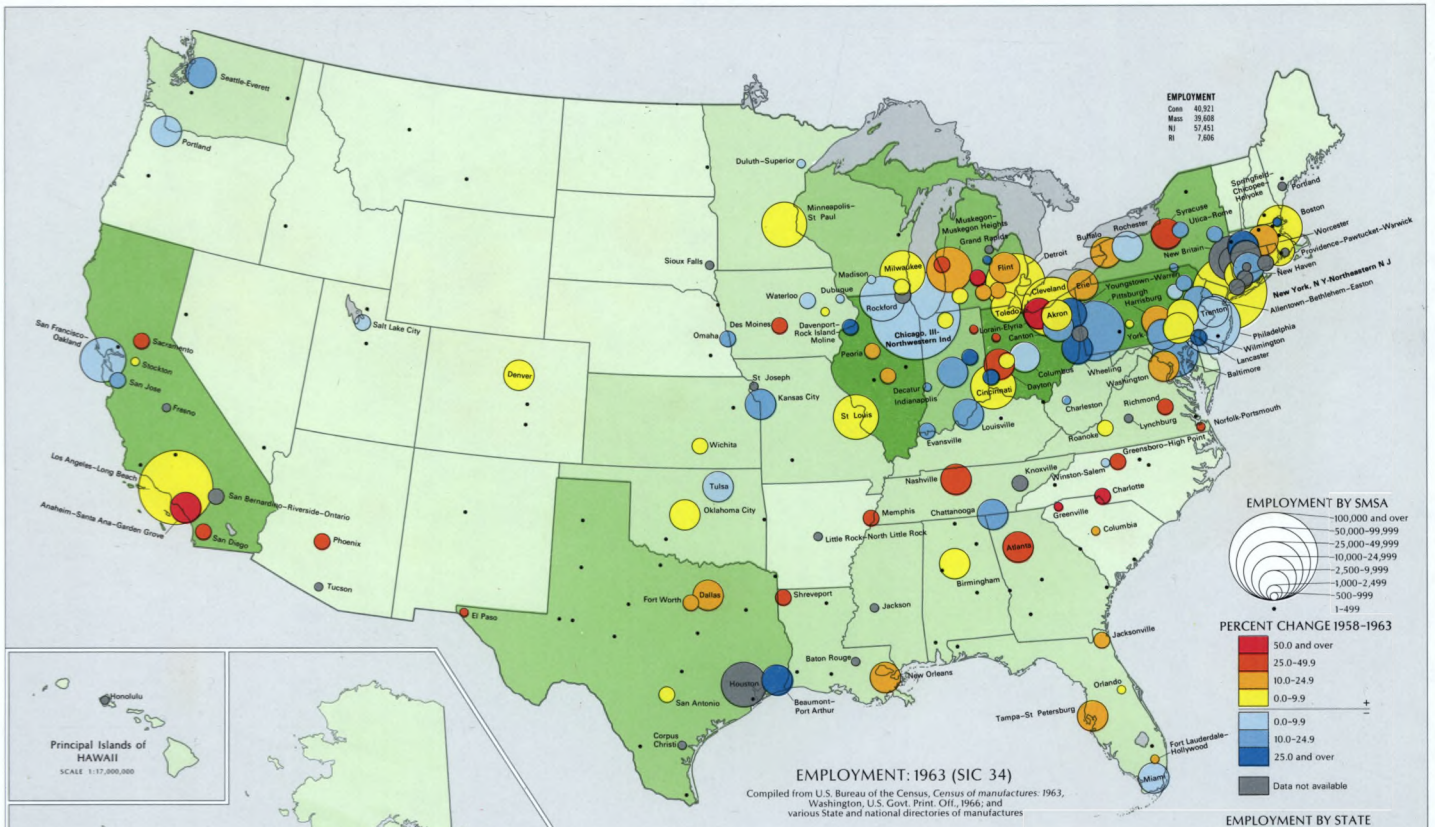


VALUE ADDED: 1963 (SIC 33)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

Albers Equal Area Projection
SCALE 1:17,000,000
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 34)

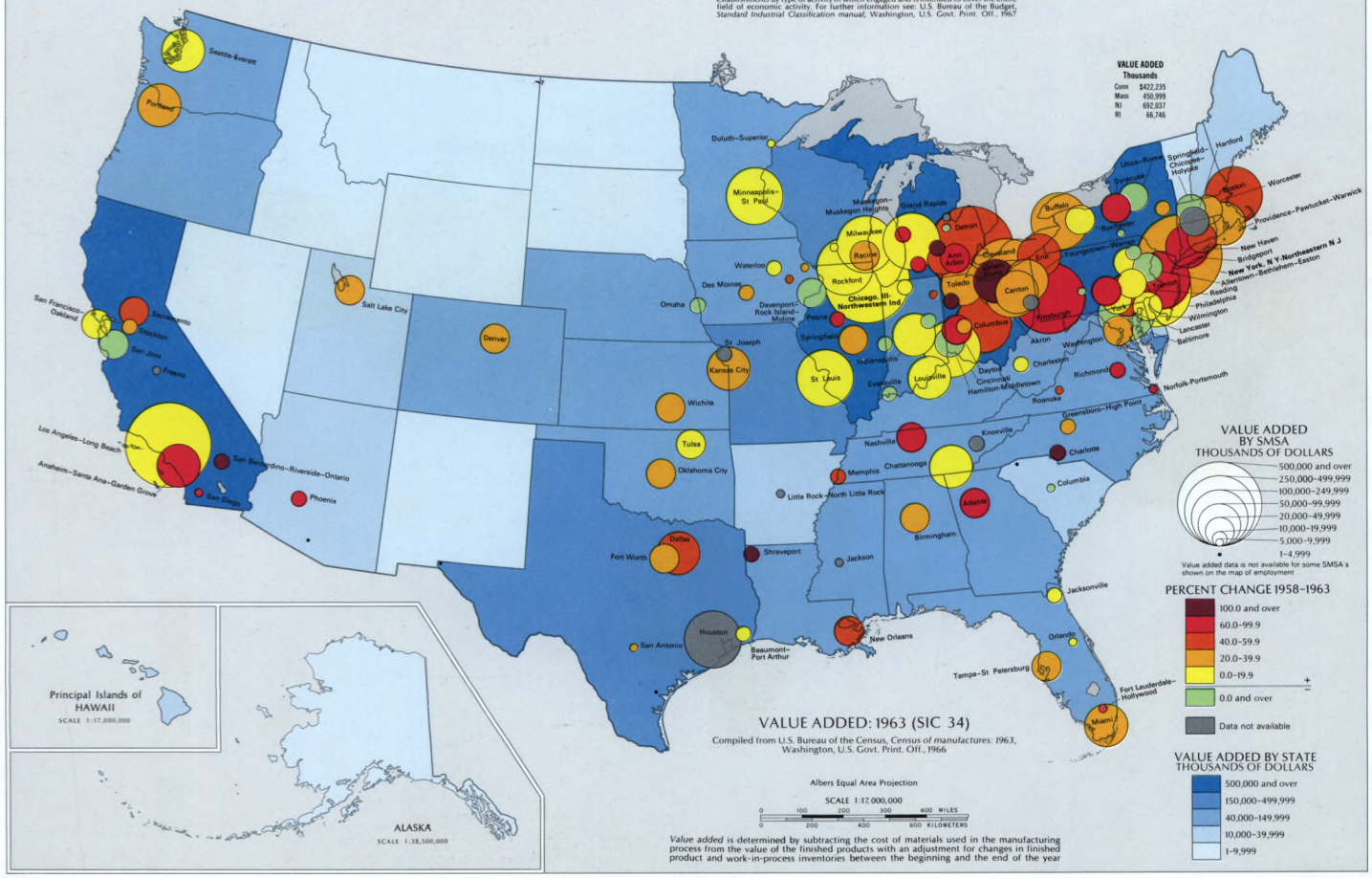
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 34—FABRICATED METAL PRODUCTS, EXCEPT ORDNANCE, MACHINERY, AND TRANSPORTATION EQUIPMENT includes establishments engaged in fabricating ferrous and nonferrous metal products such as metal cans, tinware, hand tools, cutlery, general hardware, non-electrical heating apparatus, fabricated structural metal products, metal stampings, and a variety of metal and wire products n.e.c.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 34)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

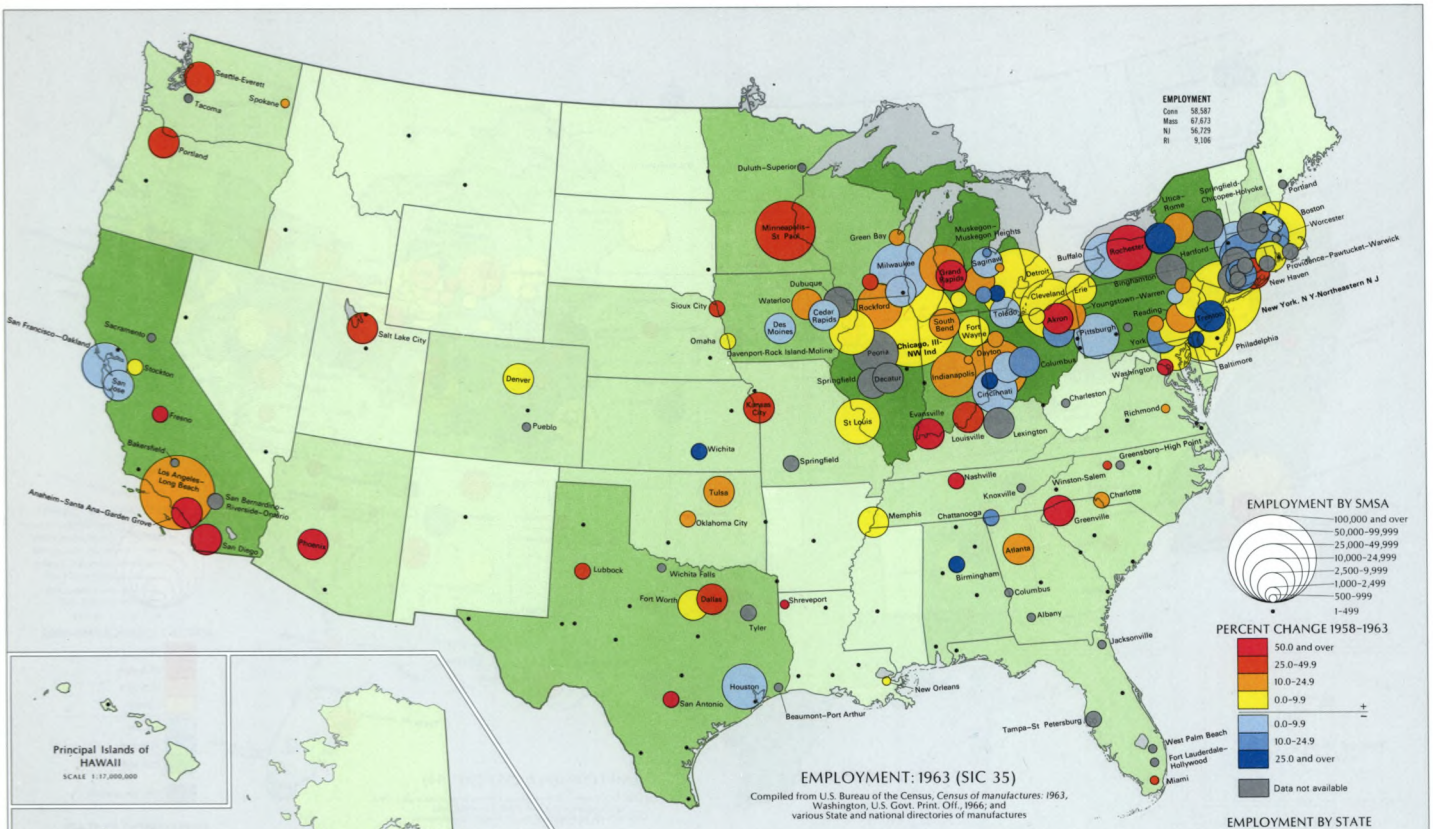
Albers Equal Area Projection

SCALE 1:12 000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



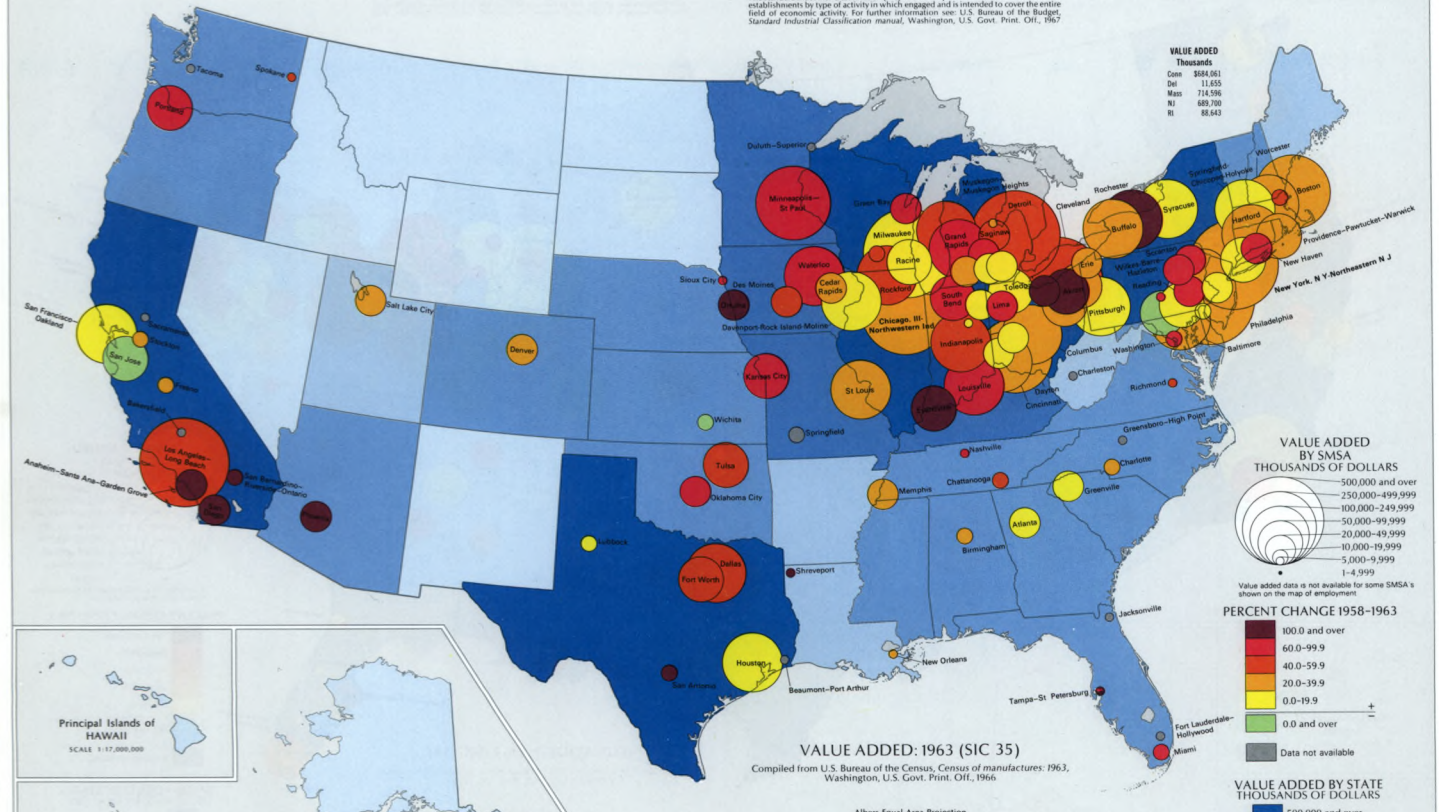
EMPLOYMENT: 1963 (SIC 35)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293.
Data shown for New York and Chicago are based on SCA's

SIC 35—MACHINERY, EXCEPT ELECTRICAL includes establishments engaged in manufacturing machinery and equipment, other than electrical equipment (Major Group 36) and transportation equipment (Major Group 37). Machines powered by built-in or detachable motors ordinarily are included in this major group, with the exception of electrical household appliances (Major Group 36). Portable tools, both electric and pneumatic powered, are included in this major group, but hand tools are classified in Major Group 34.

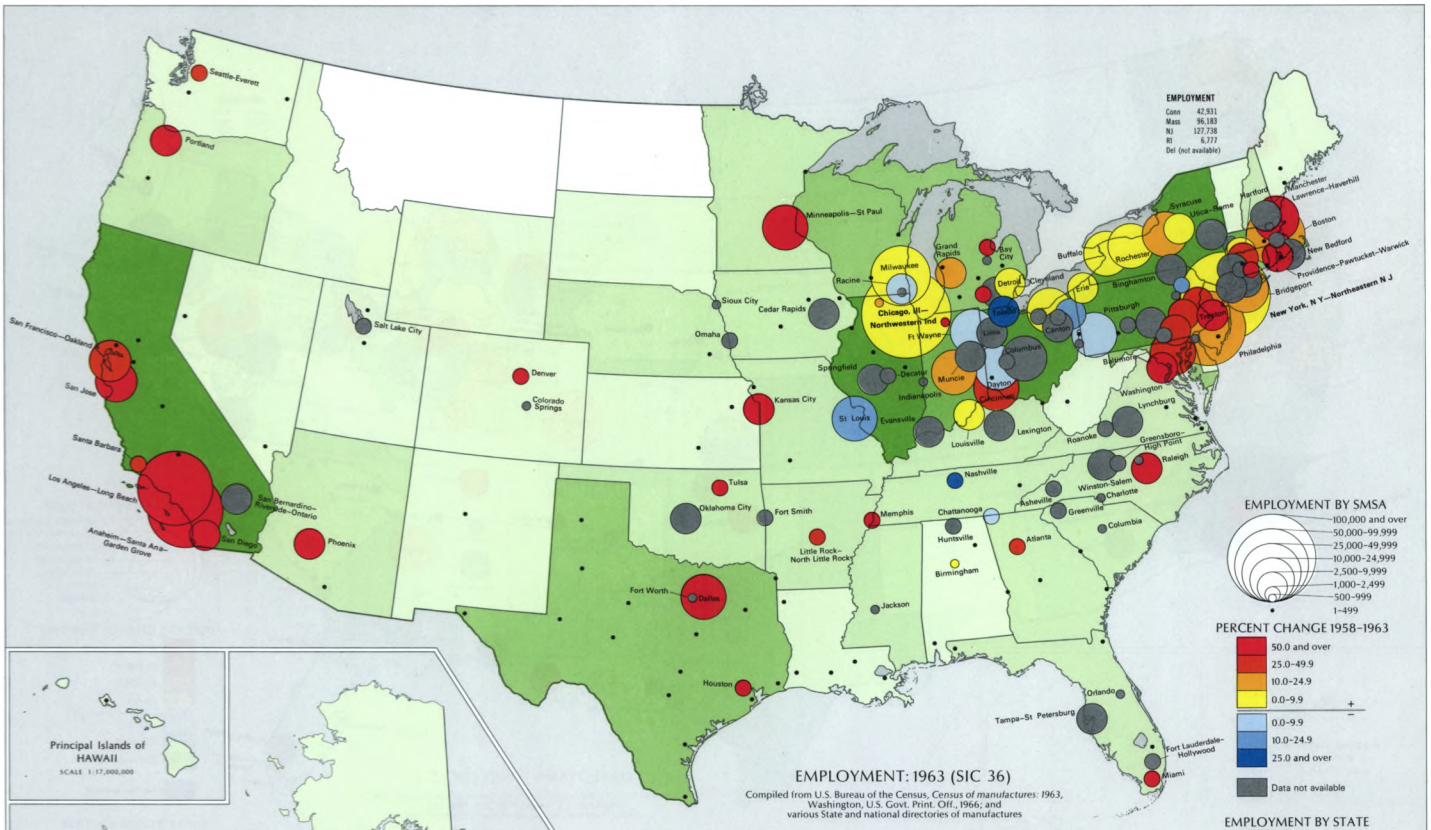
The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 35)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 36)

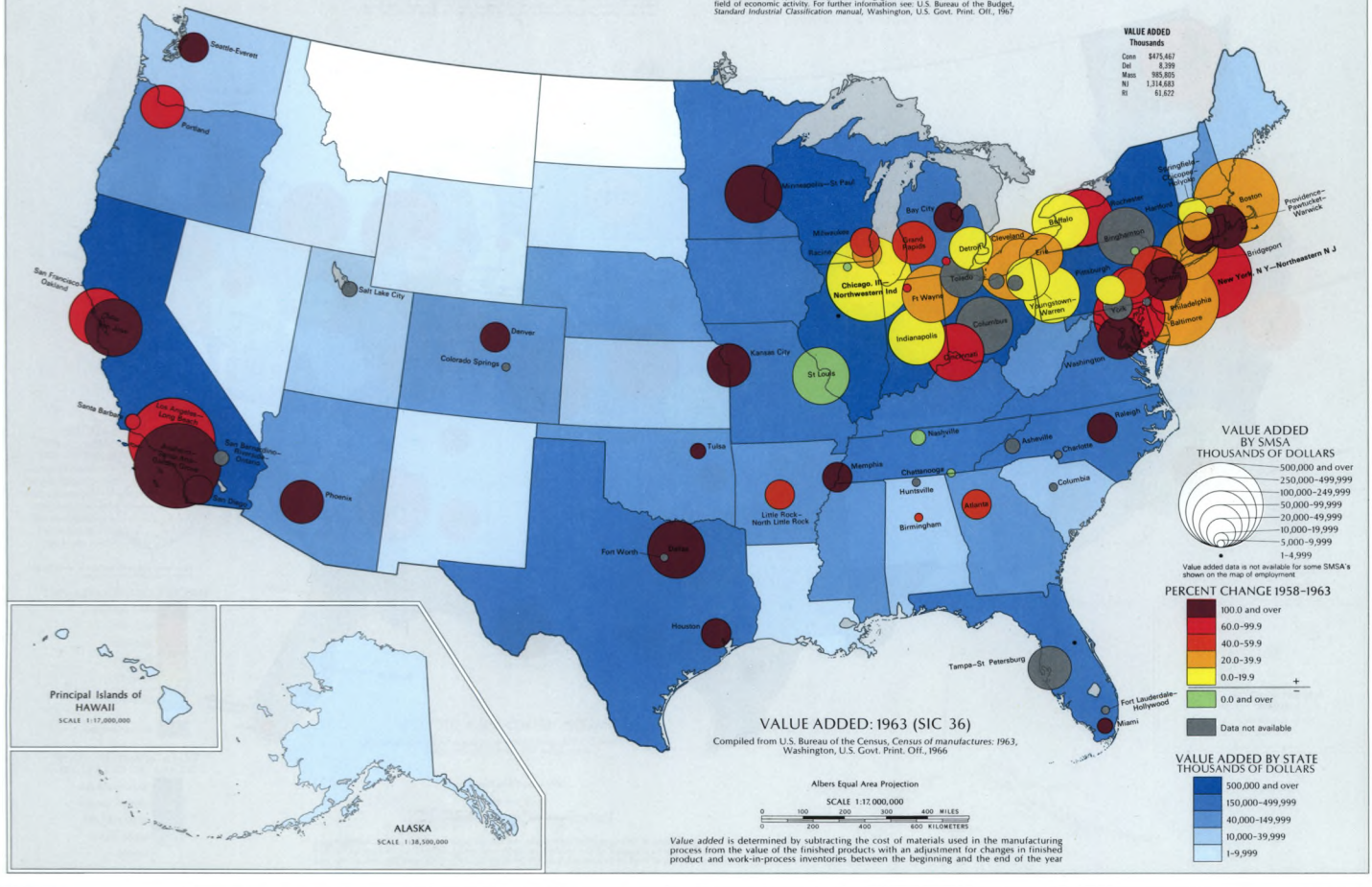
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 36—ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES includes establishments engaged in manufacturing machinery, apparatus and supplies for the generation, storage, transmission, transformation, and utilization of electrical energy. The manufacture of household appliances is included in this group, but industrial machinery and equipment powered by built-in or detachable electric motors is classified in Major Group 35.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 36)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

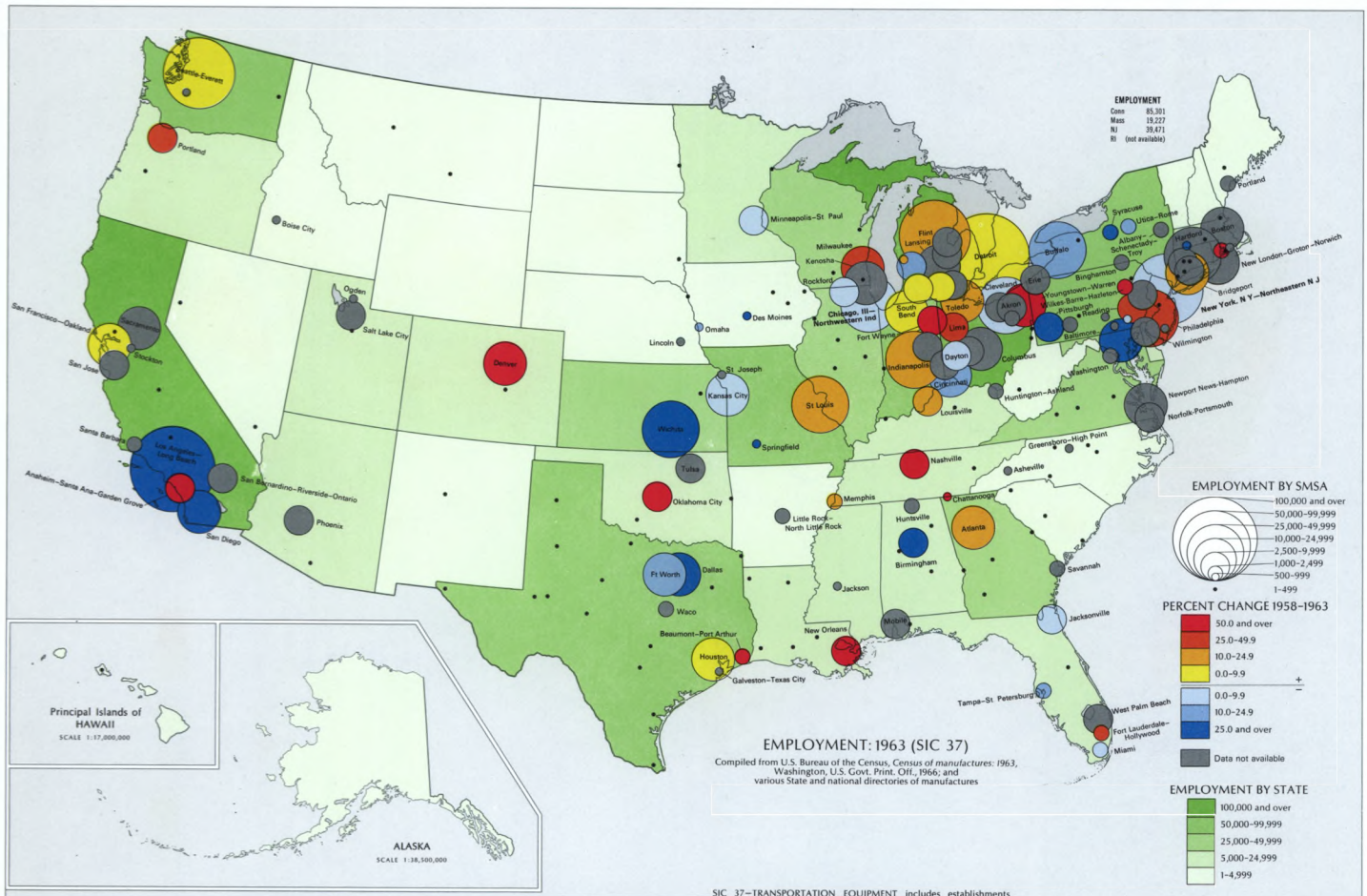
Albers Equal Area Projection

SCALE 1:17,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 37)

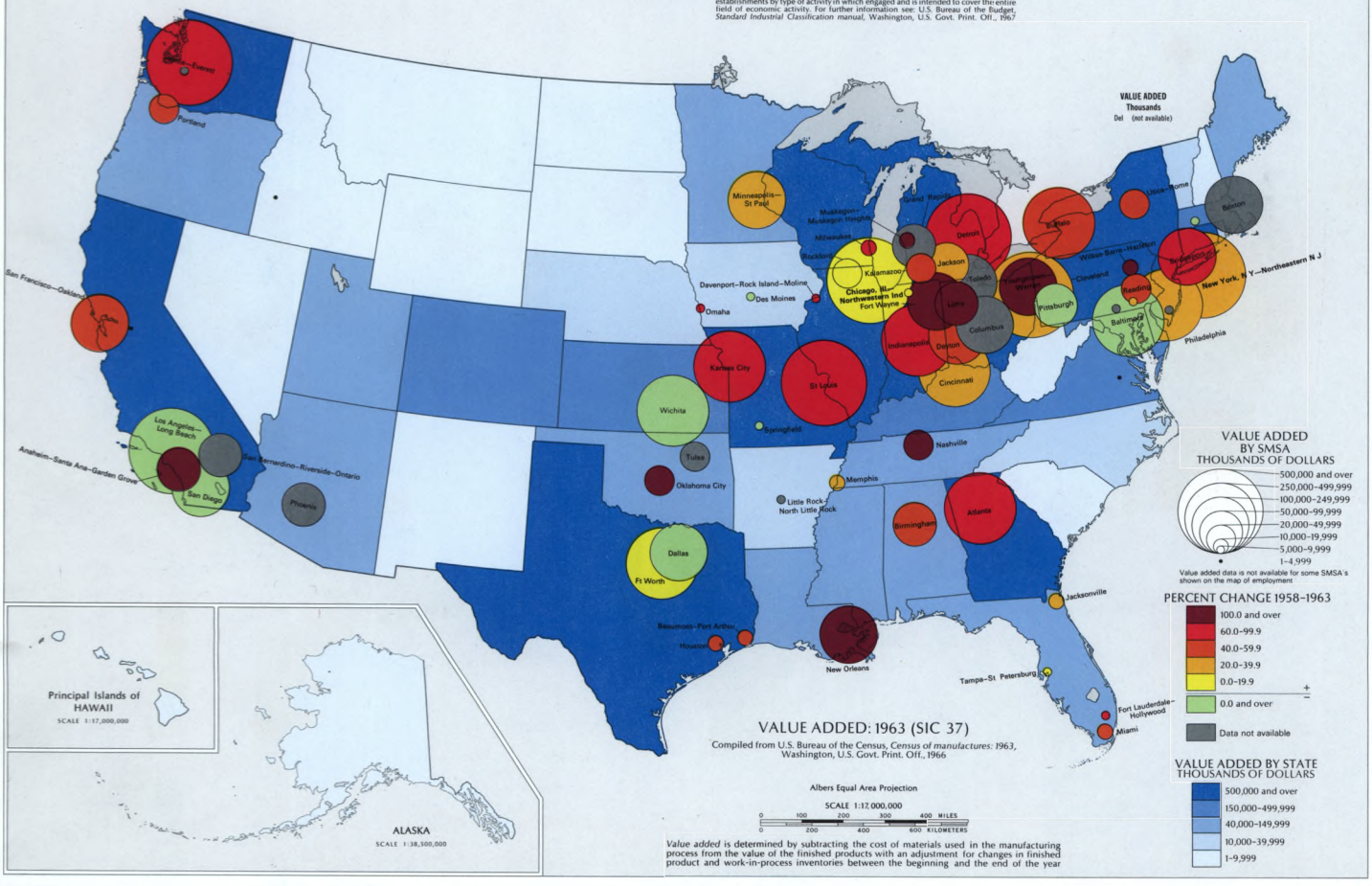
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 37—TRANSPORTATION EQUIPMENT includes establishments engaged in manufacturing equipment for transportation of passengers and cargo by land, air, and water. Important products produced by establishments classified in this major group include motor vehicles, aircraft, ships, boats, railroad equipment, and miscellaneous transportation equipment such as motorcycles, bicycles, and horse drawn vehicles.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 37)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

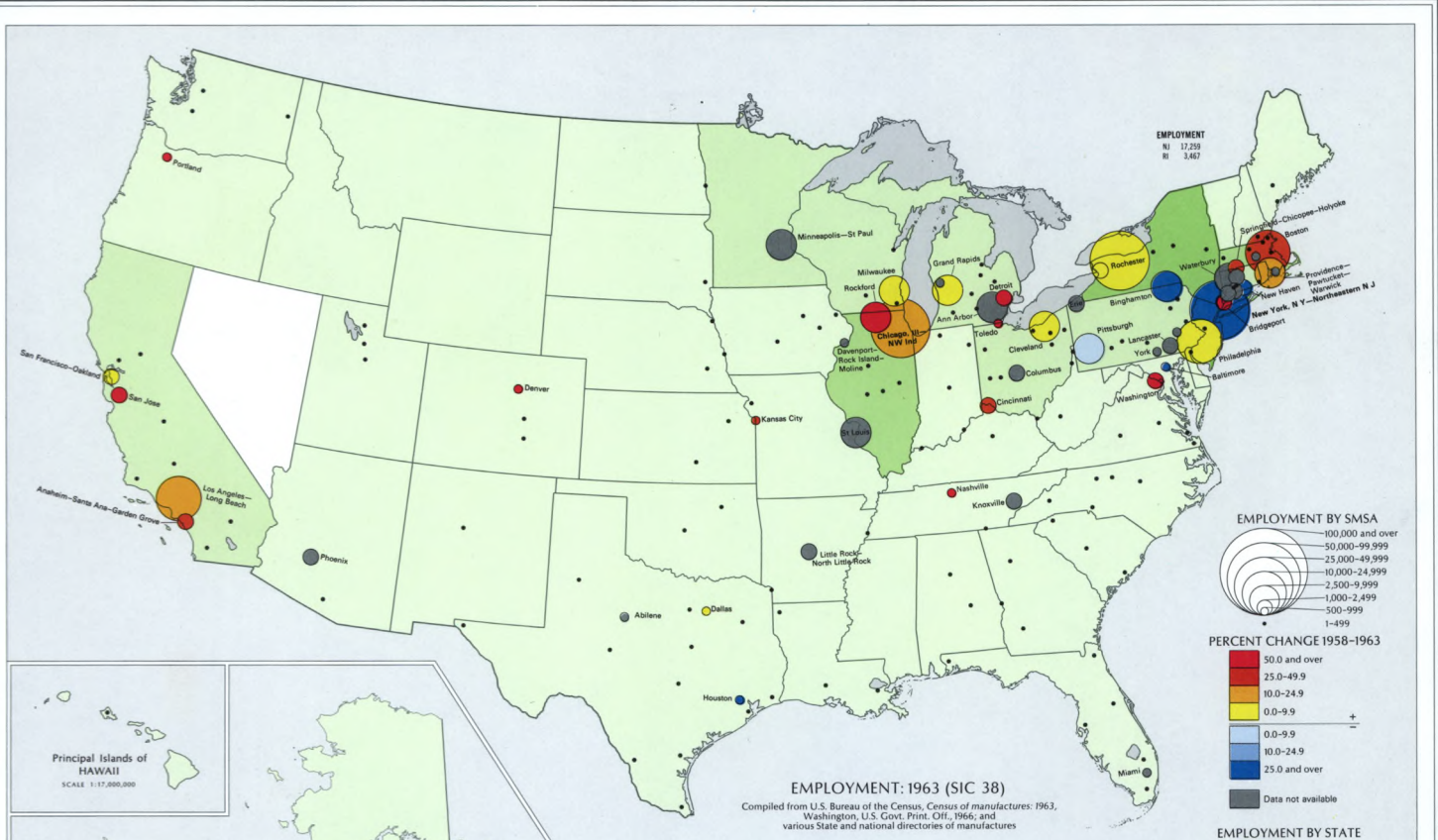
Albers Equal Area Projection

SCALE 1:12,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 38)

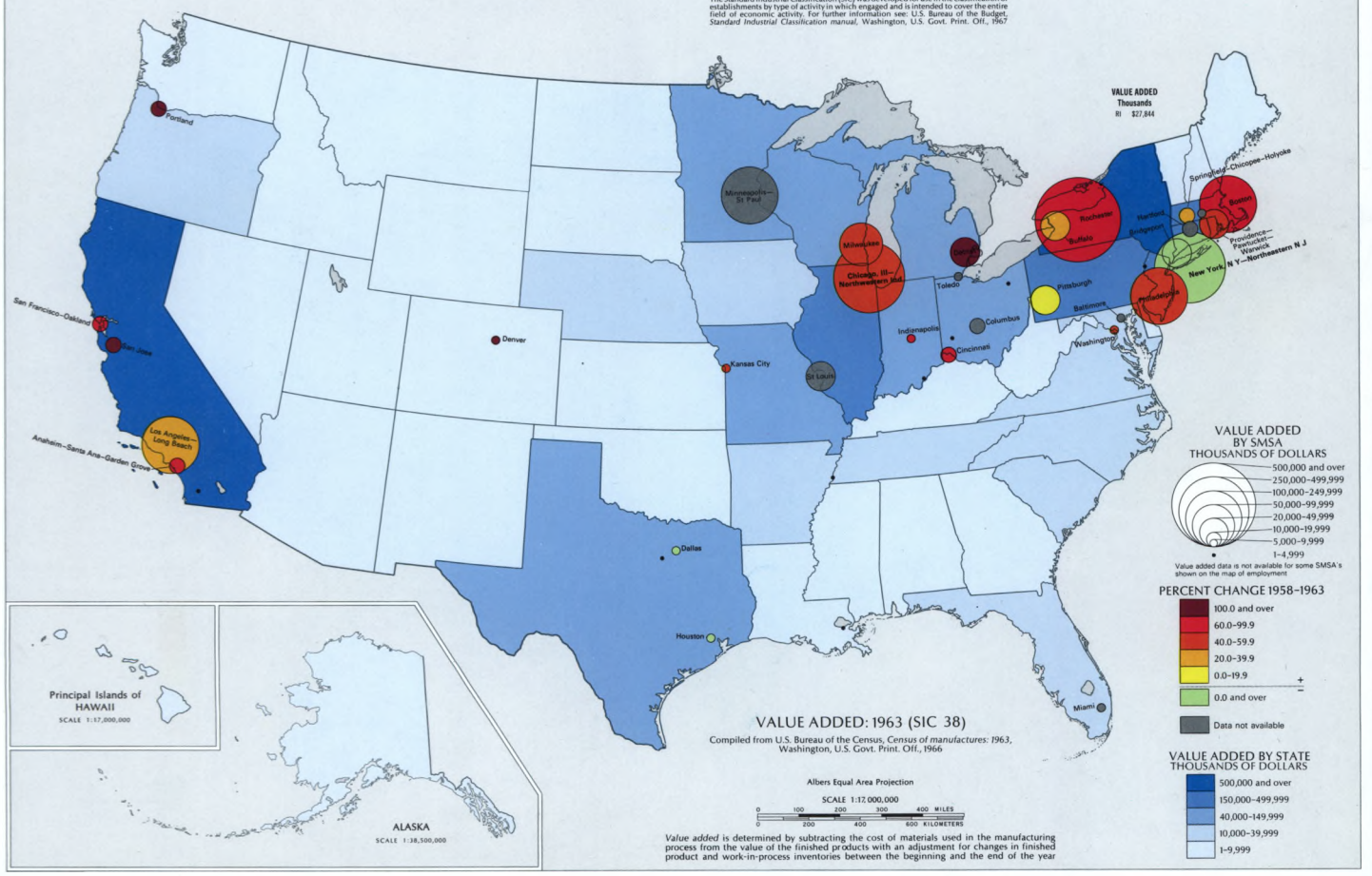
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 38—PROFESSIONAL, SCIENTIFIC, AND CONTROLLING INSTRUMENTS; PHOTOGRAPHIC AND OPTICAL GOODS; WATCHES AND CLOCKS includes establishments engaged in manufacturing mechanical measuring, engineering, laboratory, and scientific research instruments; optical instruments and lenses; surgical, medical and dental instruments, equipment and supplies; ophthalmic goods; photographic equipment and supplies; and watches and clocks.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 38)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

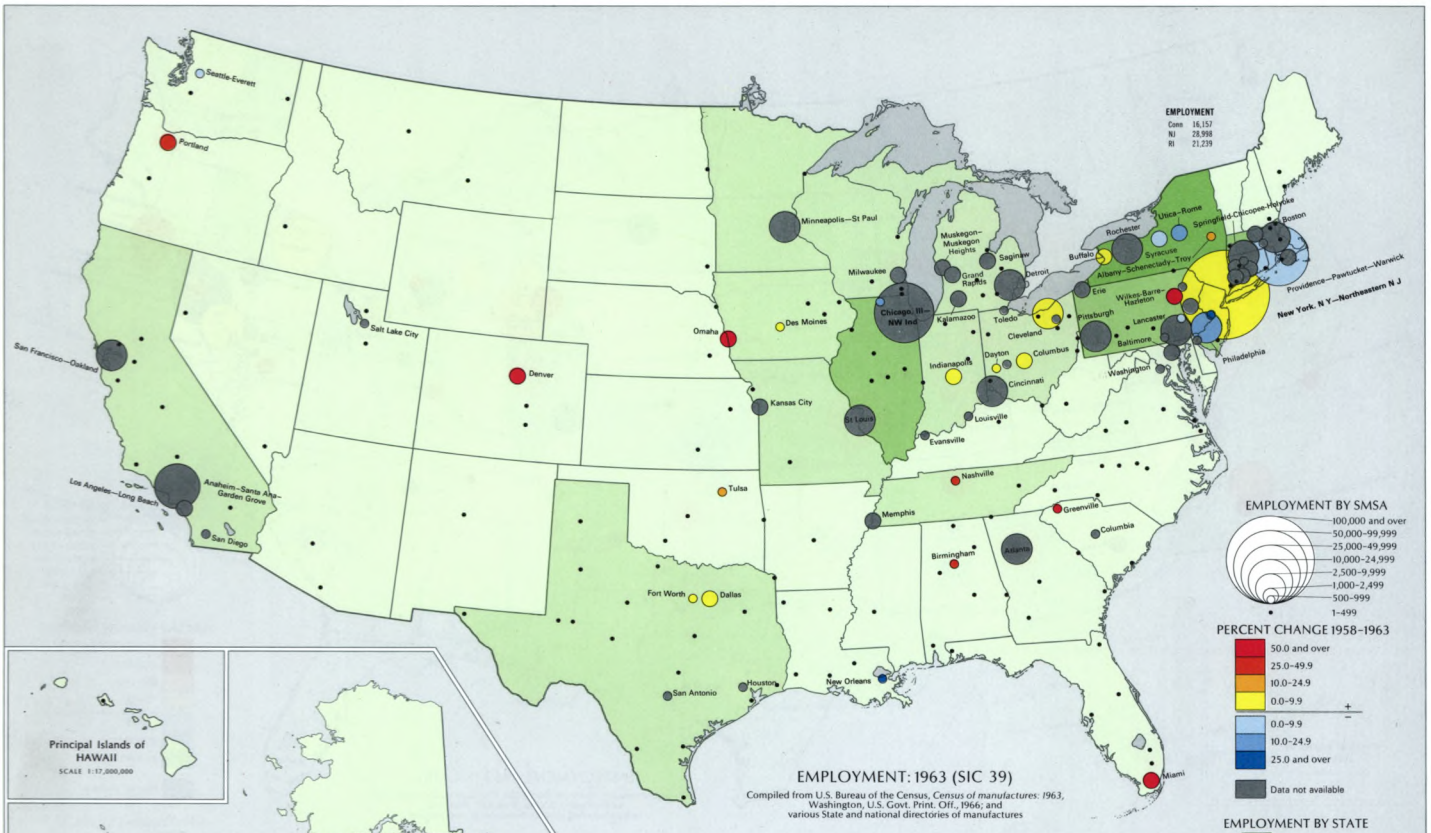
Albers Equal Area Projection

SCALE 1:12,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



EMPLOYMENT: 1963 (SIC 39)

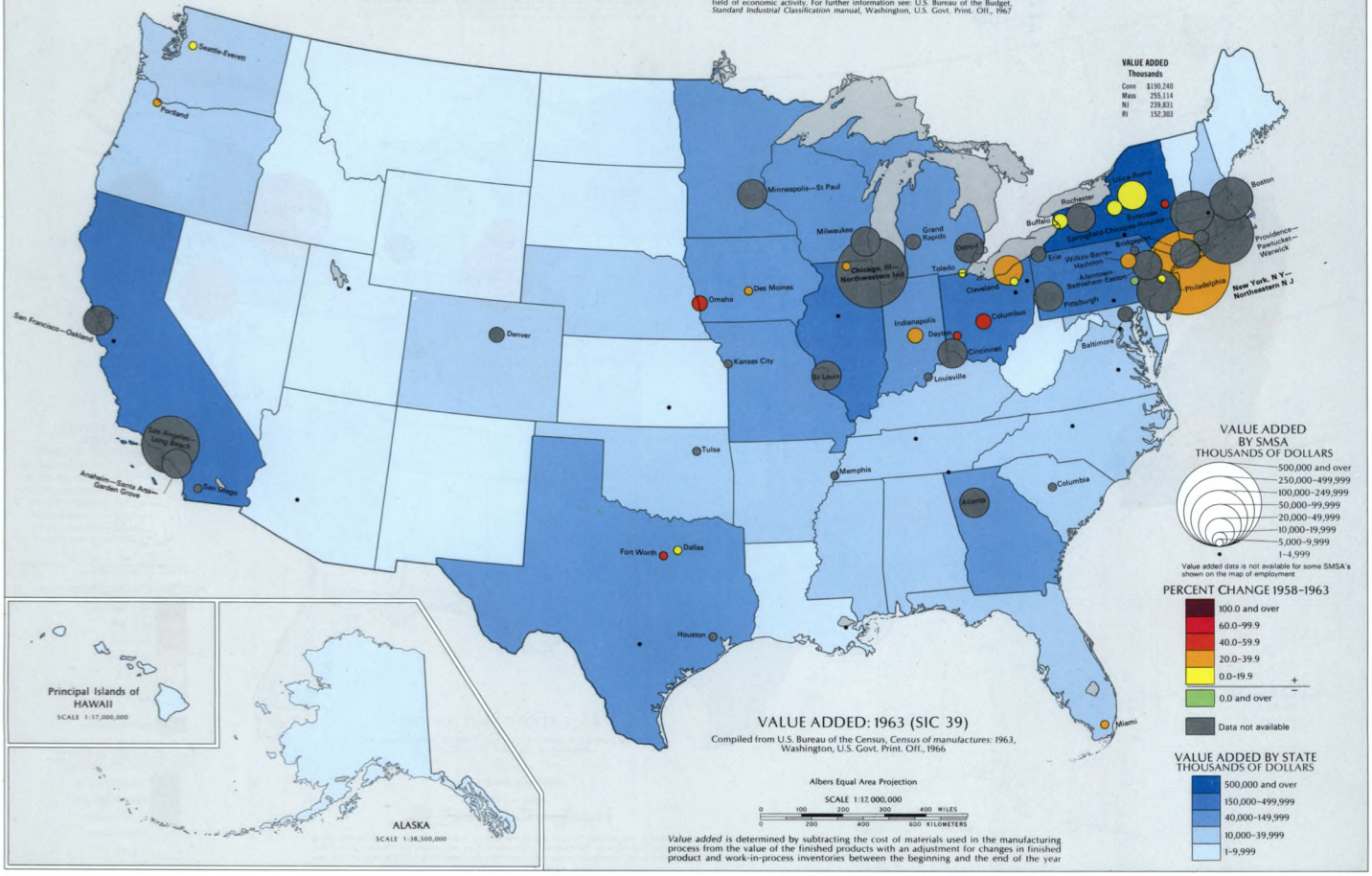
Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966; and various State and national directories of manufactures

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's

SIC 39—MISCELLANEOUS MANUFACTURING INDUSTRIES includes establishments primarily engaged in manufacturing products not classified in any other manufacturing major group. Industries in this group fall into the following categories: jewelry, silverware and plated ware; musical instruments; artists' materials; buttons, costume novelties, miscellaneous notions, brooms and brushes; morticians' goods and other miscellaneous manufacturing industries.

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



VALUE ADDED: 1963 (SIC 39)

Compiled from U.S. Bureau of the Census, *Census of manufactures: 1963*, Washington, U.S. Govt. Print. Off., 1966

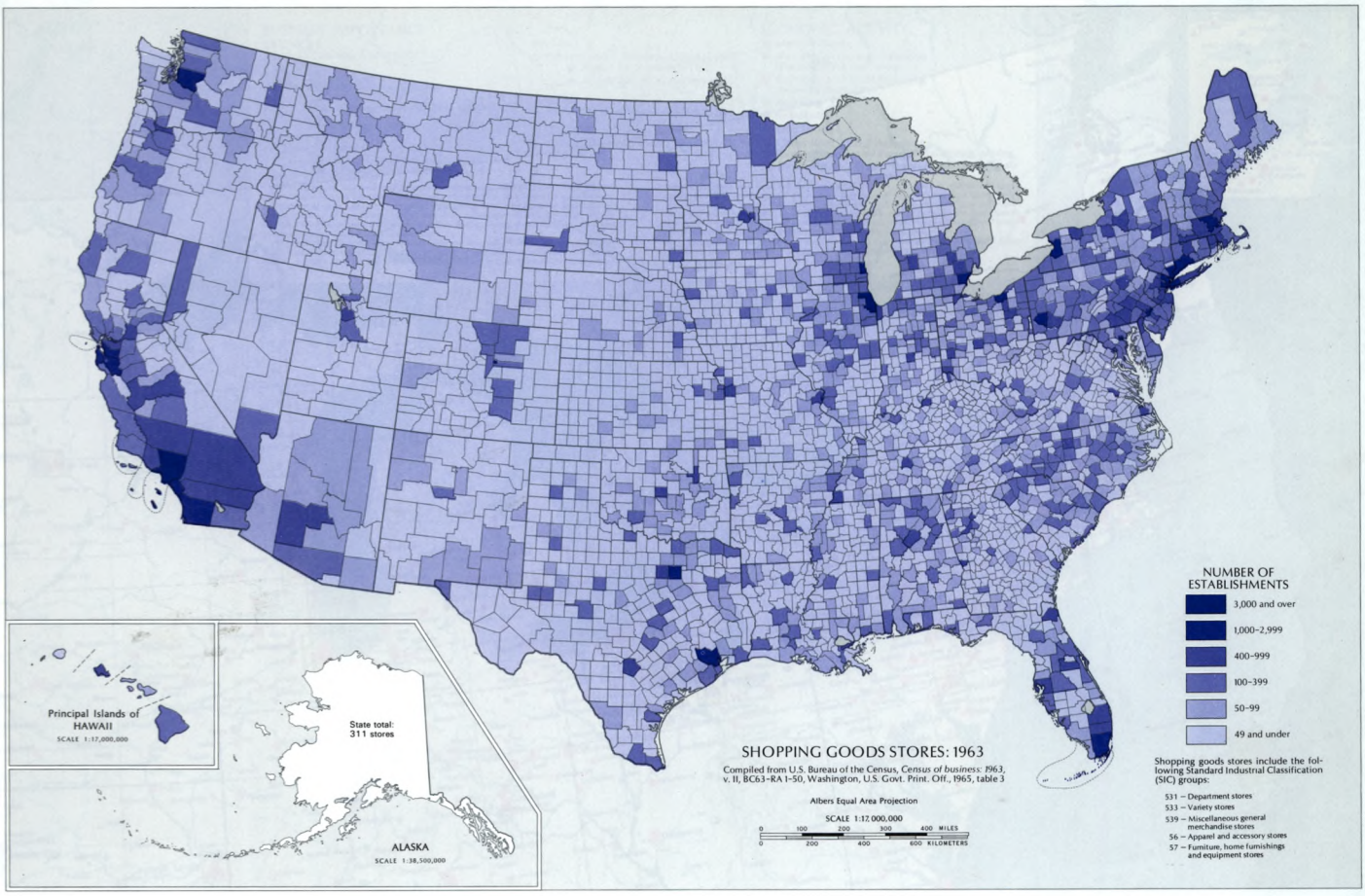
Albers Equal Area Projection

SCALE 1:17,000,000

0 100 200 300 400 MILES

0 200 400 600 KILOMETERS

Value added is determined by subtracting the cost of materials used in the manufacturing process from the value of the finished products with an adjustment for changes in finished product and work-in-process inventories between the beginning and the end of the year



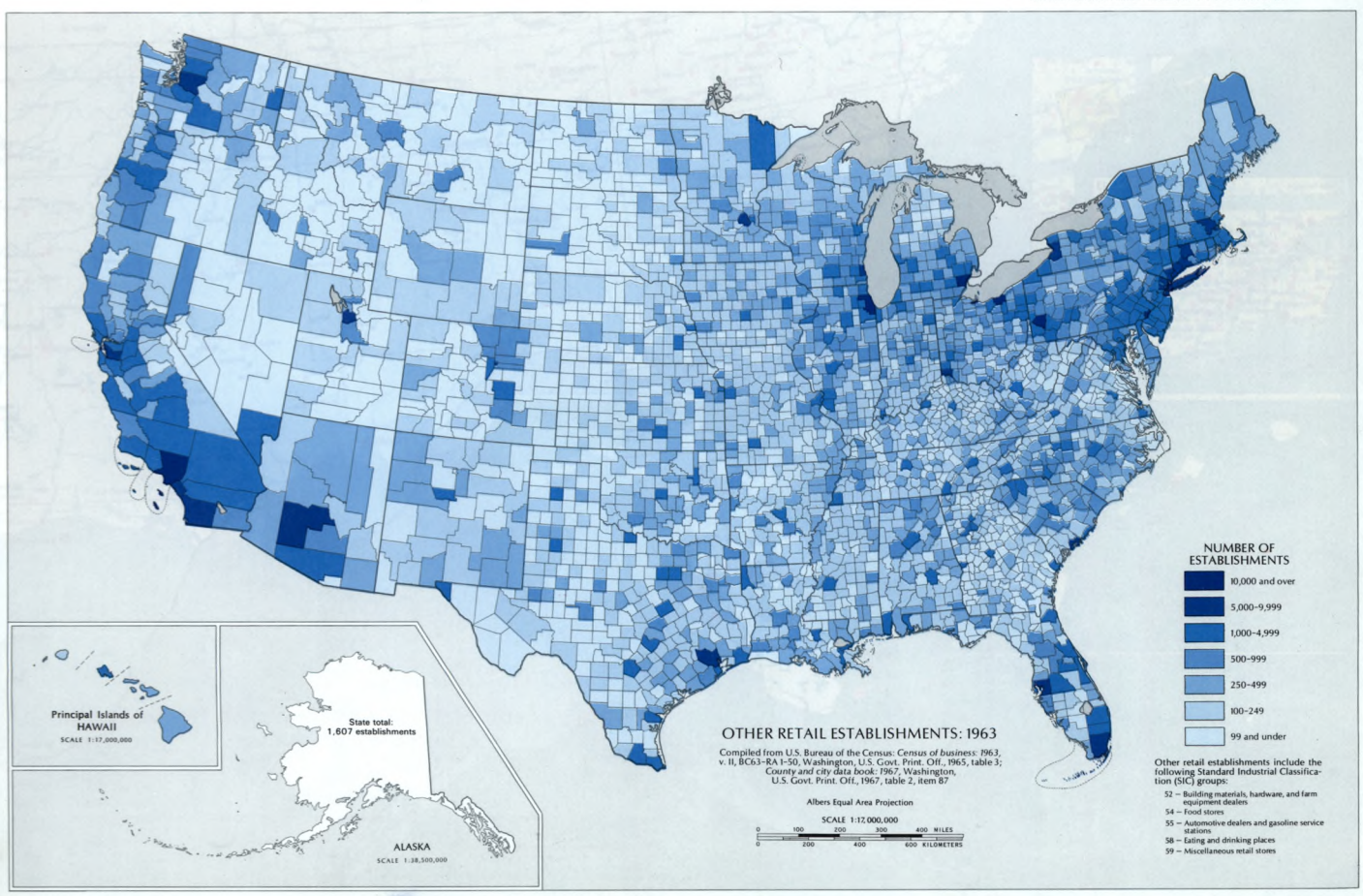
SHOPPING GOODS STORES: 1963

Compiled from U.S. Bureau of the Census, *Census of business: 1963*, v. II, BC63-RA 1-50, Washington, U.S. Govt. Print. Off., 1965, table 3

Shopping goods stores include the following Standard Industrial Classification (SIC) groups:

- 531 – Department stores
- 533 – Variety stores
- 539 – Miscellaneous general merchandise stores
- 56 – Apparel and accessory stores
- 57 – Furniture, home furnishings and equipment stores

The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967

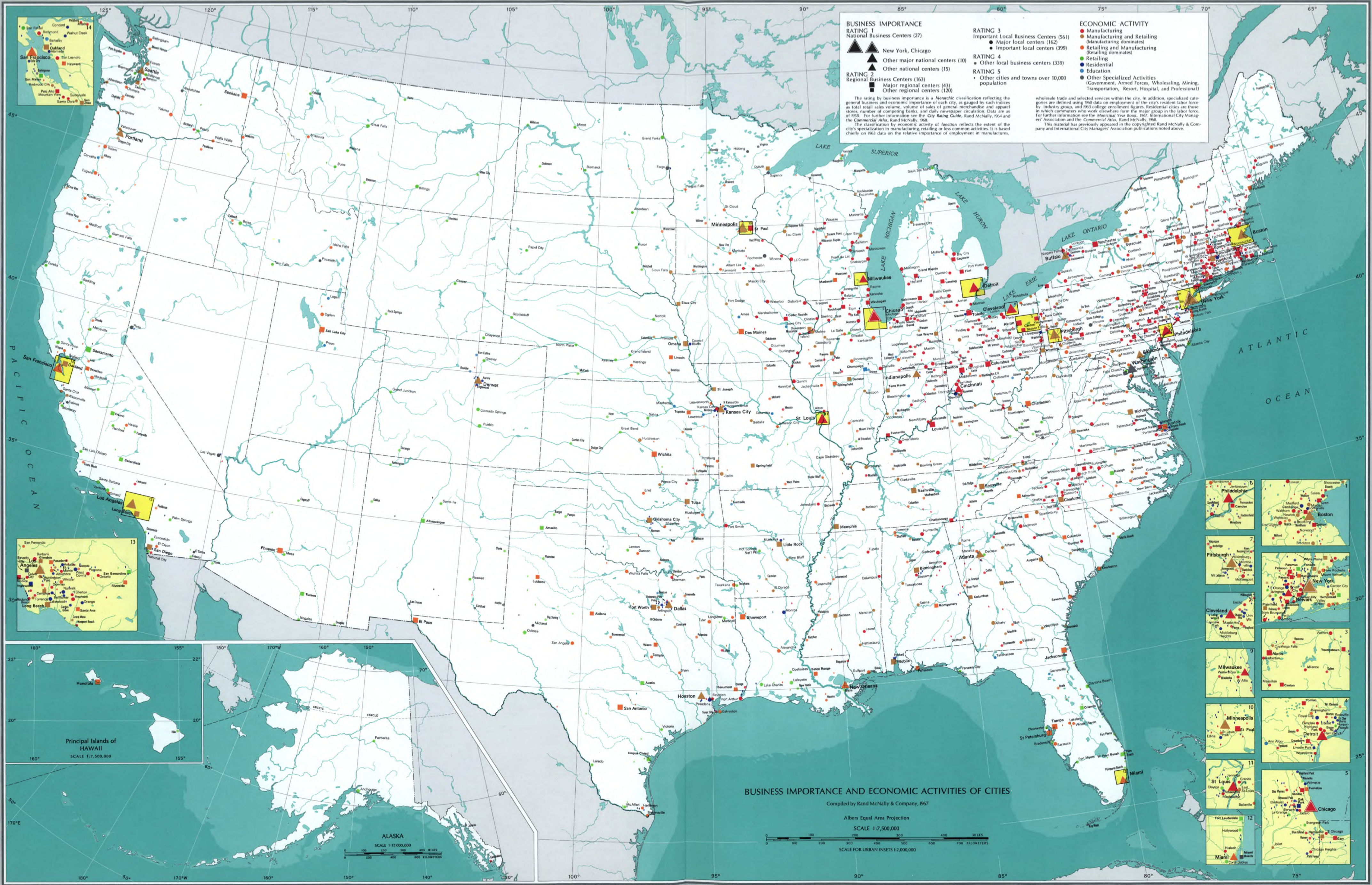


OTHER RETAIL ESTABLISHMENTS: 1963

Compiled from U.S. Bureau of the Census: *Census of business: 1963*, v. II, BC63-RA 1-50, Washington, U.S. Govt. Print. Off., 1965, table 3; *County and city data book: 1967*, Washington, U.S. Govt. Print. Off., 1967, table 2, item 87

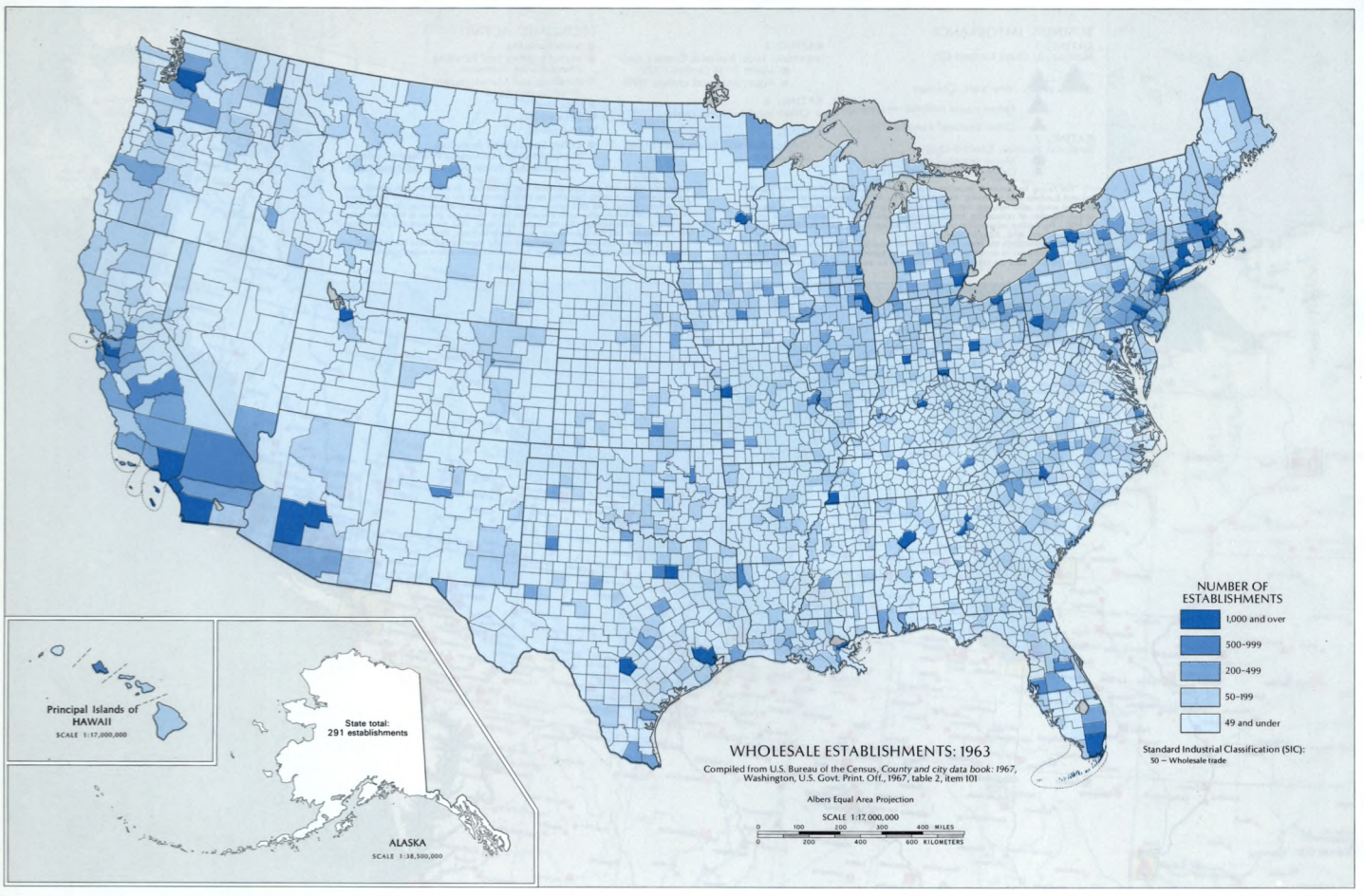
Other retail establishments include the following Standard Industrial Classification (SIC) groups:

- 52 – Building materials, hardware, and farm equipment dealers
- 54 – Food stores
- 55 – Automotive dealers and gasoline service stations
- 58 – Eating and drinking places
- 59 – Miscellaneous retail stores

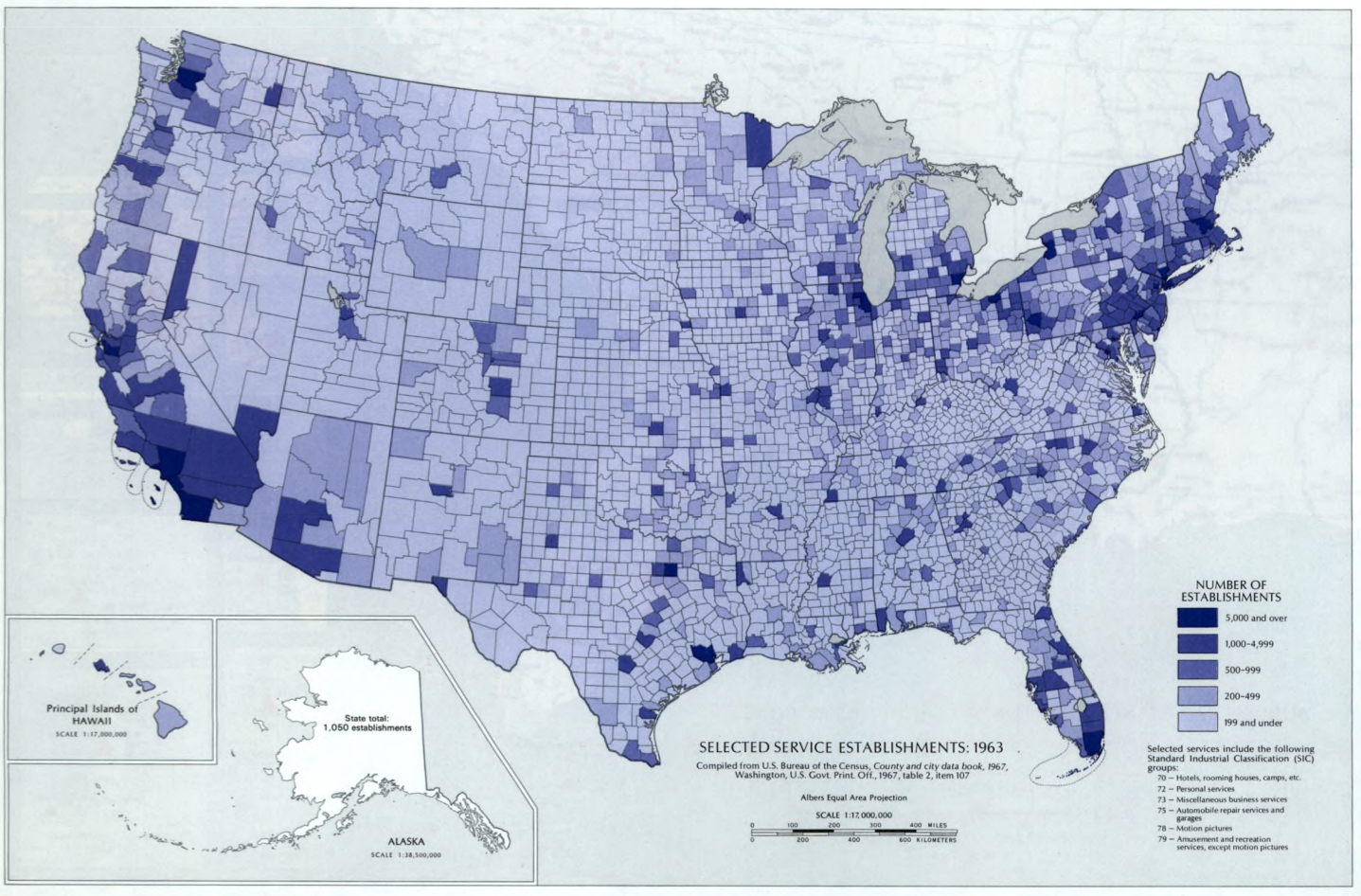

BUSINESS IMPORTANCE
RATING 1
National Business Centers (27)
New York, Chicago
Other major national centers (10)
Other national centers (15)
RATING 2
Regional Business Centers (163)
Major regional centers (43)
Other regional centers (120)
RATING 3
Important Local Business Centers (561)
Major local centers (162)
Important local centers (399)
RATING 4
Other local business centers (339)
RATING 5
Other cities and towns over 10,000 population
ECONOMIC ACTIVITY
Manufacturing
Manufacturing and Retailing (Manufacturing dominates)
Retailing and Manufacturing (Retailing dominates)
Retailing
Residential
Education
Other Specialized Activities (Government, Armed Forces, Wholesaling, Mining, Transportation, Resort, Hospital, and Professional)
The rating by business importance is a *hierarchic* classification reflecting the general business and economic importance of each city, as gauged by such indices as total retail sales volume, volume of sales of general merchandise and apparel stores, number of competing banks, and daily newspaper circulation. Data are as of 1958. For further information see the *City Rating Guide*, Rand McNally, 1964 and the *Commercial Atlas*, Rand McNally, 1968.
The classification by economic activity of *function* reflects the extent of the city's specialization in manufacturing, retailing or less common activities. It is based chiefly on 1963 data on the relative importance of employment in manufactures, wholesale trade and selected services within the city. In addition, specialized categories are defined using 1960 data on employment of the city's resident labor force by industry group, and 1963 college enrollment figures. Residential cities are those in which commuters who work elsewhere form the major group in the labor force. For further information see the *Municipal Year Book, 1967*, International City Managers' Association and the *Commercial Atlas*, Rand McNally, 1968.
This material has previously appeared in the copyrighted Rand McNally & Company and International City Managers' Association publications noted above.
BUSINESS IMPORTANCE AND ECONOMIC ACTIVITIES OF CITIES
Compiled by Rand McNally & Company, 1967
Albers Equal Area Projection
SCALE 1:7,500,000
MILES
KILOMETERS
SCALE FOR URBAN INSETS 1:2,000,000
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:12,000,000
PACIFIC OCEAN
ATLANTIC OCEAN
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
New York
Chicago
Los Angeles
San Francisco
Philadelphia
Boston
Detroit
Cleveland
Pittsburgh
St Louis
Minneapolis
St Paul
Milwaukee
Washington
Baltimore
Dallas
Houston
Kansas City
Denver
Seattle
Portland
Atlanta
New Orleans
Miami
Honolulu
Anchorage
Fairbanks

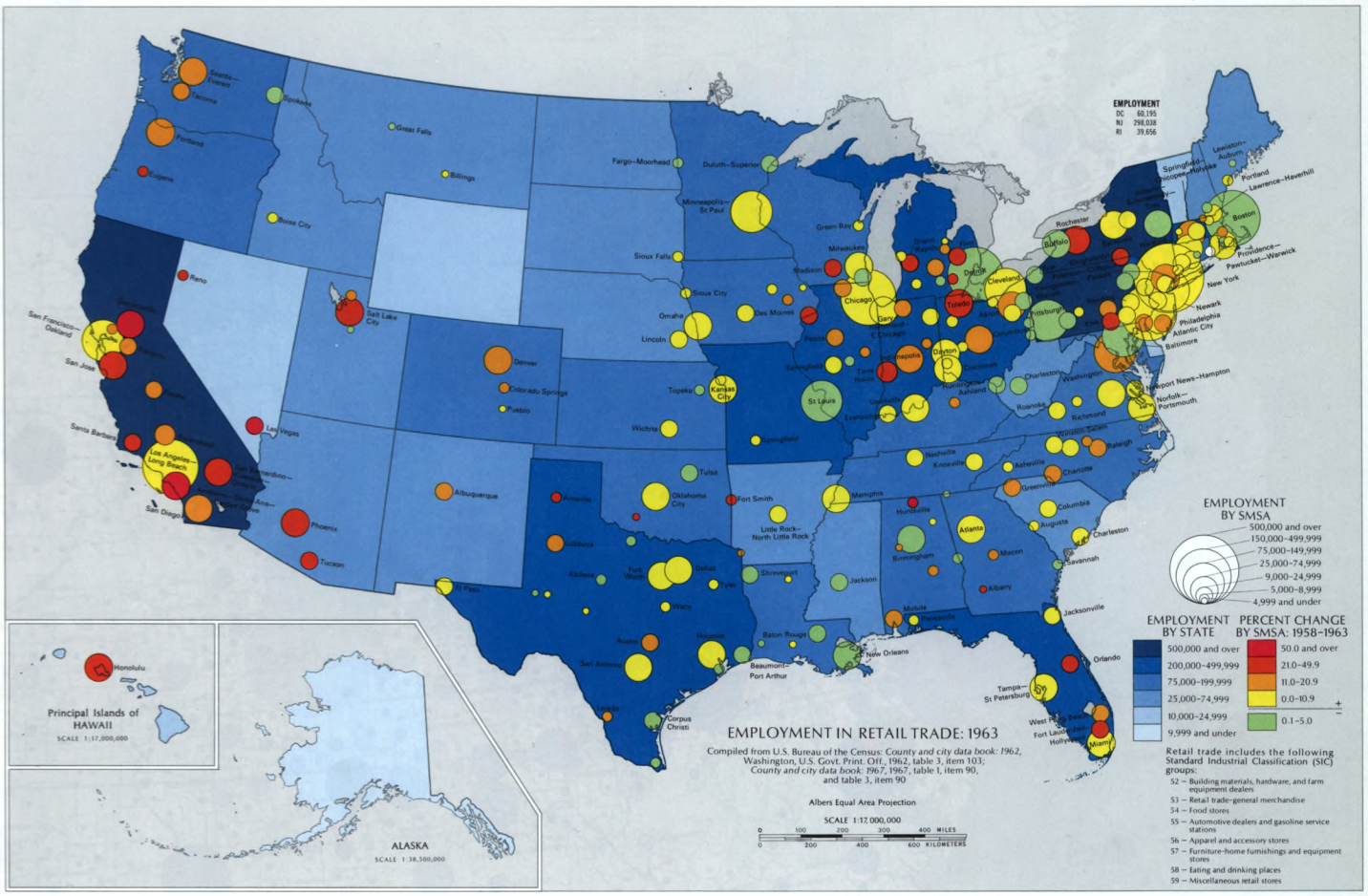
218

219



The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967

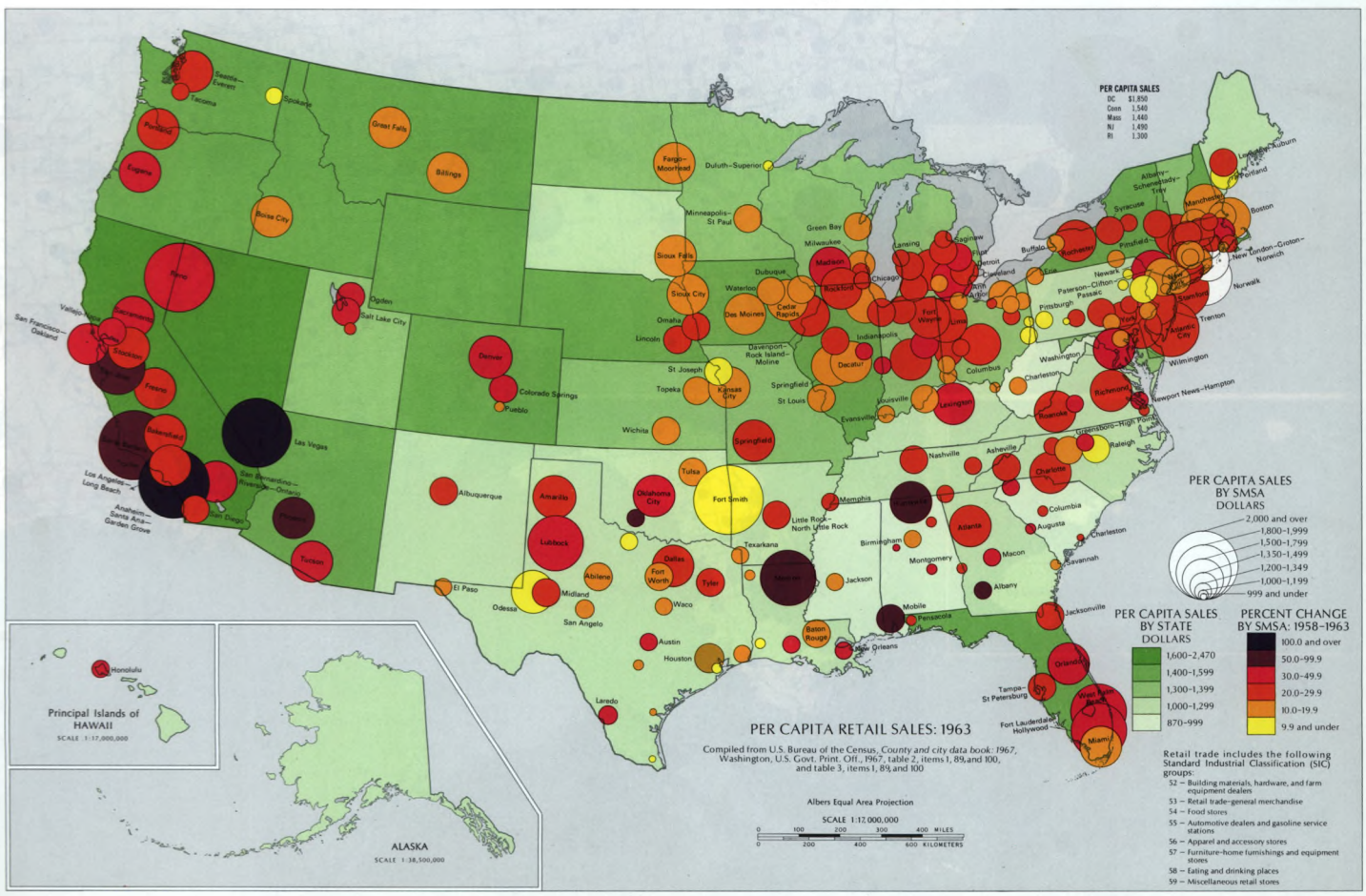


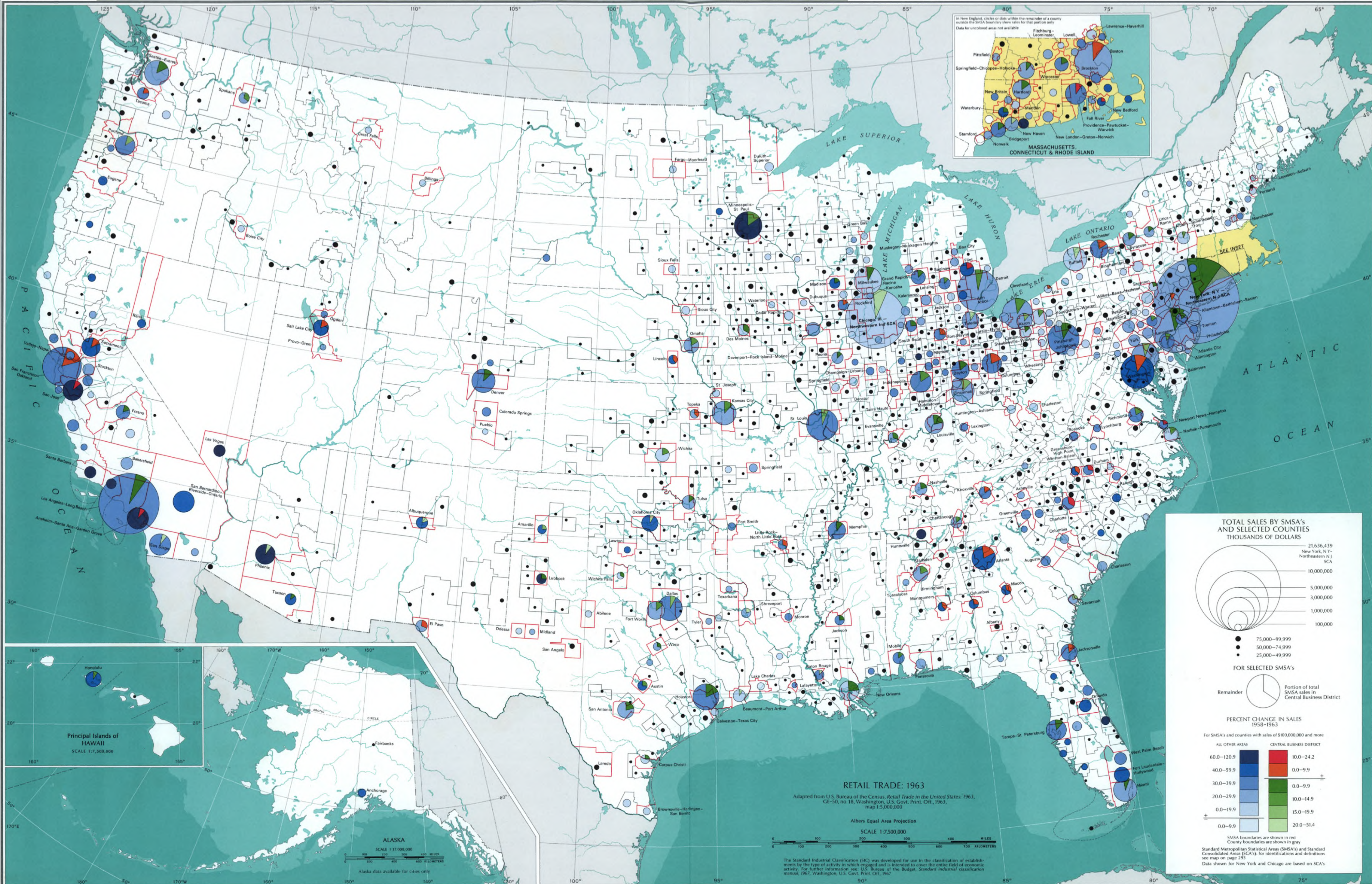


1958 data not available for Norwalk, Conn. and New London–Groton–Norwich, Conn. SMSA's

Standard Metropolitan Statistical Areas (SMSA's): for identification and definition see map on page 293.

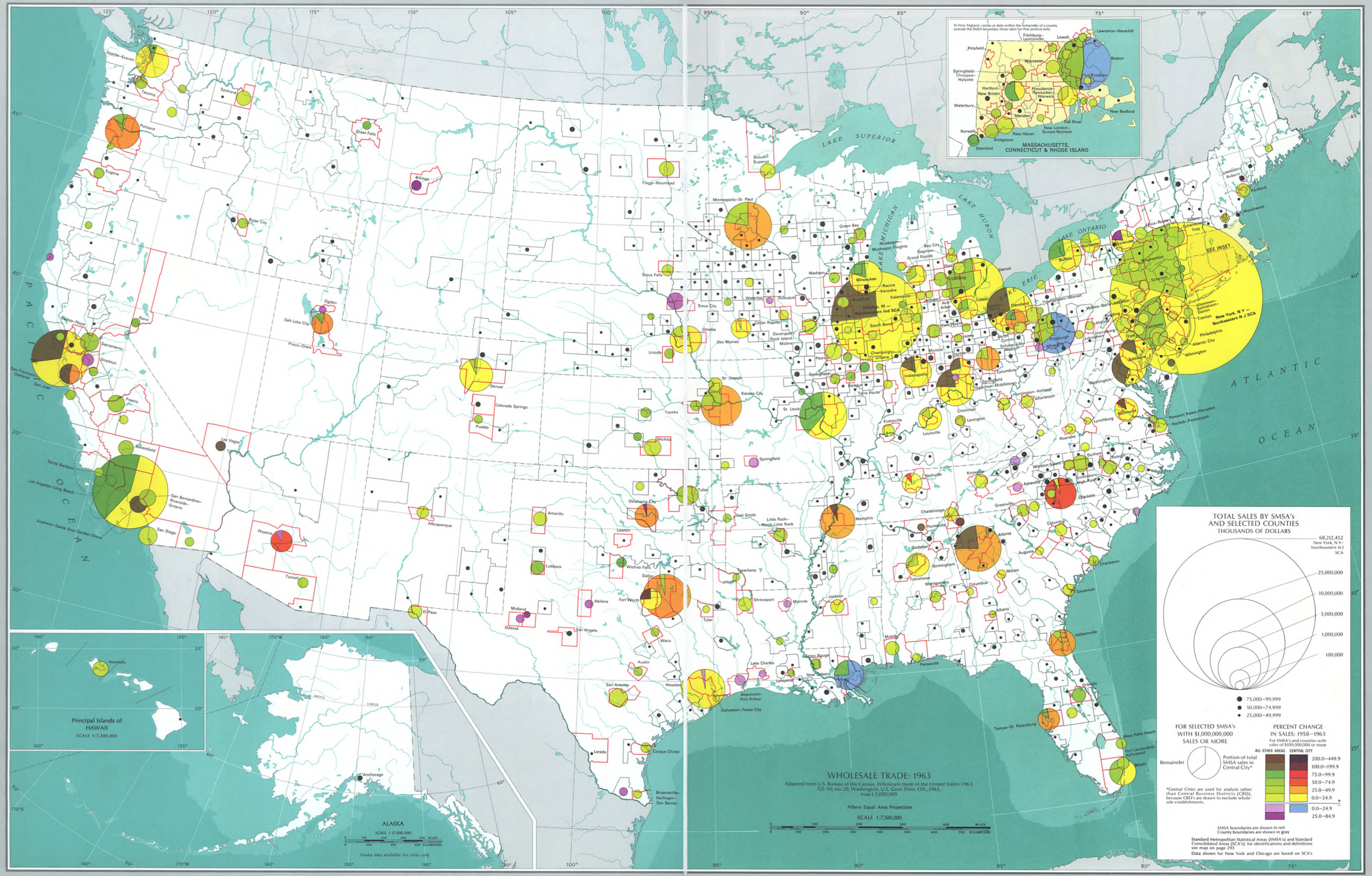
The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967

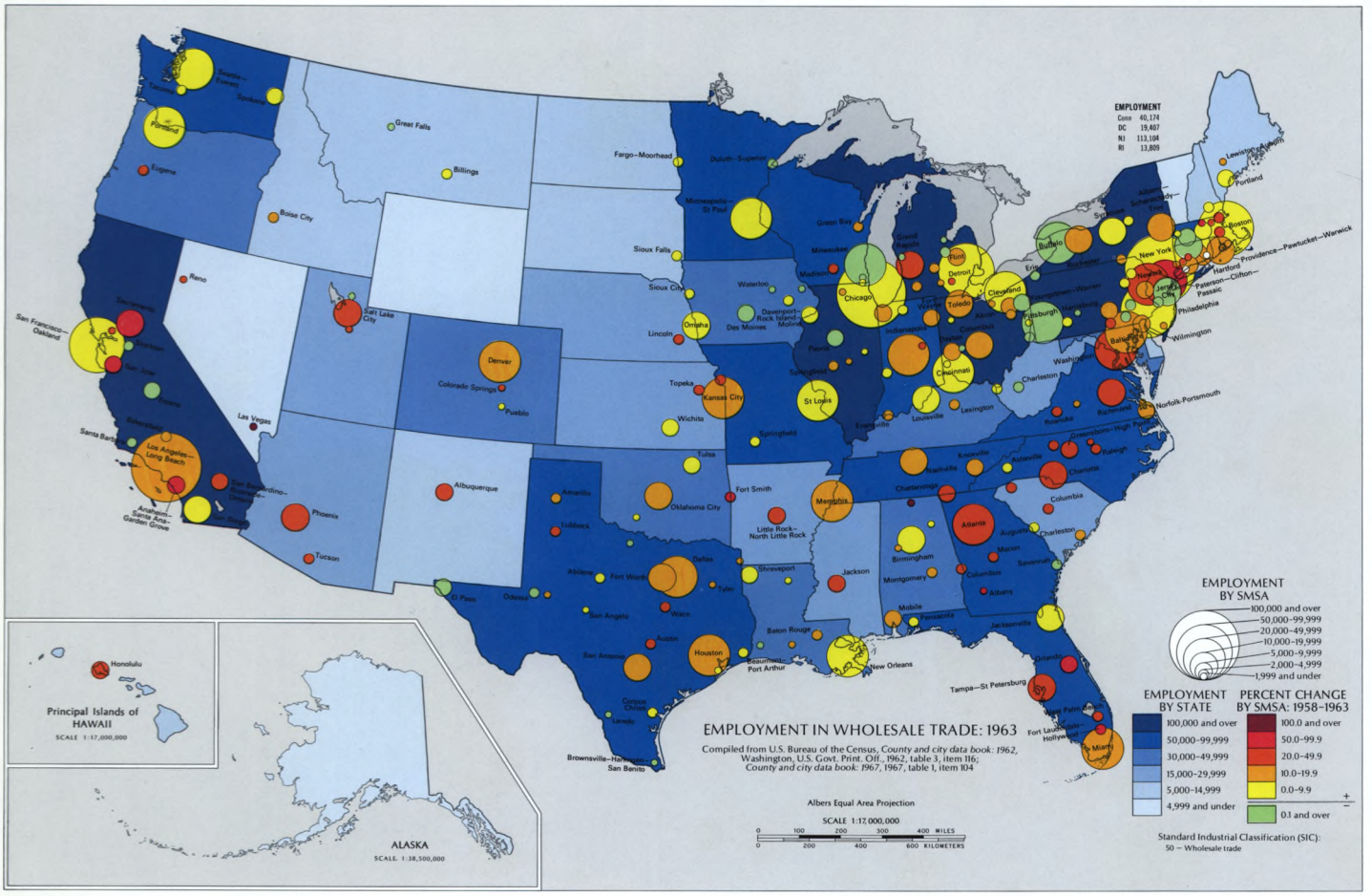



In New England, circles or dots within the remainder of a county outside the SMSA boundary show sales for that portion only
Data for uncolored areas not available
MASSACHUSETTS, CONNECTICUT & RHODE ISLAND
SEE INSET
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
PACIFIC OCEAN
ATLANTIC OCEAN
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
Alaska data available for cities only
RETAIL TRADE: 1963
Adapted from U.S. Bureau of the Census, *Retail Trade in the United States: 1963*, GE-50, no. 18, Washington, U.S. Govt. Print. Off., 1963, map 1:5,000,000
Albers Equal Area Projection
SCALE 1:7,500,000
The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by the type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard industrial classification manual, 1967*, Washington, U.S. Govt. Print. Off., 1967
TOTAL SALES BY SMSA's AND SELECTED COUNTIES
THOUSANDS OF DOLLARS
21,636,439 New York, N Y-Northeastern N J SCA
10,000,000
5,000,000
3,000,000
1,000,000
100,000
75,000–99,999
50,000–74,999
25,000–49,999
FOR SELECTED SMSA's
Remainder
Portion of total SMSA sales in Central Business District
PERCENT CHANGE IN SALES 1958–1963
For SMSA's and counties with sales of $100,000,000 and more
ALL OTHER AREAS
60.0–120.9
40.0–59.9
30.0–39.9
20.0–29.9
0.0–19.9
0.0–9.9
CENTRAL BUSINESS DISTRICT
10.0–24.2
0.0–9.9
0.0–9.9
10.0–14.9
15.0–19.9
20.0–51.4
SMSA boundaries are shown in red
County boundaries are shown in gray
Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293
Data shown for New York and Chicago are based on SCA's

222

223


MASSACHUSETTS, CONNECTICUT & RHODE ISLAND
SEE INSET
New York, N.Y.–Northeastern N.J. SCA
Chicago, Ill.–Northeastern Ind SCA
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
PACIFIC OCEAN
ATLANTIC OCEAN
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:17,000,000
Alaska data available for cities only
WHOLESALE TRADE: 1963
Adapted from U.S. Bureau of the Census, Wholesale trade in the United States: 1963, GF-50, no. 20, Washington, U.S. Govt. Print. Off., 1963, map 1:5,000,000
Albers Equal Area Projection
SCALE 1:7,500,000
TOTAL SALES BY SMSA's AND SELECTED COUNTIES
THOUSANDS OF DOLLARS
68,212,452
New York, N.Y.–Northeastern N.J. SCA
25,000,000
10,000,000
5,000,000
1,000,000
100,000
75,000–99,999
50,000–74,999
25,000–49,999
FOR SELECTED SMSA's WITH $1,000,000,000 SALES OR MORE
Remainder
Portion of total SMSA sales in Central City*
PERCENT CHANGE IN SALES: 1958–1963
For SMSA's and counties with sales of $100,000,000 or more
ALL OTHER AREAS
CENTRAL CITY
200.0–449.9
100.0–199.9
75.0–99.9
50.0–74.9
25.0–49.9
0.0–24.9
0.0–24.9
25.0–84.9
*Central Cities are used for analysis rather than Central Business Districts (CBD), because CBD's are drawn to exclude wholesale establishments.
SMSA boundaries are shown in red
County boundaries are shown in gray
Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's); for identifications and definitions see map on page 293
Data shown for New York and Chicago are based on SCA's



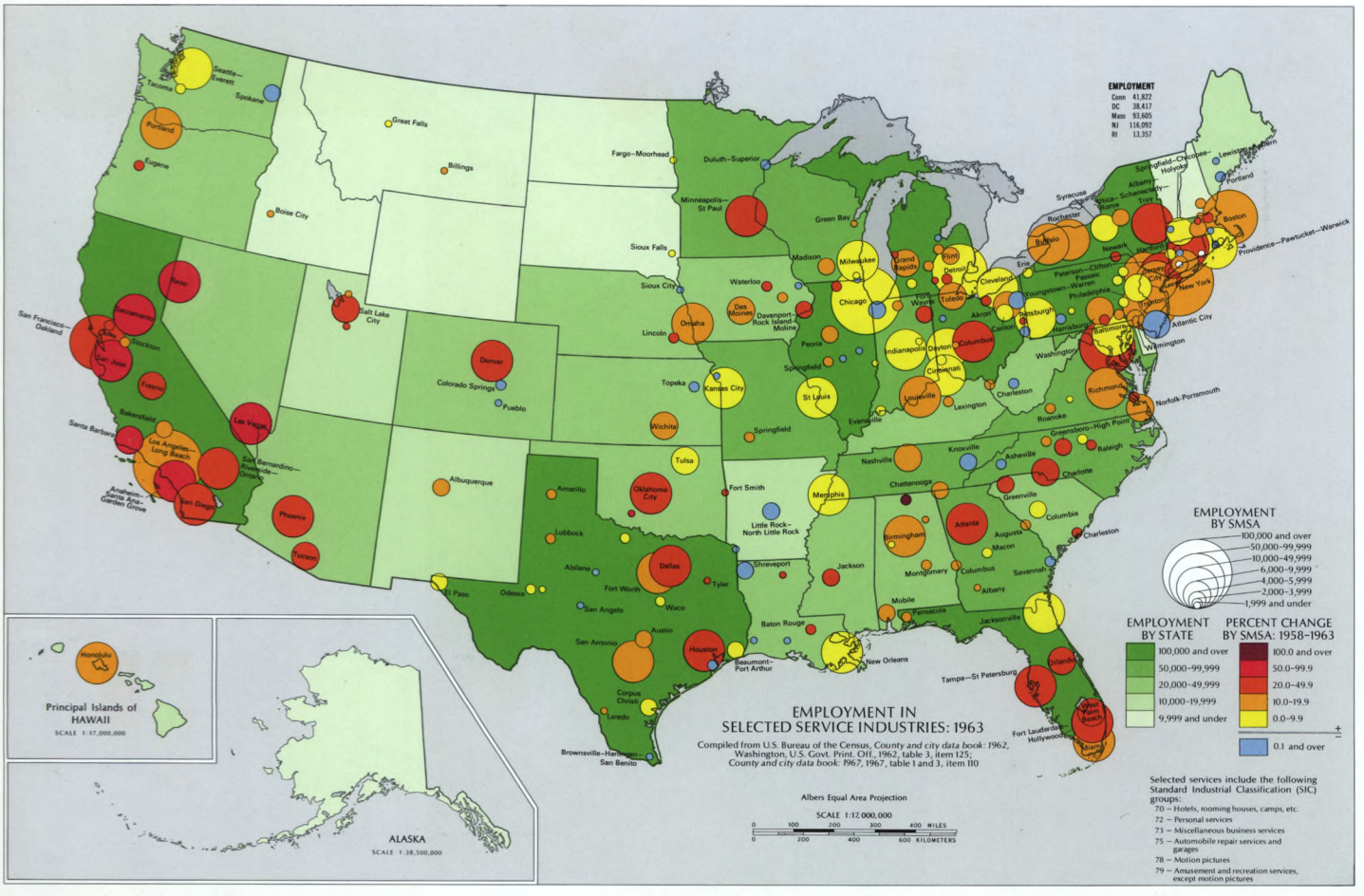
EMPLOYMENT IN WHOLESALE TRADE: 1963

Compiled from U.S. Bureau of the Census, *County and city data book: 1962*, Washington, U.S. Govt. Print. Off., 1962, table 3, item 116; *County and city data book: 1967*, 1967, table 1, item 104

1958 data not available for Norwalk, Conn. and New London–Groton–Norwich, Conn. SMSA's

Standard Metropolitan Statistical Areas (SMSA's): for identification and definition see map on page 293

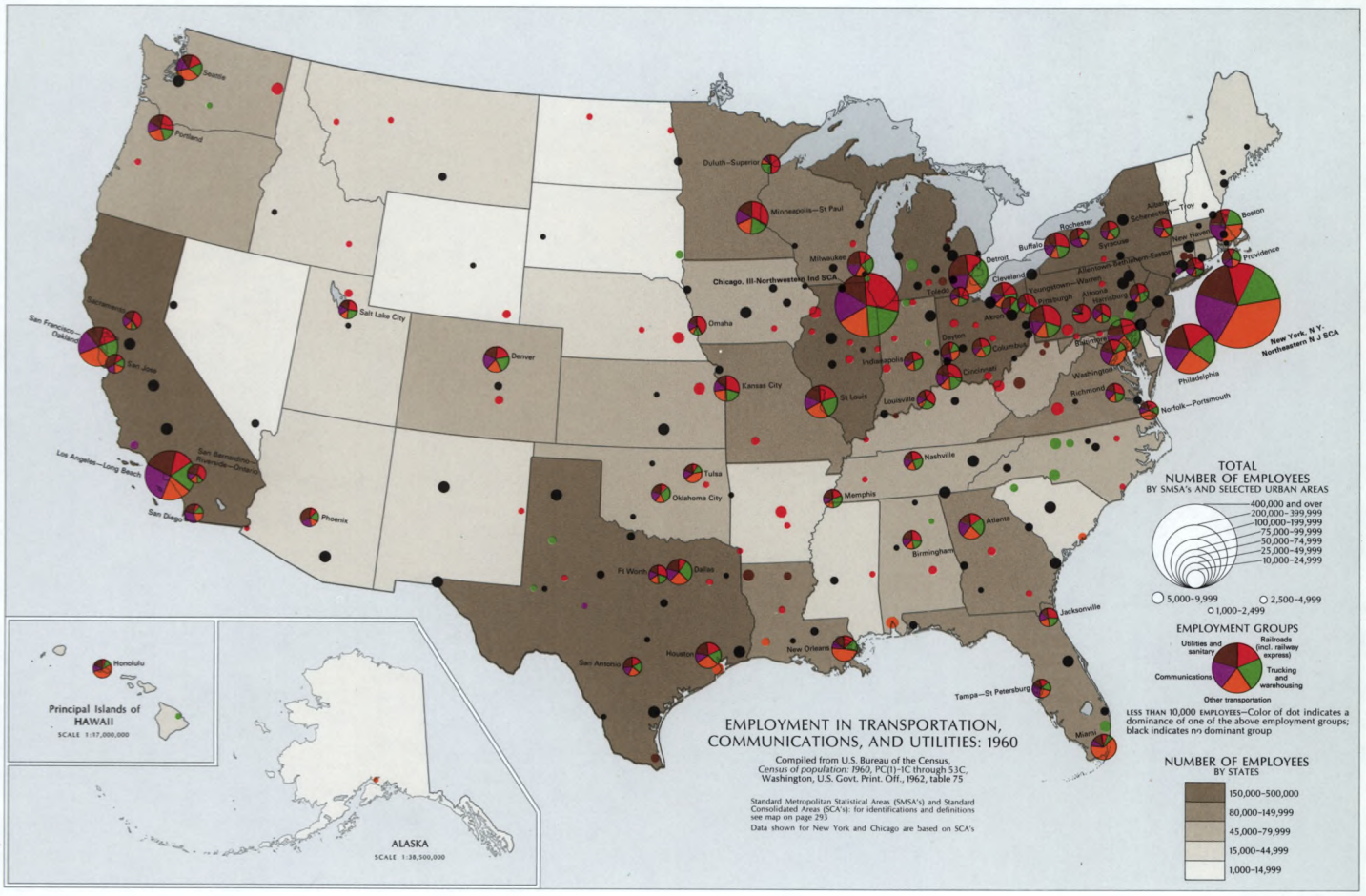
The Standard Industrial Classification (SIC) was developed for use in the classification of establishments by type of activity in which engaged and is intended to cover the entire field of economic activity. For further information see: U.S. Bureau of the Budget, *Standard Industrial Classification manual*, Washington, U.S. Govt. Print. Off., 1967



EMPLOYMENT IN SELECTED SERVICE INDUSTRIES: 1963

Compiled from U.S. Bureau of the Census, *County and city data book: 1962*, Washington, U.S. Govt. Print. Off., 1962, table 3, item 125; *County and city data book: 1967*, 1967, table 1 and 3, item 110

Selected services include the following Standard Industrial Classification (SIC) groups:
- 70 – Hotels, rooming houses, camps, etc.
- 72 – Personal services
- 73 – Miscellaneous business services
- 75 – Automobile repair services and garages
- 78 – Motion pictures
- 79 – Amusement and recreation services, except motion pictures

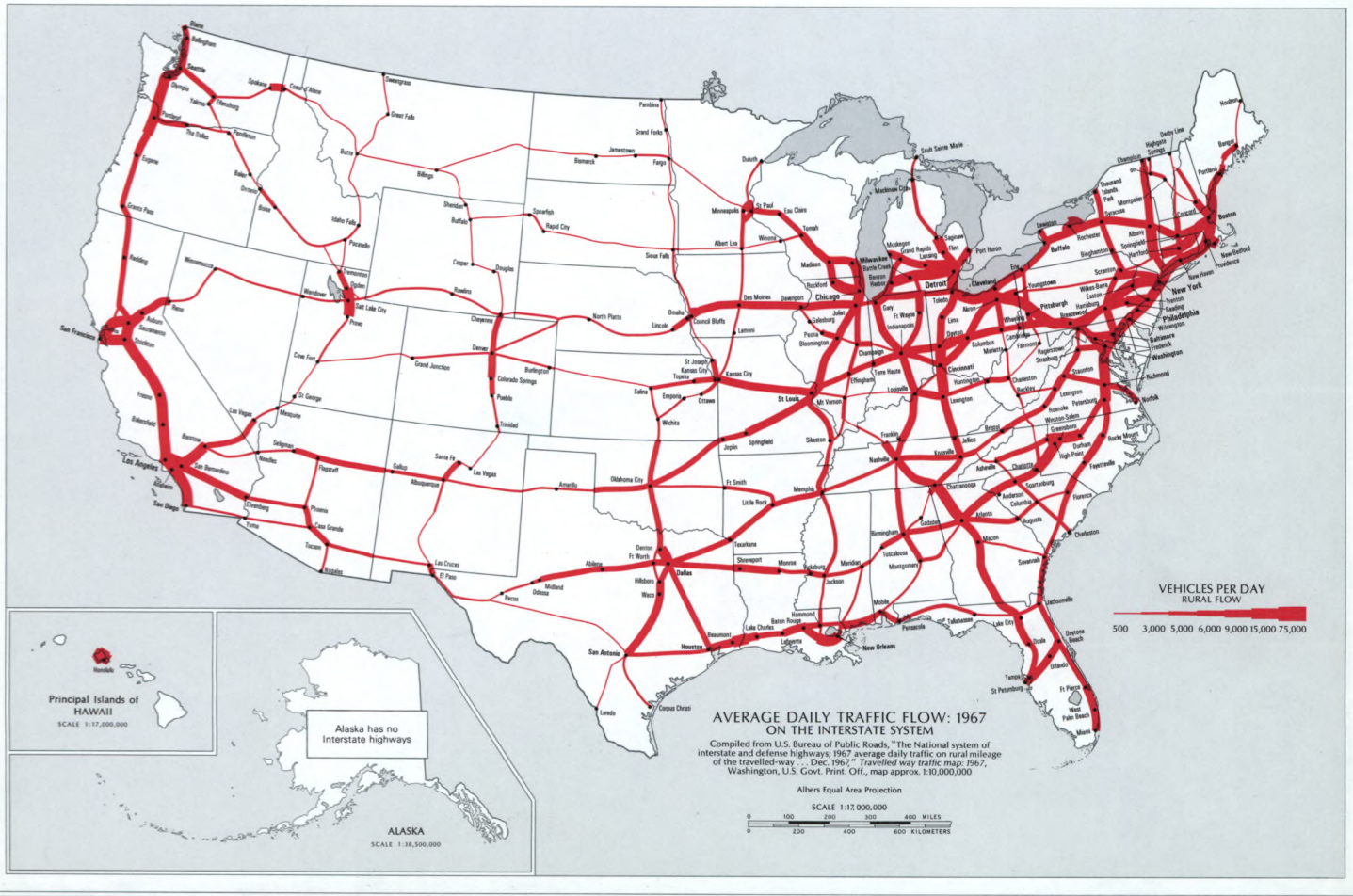


EMPLOYMENT IN TRANSPORTATION, COMMUNICATIONS, AND UTILITIES: 1960

Compiled from U.S. Bureau of the Census, *Census of population: 1960*, PC(1)-1C through 53C, Washington, U.S. Govt. Print. Off., 1962, table 75

Standard Metropolitan Statistical Areas (SMSA's) and Standard Consolidated Areas (SCA's): for identifications and definitions see map on page 293

Data shown for New York and Chicago are based on SCA's



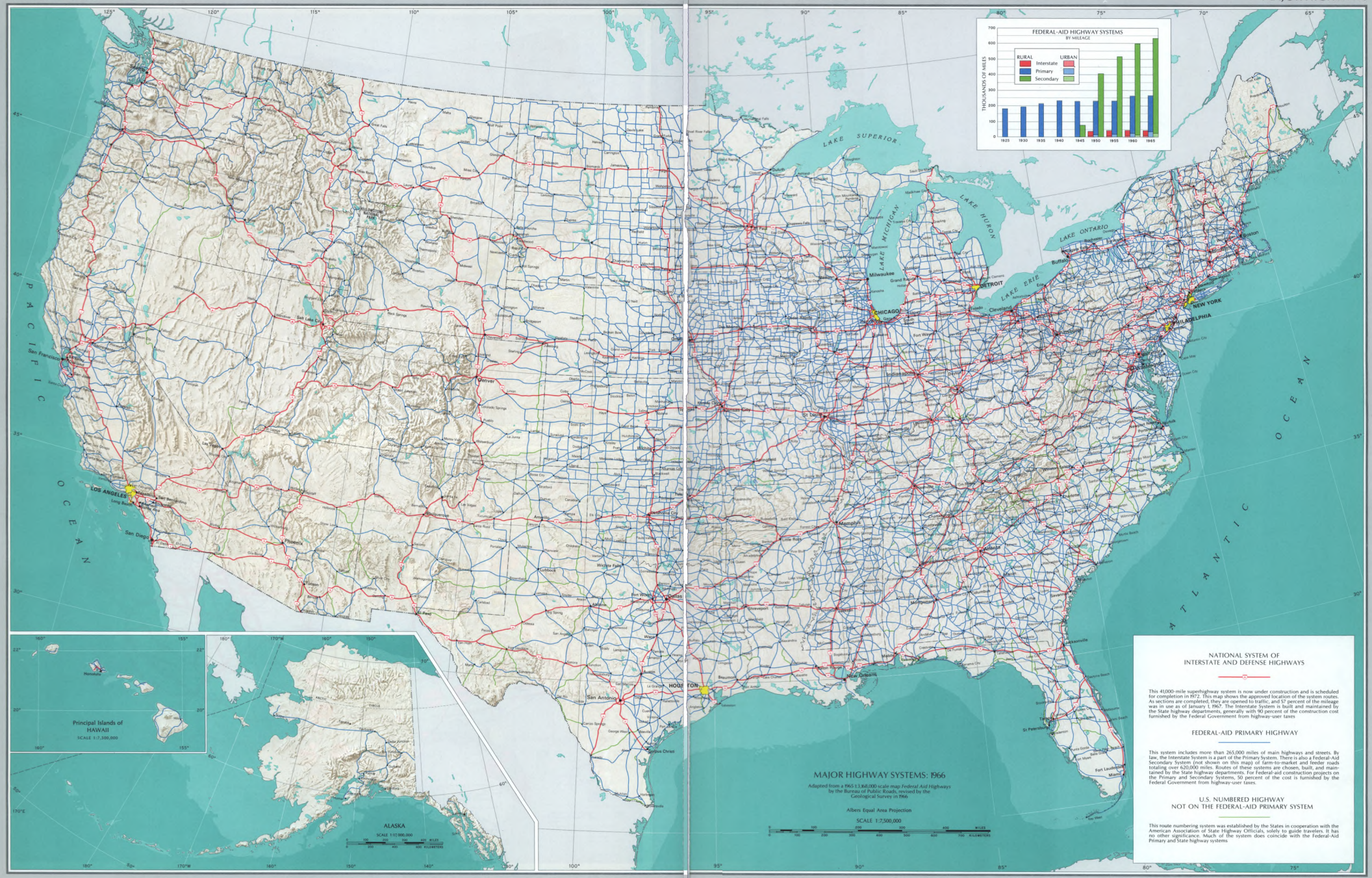
AVERAGE DAILY TRAFFIC FLOW: 1967 ON THE INTERSTATE SYSTEM

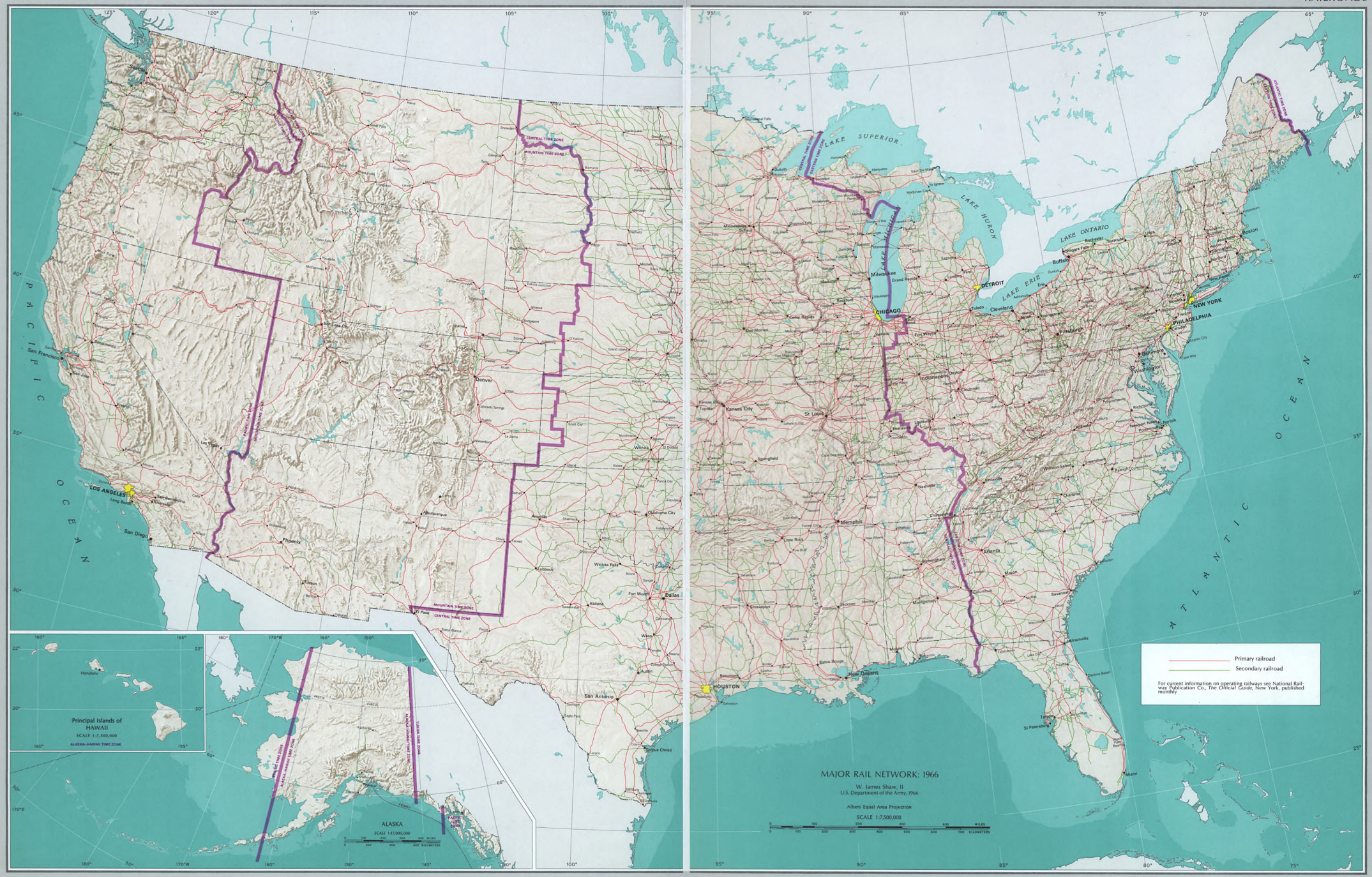
Compiled from U.S. Bureau of Public Roads, "The National system of interstate and defense highways; 1967 average daily traffic on rural mileage of the travelled-way . . . Dec. 1967." *Travelled way traffic map: 1967*, Washington, U.S. Govt. Print. Off., map approx. 1:10,000,000

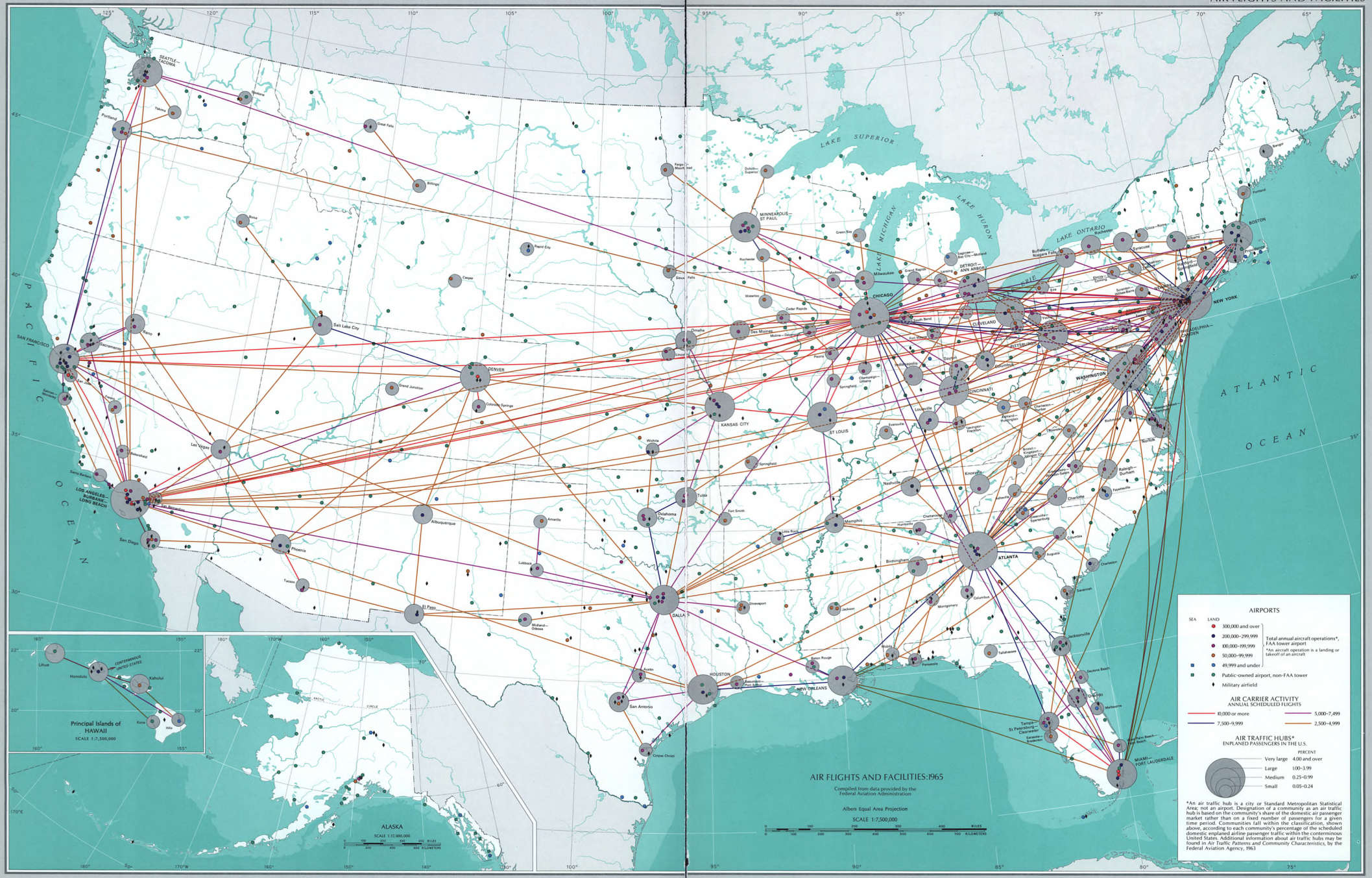
Albers Equal Area Projection

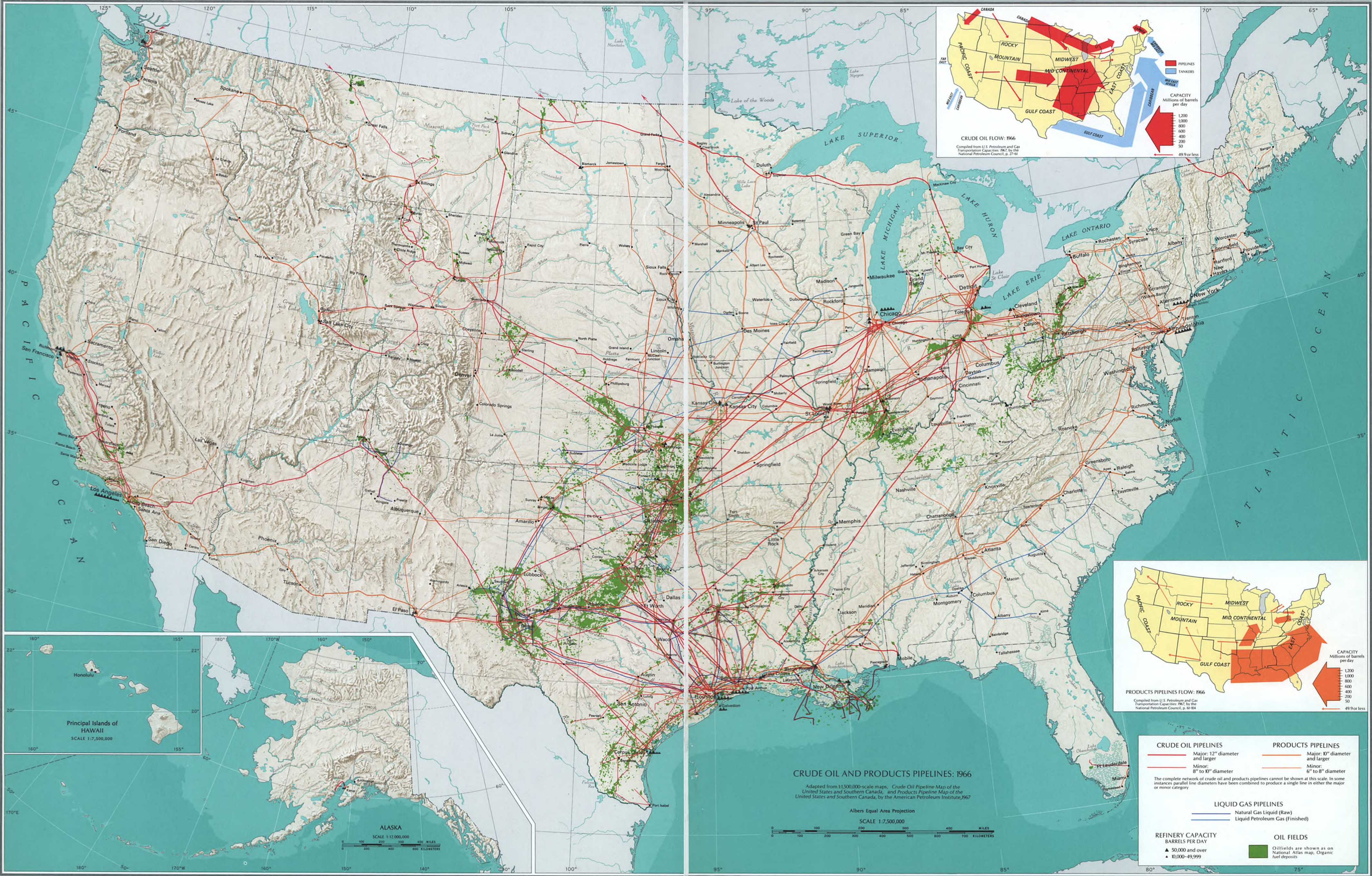
SCALE 1:17,000,000

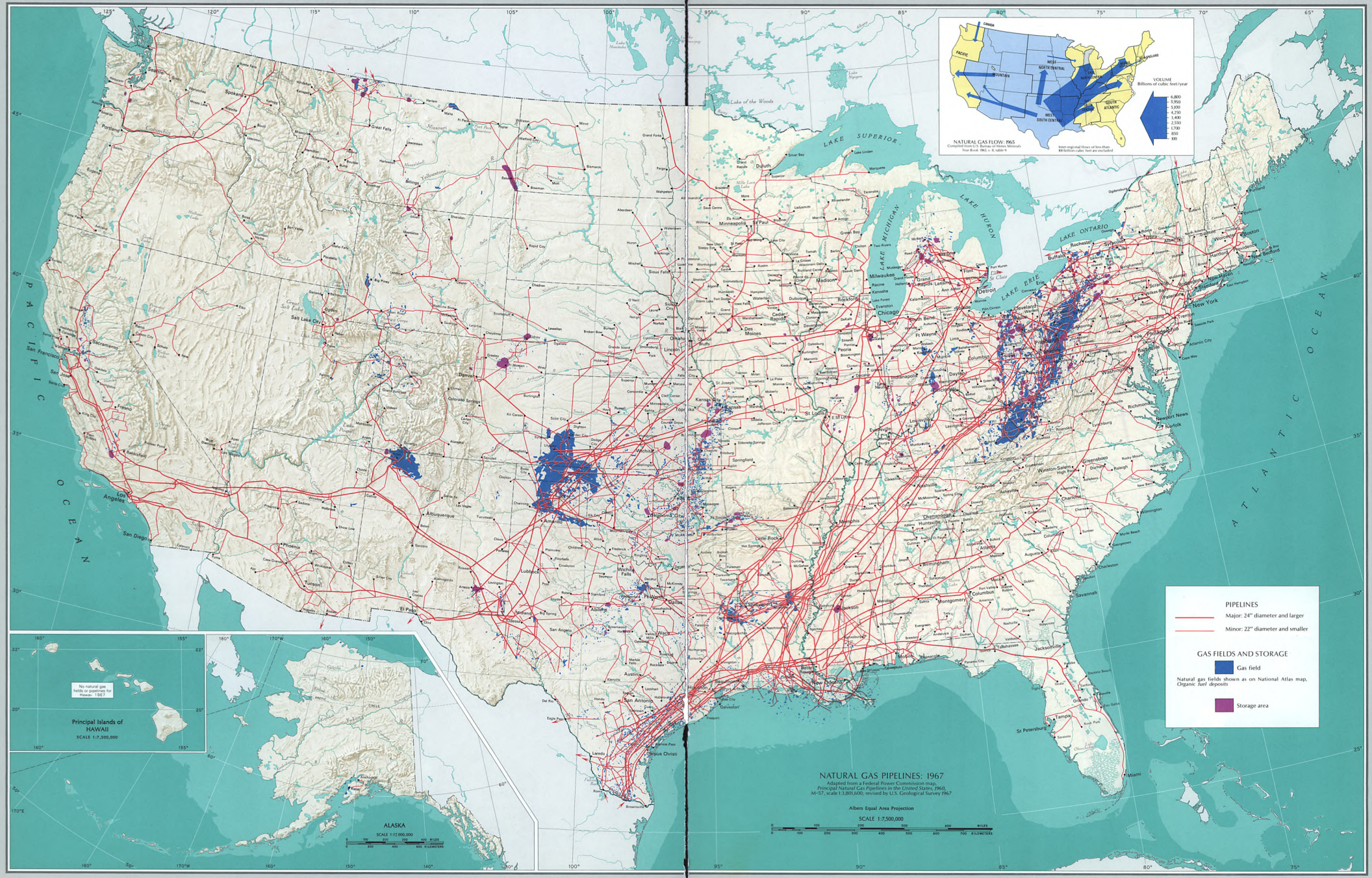
0 100 200 300 400 MILES
0 200 400 600 KILOMETERS

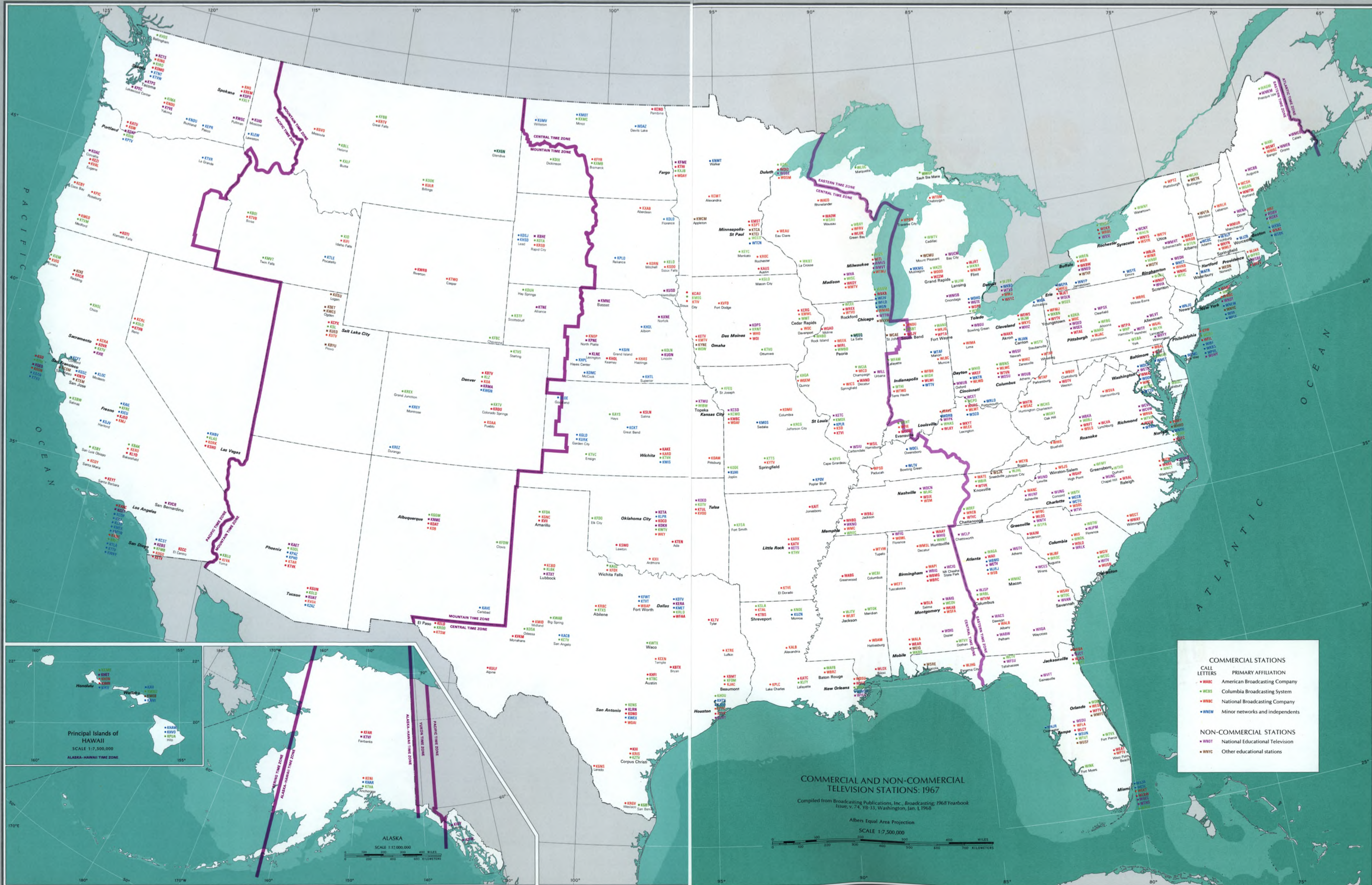

FEDERAL-AID HIGHWAY SYSTEMS
BY MILEAGE
THOUSANDS OF MILES
RURAL
URBAN
Interstate
Primary
Secondary
1925
1930
1935
1940
1945
1950
1955
1960
1965
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
PACIFIC OCEAN
ATLANTIC OCEAN
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:12,000,000
MAJOR HIGHWAY SYSTEMS: 1966
Adapted from a 1965 1:3,168,000 scale map Federal Aid Highways by the Bureau of Public Roads, revised by the Geological Survey in 1966
Albers Equal Area Projection
SCALE 1:7,500,000
NATIONAL SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS
This 41,000-mile superhighway system is now under construction and is scheduled for completion in 1972. This map shows the approved location of the system routes. As sections are completed, they are opened to traffic, and 57 percent of the mileage was in use as of January 1, 1967. The Interstate System is built and maintained by the State highway departments, generally with 90 percent of the construction cost furnished by the Federal Government from highway-user taxes
FEDERAL-AID PRIMARY HIGHWAY
This system includes more than 265,000 miles of main highways and streets. By law, the Interstate System is a part of the Primary System. There is also a Federal-Aid Secondary System (not shown on this map) of farm-to-market and feeder roads totaling over 620,000 miles. Routes of these systems are chosen, built, and maintained by the State highway departments. For Federal-aid construction projects on the Primary and Secondary Systems, 50 percent of the cost is furnished by the Federal Government from highway-user taxes.
U.S. NUMBERED HIGHWAY NOT ON THE FEDERAL-AID PRIMARY SYSTEM
This route numbering system was established by the States in cooperation with the American Association of State Highway Officials, solely to guide travelers. It has no other significance. Much of the system does coincide with the Federal-Aid Primary and State highway systems

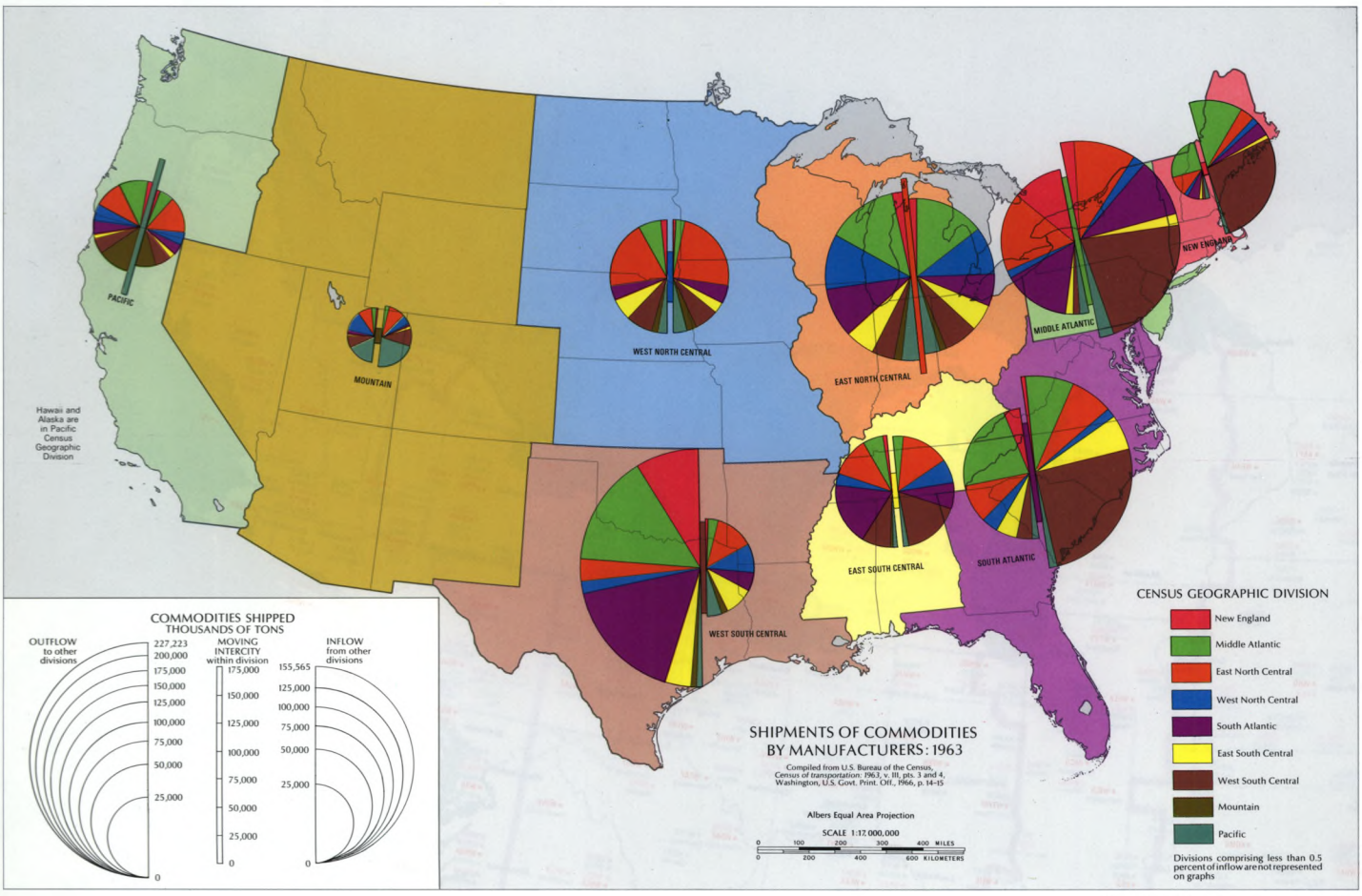

PACIFIC OCEAN
ATLANTIC OCEAN
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
CENTRAL TIME ZONE
MOUNTAIN TIME ZONE
PACIFIC TIME ZONE
ATLANTIC TIME ZONE
EASTERN TIME ZONE
ALASKA-HAWAII TIME ZONE
YUKON TIME ZONE
BERING TIME ZONE
NEWFOUNDLAND TIME ZONE
Seattle
San Francisco
LOS ANGELES
San Diego
Denver
Phoenix
Albuquerque
El Paso
Dallas
Houston
San Antonio
Chicago
DETROIT
Milwaukee
Cleveland
Buffalo
NEW YORK
PHILADELPHIA
Boston
Pittsburgh
Baltimore
Washington
Kansas City
St Louis
Memphis
Atlanta
New Orleans
Miami
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:17,000,000
Primary railroad
Secondary railroad
For current information on operating railways see National Railway Publication Co., The Official Guide, New York, published monthly
MAJOR RAIL NETWORK: 1966
W. James Shaw, II
U.S. Department of the Army, 1966
Albers Equal Area Projection
SCALE 1:7,500,000


AIRPORTS
SEA
LAND
300,000 and over
200,000–299,999
100,000–199,999
50,000–99,999
49,999 and under
Total annual aircraft operations*, FAA tower airport
*An aircraft operation is a landing or takeoff of an aircraft
Public-owned airport, non-FAA tower
Military airfield
AIR CARRIER ACTIVITY
ANNUAL SCHEDULED FLIGHTS
10,000 or more
7,500–9,999
5,000–7,499
2,500–4,999
AIR TRAFFIC HUBS*
ENPLANED PASSENGERS IN THE U.S.
PERCENT
Very large 4.00 and over
Large 1.00–3.99
Medium 0.25–0.99
Small 0.05–0.24
*An air traffic hub is a city or Standard Metropolitan Statistical Area; not an airport. Designation of a community as an air traffic hub is based on the community's share of the domestic air passenger market rather than on a fixed number of passengers for a given time period. Communities fall within the classification, shown above, according to each community's percentage of the scheduled domestic enplaned airline passenger traffic within the conterminous United States. Additional information about air traffic hubs may be found in Air Traffic Patterns and Community Characteristics, by the Federal Aviation Agency, 1963
AIR FLIGHTS AND FACILITIES:1965
Compiled from data provided by the Federal Aviation Administration
Albers Equal Area Projection
SCALE 1:7,500,000
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:17,000,000
PACIFIC OCEAN
ATLANTIC OCEAN
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
SEATTLE—TACOMA
SAN FRANCISCO
LOS ANGELES—RIVERSIDE—LONG BEACH
SAN DIEGO
PHOENIX
DENVER
SALT LAKE CITY
LAS VEGAS
ALBUQUERQUE
KANSAS CITY
MINNEAPOLIS—ST PAUL
CHICAGO
DETROIT—ANN ARBOR
CLEVELAND
PITTSBURGH
CINCINNATI
ST LOUIS
DALLAS
HOUSTON
SAN ANTONIO
NEW ORLEANS
ATLANTA
WASHINGTON
NEW YORK
PHILADELPHIA—CAMDEN
BOSTON
MIAMI—FORT LAUDERDALE
TAMPA—ST PETERSBURG—CLEARWATER


CRUDE OIL AND PRODUCTS PIPELINES: 1966
Adapted from 1:1,500,000-scale maps, Crude Oil Pipeline Map of the United States and Southern Canada, and Products Pipeline Map of the United States and Southern Canada, by the American Petroleum Institute, 1967
Albers Equal Area Projection
SCALE 1:7,500,000
MILES
KILOMETERS
CRUDE OIL FLOW: 1966
Compiled from U.S. Petroleum and Gas Transportation Capacities: 1967, by the National Petroleum Council, p. 27-61
CANADA
ROCKY MOUNTAIN
PACIFIC COAST
MIDWEST
MID CONTINENTAL
EAST COAST
GULF COAST
FAR EAST
MID EAST
CARIBBEAN
MID EAST AFRICA
PIPELINES
TANKERS
CAPACITY
Millions of barrels per day
1,200
1,000
800
600
400
200
50
49.9 or less
PRODUCTS PIPELINES FLOW: 1966
Compiled from U.S. Petroleum and Gas Transportation Capacities: 1967, by the National Petroleum Council, p. 61-104
CRUDE OIL PIPELINES
Major: 12" diameter and larger
Minor: 8" to 10" diameter
PRODUCTS PIPELINES
Major: 10" diameter and larger
Minor: 6" to 8" diameter
The complete network of crude oil and products pipelines cannot be shown at this scale. In some instances parallel line diameters have been combined to produce a single line in either the major or minor category
LIQUID GAS PIPELINES
Natural Gas Liquid (Raw)
Liquid Petroleum Gas (Finished)
REFINERY CAPACITY
BARRELS PER DAY
50,000 and over
10,000–49,999
OIL FIELDS
Oilfields are shown as on National Atlas map, Organic fuel deposits
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA
SCALE 1:12,000,000
PACIFIC OCEAN
ATLANTIC OCEAN
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO


NATURAL GAS FLOW: 1965
Compiled from U.S. Bureau of Mines Minerals Year Book 1965, v. II, table 9
Inter-regional flows of less than 85 billion cubic feet are excluded
VOLUME
Billions of cubic feet/year
6,800
5,950
5,100
4,250
3,400
2,550
1,700
850
100
CANADA
PACIFIC
MOUNTAIN
WEST NORTH CENTRAL
EAST NORTH CENTRAL
NEW ENGLAND
MIDDLE ATLANTIC
SOUTH ATLANTIC
WEST SOUTH CENTRAL
EAST SOUTH CENTRAL
PACIFIC OCEAN
ATLANTIC OCEAN
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
Principal Islands of HAWAII
SCALE 1:7,500,000
No natural gas fields or pipelines for Hawaii 1967
ALASKA
SCALE 1:12,000,000
PIPELINES
Major: 24" diameter and larger
Minor: 22" diameter and smaller
GAS FIELDS AND STORAGE
Gas field
Natural gas fields shown as on National Atlas map, Organic fuel deposits
Storage area
NATURAL GAS PIPELINES: 1967
Adapted from a Federal Power Commission map, Principal Natural Gas Pipelines in the United States, 1960, M-57, scale 1:3,801,600; revised by U.S. Geological Survey 1967
Albers Equal Area Projection
SCALE 1:7,500,000


COMMERCIAL AND NON-COMMERCIAL
TELEVISION STATIONS: 1967
Compiled from Broadcasting Publications, Inc., Broadcasting; 1968 Yearbook Issue, v. 74, YB-33, Washington, Jan. 1, 1968
Albers Equal Area Projection
SCALE 1:7,500,000
COMMERCIAL STATIONS
CALL LETTERS
PRIMARY AFFILIATION
WABC American Broadcasting Company
WCBS Columbia Broadcasting System
WNBC National Broadcasting Company
WNEW Minor networks and independents
NON-COMMERCIAL STATIONS
WNDT National Educational Television
WNYC Other educational stations
PACIFIC OCEAN
ATLANTIC OCEAN
PACIFIC TIME ZONE
MOUNTAIN TIME ZONE
CENTRAL TIME ZONE
EASTERN TIME ZONE
ATLANTIC TIME ZONE
Principal Islands of HAWAII
SCALE 1:7,500,000
ALASKA-HAWAII TIME ZONE
ALASKA
SCALE 1:12,000,000
BERING TIME ZONE
YUKON TIME ZONE



ALASKA AND HAWAII OUTFLOW is not shown (no data are available). Inflow data to those States are included in Pacific Census Geographic Division