

# *Atlas of* **Florida**

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# 17. OUR EARLY FLORIDIANS

Sources: Various publications of the Florida State Museum in Gainesville and writings of J. M. Goggin.

Thousands of remains indicate that Florida was well inhabited long before the arrival of Ponce de León. These early settlers seem to have arrived at least 10,000 years ago, mostly from the north. A few came by boat from Cuba and the Bahamas. Shell heaps, earthworks, and burial mounds are very widespread. When they are found, they should be brought to the attention of an archaeologist.

The three lower maps show culture groupings according to the chart in the lower right. It is at best tentative; new finds may alter the interpretation of artifacts. The large map shows tribal names used by the Spanish. The location of missions is approximate.



COASTAL MISSION

TEMPLES and BURIAL MOUND  
(Idealized, Fla. St. Museum)



BURIAL MOUND  
(St. Johns R.)



BIG CIRCLE MOUND



**2000 B.C.**  
**PALEO INDIANS**  
Nomadic hunting, fishing, and gathering  
Chipped flint tools  
No fluted in middle  
No pottery (pre-ceramic)  
Shell middens (deposits of refuse)

Suwannee point

**500 B.C.**  
Low temple mounds  
Burial mounds  
Classic Weeden I.  
period of pottery  
Agriculture  
Tobacco pipes  
Funeral offerings  
Circle mounds

**1000 A.D.**  
Large temples  
Burial mounds  
Artistic wood carvings  
Copper objects  
"Southern cult" objects

**1600**  
Christian missions  
Iron tools  
Horses, cattle, pigs  
Cotton cloth  
Firearms  
New foods  
Alcohol  
Smallpox, measles  
Tuberculosis  
Decline of old tribes

**1800**  
Seminole  
Invasion  
Clash with  
settlers  
WARS  
Resettlement  
in  
reservations



- ▲ Cave
- ▲ Mounds (only explored ones)
- Villages
- ▲ Missions (names are abbreviated)
- ▲ Indian museums
- S.P. State park
- S.M. State monument



Our knowledge of Indian history is derived from findings, excavations, letters and reports by early settlers. Since the Florida Indians had no written language, our knowledge is somewhat nebulous. When the Spanish arrived, they found the northern Indians more civilized than those to the south. Most contact was made with the Timucua people and with the Apalachee. The Ai and the Calusa farther south resented Spanish advances. Thus the mission effort was concentrated northward along the coast from St. Augustine and westward to the Apalachicola River. Most missions were built in the seventeenth century. In the early 1700's attacks from the north by the English and by Creek Indians dispersed these Spanish missions, and many Florida Indians were killed or enslaved. By 1800 Florida was nearly empty. Only a few scattered tribes remained after the ravages of war and disease.

TIME CHART OF CULTURAL PERIODS after J. M. Goggin

	2000	800	B.C. + A.D.	500	1100	1400	1600	1800	
	Orange	Deptford	Sta. Rosa Swift Cr.	Weeden I. I	Weeden I. II	Ft. Walton	Leon-Jefferson		Seminole
Pre-Glades		Glades I	Perico I.	Glades II	Glades III	Safety Harbor			
Mt. Taylor		Malabar I	St. Johns I	Malabar II	St. Johns II	St. Aug.			
Suwannee points	Orange			Cade's Pond		Alachua	Potano		

# 25. FIELD CROPS and FARMS

The early settlers raised cotton, corn, hogs, sugar cane, tobacco, and indigo. Today the major field crops are tobacco, corn, and peanuts in the north and sugar cane in the south.

## TOBACCO

Because of national allotment control, tobacco acreage is smaller than it could be. It is confined almost entirely to north-central Florida. Shade tobacco, grown under cloth in the Quincy area, is used for cigar wrappers. Flue-cured tobacco is raised on 14,000 acres (three times the shade-tobacco acreage) and is used for cigarettes.

## CORN

Hybridization, rotation, and use of fertilizers have doubled yields. Most of the corn is used for feeding livestock. Corn has the largest acreage in Florida, larger than all citrus.

## SUGAR CANE

Florida could increase the production of sugar cane substantially if such increase were in the national interest. In 1960 about 50,000 acres were planted. Almost all commercial production is located on the northern edge of the Everglades. As a result of the closing of imports from Cuba, production in Florida is increasing.

## COTTON

The diagram shows the decline of cotton due to the boll weevil. Pest control and the planting of sea-island cotton brought about a revival.

## PEANUTS

As in some other parts of the South, peanuts have replaced cotton. Peanuts are often interplanted with corn or cotton. About half of the crop is picked and threshed for nuts; the rest is used for hay, grazing, or plowing under. Acreage is controlled by national quota.

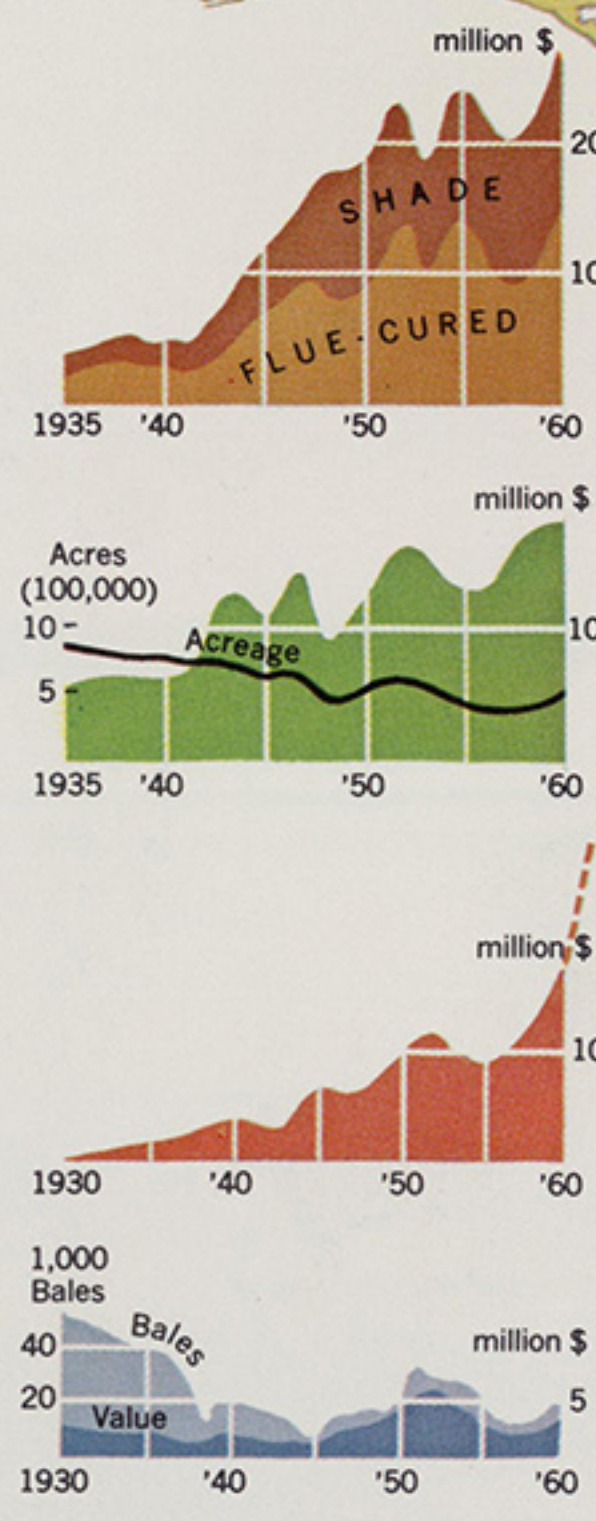
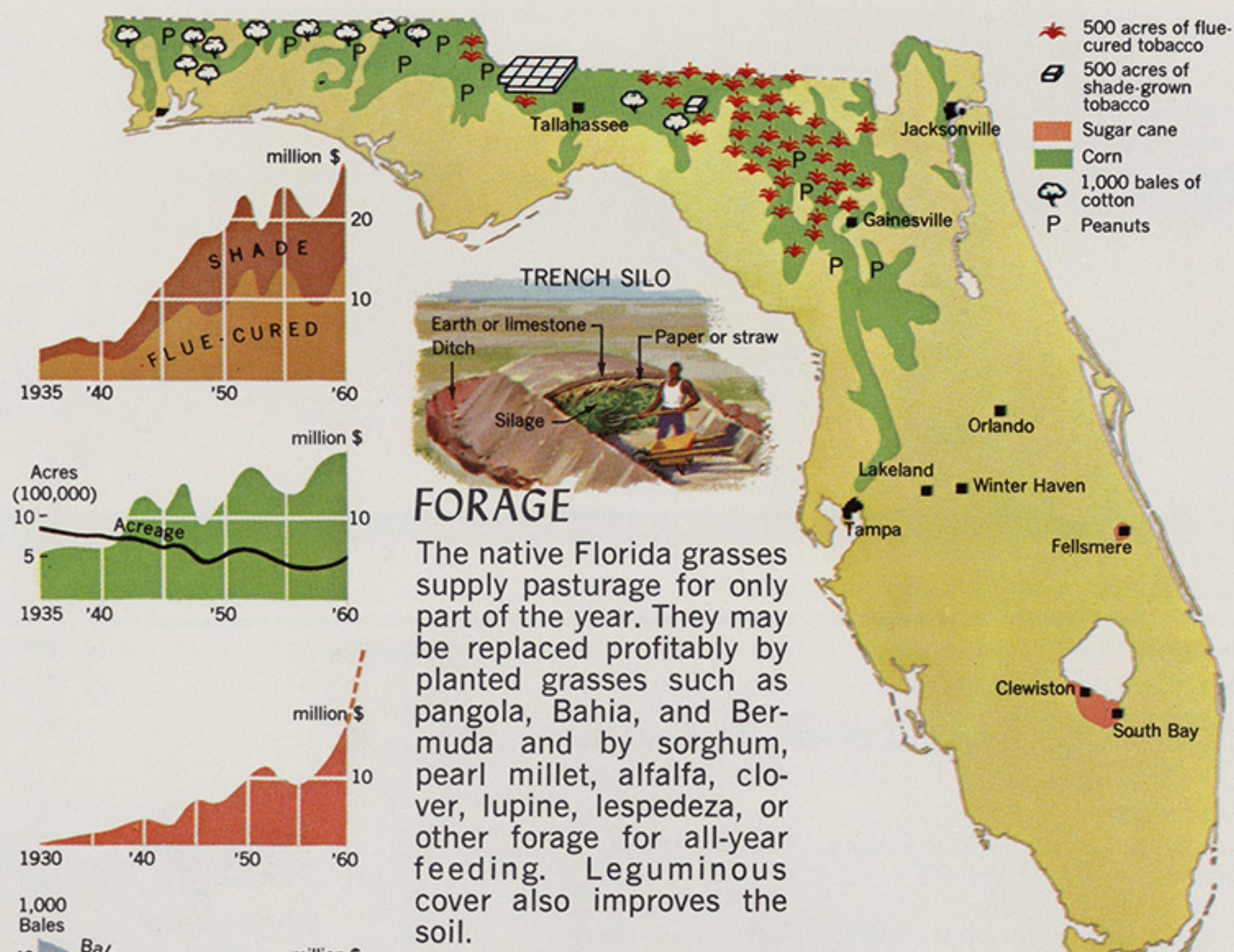
## SOYBEANS

Much old cotton land has been converted to soybeans, a valuable oil and feed crop. Soybeans are grown mainly in the northwestern panhandle.

## OTHERS

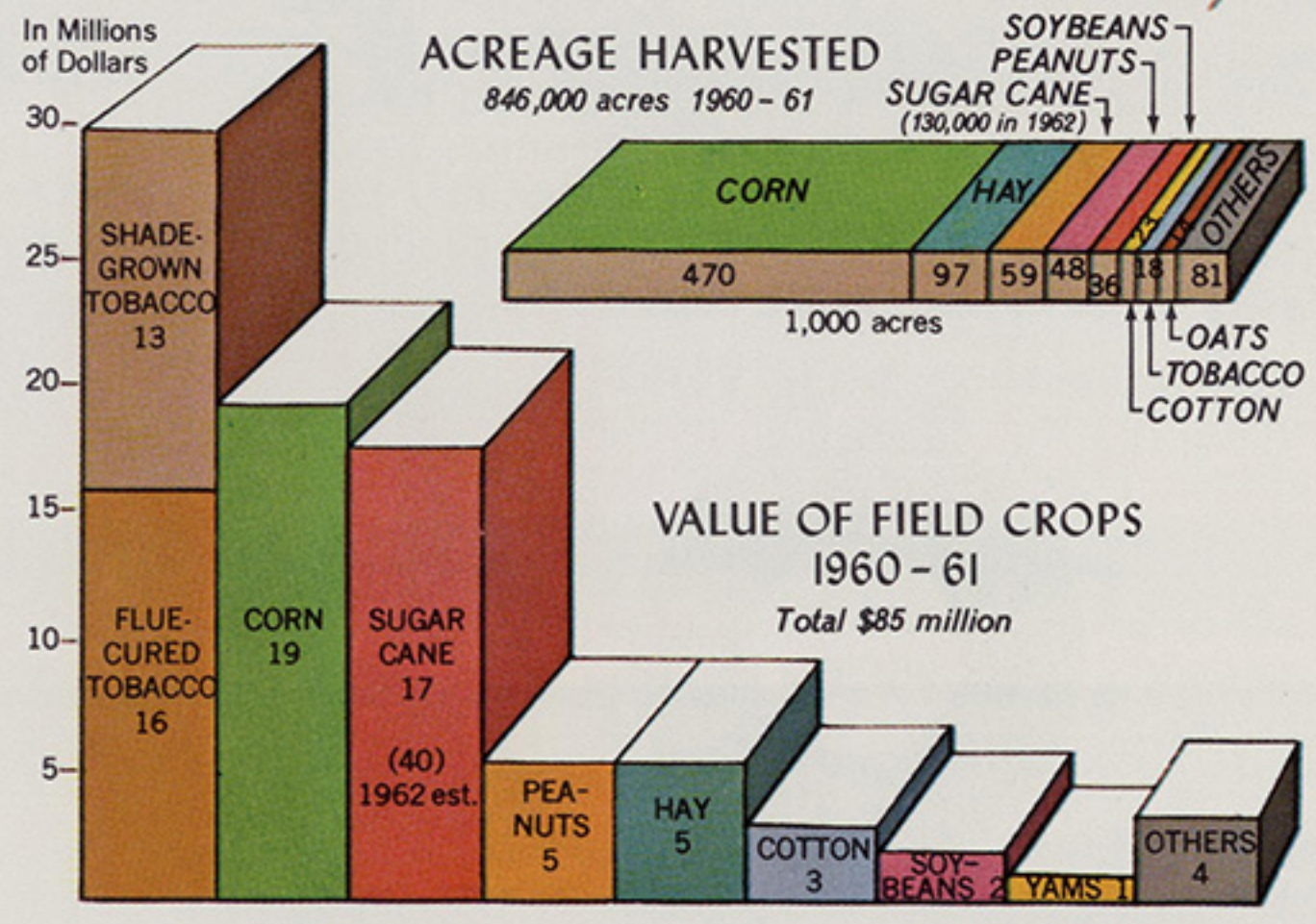
Other field crops of some importance are sweet potatoes, oats, rye, and wheat. The grains are often used for feed.

Sources: As on preceding pages pertaining to agriculture.



## FORAGE

The native Florida grasses supply pasturage for only part of the year. They may be replaced profitably by planted grasses such as pangola, Bahia, and Bermuda and by sorghum, pearl millet, alfalfa, clover, lupine, lespedeza, or other forage for all-year feeding. Leguminous cover also improves the soil.



## FARMS and FARMERS

Florida farms engage the direct services of well over 100,000 people. Tenant farmers are few. Hiring of labor is mostly seasonal—rising to about 70,000 in January. Laborers come from the Bahamas and the West Indies as well as from other states (see p. 43). Over half of all farms are commercial, divided into six classes according to the value of products sold. The land and buildings on Florida farms are valued at about \$3.5 billion, half of which value is in Class I farms (the farms having the highest value of production).

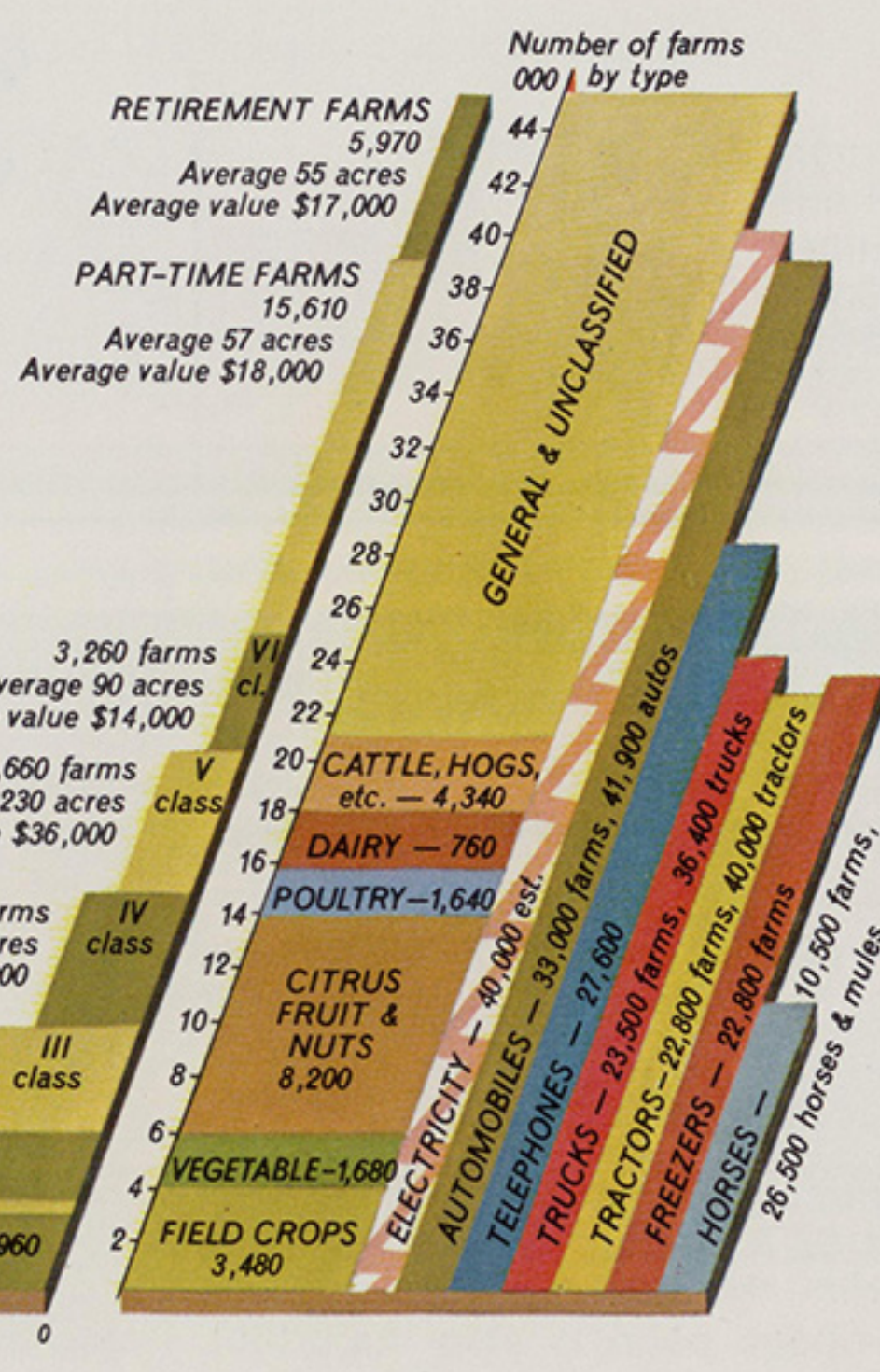
Florida farmers receive a great amount of help from state and federal agencies. Most of these agencies are listed here, together with the headquarters location:

- Florida Department of Agriculture, Tallahassee
- Marketing Bureau, Jacksonville
- State Farmers' Markets and Division of Citrus and Vegetable Inspection, Winter Haven
- Florida Forest Service, Tallahassee
- Agricultural Experiment Station; Agricultural Extension Service; and College of Agriculture, University of Florida, Gainesville
- U. S. Department of Agriculture
  - Agricultural Marketing Service and Statistical Reporting Service, Orlando
  - Agricultural Research Service, Agricultural Stabilization and Conservation Service, Farmers Home Administration, and Soil Conservation Service, Gainesville
  - Forest Service, Tallahassee

**FLORIDA**  
45,000 farms  
Average value \$63,000  
Average 338 acres  
Average value per acre \$224

**Institutional Farms:**  
100 farms \$332,000  
2,620 farms—Av. 750 acres  
Average value \$145,000

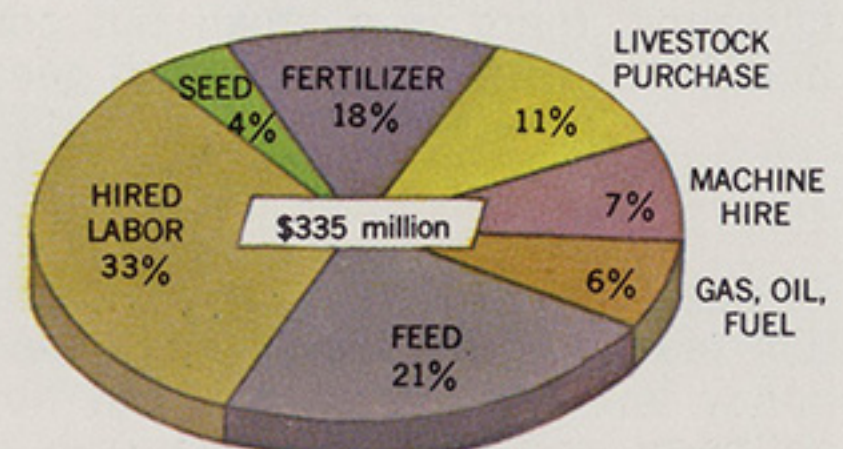
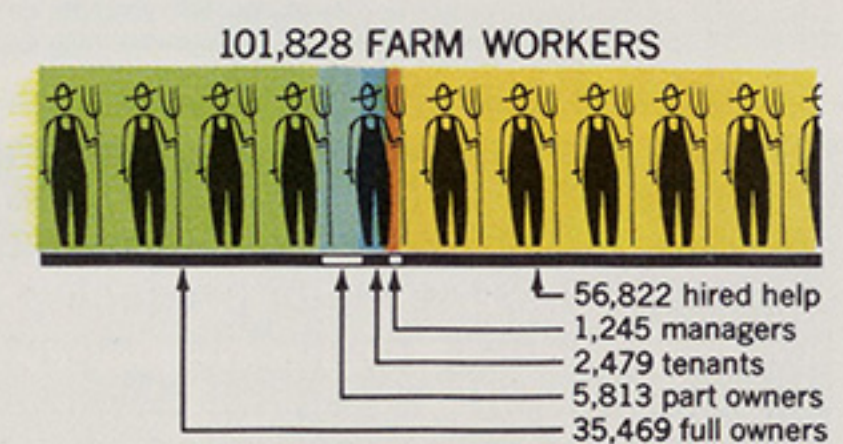
**I class farms** 2,980 farms Products sold over \$40,000 in 1960  
Average 2,300 acres Average value of land & bldgs. \$511,000



## FARM EXPENDITURES

Costs vary greatly from one crop to another. In general, labor costs are great where hand harvesting is necessary, as with citrus, truck, and tobacco. Fertilizer costs are relatively high because Florida soils require regular additions of nutrients.

In 1961 about 15 per cent of the field crop acreage and 8 per cent of the vegetable acreage were left unharvested due to low prices or other reasons.



The land-form map of Florida is based on aerial photography. It brings out the innumerable lakes, sinkholes, and depressions typical of a limestone country which has emerged from the sea relatively recently. The map endeavors to show the general nature of the topography rather than to pinpoint every sink. Sinks develop on the surface even if the limestone is far underneath. The colors on the main map indicate the height of the land in a generalized way. The height in most places corresponds to terrace levels.

# 8.-9. LAND FORMS



Typical west Florida upland area on the Florida-Alabama boundary line, northwest of Laurel Hill in Okaloosa County. Note the terraced fields and the contour plowing on the slopes. The rivers are cut deep and their banks are forested. Most of the land is in crops or pasture.

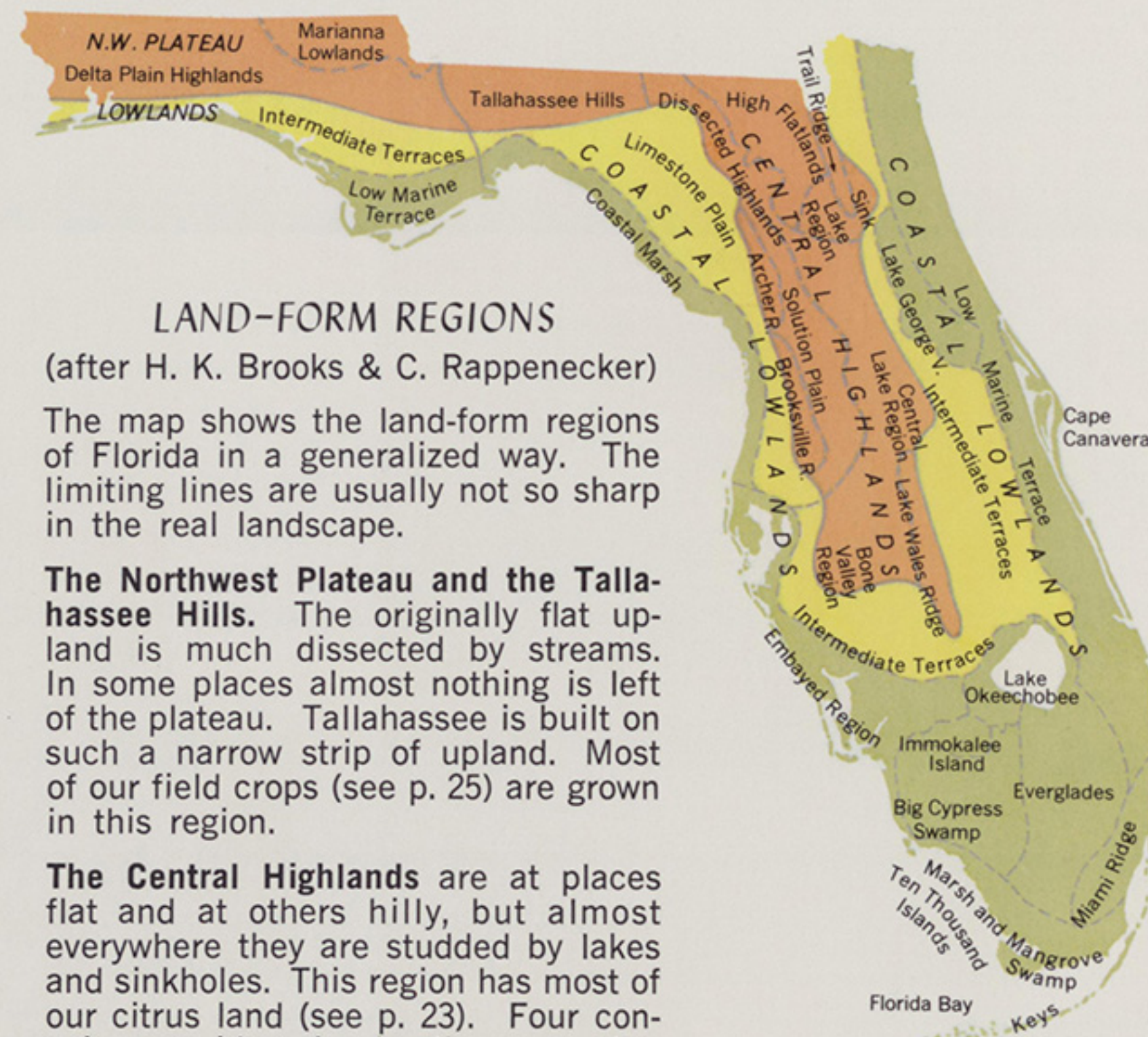


DeFuniak Springs in Walton County is built around a sinkhole in the west Florida upland. Rivers commonly have their sources in such sinks. Note the large lumber mill on the left side of the picture.



The delta at the mouth of the Suwannee River. This river builds its delta in quiet waters, which enables it to cut long channels. Note the sand bars on each side of the delta and the meandering tidal channels on the right.

- 5<sup>kn</sup> The number indicates the relative relief (height of hills above the nearby valleys) in tens of feet. The letters to the upper right of the number designate the type of land. 5<sup>kn</sup> means 50-foot-high knobby land.
  - s Sinks or depressions
  - d Sand dunes, often grown over by plants
  - m Mature land, almost all the land in slope
  - r Rolling land with gentle slopes
  - u Upland, flat or rolling
  - i Upland with incised rivers
  - kn Knobs, knolls, rounded single hills
  - k Karst, irregular limestone country with sinks and stony hills
  - F Flat land, often swampy with occasional rock outcrops
- Swamp      Meandering river  
 Mangrove      Spring



**LAND-FORM REGIONS**  
(after H. K. Brooks & C. Rappenecker)  
The map shows the land-form regions of Florida in a generalized way. The limiting lines are usually not so sharp in the real landscape.

**The Northwest Plateau and the Tallahassee Hills.** The originally flat upland is much dissected by streams. In some places almost nothing is left of the plateau. Tallahassee is built on such a narrow strip of upland. Most of our field crops (see p. 25) are grown in this region.

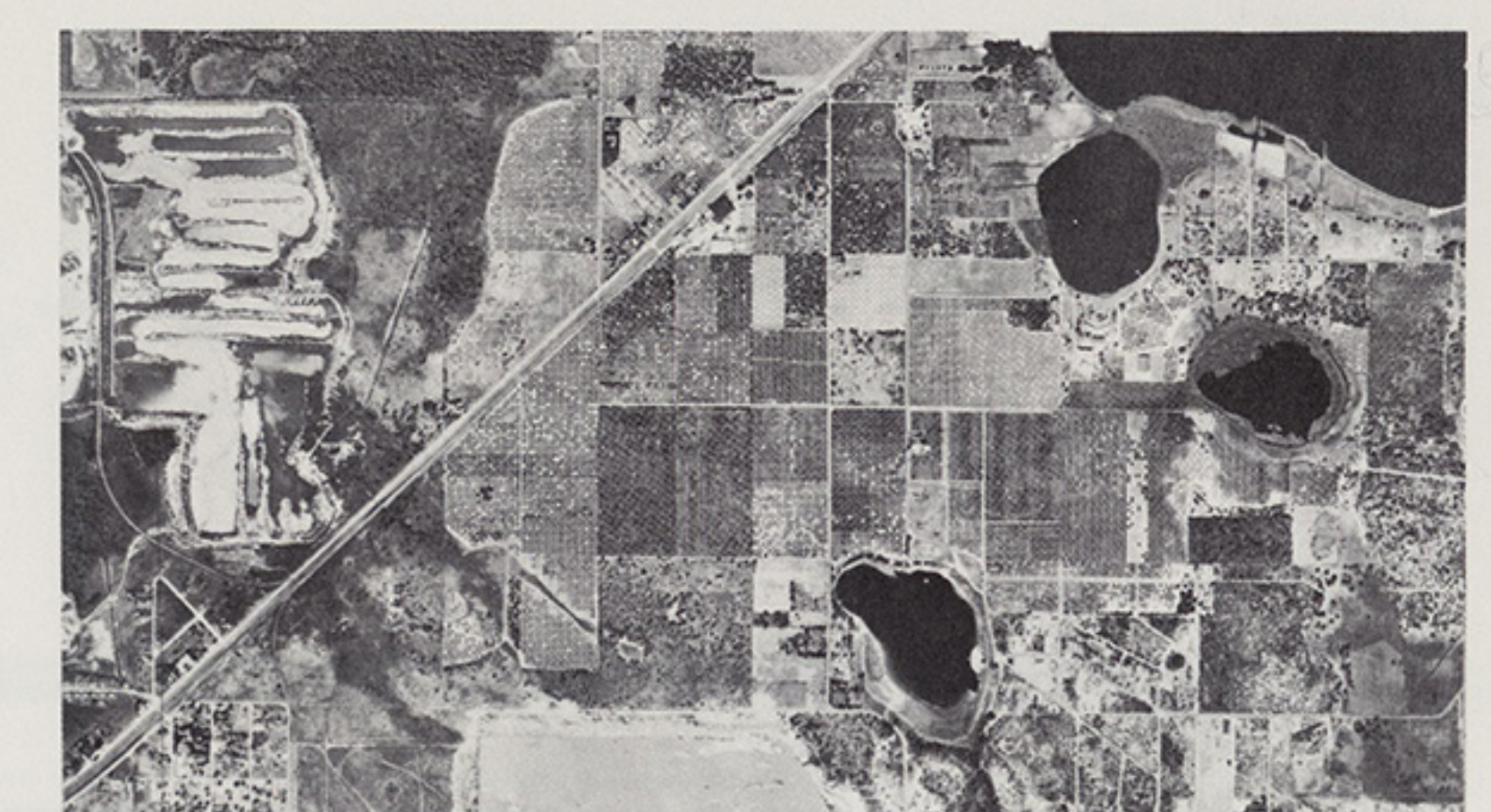
**The Central Highlands** are at places flat and at others hilly, but almost everywhere they are studded by lakes and sinkholes. This region has most of our citrus land (see p. 23). Four conspicuous ridges border the area: the Archer, the Brooksville, the Trail, and the Lake Wales. They are thought to be ancient beach ridges.

**The Coastal Lowlands** are generally quite flat and covered with flatwoods. At the intermediate level, shown in yellow, we find some hills, knobs, and cut banks. The lower area shown in green is mostly swampy hammock land. Offshore beaches rim the land in the northwest and from Tarpon Springs to Naples. No bars developed elsewhere in spite of the very shallow mangrove-rimmed coast.

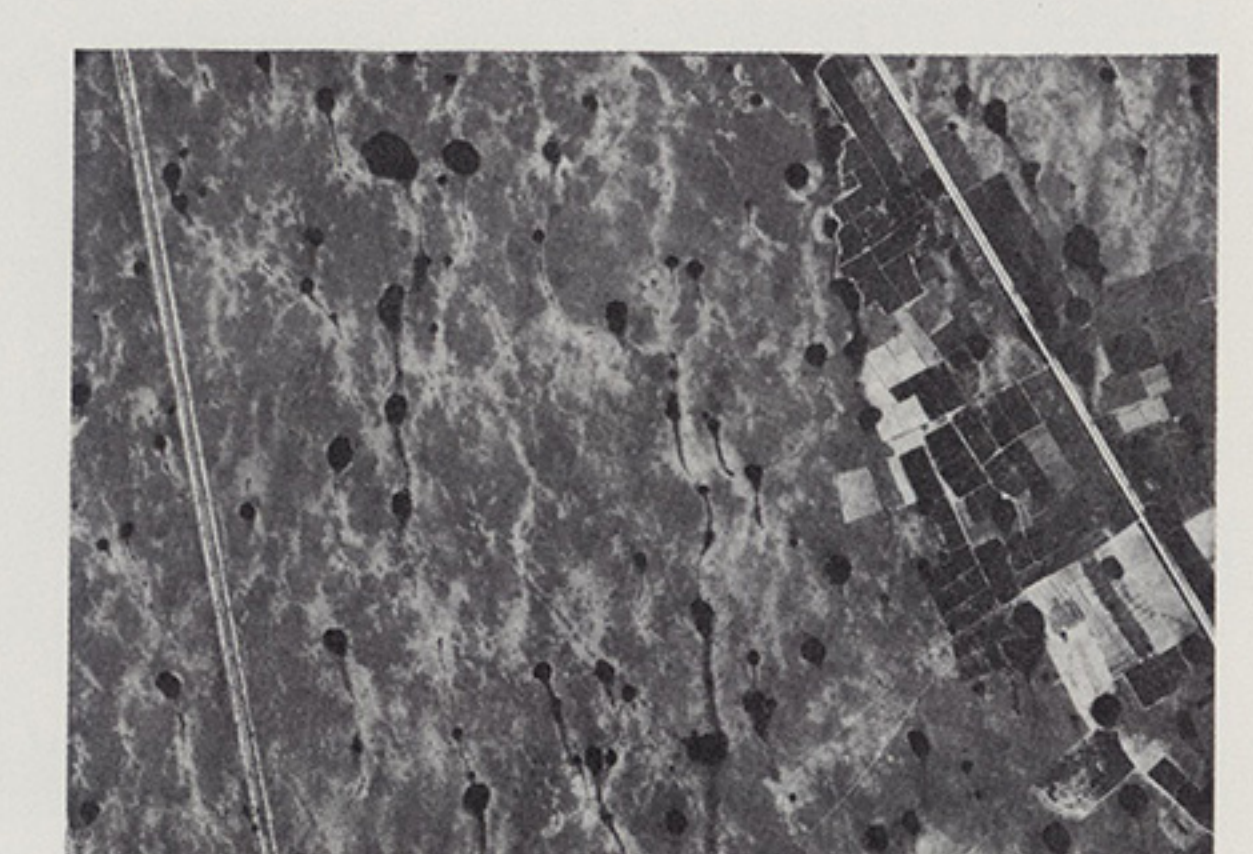
**The Southern Lowlands** are of the Everglades type, a swamp-sink flat with low subparallel swales. The east coast is rimmed by offshore bars for its whole length. Former beach ridges paralleling the coast are quite common for many miles inland.



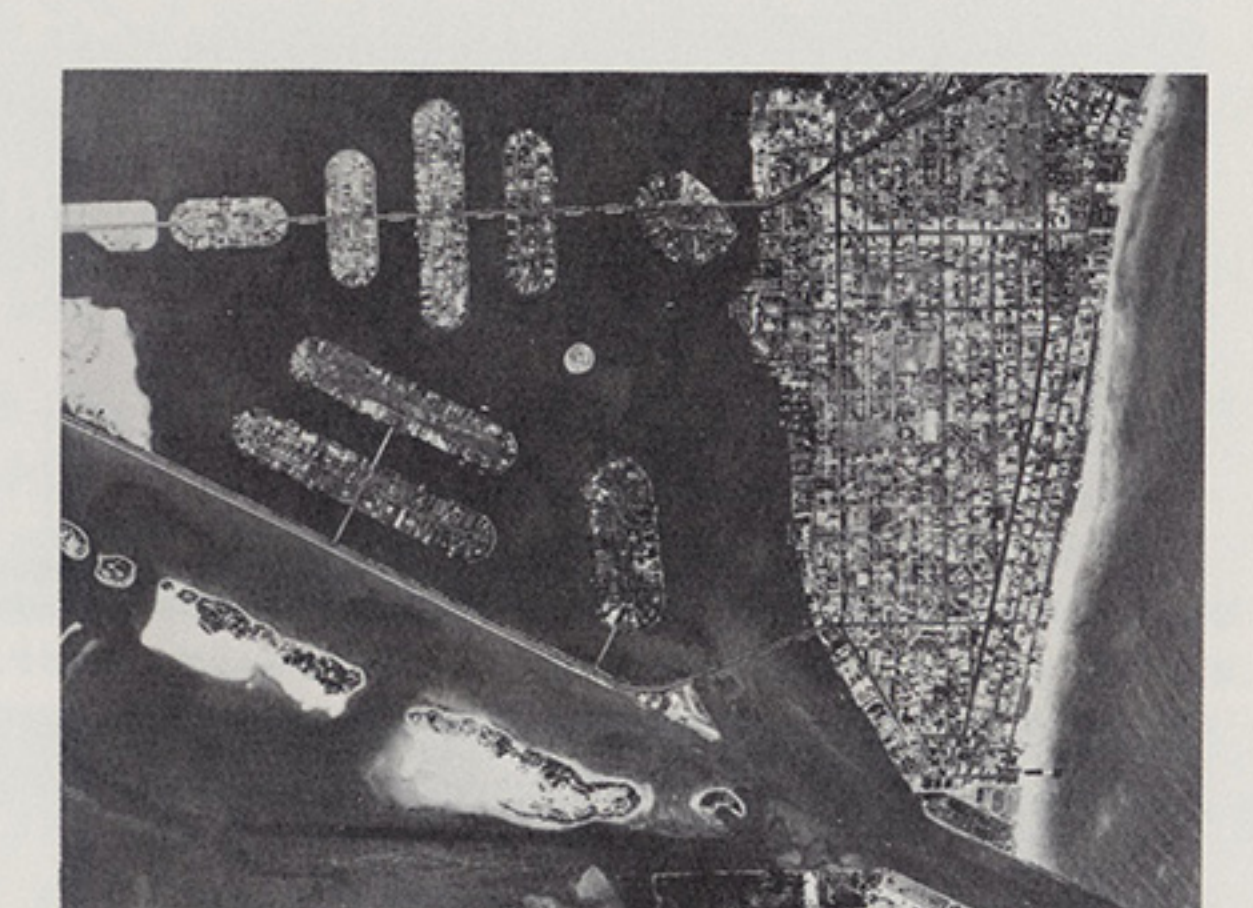
Sources: Air photographs, publications of the Florida Geological Survey, and topographic maps of the U. S. Geological Survey, chiefly on 1:250,000 scale.



Central Highlands near Lakeland. Relatively flat upland with sinkholes, most of them filled with lakes, some dry. Note the citrus groves, and the diggings for phosphite on the left, partially flooded.



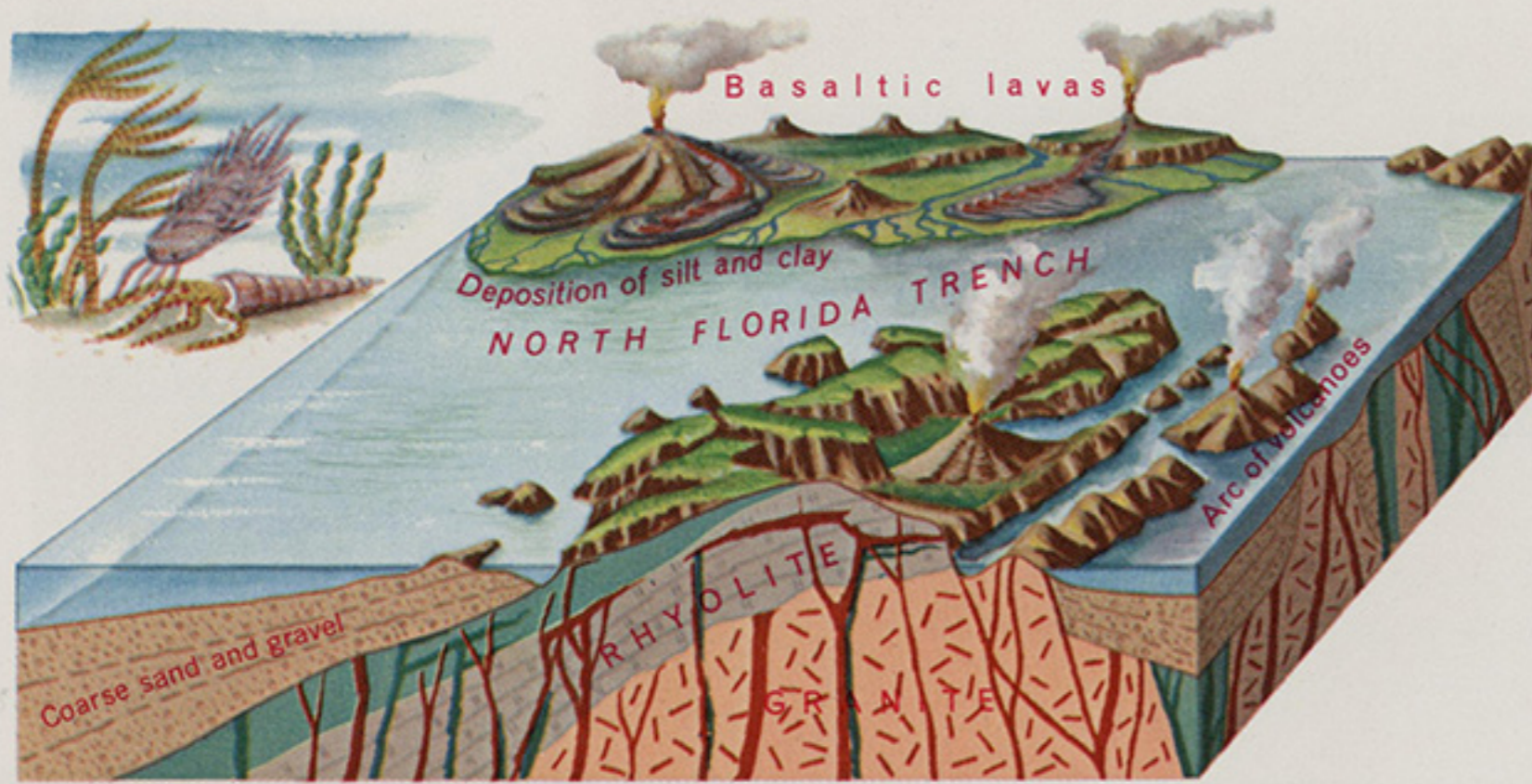
Part of the Everglades. The parallel swales mark ancient beaches, which were used also as overflow channels of Lake Okeechobee. Note the canal and fields of winter vegetables and the drained muckland. Most of the land is covered with tall marsh grass interrupted by clumps of trees.



Miami Beach. This is a man-made land form. Note the ship canal at the bottom of the picture leading to Government Cut with its jetties at the lower right. The sand from dredging was used to build the MacArthur Causeway and the new islands at left. The small circular island is the Flagler Monument.

# 6. FLORIDA EMERGES

The present rock structure and surface pattern of Florida are the result of processes which began over a billion years ago. Although Florida is a part of the American coastal plain, its earliest history indicates links with the Caribbean islands. This is still reflected in the arcuate shape and direction of the peninsula. The geological story is complex and the following sequence is very much simplified.



## 1. THE ANCIENT MOUNTAINS (Paleozoic)

Hundreds of millions of years ago, where southern Florida is now, there was an arc of volcanic mountains. Then erosion and deposition buried these ancient rocks. In Highlands County they are now 13,000 feet below the surface. Farther north, drills have reached the basal rocks at about 3,000 feet. Along the northern border of Florida, borings indicate that a trench separated the old island arc from the mainland. (See N-S cross section opposite page.) Most of the basal rocks are igneous (originally molten) rocks such as granite, rhyolite, and tuff.



## 2. THE LIMESTONES (Mesozoic and Early Tertiary)

In millions of years the ancient mountains were worn down to a plain which later sank beneath the sea. Such erosion plains are called peneplains. On the shallow banks thus formed, sediments, mostly limestone, were deposited. Their weight caused further sinking. Over a period of about a hundred million years the rocks were covered by thousands of feet of sediments. However, this deposition was not uniform; for up-and-down movements of the shelf caused breaks in the geologic sequence, as indicated on the Geologic Column on the other side.



## 3. THE MARLS & PHOSPHATE (Late Tertiary)

The limestone layers were arched up and the peninsula rose above the waves. Rain, rivers, and waves eroded the arch to near sea level (peneplanation). Later, this nearly level plain submerged slightly and formed many marshes and lagoons. They were ideal for shellfish, fish, and manatees, and for the deposition of phosphate. Rivers from the north brought silt and clay which are interbedded with the organic deposits.



## 4. THE ICE AGE (Pleistocene)

Tens of thousands of years ago a mile-thick ice sheet covered much of Canada and northern United States, and Florida became cool and rainy. Most of the land was swampy forest with thousands of lakes. Because so much of the earth's water was piled up in glaciers, sea level was lower all over the world. Much of the shelf now covered by the Gulf of Mexico was exposed and Florida was twice its present size. Over this land roamed horses, bears, wolves, large armadillos, saber-toothed tigers, sloths, and mastodons. Many of the small animals had migrated from South America.



## 5. THE TERRACES (Pleistocene and Recent)

The great northern ice sheet melted and re-formed several times. During the melting stages, sea level rose and waves cut bluffs and terraces. Later the land rose again and many of these old shore lines are now far inland. We can recognize terrace levels at 150 feet (Okefenokee), 100 feet (Wicomico), 25-35 feet (Pamlico), and 10 feet (Silver Bluff). The section above shows the 100-foot Wicomico terrace. The climate was drier than previously and the wind built dunes on many of the terraces.



## 6. FLORIDA TODAY

Rain, rivers, waves, and wind still wear away the land. Water running underground dissolves the limestone and forms caves and sinkholes. Coral grows along the keys, and beaches change their shape as the waves erode and deposit. Man cuts the forest, plows the land, drains the swamps, and quarries the limestone. Geologic history is the story of continuous change and it leads from the past through the present and into the future.

# 7. GEOLOGY

Sources: Publications of the Florida Geological Survey and the University of Florida. Sections after R. L. Applin, C. W. Cooke, L. W. Stephenson, J. Gardner, R. O. Vernon, and others. Map modified from Vernon and Puri, 1959.



## THE GEOLOGIC MAP

The geologic map shows the age of the bedrock underneath the soil cover. For the meaning of the abbreviations look at the Geologic Column. (See p. 29 for mineral industries.)

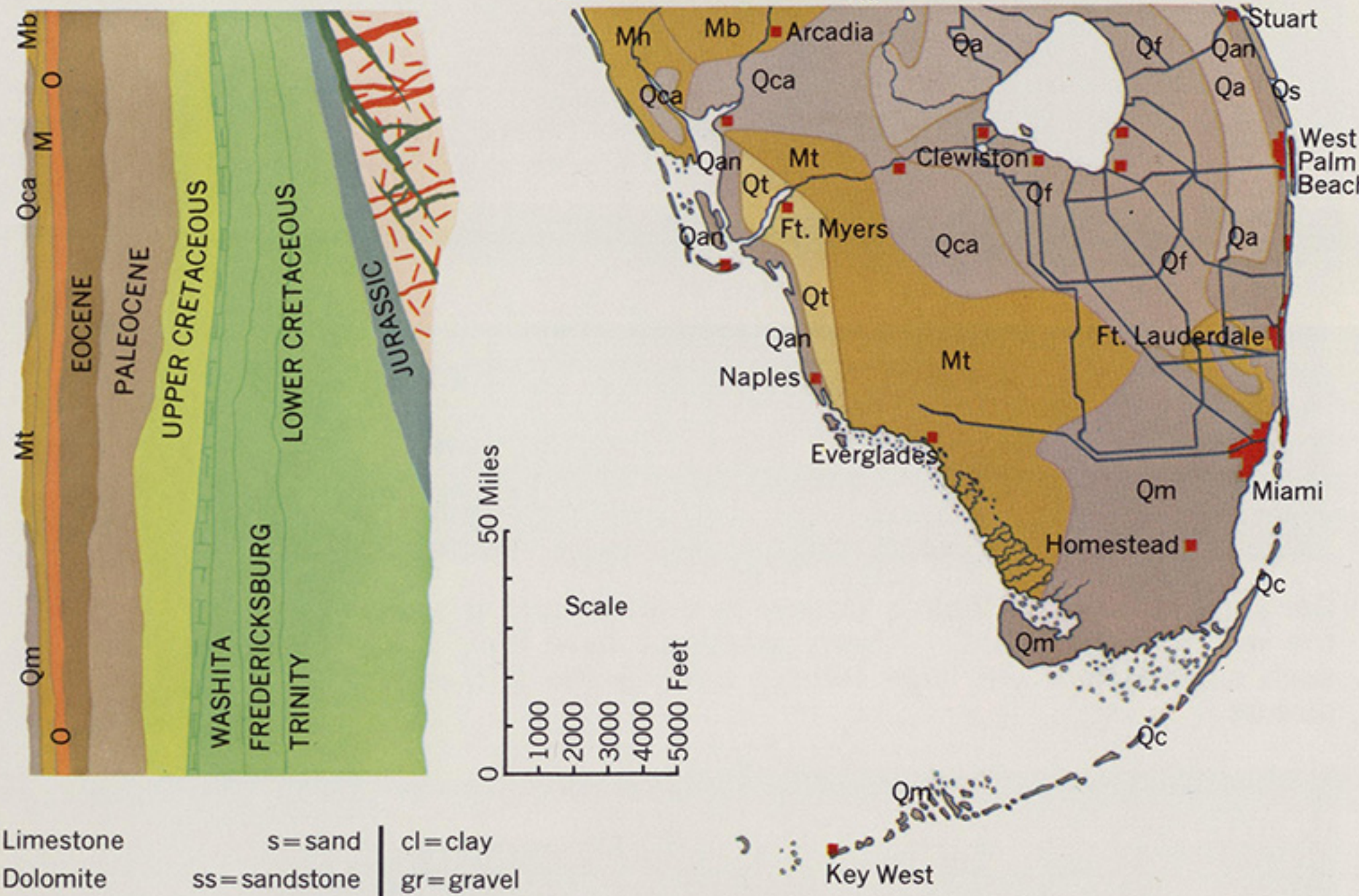
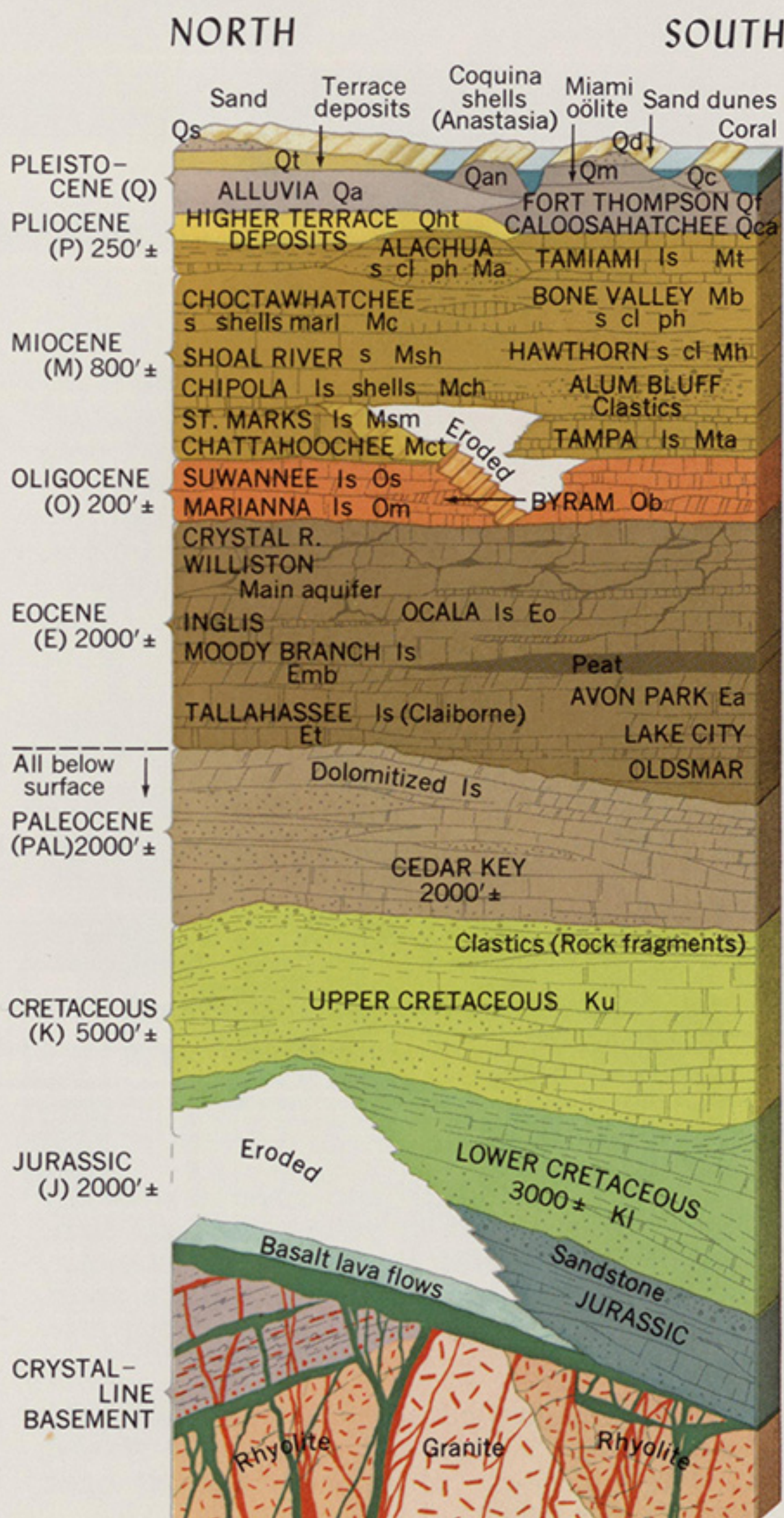
The surface formations of Florida are relatively young, consisting mostly of marine sediments of Tertiary age (up to 70 million years old) and of more recent sands, clays, and shells. Thick beds of older Cretaceous and Jurassic sediments lie beneath but are nowhere exposed at the surface. Borings reveal still older igneous and metamorphic rocks at depths of 3,000 to 13,000 feet. Thus far only the younger rocks have been commercially useful.

## THE GEOLOGIC COLUMN

Here are shown the geologic formations according to their average thickness. Not all formations are found everywhere and thicknesses vary greatly from place to place.

Formations are named after the locality where they were first recognized and described. Abbreviations are derived from these names. Thus Pa designates rocks of Pliocene age (P), Alachua formation (a). Colors denote age only and not the color of the rock.

Alluvia are relatively young sands, silts, clays, and such. Coquina is a very young limestone made of shells cemented together. Oolite is a grainy limestone.



## FLORIDA LANDSCAPE BEFORE THE ICE AGE

**FOSSILS.** Each geologic age had its characteristic plant and animal life. Remains or traces of this life are often preserved in sedimentary rocks. Even microscopic shell life may be preserved in this way.

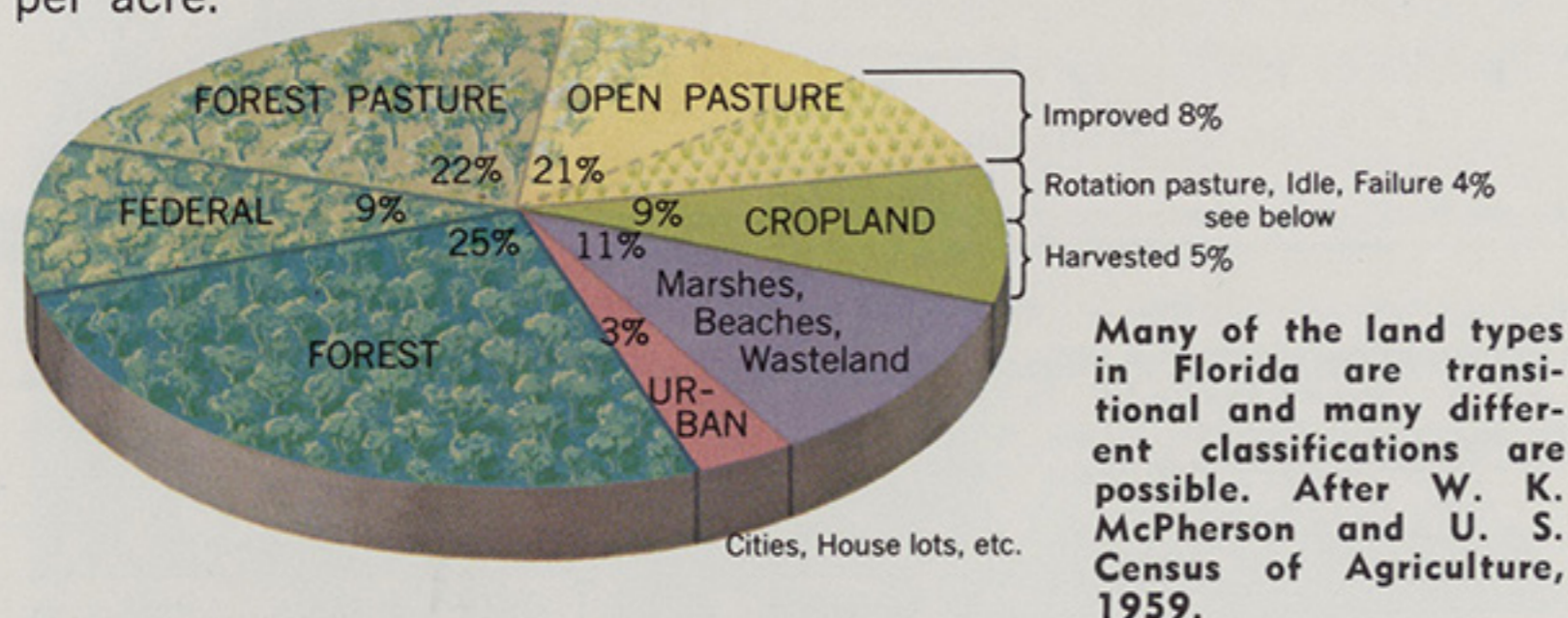
Fossils enable us to tell the ages not only of the surface rocks but also of deep-seated layers reached by drilling. We can even determine whether sediments were deposited on land or under the sea and something about the climate during each geologic age.



# 22. LAND USE

Sources: U. S. Bureau of the Census, *Census of Agriculture, 1959*, Washington, D. C.; Florida Marketing Bureau, *Annual Agricultural Statistical Summary, 1960-61*, Jacksonville. Map after F. J. Marschner and H. F. Becker.

It is possible to drive mile after mile in some parts of Florida without ever seeing a farm or a house. Much of this "empty" land is actually in use, either for forest products or for grazing. Relatively little of Florida's land is used for crop production, partly because its major crops in dollar income—citrus and vegetables—return a high yield per acre.

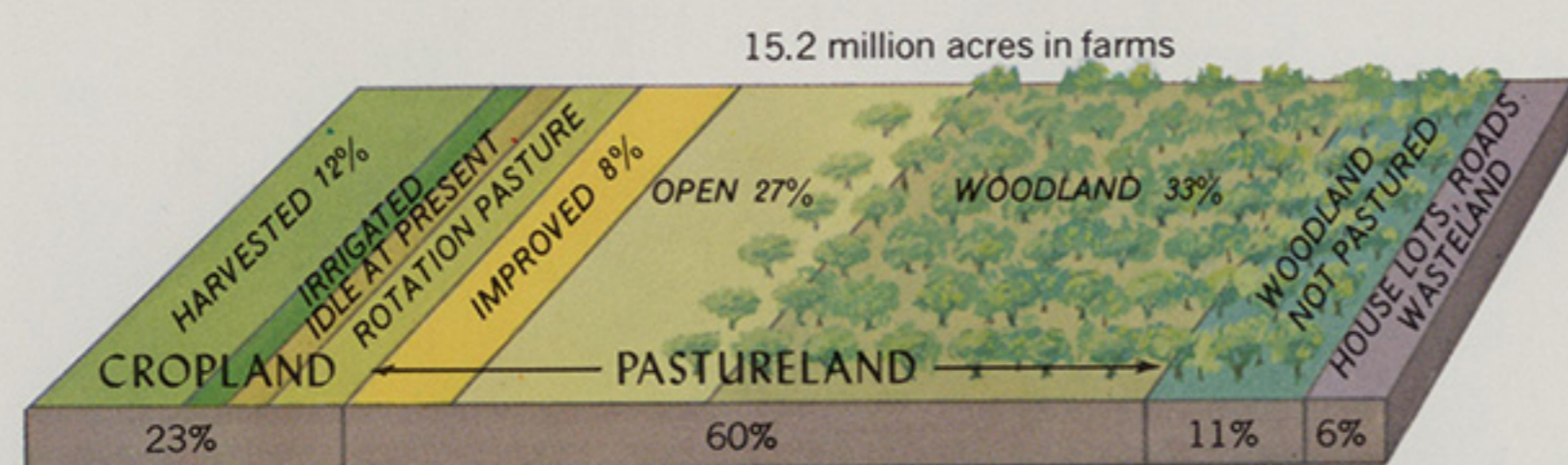


## REGIONAL DIFFERENCES

There is a marked contrast between northern and southern Florida, but the transition from one region to another is gradual. Northern Florida produces field crops and tobacco and has large areas of pulp timberland, which are used also for pasture. In Central Florida there are citrus groves along the coast and on the rolling central lands. Cattle ranching dominates the south-central part of the peninsula. Truck farms flourish in the rich muck lands around Lake Okeechobee and on the fringes of the Everglades.

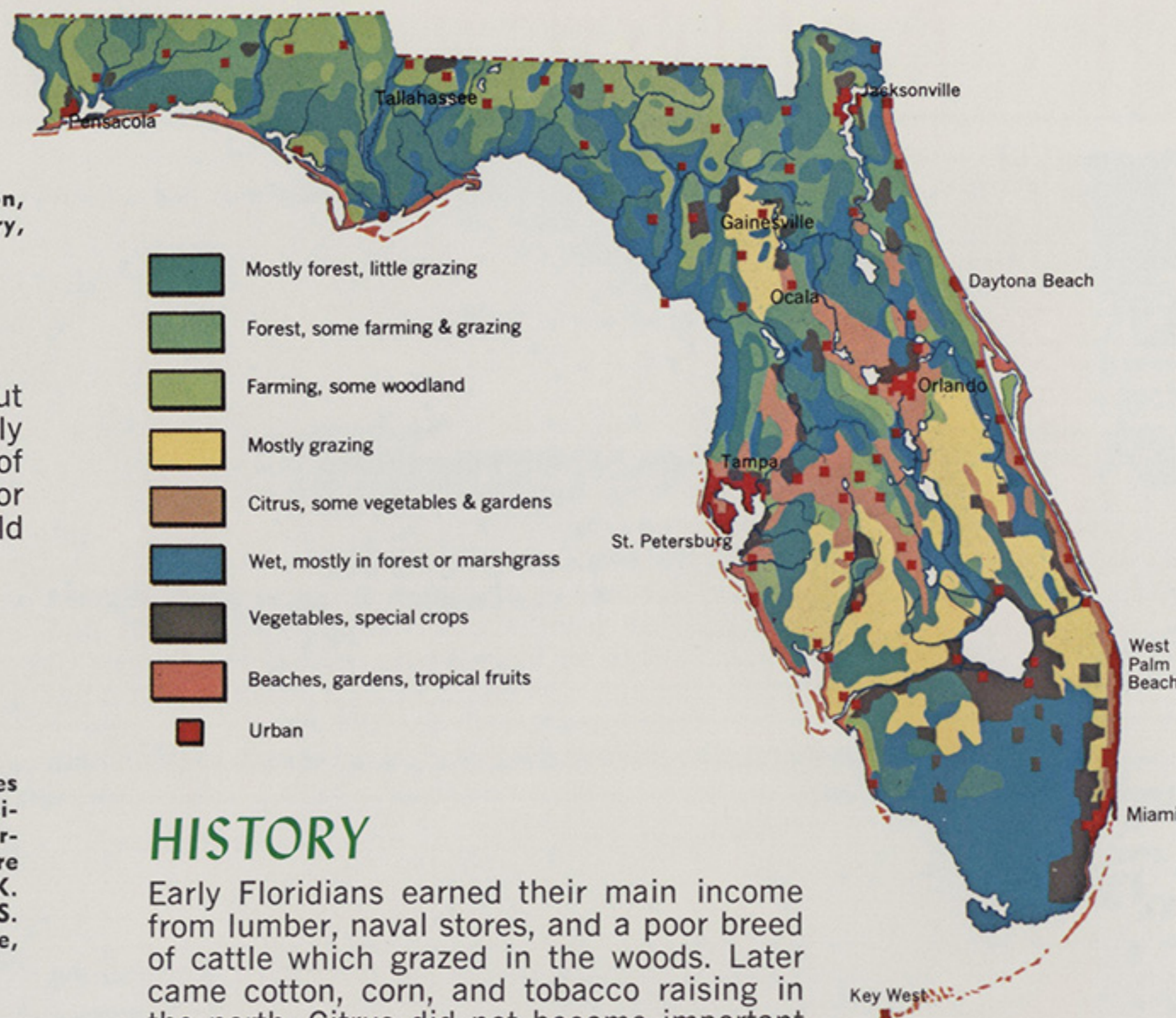
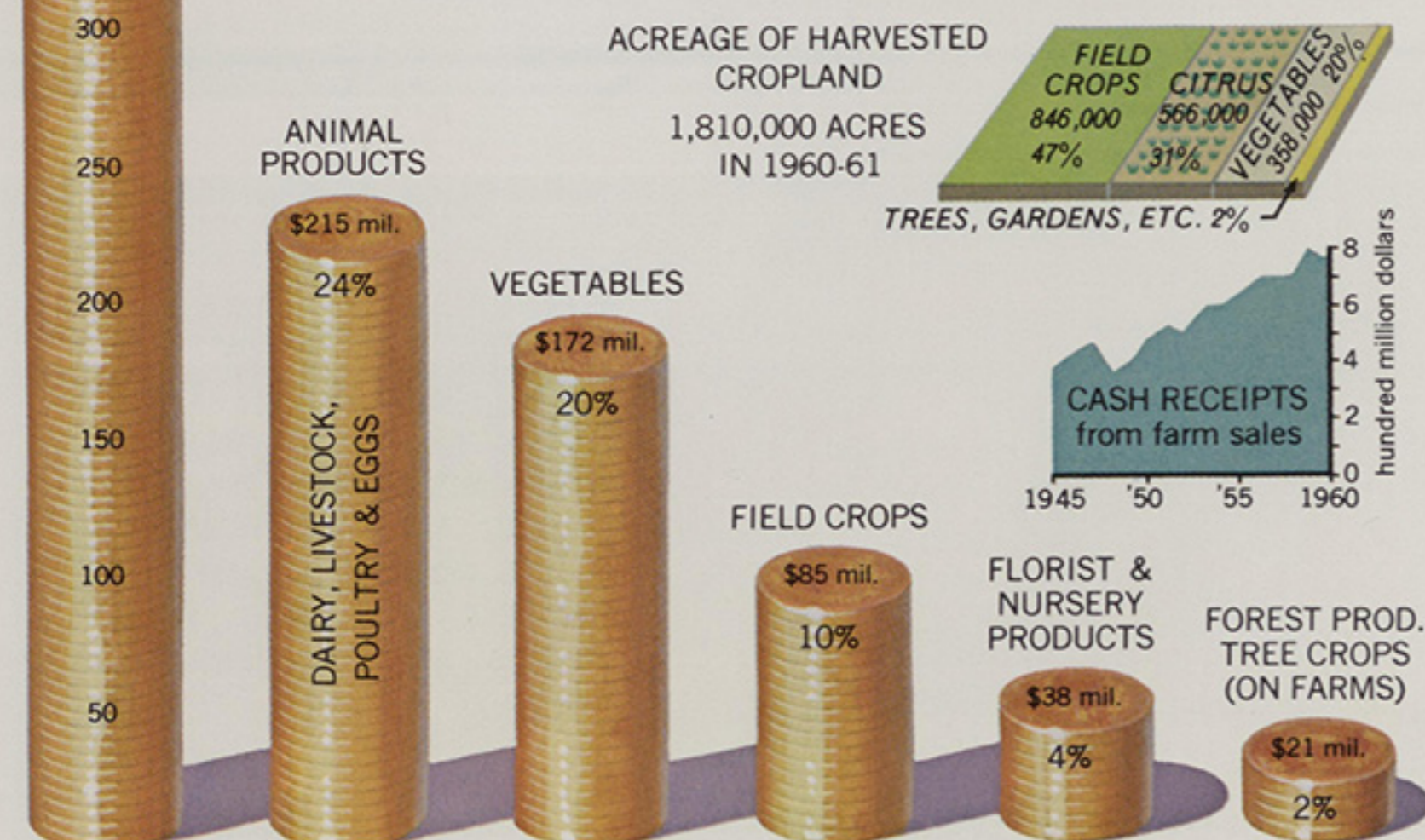
## LAND IN FARMS

Less than one-half of Florida's land is in farms. Most of the remainder consists of commercial and government forest and park land, lakes, cities, mines, and beaches. Of the 15.2 million farm acres, the farmers reported 3.4 million acres as cropland. Only about half of the cropland is planted in crops; the remainder is mainly either pastured or idle. Field crops account for almost one-half of the harvested cropland; citrus and vegetables for about one-fourth each.



## PRODUCTS

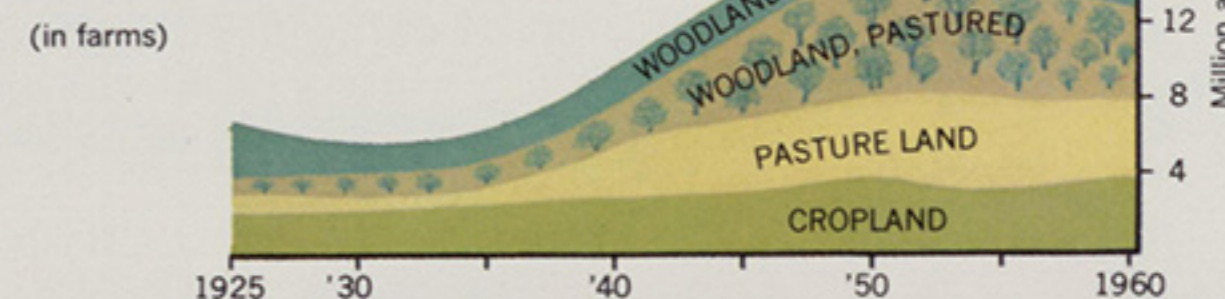
The total value of farm products in 1960-61 was \$887 million. This included produce that was consumed at home or unsold. Actual cash received by farmers from sales amounted to \$761 million. Citrus is the leading crop but its yield varies greatly from year to year.



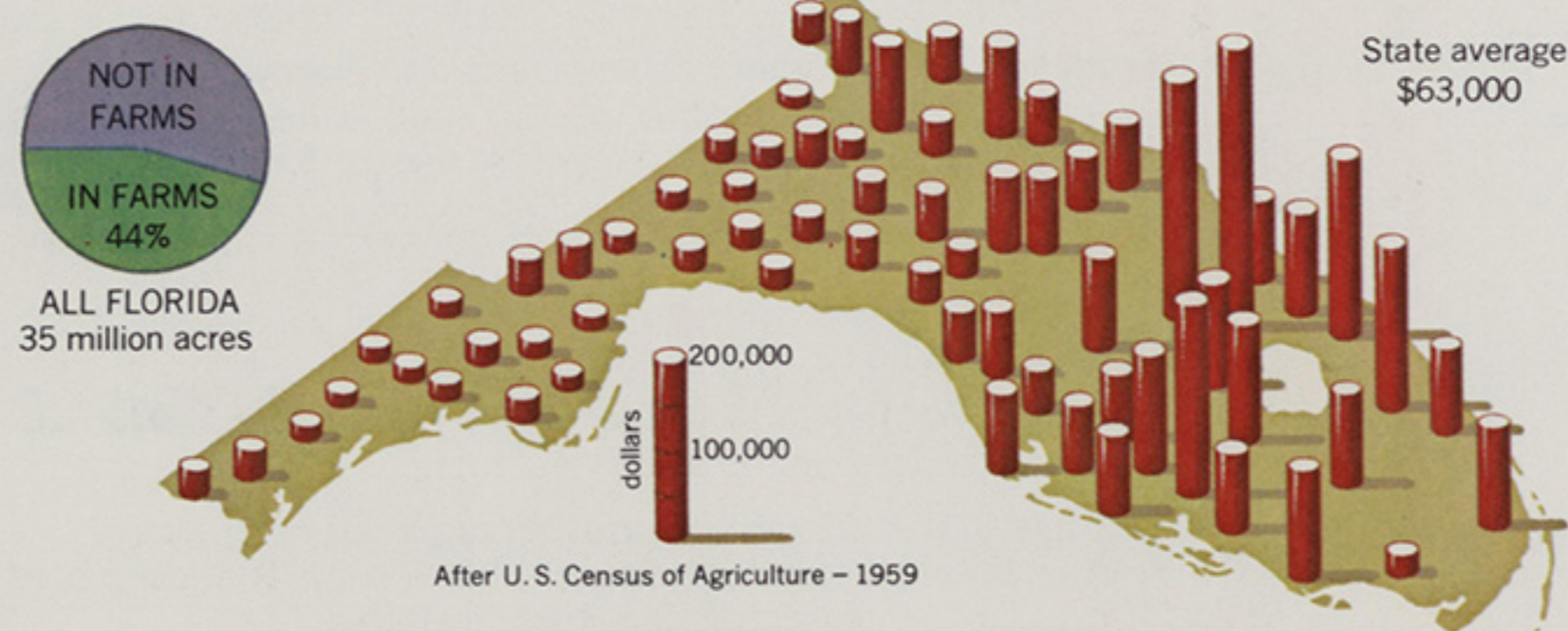
## HISTORY

Early Floridians earned their main income from lumber, naval stores, and a poor breed of cattle which grazed in the woods. Later came cotton, corn, and tobacco raising in the north. Citrus did not become important until the 1880's, although it was grown when the Spanish and English ruled Florida. Profitable winter vegetable production became possible with development of the refrigerated freight car and fast truck connections with large urban centers. In the last few decades better breeding and pasture improvement have brought Florida well up in the ranks of beef producers.

## THE CHANGE IN LAND USE

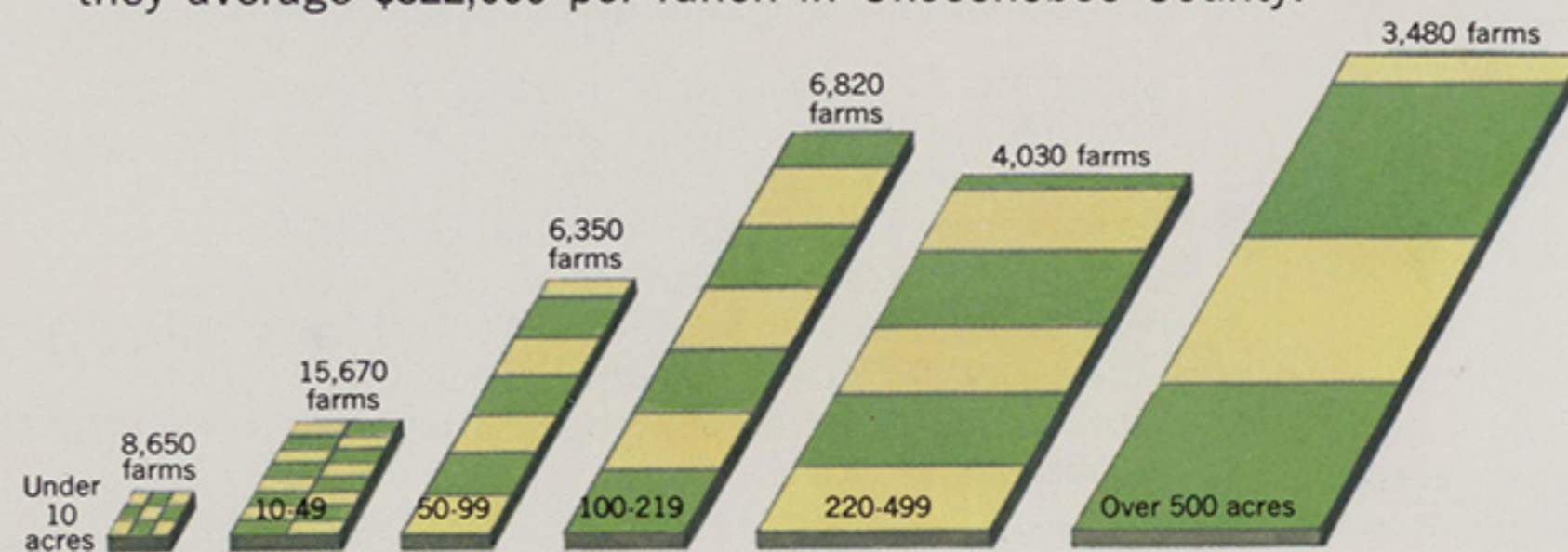


## VALUE OF LAND AND BUILDINGS PER FARM



## SIZE OF FARMS

The number of farms in Florida decreased from 73,000 in 1935 to 45,000 in 1959, and the average farm size rose from 83 acres to 338 acres. Even though large-scale, mechanized farms are gradually replacing the small units, one-half of Florida's farms are still under 50 acres. On the other hand, one-half of the total farm acreage is owned by fewer than 1,000 farmers. The largest farms are the cattle ranches in southern Florida. The small farms in the north are worth from \$10,000 to \$30,000. Citrus farms average \$100,000. The cattle ranches are highest in value and they average \$322,000 per ranch in Okeechobee County.



# 29. MINERALS

Sources: Florida Geological Survey, Tallahassee; L. E. Shirley and R. O. Vernon, *The Mineral Industry of Florida*, Washington, D. C., 1960; U. S. Bureau of Mines, *Minerals Yearbook, 1960*, Washington, D. C.; Florida State Chamber of Commerce, *Directory of Florida Industries*, Jacksonville, 1961. Map modified from J. L. Calver.

Although all the surface rocks of Florida are relatively new sediments, the state has a considerable mineral industry, ranking twenty-second in the nation. Most of the sediments such as sands, clays, and lime rock of marine origin and the related phosphate deposits are at the head of the list. Large deposits of sand and clay are also valuable. In

1961 mineral production was valued at more than \$185 million at the quarry. To date no significant petroleum reserves have been discovered. Lacking coal and most metals, Florida cannot engage competitively in a heavy industry such as the production of iron and steel. Florida's mines and quarries employ over 9,000 people.

## PHOSPHATE

Florida produces three-fourths of our nation's phosphate. Most production comes from "pebbles" embedded in sediments. Polk and Hillsborough Counties are the major producers. Most is used for fertilizer; some of it is added to livestock feed. The remainder is used in chemical industries, generally as phosphoric acid. Some uranium is found in the phosphate formations.



## CLAYS

Common clays are used for bricks, tiles, sewer pipes, and pottery. When burned, they form a lightweight concrete aggregate. Kaolin is mined and milled in Putnam County. Kaolin is a fine white clay used for refractory lining, filler in rubber and linoleum, cement, and bricks. High-grade china and high-temperature bricks also require kaolin. Florida ranks first in producing fuller's earth. It is found along the Florida-Georgia line near Quincy. Fuller's earth is used for drilling mud in oil fields and for cleaning and filtering oils.

## PEAT

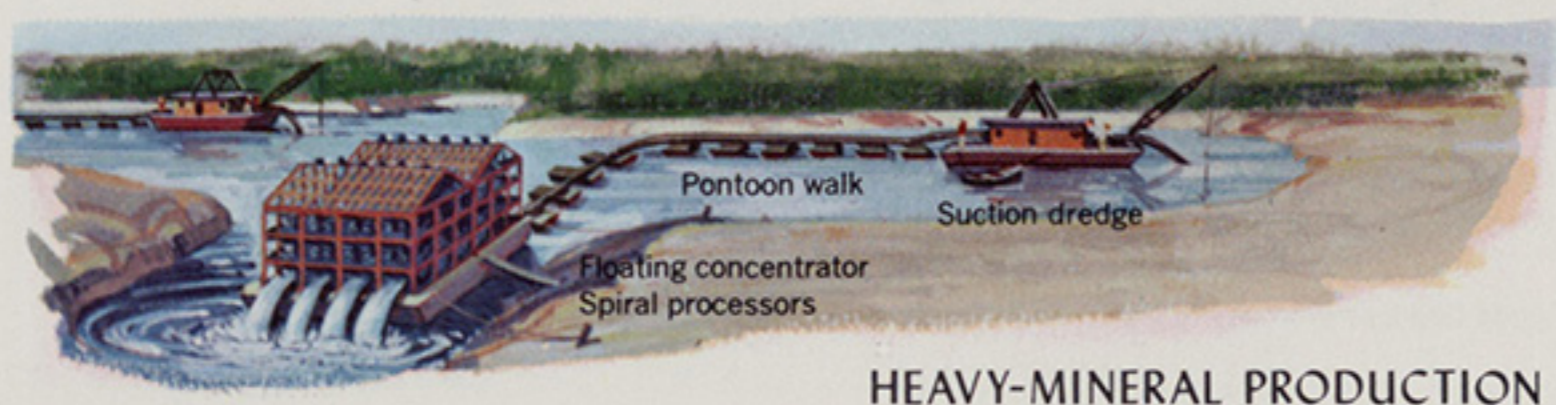
Large areas of Florida have this consolidated humus material, and the state ranks second in the nation. Peat is dug, dried, and used as a soil conditioner. Nurseries are major users.

## SAND and GRAVEL

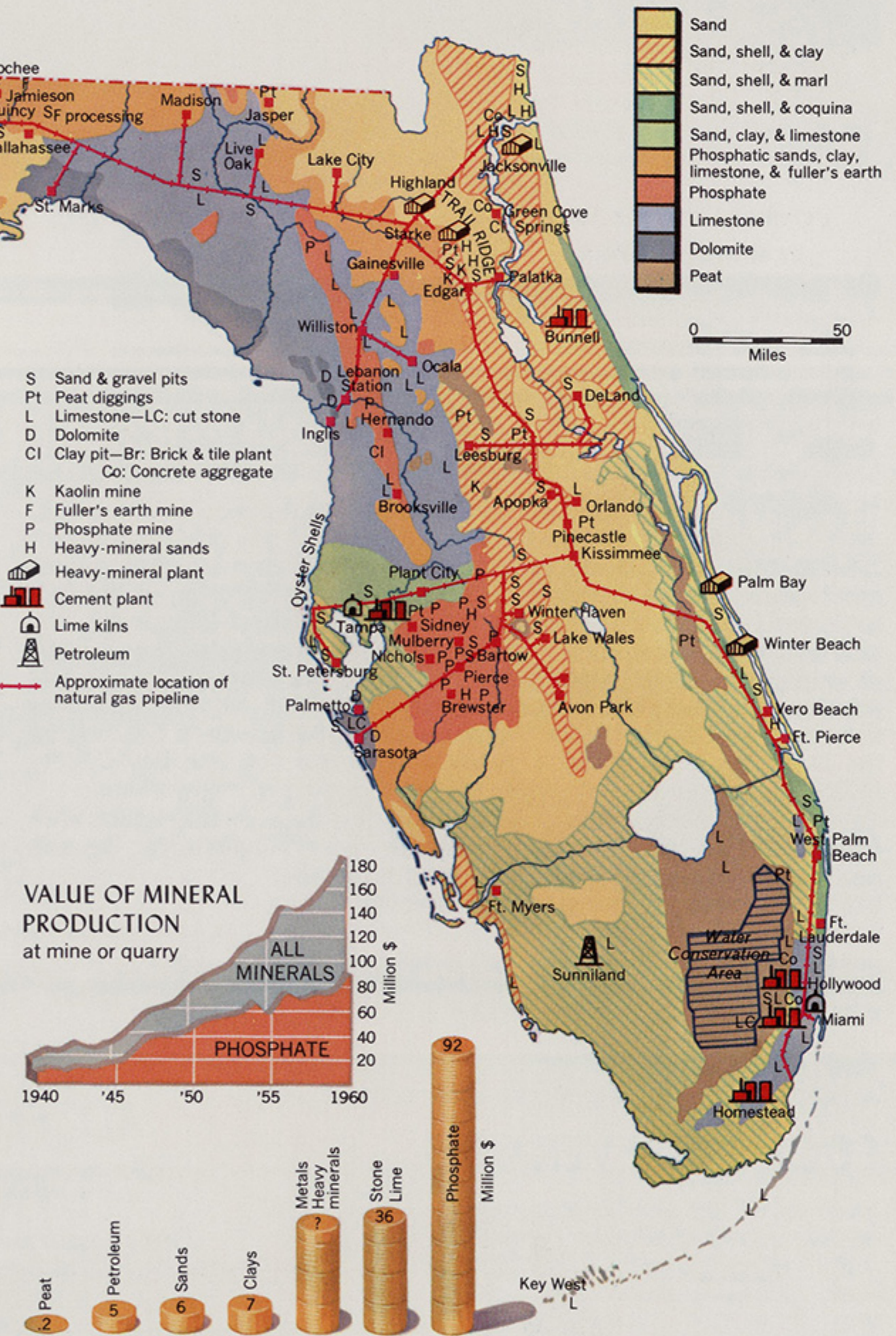
Pure silica sand occurs at many places in central Florida. Coastal sands have some shell intermixture. Some glass sand is obtained as a by-product in kaolin processing. Most sand goes into concrete for roads and buildings. Sand is valued at only about one dollar per ton at the pit, but consumer price depends upon transportation cost. Crushed stone is obtained from lime rock. The supply is abundant and is used for road building and concrete. Hard rock and quartz pebbles must be imported.

## HEAVY MINERALS

In some areas, especially along Trail Ridge and on the Atlantic beaches, small amounts of "heavy" minerals are mixed with the silica sands. Florida is the second largest producer in the United States. The major heavy minerals are ilmenite and rutile (titanium ores used in paints and jet engines); zircon (used in foundries, gas engines, and atomic reactors); monazite, which contains thorium (used in atomic reactors); cerium (used in sparking flints); staurolite (used in cement plants); and garnet sand (used in abrasives).



HEAVY-MINERAL PRODUCTION



## LIMESTONE

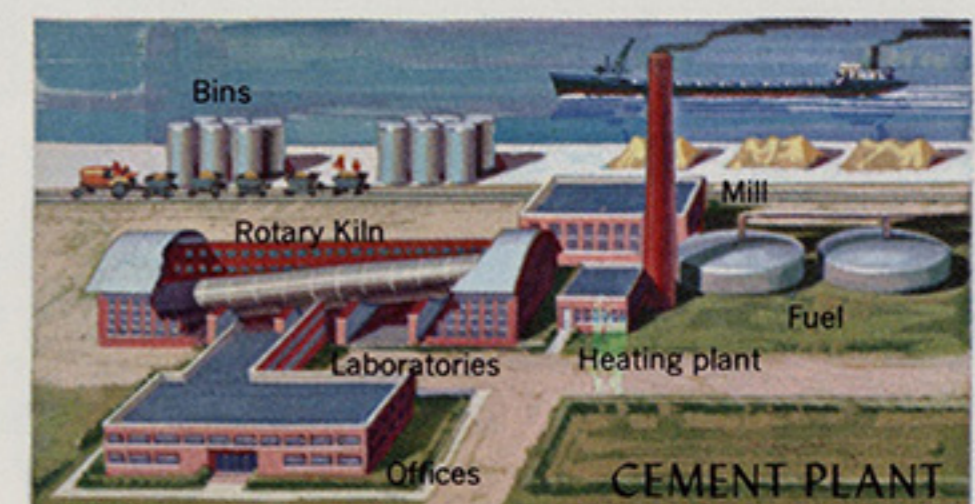
Florida limestone is used in three ways. Crushed, it serves as road surfacing material. Pulverized, it is used in cement manufacture and fertilizers. As cut stone, it is used for buildings. Crushed stone is quarried in many areas. Eighty-four per cent of the state's production was used for roads and building concrete in 1960.

## OIL and GAS

Although Florida has a sedimentary geology, petroleum discoveries have thus far been small. A pipe line from McAllen, Texas, was constructed recently. Capacity is about 280 million cubic feet of gas per day delivered by 1,477 miles of 24-inch trunk line.

## CEMENT

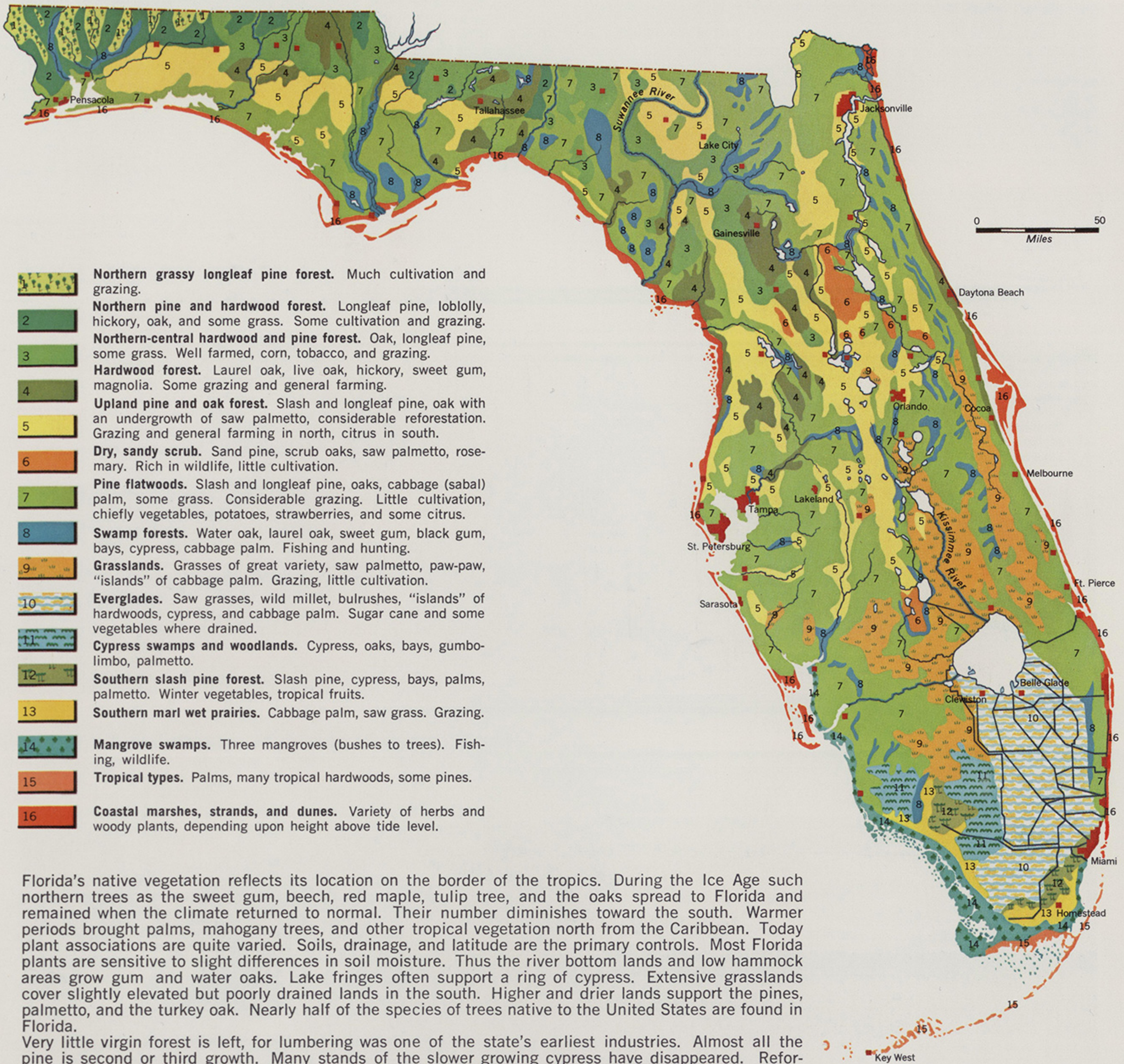
Cement plants at Bunnell, Tampa, and Miami are able to supply most of Florida's needs. Florida has all the necessary ingredients for cement: lime, sand, and clay. Coquina rock supplies the lime in the new Miami plants.





# 15. NATURAL VEGETATION

Source: Based on a map by John H. Davis, Department of Botany, University of Florida.



- 1** Northern grassy longleaf pine forest. Much cultivation and grazing.
- 2** Northern pine and hardwood forest. Longleaf pine, loblolly, hickory, oak, and some grass. Some cultivation and grazing.
- 3** Northern-central hardwood and pine forest. Oak, longleaf pine, some grass. Well farmed, corn, tobacco, and grazing.
- 4** Hardwood forest. Laurel oak, live oak, hickory, sweet gum, magnolia. Some grazing and general farming.
- 5** Upland pine and oak forest. Slash and longleaf pine, oak with an undergrowth of saw palmetto, considerable reforestation. Grazing and general farming in north, citrus in south.
- 6** Dry, sandy scrub. Sand pine, scrub oaks, saw palmetto, rosemary. Rich in wildlife, little cultivation.
- 7** Pine flatwoods. Slash and longleaf pine, oaks, cabbage (sabal) palm, some grass. Considerable grazing. Little cultivation, chiefly vegetables, potatoes, strawberries, and some citrus.
- 8** Swamp forests. Water oak, laurel oak, sweet gum, black gum, bays, cypress, cabbage palm. Fishing and hunting.
- 9** Grasslands. Grasses of great variety, saw palmetto, paw-paw, "islands" of cabbage palm. Grazing, little cultivation.
- 10** Everglades. Saw grasses, wild millet, bulrushes, "islands" of hardwoods, cypress, and cabbage palm. Sugar cane and some vegetables where drained.
- 11** Cypress swamps and woodlands. Cypress, oaks, bays, gumbo-limbo, palmetto.
- 12** Southern slash pine forest. Slash pine, cypress, bays, palms, palmetto. Winter vegetables, tropical fruits.
- 13** Southern marl wet prairies. Cabbage palm, saw grass. Grazing.
- 14** Mangrove swamps. Three mangroves (bushes to trees). Fishing, wildlife.
- 15** Tropical types. Palms, many tropical hardwoods, some pines.
- 16** Coastal marshes, strands, and dunes. Variety of herbs and woody plants, depending upon height above tide level.

Florida's native vegetation reflects its location on the border of the tropics. During the Ice Age such northern trees as the sweet gum, beech, red maple, tulip tree, and the oaks spread to Florida and remained when the climate returned to normal. Their number diminishes toward the south. Warmer periods brought palms, mahogany trees, and other tropical vegetation north from the Caribbean. Today plant associations are quite varied. Soils, drainage, and latitude are the primary controls. Most Florida plants are sensitive to slight differences in soil moisture. Thus the river bottom lands and low hammock areas grow gum and water oaks. Lake fringes often support a ring of cypress. Extensive grasslands cover slightly elevated but poorly drained lands in the south. Higher and drier lands support the pines, palmetto, and the turkey oak. Nearly half of the species of trees native to the United States are found in Florida.

Very little virgin forest is left, for lumbering was one of the state's earliest industries. Almost all the pine is second or third growth. Many stands of the slower growing cypress have disappeared. Reforestation is an important activity. Much progress is being made, for the warm climate permits year-round growth.

Most of Florida's trees are evergreen, particularly in the south. The winter visitor finds a lush greenness in striking contrast to the North. Wild flowers grow at all seasons; some of them are native only to the state. Typical of Florida is the gray "Spanish moss" which festoons trees of all kinds.

BEACH VEGETATION



FLATWOODS



CYPRESS SWAMP



GRASSLAND



# 34.-35. OUR PEOPLE

Sources: U. S. Bureau of the Census, *Census of Population, 1960*, Washington, D. C.; publications of the Bureau of Economic and Business Research, University of Florida, Gainesville.

## GROWTH OF POPULATION

The 1960 census counted nearly 5 million, a gain of 79 per cent, which was the largest percentage gain in the country during the past ten years. Although it is not likely that Florida will maintain an 8 per cent growth every year, all planning must be geared to an expanding pattern. Since the Civil War, Florida's population has grown at a fairly even pace. The rate of increase was especially great from 1880 to the 1894 Great Freeze and from 1918 to the hurricanes of 1924 and 1925.

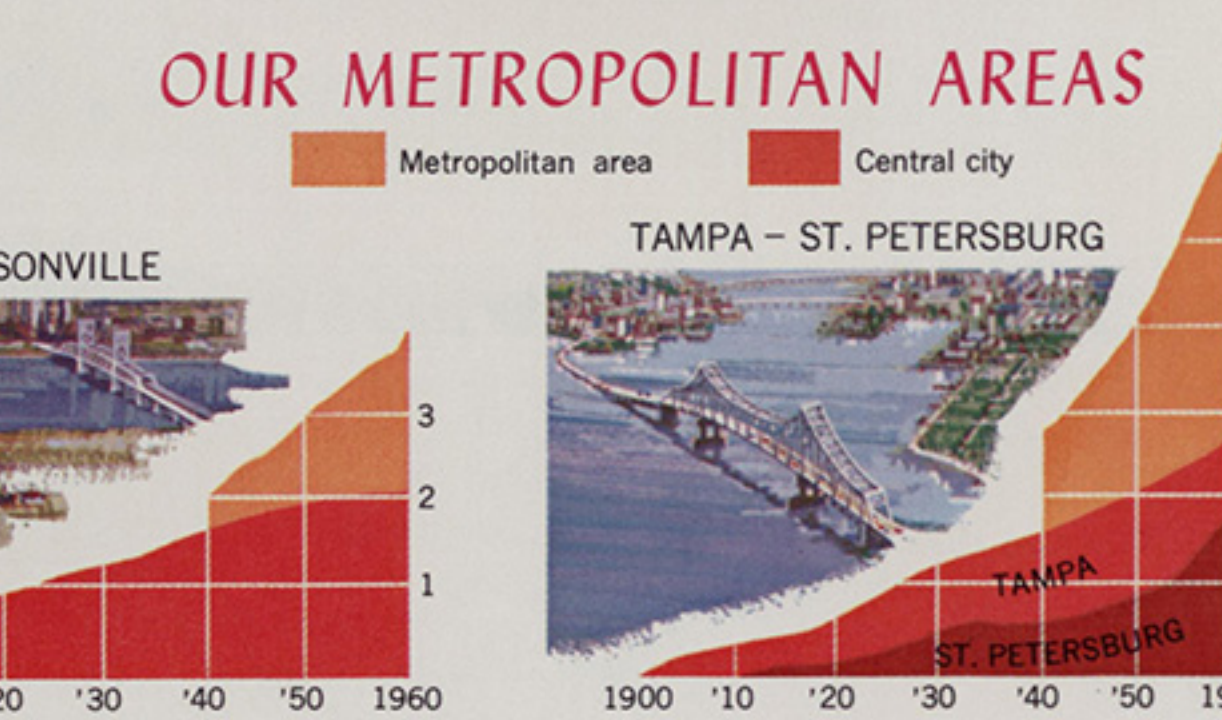
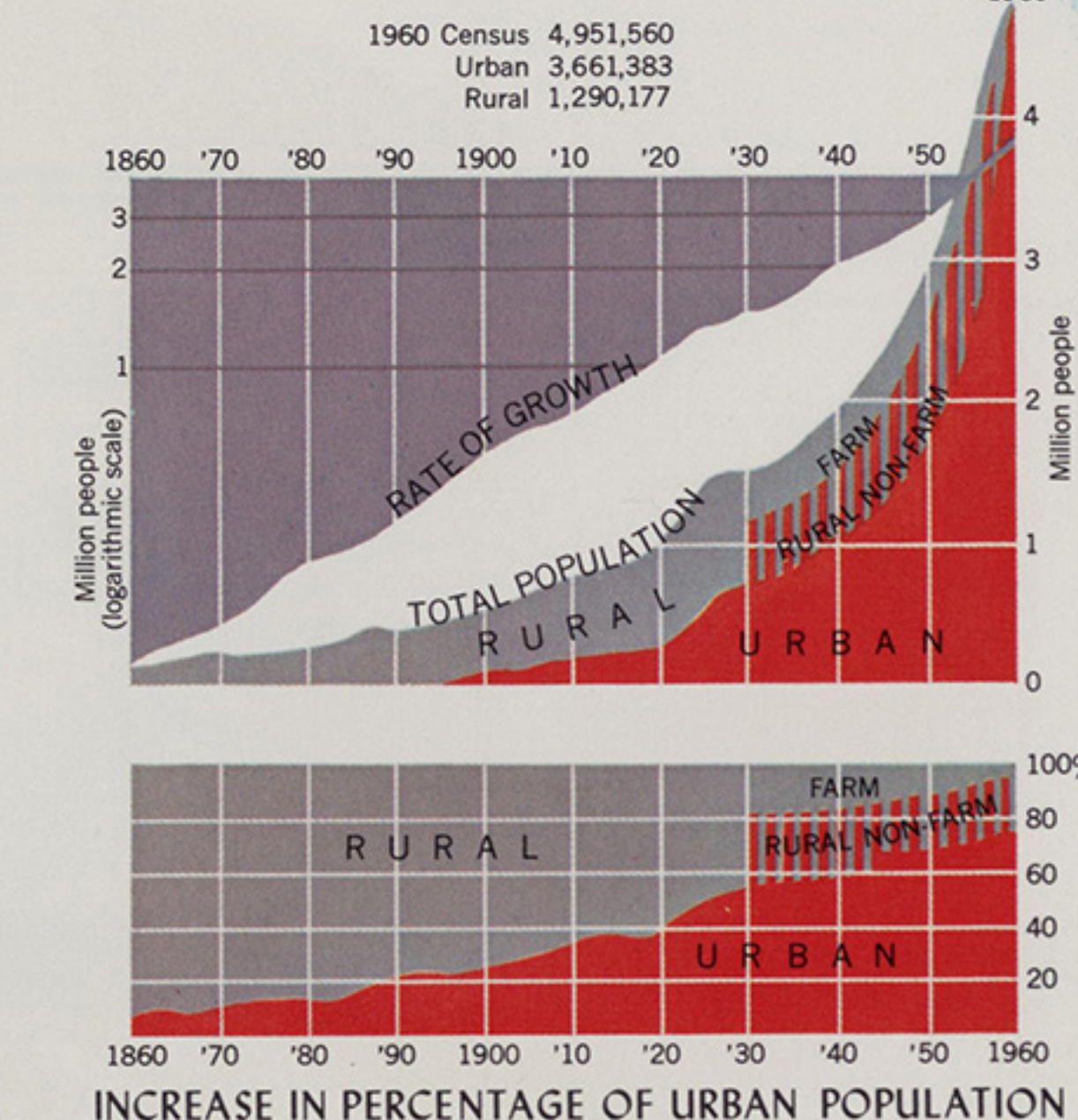
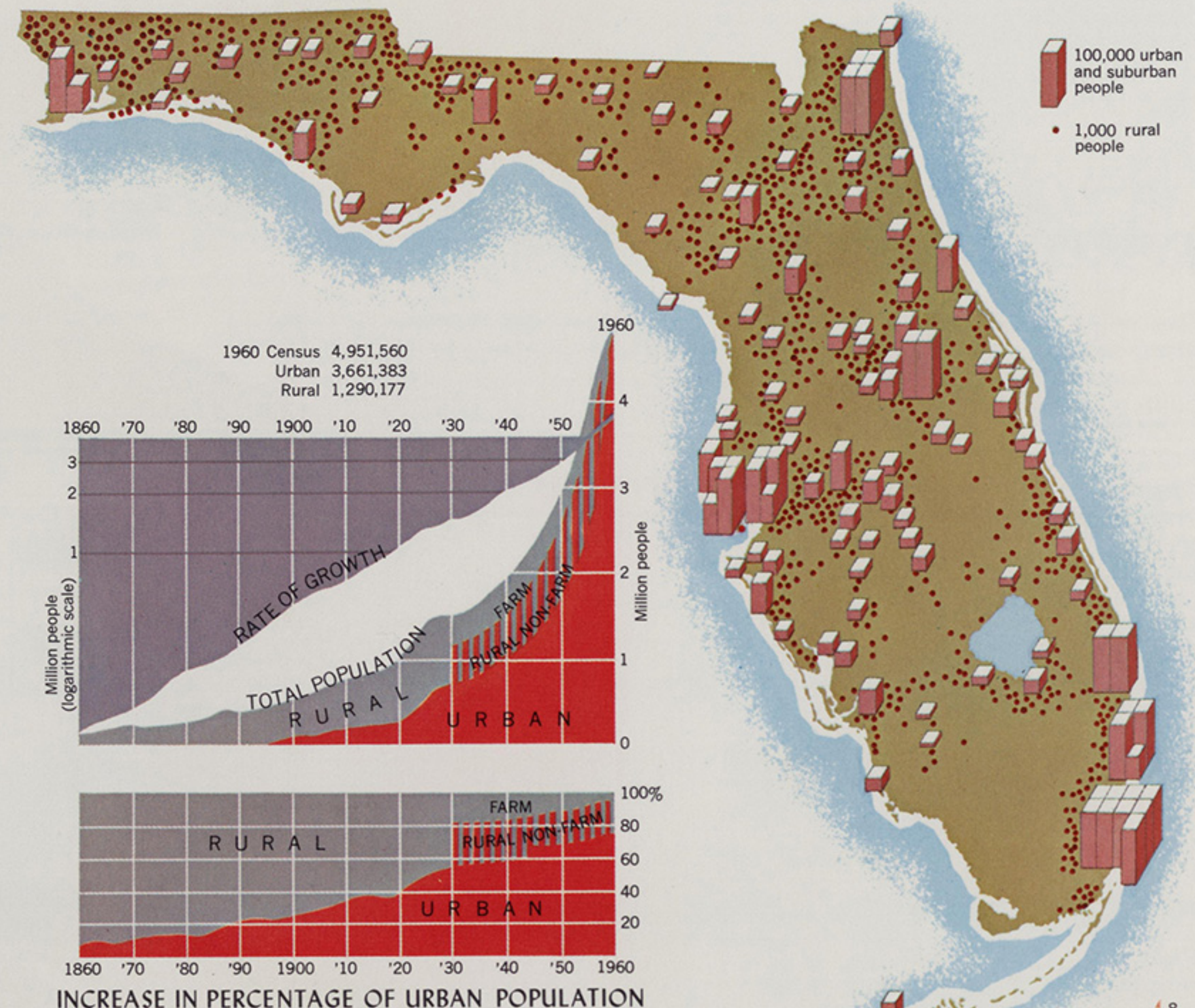
## DENSITY OF POPULATION

There is still much room in Florida. The density of population is 92 persons per square mile compared with 51 for the United States, but the population is very unevenly distributed. The population of the Miami urban area is greater than that of all the northwestern counties of the state together.

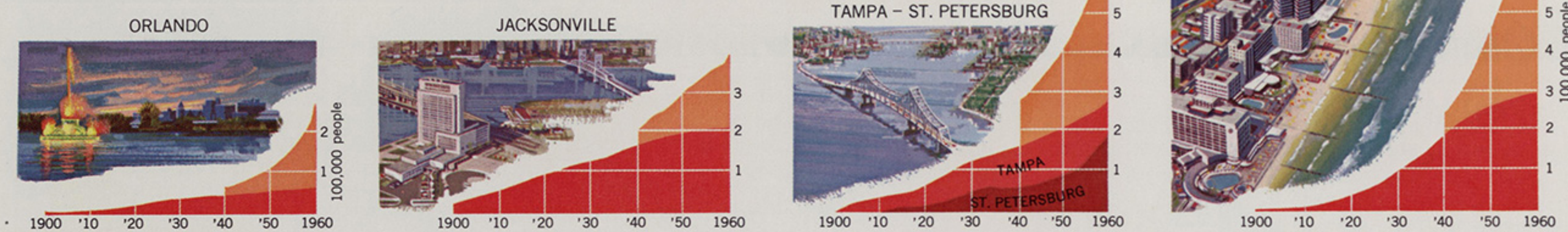
## URBANIZATION

According to the 1960 Census of Population, about 74 per cent of Florida's population is urban, with 54 per cent living in seven urbanized areas of more than 100,000 people. The Census classifies 26 per cent of the people as rural (all who live in places having fewer than 2,500 people); but only 2.3 per cent (105,000) actually live on farms. Florida is becoming more and more urbanized. The Miami area leads in growth; and the whole Gold Coast (sometimes called Tropiccoast) is developing into one long urban area. Its population in 1962 was about 1.5 million people. The Tampa-St. Petersburg metropolitan area ranks second; and both Jacksonville and Orlando are spreading as their industry and commerce expand.

## DISTRIBUTION OF POPULATION

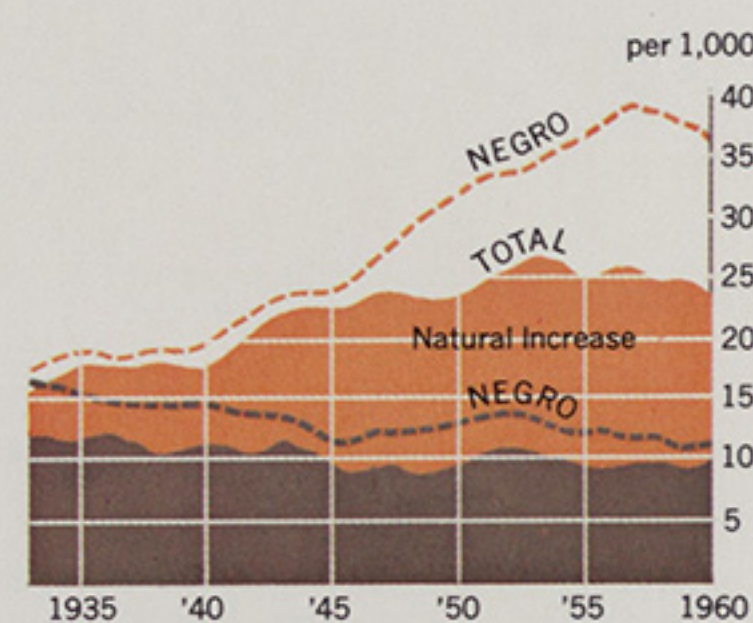


## OUR METROPOLITAN AREAS



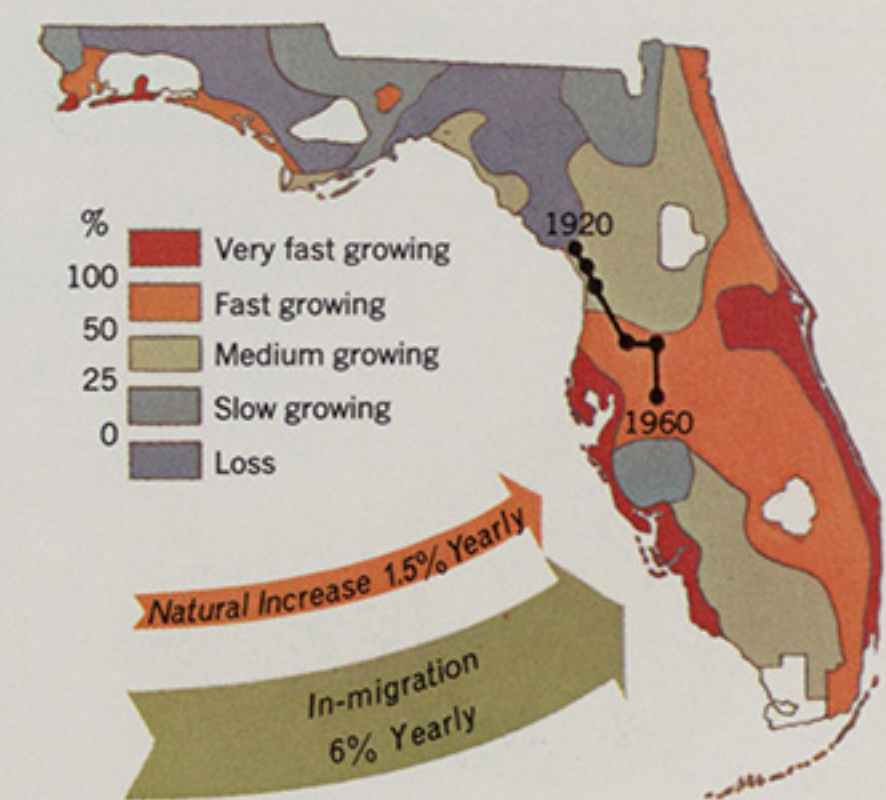
## BIRTHS and DEATHS

Florida's total birth rate is about the same as the national average. The birth rate of Negroes is much higher than that of the white people, but there is little difference in death rates.



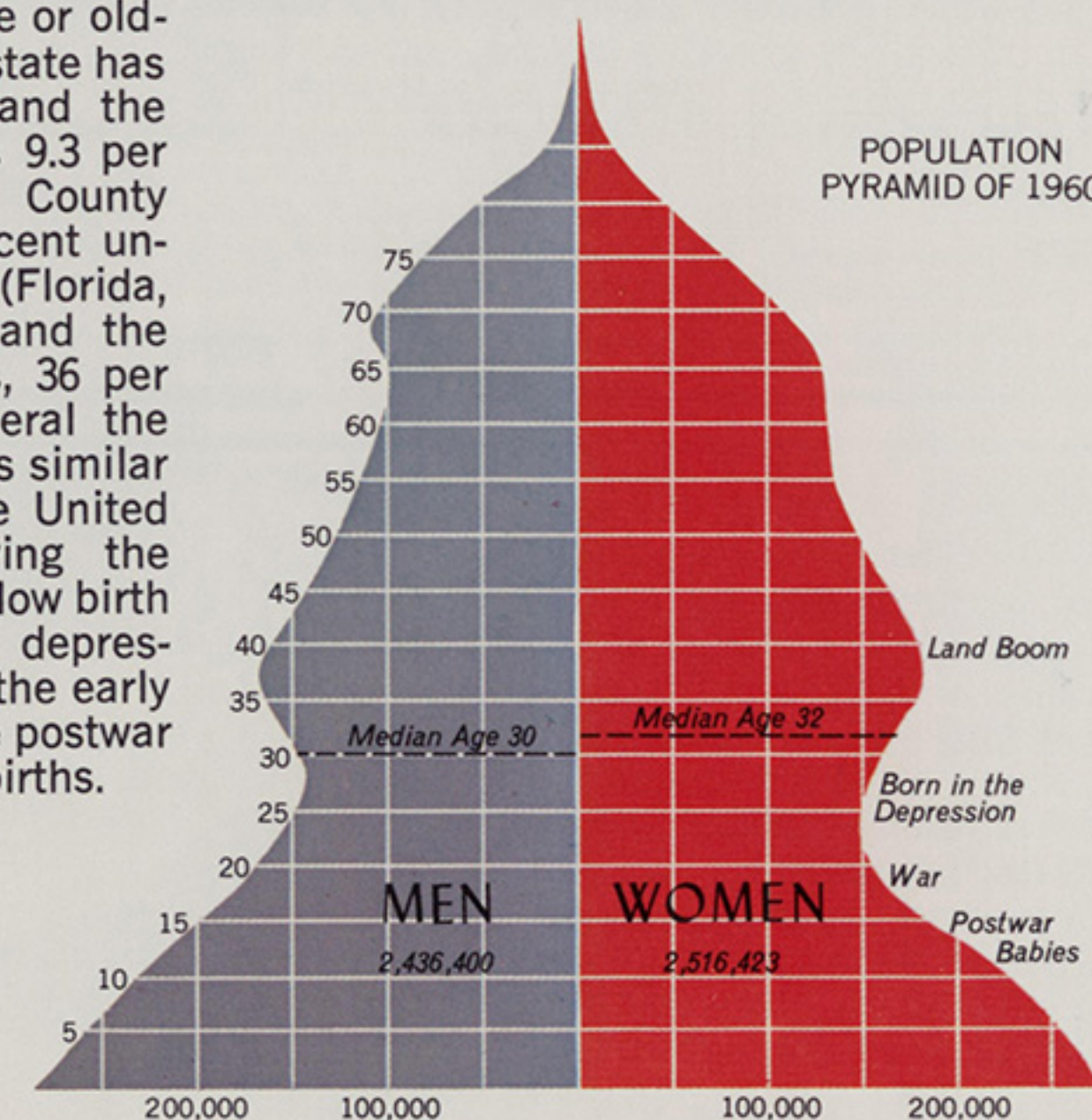
## GAINS and LOSSES

The major part of the recent increase in Florida's population is due to in-migration. About 1.6 million people moved into Florida from 1950-60. In spite of the record growth, 11 counties lost population in 1950-60, mostly in the northern farming areas, while both coastal areas in the south increased well over 100 per cent. The center of population moved from near Inglis in 1920 to near Bartow in 1960.



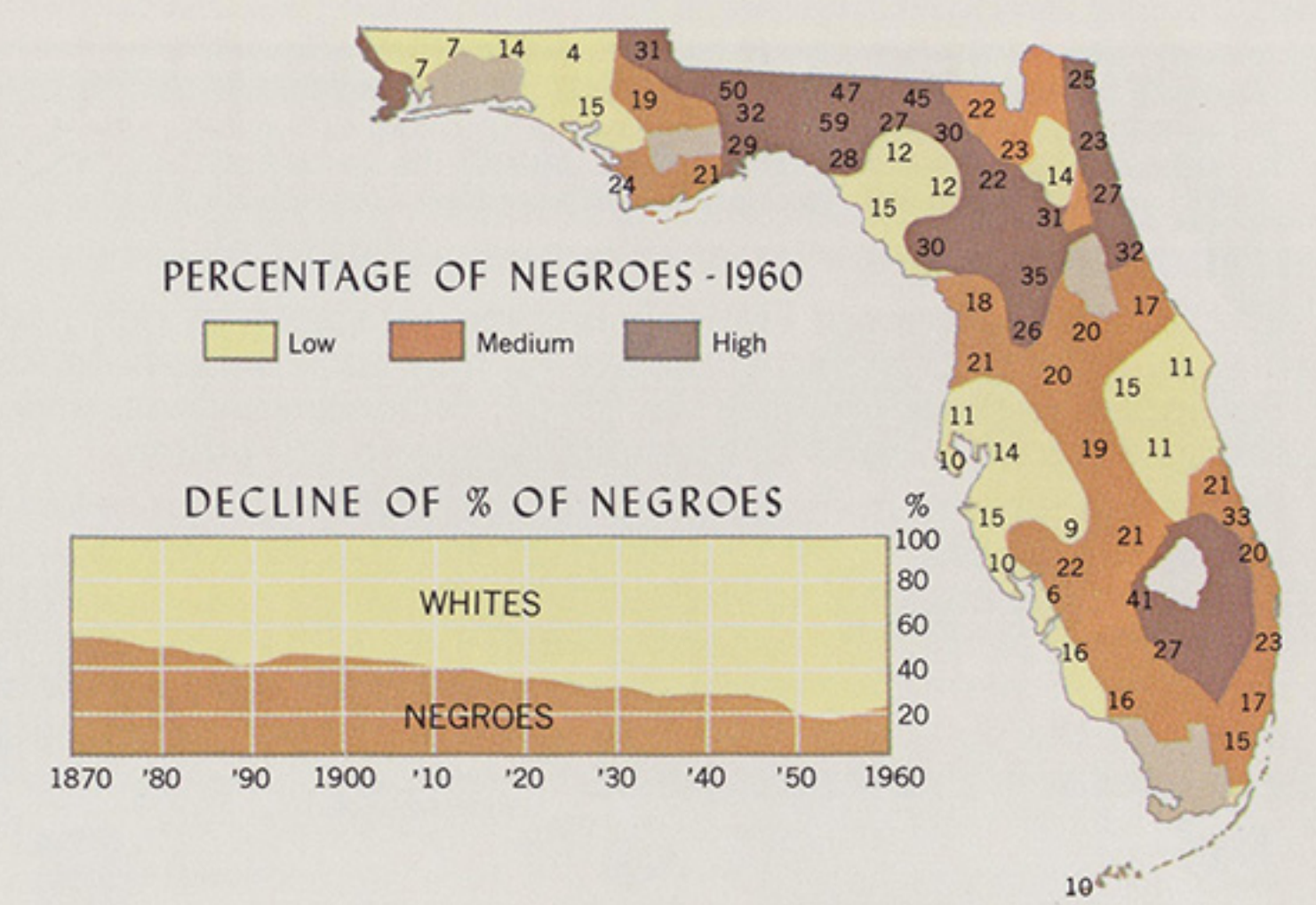
## AGE GROUPS

The pyramid shows the number of residents by age and sex for the 1960 census. In contrast to the nation as a whole, there are as many men as women over 65 in Florida. St. Petersburg remains a nucleus for older citizens. About 28 per cent of its population is 65 years of age or older, while the state has 11 per cent and the United States 9.3 per cent. Brevard County has 38.5 per cent under 18 years (Florida, 34 per cent, and the United States, 36 per cent). In general the age pyramid is similar to that of the United States, showing the effects of the low birth rates of the depression years in the early 1930's and the postwar increase of births.



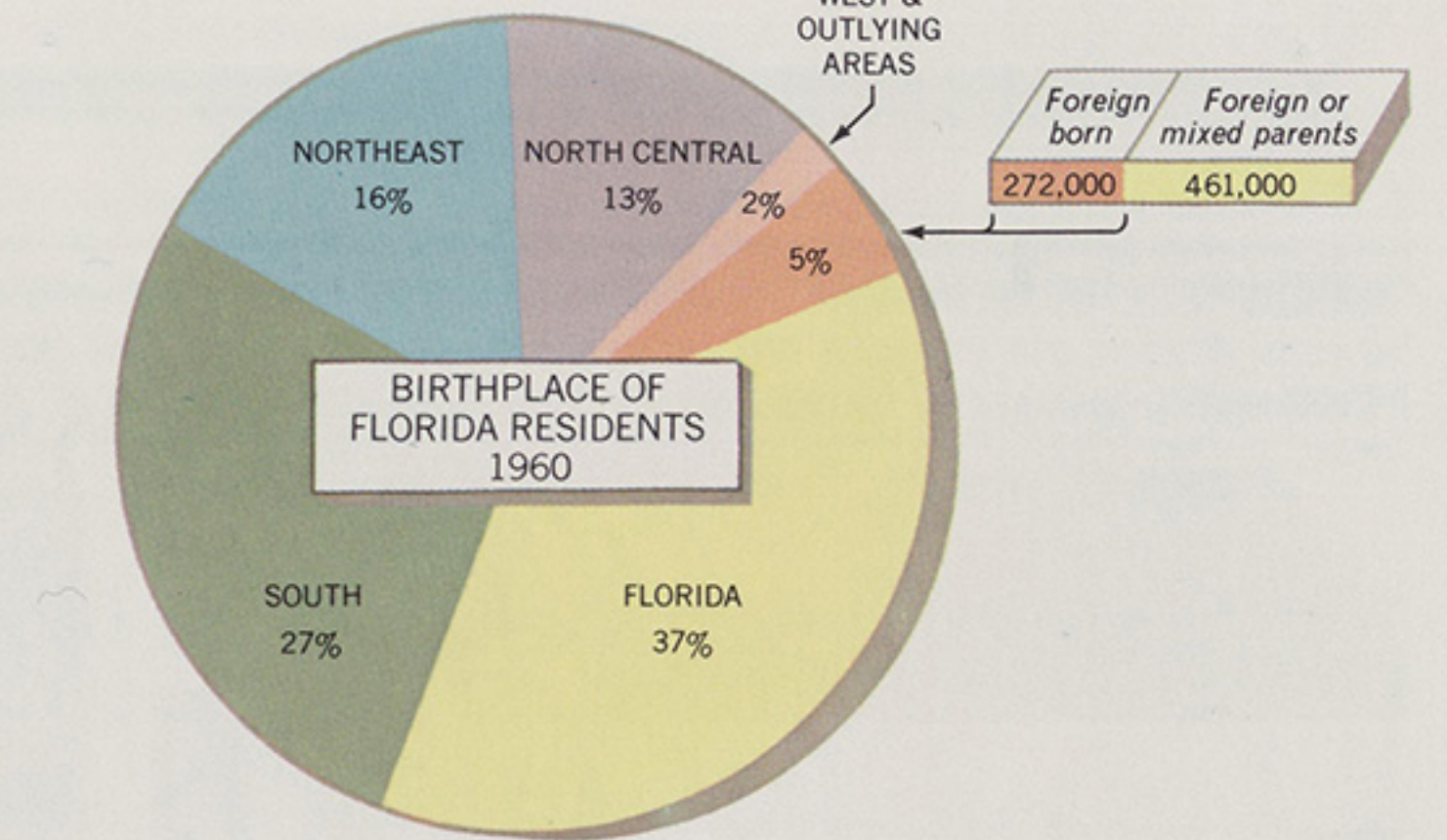
## NEGRO POPULATION

The Negro population of Florida is still mainly derived from the old plantations; however, about three-eighths of the present Negro population of Florida were born outside of the state. The proportion of Negroes, 20 per cent, is generally declining in spite of the very high birth rates. This proportion is much lower than that of the other southern states. In the north-central part of the state the proportion of Negroes varies from 25 to 60 per cent of the total population. Many of them live on small farms. Farther west, the pine lands have small Negro populations because plantation agriculture did not touch this area. Many Negroes work on truck farms around Lake Okeechobee. For the most part the present generation tends to abandon the small subsistence farm in favor of work in factories, construction, and fruit and vegetable harvesting. Many find work in domestic employment. Both the economic and the educational status of Florida Negroes have been improving rapidly in recent years. Many Negroes now finish high school and a significantly large number complete college.



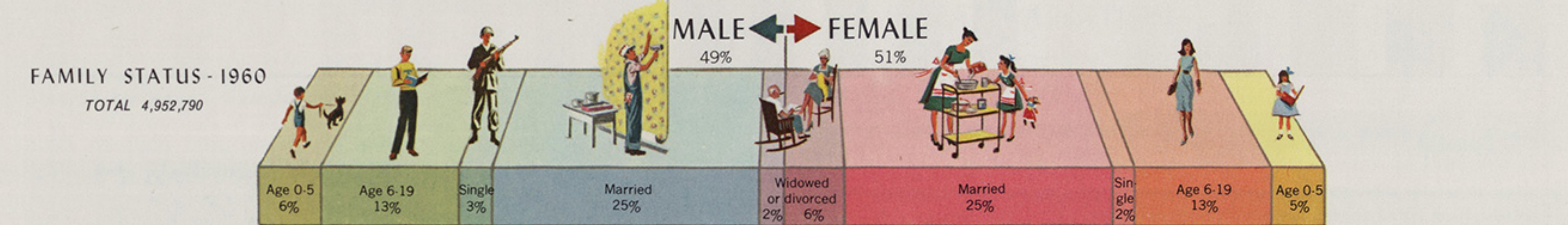
## NATIVITY

Florida has been the recipient of large numbers of people from outside the Southeast. Sixty-four per cent of Florida's population was born in the South, thirty-seven per cent in Florida itself. Slightly more people have come from the northeastern than the north central states. Most of these people have settled in south and central Florida, making its heritage somewhat different from that of north Florida. If Florida in the next decade continues to receive large numbers of new out-of-state residents, the proportion of its population born in Florida will decline slightly as it did between 1950 and 1960. While the percentage of foreign born is larger than that for most southern states it is smaller than that of some northeastern states. The recent refugee group from Cuba is not included in the graph.



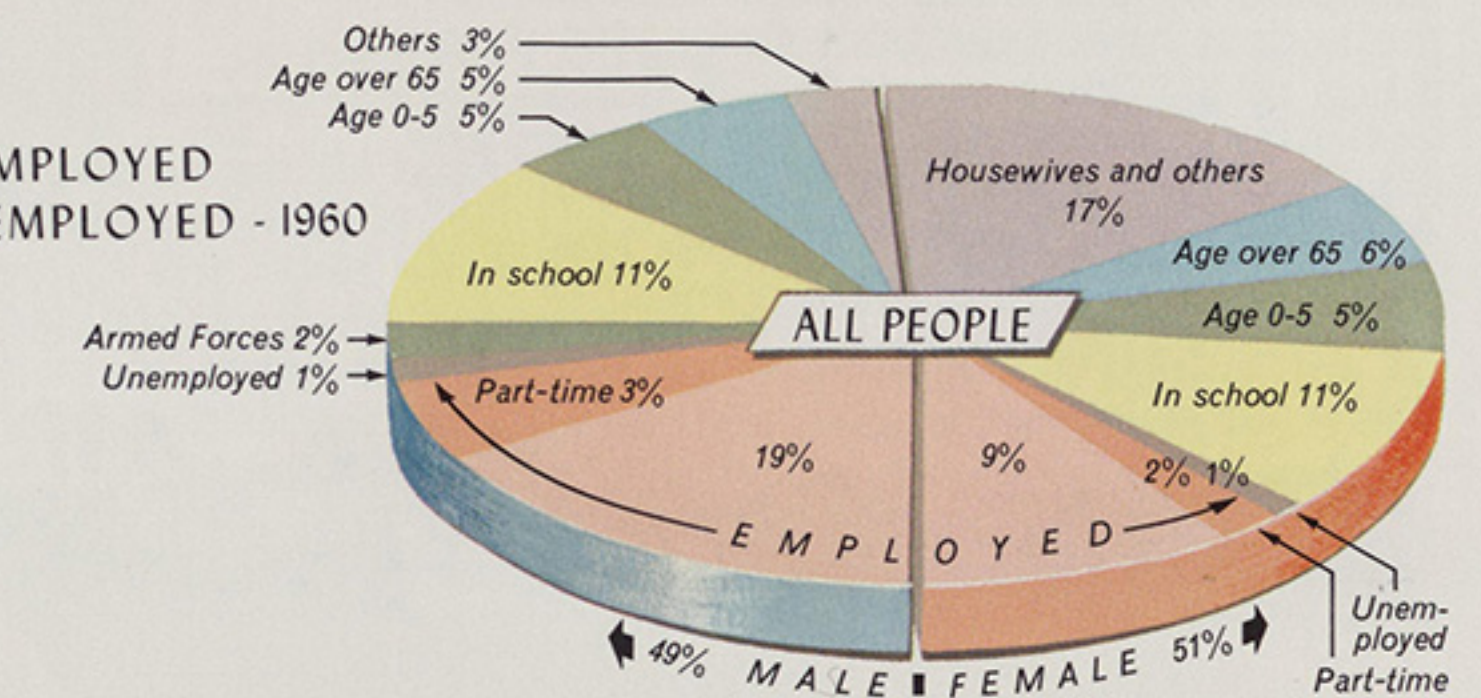
## FAMILIES

The vast majority (97.3 per cent) of Florida's people live in households. (A household consists of one or more persons who occupy a housing unit.) The average-sized Florida household is 3.11 persons. There were 1,164,000 married couples in 1960. There are about 40,000 marriages a year and nearly 20,000 divorces, but the majority of divorces are granted to temporary residents.



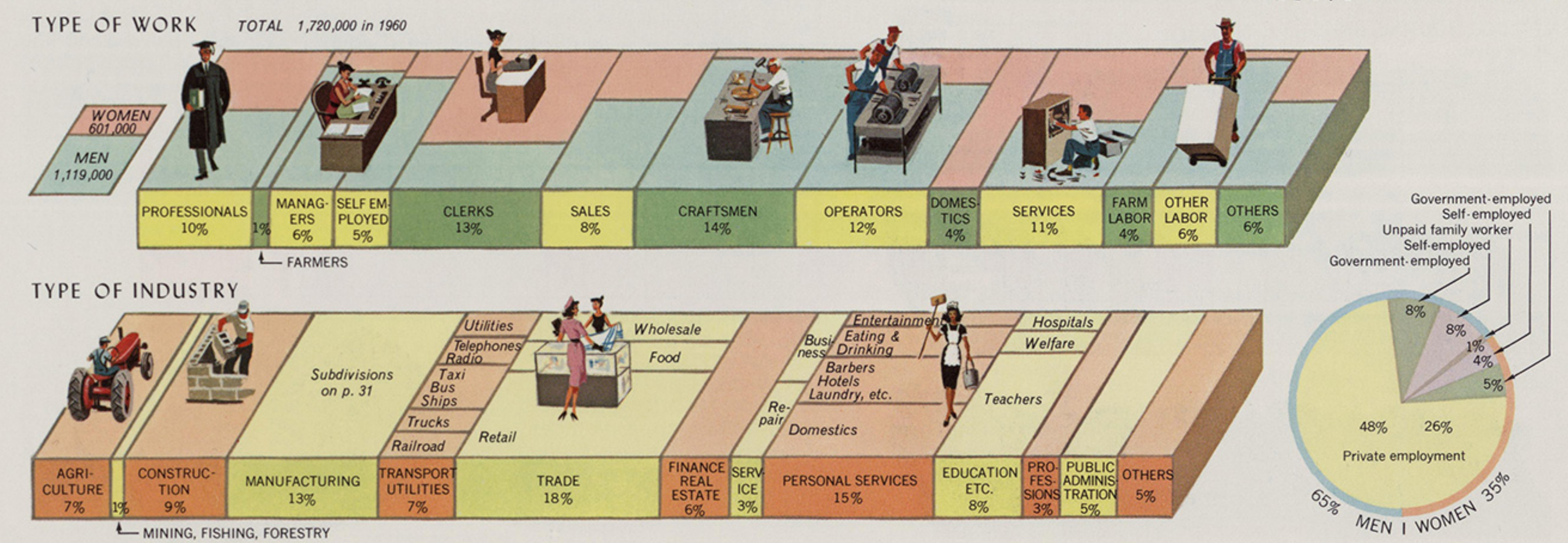
## OCCUPATIONS

A total of 65 per cent of the men and 33 per cent of the women over 14 years of age are employed, and another 20 per cent of the women are engaged in homemaking, as are many of the employed ones, too.



## THE EMPLOYED

A great number of farm laborers, waiters, waitresses, domestics, etc., come as seasonal workers and some of these are not included in the census.

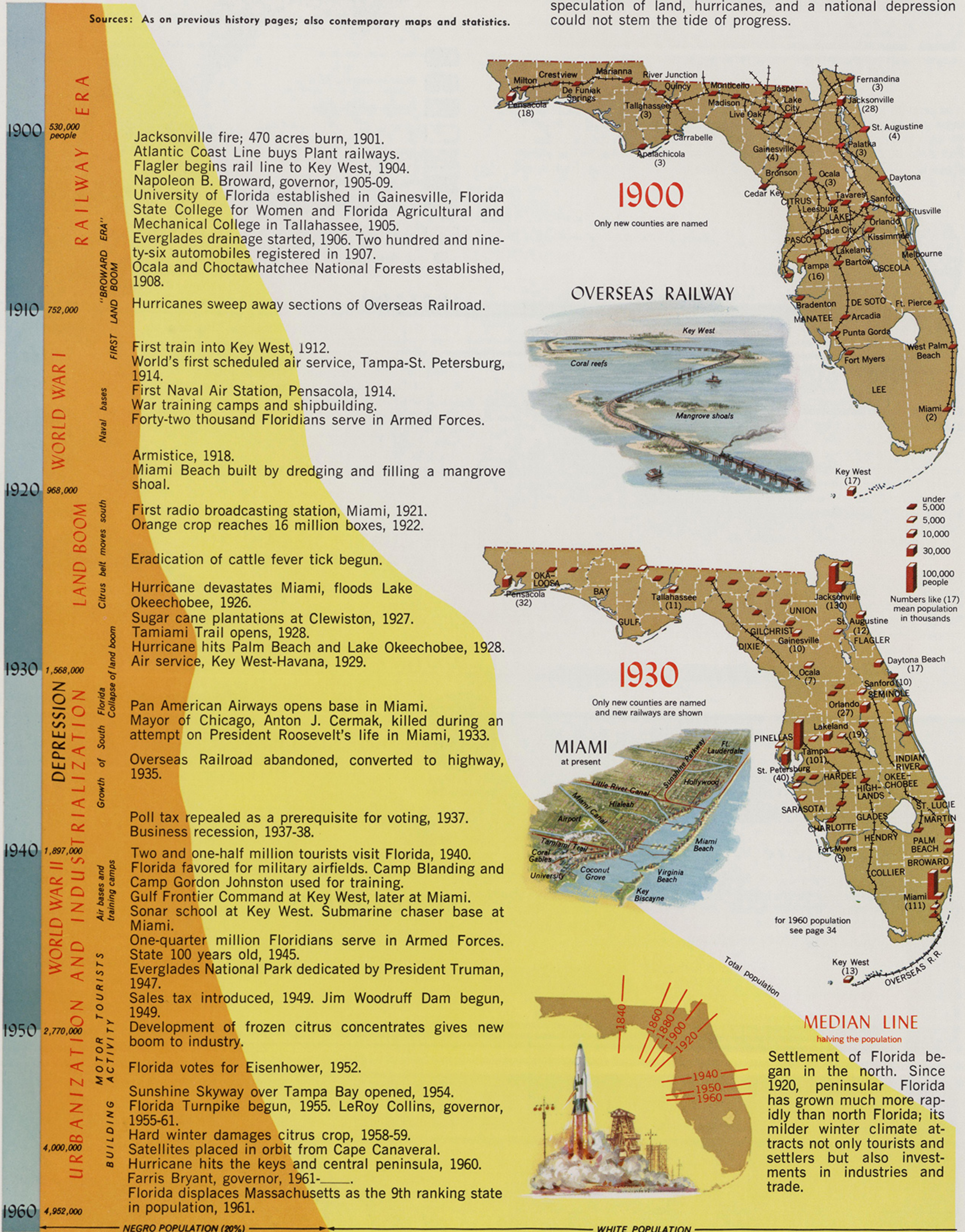




# 21. RAPID GROWTH

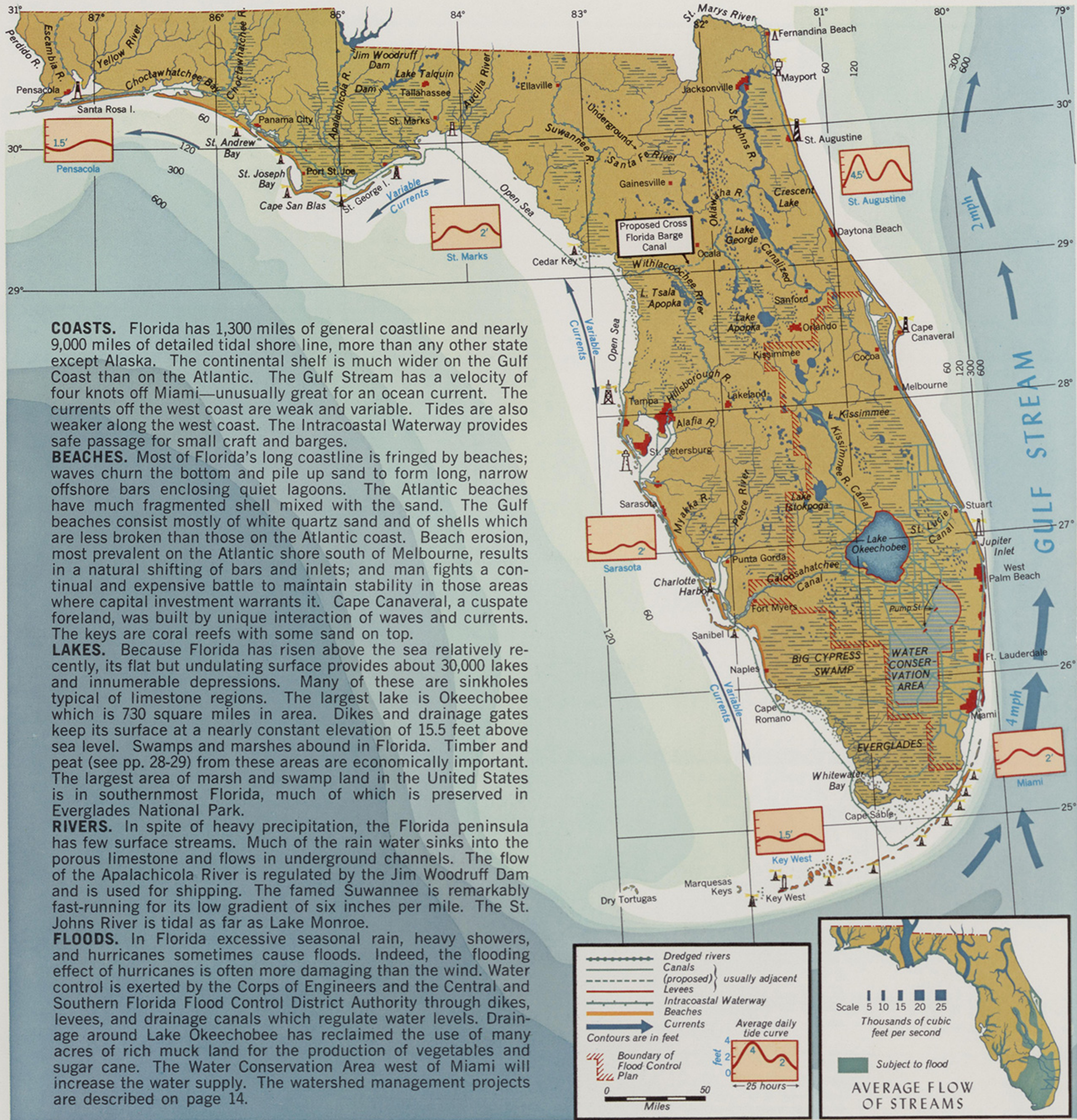
In the twentieth century, many Americans have seen the advantages and potential of Florida. Population increased by nine times in 60 years as thousands came to enjoy climate and scenery, and then to settle. Havoc caused by local over-speculation of land, hurricanes, and a national depression could not stem the tide of progress.

Sources: As on previous history pages; also contemporary maps and statistics.



# 10. SEA, LAKES, and RIVERS

Sources: Florida's Water Resources, 1957.  
U. S. Coast and Geodetic Survey charts.  
Central and Southern Florida Flood  
Control Project maps.  
Water Resources Study Commission reports.



**COASTS.** Florida has 1,300 miles of general coastline and nearly 9,000 miles of detailed tidal shore line, more than any other state except Alaska. The continental shelf is much wider on the Gulf Coast than on the Atlantic. The Gulf Stream has a velocity of four knots off Miami—unusually great for an ocean current. The currents off the west coast are weak and variable. Tides are also weaker along the west coast. The Intracoastal Waterway provides safe passage for small craft and barges.

**BEACHES.** Most of Florida's long coastline is fringed by beaches; waves churn the bottom and pile up sand to form long, narrow offshore bars enclosing quiet lagoons. The Atlantic beaches have much fragmented shell mixed with the sand. The Gulf beaches consist mostly of white quartz sand and of shells which are less broken than those on the Atlantic coast. Beach erosion, most prevalent on the Atlantic shore south of Melbourne, results in a natural shifting of bars and inlets; and man fights a continual and expensive battle to maintain stability in those areas where capital investment warrants it. Cape Canaveral, a cusped foreland, was built by unique interaction of waves and currents. The keys are coral reefs with some sand on top.

**LAKES.** Because Florida has risen above the sea relatively recently, its flat but undulating surface provides about 30,000 lakes and innumerable depressions. Many of these are sinkholes typical of limestone regions. The largest lake is Okeechobee which is 730 square miles in area. Dikes and drainage gates keep its surface at a nearly constant elevation of 15.5 feet above sea level. Swamps and marshes abound in Florida. Timber and peat (see pp. 28-29) from these areas are economically important. The largest area of marsh and swamp land in the United States is in southernmost Florida, much of which is preserved in Everglades National Park.

**RIVERS.** In spite of heavy precipitation, the Florida peninsula has few surface streams. Much of the rain water sinks into the porous limestone and flows in underground channels. The flow of the Apalachicola River is regulated by the Jim Woodruff Dam and is used for shipping. The famed Suwannee is remarkably fast-running for its low gradient of six inches per mile. The St. Johns River is tidal as far as Lake Monroe.

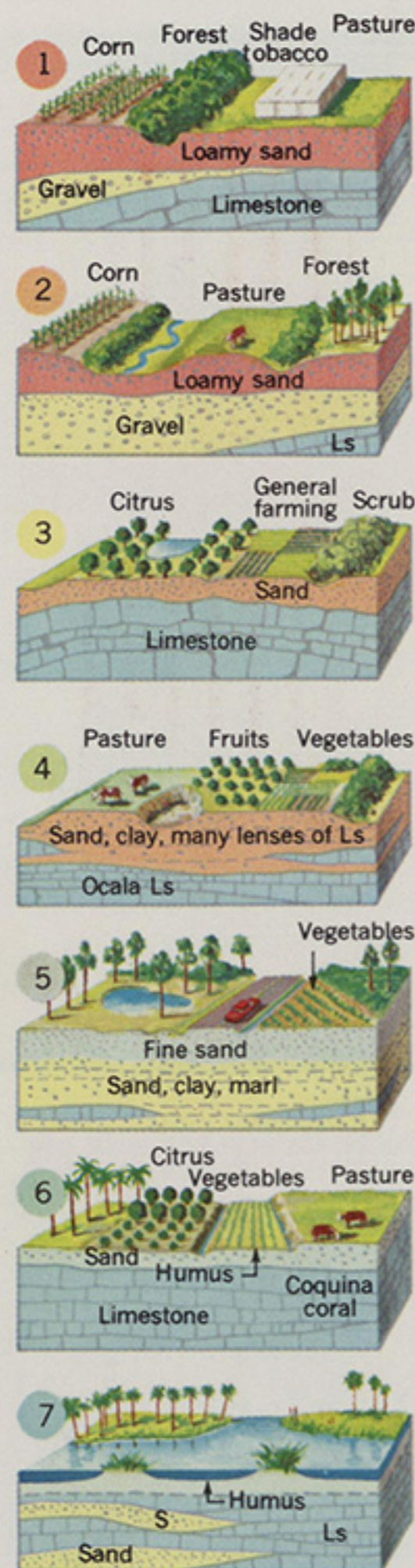
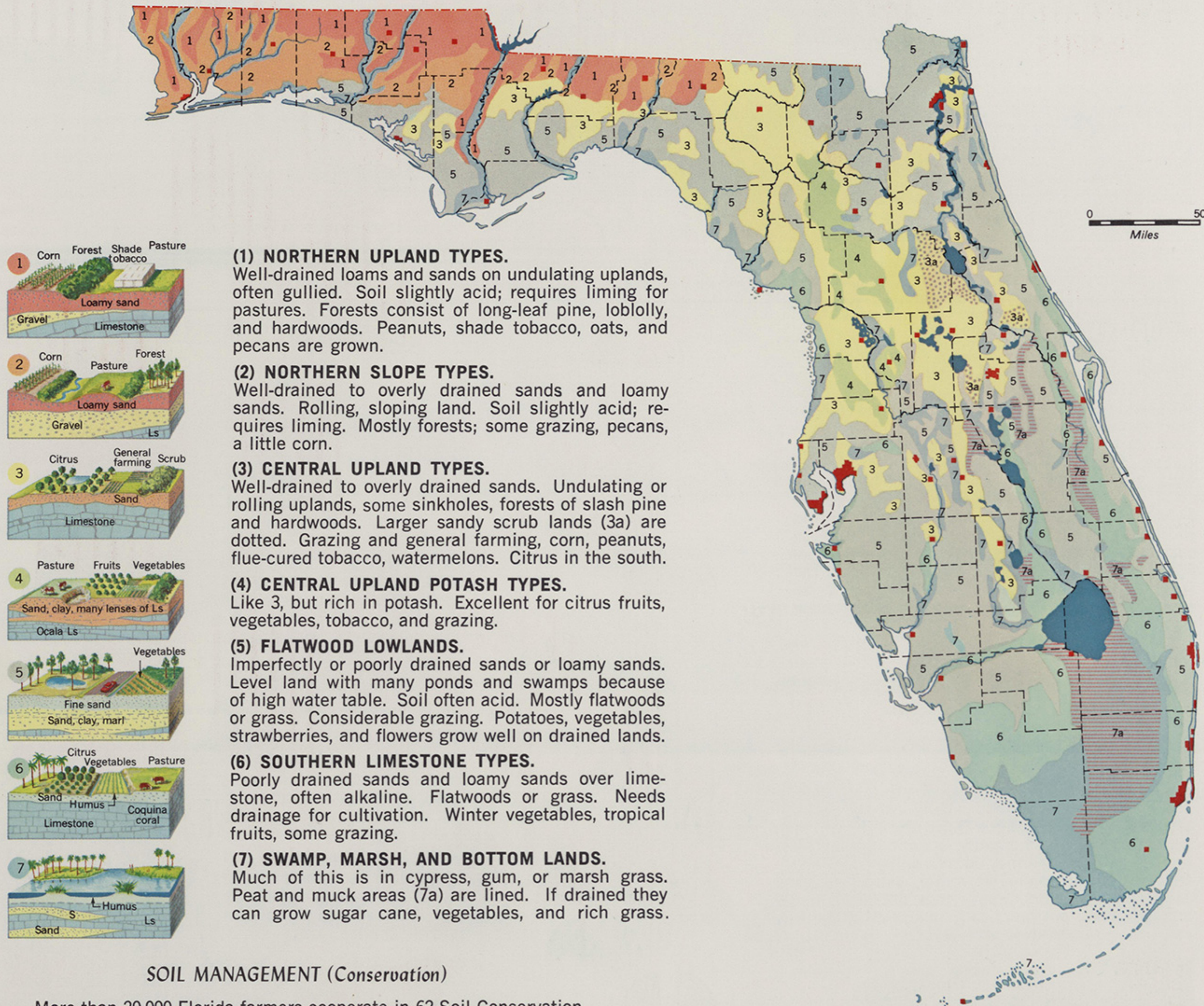
**FLOODS.** In Florida excessive seasonal rain, heavy showers, and hurricanes sometimes cause floods. Indeed, the flooding effect of hurricanes is often more damaging than the wind. Water control is exerted by the Corps of Engineers and the Central and Southern Florida Flood Control District Authority through dikes, levees, and drainage canals which regulate water levels. Drainage around Lake Okeechobee has reclaimed the use of many acres of rich muck land for the production of vegetables and sugar cane. The Water Conservation Area west of Miami will increase the water supply. The watershed management projects are described on page 14.



# 14. SOILS

The map is a highly generalized simplification of the scores of soil types recognized by experts. For detail see publications of the Agricultural Experiment Station, Gainesville, and the State Department of Agriculture, Tallahassee.

Florida soils are generally sandy, with underlying clay or limestone layers. Drainage in such soils is good except where there is a high water table. The soil cover is thicker in the north, where ancient rivers spread their deposits. Tillth is excellent in sandy soils, but leaching is a problem and soil nutrients must be replaced by use of fertilizer or cover crops. Except in low hammocks, river bottoms, or in peat and muck areas, Florida soils are deficient in humus. Peat is sometimes added to vegetable and flower beds to make up for this lack. Sandy soils also tend toward acidity, and soil liming may be necessary for certain crops. Even on mediocre soils the Florida farmer finds that the combination of good tillth and warm climate makes agriculture one of Florida's most prosperous activities.



- (1) NORTHERN UPLAND TYPES.** Well-drained loams and sands on undulating uplands, often gullied. Soil slightly acid; requires liming for pastures. Forests consist of long-leaf pine, loblolly, and hardwoods. Peanuts, shade tobacco, oats, and pecans are grown.
- (2) NORTHERN SLOPE TYPES.** Well-drained to overly drained sands and loamy sands. Rolling, sloping land. Soil slightly acid; requires liming. Mostly forests; some grazing, pecans, a little corn.
- (3) CENTRAL UPLAND TYPES.** Well-drained to overly drained sands. Undulating or rolling uplands, some sinkholes, forests of slash pine and hardwoods. Larger sandy scrub lands (3a) are dotted. Grazing and general farming, corn, peanuts, flue-cured tobacco, watermelons. Citrus in the south.
- (4) CENTRAL UPLAND POTASH TYPES.** Like 3, but rich in potash. Excellent for citrus fruits, vegetables, tobacco, and grazing.
- (5) FLATWOOD LOWLANDS.** Imperfectly or poorly drained sands or loamy sands. Level land with many ponds and swamps because of high water table. Soil often acid. Mostly flatwoods or grass. Considerable grazing. Potatoes, vegetables, strawberries, and flowers grow well on drained lands.
- (6) SOUTHERN LIMESTONE TYPES.** Poorly drained sands and loamy sands over limestone, often alkaline. Flatwoods or grass. Needs drainage for cultivation. Winter vegetables, tropical fruits, some grazing.
- (7) SWAMP, MARSH, AND BOTTOM LANDS.** Much of this is in cypress, gum, or marsh grass. Peat and muck areas (7a) are lined. If drained they can grow sugar cane, vegetables, and rich grass.

## SOIL MANAGEMENT (Conservation)

More than 20,000 Florida farmers cooperate in 62 Soil Conservation Districts. These are served without pay by about 300 District Supervisors who receive technical aid from state and federal experts. More than 10 million acres of land have been brought under sound conservation practices in this manner.

The activities include:

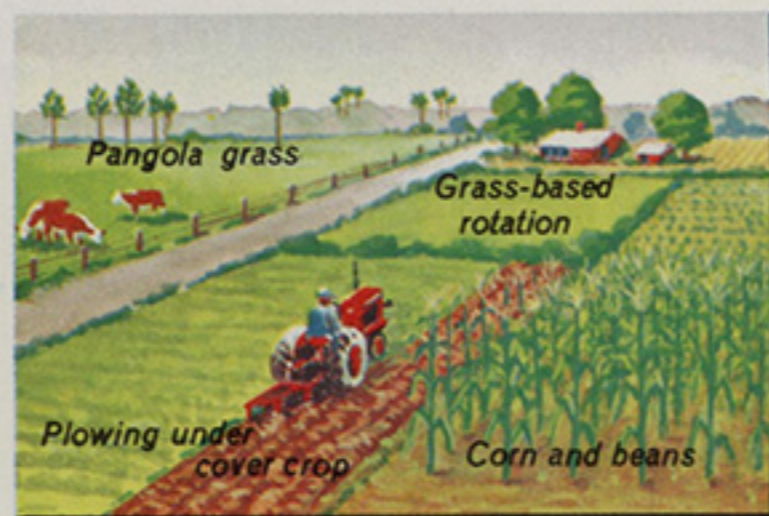
CROPLAND	GRAZING LAND	WOODLAND	WATER CONTROL
Crop rotation	Land clearing	Controlled burning	Drainage
Contour farming	Pasture planting	Harvest cutting	Irrigation
Cover cropping	Wildlife improvement	Fire breaks	Sprinklers
Green manuring		Planting	Dikes
Mulch tillage		Improvement cutting	Ditches
Strip cropping			Fishponds

Advice and literature are available from the U. S. Soil Conservation Service and the University of Florida, Gainesville.

### TERRACING, CONTOUR PLOWING



### FERTILIZING, ROTATION, COVER CROPS



### TREE PLANTING, CONTROLLED BURNING



### DRAINAGE, IRRIGATION



## WATERSHED MANAGEMENT PROJECTS

Sixteen special watershed management projects are now being organized to plan for the best use of some 22 watersheds. Although Florida fortunately has one of the nation's largest useful aquifers (see p. 11), the state's water problems are serious. More and more water is required for industry, irrigation, and municipal use. Control of erosion and leaching is necessary on upland areas. Much low land needs draining. Lake and river levels have to be regulated. The problem of pollution by industry and sewage is grave in certain localities. Salt water has invaded many coastal water supplies.

# 36. STANDARDS OF LIVING

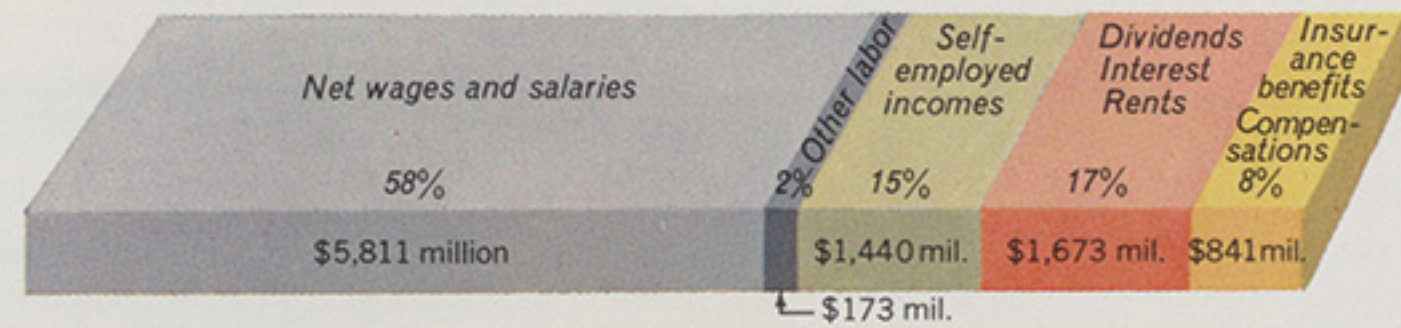
Sources: Publications of the U. S. Bureau of the Census, Washington, D. C.; personal income figures are from the Bureau of Economic and Business Research, University of Florida, Gainesville.

## INCOMES

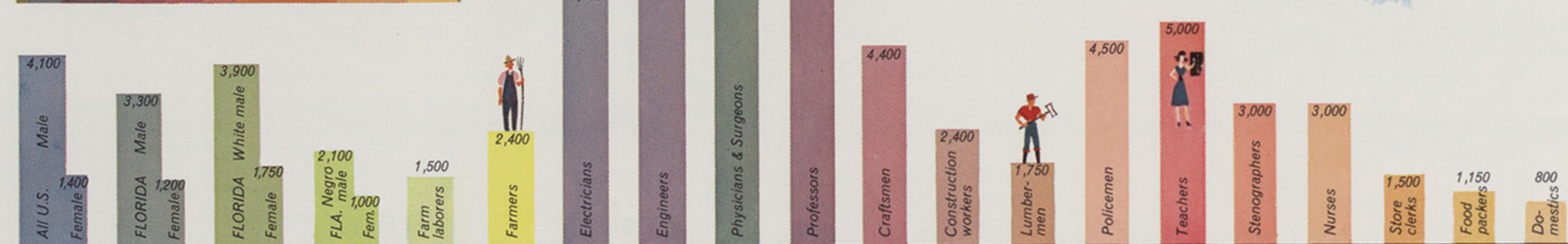
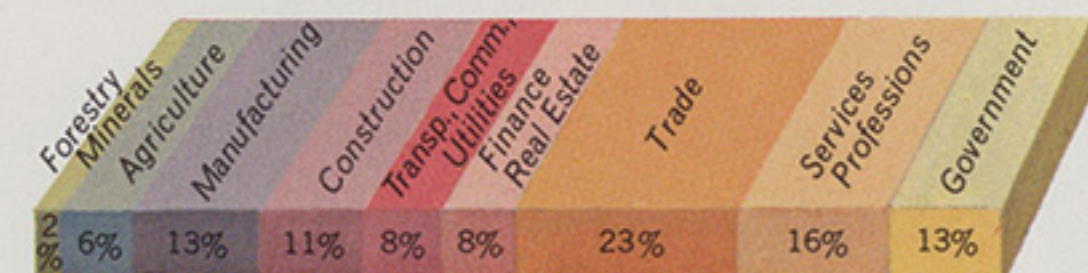
The primary sources of Florida's income, as shown at right, add up to \$6.4 billion. Value added by manufacturing may soon surpass tourist spending. Secondary income produced by trade, finance, services, and government brings the total income of Florida's people to \$10 billion.

Per capita income in Florida in 1960 was \$2,000. This is below the national average of \$2,200, but it is compensated by savings on housing, heating, and clothing. Incomes in the southern counties are about twice those of the farming people in the northern counties. Although dollar income quadrupled in 25 years, the actual gain is small in view of the lower purchasing power of the dollar. All growth in value diagrams in this Atlas should be evaluated with this factor in mind.

PERSONAL INCOME BY TYPE - 1960 \$9,938 million

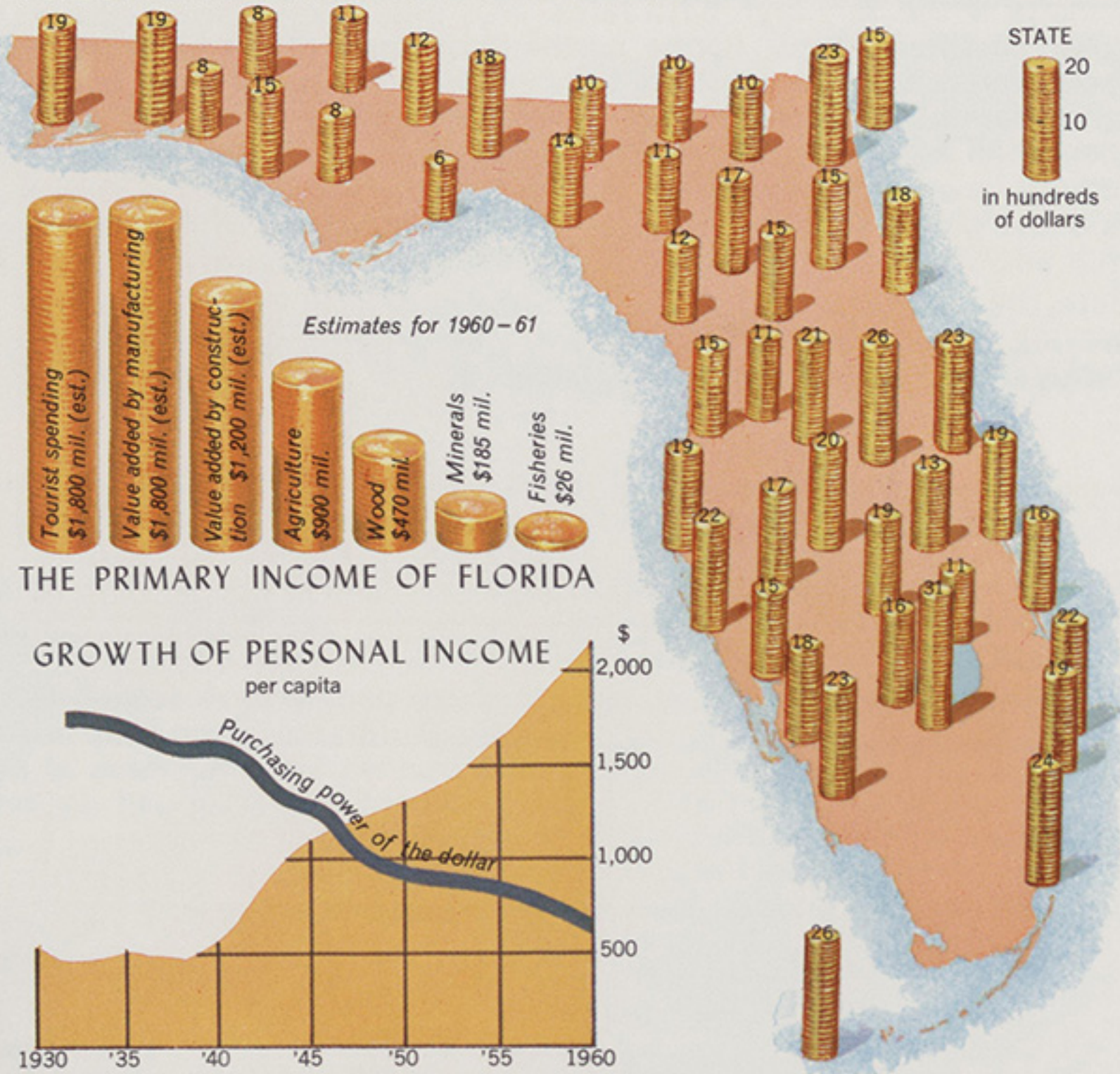


PERSONAL INCOME BY INDUSTRY \$7,300 million



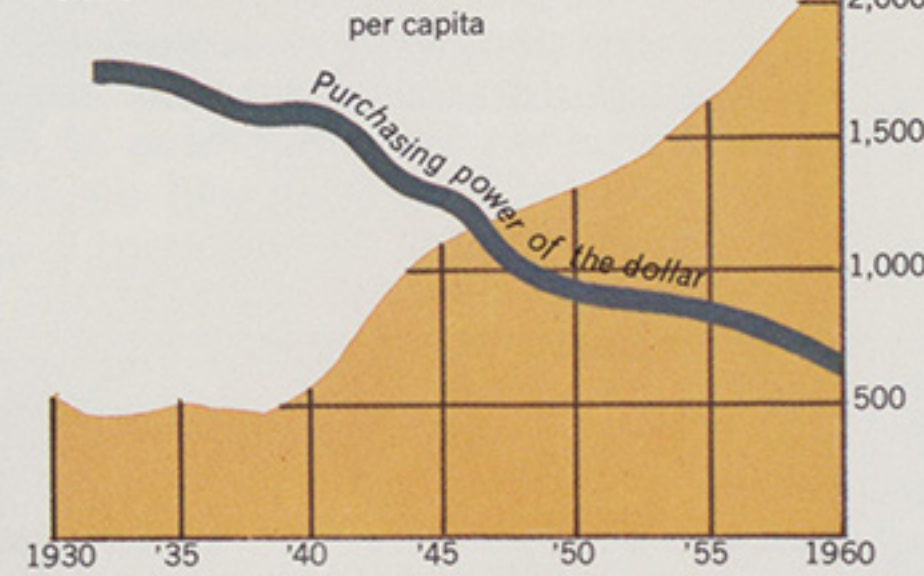
SOME SELECTED MEDIAN YEARLY EARNINGS - 1959

PERSONAL INCOME per capita of selected counties, 1960



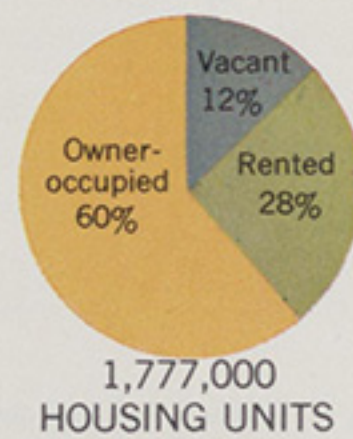
THE PRIMARY INCOME OF FLORIDA

GROWTH OF PERSONAL INCOME per capita



## HOUSING

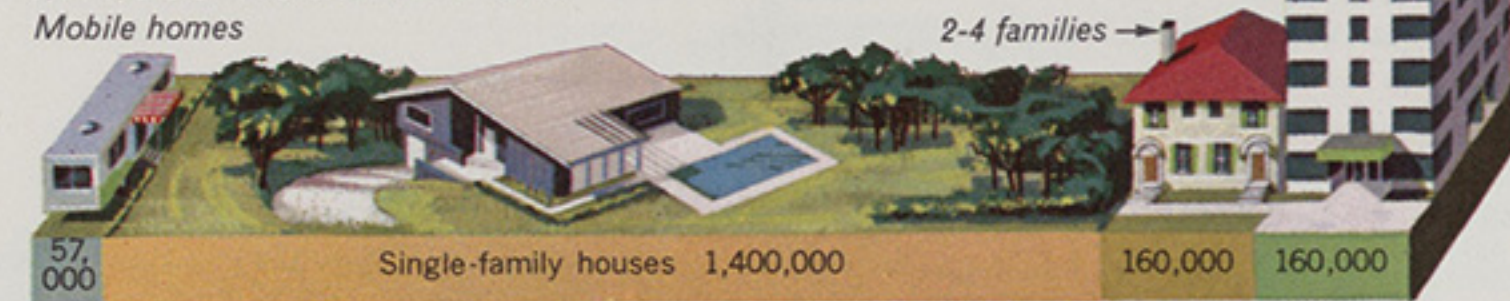
Florida is a land of new, one-family houses occupied by the owner. More than half of the houses have been built since 1950. Two-thirds of all urban single-family homes are valued at less than \$15,000. Rural homes are valued at still less. The typical cheap shacks of the Negro population are now gradually being replaced with modern homes.



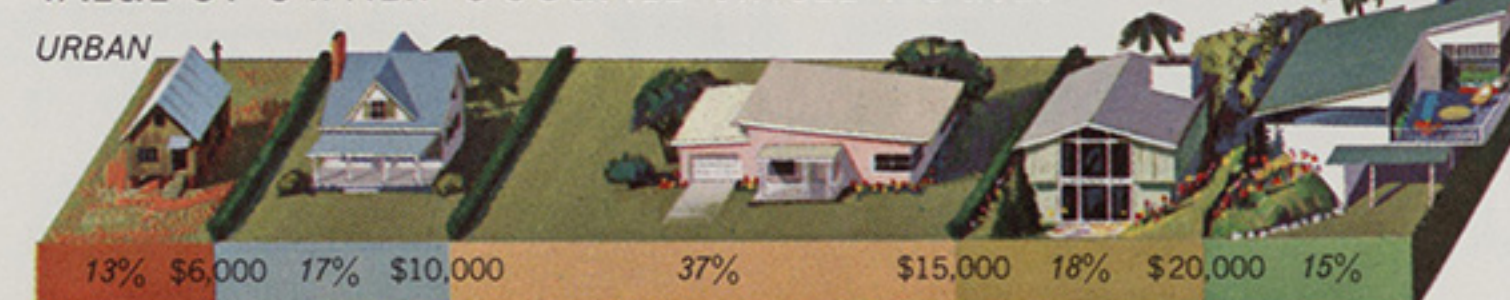
WHEN BUILT (Estimated)



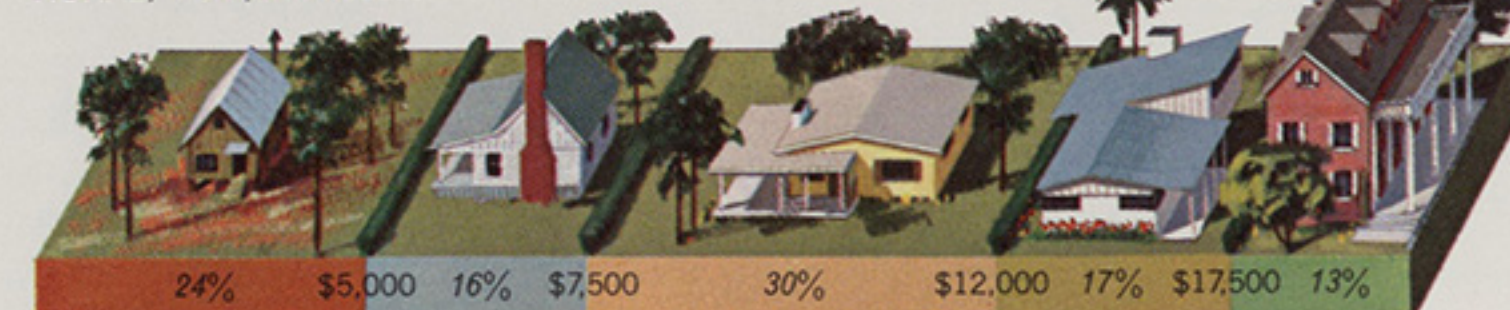
1,777,000 HOUSING UNITS



VALUE OF OWNER-OCCUPIED SINGLE HOUSES



RURAL, non-farm houses



## HOUSEHOLD CONVENIENCES

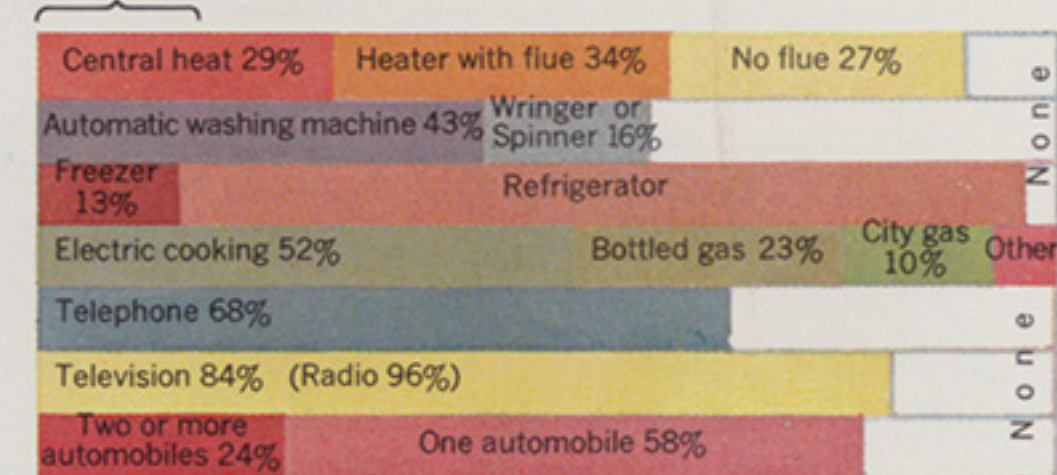
Conveniences have increased even faster than housing. For example, only 17 per cent of the urban Negro families had a bathroom in 1950; fully 80 per cent are now thus equipped. A household without plumbing, refrigerator, television, telephone, heating equipment, and at least one automobile is exceptional. Over one-half of the houses have washing machines. Air conditioning and home freezers are the next on the list for gracious living of Florida families. No statistics could do justice to the beautiful gardens which add so much pleasure all year round to living in the Sunshine State.



PLUMBING 1960

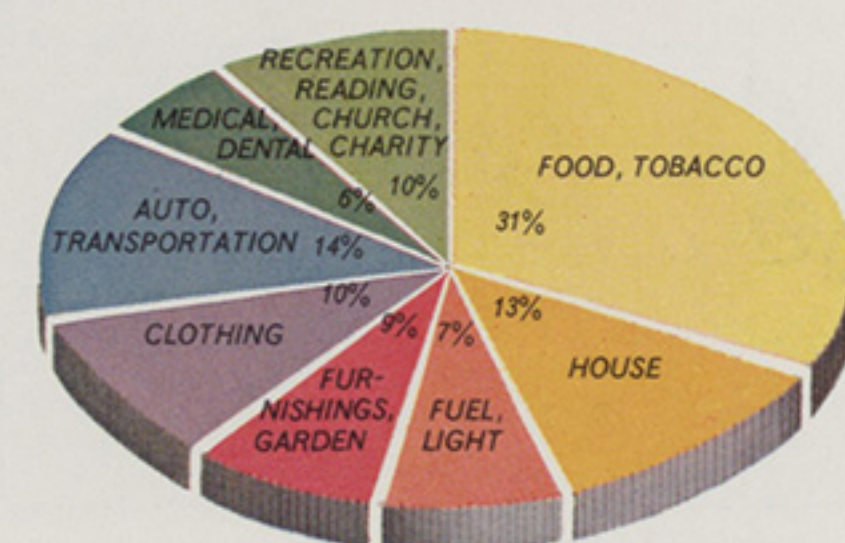


Air conditioning 16%



## HOW THE FAMILY DOLLAR IS SPLIT

Taxes are not included, as they vary with income. The rich spend a smaller percentage of their income on food and more on recreation, less on autos and more on boats. Education expense is not included, as this varies greatly and most of it comes out of taxes.



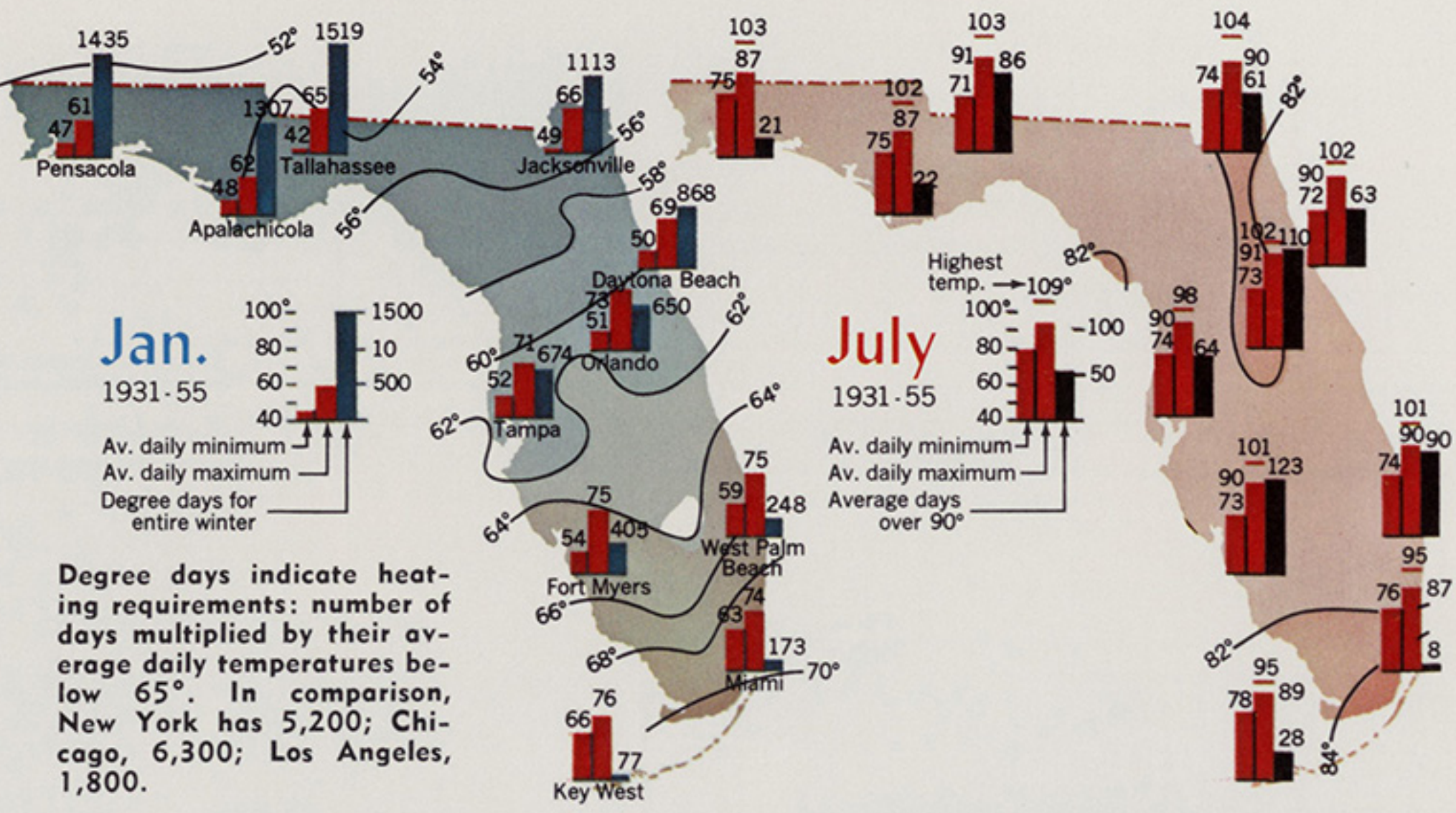
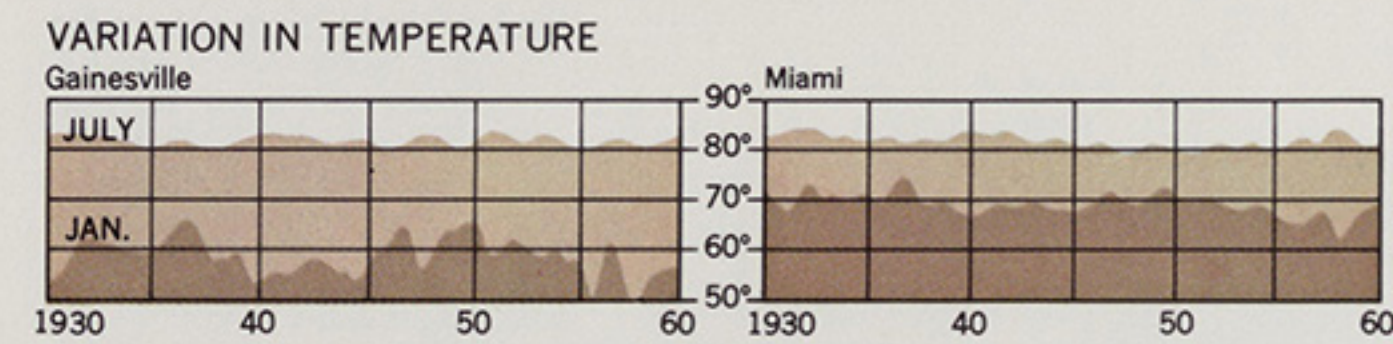
# 12.-13. SUN, RAIN, AND WIND

Climate is Florida's greatest resource! Its warm, sunny weather entices millions of winter-weary people from the chilly North to pleasure and relaxation under the palms. Its warm midwinter sunshine ripens lush citrus fruits and winter vegetables. The climate ranges from the subtropical of northern Florida to the semitropical of the lower peninsula and to the frost-free tropical of the lower keys.

Florida's climate results mainly from its latitude between 24°30' and 31° N., its location on the southeastern corner of a large land mass, its peninsular shape projecting between the Gulf of Mexico and the Atlantic, its low elevation, and the tracks of tropical and extratropical storms. The climate affects all economic activities in the state. Some, like agriculture and tourism, are affected directly; others, like general business, are affected indirectly.

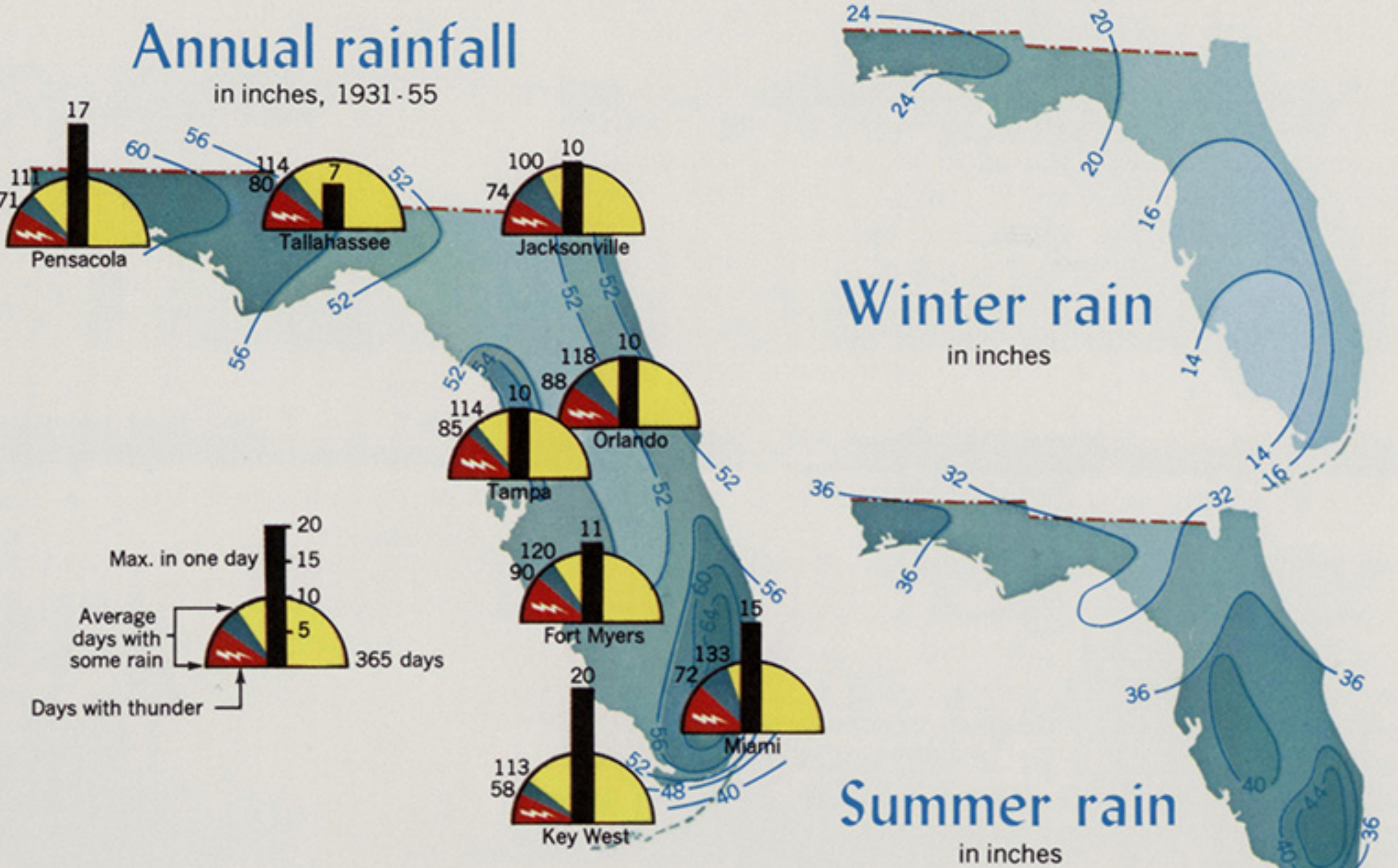
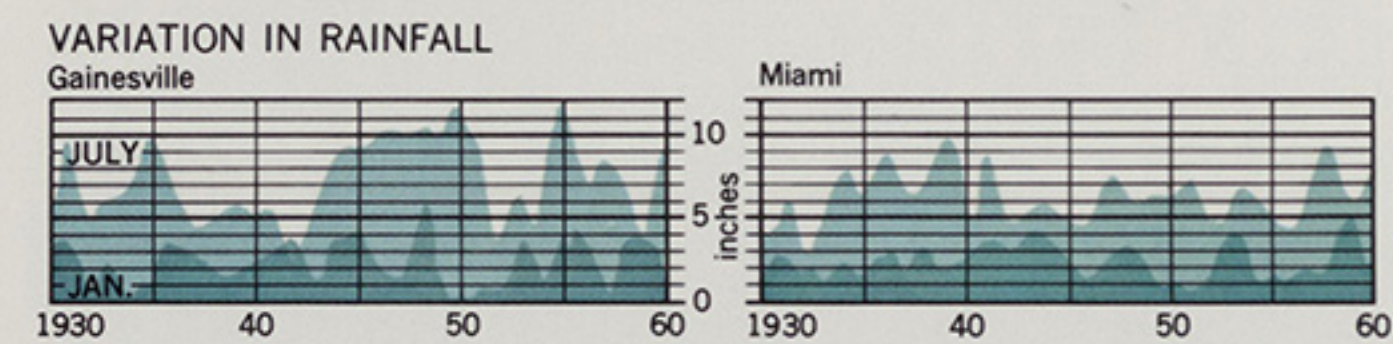
## TEMPERATURE

Winter temperatures vary greatly, from Pensacola's January average of 52° to Miami's 70°. In winter, cyclonic storms frequently bring cold weather from the north, and January averages fluctuate widely. In contrast, the summer conditions are fairly uniform over the entire state. Marine influences render Florida's summer a pleasant season. Southern Florida, in average, is the warmest; yet Miami has only 8 days with over 90° and the absolute maximum is only 95°, as contrasted with Tallahassee's 86 days over 90° and 103° maximum. Miami is often cooler in summer than New York or Chicago; and, more important, the night temperatures are in the pleasant 70's, as they are all over Florida.



## RAINFALL

In the belt of latitude in which Florida is located are the world's greatest deserts (Sahara, Thar, Arabia), yet Florida is one of the wettest states in the Union. Most of the rain is of a tropical type: it falls during the summer months in the form of thundershowers. These generally occur in the afternoon and the downpour can be quite heavy, although usually of short duration. Then the sky clears and humidity and temperature drop to a pleasant degree. The winter rain in all of Florida except for the southern part of the peninsula is of cyclonic type. It is slow and drizzly, often followed by a drop in temperature or even a freeze. Snow flurries are rarely known and it has never snowed in the lower peninsula. The rainiest parts of Florida are around Palm Beach and Pensacola.

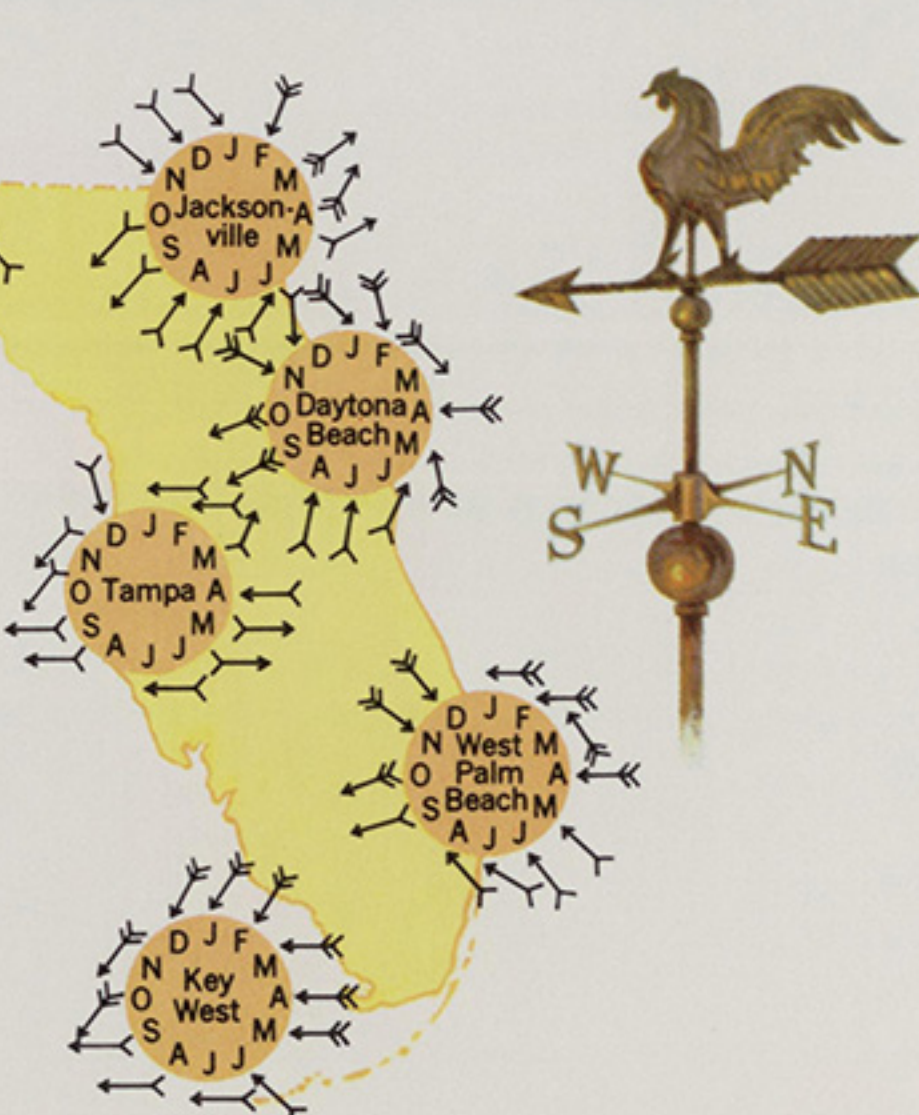


Florida's rainfall varies greatly from year to year, particularly in the summer. A single heavy rain may change the curve. Note the alternating wet and dry cycles.

## WIND

Arrows fly with the most frequent wind direction of each month, but much wind will blow from other directions too.

Average speed of all winds for the month is indicated in miles per hour.



## PROGRESSION OF A COLD FRONT

Dec. 11-13, 1957  
Temperatures and lines

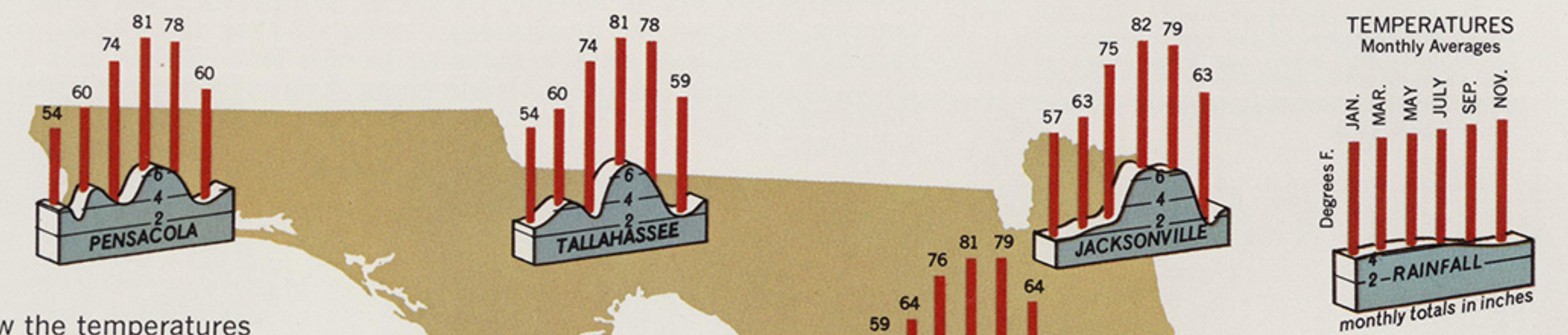
36° Dec. 11  
27° Dec. 12  
24° Dec. 13



Sources: Records of the U. S. Weather Bureau and the State Climatologist.

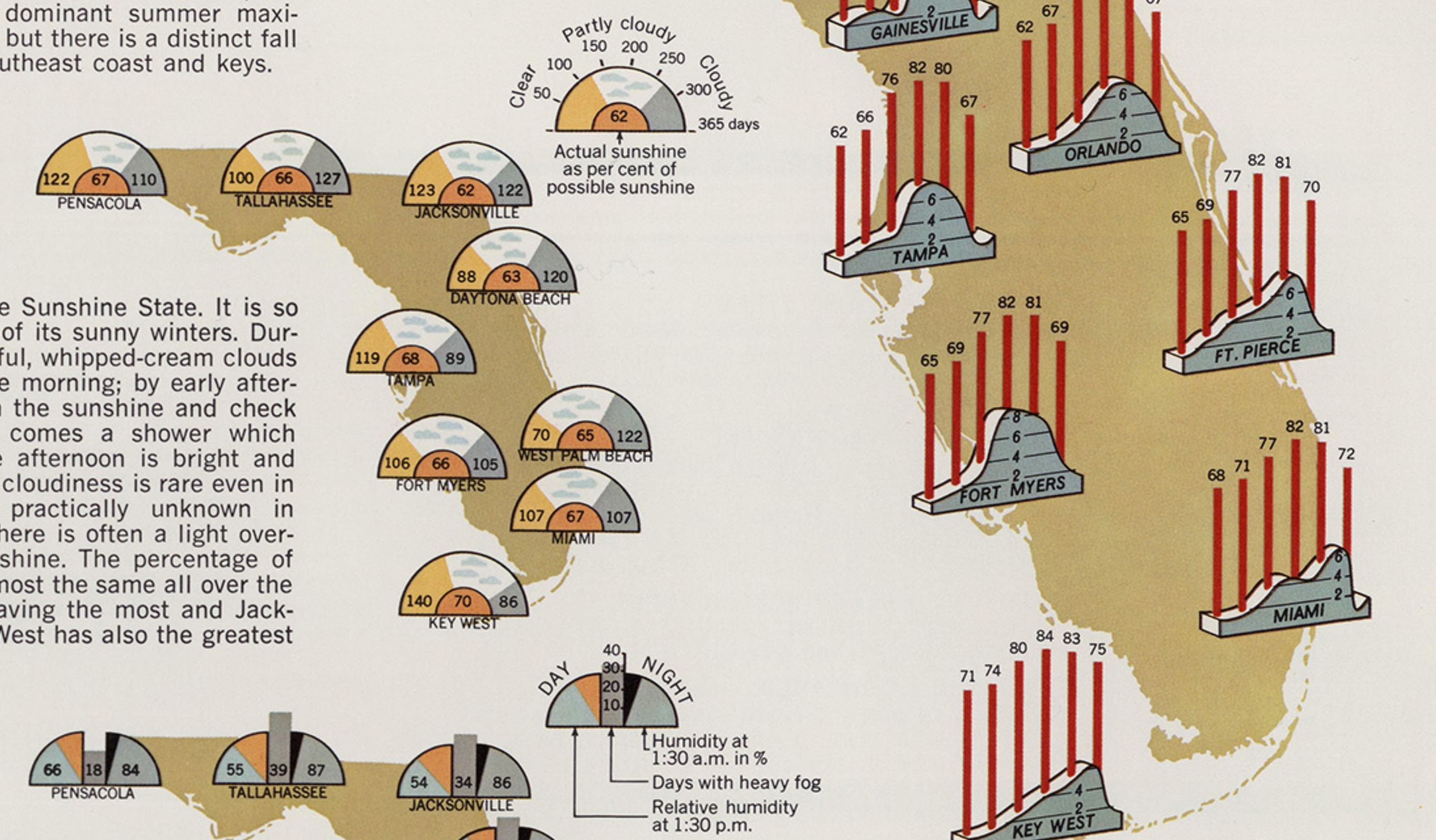
## RAINFALL AND TEMPERATURE GRAPHS

The diagrams on the map show the temperatures in degrees Fahrenheit and rainfall in inches, based on a 30-year average. From a rather even year-round distribution of rain in Pensacola, the pattern changes to a dominant summer maximum on the peninsula, but there is a distinct fall maximum along the southeast coast and keys.



## SUNSHINE AND CLOUDS

Florida is known as the Sunshine State. It is so called mainly because of its sunny winters. During the summer, beautiful, whipped-cream clouds start to form in the late morning; by early afternoon they cut down on the sunshine and check further heating. Then comes a shower which cools the air. The late afternoon is bright and clear. Prolonged winter cloudiness is rare even in northern Florida and practically unknown in southeastern Florida. There is often a light overcast, yet the sun may shine. The percentage of possible sunshine is almost the same all over the state, with Key West having the most and Jacksonville the least. Key West has also the greatest number of clear days.

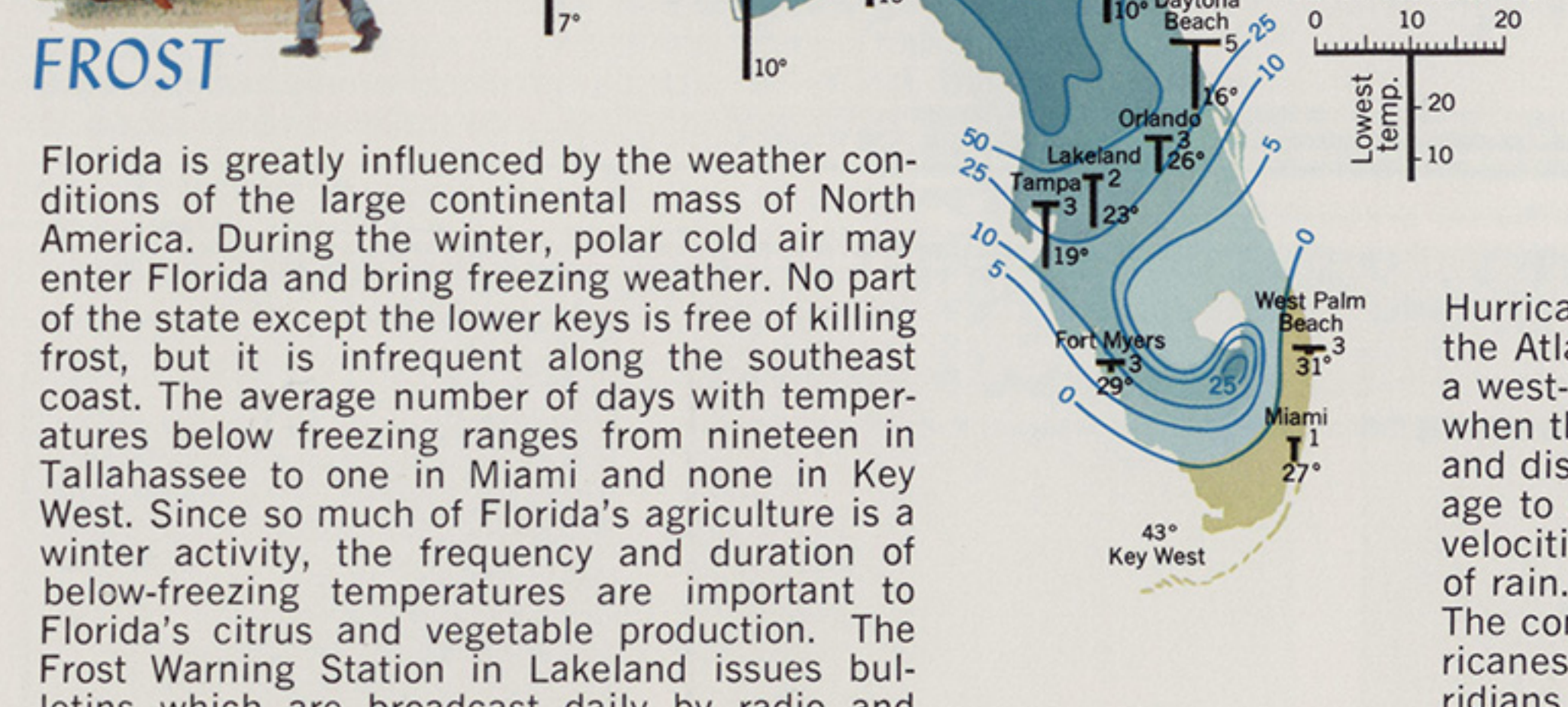


## HUMIDITY AND FOG

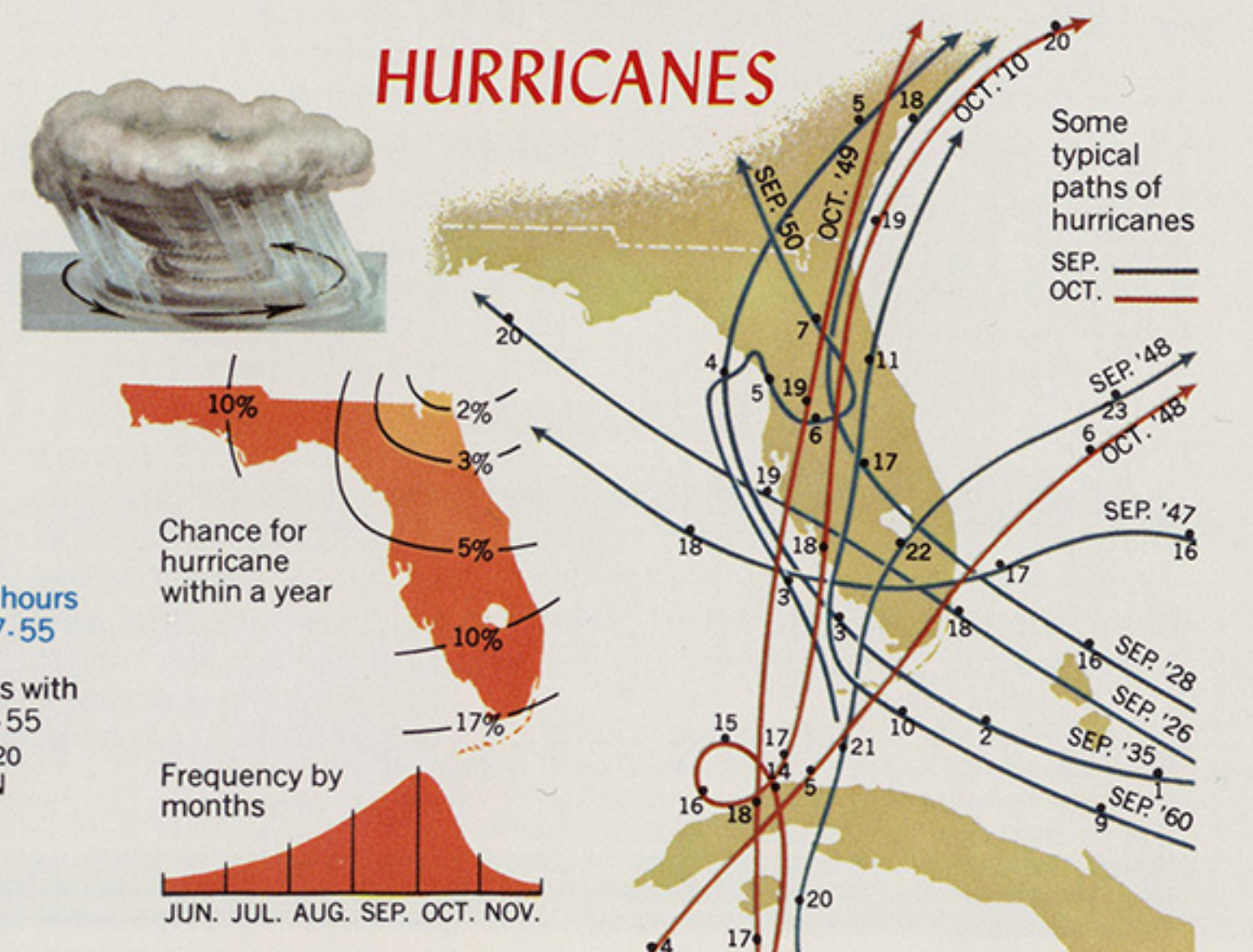
Humidity is responsible for uncomfortably "hot" summer days. This occurs usually just before the afternoon thundershowers. Quite often when temperatures are high, humidity is low and temperatures feel lower than they do on a sultry but cooler day. Fogs occur mainly in winter, usually in the early morning hours. Heavy fogs are infrequent in Florida and are practically unknown in southeastern Florida and on the keys.

## FROST

Florida is greatly influenced by the weather conditions of the large continental mass of North America. During the winter, polar cold air may enter Florida and bring freezing weather. No part of the state except the lower keys is free of killing frost, but it is infrequent along the southeast coast. The average number of days with temperatures below freezing ranges from nineteen in Tallahassee to one in Miami and none in Key West. Since so much of Florida's agriculture is a winter activity, the frequency and duration of below-freezing temperatures are important to Florida's citrus and vegetable production. The Frost Warning Station in Lakeland issues bulletins which are broadcast daily by radio and television during the winter season.



## HURRICANES



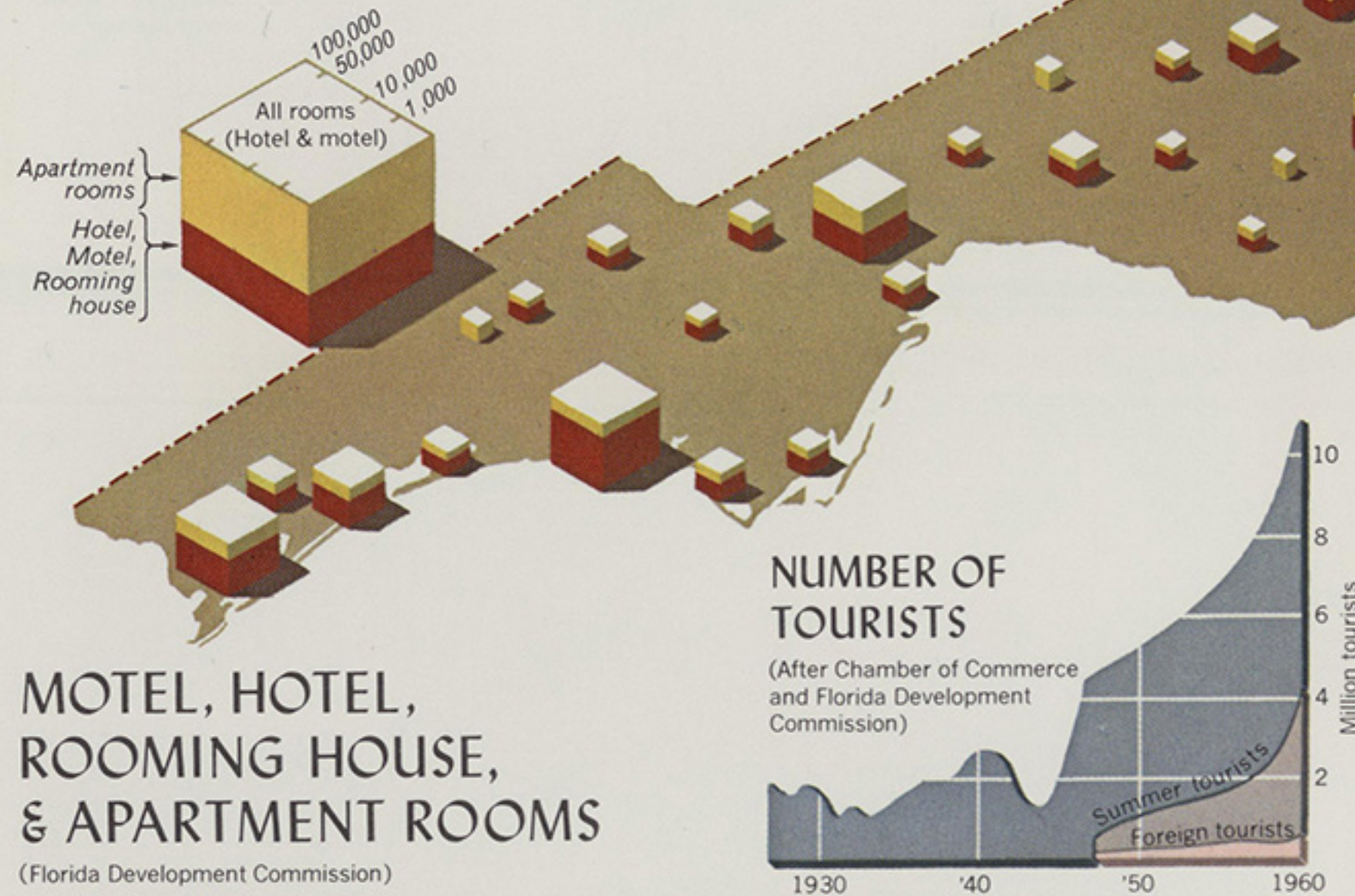
Hurricanes are large, violent tropical storms which originate over the Atlantic during late summer and fall. They travel generally in a west-northwesterly direction until they approach the east coast, when they are apt to turn northeast. Then they become weakened and dissipate over land. Nonetheless, they cause large-scale damage to structures, fields, and forests. Hurricane winds may attain velocities of over 150 miles per hour and bring heavy downpours of rain. Along the coast the onshore winds can cause flood tides. The combination of wind, tide, and rain causes the damage. Hurricanes have played important parts in Florida's history, but Floridians have learned to cope with them when they occasionally strike the mainland.



# 42. TOURISM

Sources: Florida Development Commission, Tourist Services Division, *Tourism Report, 1960*, Tallahassee; Florida State Chamber of Commerce, Jacksonville; local Chamber of Commerce leaflets.

Tourism is an industry where the customer comes to the product. Almost 13 million tourists entered Florida in 1961 and they spent over \$2 billion. This is the largest source of the state's primary income—about the same as the value added by manufacturing. Florida has much to offer—ideal winter climate, good accommodations, services, and many attractions. (For tourist attractions, see map in the back pocket.)

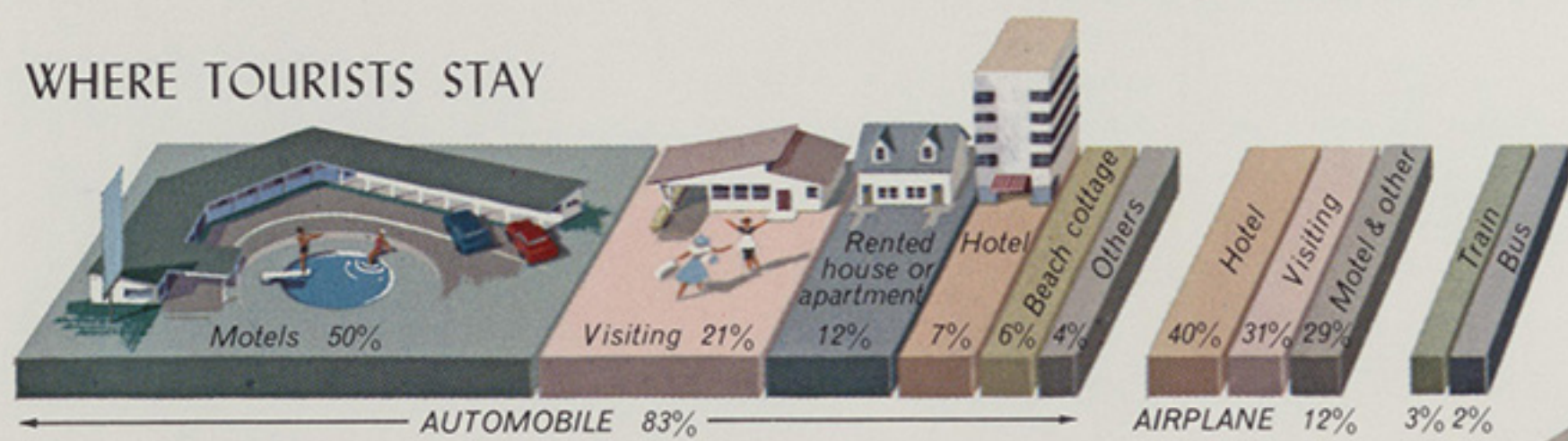


The map shows the number of rooms available for tourists. Hotel and motel rooms are more expensive than apartment rooms. Thus, the red part of the cubes is the more important, particularly for the traveling visitors. The 16,000 restaurants could seat all the tourists in Florida at any one time.

There is a large number of summer tourists. Many of these come from the southern states to enjoy the beaches of northern Florida. Eighty-three per cent of the tourists came by automobile in 1961. Half of them stayed in motels. Nowhere else in the world are there so many luxurious motels as in Florida. Many of the 550 hotels of the Miami area are unparalleled for comfort, service, and superb architecture.

In 1961 the average summer visitor stayed 14 days and spent \$8 a day, while the average winter visitor stayed 16 days and spent \$14 a day. Three-fourths of the visitors had previously visited Florida. There were almost 2 million visitors in July, 1961, and about 1 million in February, 1961. One-sixth of all personal income of Floridians comes from tourists.

## WHERE TOURISTS STAY

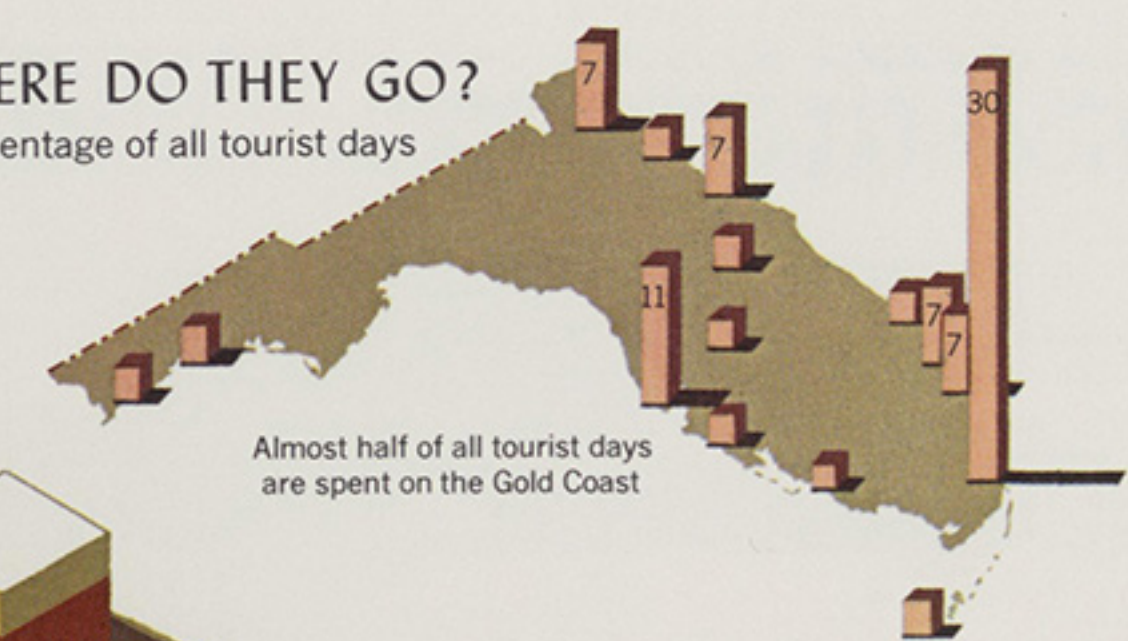


## WHAT THE TOURISTS ENJOY



## WHERE DO THEY GO?

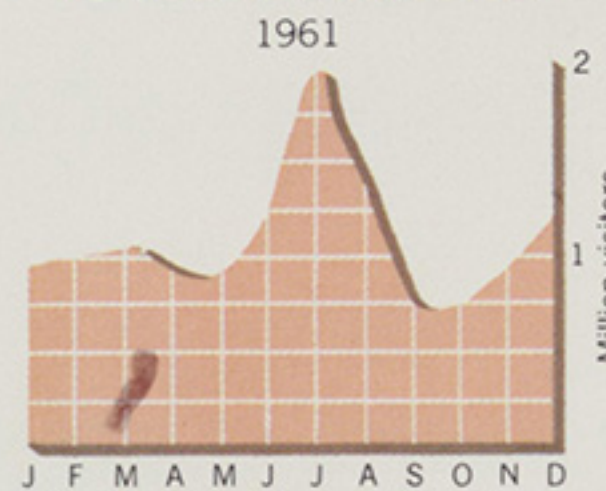
Percentage of all tourist days



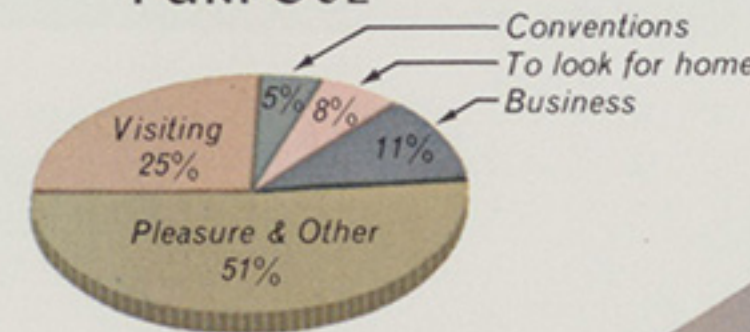
## ALL FLORIDA January 1, 1962

97,000 Motel rooms  
91,000 Hotel rooms  
76,000 Rooming house rooms  
182,000 Apartment house rooms

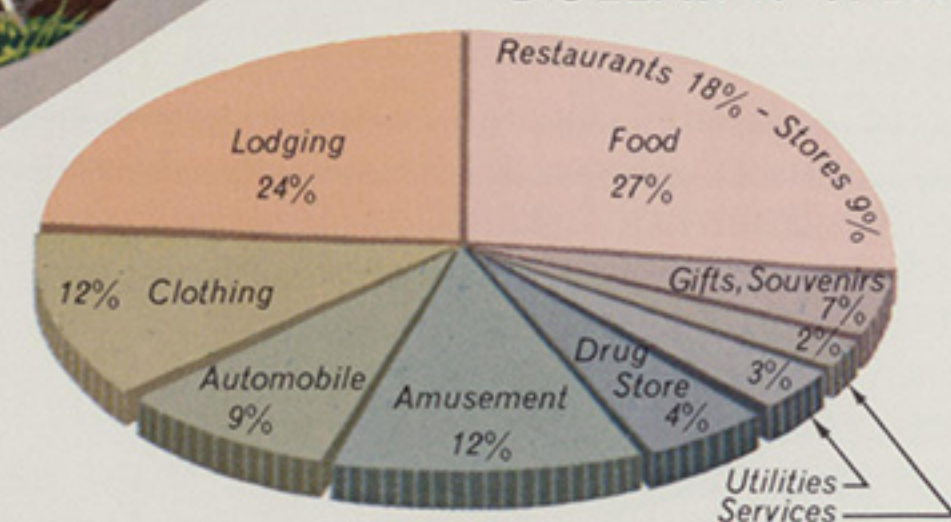
## TOURIST ARRIVALS



## PURPOSE



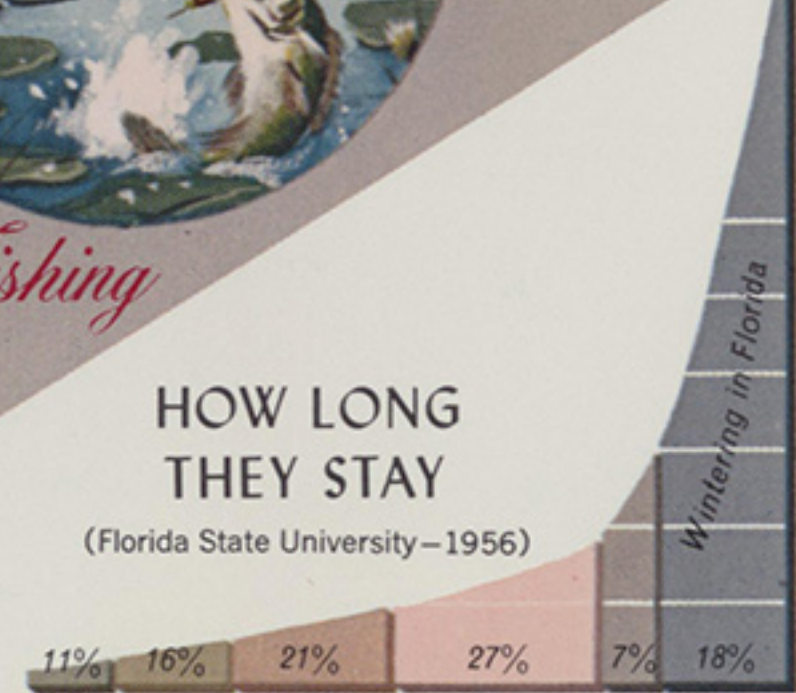
## HOW THE TOURIST DOLLAR IS SPLIT



Half of the tourist dollar is spent on food and lodging. Compare this diagram with the one on family spending on page 36. The tourist spends proportionately more on lodging, clothes, amusements, and souvenirs and less on food, utilities, and furnishings.

## HOW LONG THEY STAY

(Florida State University—1956)



# 24. VEGETABLES AND SPECIAL CROPS



Sources: U. S. Bureau of the Census, *Census of Agriculture, 1959*, Washington, D. C.; Florida Marketing Bureau, *Annual Agricultural Statistical Summary, 1960-61*, Jacksonville; reports of the Florida Crop and Livestock Reporting Service, Orlando; publications of the Agricultural Experiment Station, Gainesville.



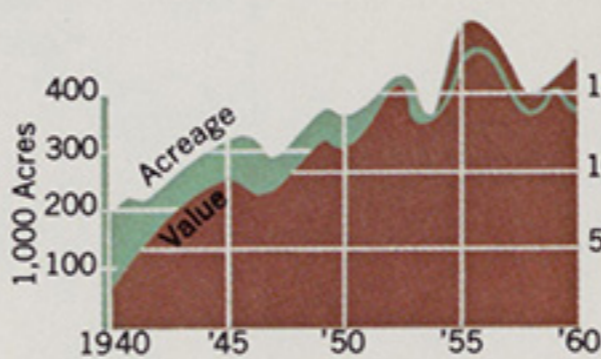
## VEGETABLE CROPS

Florida is a producer of winter vegetables for the nation. The sun is warm and the land is level. The muck lands provide good soil; other soils respond to fertilization. When rainfall is scanty, it is often supplemented by irrigation. Production of vegetables varies greatly from year to year; freezes and, to a lesser degree, hurricanes may damage thousands of acres. The rank of values shown below also varies, as farmers select their crops according to the market.

Tomatoes lead among vegetable crops in value. The most important vegetable-producing area is in the south around Lake Okeechobee and Homestead. Most of the vegetables are sold by a network of State Farmers' Markets. Here producer and buyer negotiate cash sales in large, modern buildings. Equipment for grading, sorting, packing, and shipping is also provided in most markets. So successful are the State Farmers' Markets that they are studied and imitated by other states. The shipping peak is reached in May, because of potato and watermelon shipments; other winter vegetables have their peak shipments in midwinter. Over one-quarter of the shipments go to New York, New Jersey, and Pennsylvania. Almost as much is consumed by the South Atlantic states, which take advantage of cheap truck transportation. The North Central states are also heavy consumers. Two-thirds of all shipments go by truck.

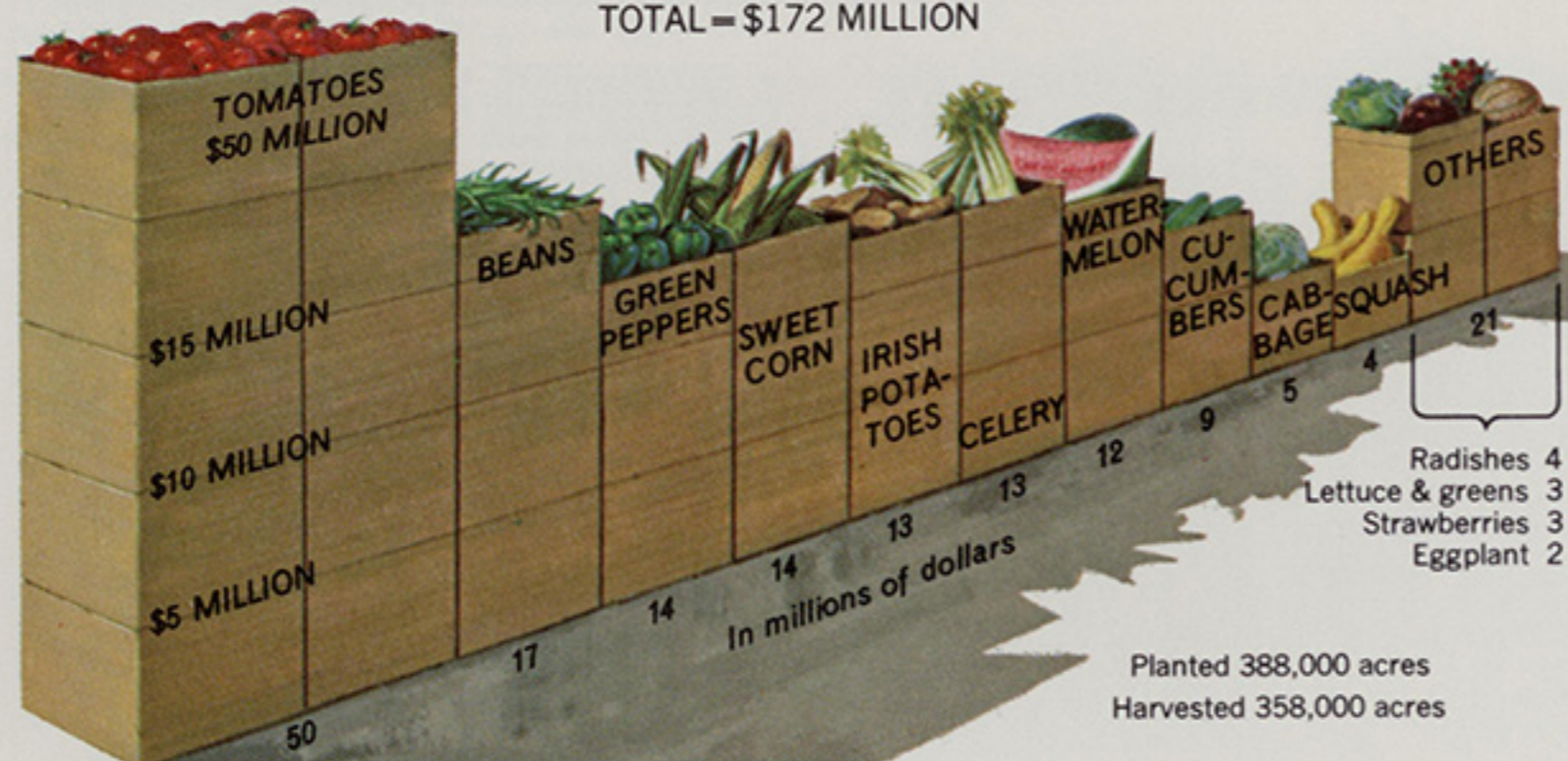
County agricultural agents provide a variety of educational and informational services to farmers. Intensive research is going on in the Agricultural Experiment Stations to improve crops and livestock (see map below). The Florida Frost Warning Service operates in Lakeland.

- T tomatoes
- B snap beans
- BL lima beans
- celery
- P Irish potatoes
- W watermelons
- G green peppers
- sc sweet corn
- c cucumbers
- c cabbage
- Sq squash
- St strawberries
- E eggplant
- L lettuce, escarole
- R radishes
- O onions
- c cantaloupes
- Pe peas
- okra

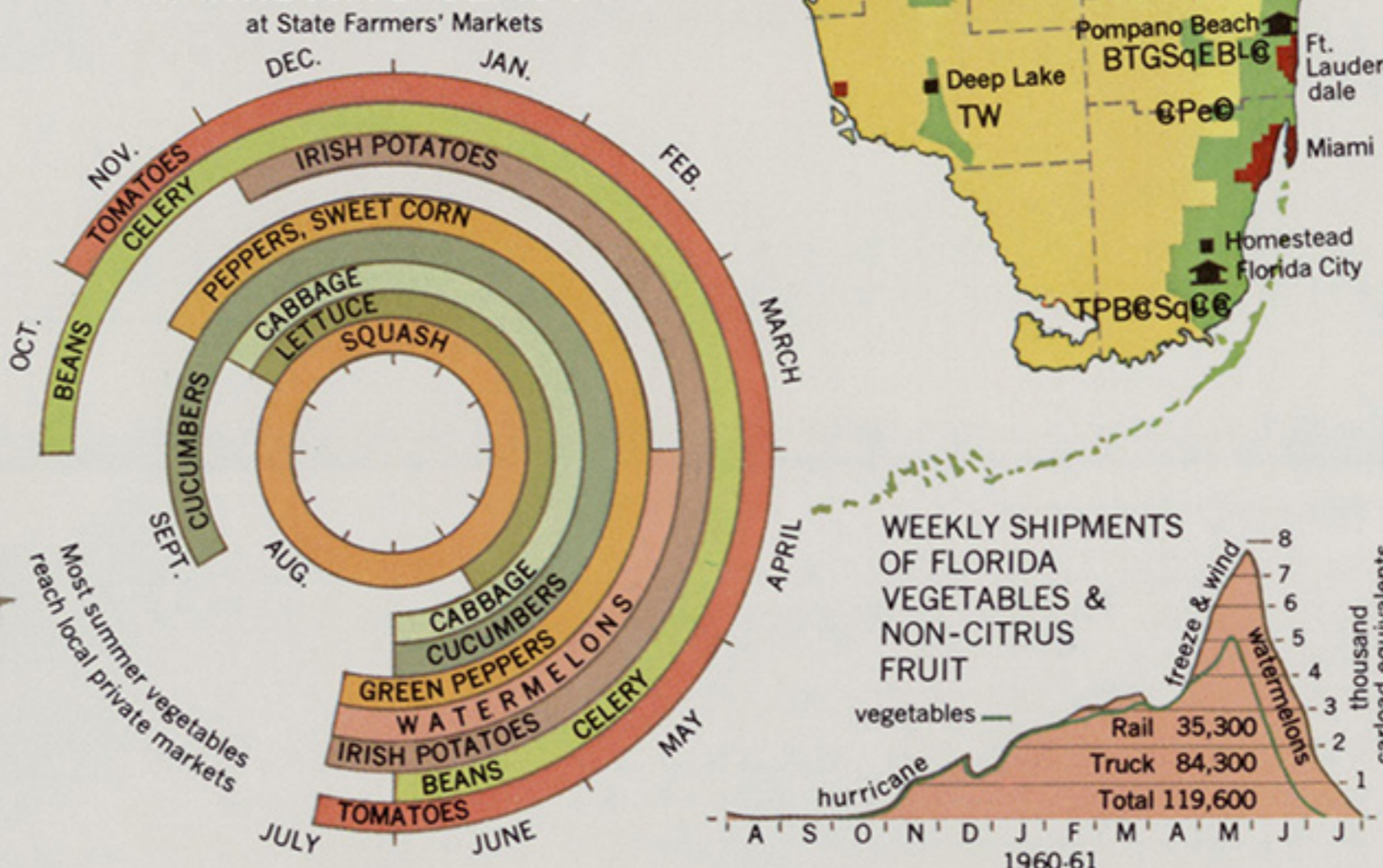


## VALUE OF VEGETABLES

sold during the marketing season, 1960-61  
 TOTAL = \$172 MILLION



## MARKETING SEASONS



## SPECIAL CROPS

**PECANS.** Commercial production is confined to northern Florida where winter temperatures provide a dormant season. Nuts are harvested in the fall by shaking the trees. Groves which occupied 5,100 acres produced 2,500 tons of nuts in 1960.

**TUNG NUTS.** The oil of the tung nut is used in high-quality paints and varnishes. The tree, native to China, requires a cool winter and grows best in northern Florida. Production is fostered by federal price supports. Output averaged about 20,000 tons per year from 1956 to 1960 with an average annual value of \$1,100,000.

## FLOWERS AND NURSERY CROPS



Florida leads in the production of gladioli and chrysanthemums. They, together with carnations, roses, orchids, and other flowers, were valued at \$20.1 million in 1960-61. Foliage plants for homes and gardens, especially philodendrons, are commercially important. Nursery products in 1960 amounted to \$16,340,000. Most of this income came from citrus stock and from broad-leaved evergreens much used in landscaping in Florida. There were almost 600 commercial growers of nursery products in Florida in 1960.

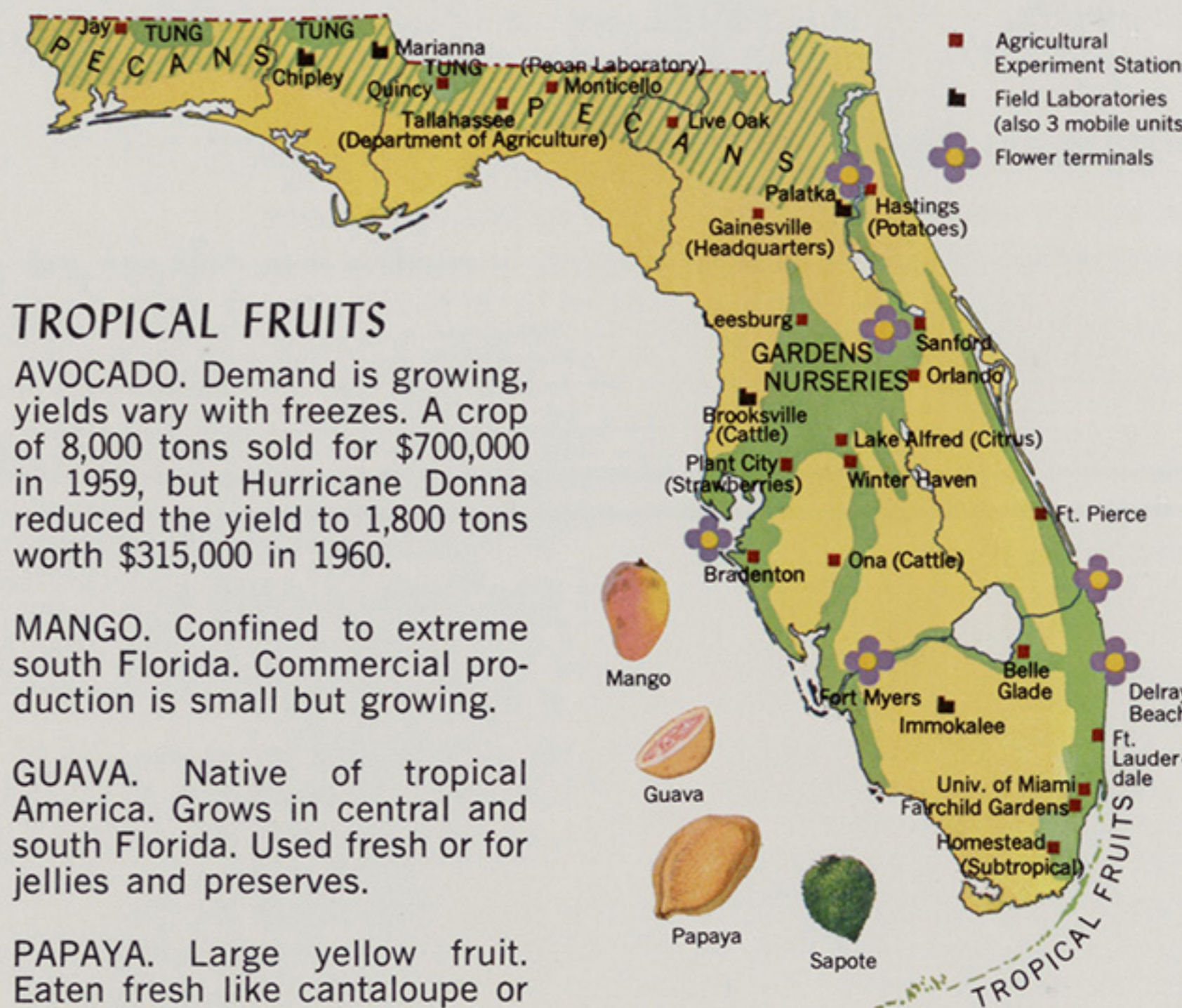
## TROPICAL FRUITS

**AVOCADO.** Demand is growing, yields vary with freezes. A crop of 8,000 tons sold for \$700,000 in 1959, but Hurricane Donna reduced the yield to 1,800 tons worth \$315,000 in 1960.

**MANGO.** Confined to extreme south Florida. Commercial production is small but growing.

**GUAVA.** Native of tropical America. Grows in central and south Florida. Used fresh or for jellies and preserves.

**PAPAYA.** Large yellow fruit. Eaten fresh like cantaloupe or as juice. Rich in vitamins. Mostly consumed locally.



# 16. WILDLIFE

Like the plants of Florida, the animals are of mixed origin. Many northern animals migrated to Florida during cold periods of the Ice Age. Tropical species, mostly reptiles, came into the peninsula during warm periods. Sea level changes during and after the Ice Age turned Florida into a varying pattern of peninsulas and islands. The regional distribution of animals shown on the small map reflects these ancient land-form patterns. Large animals such as the mastodon, camel, and sloth, which once roamed Florida, are now extinct; but deer, bear, fox, bobcat, panther, raccoon, opossum, boar, skunk, and a multitude of squirrels are still in evidence.

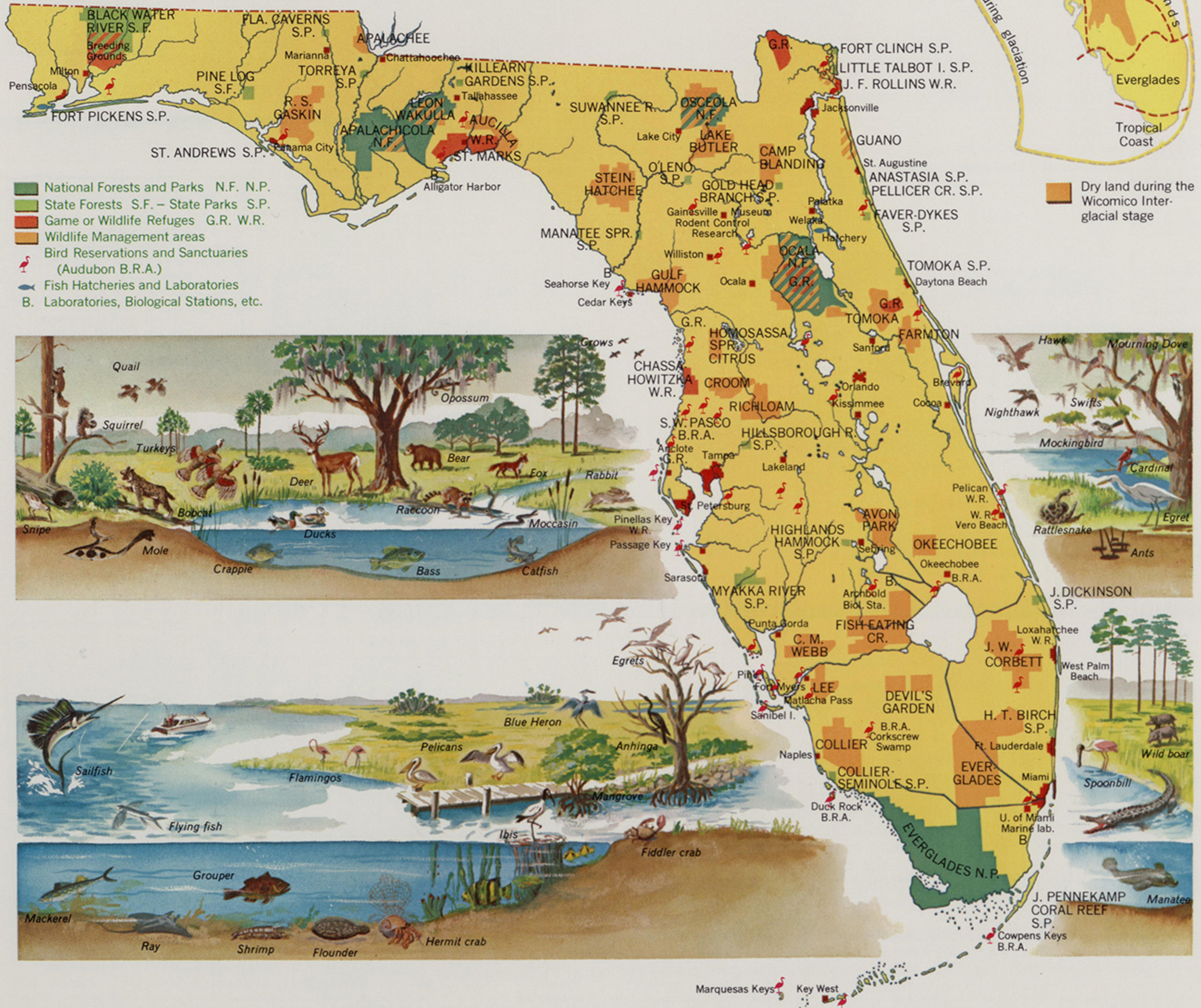
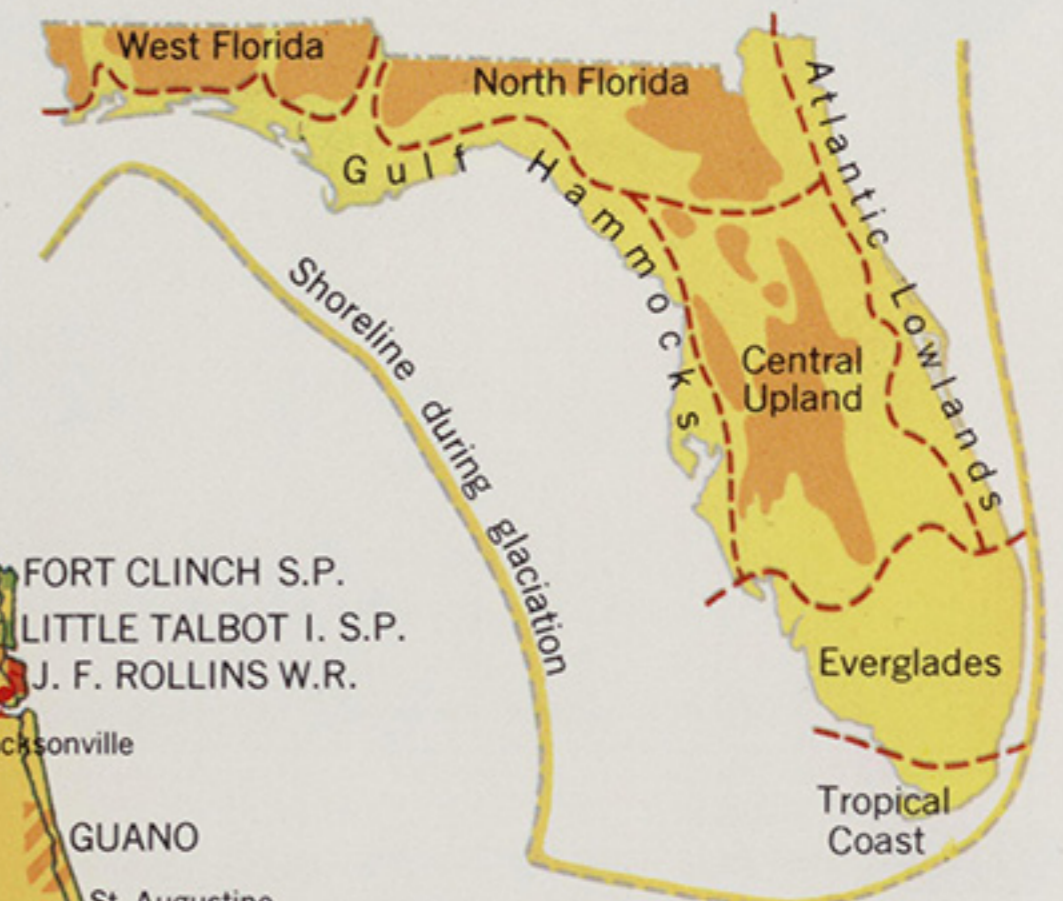
Millions of migrating birds wing their way over Florida every fall and spring. Many of them settle here for the winter, adding to the wide variety of native birds. Turkey, quail, snipe, woodcock, marsh hen, ducks, coots, and geese are bagged in open season. The egrets, herons, and ibis are protected.

Salt water and fresh water abound in fish, and Florida is outstanding both for its commercial fishing and its sport fishing. The incredible numbers of alligators described by the two Bartrams in the eighteenth century were hunted to near extinction. They are now protected and their number is increasing. They rarely attack people.

## BIOGEOGRAPHIC REGIONS OF FLORIDA

(generalized)

Biogeographic regions have no sharp boundaries; zones of transition separate areas which have characteristic plant-animal combinations.



**WILDLIFE MANAGEMENT**—State, private, and national agencies cooperate in wildlife protection. The federal government maintains three national forests, Everglades National Park, and several wildlife refuges, especially for the protection of migratory birds.

The state government staffs a network of state forests, state parks, game and wildlife reserves, fish hatcheries and breeding grounds. Twenty-seven wildlife management areas, comprising over 3 million acres, are open to controlled hunting; some areas at times are open to archers only. These areas are regulated by the Florida Game and Fresh Water Fish Commission, with central offices in Tallahassee. Regional offices are located in Panama City, Lake City, Ocala, and Okeechobee. Hunting licenses are issued by county judges.

Small state parks are widely scattered about the state. Although they primarily serve recreation needs, nearly all have nature trails. Some maintain museums. The new John Pennekamp Coral Reef State Park, which is entirely underwater, is the first of its kind in the world.

Many private institutions and universities maintain biological stations, such as Archbold near Lake Placid. Biological research is carried on at Seahorse Key by the University of Florida, at a local marine laboratory by the University of Miami, and at Alligator Harbor by the Florida State University. The National Audubon Society has a state headquarters in Miami and patrols a number of bird sanctuaries. The Florida Audubon Society and many local groups are also active. The organization of the Youth Conservation Corps adds much to the conservation of Florida's wildlife.

**Sources:** The various publications of the Florida Game and Fresh Water Fish Commission and of the Board of Parks and Historic Memorials.

# 43. WINTERING and RETIREMENT

More than 3,000,000 people have found that they can live more pleasantly and economically by spending the winter and early spring in Florida. They concentrate on the east and west coasts of southern Florida. Many of these are semiretired businessmen, who find Florida a promising field for investment in industry and real estate. The new industries induce many younger people to settle. The southeast coast population more than doubled in size from 600,000 in 1950 to 1,500,000 in 1960. Similarly the west coast grew from 535,000 to over 1,000,000. Usually one sees more car licenses from the Midwestern states on the west coast, while most from the Northeastern states are on the east coast.

South Florida enjoys a real estate boom and unparalleled building activity. More and more people buy "waterfront" properties along a network of tidal canals; these are uniquely a Florida development.

Tourists require services. Hotels, restaurants, and stores expand their winter staffs and thousands of people find seasonal employment. These seasonal workers usually migrate to the northern mountain resorts in the summer. Truck farming and citrus picking require seasonal labor also.



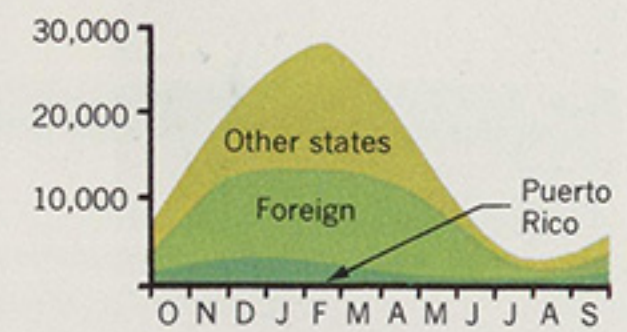
*Conventions  
Art centers  
Festivals  
Contests  
Exhibits*

*Seasonal work*

*Investing*

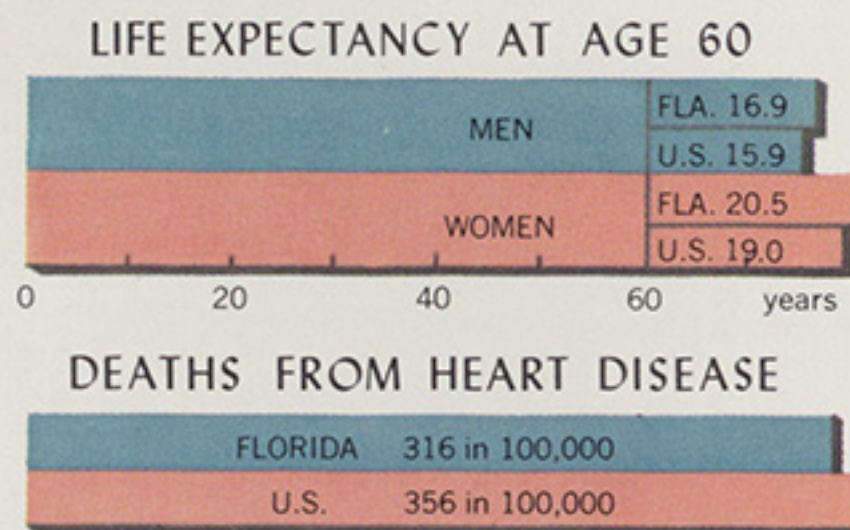
*Gardening*

*Retiring*



NUMBER OF SEASONAL AGRICULTURAL WORKERS in 1956-57 SEASON

## WHERE THE TOURISTS COME FROM



## RETIREMENT

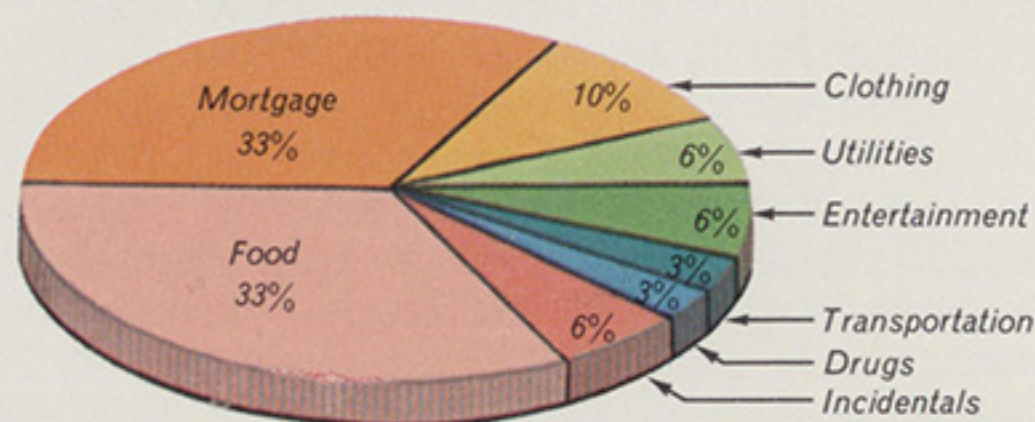
As the national prosperity increases, more and more people are finding it possible to retire with at least a modest income when they are 65. Retired persons find many advantages in Florida. The warm, sunny climate promotes good health. Clothing and heating costs are reduced. Leisure hours can be filled with congenial activities such as gardening, fishing, and swimming the year round. Retired persons also find companionship among their fellows. Villages designed especially for retirement living are springing up all over the southern part of Florida.

At present 550,000 people 65 years or over live in Florida—11 per cent of the state's total population (in St. Petersburg 28 per cent of the population is 65 years of age or over). At the beginning of 1960, 360,000 Floridians received social security benefits.

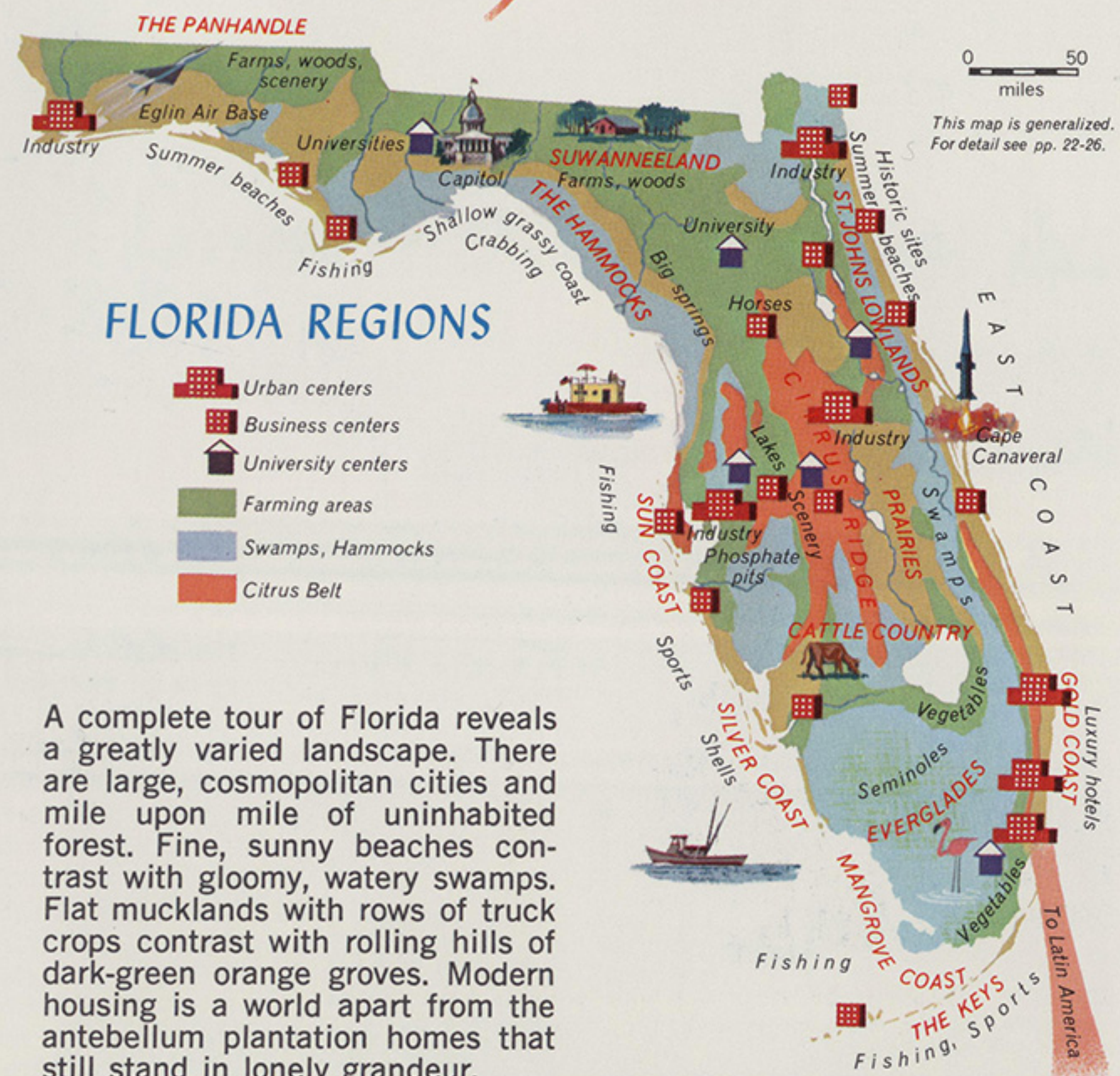
## TRAILERS

Many retired persons live in mobile homes. Over 2,500 trailer parks with 80,000 spaces were licensed by the State Board of Health at the end of 1960; and 89,000 tags were sold to individuals in 1960—four times as many as in 1950. The trailer population is remarkably stable. Eight thousand mobile homes are on permanent foundations.

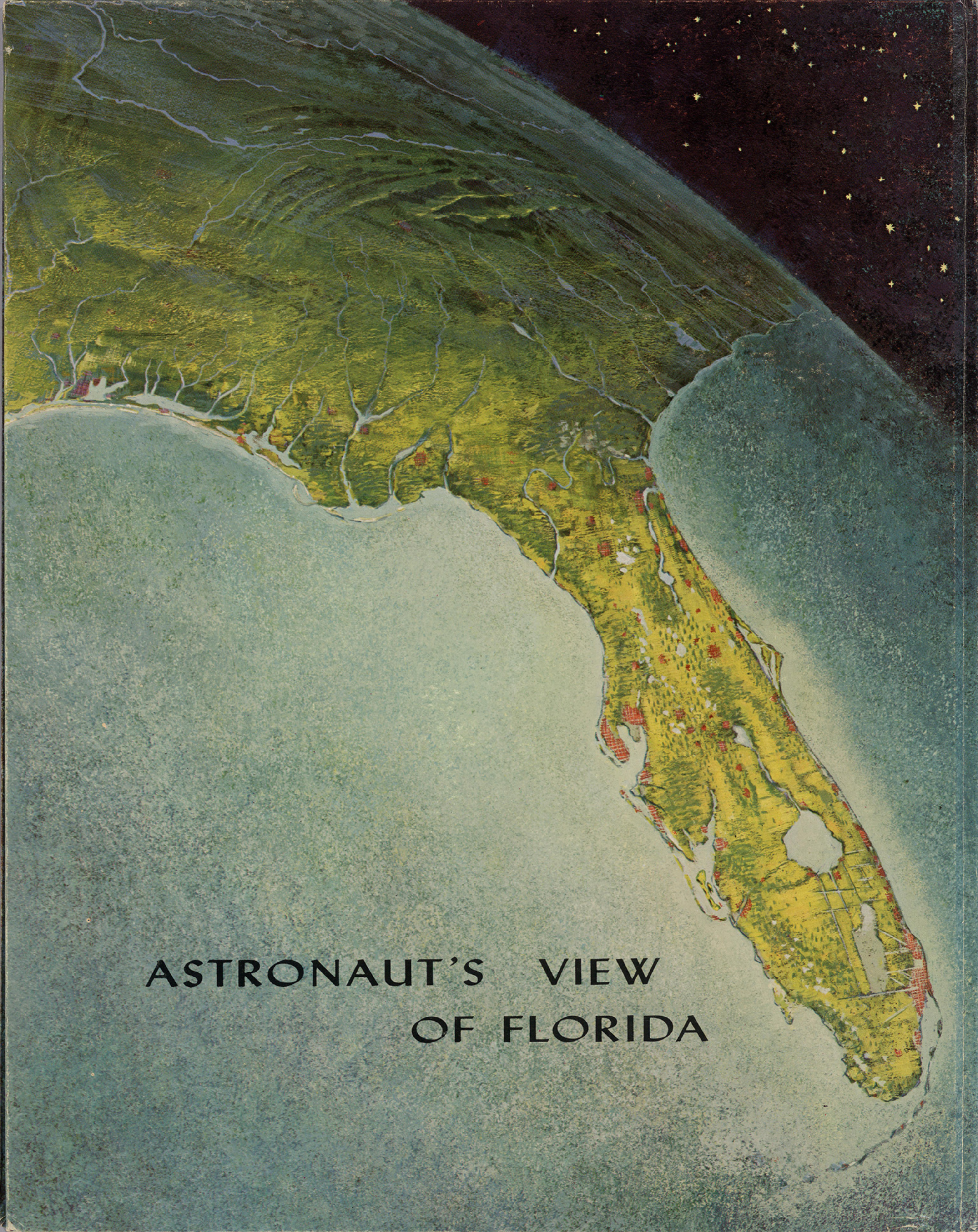
## SPENDING THE RETIREMENT DOLLAR



After N. C. Hines (Based on \$175 a month estimated expenditure per couple without auto)



A complete tour of Florida reveals a greatly varied landscape. There are large, cosmopolitan cities and mile upon mile of uninhabited forest. Fine, sunny beaches contrast with gloomy, watery swamps. Flat mucklands with rows of truck crops contrast with rolling hills of dark-green orange groves. Modern housing is a world apart from the antebellum plantation homes that still stand in lonely grandeur.



**ASTRONAUT'S VIEW  
OF FLORIDA**