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NATIONAL WATERWAYS STUDY

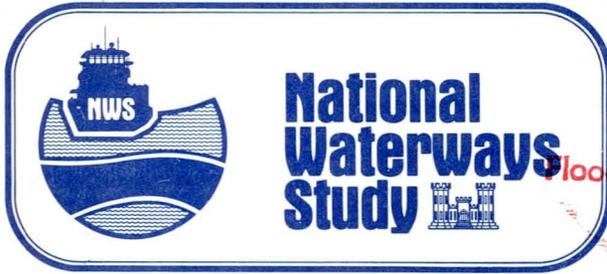
Waterways System and Commodity Movement Maps

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**National
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WATERWAYS SYSTEM AND COMMODITY MOVEMENT MAPS

TECHNICAL NOTES

The National Waterways Study maps are briefly described in this booklet. The series of maps is composed of 15 national maps and 4 regional maps. Base maps used for the series were developed by the United States Geological Survey and are used in the National Atlas, a continuing project of the survey.

Sources of Information

The maps portray both physical information about waterways and ports and major waterborne commodity movements. The National Waterways Study inventory provided the information about physical characteristics, depths and other dimensions of the existing waterway system channels, and the coastal, inland and Great Lakes ports shown on Maps 1, and 16 through 19. Basic data contained in the inventory, for which 1978 is the base year, was provided by U.S. Army Corps of Engineer Divisions and Districts.

Waterborne commerce data, commodity movements, tonnages and distribution of types of traffic at ports for 1976 shown on Maps Numbered 1, 6, and 11 through 19 were provided by the Waterborne Commerce Statistics Center of the U.S. Army Engineer Division, Lower Mississippi Valley. The data for domestic commerce were compiled by the Waterborne Commerce Statistics Center, whereas the foreign waterborne commerce data were collected by the Bureau of the Census and furnished to the Waterborne Commerce Statistics Center.

Commodity Movement Data

Waterborne commerce density flow data for rivers were compiled for the Waterborne Commerce Statistics Center on a river or waterway mile basis for the Mississippi River and Tributaries and the Gulf Intracoastal Waterway. Similar commodity flow data for other rivers were obtained from reports published annually by the Waterborne Commerce Statistics Center.

Commodity movement data for coastal ports are shown for each entire Corps of Engineers District, not for individual ports located within districts. Data are summarized to show total shipments between Corps districts, each of which usually contains one major port complex, and between districts and foreign destinations.

Data for the Great Lakes - St. Lawrence Seaway system were based upon shipments between the five Great Lakes and the St. Lawrence River, and overseas areas. These data were further refined to show commodity movements for the United States and Canadian shores of the Great Lakes and the St. Lawrence River. These data were processed by the Corps' North Central Division ADP Center.

Commodity movement data is depicted in two ways: (1) flow arrows indicate the quantity and direction of movement of major commodities; and (2) the tonnage of port traffic is shown numerically on Map Number 1 and tonnage and percentage distribution of type of traffic is shown in circular graphs on Maps 16 through 19. Port and tonnage data are published in Waterborne Commerce of the United States - 1976, Part 5, Tables 3 and 4.

Foreign Waterborne Commerce: U.S. Origins and Distinctions

The data shown on Maps 2 through 5 are based on the preliminary findings of a study entitled, Domestic and International Transportation of U.S. Foreign Trade; 1976, conducted by the U.S. Bureau of Census. The study was jointly sponsored by the U.S. Army Engineer Institute for Water Resources; the Office of the Secretary and the St. Lawrence Seaway Development Corporation of the Department of Transportation; and the Maritime Administration of the Department of Commerce.

Energy Commodity Maps

Maps 7 through 10 were originally prepared by the United States Geological Survey for the study entitled, National Energy Transportation. This study was prepared by the Congressional Research Service of the Library of Congress for the Senate Committee on Energy and National Resources and the Senate Committee on Commerce, Science, and Transportation.

NOTES FOR INDIVIDUAL MAPS

Map No. 1, Existing Major Waterways and Ports of the United States. In order to emphasize the commercial system as it existed in 1978, only completed phases of currently active projects are included. Excluded are those waterway projects that are authorized by Congress but not under construction as well as projects that are in some stage of construction. Moreover, waterways that are exclusively used for recreation are not shown.

Waterways shown on the map generally are U.S. Army Corps of Engineers projects or other facilities that have a channel length of 10 miles or more. This applies both to access channels and channels leading inland from a port or harbor. The only exceptions to the 10-mile limitation are approach channels which connect the Gulf Intracoastal Waterway with coastal ports.

Depth data used are those reported as controlling at the time of the inventory in 1978. Authorized project depths may be greater than controlling depths. Exceptions to this occur where a decrease in depth, usually from shoaling, results in a temporary change for a limited stretch of channel. The map shows location of cities or towns which are at or near the head of navigation. More detailed information related to that shown on Map 1 is depicted by regions on Maps 16 through 19.

Waterways shown are grouped into 8 depth categories selected to emphasize major systems such as the Mississippi River and major tributaries, the Columbia-Snake river system and the Great Lakes-St. Lawrence Seaway system. The categories range from under 8 feet to over 40 feet for commercially navigable waterways. The same depth categories are used to organize port data depicted on the maps.

Ports shown on the map are those listed in Tables 3 and 4 of Part 5, Waterborne Commerce of the United States - 1976, which lists ports with annual freight tonnage exceeding 250,000 tons. In addition, other ports where 1976 commerce totalled 200,000 tons are shown if they were recommended by a U.S. Army Corps of Engineers District. Waterborne commerce statistics are shown on the map for ports with cargo in 1976 of one million tons or more. The weight of the domestic and foreign commerce is numerically portrayed in circles located near each port.

Maps No. 2 through 5, U.S. Waterborne Foreign Trade. The domestic movement of United States foreign trade is depicted by symbols which show the states where export originated and where imports were destined as well as by the customs region of the port of shipment. Export origins are shown by states as the places where exports are acquired. That location might be the same as or different from the place of production. The destination of imports is the state into which the import first moves from the port of entry.

The survey which developed the data included all commodities in foreign trade except the exports and imports of wheat, corn, soybeans, barley and rye and the imports of crude petroleum. Those commodities were excluded because grains and crude petroleum are fungible commodities. Shipments of such commodities from many locations commingle and it is impossible to trace an individual shipment.

The definitions used in the study regarding the packaging of various commodities are based largely upon findings by the study entitled, Domestic and International Transportation of U.S. Foreign Trade: 1970. General cargo is a commodity shipment that is handled as a discrete unit in boxes, bags, barrels, or other types of containers and can be counted. Bulk commodities are those shipments that are not packaged for shipment but are loaded unpackaged into the open hold of a vessel.

Ports are aggregated by United States Customs Regions as a means of summarizing the foreign trade data for mapping. A customs region, designated by a port name, is an area of the country served by a Bureau of Customs regional headquarters which also is a major port. For example: the Boston Customs Region includes all of New England and western and northern New York State; the New York Customs Region contains the New York Metropolitan Area and Albany, New York. The San Francisco Customs Region includes San Francisco, northern California and the Pacific northwest. The Customs Regions shown for exports are based on the ports of lading and the customs region for imports are based on ports of unloading.

The weight and value of exports and imports are shown diagrammatically on the maps for each state and for each customs region as spokes which represent poundage and dollar value of the shipments. The black line indicates weight and the red line value. If both lines are of equal length, the value of a shipment is \$1 per pound.

Map No. 6, Total Commodity Movement by Water: 1976. The flow patterns of all commodities are combined to show total movement. Illustrated are foreign imports and exports and domestic receipts and shipments at coastal areas as well as upstream and downstream movements on rivers and on the Great Lakes.

Map No. 7, Coal Movement by All Modes: 1974. This map shows the flow patterns of coal movement by rail, highway, and water.

Map No. 8, Coal Resources, Production and Consumption: 1974. Designed to be used in conjunction with the preceding composite coal movement map, Map 8 shows state-by-state production of coal, divided by type of mine used and indicating the number of active mines, as well as consumption of coal, classified by ultimate use. It shows the geographic spread of coal resources (although not the quantities in

place) subdivided into five types of coal and coking coal, known commercial and potentially commercial deposits, and percent of sulfur content by weight.

Map No. 9, Crude Petroleum Movement by All Modes: 1974. This map presents the flow of crude oil both by pipeline and waterway, the production of liquid fuels by state, divided between crude oil and natural gas liquids, and inputs to refineries by states, divided between domestic crude oil and foreign crude oil.

Map No. 10, Refined Petroleum Products Movement By All Modes: 1974. The major flows of bulk long-distance modes (pipelines and water) are shown on this map. Circular graphs for each state display the production and consumption of major petroleum products.

Maps No. 11 through 15, Waterborne Movement of Non-Energy Commodities, 1976. The next group of 5 maps shows waterborne commodity flows in 1976 for major commodities other than the energy commodities. The map numbers and the major commodity groups illustrated are:

11. Grain Movement by Water: 1976. Grains included are: (1) corn, (2) wheat, (3) soybeans, (4) sorghum grains, (5) rice, (6) barley and rye, (7) and oats.

12. Industrial and Agricultural Chemicals Movement by Water: 1976. This map shows the two main classifications of chemicals moved by water--agricultural chemicals, which include fertilizers and phosphate rock, and industrial chemicals which include all other chemicals.

13. Iron Ore Movement by Water: 1976. The iron ore movement includes direct shipping ore and all ore concentrates.

14. Iron and Steel Products Movement by Water: 1976. The flow arrows include movements of pig iron, ingots and other primary forms, iron and steel bars, plates, sheets, tubes and other primary products.

15. Other Commodity Movements by Water: 1976. This category includes rafted logs; other logs and wood products; sand, gravel and crushed rock; and marine shells.

Maps No. 16 through 19, Waterways and Ports by Regions. Four regions of the country are exhibited depicting physical data for waterways and harbors and waterborne commerce data for ports. Technical information described for Map 1 also applies to the following maps showing waterways and ports for the following regions:

16. Atlantic Region
17. Mississippi River System and Gulf Region
18. Great Lakes - St. Lawrence Seaway Region
19. Pacific Region

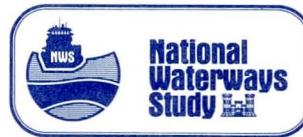
Map No. 20, Energy Commodity Movement by Water: 1976. The final map in this series is to be completed in mid-1979 and will be distributed to individuals and organizations that received the first 19 maps. Map 20 will depict waterborne movements of coal, crude petroleum, and petroleum products for calendar year 1976, as well as the locations and capacities of refineries producing more than 10,000 barrels per day.

ACKNOWLEDGEMENTS

Many organizations and individuals contributed to the development, technical review, cartographic design, compilation, and printing of the Waterways Systems and Commodity Movement Maps. The United States Geological Survey of the Department of the Interior provided the base maps for the entire series, performed the cartographic work for Maps 1 through 15 and printed all the maps. Tech-Drafting and Photo, Inc. of Falls Church, Virginia, was the cartographer for Maps 16 through 19. The Waterborne Commerce Statistics Center, U.S. Army Engineer Division, Lower Mississippi Valley, provided the waterborne commerce data for Maps 1, 6, and 11 through 19. The Automatic Data Processing Center of the Corps of Engineers, North Central Division, prepared special computer tabulations for Maps 2 through 5 and 16 through 19 and for the Great Lakes and St. Lawrence Seaway Region on Maps 6, and 11 through 15. The Bureau of the Census provided information that was the basis for Maps 2 through 5. The Congressional Research Service of the Library of Congress gave permission for the use of Maps 7 through 10. Corps of Engineers division and district offices provided the basic data and reviewed the drafts of maps showing the location and depths of rivers, channels, and harbors. Personnel of the Office of the Chief of Engineers, Planning Division; the Board of Engineers for Rivers and Harbors; and Corps Division and District Offices reviewed drafts of the maps.

Many persons provided crucial input. Unfortunately, all of them cannot be listed in this transmittal document; however, several individuals had major responsibilities. At the Institute for Water Resources, Arlene L. Dietz, Study Manager for the National Waterways Study provided general direction for the project, Howard E. Olson was responsible for the technical content, and Thomas M. Ballentine coordinated field data input, the design, review and production of the maps. Special recognition is given to John H. Wittman, Cartographer, and his staff in the Special Mapping Center, United States Geological Survey.

Users of these maps are invited to furnish comments and suggestions that may improve future editions of the maps. Comments should include reference to specific map numbers and notations regarding proposed additions, deletions or changes to the maps or the text.



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NATIONAL WATERWAYS STUDY

MAP NO. 1

EXISTING MAJOR WATERWAYS AND PORTS
OF THE UNITED STATES



EXISTING MAJOR WATERWAYS AND PORTS OF THE UNITED STATES

This map is one of a series of 19 maps displaying the existing national waterways system and commodity movements, published for the U.S. Army Engineer Institute for Water Resources as a part of the National Waterways Study. The Institute for Water Resources provided technical guidance and determined the content of the maps using data developed by Corps of Engineers division and district offices.

Albers Equal Area Projection
SCALE 1:7,500,000



MAJOR WATERWAYS AND PORTS

Waterways	depth (in feet)	Ports
	over 40	
	35-40	
	28-34.9	
	18-27.9	
	13-17.9	
	10-12.9	
	8-9.9	
	under 8	

PORT WATERBORNE COMMERCE SHORT TONS

	50,000,000 and over
	35,000,000-49,999,999
	20,000,000-34,999,999
	10,000,000-19,999,999
	1,000,000-9,999,999

Commerce less than 1,000,000 tons not shown

domestic commerce in million tons
 foreign commerce in million tons

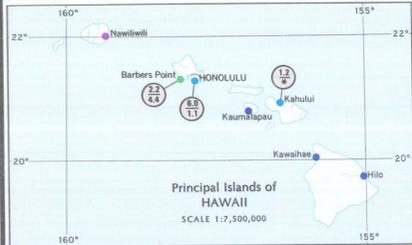
less than 100,000 tons not shown

Total tonnage: domestic/foreign data not available

NEW YORK District headquarters

Ports shown are those listed in Waterborne Commerce of the United States 1976, part 5, tables 3 and 4, and other selected coastal and Great Lakes ports where commodity movements in 1976 exceeded 200,000 tons.

Gray lines indicate the Congressional district boundaries for the 95th Congress



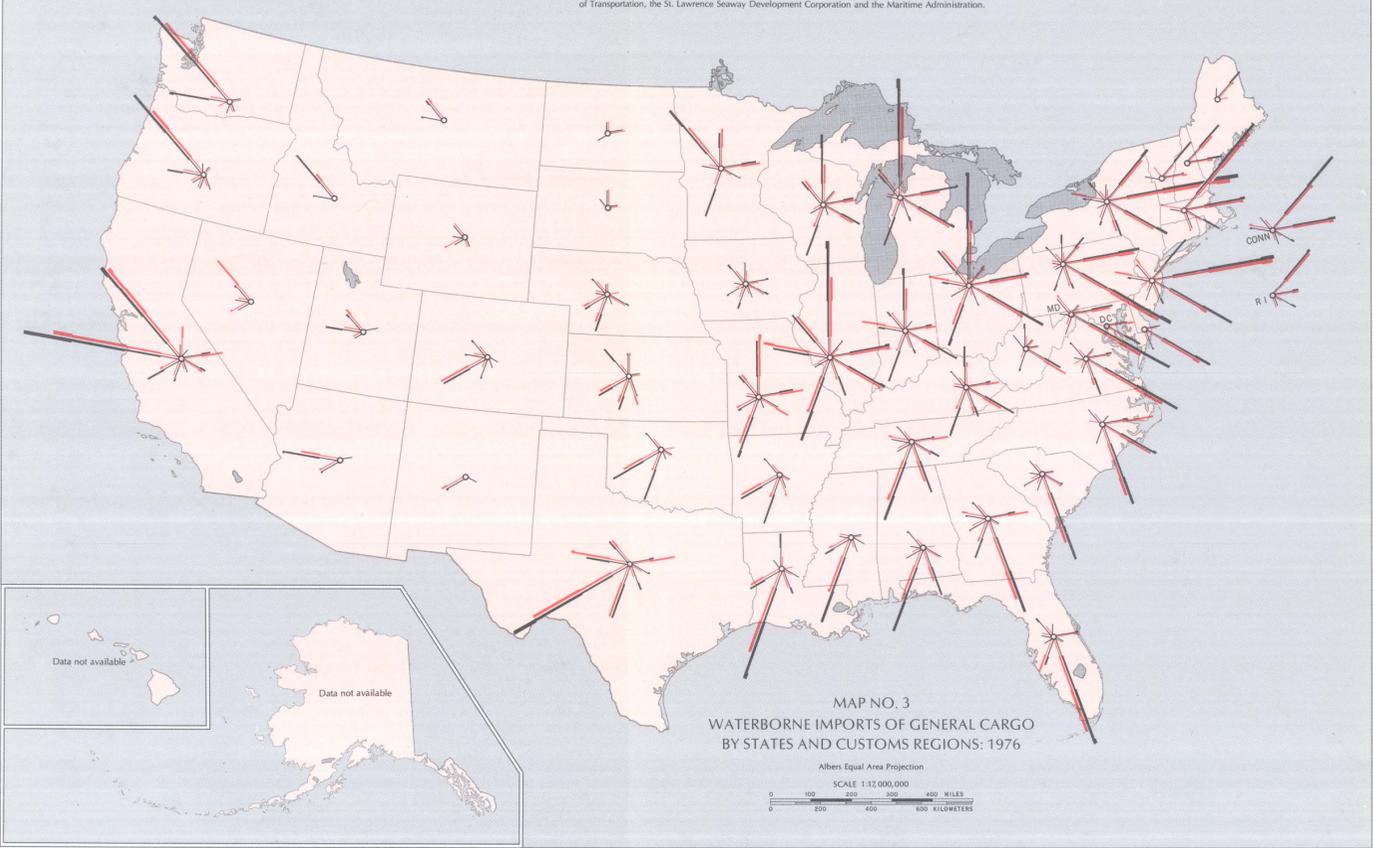
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NATIONAL WATERWAYS STUDY

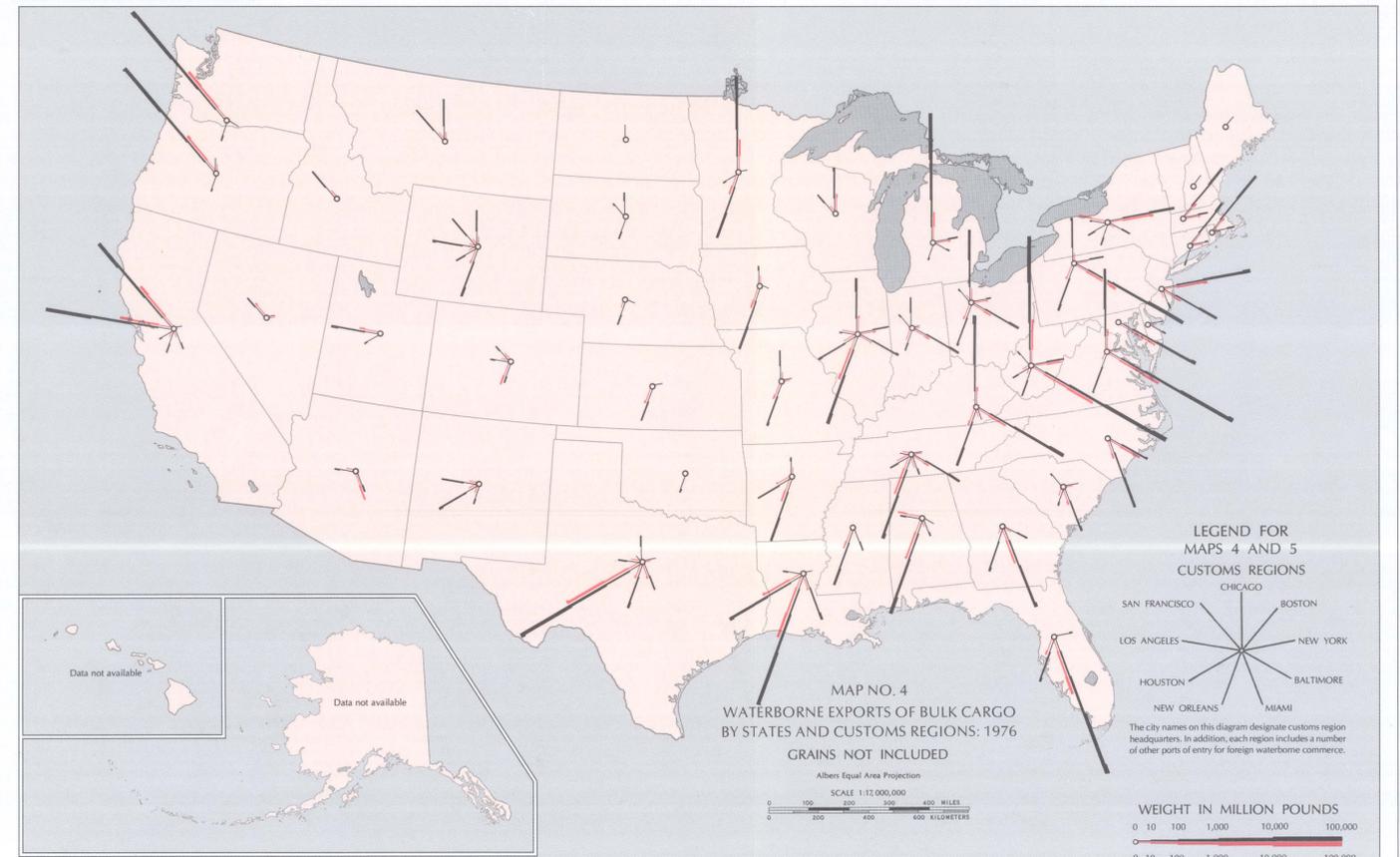
- MAP NO. 2 WATERBORNE EXPORTS OF GENERAL CARGO
BY STATES AND CUSTOMS REGIONS: 1976
- MAP NO. 3 WATERBORNE IMPORTS OF GENERAL CARGO
BY STATES AND CUSTOMS REGIONS: 1976
- MAP NO. 4 WATERBORNE EXPORTS OF BULK CARGO
BY STATES AND CUSTOMS REGIONS: 1976
- MAP NO. 5 WATERBORNE IMPORTS OF BULK CARGO
BY STATES AND CUSTOMS REGIONS: 1976



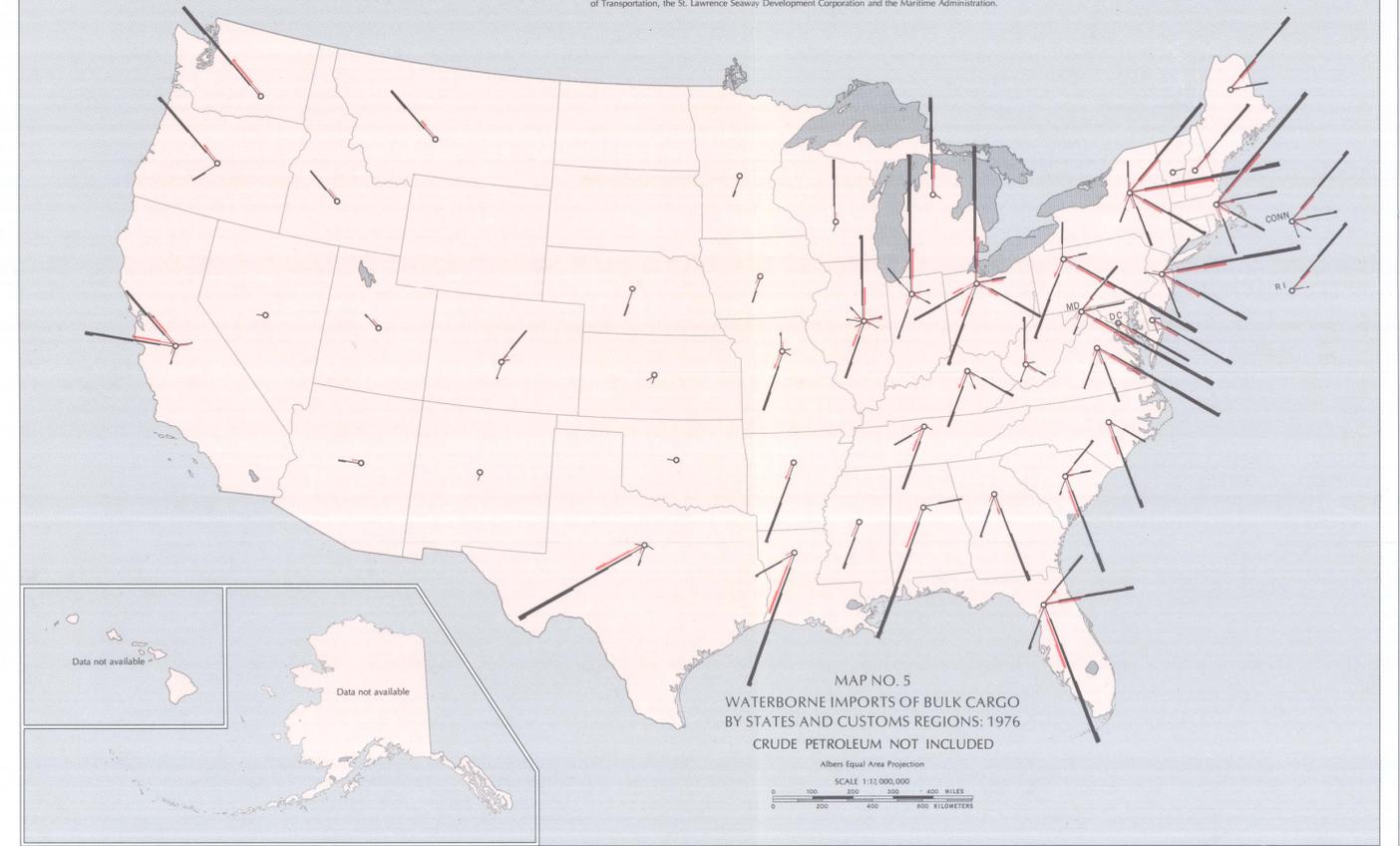
These maps are two of a series of 19 maps displaying the existing national waterways system and commodity movements, published for the U. S. Army Engineer Institute for Water Resources as a part of the National Waterways Study. Data on domestic and international transportation of U.S. foreign trade for 1976, were preliminary results collected by the Bureau of the Census during a survey sponsored by the U. S. Army Corps of Engineers, the Department of Transportation, the St. Lawrence Seaway Development Corporation and the Maritime Administration.



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NATIONAL WATERWAYS STUDY

MAP NO. 6

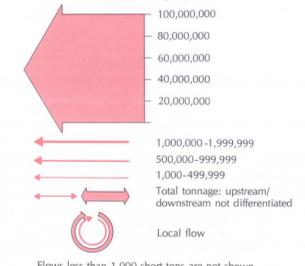
TOTAL COMMODITY MOVEMENT BY WATER: 1976



TOTAL COMMODITY MOVEMENT BY WATER: 1976

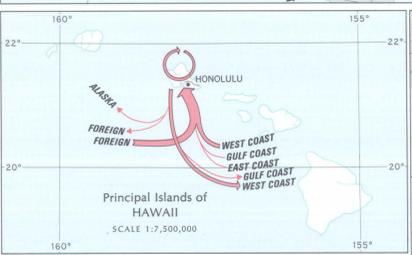
This map is one of a series of 19 maps displaying the existing national waterways system and commodity movements, published for the U.S. Army Engineers Institute for Water Resources as a part of the National Waterways Study. The Institute for Water Resources provided technical guidance and determined the content of the maps using data developed by the Waterborne Commerce Statistics Center, U.S. Army Engineer Division, Lower Mississippi Valley.

TOTAL COMMODITY MOVEMENT SHORT TONS



For purposes of graphic presentation, flow data have been combined. Commodity movements depicted are the totals of all originating and terminating waterborne commerce within each U. S. Army Corps of Engineers District.

Gray lines indicate the Congressional district boundaries for the 95th Congress



ALASKA

SCALE 1:17,000,000

Albers Equal Area Projection

SCALE 1:7,500,000

NATIONAL WATERWAYS STUDY

MAP NO. 7

COAL MOVEMENT BY ALL MODES: 1974

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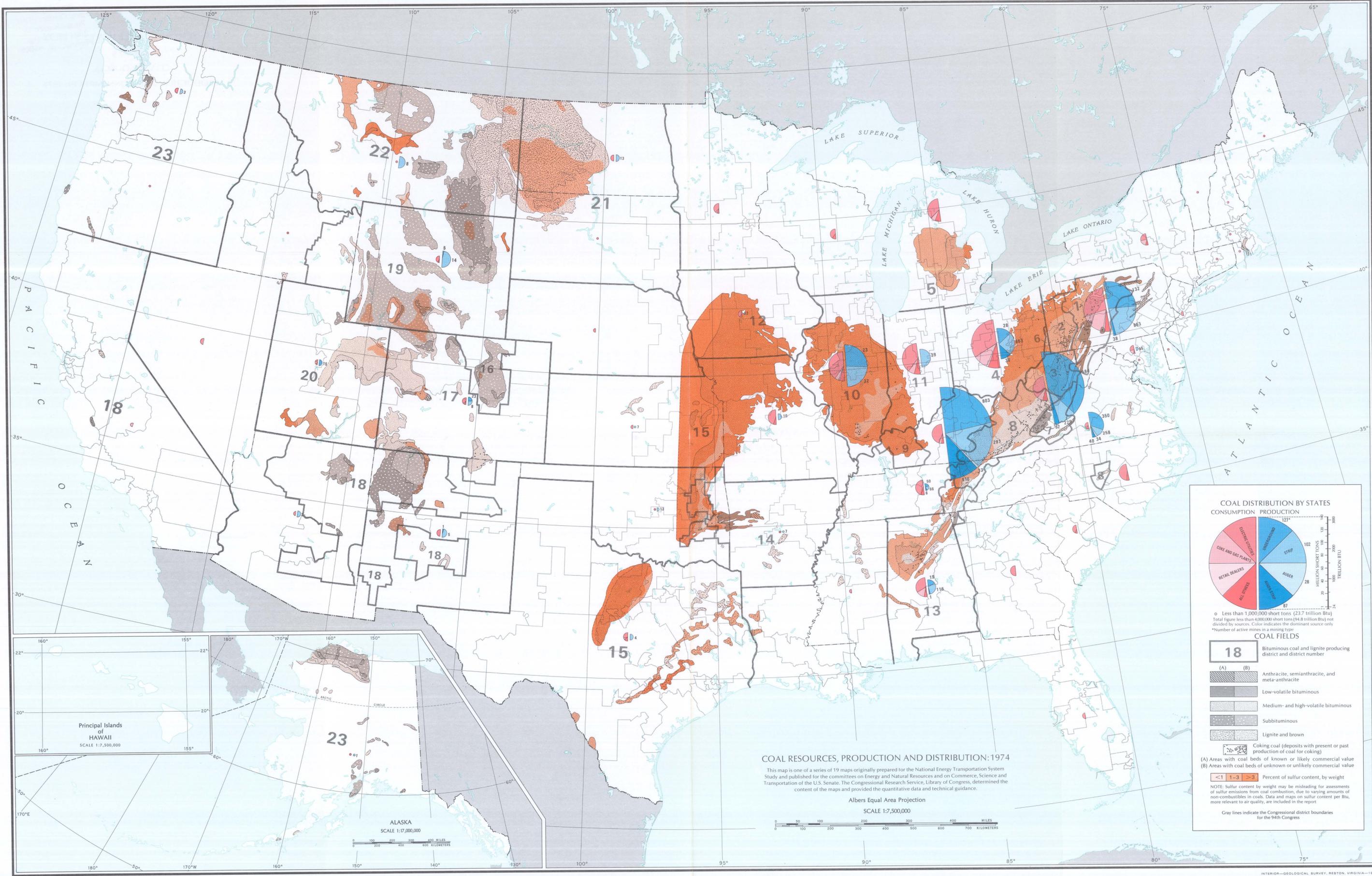
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NATIONAL WATERWAYS STUDY

MAP NO. 8

COAL RESOURCES,

PRODUCTION AND CONSUMPTION: 1974



COAL RESOURCES, PRODUCTION AND DISTRIBUTION: 1974

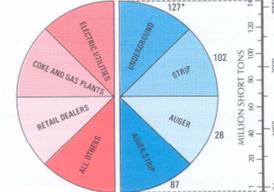
This map is one of a series of 19 maps originally prepared for the National Energy Transportation System Study and published for the committees on Energy and Natural Resources and on Commerce, Science and Transportation of the U.S. Senate. The Congressional Research Service, Library of Congress, determined the content of the maps and provided the quantitative data and technical guidance.

Albers Equal Area Projection

SCALE 1:7,500,000



COAL DISTRIBUTION BY STATES CONSUMPTION PRODUCTION



0 Less than 1,000,000 short tons (22.7 trillion Btu)
Total figure less than 4,000,000 short tons (94.8 trillion Btu) not divided by source. Color indicates the dominant source only
*Number of active mines in a mining type

COAL FIELDS

- 18** Bituminous coal and lignite producing district and district number
- (A) Anthracite, semianthracite, and meta-anthracite
- (B) Low-volatile bituminous
- Medium- and high-volatile bituminous
- Subbituminous
- Lignite and brown
- Coking coal (deposits with present or past production of coal for coking)

(A) Areas with coal beds of known or likely commercial value
(B) Areas with coal beds of unknown or unlikely commercial value

<1 1-3 >3 Percent of sulfur content, by weight

NOTE: Sulfur content by weight may be misleading for assessments of sulfur emissions from coal combustion, due to varying amounts of non-combustibles in coals. Data and maps on sulfur content per Btu, more relevant to air quality, are included in the report

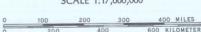
Gray lines indicate the Congressional district boundaries for the 94th Congress

Principal Islands of HAWAII

SCALE 1:7,500,000

ALASKA

SCALE 1:17,000,000



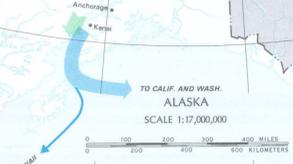
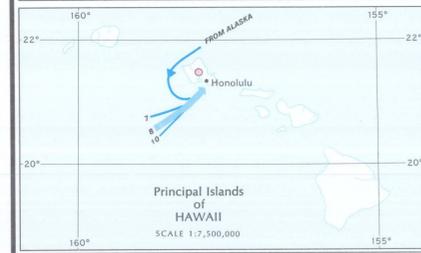
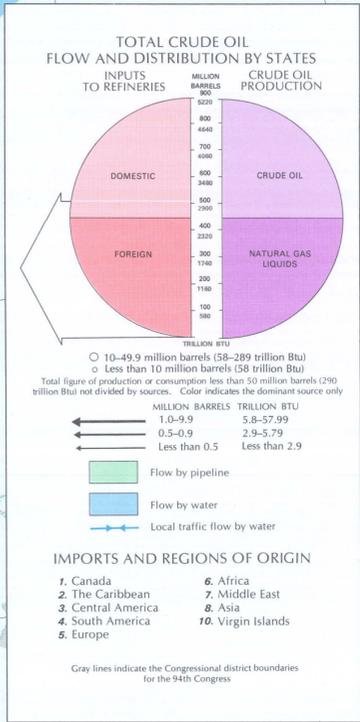
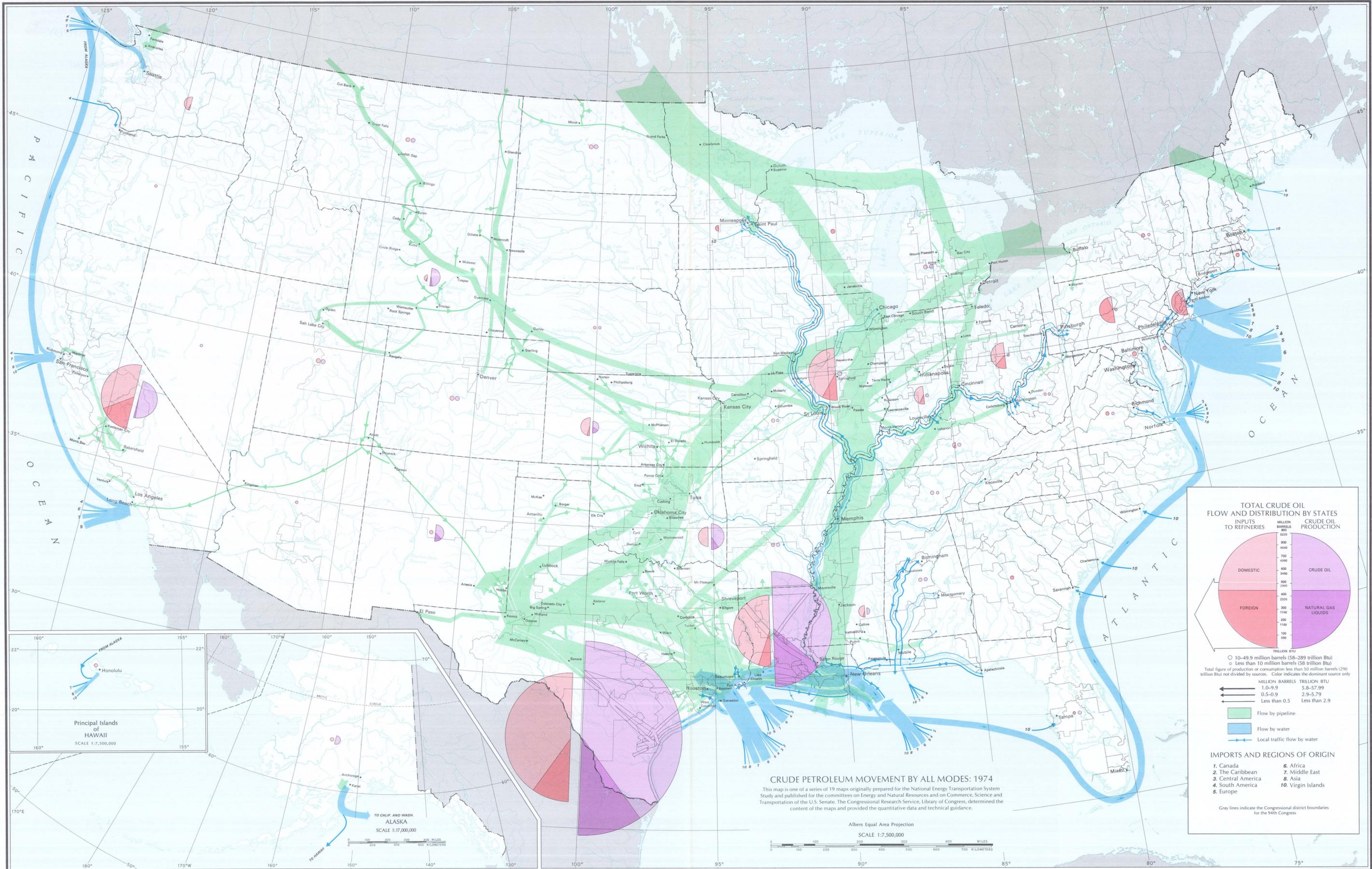
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NATIONAL WATERWAYS STUDY

MAP NO. 9

CRUDE PETROLEUM MOVEMENT

BY ALL MODES: 1974



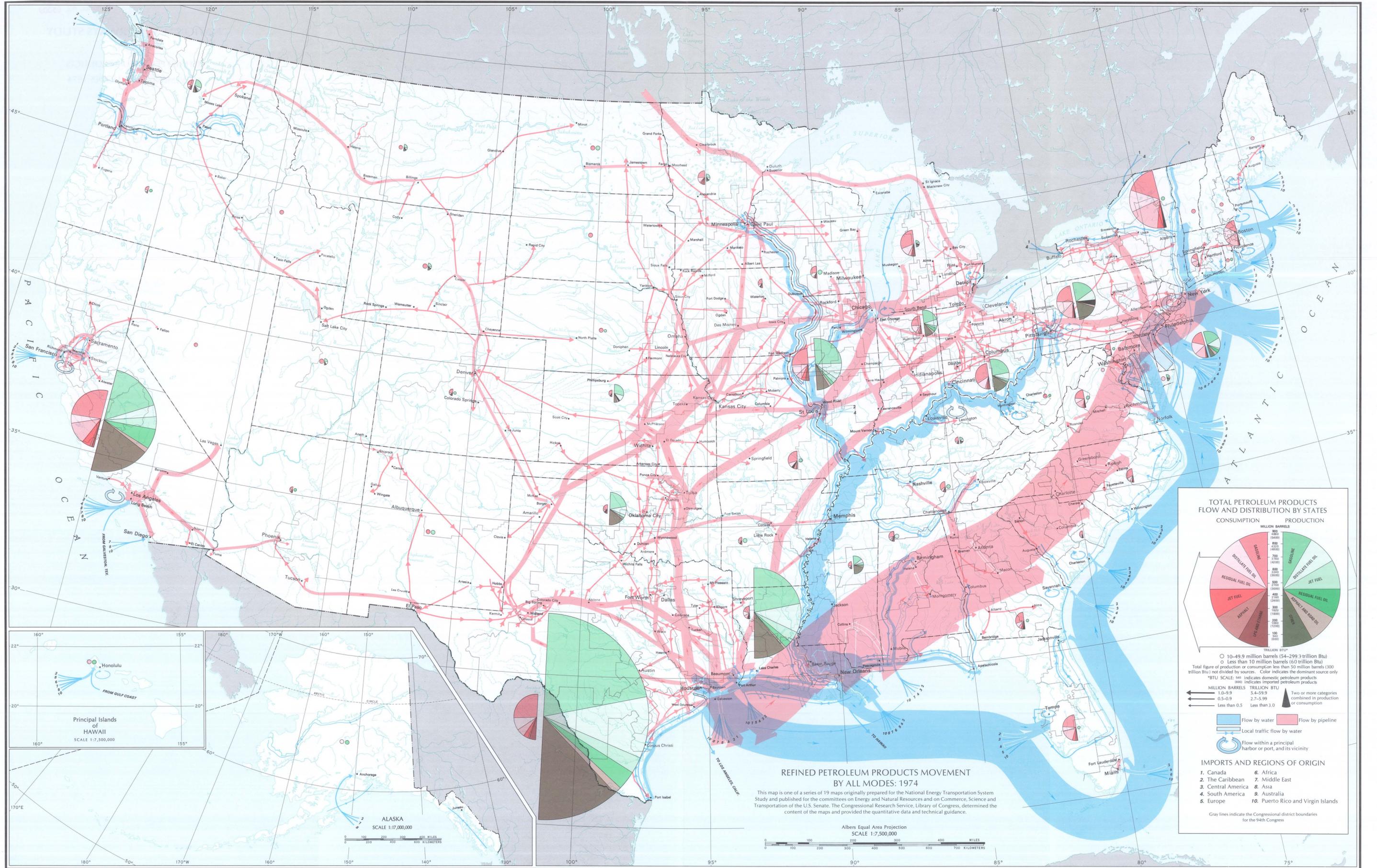
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NATIONAL WATERWAYS STUDY

MAP NO. 10

REFINED PETROLEUM PRODUCTS

MOVEMENT BY ALL MODES: 1974

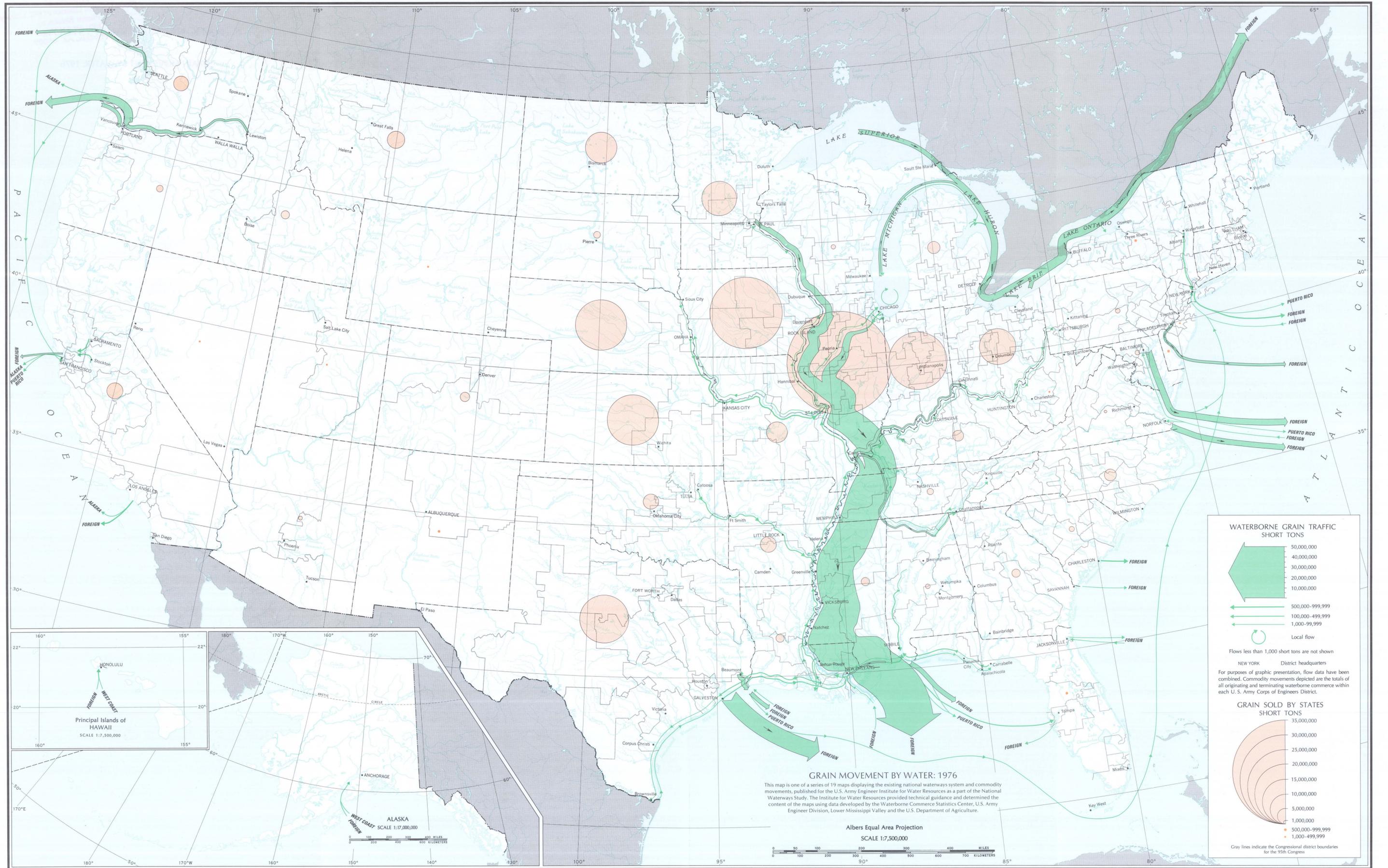


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MAP NO. 11

GRAIN MOVEMENT BY WATER: 1976



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MAP NO. 12

INDUSTRIAL AND AGRICULTURAL CHEMICALS

MOVEMENT BY WATER: 1976

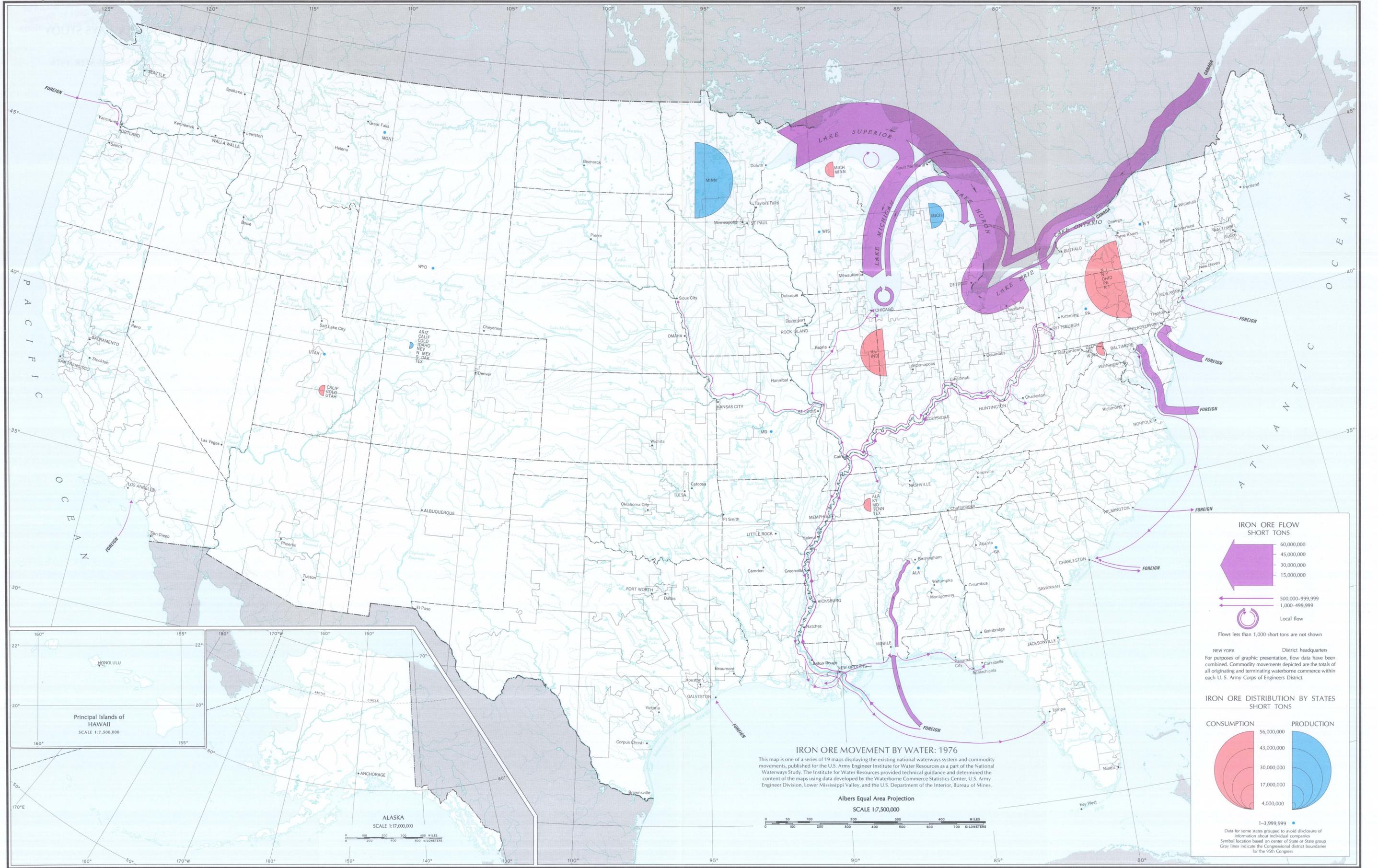


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NATIONAL WATERWAYS STUDY

MAP NO. 13

IRON ORE MOVEMENT BY WATER: 1976



IRON ORE MOVEMENT BY WATER: 1976
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Albers Equal Area Projection
 SCALE 1:7,500,000

IRON ORE FLOW SHORT TONS

60,000,000
 45,000,000
 30,000,000
 15,000,000

500,000-999,999
 1,000-499,999

Local flow

Flows less than 1,000 short tons are not shown

IRON ORE DISTRIBUTION BY STATES SHORT TONS

CONSUMPTION 56,000,000
 43,000,000
 30,000,000
 17,000,000
 4,000,000

PRODUCTION

1-3,999,999

Data for some states grouped to avoid disclosure of information about individual companies
 Symbol location based on center of State or State group
 Gray lines indicate the Congressional district boundaries for the 95th Congress

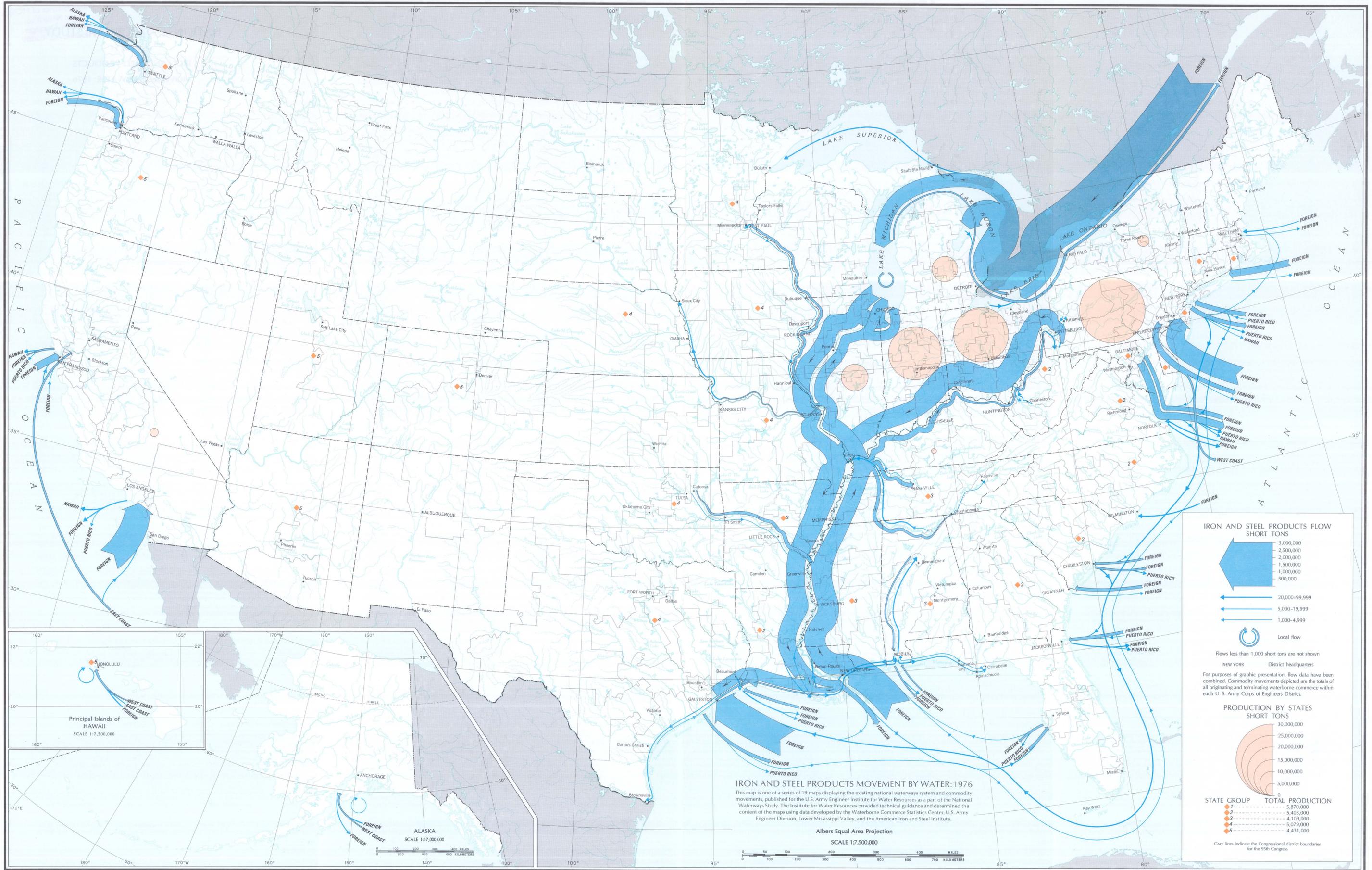
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NATIONAL WATERWAYS STUDY

MAP NO. 14

IRON AND STEEL PRODUCTS

MOVEMENT BY WATER: 1976



IRON AND STEEL PRODUCTS MOVEMENT BY WATER: 1976

This map is one of a series of 19 maps displaying the existing national waterways system and commodity movements, published for the U.S. Army Engineer Institute for Water Resources as a part of the National Waterways Study. The Institute for Water Resources provided technical guidance and determined the content of the maps using data developed by the Waterborne Commerce Statistics Center, U.S. Army Engineer Division, Lower Mississippi Valley, and the American Iron and Steel Institute.

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SCALE 1:7,500,000

IRON AND STEEL PRODUCTS FLOW SHORT TONS

Flows less than 1,000 short tons are not shown

NEW YORK District headquarters

For purposes of graphic presentation, flow data have been combined. Commodity movements depicted are the totals of all originating and terminating waterborne commerce within each U.S. Army Corps of Engineers District.

PRODUCTION BY STATES SHORT TONS

STATE GROUP TOTAL PRODUCTION

1	5,870,000
2	5,403,000
3	4,109,000
4	5,079,000
5	4,431,000

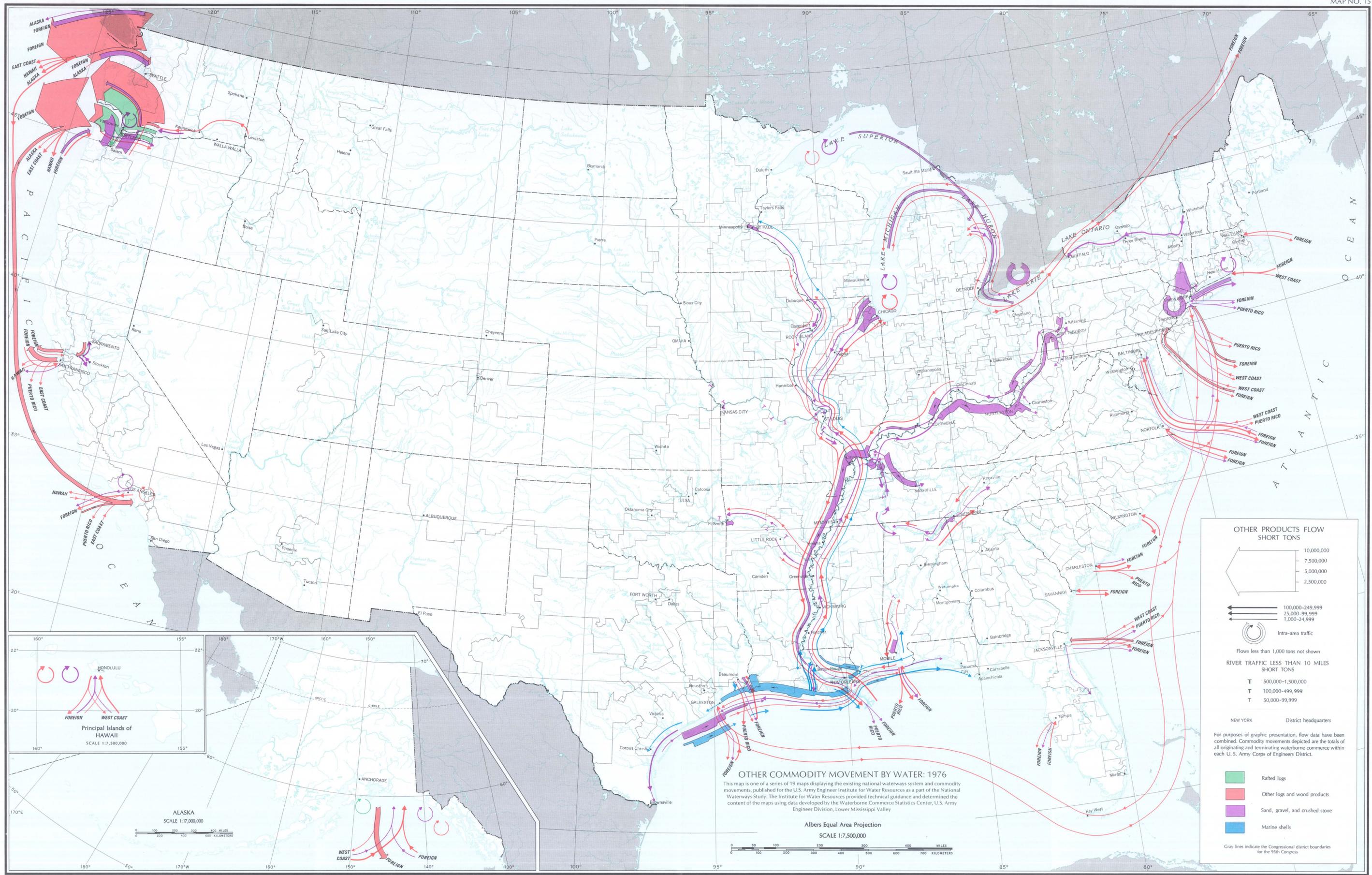
Gray lines indicate the Congressional district boundaries for the 95th Congress

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NATIONAL WATERWAYS STUDY

MAP NO. 15

OTHER COMMODITY MOVEMENT BY WATER: 1976



OTHER PRODUCTS FLOW SHORT TONS

10,000,000

 7,500,000

 5,000,000

 2,500,000

100,000-249,999

 25,000-99,999

 1,000-24,999

Intra-area traffic

Flows less than 1,000 tons not shown

RIVER TRAFFIC LESS THAN 10 MILES SHORT TONS

T 500,000-1,500,000

 T 100,000-499,999

 T 50,000-99,999

NEW YORK District headquarters

For purposes of graphic presentation, flow data have been combined. Commodity movements depicted are the totals of all originating and terminating waterborne commerce within each U. S. Army Corps of Engineers District.

Rafted logs

 Other logs and wood products

 Sand, gravel, and crushed stone

 Marine shells

Gray lines indicate the Congressional district boundaries for the 95th Congress

OTHER COMMODITY MOVEMENT BY WATER: 1976

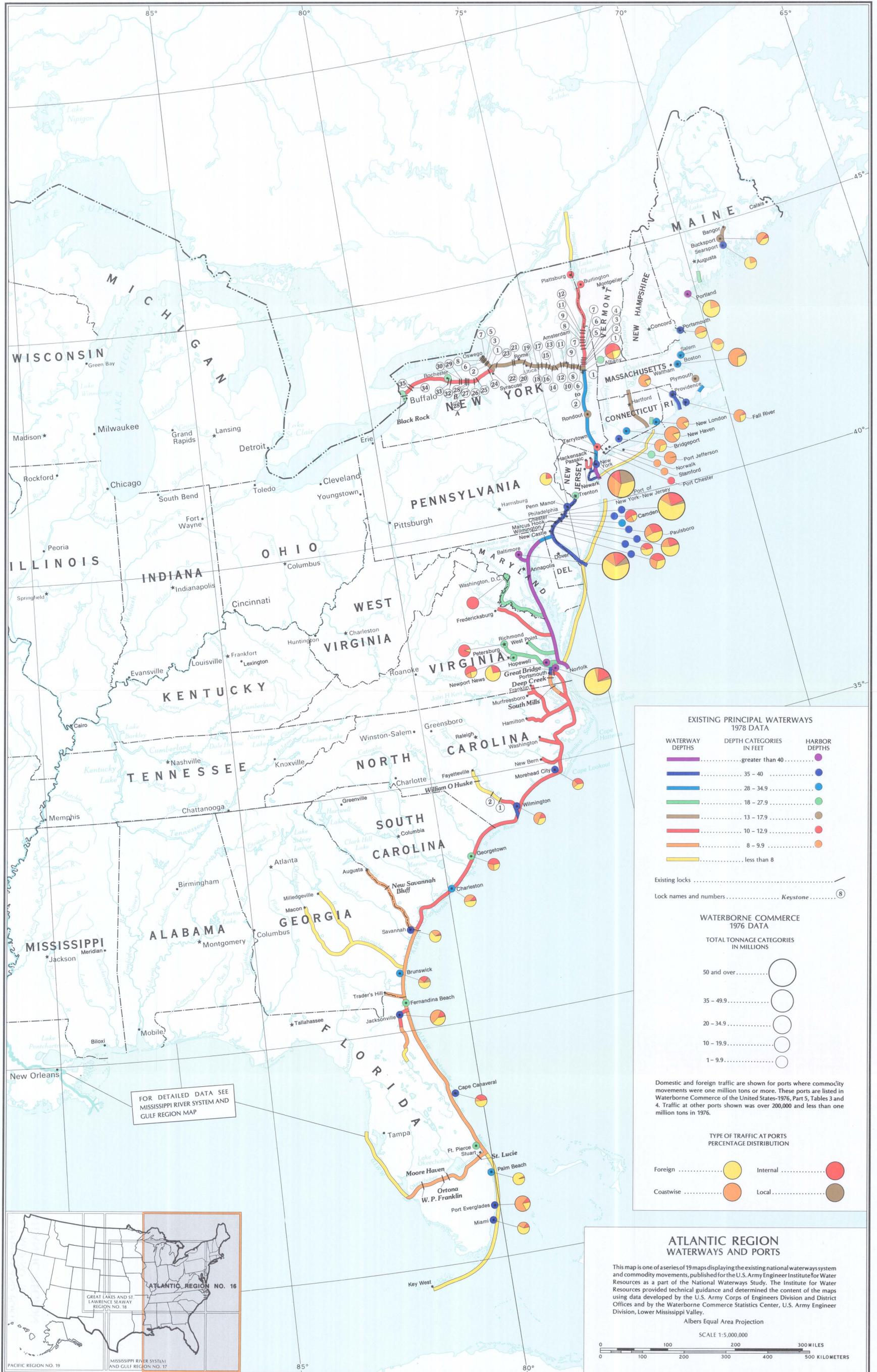
This map is one of a series of 19 maps displaying the existing national waterways system and commodity movements, published for the U.S. Army Engineer Institute for Water Resources as a part of the National Waterways Study. The Institute for Water Resources provided technical guidance and determined the content of the maps using data developed by the Waterborne Commerce Statistics Center, U.S. Army Engineer Division, Lower Mississippi Valley

Albers Equal Area Projection
SCALE 1:7,500,000

0 50 100 200 300 400 500 600 700 MILES
0 100 200 300 400 500 600 700 KILOMETERS

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WATERWAYS AND PORTS
MAP NO. 16
ATLANTIC REGION



**EXISTING PRINCIPAL WATERWAYS
1978 DATA**

WATERWAY DEPTHS	DEPTH CATEGORIES IN FEET	HARBOR DEPTHS
	greater than 40	
	35 - 40	
	28 - 34.9	
	18 - 27.9	
	13 - 17.9	
	10 - 12.9	
	8 - 9.9	
	less than 8	

Existing locks

Lock names and numbers *Keystone*

**WATERBORNE COMMERCE
1976 DATA**

**TOTAL TONNAGE CATEGORIES
IN MILLIONS**

50 and over	
35 - 49.9	
20 - 34.9	
10 - 19.9	
1 - 9.9	

Domestic and foreign traffic are shown for ports where commodity movements were one million tons or more. These ports are listed in Waterborne Commerce of the United States-1976, Part 5, Tables 3 and 4. Traffic at other ports shown was over 200,000 and less than one million tons in 1976.

**TYPE OF TRAFFIC AT PORTS
PERCENTAGE DISTRIBUTION**

Foreign		Internal	
Coastwise		Local	

**ATLANTIC REGION
WATERWAYS AND PORTS**

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Albers Equal Area Projection

SCALE 1:5,000,000



FOR DETAILED DATA SEE
MISSISSIPPI RIVER SYSTEM AND
GULF REGION MAP

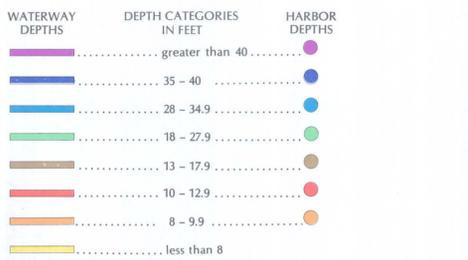


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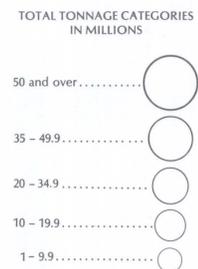
WATERWAYS AND PORTS
MAP NO. 17
MISSISSIPPI RIVER SYSTEM
AND GULF REGION



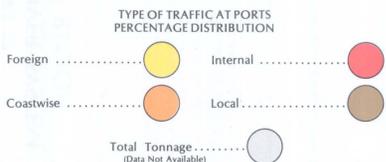
EXISTING PRINCIPAL WATERWAYS
1978 DATA



WATERBORNE COMMERCE
1976 DATA



Existing locks
Lock names and numbers *Keystone* (8)



Domestic and foreign traffic are shown for ports where commodity movements were one million tons or more. These ports are listed in Waterborne Commerce of the United States-1976, Part 5, Tables 3 and 4. Traffic at other ports shown was over 200,000 and less than one million tons in 1976.



MISSISSIPPI RIVER SYSTEM AND GULF REGION
WATERWAYS AND PORTS

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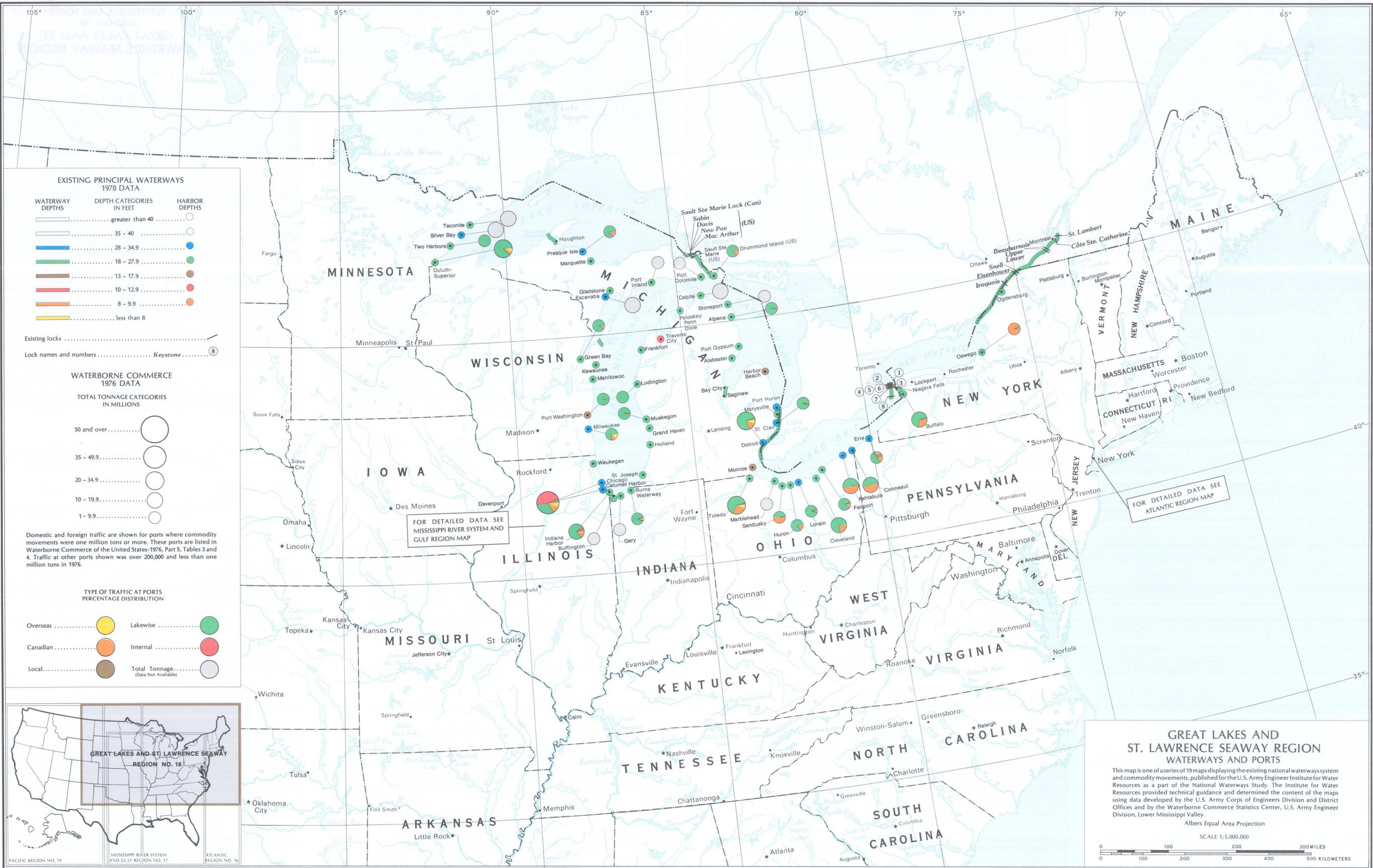
Albers Equal Area Projection

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WATERWAYS AND PORTS
MAP NO. 18
GREAT LAKES AND ST.
LAWRENCE SEAWAY REGION



EXISTING PRINCIPAL WATERWAYS 1978 DATA

WATERWAY DEPTHS	DEPTH CATEGORIES IN FEET	HARBOR DEPTHS
[White line]	greater than 40	[White circle]
[Blue line]	35 - 40	[Blue circle]
[Green line]	28 - 34.9	[Green circle]
[Light Green line]	18 - 27.9	[Light Green circle]
[Brown line]	13 - 17.9	[Brown circle]
[Red line]	10 - 12.9	[Red circle]
[Orange line]	8 - 9.9	[Orange circle]
[Yellow line]	less than 8	[Yellow circle]

Existing locks /
 Lock names and numbers Keystone ⑧

WATERBORNE COMMERCE 1976 DATA

TOTAL TONNAGE CATEGORIES IN MILLIONS

[Large circle]	50 and over
[Medium-Large circle]	35 - 49.9
[Medium circle]	20 - 34.9
[Small-Medium circle]	10 - 19.9
[Small circle]	1 - 9.9

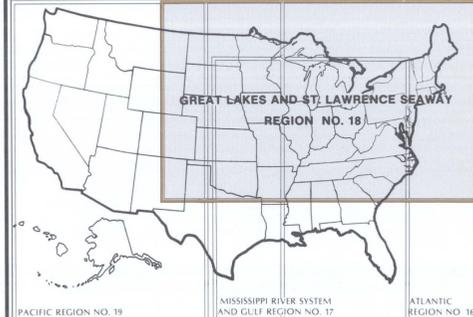
Domestic and foreign traffic are shown for ports where commodity movements were one million tons or more. These ports are listed in Waterborne Commerce of the United States-1976, Part 5, Tables 3 and 4. Traffic at other ports shown was over 200,000 and less than one million tons in 1976.

TYPE OF TRAFFIC AT PORTS PERCENTAGE DISTRIBUTION

[Yellow circle]	Overseas	[Green circle]	Lakewise
[Orange circle]	Canadian	[Red circle]	Internal
[Brown circle]	Local	[Grey circle]	Total Tonnage (Data Not Available)

FOR DETAILED DATA SEE MISSISSIPPI RIVER SYSTEM AND GULF REGION MAP

FOR DETAILED DATA SEE ATLANTIC REGION MAP



GREAT LAKES AND ST. LAWRENCE SEAWAY WATERWAYS AND PORTS

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Albers Equal Area Projection
 SCALE 1:5,000,000

0 100 200 300 400 500 MILES
 0 100 200 300 400 500 KILOMETERS

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WATERWAYS AND PORTS
MAP NO. 19
PACIFIC REGION

PACIFIC REGION WATERWAYS AND PORTS

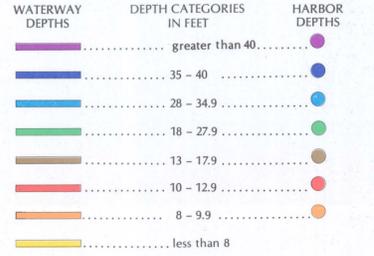
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Albers Equal Area Projection

SCALE 1:5,000,000



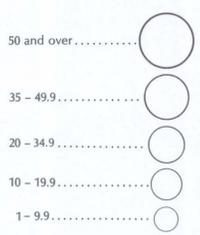
EXISTING PRINCIPAL WATERWAYS 1978 DATA



Existing locks
Lock names and numbers *Keystone* 8

WATERBORNE COMMERCE 1976 DATA

TOTAL TONNAGE CATEGORIES IN MILLIONS



Domestic and foreign traffic are shown for ports where commodity movements were one million tons or more. These ports are listed in Waterborne Commerce of the United States-1976, Part 5, Tables 3 and 4. Traffic at other ports shown was over 200,000 and less than one million tons in 1976.

TYPE OF TRAFFIC AT PORTS PERCENTAGE DISTRIBUTION

