



UNITED STATES MARITIME COTTON TRADE—1930 AND 1980

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Raw cotton has been an important item of the general cargo handled at United States seaports since the first recorded export of 1,000 tons in 1790.¹ Traditional patterns of dominant cotton production in the South, and dominant shipment of cotton from Southern ports maintained for almost a century and a half thereafter. During the fifty-year period here under consideration, however, the only relatively stable factors were the total volume of our maritime trade in cotton and the total volume of our cotton production. Revolutionary changes in cotton markets, foreign trade, domestic trade, producing regions, handling and shipping procedures, as well as major ports and coastal segments all had started by 1930, and had reached full culmination by 1980. The purpose of this paper is to particularize and account for these events.

At the outset it is necessary to establish several basic parameters. Each noted seaport is a commercial gateway named for the city or principal city concerned—Houston is Houston, Galveston, and Texas City; Los Angeles is Los Angeles and Long Beach; San Francisco includes all traffic through the Golden Gate, and so forth.² Tonnages of cotton listed for them comprise only oceanborne re-

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ceipts or shipments. Tons are short tons of 2,000 pounds. The term "Domestic" includes coastwise and intercoastal trade, as well as movements between mainland ports and Hawaii, Alaska, Puerto Rico, and the Virgin Islands.

National Totals

In 1930, 2,145,000 tons of cotton were handled at United States seaports (Table 1); and in 1980 the total was 2,019,000 tons (Table 2). Between 1930 and 1980, the tonnage of oceanborne commerce at our seaports increased more than three and one-half times, from 300,238,000 tons³ to 1,190,000,000 tons.⁴ Our maritime cotton trade about held its own, but clearly it did not keep pace with the large gain in total port activity.

**Table 1: RAW COTTON TRAFFIC AT
UNITED STATES SEAPORTS—1930**

(thousands of short tons)

Name of Port	Percent of Total	Grand Total	Total		Foreign		Domestic	
			In	Out	In	Out	In	Out
Houston	42.8	916	2	914	—	863	2	51
New Orleans	13.3	286	—	286	—	258	—	28
New York	6.5	139	113	26	29	19	84	7
Corpus Christi	6.2	133	—	133	—	122	—	11
Savannah	5.7	122	—	122	—	111	—	11
Mobile	4.3	92	1	91	—	74	1	17
Los Angeles	3.7	81	2	79	1	59	1	20
Providence	3.1	67	67	—	—	—	67	—
Charleston	2.3	49	7	42	2	40	5	2
Boston	2.3	49	43	6	28	2	15	4
Norfolk	2.0	44	6	38	—	23	6	15
Top eleven	92.2	1,978	241	1,737	60	1,571	181	166
All others	7.8	167	57	110	1	39	56	71
U.S. TOTALS	100.0	2,145	298	1,847	61	1,610	237	237

SOURCE: Chief of Engineers, United States Army. *Waterborne Commerce of the United States Calendar Year 1930*, Part 2 (Washington, D.C.: Government Printing Office, 1931).

**Table 2: RAW COTTON TRAFFIC AT
UNITED STATES SEAPORTS—1980**

(thousands of short tons)

Name of Port	Percent of Total	Grand Total	Total		Foreign		Domestic	
			In	Out	In	Out	In	Out
Los Angeles	39.6	800	—	800	—	800	—	—
Houston	29.3	592	—	592	—	592	—	—
San Francisco	20.1	406	—	406	—	406	—	—
New Orleans	3.0	60	—	60	—	57	—	3
Corpus Christi	2.1	42	—	42	—	42	—	—
Gulfport	1.3	27	—	27	—	27	—	—
Mobile	1.1	23	—	23	—	23	—	—
Brownsville	1.1	22	—	22	—	22	—	—
Charleston	0.8	16	—	16	—	16	—	—
Seattle	0.8	16	—	16	—	16	—	—
San Juan	0.2	4	4	—	—	—	4	—
Top eleven	99.4	2,008	4	2,004	—	2,001	4	3
All others	0.6	11	—	11	—	10	—	1
U.S. TOTALS	100.0	2,019	4	2,015	—	2,011	4	4

SOURCE: Corps of Engineers, United States Department of the Army. *Waterborne Commerce of the United States Calendar Year 1980*, Parts 1-5 (Washington, D.C.: Government Printing Office, 1982).

This "no growth" situation chiefly resulted from massive, world-wide acceptance of competitive new synthetic fibers. Cotton still is favored for many textile products, and it is widely used for polyester-cotton blends.⁵ Accordingly, there is substantial, continuing demand for raw cotton both at home and abroad.

Although there were year to year fluctuations, our average cotton crop also remained fairly constant during the period 1930-1980.⁶ However, the relative importance of growing areas changed significantly. Four major cotton producing regions are recognized by the industry and the United States Department of Agriculture. These and their core areas are: Western—southern California and southwestern Arizona; Southwestern—northern Texas, adja-

cent southwestern Oklahoma, and the southwest Texas coast; Delta—both sides of the Mississippi River between northern Louisiana and its junction with the Ohio; and Southeastern—an arc from Alabama into North Carolina (Figure 1).

In 1930, percentages of national cotton production by region were: Western, 4; Southwestern, 35; Delta, 26; and Southeastern, 35.⁷ By 1980, they had changed to: Western, 42; Southwestern, 32; Delta, 22; and Southeastern, 4.⁸ In the Western Region, high-strength, medium-staple cotton is grown in comparatively small, scattered, irrigated valleys where production per acre is twice the national average.⁹ Texas and Oklahoma cotton is a short-staple variety not used much by United States mills, but Asian demand for it is strong.¹⁰

Substantial reduction of cotton acreage in the traditional Cotton Belt has been demonstrated graphically by Hart,¹¹ and Prunty and Aiken called attention to what they properly called the demise of cotton production in the Piedmont.¹² This decline was attributed to a variety of things, including small government acreage allocations, failure to shift to mechanized production, failure of local gins to provide up-dated service, and competition from raising chickens, beef cattle, and timber. Another reason is that soy beans, also an annual crop, sometimes net a greater per-acre profit than cotton.¹³

By 1980, the hinterlands of South Atlantic ports no longer produced significant quantities of cotton, and the amount grown near Gulf ports was less than in 1930. Only California ports had a very large increase in the volume of cotton grown in their immediate trade regions.

Foreign Trade

Shipment to foreign countries long has accounted for most of our maritime cotton trade. In 1930, exports were 1,610,000 tons, or 75 percent of the total; and in 1980, they

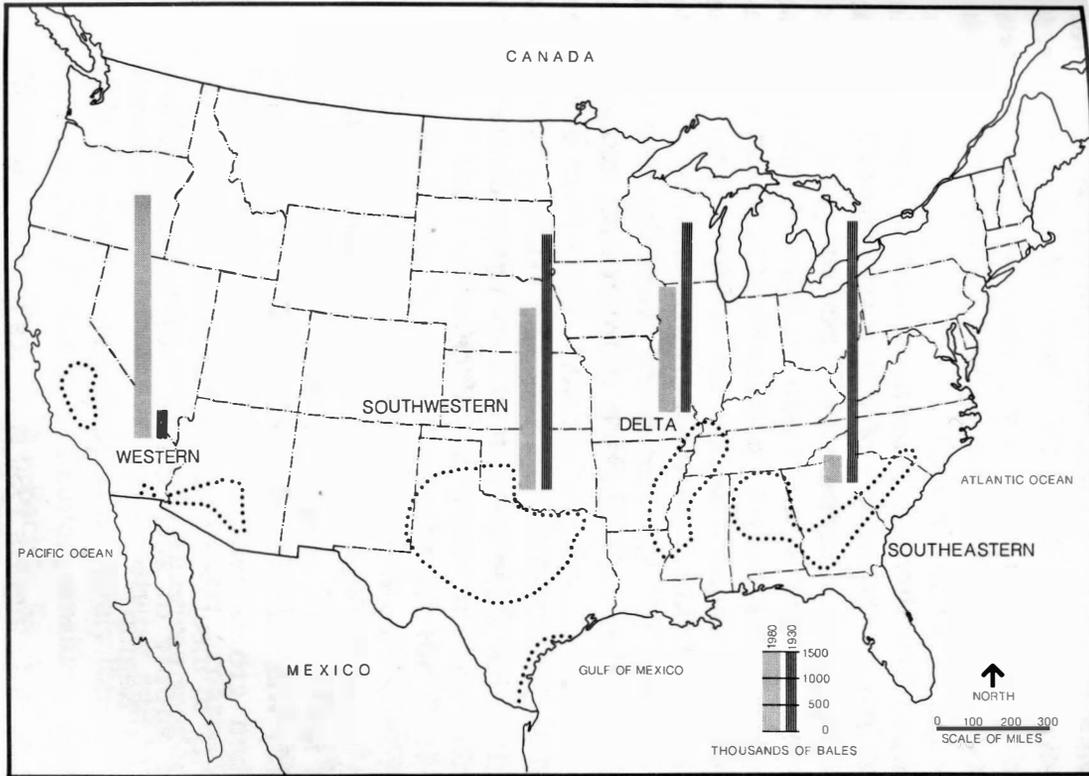


Figure 1. Cotton production by the four major United States cotton growing regions in 1930 and 1980. (Source: see note 5, p. 2.)

were 2,011,000 tons, or 99.6 percent of the total (Tables 1 and 2). The United States ranked third among world cotton growing nations in 1980, following the Union of Soviet Socialist Republics and China.¹⁴ However, in that year we exported more than twice as much as our nearest competitor, the U.S.S.R.¹⁵ The United States, therefore, is the primary supplier of raw cotton to world markets. Exports accounted for 47 percent of our cotton crop in 1930,¹⁶ and 54 percent in 1980.¹⁷

Since 1930, there has been an almost unbelievable change in the destination of our cotton exports. In that year, shipments to Europe were 78 percent of the total; and shipments to Asia were 15 percent.¹⁸ In 1980, 85 percent went to Asia; and only 13 percent went to Europe.¹⁹ Reasons for this include successful competition from the U.S.S.R. and Pakistan in the European market,²⁰ and the huge demand for raw cotton by relatively new mills in east and southeast Asia.²¹ It is interesting to note that much of the finished product made there from our cotton is sold back to us. This is a shocking example of the new United States trade pattern of exporting food and raw materials, and importing manufactured goods.

In 1930, our cotton imports were a modest 61,000 tons and in 1980, they were insignificant (Tables 1 and 2). Small cotton import is not surprising for a country which produces far more than it consumes. The 1930 import presumably was relatively long-staple cotton, a type that was not then grown within the United States in sufficient quantity to meet domestic demand. By 1980, however, an ample supply of such cotton was being grown in the Western Region.

Domestic Trade

Chief of Engineers 1930 statistics for total domestic raw cotton movements at United States ports cannot be used as published because they include an unspecified tonnage of non-qualifying "local, internal and intraport" traffic.²²

Published port by port statistics for oceanborne domestic movements of raw cotton, therefore, must be consolidated into national totals. However, Fall River is shown as having 19,830 tons of "cotton goods" but no raw cotton inbound coastwise; and Providence is reported as having 83,431 tons of "miscellaneous textiles" but no raw cotton inbound coastwise.²³ Almost certainly these inbound movements were nearly all raw cotton going to nearby mills.

Obviously, inbound domestic tonnage must equal outbound domestic tonnage. The calculated port by port domestic raw cotton inbound total is 16,065 tons more than the calculated port by port outbound total if all questionable tonnage at Fall River and Providence is considered as raw cotton. A balance here is achieved by assuming that this difference actually represented "miscellaneous textiles" at Providence, and by reducing that port's 1930 inbound total of raw cotton from 83,431 tons to 67,366 tons (Table 1).

Mills in New England and the Southeast long have accounted for nearly all of our domestic consumption of cotton.²⁴ Until 1890, New England used more than half of this total. Thereafter, concurrent closure of New England mills and establishment of new mills in the Southeast reversed this ratio to Southeast 60 percent in 1920, 81 percent in 1930, and 99.6 percent in 1979.²⁵ By 1930, the demand for cotton in New England had been seriously eroded, but it still was important.

Many ships then provided frequent coastwise and intercoastal cargo service between American seaports. Domestic transportation by sea was costwise and timewise feasible for goods being shipped relatively long distances. Included were 237,000 tons of cotton sent from producing areas in the South and the Pacific Southwest to the Atlantic Northeast, primarily New England (Table 1). New York then was and still is the major port for this important region.

Domestic general cargo service between our mainland ports disappeared after World War II never to return. The end of this once prospering coastal shipping business had many causes, including labor and ship building costs, strikes, the price of fuel oil, Panama Canal tolls, and overwhelming competition from improved rail service and from modern trucks operating on a network of super-highways. No domestic cotton now moves to mainland markets by ship. In 1980, the only domestic movement was 4,000 tons from New Orleans and Lake Charles to San Juan (Table 2).

Handling and Shipping

Major changes in cotton handling and shipping resulted in significantly different facilities and procedures. One is compression. In 1930, most cotton moving to market by ship arrived at its port of embarkation from local gins as low-density bales that were bulky and considered a fire hazard. Cotton shipping ports, therefore, had powerful steam compresses that squeezed them to about half their former size.²⁶ By 1980, local gins were turning out bales of a medium Universal or Standard density acceptable by steamship company members of the Pacific Westbound Conference for shipment to the Far East.²⁷ Accordingly, the high-density bale had been discontinued; and the compresses that produced them had been dismantled.

Another change is the container in which most general cargo being shipped overseas now is packed. A container is a huge steel box eight feet high, eight feet wide, and twenty or forty feet long. A forty-foot container can hold eighty bales of cotton.²⁸ Because containers usually are not available at inland points such as cotton gins, most cotton for export is sent to the servicing port as individual bales.²⁹

Export cotton now usually moves via one of the new "land bridge" systems that integrate overland and over-

seas shipping under a single intermodal bill of lading issued by steamship companies.³⁰ The chief ones are the "micro-bridge" or "motor bridge" whereby cotton bales are loaded into boxcars or trucks at gins, delivered to a port and transloaded on a ship, usually after being "stuffed" into a container.³¹

These bridges provide faster and cheaper transportation for Southwestern Region cotton that is going to Asia through California than if it went from Gulf ports by way of the Panama Canal.³² California ports, therefore, benefit at the expense of Gulf ports. Considering its relative closeness to the Southwestern Region, one would expect Los Angeles to enjoy a land transportation rate advantage on its cotton exports to Asia. Such is not the case, however, because these rates have been "equalized" and so do not vary with distance.³³

Cotton traditionally was sent to seaports by rail, but motor carriers are becoming the prevailing mode.³⁴ This trend is very evident in the shipment of Western Region cotton to California ports, where trucks move 99 percent of the total.³⁵ Most cotton carried by rail now is in big, fifty-foot boxcars holding 180 bales; but there is experimentation with a "Hi-Cube" car able to carry 250 bales.³⁶ Truck rates run about 16 percent higher than rail rates, but they provide faster delivery and door-to-door service.³⁷

Ports handling containers must have large adjacent paved storage areas, huge container cranes, and forty-five feet of water at dockside to accommodate the big new container ships. They also need efficient facilities for the intermodal transfer of containers—shifting them between ships and railroad cars or motor trucks. Some cotton, primarily that going to foreign ports not equipped to handle containers, still is shipped as break-bulk general cargo.

Ports and Coastal Segments

Our eleven leading cotton seaports in 1930 and 1980 are listed in order of tonnage handled in Tables 1 and 2, and

are graphically compared in Figure 2. In both years they accounted for virtually all of the nation's maritime trade in that commodity. In 1930, Houston with 43 percent of the total was by far the leader. Next was New Orleans with 13 percent, followed by nine lesser ports each of which registered more than 40,000 tons. Only at New York, Providence, and Boston were receipts, mostly domestic, larger than shipments. The top three ports handled nearly two-thirds of the total tonnage.

By 1980, Los Angeles has assumed first place with 40 percent of the total; Houston slipped to second place with 29 percent; and San Francisco rose to third with 20 percent (Table 2). Only two other ports had a cotton movement in excess of 40,000 tons; and Boston, Providence, New York, Norfolk, and Savannah no longer were among the top eleven. No ranking port had more inbound than outbound cotton, and the three leaders accounted for 89 percent of the total tonnage. Each leader had large cotton production in its hinterland, and was equipped to handle export cotton expeditiously, either in containers or as break-bulk cargo.

The relative importance of our three coastal segments also changed dramatically. In 1930, their percentages of our total maritime trade in cotton were: Gulf, 75; Atlantic, 21; and Pacific, 4.³⁸ By 1980, they were: Pacific, 61; Gulf, 38; and Atlantic, 1.³⁹ These changes in the relative importance of our ports and coastal segments resulted from changes in cotton production, marketing, and transportation discussed earlier.

New Orleans—Baton rouge to the sea—is a seeming anomaly. The Delta Region with its large cotton production is most conveniently accessible to New Orleans, but it handled only 13 percent of our oceanborne cotton trade in 1930 and but 3 percent in 1980 (Tables 1 and 2). In both years, Houston was by far the leading cotton port on the Gulf of Mexico. The explanation is that normally little Delta cotton is now shipped by sea, because the chief



Figure 2. The eleven United States seaports which handled the largest tonnages of raw cotton in 1930 and 1980. (Source: see notes 3 and 4.)

market for it is comprised of mills in the nearby Southeast, to which it moves overland.⁴⁰

Future Prospects

There is no reason to expect important changes in the 1980 pattern of American maritime cotton trade within the predictable future. Cotton well may maintain its recent production levels, and major producing regions should remain about the same. Current methods of handling and shipping cotton appear to meet present and prospective needs of the industry.

Large export, especially to Asia, should continue; but a renaissance of the coastal movement of cotton is highly unlikely. Los Angeles should keep and probably enhance its position as our number one cotton port, with Houston and San Francisco continuing to compete for second place. Corps of Engineers statistics for 1982 show Los Angeles with 50 percent, San Francisco with 25 percent and Houston with 20 percent. All other ports can be expected to remain relatively unimportant.



NOTES

1. Bureau of the Census. *Historical Statistics of the U. S. Colonial Times to 1957* (Washington, D.C.: Government Printing Office, 1980), p. 547.
2. W. H. Miller, "A Method for Determining the Rank of Seaports," *Bulletin of the Geographical Society of Philadelphia*, Vol. 33 (1935), pp. 52-57.
3. Chief of Engineers, United States Army. *Waterborne Commerce of the United States Calendar Year 1930*, Part 2 (Washington, D.C.: Government Printing Office, 1931), p. 34.
4. Corps of Engineers, United States Department of the Army. *Waterborne Commerce of the United States Calendar Year 1980*, Parts 1-5 (Washington, D.C.: Government Printing Office, 1982), Part 5, p. 10.

5. Office of Transportation, United States Department of Commerce. *The Transport of Baled Cotton: Review and Outlook—Research Report No. 1128* (Washington, D.C.: Government Printing Office, 1982), p. 9.
6. *Ibid.*, p. 2.
7. *Ibid.*
8. *Ibid.*
9. Bureau of the Census. *Statistical Abstract of the United States 1981* (Washington, D.C.: Government Printing Office, 1981), p. 691.
10. Office of Transportation, *op. cit.*, note 5, p. 9.
11. J. F. Hart, "The Demise of King Cotton," *Annals of the Association of American Geographers*, Vol. 67:3 (1977), pp. 307-322.
12. M. C. Prunty, Jr., and C. S. Aiken, "The Demise of the Piedmont Cotton Region," *Annals of the Association of American Geographers*, Vol. 62:2 (1972), pp. 283-306.
13. B. Martin, Jr., Vice President, Special Projects, American Cotton Shippers Association, personal letter dated April 6, 1984.
14. United Nations. *1979-1980 Statistical Yearbook* (New York: United Nations Educational, Scientific and Cultural Organization, 1980), pp. 111-112.
15. Food and Agricultural Organization of the United Nations. *1980 FAO Trade Yearbook* (Rome: Food and Agricultural Organization of the United Nations, 1980), pp. 248-249.
16. Bureau of Foreign and Domestic Commerce. *Statistical Abstract of the United States 1932* (Washington, D.C.: Government Printing Office, 1932), p. 481 and p. 630.
17. Bureau of the Census. *U.S. Exports/Schedule E Commodity Groupings by World Areas, Report FT450, Annual 1980* (Washington, D.C.: Government Printing Office, 1981), pp. 2-33.
18. Bureau of Foreign and Domestic Commerce, *op. cit.*, note 16, p. 659.
19. Bureau of the Census, *op. cit.*, note 17, pp. 2-33.
20. B. Martin, Jr., Vice President, Special Projects, American Cotton Shippers Association, personal letter dated January 16, 1984.
21. Bureau of the Census, *op. cit.*, note 17, p. 5 and p. 9.

22. Chief of Engineers, United States Army, *op. cit.*, note 3, p. 34.
23. *Ibid.*, p. 103 and p. 107.
24. Bureau of Foreign and Domestic Commerce, *op. cit.*, note 16, p. 782.
25. *Ibid.*, p. 782, p. 785, and Office of Transportation, *op. cit.*, note 5, p. 7.
26. B. Martin, Jr., Vice President, Special Projects, American Cotton Shippers Association, personal letter dated November 7, 1983.
27. *Ibid.*
28. Office of Transportation, *op. cit.*, note 5, p. 34.
29. *Ibid.*
30. *Ibid.*
31. *Ibid.*
32. *Ibid.*
33. B. Martin, Jr., *op. cit.*, note 20.
34. Office of Transportation, *op. cit.*, note 5, p. 35.
35. *Ibid.*, p. 36.
36. *Ibid.*, p. 11.
37. *Ibid.*, p. 36.
38. Chief of Engineers, United States Army, *op. cit.*, note 3, pp. 53-1011.
39. Corps of Engineers, United States Department of the Army, *op. cit.*, note 4, Parts 1-4.
40. B. Martin, Jr., *op. cit.*, note 20.