DIGEST

of the

1972

Catalog of Information

on Water Data

U.S. GEOLOGICAL SURVEY
Water-Resources Investigations 63—73

Prepared by Office of Water Data Coordination
from information on water data acquisition
activities supplied by Federal, State and
local agencies and the private sector

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DECEMBER 1973

UNITED STATES DEPARTMENT OF THE INTERIOR
ROGERS C. B. MORTON, Secretary

Geological Survey
V. E. McKelvey, Director

FOR ADDITIONAL INFORMATION WRITE TO:

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National Center, Mail Stop 417
Reston, Virginia 22092

CONTENTS

Page

Introduction 1

Agencies reporting to the catalog 3

What was reported on surface water --
streamflow and stage 9

What was reported on water quality --
surface and ground water 39

Appendix 61
What was reported on ground water (1968 Catalog) 62
What was reported on areal investigations
and miscellaneous activities (1970 Catalog) 65
Sections of pages showing column headings and types
of information appearing in the Catalog 68

Illustrations

Figure 1 Map of the United States showing number of active surface-water stations reported by Federal and non-Federal agencies 11

2 Map of the United States showing number of active surface-water stations reported in Water Resources regions 13

3 Graph showing number of active surface-water stations by source 15

4 Graph showing number of active surface-water stations or activities conducted by Federal and non-Federal agencies and types of data available 19

Page

Figure 5 Map of the United States showing number of locations where time-of-travel and flood plain mapping information was collected 21

6 Maps of the United States showing number of active surface-water stations reported where stage is measured continuously on streams, lakes, reservoirs, and estuaries 24

7 Maps of the United States showing number of active surface-water stations reported where stage is measured daily on streams, lakes, reservoirs and estuaries 25

8 Graph showing distribution of active surface-water stations according to drainage areas 27

9 Map of the United States showing number of active water-quality stations reported by Federal and non-Federal agencies 41

10 Map of the United States showing number of active water-quality stations reported in Water Resources regions 43

11 Graph showing number of active water-quality stations by source as reported by Federal and non-Federal agencies 45

12 Map of the United States showing number of active water-quality stations reported on surface and ground waters 46

13 Map of the United States showing number of active ground-water stations reported in the 1968 edition of the Catalog (appendix) 63

14 Index map showing water resources regions and Catalog map boundaries (appendix) 69

15 Part of OWDC Map 31 showing locations of surface-water stations (appendix) 70

16 Part of OWDC Map 31 showing locations of water-quality stations (appendix) 71

Page

Figure 17 Part of page with column headings and type of information appearing in the Catalog section on long-term streamflow and stage stations on surface-water bodies, 1972 edition (appendix) 72

18 Part of page with column headings and type of information appearing in the Catalog section on long-term surface- and ground-water quality stations, 1972 edition (appendix) 75

19 Part of page with column headings and type of information appearing in the index to ground-water stations, 1968 edition of the Catalog of Information on Water Data (appendix) 79

20 Part of page with column headings and type of information appearing in the index to areal investigations and miscellaneous water-data activities, 1970 edition of Catalog (appendix) 82

Tables

Table 1 Federal agencies reporting information on water-data acquisition 5

2 Non-Federal agencies reporting information on water-data acquisition 5

3 Number of active surface-water stations reported for each State and Puerto Rico by source 16

4 Number of active surface-water stations by agency and source 17

5 Number of active surface-water stations or activities and types of data available 20

6 Number of stations on surface waters where stage is measured by Federal and non-Federal agencies at frequencies shown, and number of stations where stage is telemetered 23

Page

Table 7 Number of active surface-water stations and their drainage areas distributed by States from less than 0.5 square mile to more than 100,000 square miles 28

8 Number of surface-water stations reported by Federal and non-Federal agencies and distribution by drainage area classes from less than 0.5 square mile to more than 100,000 square miles 30

9 Number of surface-water stations reported started by Federal and non-Federal agencies 33

10 Number of active surface-water stations and periods of record 35

11 Total number of active surface-water stations reported in the previous and the 1972 editions of the Catalog by the agencies shown 37

12 Number of active water-quality stations reported by Federal and non-Federal agencies by source 47

13 Number of reported active water-quality stations on surface waters where parameters shown are measured by Federal and non-Federal agencies by State 49

14 Number of reported active water-quality stations on ground waters where parameters shown are measured by Federal and non-Federal agencies by State 50

15 Water-quality parameters, frequency of measurement, and number of reported stations on surface waters where measurements were made 52

Page

Table 16 Water-quality parameters, frequency of measurement, and number of reported stations on ground waters where measurements were made 53

17 Number of water-quality stations reported started by Federal and non-Federal agencies 55

18 Number of active water-quality stations and periods of record 57

19 Total number of active water-quality stations reported by Federal and non-Federal agencies in the previous and 1972 editions of the Catalog 59

20 Number of ground-water stations reported in the 1968 Catalog by Federal and non-Federal agencies (appendix) 64

21 Number of areal investigations and miscellaneous activities reported by Federal and non-Federal agencies (appendix) 66

22 Number of areal investigations and miscellaneous activities reported by Federal and non-Federal agencies by objective and scope (appendix) 67

DIGEST

OF THE

1972

CATALOG OF INFORMATION

ON WATER DATA

By F. H. Pauszek

Introduction

The Catalog of Information on Water Data is a file of information about water-data-acquisition activities, maintained in accordance with directives set forth in Office of Management and Budget Circular A-67. The Circular calls upon the Department of the Interior to coordinate certain water-data-acquisition activities conducted by Federal agencies on streams, lakes, reservoirs, estuaries, and ground water. It includes the specific charge to maintain a central Catalog of Information on Water Data and on Federal activities being planned or conducted to acquire such data. Information in the Catalog is accessible through data retrieval procedures and is supplemented by station-location maps. The Catalog contains information about water-data-acquisition activities but does not contain the actual data, which must be obtained from the reporting agencies.

Information in the 1972 edition of the Catalog is presented in 21 separate volumes, one for each of the water-resources regions that have been designated by the Water Resources Council. (Base maps at a scale of 1:1,000,000 show the water-resources regions and additional breakdowns into smaller hydrological units.) Each volume contains information on water-data-acquisition activities conducted by Federal and non-Federal agencies on stage and flow of surface waters and springs and on water quality of surface and ground water. Table 1 shows the Federal agencies that reported water-data activities. Table 2 lists the non-Federal agencies reporting information on water-data acquisition.

Prior to the 1972 edition, information in the Catalog was released through four indexes, each representing a separate section of the Catalog. Three of the indexes, "Index to Surface-Water Section," "Index to Water-Quality Section," and "Index to Groundwater Section," contained information on data acquired on a recurrent basis at specific locations for a period of three years or more. The fourth section, "Index to Areal Investigations and Miscellaneous Activities," was concerned with specific projects or shorter term data-collection activities that involve field or laboratory measurements and that are not included in any other section of the Catalog.

This report is a digest of the information contained in the 1972 edition of the Catalog, which updates earlier editions of the surface-water and water-quality sections. The Digest highlights the Catalog contents by means of illustrations and tables. A brief explanation precedes each. Items covered are:

Who is collecting data
What data are being collected
Where are the data being collected
What are the periods of record and
frequency of data collection

The report includes an appendix containing information on active ground-water stations reported in the 1968 edition of the Catalog and information on areal investigations and miscellaneous water-data activities appearing in the 1970 edition of the Catalog. The appendix also contains a map of the conterminous United States showing water-resources regions and principal geographic units and their corresponding map numbers as used by the Office of Water Data Coordination. Also shown are sections of individual maps taken from a map folder which supplements the information in the separate volumes. One is an example of how surface-water stations are located. The other shows the location of water-quality stations. In addition, the appendix includes parts of pages showing column headings, and types of information appearing in the Catalog.

Copies of the separate volumes and the maps are available from the Office of Water Data Coordination, U. S. Geological Survey, National Center, Mail Stop 417, Reston, Virginia 22092.

Agencies reporting to the catalog

Data acquisition activities on surface waters -- streams, canals, lakes, reservoirs, estuaries, springs, drains and other sources -- were reported by 14 Federal agencies and 81 non-Federal agencies. Water-quality activities on surface waters were reported by 12 Federal and 135 non-Federal agencies. Six Federal and 37 non-Federal agencies reported acquisition of water-quality data on ground water. Table 1 lists the Federal agencies that reported information on water-data acquisition. Non-Federal agencies are listed in table 2 under their respective States. (The codes shown in these two tables correspond with those used in the Catalog.) The Water Survey of Canada reported on selected water-data acquisition activities in Canada along the border with the United States.

TABLE 1. -- *Federal agencies reporting information on water-data acquisition*

	DEPARTMENT OF AGRICULTURE
FS	Forest Service
	DEPARTMENT OF THE ARMY
CE	Corps of Engineers
	DEPARTMENT OF COMMERCE
	National Oceanic & Atmospheric Administration
NOS	National Ocean Survey
MFS	National Marine Fisheries Service
NWS	National Weather Service
	DEPARTMENT OF THE INTERIOR
BPA	Bonneville Power Administration
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BM	Bureau of Mines
	DEPARTMENT OF THE INTERIOR (cont)
BR	Bureau of Reclamation
SFW	Bureau of Sport Fisheries and Wildlife
GS	Geological Survey
	DEPARTMENT OF THE NAVY
NFE	Naval Facilities Engineering Command
MC	Marine Corps
	INDEPENDENT AGENCIES
AEC	Atomic Energy Commission
EPA	Environmental Protection Agency
IBW	International Boundary and Water Commission
TVA	Tennessee Valley Authority

CANADA

DEPARTMENT OF ENVIRONMENT

WSC	Water Survey of Canada, Water Resources Branch

TABLE 2. -- *Non-Federal agencies reporting information on water-data acquisition*

	ALABAMA
A01	Geological Survey of Alabama
	ALASKA
A50	Chugach Electric Assoc.
A51	State of Alaska, Dept. of Highways
	ARIZONA
B00	Salt River Valley Water Users Assoc.
B01	Water Resources Research Center
B02	Roosevelt Irrigation District
B03	Arizona Game & Fish Department
	ARIZONA (cont)
B04	Maricopa County Municipal Water Conservation District No. One
B05	Gila Water Commissioner
	ARKANSAS
B50	Ark. State Department of Health
B51	Ark. Game & Fish Commission
B52	Ark. Pollution Control Commission
	CALIFORNIA
C00	Calif. Dept. of Water Resources
C03	Alameda County Water District
C06	Calif. Water Quality Control Board

TABLE 2. (cont) -- *Non-Federal agencies reporting information on water-data acquisition*

COLORADO
C50 Board of Water Commissioners City and County of Denver
C51 Division of Water Resources Office of State Engineer
C52 Department of Public Utilities City of Colorado Springs
C53 Boulder City-County Health Dept.
C54 Pueblo Board of Water Works

CONNECTICUT
D00 State Department of Health
D01 The Water Bureau of the Metropolitan District
D02 Bridgeport Hydraulic Co.

DELAWARE
D50 Delaware Geological Survey

DISTRICT OF COLUMBIA
D53 Dept. of Sanitary Engineering Government of D.C.
D54 Dept. of Public Health Government of D.C.

FLORIDA
E00 Hollywood Reclamation District
E01 Hillsborough County Health Dept.
E02 Manatee County Health Dept.
E03 Central & Southern Florida Flood Control District

GEORGIA
E50 Savannah Dept. of Water & Sewage
E51 Thomasville Water & Light Dept.
E52 Valdosta Water & Sewer Dept.
E53 City of Gainesville Water Works
E54 City of Rome Water Works
E55 City of Griffin Water Works
E56 Macon Board of Water Commissioners
E57 Atlanta Water Works
E58 Columbus Water Works

HAWAII
F00 Board of Water Supply City & County of Honolulu
F01 Dept. of Water, County of Kaui
F02 Board of Water Supply, County of Maui

HAWAII (cont)
F03 Board of Water Supply, County of Hawaii
F04 Dept. of Hawaiian Home Lands State of Hawaii
F05 Division of Fish & Game, State of Hawaii
F06 Division of Water & Land Development State of Hawaii
F07 Public Utility Agency Water Division Government of Guam
F08 Ryukyu Industrial Research Institute Government of Ryukyu Islands
F09 Ryukyu Meteorological Agency Government of Ryukyu Islands

IDAHO
F50 Idaho State Fish Hatchery
F51 Water Resources Research Institute
F52 Idaho Department of Health

ILLINOIS
G00 Illinois Dept. of Public Health
G01 Metropolitan Sanitary District of Greater Chicago
G02 Illinois Department of Registration and Education
G03 Illinois Department of Public Works and Buildings

INDIANA
G50 Indiana State Board of Health

IOWA
H00 Iowa State Hygienic Laboratory
H01 Director of Lakeside Laboratory University of Iowa
H02 Des Moines Water Works
H03 Ottumwa Water Works
H04 Dept. of Civil Engineering, University of Iowa
H05 Iowa Department of Preventive Medicine and Environmental Health
H06 Agricultural Engineering Department
H07 Fort Dodge Dept. of Municipal Utilities
H08 Council Bluffs Water Works
H09 Des Moines County Drainage District No. 7
H10 Green Bay Levee and Drainage District No. 2

TABLE 2. (cont) -- *Non-Federal agencies reporting information on water-data acquisition*

KANSAS
H50 Kansas State Dept. of Health
H51 Board of Public Utilities
H52 Division of Water Resources Kansas State Bd. of Agriculture
H53 Topeka Water Department
H54 Kansas Forestry, Fish & Game Commission

KENTUCKY
I00 Kentucky State Department of Health Div. of Environmental Health
I01 Kentucky State Department of Health Water Pollution Control Commission
I02 Louisville Water Company

LOUISIANA
I50 Rapides Parish Water Works Dist.No.3
I51 La. State Department of Health
I52 Houma Light & Water Plant
I53 Jefferson Water Works, Dist.No.2
I54 Lafourche Water Works, Dist.No.1
I55 East Jefferson Water Works, Dist.No.1
I56 New Orleans Sewerage & Water Board
I57 Bossier City Water Plant
I58 Monroe Water Treatment Plant
I59 La. Wild Life & Fisheries Commission
I60 City of Shreveport Dept. of Water Utilities

MARYLAND
D51 Baltimore County Health Dept.
D52 City of Baltimore Dept. of Public Works

MICHIGAN
K50 Michigan Water Resources Commission

MINNESOTA
L01 Eveleth Taconite Company
L02 Minnesota Conservation Dept.
L03 Otter Tail Power Company
L04 Ramsey County Engineer's Dept.
L05 Northern States Power Co.
L06 City of Duluth Water, Gas & Sewage Treatment Dept.
L07 Minn. Ore Operations, USS Corp.
L08 Blandin Paper Company
L09 Minnesota Power and Light Co.
L10 Minneapolis-St. Paul Sanitary Dist.
L11 Minn. Pollution Control Agency
L12 Washington County Highway Dept.
L13 Rural Cooperative Power Association

MISSISSIPPI
L50 City of Vicksburg Water Treatment Plant
L51 City of Jackson Water Works
L52 Pearl River Valley Water Supply Dist.
L53 City of Meridian Water & Sewer Dept.
L54 City of Columbus Light & Water Dept.
L55 Mississippi State Board of Health

MISSOURI
M00 Missouri Division of Health
M01 Kansas City Sanitary Sewer District
M02 University of Missouri at Rolla
M03 Metropolitan St. Louis Sewer District
M04 Little River Drainage District
M06 Clean Water Commission

MONTANA
M50 Montana Fish & Game Dept.
M51 Mont. Univ. Joint Water Resources Research Center
M52 Montana State Dept. of Health and Environmental Sciences
M53 Montana Water Resources Board

NEBRASKA
N01 Nebraska Dept. of Health
N02 Metropolitan Utilities District
N03 Soil & Water Testing Laboratory University of Nebraska

NEVADA
N50 Nevada Dept. Health, Welfare & Rehabilitation
N51 Walker River Irrigation District

NEW JERSEY
050 Passaic Valley Water Commission
051 N. J. State Dept. of Environmental Protection, Div. of Water Resources
052 North Jersey District Water Supply Comm.
053 Passaic County
054 Delaware River Joint Toll Bridge Comm.

NEW MEXICO
P00 State Engineer's Office

NEW YORK
P50 N.Y. State Dept. of Environmental Conservation

NORTH CAROLINA
Q00 N.C. State Board of Health
Q01 N.C. Dept. of Water & Air Resources

TABLE 2. (cont) -- *Non-Federal agencies reporting information on water-data acquisition*

NORTH DAKOTA
Q50 N. Dak. Game & Fish Department
Q51 N. Dak. State Dept. of Health
Q52 Minot Water Treatment Plant
Q53 City of Bismarck Water Dept.
Q54 City of Dickinson Water Treatment
Q55 Grand Forks Water Treatment Plant

OHIO
R00 Ohio Dept. of Natural Resources
R01 The Miami Conservancy District
R02 Ohio River Valley Water Sanitation Commission
R03 Ohio Environmental Protection Agency

OKLAHOMA
R50 Oklahoma State Dept. of Health

OREGON
S01 Oregon State Game Commission
S03 Oregon State Engineer
S04 Fish Commission of Oregon

PENNSYLVANIA
S50 Pennsylvania Dept. of Health

SOUTH CAROLINA
T50 Agricultural Engineering Dept. Clemson University
T51 Greenville Water Works
T52 Spartanburg Water Works
T53 So. Carolina Pollution Control Auth.

SOUTH DAKOTA
U00 Water Resources Research Institute
U01 East Dakota Conservancy Subdistrict

TENNESSEE
U50 Tennessee Game & Fish Commission
U51 Tennessee Dept. of Public Health
U52 Cleveland Water System
U54 Bristol Water Plant
U55 Univ. of Tennessee Experiment Station
U57 Water Resources Research Center

TEXAS
V00 Texas Water Development Board

UTAH
V50 Utah State Health Department
V51 Metropolitan Water Dist. of Salt Lake City
V53 Salt Lake County Water Conservancy Dist.
V54 Salt Lake City Water Supply & Waterworks
V55 Ogden Bay Waterfowl Management Area
V56 Clear Lake Waterfowl Management Area
V57 Utah Dept. of Natural Resources
V58 Utah Geological and Mineralogical Survey
V59 Ogden River Water Users
V60 Weber Distribution System

VIRGINIA
W00 Virginia Dept. of Conservation and Economic Development

WASHINGTON
X00 Washington Dept. of Water Resources
X01 Skagit County PUD No. 1
X02 Chelen County PUD No. 1
X03 College of Fisheries University of Washington
X05 Department of Zoology University of Washington
X06 City of Bremerton Water Department
X07 City of Everett Department of Water
X08 City of Seattle Water Dept.
X09 Tacoma Department of Public Utilities
X12 Municipality of Metropolitan Seattle

WEST VIRGINIA
X50 W. Va. Department of Natural Resources
X51 W. Va. Department of Health

WISCONSIN
Y00 Wisconsin Department of Natural Resources
Y01 Northeastern Wisconsin Regional Planning Commission
Y02 Dairyland Power Coop
Y04 Northern States Power Co.
Y05 Wisconsin Michigan Power Co.

WYOMING
Y50 City of Casper Board of Public Utilities
Y51 Sheridan Water Department
Y52 Wyoming State Engineer
Y53 Water Resources Research Institute

What was reported on surface water—streamflow and stage

Figure 1 shows the number of active stations reported by Federal and non-Federal agencies on streams, canals, lakes, reservoirs, estuaries, drains and other sources for which data on stage, discharge and related parameters are available. A total of 21,385 stations were reported by 14 Federal agencies and 2,413 were reported by 81 non-Federal agencies. Included in the totals but not shown on the map are stations operated on island possessions of the United States. Also, not shown are 73 stations (not included in the above totals) reported by the Water Survey of Canada -- 44 on streams, 15 on canals, 4 on lakes, and 10 on reservoirs. Of the stations reported by Federal agencies, 83 percent were operated by the U. S. Geological Survey. Of those stations reported by non-Federal agencies, 65 percent were located in California, Minnesota, and Illinois; the remainder were distributed among 34 States. Information shown is as of January 1, 1972.

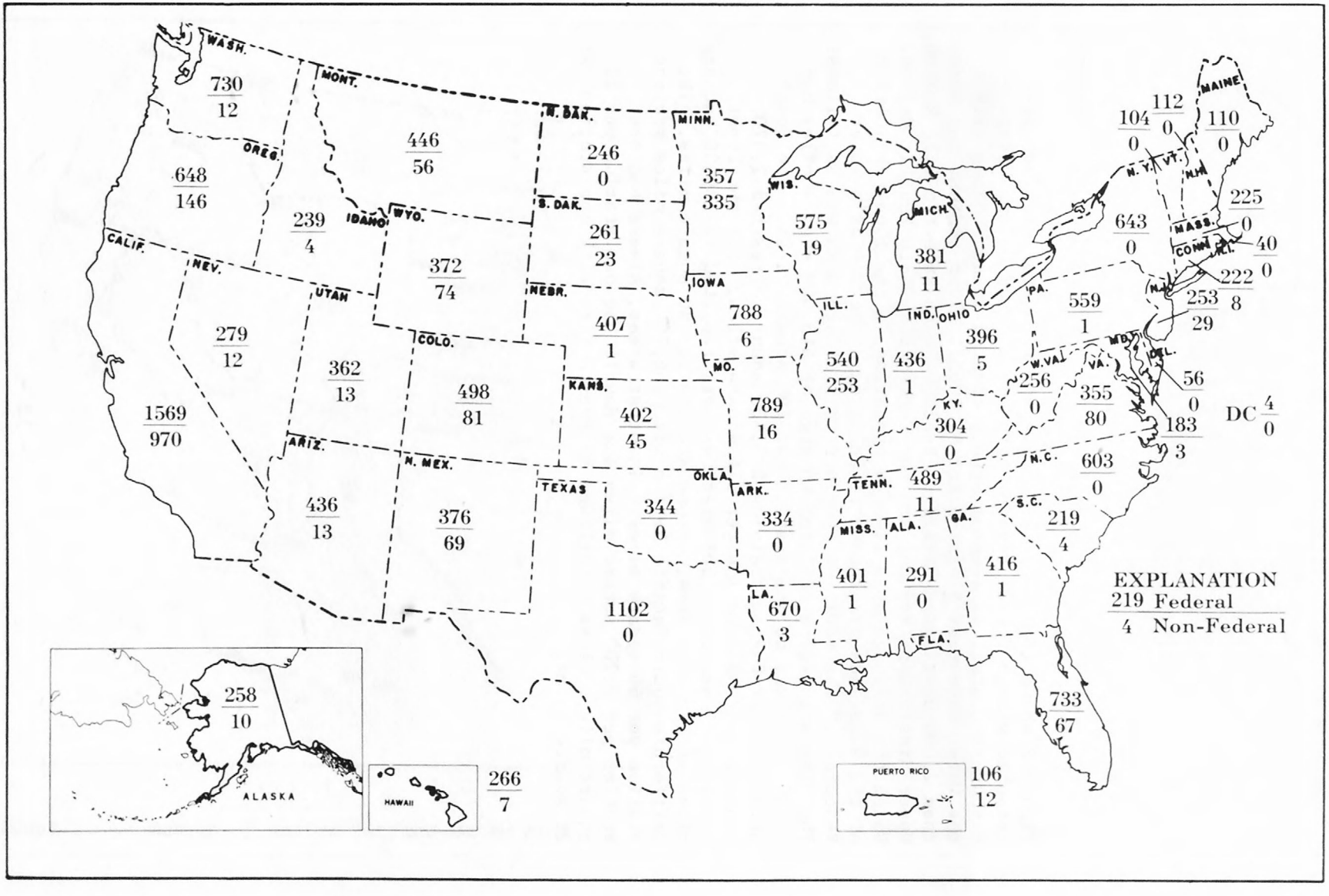
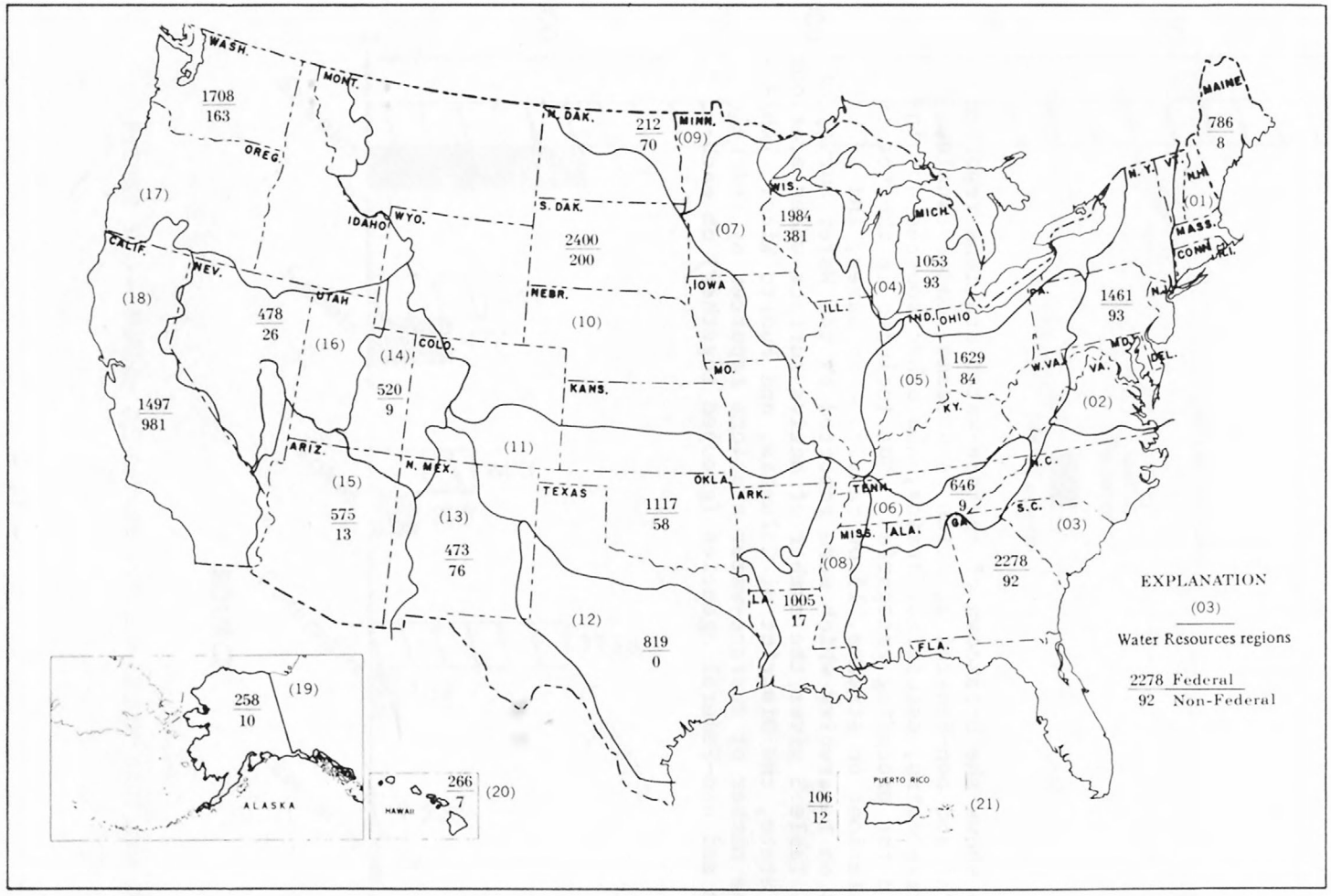


FIGURE 1. -- *Number of active surface-water stations reported by Federal and non-Federal agencies*

Figure 2 shows the number of active surface-water stations distributed within the 21 regions first designated by the Water Resources Council (a Federal agency created in accordance with the Water Resources Planning Act of 1965). Four regions had more than 2,000 stations -- Missouri Region, South Atlantic-Gulf Region, Upper Mississippi Region, and the California-South Pacific Region. Using the drainage area figures appearing in the 1968 publication of the Water Resources Council entitled, "The Nation's Water Resources," the ratio of stations to drainage area was as follows: The Missouri Region draining an area of 515,000 square miles had 2,600 stations, or one station per 198 square miles. The South Atlantic-Gulf Region draining 275,500 square miles had 2,370 stations, or one station per 116 square miles. For the Upper Mississippi Region, 2,365 stations were reported in 189,300 square miles of drainage area, or one station per 80 square miles. The California-South Pacific Region with 164,700 square miles had one station per 66 square miles. In other areas, Alaska had one station per 2,200 square miles and Hawaii had one station per 23 square miles, closely followed by Puerto Rico with one station per 29 square miles.



Water Resources regions

(01) New England Region
(02) Middle Atlantic Region
(03) South Atlantic- Gulf Region
(04) Great Lakes Region
(05) Ohio Region
(06) Tennessee Region
(07) Upper Mississippi Region
(08) Lower Mississippi Region
(09) Souris-Red-Rainy Region
(10) Missouri Region
(11) Arkansas-White-Red Region
(12) Texas-Gulf Region
(13) Rio Grande Region
(14) Upper Colorado Region
(15) Lower Colorado Region
(16) Great Basin Region
(17) Columbia-North Pacific Region
(18) California-South Pacific Region
(19) Alaska Region
(20) Hawaii Region
(21) Puerto Rico Region

FIGURE 2. -- *Number of active surface-water stations reported in Water Resources regions*

Figure 3 shows the breakdown of surface-water stations reported by Federal and non-Federal agencies on streams, major canals, lakes, reservoirs, estuaries, drains, and other sources not included in the preceding categories. Not included in the totals are 44 stations on streams, 15 on canals, 4 on lakes, and 10 stations on reservoirs which were reported by the Water Survey of Canada. Table 3 gives the number of active surface-water stations in each State, the District of Columbia, and Puerto Rico. Table 4 gives the number of surface-water stations reported by Federal agencies and non-Federal agencies (grouped together) on each source.

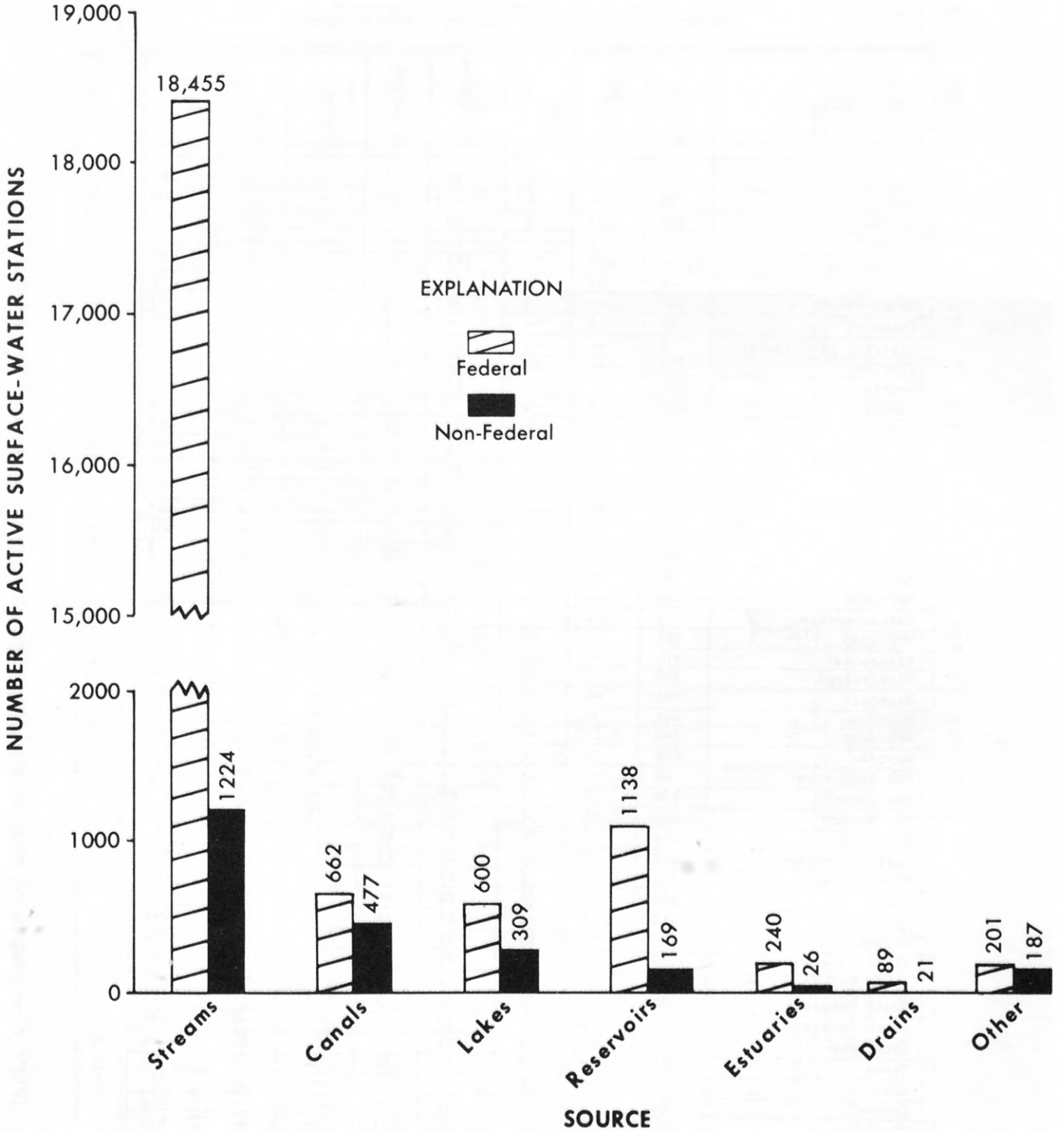


FIGURE 3. -- *Number of active surface-water stations by source*

TABLE 3.--*Number of active surface-water stations reported for each State and Puerto Rico by source*

State	Streams	Canals	Lakes	Reservoirs	Estuaries	Drains	Other	Total
Alabama	247	2	4	32	3	--	3	291
Alaska	253	--	1	--	13	--	1	268
Arizona	371	25	3	16	--	19	15	449
Arkansas	315	3	5	11	--	--	--	334
California	1,756	272	54	197	35	13	212	2,539
Colorado	446	67	1	60	--	--	5	579
Connecticut	185	--	3	38	4	--	--	230
Delaware	49	1	--	--	6	--	--	56
District of Columbia	1	--	--	--	3	--	--	4
Florida	316	182	173	57	29	3	40	800
Georgia	399	--	--	17	1	--	--	417
Hawaii	216	48	--	--	4	--	5	273
Idaho	199	16	9	19	--	--	--	243
Illinois	762	12	10	8	--	--	1	793
Indiana	304	--	114	19	--	--	--	437
Iowa	787	--	3	4	--	--	--	794
Kansas	372	13	1	58	--	--	3	447
Kentucky	276	2	--	26	--	--	--	304
Louisiana	540	77	23	9	20	--	4	673
Maine	80	--	23	1	3	--	3	110
Maryland	174	1	--	5	6	--	--	186
Massachusetts	204	2	--	16	1	--	2	225
Michigan	367	2	15	3	--	4	1	392
Minnesota	370	--	296	26	--	--	--	692
Mississippi	390	--	6	3	2	--	1	402
Missouri	765	--	9	13	--	--	18	805
Montana	404	39	1	58	--	--	--	502
Nebraska	340	27	--	23	--	18	--	408
Nevada	259	16	4	7	--	3	2	291
New Hampshire	90	--	13	9	--	--	--	112
New Jersey	238	2	1	14	25	--	2	282
New Mexico	335	65	1	19	--	18	7	445
New York	584	3	26	15	11	--	4	643
North Carolina	552	5	--	28	13	--	5	603
North Dakota	225	--	2	17	--	2	--	246
Ohio	366	1	5	29	--	--	--	401
Oklahoma	314	1	6	23	--	--	--	344
Oregon	627	98	10	51	8	--	--	794
Pennsylvania	518	--	11	29	2	--	--	560
Rhode Island	36	--	--	2	2	--	--	40
South Carolina	202	3	1	11	5	1	--	223
South Dakota	257	4	6	17	--	--	--	284
Tennessee	426	--	1	61	--	1	11	500
Texas	880	49	5	85	51	26	6	1,102
Utah	327	17	2	17	--	--	12	375
Vermont	91	--	2	11	--	--	--	104
Virginia	409	2	1	16	7	--	--	435
Washington	611	35	38	45	8	--	5	742
West Virginia	251	--	1	4	--	--	--	256
Wisconsin	540	1	17	36	--	--	--	594
Wyoming	374	45	1	25	--	1	--	446
Puerto Rico	105	1	--	10	1	--	1	118
Total	19,505	1,139	908	1,300	263	109	369	23,593

TABLE 4.--*Number of active surface-water stations by agency and source*

Agency	Streams	Canals	Lakes	Reservoirs	Estuaries	Drains	Other	Total
Bonneville Power Adm.	7	--	--	--	--	--	--	7
Bureau of Indian Affairs	--	2	--	--	--	--	--	2
Bureau of Land Management	47	--	--	--	--	--	--	47
Bureau of Reclamation	39	83	11	25	--	2	6	166
Bureau of Sport Fisheries and Wildlife	10	--	--	--	--	--	--	10
Corps of Engineers	1,322	89	57	289	109	--	12	1,878
Forest Service	118	--	7	1	--	--	3	129
Geological Survey	15,770	455	490	737	55	56	157	17,720
Int'l Boundary and Water Commission	79	28	--	4	--	30	9	150
Marine Corps	1	2	--	4	--	--	--	7
National Ocean Survey	20	3	32	--	67	--	14	136
National Weather Service	977	--	2	3	9	--	--	991
Naval Facilities Eng. Command	7	--	--	5	--	--	--	12
Tennessee Valley Authority	58	--	1	70	--	1	--	130
Water Survey of Canada	44	15	4	10	--	--	--	73
Federal agencies subtotal	18,499	677	604	1,148	240	89	201	21,458
Non-Federal agencies subtotal	1,224	477	309	169	26	21	187	2,413
Total	19,723	1,154	913	1,317	266	110	388	23,871

Figure 4 shows the number of active surface-water stations or activities conducted by Federal and non-Federal agencies and the types of data available at those stations. Table 5 gives the same information by Federal agency and by all non-Federal agencies grouped together.

Figure 5 shows the number of locations where time-of-travel and flood-plain mapping information was collected.

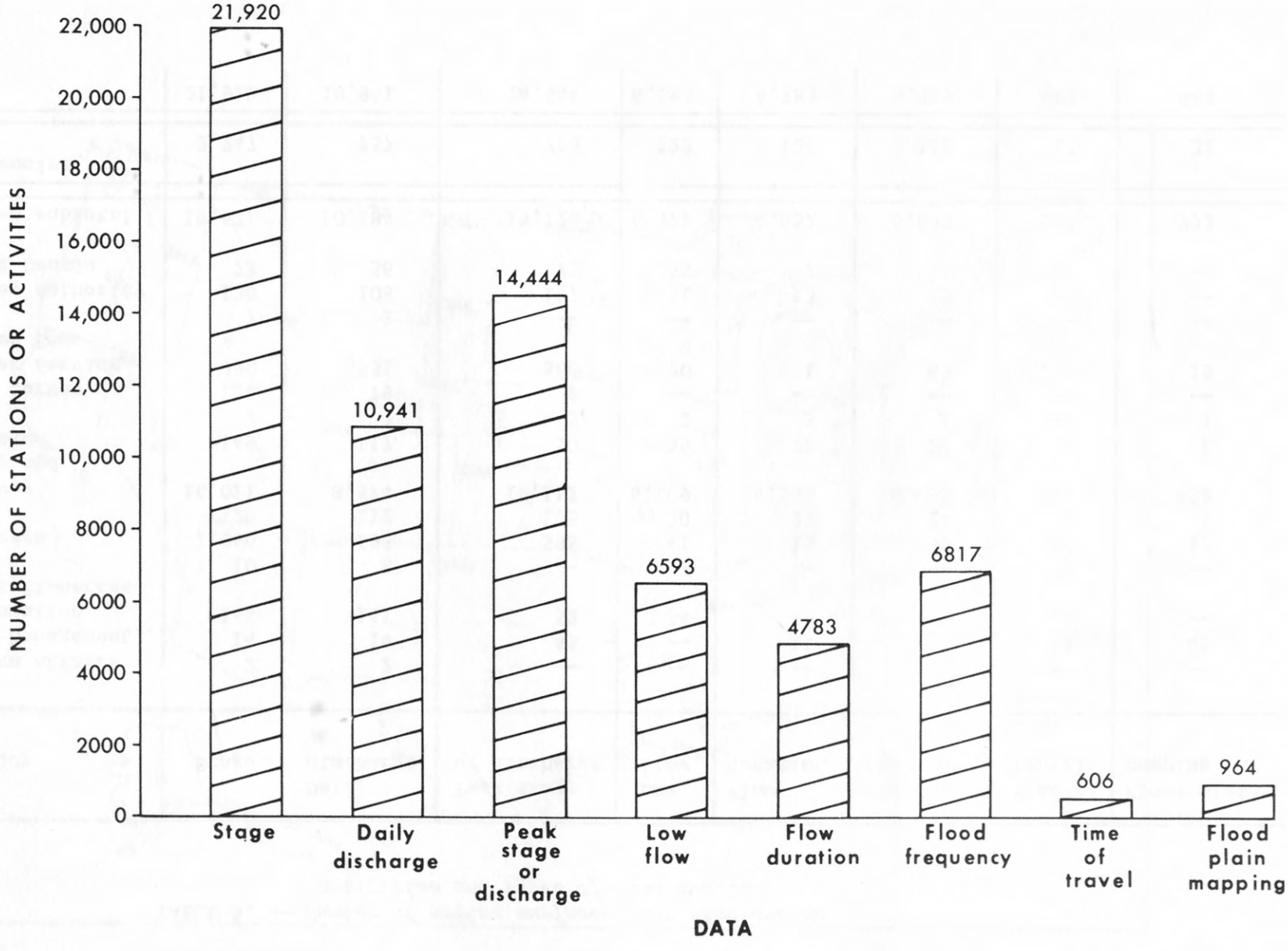


FIGURE 4. -- *Number of active surface-water stations or activities conducted by Federal and non-Federal agencies and types of data available*

TABLE 5. -- *Number of active surface-water stations or activities and types of data available*

Agency	Stage	Daily discharge	Peak stage or discharge	Low flow	Flow duration	Flood frequency	Time of travel	Flood plain mapping
Bureau of Indian Affairs	2	2	--	--	--	--	--	--
Bureau of Land Management	14	14	45	--	14	15	12	45
Bureau of Reclamation	164	141	52	34	--	--	--	--
Bureau of Sport Fisheries and Wildlife	10	8	--	--	--	--	--	--
Corps of Engineers	1,846	633	595	41	16	55	82	12
Forest Service	129	112	105	30	32	24	4	1
Geological Survey	16,011	8,574	12,112	6,109	4,555	6,495	212	858
Int'l. Boundary and Water Commission	149	117	50	39	21	24	7	1
Marine Corps	7	7	5	2	3	1	--	1
National Ocean Survey	139	79	2	--	--	--	--	--
National Weather Service	990	331	560	20	1	63	278	15
Naval Facilities Eng. Command	7	2	--	--	--	--	--	--
Tennessee Valley Authority	130	108	127	41	13	11	--	--
Water Survey of Canada	73	56	73	55	2	11	--	--
Federal agencies subtotal	19,671	10,184	13,726	6,371	4,657	6,699	595	933
Non-Federal agencies subtotal	2,247	757	718	222	126	118	11	31
Total	21,918	10,941	14,444	6,593	4,783	6,817	606	964

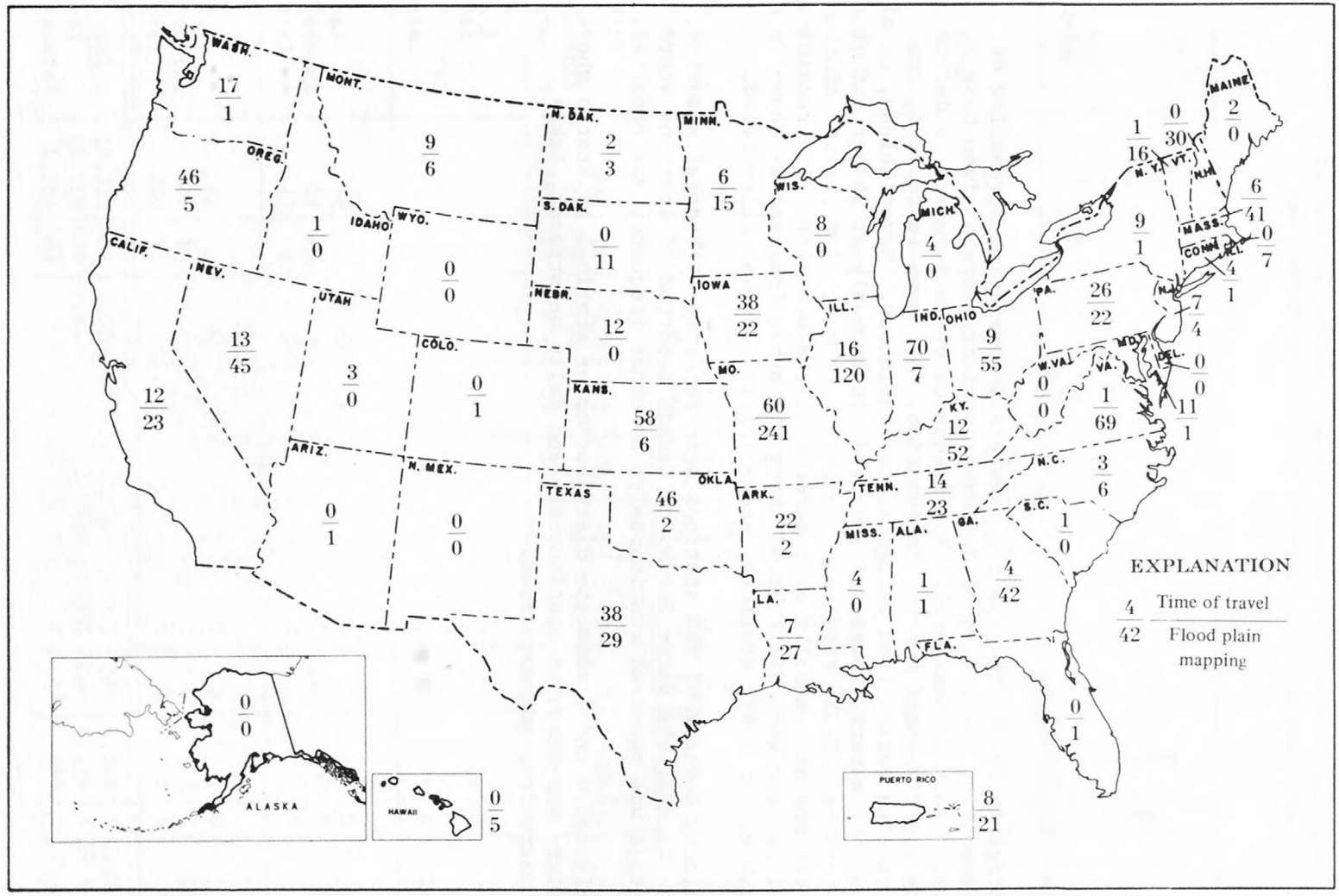


FIGURE 5. -- *Number of locations where time-of-travel and flood plain mapping information was collected*

Stage is one of the basic parameters in measuring streamflow or, generally, the height of any water surface above a given base or datum such as sea level. The frequency of measurement is determined by the time-need for the information. As shown in table 6, frequencies varied from irregular to continuous. Nevertheless, on all surface waters, stage was measured continuously at 56 percent of the stations. Daily stage measurements were made at 8 percent of the stations and annually at 5 percent of the stations. The remaining 31 percent were distributed among the other frequencies shown in the table. At 1,472 stations, stage information was telemetered.

Ninety percent of the stations were reported by Federal agencies. In Canada, the Water Survey of Canada reported 44 stations where stage was measured continuously; no other frequency was reported.

Figures 6 and 7 show the distribution of stations by States where stage was measured continuously and daily on streams, lakes, reservoirs, and estuaries.

TABLE 6. -- *Number of stations on surface waters where stage is measured by Federal and non-Federal agencies at frequencies shown, and number of stations where stage is telemetered*

Site and Agencies	Continuous	Seasonal	Daily	Weekly	Monthly	Quarterly	Annual	Other periodic	Irregular	Unknown	Total	Telemetered
Stream												
Federal	9,123	616	1,263	23	151	321	1,035	248	4,058	3	16,841	1,260
Non-Federal	686	34	86	4	58	0	0	19	231	4	1,122	32
Total	9,809	650	1,349	27	209	321	1,035	267	4,289	7	17,963	1,292
Canals												
Federal	522	36	32	6	25	16	1	4	5	0	647	13
Non-Federal	310	97	14	11	8	0	0	1	3	1	445	12
Total	832	133	46	17	33	16	1	5	8	1	1,092	25
Lakes												
Federal	286	6	144	79	52	16	1	9	8	1	602	11
Non-Federal	5	40	12	51	190	0	0	2	7	0	307	3
Total	291	46	156	130	242	16	1	11	15	1	909	14
Reservoirs												
Federal	796	15	158	42	87	3	0	3	33	0	1,137	117
Non-Federal	31	0	76	9	50	0	0	1	0	0	167	6
Total	827	15	234	51	137	3	0	4	33	0	1,304	123
Estuaries												
Federal	214	1	6	0	0	1	0	0	15	0	237	7
Non-Federal	25	0	1	0	0	0	0	0	0	0	26	1
Total	239	1	7	0	0	1	0	0	15	0	263	8
Drains												
Federal	56	0	0	0	0	1	0	0	3	0	60	0
Non-Federal	19	0	0	0	0	0	0	0	0	0	19	0
Total	75	0	0	0	0	1	0	0	3	0	79	0
Other												
Federal	122	0	10	0	2	9	0	2	2	0	147	6
Non-Federal	128	12	18	0	0	0	0	0	3	0	161	4
Total	250	12	28	0	2	9	0	2	5	0	308	10
Grand Total	12,323	857	1,820	225	623	367	1,037	289	4,368	9	21,918	1,472
Federal	11,119	674	1,613	150	317	367	1,037	266	4,124	4	19,671	1,414
Non-Federal	1,204	183	207	75	306	0	0	23	244	5	2,247	58

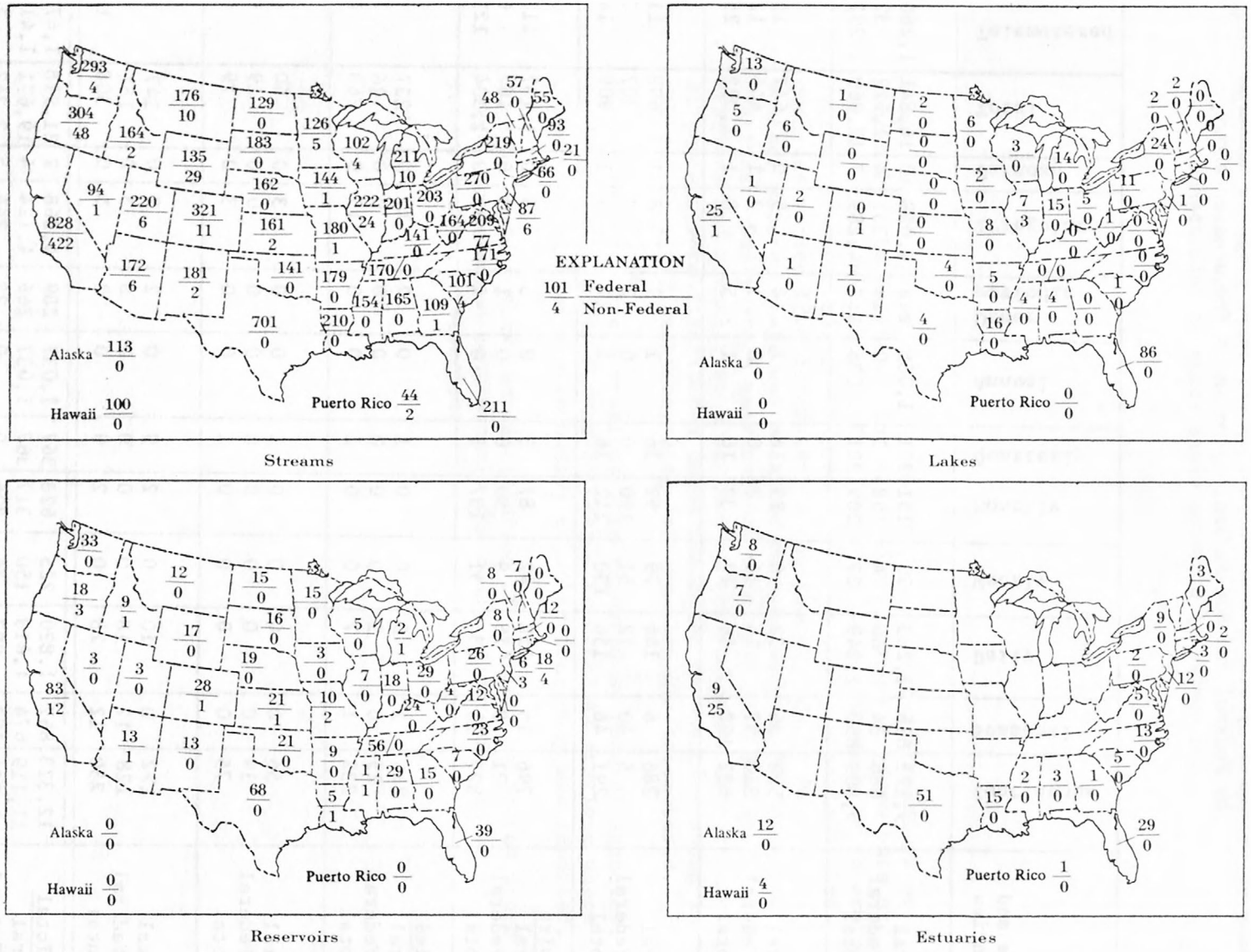


FIGURE 6. -- *Number of active surface-water stations reported where stage is measured continuously on streams, lakes, reservoirs, and estuaries*

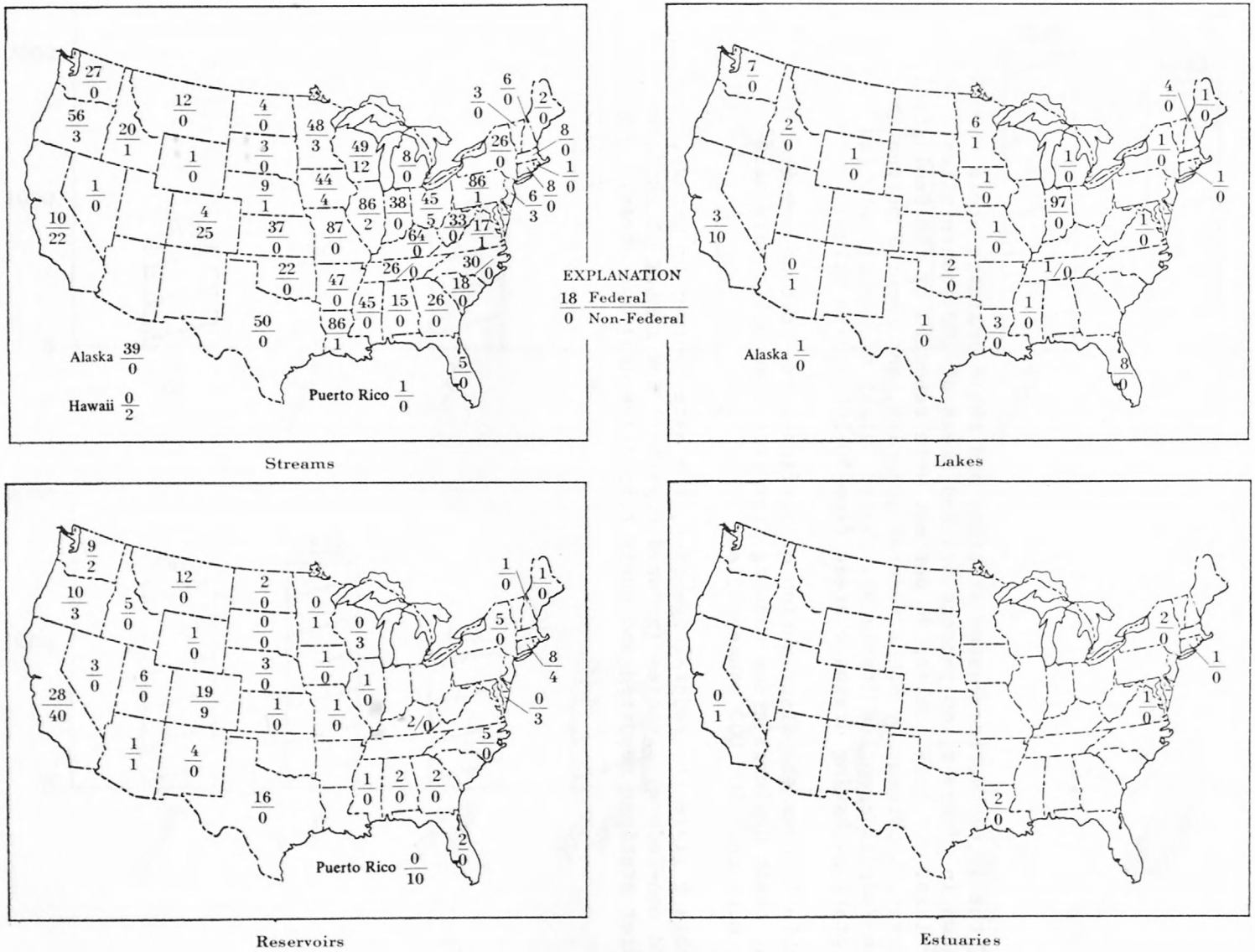


FIGURE 7. -- *Number of active surface-water stations reported where stage is measured daily on streams, lakes, reservoirs, and estuaries*

Of the 17,678 surface-water stations and their drainage areas shown in figure 8, 66 percent drained areas of 200 square miles or less. Of this number, 94 percent were reported by the Geological Survey, 4 percent by other Federal agencies, and about 2 percent by non-Federal agencies (table 9). Water Survey of Canada reported 5 stations having drainage areas from 50-200 square miles.

Table 7 shows the distribution of surface-water stations by States and their drainage areas ranging from less than 0.5 square mile to more than 100,000 square miles.

Table 8 lists the Federal agencies, the Water Survey of Canada, and non-Federal agencies (grouped together) and number of surface-water stations reported and their respective drainage areas.

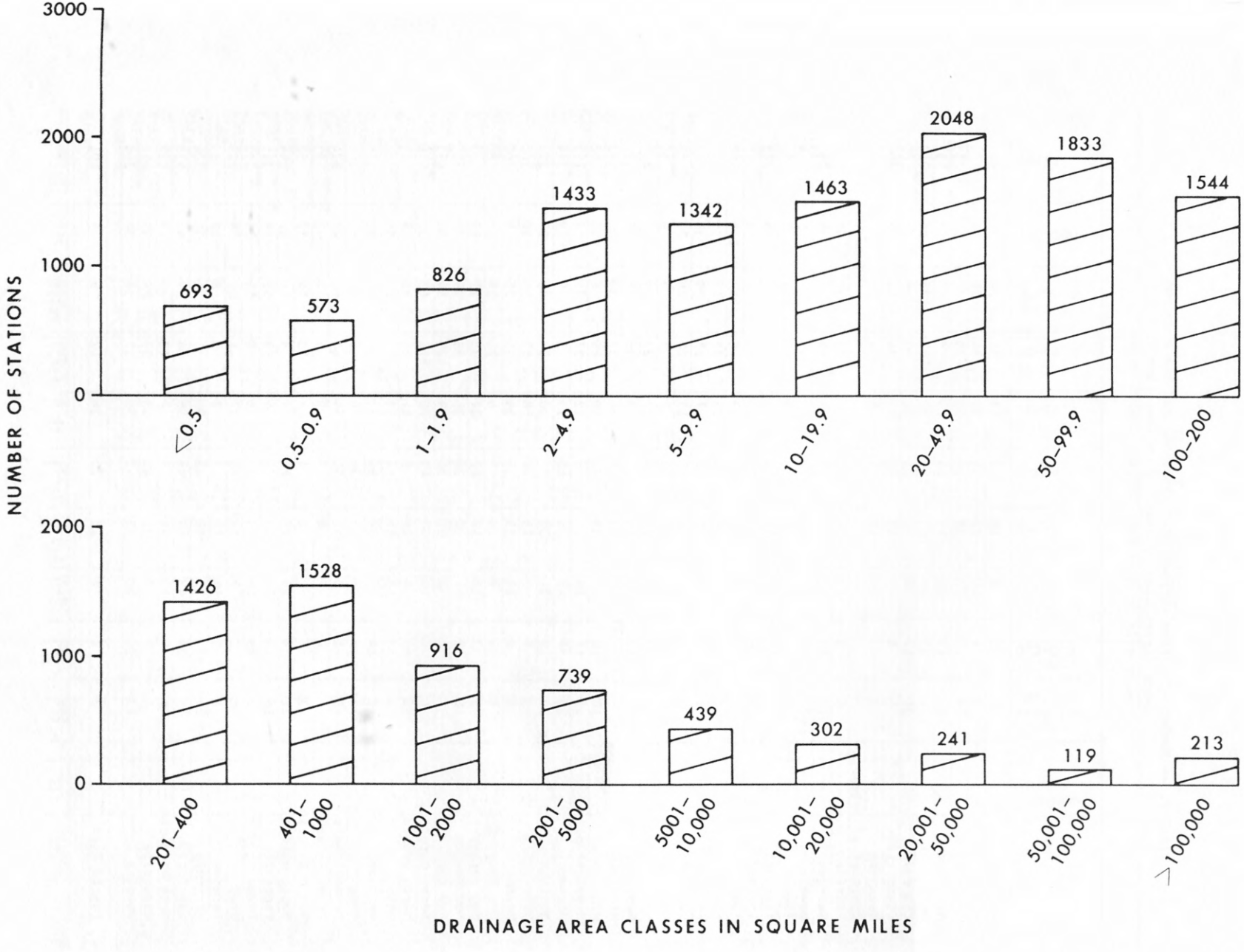


FIGURE 8. -- *Distribution of active surface-water stations according to drainage areas*

TABLE 7. -- *Number of active surface-water stations and their drainage areas distributed by States from less than 0.5 square mile to more than 100,000 square miles*

State	Less than 0.5	0.5-0.9	1-1.9	2-4.9	5-9.9	10-19.9	20-49.9	50-99.9	100-200	Total
Alabama	2	2	8	18	16	13	31	20	31	141
Alaska	2	2	14	22	31	32	34	21	14	172
Arizona	19	22	27	38	29	29	29	24	16	233
Arkansas	23	11	18	18	14	13	9	7	18	131
California	111	63	64	100	110	130	190	125	124	1,017
Colorado	36	12	8	20	28	32	53	46	45	280
Connecticut	1	4	5	45	38	52	34	14	13	206
Delaware	2	2	4	11	15	6	4	3		47
District of Columbia								1		1
Florida	6	9	15	19	22	32	72	37	51	263
Georgia	10	13	23	31	34	23	56	54	39	283
Hawaii	22	28	39	63	27	20	12	4	1	216
Idaho	1			5	6	4	10	14	15	55
Illinois	34	15	35	17	30	35	42	37	44	289
Indiana	3	6	9	30	32	43	60	47	41	271
Iowa	1	7	6	11	14	20	65	263	111	498
Kansas	2	10	11	21	15	23	27	17	19	145
Kentucky	1	2	3	6	6	7	27	39	36	127
Louisiana				5	7	15	20	26	15	88
Maine		1	1	10	12	7	3	9	9	52
Maryland	8	5	11	23	23	27	22	19	11	149
Massachusetts	4	13	19	56	26	13	30	21	16	198
Michigan			3	15	18	36	37	39	44	192
Minnesota	18	10	15	35	28	10	19	8	15	158
Mississippi	47	17	18	11	6	12	27	32	22	192
Missouri	26	39	47	88	40	25	21	9	19	314
Montana	10	13	21	30	31	30	38	32	17	222
Nebraska	2	7	9	15	16	18	15	16	10	108
Nevada	8	7	16	33	35	36	35	21	9	200
New Hampshire	1	3	7	14	7	6	10	14	18	80
New Jersey	3	3	15	18	27	22	35	21	19	163
New Mexico	18	13	16	20	20	36	33	29	30	215
New York		3	8	30	54	89	129	64	54	431
North Carolina	8	9	19	23	43	70	128	63	53	416
North Dakota	12	3	4	14	8	11	26	15	18	111
Ohio	8	13	13	16	14	13	29	45	55	206
Oklahoma	1	14	8	30	26	22	21	12	25	159
Oregon	14	17	37	57	36	28	56	54	65	364
Pennsylvania	1	1	9	31	51	56	64	64	47	324
Rhode Island		4	7	6	5	2	4	4	1	33
South Carolina	3	1		1	4	9	13	14	12	57
South Dakota	21	8	19	29	27	9	9	11	11	144
Tennessee	18	13	18	44	33	56	59	51	19	311
Texas	18	18	18	35	33	26	50	58	75	331
Utah	6	3	7	17	28	47	41	41	39	229
Vermont	3	9	14	17	7	2	5	8	18	83
Virginia	24	27	32	50	42	36	35	31	31	308
Washington	15	32	49	71	41	58	58	69	46	439
West Virginia	6	9	12	24	7	7	13	25	29	132
Wisconsin	4	7	19	32	41	58	159	88	33	441
Wyoming	13	20	20	33	43	30	37	34	34	264
Puerto Rico	2	2	7	13	26	26	12	9	4	101
Total	598	552	807	1,421	1,332	1,462	2,048	1,829	1,541	11,590

TABLE 7. -- *(continued)*

State	201-400 sq. miles	401-1000	1001-2000	2001-5000	5001-10,000	10,001-20,000	20,001-50,000	50,001-100,000	Greater than 100,000	Undetermined	Total
Alabama	20	13	6	14	16	18	20			44	151
Alaska	6	12	8	17	8	6	6		15	18	96
Arizona	21	35	19	24	12	8	3	3	10	81	216
Arkansas	25	30	29	10	11	6	10	3	20	60	204
California	103	110	51	24	8	9	2		11	1,207	1,525
Colorado	43	34	24	20	12	9	1			157	300
Connecticut	3	6	3		2	3				8	25
Delaware	2					1				6	9
District of Columbia										3	3
Florida	31	32	32	16	6	6				413	536
Georgia	31	20	26	17	13	2				25	134
Hawaii										57	57
Idaho	23	46	22	27	9	12	5	2		43	189
Illinois	37	36	31	20	16	18	11	10	25	300	504
Indiana	39	41	12	9	2	6		3	2	52	166
Iowa	75	55	24	20	11	8		18	6	79	296
Kansas	31	37	27	17	14	2	16	4		154	302
Kentucky	33	42	14	17	24	6	6	9	7	20	178
Louisiana	20	32	20	8	4	8	2	10	15	469	588
Maine	12	14	13	7	2					10	58
Maryland	7	5		3	2	1	1			18	37
Massachusetts	8	7		2	2					8	27
Michigan	44	44	17	9	1					86	201
Minnesota	12	23	24	8	6	6	2	1		450	532
Mississippi	37	37	24	11	7	1			9	84	210
Missouri	23	38	25	11	2	4			44	344	491
Montana	31	30	22	22	13	12	13	5		132	280
Nebraska	16	28	29	18	8	7	13	8	2	171	300
Nevada	10	8	15	7	5	4			3	39	91
New Hampshire	11	9	8	2	2					1	33
New Jersey	6	4	2	5	6					96	119
New Mexico	21	30	17	19	8	23	7			105	230
New York	32	37	24	15	5				2	99	214
North Carolina	33	47	32	22	11					42	187
North Dakota	15	30	15	14	11	3	3		3	41	135
Ohio	62	48	13	17	7		8	6		34	195
Oklahoma	21	31	24	16	8	24	9	8	1	43	185
Oregon	66	54	24	33	10	4		2	7	230	430
Pennsylvania	70	49	20	26	32	20	5			14	236
Rhode Island	2	2								3	7
South Carolina	10	5	11	18	12	5				105	166
South Dakota	13	15	18	10	12	7	3		3	59	140
Tennessee	19	43	28	26	11	15	17		5	25	189
Texas	84	87	60	53	33	21	50	5	18	359	770
Utah	39	25	11	14	5	2	4			47	147
Vermont	8	6	1	3	1					2	21
Virginia	42	26	15	21	10					13	127
Washington	47	55	28	21	7		7	20	5	113	303
West Virginia	30	37	18	10	6	3	10	2		8	124
Wisconsin	26	34	11	13	17	1				51	153
Wyoming	20	27	15	17	5	10	5			83	182
Puerto Rico	1									16	17
Total	1,421	1,516	912	733	435	301	239	119	213	6,127	12,016

TABLE 8. -- *Number of surface-water stations reported by Federal and non-Federal agencies and distribution by drainage area classes from less than 0.5 square mile to more than 100,000 square miles*

Agency	Less than 0.5 square mile	0.5-0.9	1-1.9	2-4.9	5-9.9	10-19.9	20-49.9	50-99.9	100-200	Total
Bonneville Power Adm.										
Bureau of Indian Affairs										
Bureau of Land Management				7	13	10	9	5	1	45
Bureau of Reclamation			1		3	1	4	6	2	17
Bureau of Sport Fisheries and Wildlife						1	1	5	3	10
Corps of Engineers				5	10	17	48	50	68	198
Forest Service	9	1	2	6	6	13	12	6	5	60
Geological Survey	662	565	813	1392	1283	1370	1906	1706	1398	11,095
Int'l Boundary and Water Commission						2	3	2		7
Marine Corps					1	2				3
National Ocean Survey									1	1
National Weather Service				1	4		3	4	12	24
Naval Facilities Engineering Command										
Tennessee Valley Authority	7	2	1	5	6	11	12	2	5	51
Water Survey of Canada								2	3	5
Total	678	568	817	1416	1326	1427	1998	1788	1498	11,516
Non-Federal agencies Total	15	5	9	17	16	36	50	45	46	239
Grand Total	693	573	826	1433	1342	1463	2048	1833	1544	11,755

TABLE 8. -- *(continued)*

Agency	201-400 square miles	401-1000	1001-2000	2001-5000	5001-10,000	10,001-20,000	20,001-50,000	50,001-100,000	More than 100,000	Undetermined	Total
Bonneville Power Adm.	3		2	1							6
Bureau of Indian Affairs										2	2
Bureau of Land Management	1									1	2
Bureau of Reclamation		3		2			4		7	125	141
Bureau of Sport Fisheries and Wildlife											
Corps of Engineers	70	113	95	84	85	70	43	52	115	937	1,664
Forest Service	3	1								73	77
Geological Survey	1,267	1,269	730	540	299	208	144	57	56	2,102	6,672
Int'l Boundary and Water Commission	1	1	2	1			8	4	16	110	143
Marine Corps										4	4
National Ocean Survey								1		138	139
National Weather Service	36	94	52	76	39	13	12	5	19	636	982
Naval Facilities Engineering Command										12	12
Tennessee Valley Authority	5	13	12	12	4	6	28				80
Water Survey of Canada	5	9	4	5	4	1	2			38	68
Total	1,391	1,503	897	721	431	298	241	119	213	4,178	9,992
Non-Federal agencies Total	35	25	19	18	8	4	0	0	0	2,027	2,136
Grand Total	1,426	1,528	916	739	439	302	241	119	213	6,205	12,128

Table 9 shows the number of stations placed into operation by Federal and non-Federal agencies in calendar years 1968 through 1971. Of the 2,752 stations reported, 85 percent were located on streams, 3 percent on canals, 4 percent on lakes, 3 percent on reservoirs, 2 percent on estuaries, and 3 percent were on drains and other conveyances. Over the 4-year period, 95 percent of the new starts on surface water were made by Federal agencies.

TABLE 9. -- *Number of surface-water stations reported started by Federal and non-Federal agencies*

Agency	Starting Year				Total
	1968	1969	1970	1971	
Bonneville Power Adm.	0	0	7	0	7
Bureau of Land Management	2	2	1	0	5
Bureau of Reclamation	2	3	3	6	14
Corps of Engineers	55	62	25	25	167
Forest Service	15	14	11	0	40
Geological Survey	788	478	560	455	2,281
Int'l Boundary and Water Commission	7	4	3	1	15
National Ocean Survey	1	2	3	2	8
National Weather Service	9	23	20	2	54
Tennessee Valley Authority	2	5	1	5	13
Water Survey of Canada	1	2	0	0	3
Federal agencies total	882	595	634	496	2,607
Non-Federal agencies total	83	29	28	5	145
Grand total	965	624	662	501	2,752

Table 10 gives the periods of record of active surface-water stations reported in the Catalog. The periods were computed using the starting year reported and 1971 as a terminal year. For 49 Federal and 37 non-Federal stations, the starting years were not reported. These are classified as "undetermined."

Of the 21,462 stations reported by Federal agencies, 70 percent have periods of record of 25 years or less; 57 percent of the non-Federal stations are in the same category. About 10 percent of the stations, both Federal and non-Federal, have records of more than 50 years.

TABLE 10.--*Number of active surface-water stations and periods of record*

Agency	Periods of record - years						Total
	Less than 5	5-15	16-25	26-50	More than 50	Undetermined	
Bonneville Power Adm.	7						7
Bureau of Indian Affairs					2		2
Bureau of Land Management	5	42					47
Bureau of Reclamation	17	64	33	23	27	1	165
Bureau of Sport Fisheries and Wildlife		3	7				10
Corps of Engineers	190	527	357	556	243	6	1,879
Forest Service	49	75	2	1		2	129
Geological Survey	2,762	7,571	2,653	3,273	1,454	15	17,728
Int'l Boundary and Water Commission	16	58	22	39	15		150
Marine Corps		3	2	2			7
National Ocean Survey	9	28	30	34	32	1	134
National Weather Service	94	226	80	225	342	22	989
Naval Facilities Eng. Command		4	7	1			12
Tennessee Valley Authority	20	27	26	56	1		130
Water Survey of Canada	4	11	12	25	19	2	73
Federal agencies total	3,173	8,639	3,231	4,235	2,135	49	21,462
Non-Federal agencies total	205	739	434	794	218	37	2,427
Grand total	3,378	9,378	3,665	5,029	2,353	86	23,889

Table 11 shows the number of active surface-water stations reported by Federal and non-Federal agencies in the five editions of the Catalog. Only Federal agencies were solicited and reported in the 1966 edition; however, in subsequent editions, non-Federal agencies were also invited to participate. The increase in the number of stations reported in the 1967, 1968, 1970, and 1972 editions reflects better reporting and greater response to the solicitation for information as well as changes in the data-acquisition program.

The Water Survey of Canada reported 9 surface-water stations in the 1970 edition of the Catalog, and 73 stations in the 1972 edition.

TABLE 11. -- *Total number of active surface-water stations reported in the previous and the 1972 editions of the Catalog by the agencies shown*

Agency	1966	1967	1968	1970	1972
Bonneville Power Administration					7
Bureau of Indian Affairs					2
Bureau of Land Management	42	42	44	45	47
Bureau of Reclamation	110	119	103	99	166
Bureau of Sport Fisheries and Wildlife					10
Corps of Engineers	1,806	2,008	2,027	1,867	1,878
Forest Service	51	99	116	132	129
Geological Survey	17,536	17,958	18,117	18,095	17,720
Int'l Boundary and Water Commission	128	147	146	149	150
Marine Corps	7	7	7	7	7
National Marine Fisheries Service	18	18	18	18	0
National Ocean Survey	81	82	88	87	136
National Weather Service	770	770	817	878	991
Naval Facilities Engineering Command	14	14	14	14	12
Tennessee Valley Authority	114	126	130	133	130
Federal subtotal	20,677	21,390	21,627	21,524	21,385
Non-Federal subtotal	0	2,070	2,321	2,322	2,413
Total	20,677	23,460	23,948	23,846	23,798

What was reported on water quality– surface and ground water

Figure 9 shows the total number of active water-quality (surface and ground water) stations in each State, the District of Columbia, and Puerto Rico reported by Federal and non-Federal agencies. Twelve Federal agencies reported operation of 6,414 stations on surface waters and 6 reported 2,854 stations on ground water -- a total of 9,268 stations. Among the non-Federal agencies, 135 reported 6,154 stations on surface waters and 37 reported 2,615 stations on ground water -- a total of 8,769 stations.

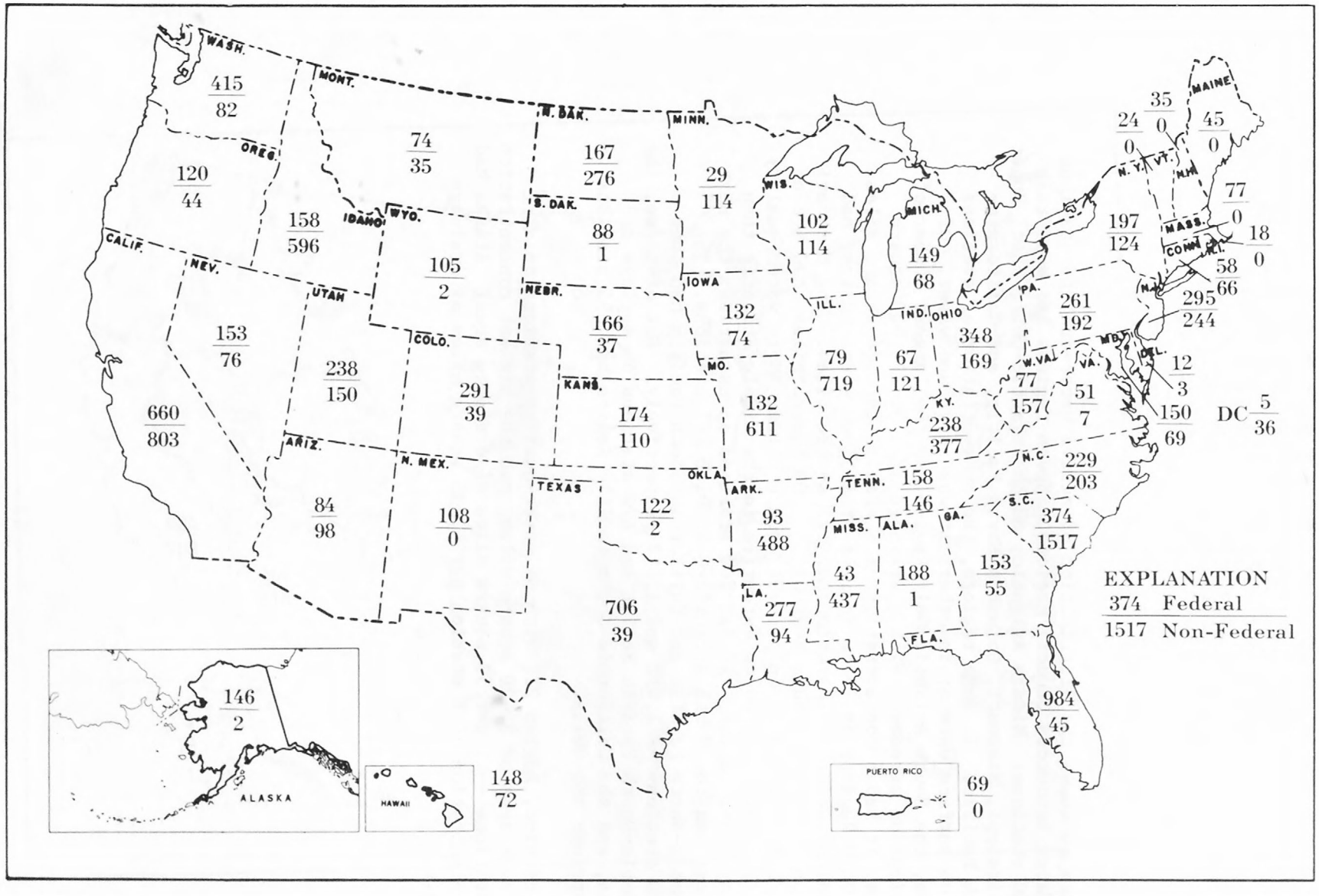
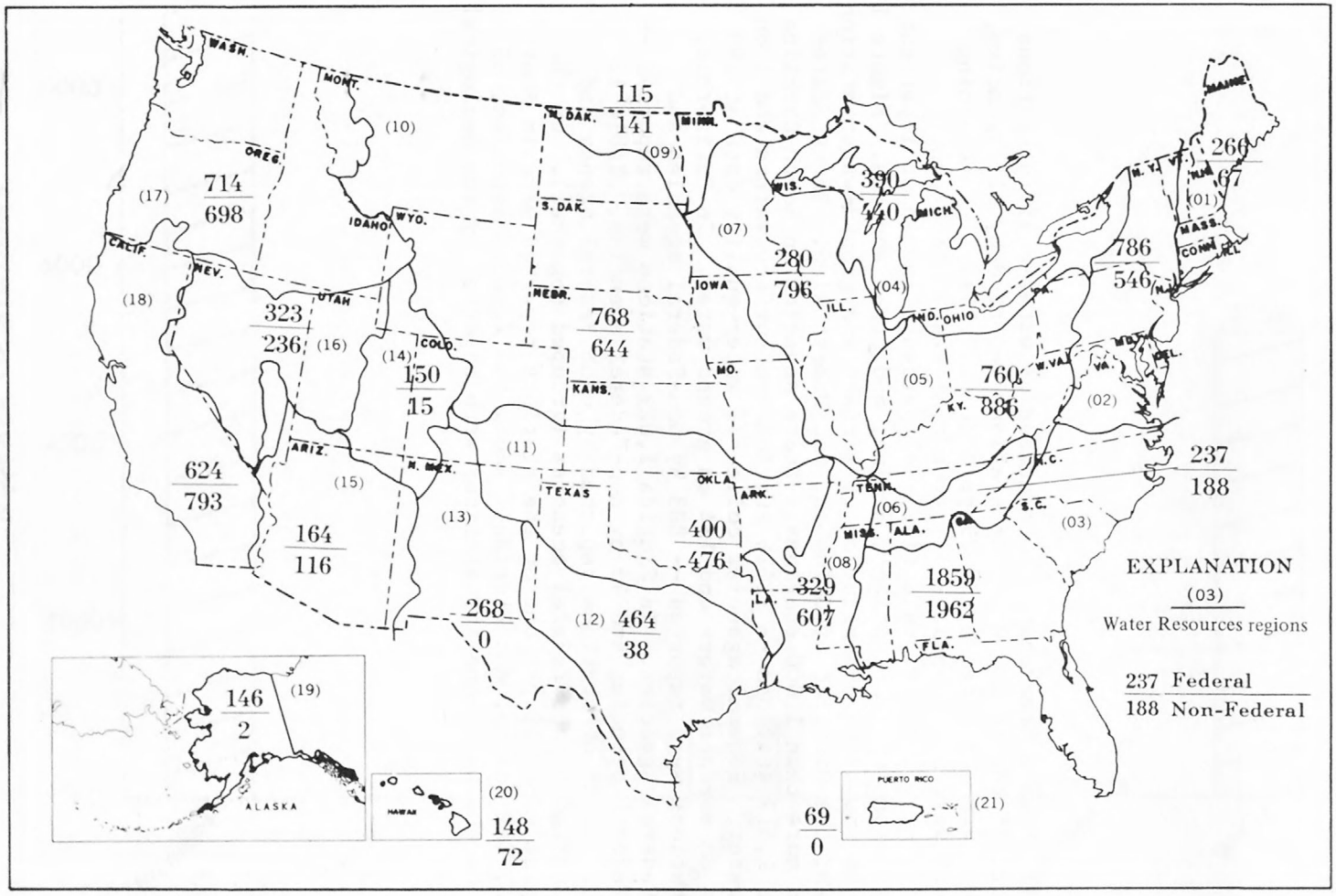


FIGURE 9. -- *Number of active water-quality stations reported by Federal and non-Federal agencies*

Figure 10 shows the distribution of active water-quality stations by Water Resources Council Regions. Seven regions had more than 1,000 stations: Middle Atlantic, South Atlantic-Gulf, Ohio, Upper Mississippi, Missouri, Columbia-North Pacific, and California-South Pacific. In some regions, the concentration of stations was on surface waters; in others it was on ground water. Of these, the South Atlantic-Gulf Region had the largest number of stations on streams. With a drainage area of 275,500 square miles, it had a concentration of 1 station per 126 square miles. The Ohio Region, draining an area of 163,000 square miles, had a concentration of 1 station per 121 square miles. The Missouri Region, with a drainage area of 515,000 square miles, had a concentration of 1 station per 794 square miles. More water-quality stations were located on estuaries in the Middle Atlantic than in any other region. It had 209 stations on estuaries; the next highest was the South Atlantic-Gulf with 167 stations. The Columbia-North Pacific and California-South Pacific had over 1,000 stations -- 1,412 and 1,417 respectively. But of these, the Columbia-North Pacific Region had 675 stations on springs and wells, and the California-South Pacific Region had 695 stations on springs and wells.

Puerto Rico, Region 21, with 64 water-quality stations on a drainage area of 3,400 square miles, had the highest concentration of stations -- 1 per 53 square miles of drainage area. Alaska had a concentration of 1 station per 4,436 square miles of drainage area.



Water Resources regions

(01) New England Region
(02) Middle Atlantic Region
(03) South Atlantic- Gulf Region
(04) Great Lakes Region
(05) Ohio Region
(06) Tennessee Region
(07) Upper Mississippi Region
(08) Lower Mississippi Region
(09) Souris-Red-Rainy Region
(10) Missouri Region
(11) Arkansas-White-Red Region
(12) Texas-Gulf Region
(13) Rio Grande Region
(14) Upper Colorado Region
(15) Lower Colorado Region
(16) Great Basin Region
(17) Columbia-North Pacific Region
(18) California-South Pacific Region
(19) Alaska Region
(20) Hawaii Region
(21) Puerto Rico Region

FIGURE 10. -- *Number of active water-quality stations reported in Water Resources regions*

Figure 11 shows a breakdown of the number of water-quality stations by source. Of the total number of stations reported by all agencies, 55 percent were on streams and 29 percent on wells. The remaining 16 percent were on: canals -- 2 percent; lakes -- 5 percent; reservoirs -- 5 percent; estuaries -- 3 percent; and about 1 percent of the stations were on springs, drains, and other sources. Figure 12 on page 46 shows the distribution of surface and ground-water stations by States, the District of Columbia, and Puerto Rico. Three States reported more than 1,000 stations. State agencies in South Carolina reported 1,517 stations -- 1,516 stations on surface waters and 1 on ground water. Federal agencies collected water-quality data at 190 stations on surface waters and 184 on ground water. In California, 1,463 stations were reported -- 803 by non-Federal agencies and 660 by Federal agencies. In Florida 1,029 stations were reported -- 984 by Federal agencies and 45 by non-Federal agencies. Table 12 gives the number of stations reported by each Federal agency and those reported by non-Federal agencies (grouped together). On the non-Federal side, 50 percent of the stations reported were in South Carolina, California, and Florida. Among the Federal agencies, 68 percent of the water-quality stations were reported by the Geological Survey.

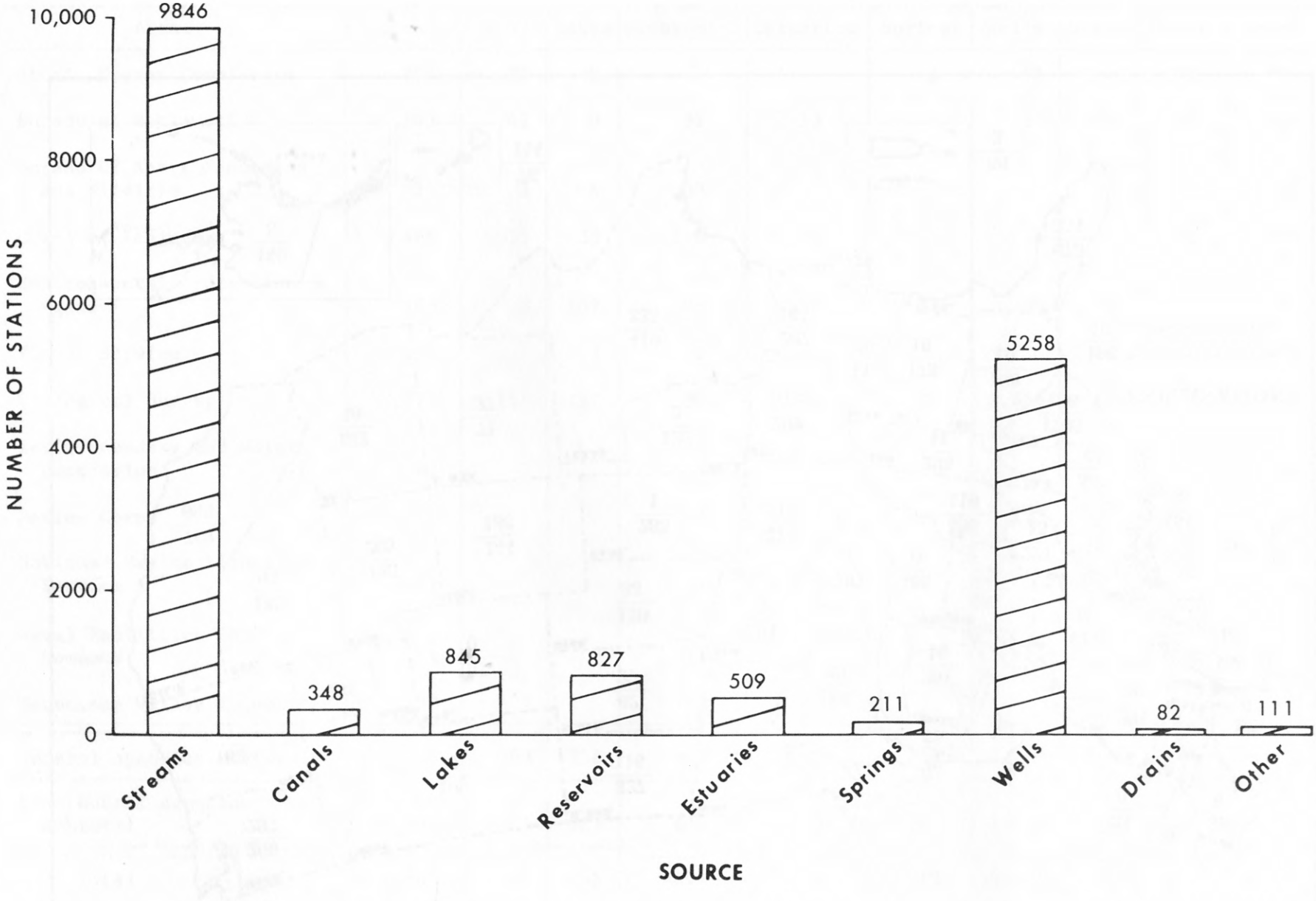


FIGURE 11. -- *Number of active water-quality stations by source as reported by Federal and non-Federal agencies*

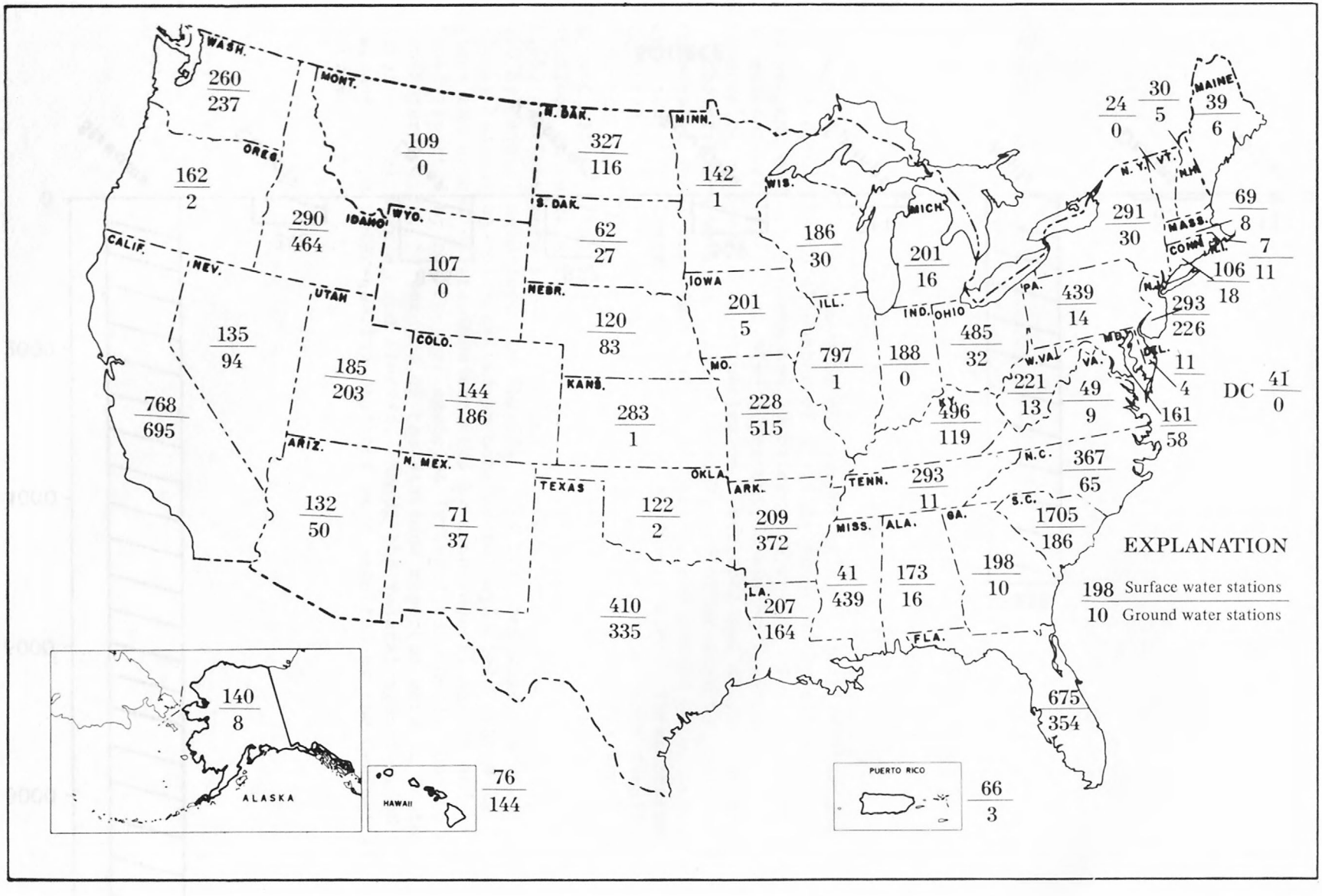


FIGURE 12. -- *Number of active water-quality stations reported on surface and ground waters*

TABLE 12.--*Number of active water-quality stations reported by Federal and non-Federal agencies by source*

Agency	Streams	Canals	Lakes	Reservoirs	Estuaries	Springs	Wells	Drains	Other	Total
Atomic Energy Commission	101	11	8	5		1	451	0	22	599
Bureau of Reclamation	105	41	0	31	55		18	23	12	285
Bureau of Sport Fisheries and Wildlife	25	1	4	33						63
Corps of Engineers	466	35	38	148	45				2	734
Environmental Protection Agency	268	8	102	28	119	23	34	1	1	584
Forest Service	100		2	1						103
Geological Survey	3,771	166	197	39	75	84	1,866	41	23	6.262
Int'l Boundary and Water Commission	42	1							4	47
Marine Corps				2			105		2	109
National Marine Fisheries Service	11			7	2					20
Naval Facilities Eng. Command	11		7	11			272		1	302
Tennessee Valley Authority	58			101				1		160
Federal agencies subtotal	4,958	263	358	406	296	108	2,746	66	67	9,268
Non-Federal agencies subtotal	4,888	85	487	421	213	103	2,512	16	44	8,769
Total	9,846	348	845	827	509	211	5,258	82	111	18,037

In the Catalog, 27 parameters are grouped into 4 categories: 9 in the physical category, 13 in the chemical category, 2 under biologic, and 3 in the sediment category. Table 13 gives the number of active water-quality stations on surface waters where 11 of the parameters, selected from the 4 categories, are measured by Federal and non-Federal agencies. Although they are not included in the table, data are also collected on other parameters depending on the need for the information. Similar information is furnished in Table 14 for stations on ground waters.

TABLE 13. -- *Number of reported active water-quality stations on surface waters where parameters shown are measured by Federal and non-Federal agencies by State*

State	Temperature	pH (laboratory)	Nutrients -nitrogen	Nutrients -phosphorus	Common ions	Dissolved oxygen	Minor elements	Pesticides	B O D	Coliform	Sediment
Alabama	172	110	39	10	112	51	38	3	10	13	8
Alaska	135	123	2	2	125	2	2		2	6	82
Arizona	101	48	75	70	90	54	12	6	4	7	27
Arkansas	151	135	141	83	140	108	28	11		141	79
California	664	433	371	411	441	409	155	58	109	177	146
Colorado	113	107	54	54	115	59	16	5	12	57	27
Connecticut	76	63	47	29	42	51	37	5	47	82	5
Delaware	11	6	10	9	6	7					1
District of Columbia	41	35	24	24	1	40		1	40	40	
Florida	646	627	597	635	609	565	19	4	42	42	1
Georgia	197	53	115	116	152	179	4	4	142	151	28
Hawaii	68	71	14	11	69	68	67	10	1	15	11
Idaho	277	242	244	234	254	146	142	7	131	202	23
Illinois	741	275	729	696	512	235	447	9	217	700	6
Indiana	181	80	118	118	51	126	26	9	83	131	28
Iowa	134	72	84	79	81	46	9	12	40	41	41
Kansas	258	161	170	131	222	117	7	3	59	69	64
Kentucky	213	332	32	308	338	36	28	9	12	170	7
Louisiana	173	108	11	8	101	92	2	3	14	30	36
Maine	39	8	8	8	7	33	5	5	8	9	1
Maryland	159	85	86	92	30	98	3	15	52	79	15
Massachusetts	69	51	24	23	27	48	39	2	44	34	8
Michigan	171	108	112	95	91	87	50	37	38	93	7
Minnesota	136	45	96	107	112	109	27	81	109	111	7
Mississippi	41	28	27	26	28	33	3	4	16	27	2
Missouri	213	139	170	165	181	187	43	9	27	191	26
Montana	92	42	61	50	45	38	31	11	22	37	21
Nebraska	116	50	100	97	98	84	61	10	65	64	26
Nevada	107	95	96	95	96	97	5	3	75	68	6
New Hampshire	30	20	15	15	3	20	22	1	20	23	5
New Jersey	291	277	280	246	53	287	60	210	279	287	30
New Mexico	58	46	48	23	43	21	31	11	20	21	38
New York	265	177	206	142	208	204	107	20	172	175	4
North Carolina	357	255	148	148	264	194	23	13	56	220	37
North Dakota	173	161	128	147	166	197	44	9	44	42	13
Ohio	168	354	311	276	342	197	74	29	112	115	52
Oklahoma	96	77	12	38	80	34	9	6	19	13	33
Oregon	152	17	21	26	32	31	5	9	5	17	17
Pennsylvania	434	412	57	320	385	233	12	28	214	228	48
Rhode Island	7		5	5	5	5	5	5	5	5	1
South Carolina	1664	66	1556	1563	60	1650	1543	1520	1549	1634	6
South Dakota	61	52	56	56	53	30	39	11	6	7	13
Tennessee	268	116	35	38	138	88	20	9	22	62	8
Texas	302	253	124	156	280	149	47	88	118	45	110
Utah	157	106	48	50	97	15	5	3	92	119	15
Vermont	23	15	16	16	1	17	17	2	17	17	8
Virginia	45	28	24	15	36	25	13	6	20	22	5
Washington	222	138	135	122	160	137	63	8	10	103	46
West Virginia	168	166	110	48	141	110	63	8	77	148	12
Wisconsin	178	51	127	123	86	125	8	17	46	84	54
Wyoming	97	86	71	12	85	22	8	5	5	6	36
Puerto Rico	63	65	62	65	2	21	1		21	22	24

TABLE 14. -- *Number of reported active water-quality stations on ground waters where parameters shown are measured by Federal and non-Federal agencies by State*

State	Temperature	pH (laboratory)	Nutrients -nitrogen	Nutrients -phosphorus	Common ions	Dissolved oxygen	Minor elements	Pesticides	B O D	Coliform	Sediment
Alabama	16	16			15						
Alaska	4	8	3	3	8	1				3	
Arizona	2	2	49	2	50	1	1	1	1	2	1
Arkansas	203	364	364	100	367	42	131	14		367	218
California	595	683	79	73	680		60			37	
Colorado	186	185			186						
Connecticut	15	5	12	1	16	4	2	1	3	14	1
Delaware	2	2			1		2			1	
District of Columbia											
Florida	125	110	17	26	148	30	15		6	30	
Georgia	6	7	3		2	3			2	8	
Hawaii	54	61	58	39	61	46	53	39		64	
Idaho	461	457	445	448	461	1				433	
Illinois	1			1	1		1				
Indiana											
Iowa	1	1									
Kansas	1	1			1						
Kentucky	37	118	11	71	118					82	
Louisiana	131	116		2	121						
Maine	3	3			3					3	3
Maryland	13	1	5							30	
Massachusetts	8	8			3						
Michigan	4	4			4						
Minnesota		1								1	
Mississippi	439	439	395	395	439		1			437	
Missouri	36	516	31	31	516	29	504	23	4	515	15
Montana											
Nebraska	80	80	83	80	80	6	78	4	6	6	6
Nevada	32	46		16	46		16			30	
New Hampshire	5	5			5						
New Jersey	225				30		1			30	
New Mexico	37	36	37		37						
New York	2	3		2	2		1	2		2	
North Carolina		65			1						
North Dakota	51	115	50	115	115	25	15	2	13	13	5
Ohio	18	31	17	16	31	2	16		26	4	
Oklahoma	2	2	1	1	2		1	1		1	
Oregon	1	1			1						
Pennsylvania	13	13	12	5	14	9			1	13	
Rhode Island		11	5		5					11	
South Carolina	34	36	32	32	31	33	1	1	1	32	
South Dakota	27	27	20	20	27	1	2	1	1	1	1
Tennessee	11	10		1	11		6			5	
Texas	318	327		13	335	8				9	1
Utah	198	179	29	15	168	1		1	1	17	1
Vermont											
Virginia	4	4	4	1	5	4	1	1	1	9	3
Washington	14	26	3	3	170					3	
West Virginia	4	4	3	3	4	3	3	3	3	13	3
Wisconsin	28	29	28	1	28		2			1	
Wyoming											
Puerto Rico		3			3					1	

Table 15 gives a better picture of the relative importance of the various parameters in the collection of water-quality data. It shows the number of stations where the listed parameters are measured and the frequency of measurement. Temperature was one of the parameters measured most frequently. It was measured at 10,804 stations. At 46 percent of these stations, temperature was measured monthly; it was measured quarterly at 12 percent of the stations. Other parameters frequently measured were nitrogen and phosphorous compounds and dissolved oxygen.

Table 16 gives similar information for stations on ground waters.

TABLE 15.-- *Water-quality parameters, frequency of measurement, and number of reported stations on surface waters where measurements were made*

Parameter	Frequency										
	Continuous	Daily	Weekly	Monthly	Quarterly	Annual	Seasonal	Other periodic	Irregular	Unknown	Total
	Number of stations										
Temperature	845	858	354	4953	1277	594	162	1568	19	174	10804
Specific conductance	311	387	92	2560	956	715	93	1366	24	206	6710
Color	3	98	120	2433	924	644	17	963	12	212	5426
pH (field)	112	104	44	600	2908	576	180	876	9	111	5520
pH (laboratory)	22	473	256	1822	1374	762	131	1481	26	348	6695
Dissolved solids	10	159	152	2425	1291	947	57	1293	22	294	6650
Chloride	21	185	170	1946	1598	818	38	1614	10	201	6601
Nutrients--Nitrogen	4	31	121	3853	1129	587	80	1184	22	203	7214
--Phosphorus	7	13	104	3561	1095	872	57	1352	20	287	7368
Common ions	10	425	147	1935	1655	841	69	1543	27	341	6993
Hardness	6	352	141	1609	1154	799	88	1180	26	512	5867
Radiochemical	5	6	47	174	561	208	6	175	18	316	1516
Dissolved oxygen	128	52	242	3549	1160	695	95	961	20	138	7040
Minor elements		6	23	287	767	1823	25	526	8	74	3539
Pesticides	1		11	70	251	1722	22	228	5	59	2369
Detergents		5	59	781	557	42	5	296	11	318	2074
Coliform	5	263	317	3565	1171	89	74	647	18	75	6224
BOD	4	10	188	2583	848	108	34	398	6	236	4415
Carbon--Total		7	3	207	137	57	4	65	3	21	504
Other micro-organisms	1	9	32	282	156	46	42	213	5	336	1122
Sediment--Suspended	11	277	75	267	82	21	10	416	6	186	1351
Particle size--											
Suspended	3	15	4	108	81	39	12	520	7	122	911
Bed Material		4	1	59	16	15	1	250	1	26	373

TABLE 16.-- *Water-quality parameters, frequency of measurement, and number of reported stations on ground waters where measurements were made*

Parameter	Frequency										
	Continuous	Daily	Weekly	Monthly	Quarterly	Annual	Seasonal	Other periodic	Irregular	Unknown	Total
	Number of stations										
Temperature	14	45	15	149	87	1111	41	1972	2	57	3493
Specific conductance	9	12	6	106	90	1238	42	1544	1	41	3089
Color		1	14	96	37	739	2	1092	2	117	2100
pH (field)		32	10	52	12	296	7	1060	2	87	1558
pH (laboratory)	3	24	13	81	71	1691	44	2124		156	4207
Dissolved solids	1	2	6	66	60	1560	38	1604	2	99	3438
Chloride	3	18	23	178	173	678	37	2104	2	13	3229
Nutrients--Nitrogen			2	33	47	305	5	1420	1	26	1839
--Phosphorus		1	2	22	33	189	1	1252		32	1532
Common ions	14	6	6	99	216	1764	40	2090	4	159	4398
Hardness	1	17	11	102	116	1584	40	1599	2	73	3545
Radiochemical		1	9	177	140	99	1	201	3	22	653
Dissolved oxygen			5	22	9	94		93	1	41	265
Minor elements			1	8	8	66	1	821	3	5	913
Pesticides			1	2	3	44	1	41		4	96
Detergents		1	4	19	6	131		503	2	33	699
Coliform		5	329	1238	16	75	1	573	2	31	2270
BOD			8	27	7	13		4		10	69
Carbon--Total				5	1			1		4	11
Other micro-organisms		1	9	43	4			6		11	74
Sediment--Suspended	1	5	12	8	4			234		7	271
Particle size--											
Suspended		2		13	5	2		12		3	37
Bed material		3		1				12		1	17

Table 17 gives the number of new water-quality stations started in the calendar years 1968-71. Each year during this period most of the new stations were established on streams -- 62 percent in 1968; 71 percent in 1969; 64 percent in 1970; and 80 percent in 1971. Next in line were those on wells -- 15 percent in 1968; 12 percent in 1969; 18 percent in 1970; and 9 percent in 1971. Each year a few stations were set up on other sources -- canals, lakes, reservoirs, and estuaries -- but for the 4-year period more than 75 percent of stations were on streams and wells. In 1968, 59 percent of the starts were made by Federal agencies and 41 percent by non-Federal agencies. In succeeding years, more than 70 percent of the new stations were established by Federal agencies. Of these, the U. S. Geological Survey established 61 percent of the stations in 1968; 79 percent in 1969; 64 percent in 1970; and 59 percent in 1971.

TABLE 17. -- *Number of water-quality stations reported started by Federal and non-Federal agencies*

Agency	Starting Year				Total
	1968	1969	1970	1971	
Atomic Energy Commission	16	4	3		23
Bureau of Reclamation	36	13	13	25	87
Bureau of Sport Fisheries and Wildlife			9		9
Corps of Engineers	69	49	150	150	418
Environmental Protection Agency	118	42	67	51	278
Forest Service	5	9	21	39	74
Geological Survey	408	526	491	437	1,862
Int'l Boundary and Water Commission		1		1	2
Marine Corps		6	2	1	9
National Marine Fisheries Service		3			3
Naval Facilities Eng. Command		5			5
Tennessee Valley Authority	13	8	10	26	57
Federal agencies subtotal	665	666	766	730	2,827
Non-Federal agencies subtotal	465	254	203	202	1,124
Total	1,130	920	969	932	3,951

Table 18 shows the periods of record of active water-quality stations reported by Federal and non-Federal agencies. The totals include stations on surface and ground waters. About 7 percent of the stations have records of 26 to 50 years; less than 1 percent of the stations have more than 50 years. Eighty-six percent of the stations have records of 25 years or less. For the Geological Survey, 94 percent of the stations reported are in this category. This reflects the expansion of water-quality data collection activities beginning about 1945. Again about 1955, interest in water quality gave further impetus to the expansion of activities which has continued to date. This is also reflected in the increase in activity of non-Federal agencies.

TABLE 18.--*Number of active water-quality stations and periods of record*

Agency	Periods of record - years						Total
	Less than 5	5-15	16-25	26-50	More than 50	Undetermined	
Atomic Energy Commission	32	310	235	3		17	597
Bureau of Reclamation	100	135	30	15	1	3	284
Bureau of Sport Fisheries and Wildlife	9	44	10				63
Corps of Engineers	438	152	82	61	1	1	735
Environmental Protection Agency	309	243	30			2	584
Forest Service	81	21				1	103
Geological Survey	2,307	2,820	786	300	28	20	6,261
Int'l Boundary and Water Commission	8	18	9	12			47
Marine Corps	9	42	17	41			109
National Marine Fisheries Service	3	17					20
Naval Facilities Eng. Command	8	101	86	91	7	9	302
Tennessee Valley Authority	75	53	30	2			160
Federal agencies total	3,379	3,956	1,315	525	37	53	9,265
Non-Federal agencies total	1,632	4,440	728	690	94	1,189	8,773
Total	5,011	8,396	2,043	1,215	131	1,242	18,038

Table 19 gives the number of active water-quality stations reported by Federal and non-Federal agencies in the five editions of the Catalog. Only Federal agencies were solicited and reported in the 1966 edition. In subsequent editions, non-Federal agencies were also invited to participate.

TABLE 19.--*Total number of active water-quality stations reported by Federal and non-Federal agencies in the previous and 1972 editions of the Catalog*

Agency	1966	1967	1968	1970	1972
Atomic Energy Commission	0	621	616	614	599
Bureau of Reclamation	234	236	258	272	285
Bureau of Sport Fisheries and Wildlife	7	9	18	33	63
Corps of Engineers	269	324	373	372	734
Environmental Protection Agency	426	428	390	532	584
Forest Service	19	57	160	46	103
Geological Survey	4,453	5,631	5,171	5,615	6,262
Int'l Boundary and Water Commission	41	49	48	46	47
Marine Corps	116	116	107	105	109
National Marine Fisheries Service	45	45	45	65	20
Naval Facilities Eng. Command	273	279	280	302	302
Public Health Service	43	129	89	98	--
Tennessee Valley Authority	99	103	110	141	160
Federal agencies subtotal	6,025	8,027	7,665	8,241	9,268
Non-Federal agencies subtotal	0	4,667	5,979	6,443	8,769
Total	6,025	12,694	13,644	14,684	18,037

Appendix

Figure 13 shows the number of active ground-water stations reported in the 1968 edition of the Catalog; no 1970 edition was issued. As shown in table 20, 7 Federal and 9 non-Federal agencies reported on 28,964 ground-water stations, 13 of which were on springs. As explained by footnote 1 in table 20, 3,807 of the observation wells are represented in the Catalog by 285 selected wells; all were operated by the Bureau of Reclamation in Idaho, Kansas, Montana, Nebraska, New Mexico, North Dakota, and Utah. Water-level measurements were made at all ground-water stations with frequencies ranging from continuous through annual.

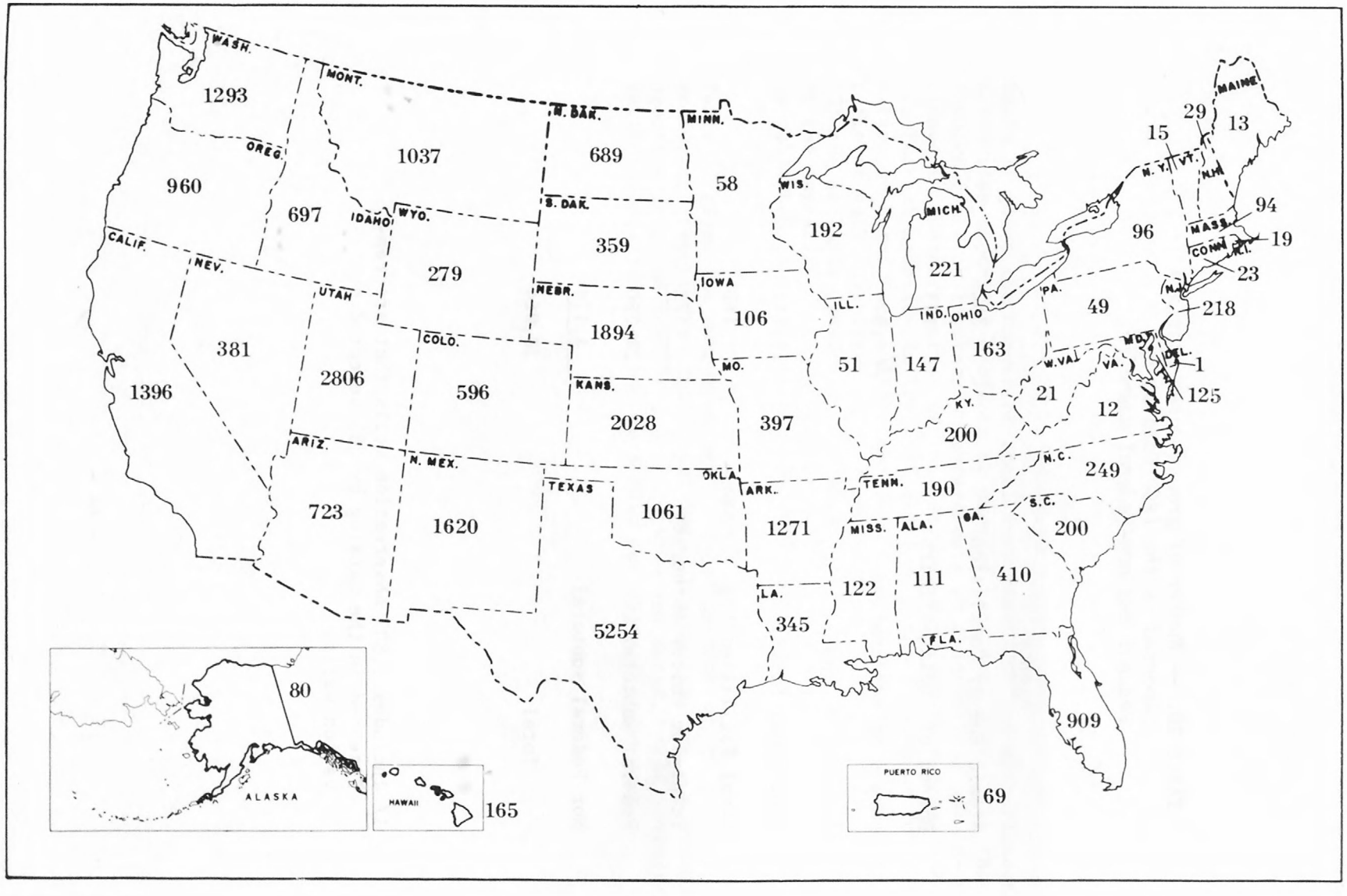


FIGURE 13. -- *Number of active ground-water stations reported in the 1968 edition of the Catalog*

TABLE 20. -- *Number of ground-water stations reported in the 1968 Catalog by Federal and non-Federal agencies*

Agency	
Atomic Energy Commission	362
Bureau of Indian Affairs	143
Bureau of Reclamation	1/ 4,920
Corps of Engineers	712
Geological Survey	18,313
Naval Facilities Eng. Command	168
Tennessee Valley Authority	172
Federal subtotal	24,790
Non-Federal subtotal	4,174
Total	28,964

1/ Includes 3,807 observation wells that are represented in the Catalog by 285 selected observation wells.

Table 21 gives the number of areal investigations and miscellaneous activities (specific projects or shorter term data activities that involve field or laboratory measurements or observations not included in another section of the Catalog) reported by Federal and non-Federal agencies in the 1970 edition of the Catalog of Information on Water Data. The Index to the Catalog contains (1) the title of each investigation, (2) the geographic area covered, (3) the inclusive dates of the investigation, (4) a description of the investigation, (5) information as to whether a report will be published, and (6) the name of the reporting agency.

Table 22 gives the number of areal investigations and miscellaneous activities reported by individual Federal agencies, and non-Federal agencies (grouped together) by objective and scope. Most investigations and activities had more than one objective and scope.

TABLE 21.--*Number of areal investigations and miscellaneous activities reported by Federal and non-Federal agencies*

Agency	Areal Invest. Misc. Activities
Department of Agriculture	
Forest Service	76
Department of Commerce	
National Oceanic and Atmospheric Adm.	
National Marine Fisheries Service	14
National Ocean Survey	2
Department of Defense	
Army	
Corps of Engineers	91
Department of the Interior	
Bureau of Indian Affairs	4
Bureau of Land Management	2
Bureau of Reclamation	60
Bureau of Mines	20
Geological Survey	1,226
Independent Agencies	
Environmental Protection Agency	114
International Joint Commission	1
Tennessee Valley Authority	61
Federal subtotal	1,671
Non-Federal subtotal	95
Total	1,766
No. of Federal Agencies Reporting	13
No. of Non-Federal Agencies Reporting	34

TABLE 22.--*Number of areal investigations and miscellaneous activities reported by Federal and non-Federal agencies by objective and scope* 1/

Agency	Objective				Scope						
	General hydrology	Surface-water hydrology	Ground-water hydrology	Water quality	Streams	Lakes, reservoirs, estuaries	Ground water	Basin character	Water use	Atmospheric	Socioeconomic
Bureau of Indian Affairs	3	4	2	2	2	4	2	3	2	--	--
Bureau of Land Management	2	2	--	2	2	--	2	2	--	2	--
Bureau of Mines	20	20	20	20	--	1	20	6	20	--	--
Bureau of Reclamation	32	55	7	35	40	4	31	27	39	20	--
Corps of Engineers	45	82	14	36	46	33	8	27	32	29	4
Environmental Protection Agency	82	70	24	113	54	58	20	22	36	42	19
Forest Service	58	69	20	50	67	5	17	62	30	49	9
Geological Survey	663	718	735	672	625	214	593	325	521	268	28
Int'l Joint Commission	1	--	1	1	--	1	--	--	--	--	--
National Marine Fisheries Service	2	10	--	13	5	13	--	--	2	3	--
National Ocean Survey	2	2	--	--	2	2	--	--	--	--	--
Tennessee Valley Authority	20	8	2	58	26	11	2	11	44	10	1
Federal subtotal	930	1,040	825	1,002	869	346	695	485	726	423	61
Non-Federal subtotal	71	40	45	62	30	9	29	28	39	29	3
Total	1,001	1,080	870	1,064	899	355	724	513	765	452	64

1/ Most investigations and activities had more than one objective and scope.

Excerpts from the Catalog of Information on Water Data

Figure 14 shows the water-resources regions in the conterminous United States and principal geographic units and their corresponding map numbers as used by the Office of Water Data Coordination. The list below gives the names of the water resources regions.

01 New England Region
02 Middle Atlantic Region
03 South Atlantic-Gulf Region
04 Great Lakes Region
05 Ohio Region
06 Tennessee Region
07 Upper Mississippi Region
08 Lower Mississippi Region
09 Souris-Red-Rainy Region
10 Missouri Region
11 Arkansas-White-Red Region
12 Texas-Gulf Region
13 Rio Grande Region
14 Upper Colorado Region
15 Lower Colorado Region
16 Great Basin Region
17 Columbia-North Pacific Region
18 California-South Pacific Region
19 Alaska Region (not shown on map)
20 Hawaii Region (not shown on map)
21 Puerto Rico Region (not shown on map)

Figures 15 and 16 are sections of individual maps showing locations of surface-water and water-quality stations.

Figures 17-20 show parts of pages with column headings and types of information appearing in the Catalog.

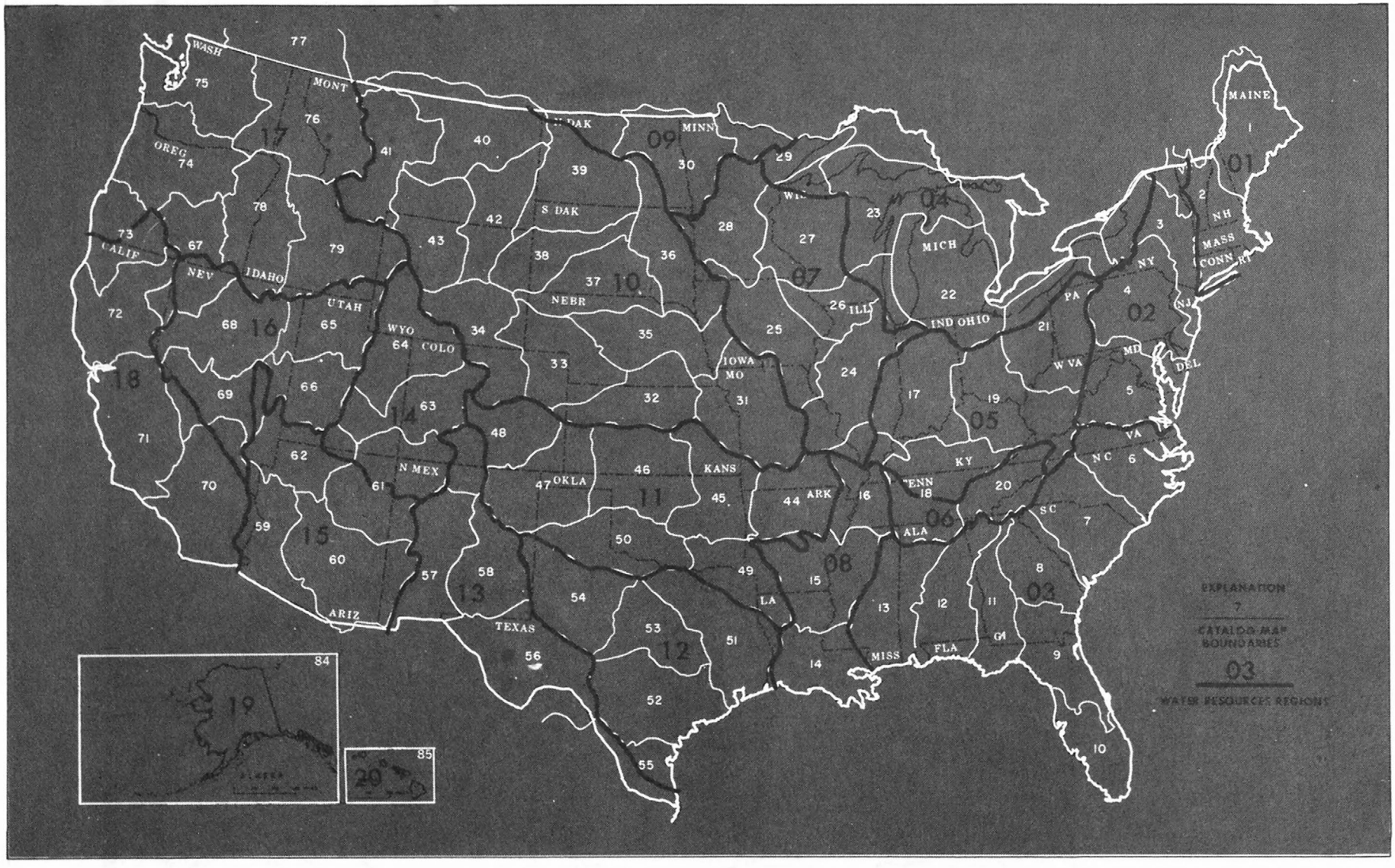


FIGURE 14. -- *Index map showing water resources regions and Catalog map boundaries*

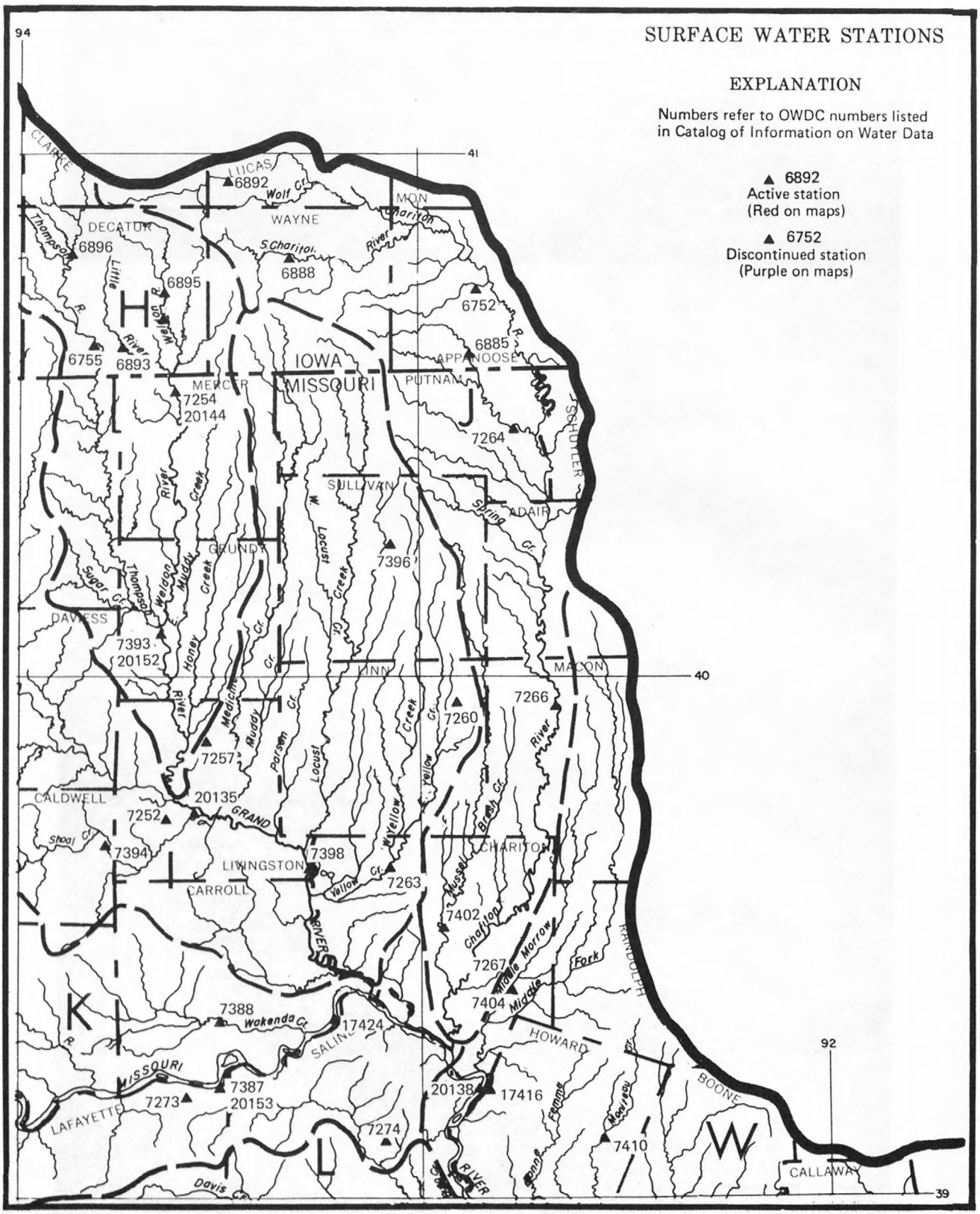


FIGURE 15. -- *Part of OWDC Map 31 showing locations of surface-water stations*

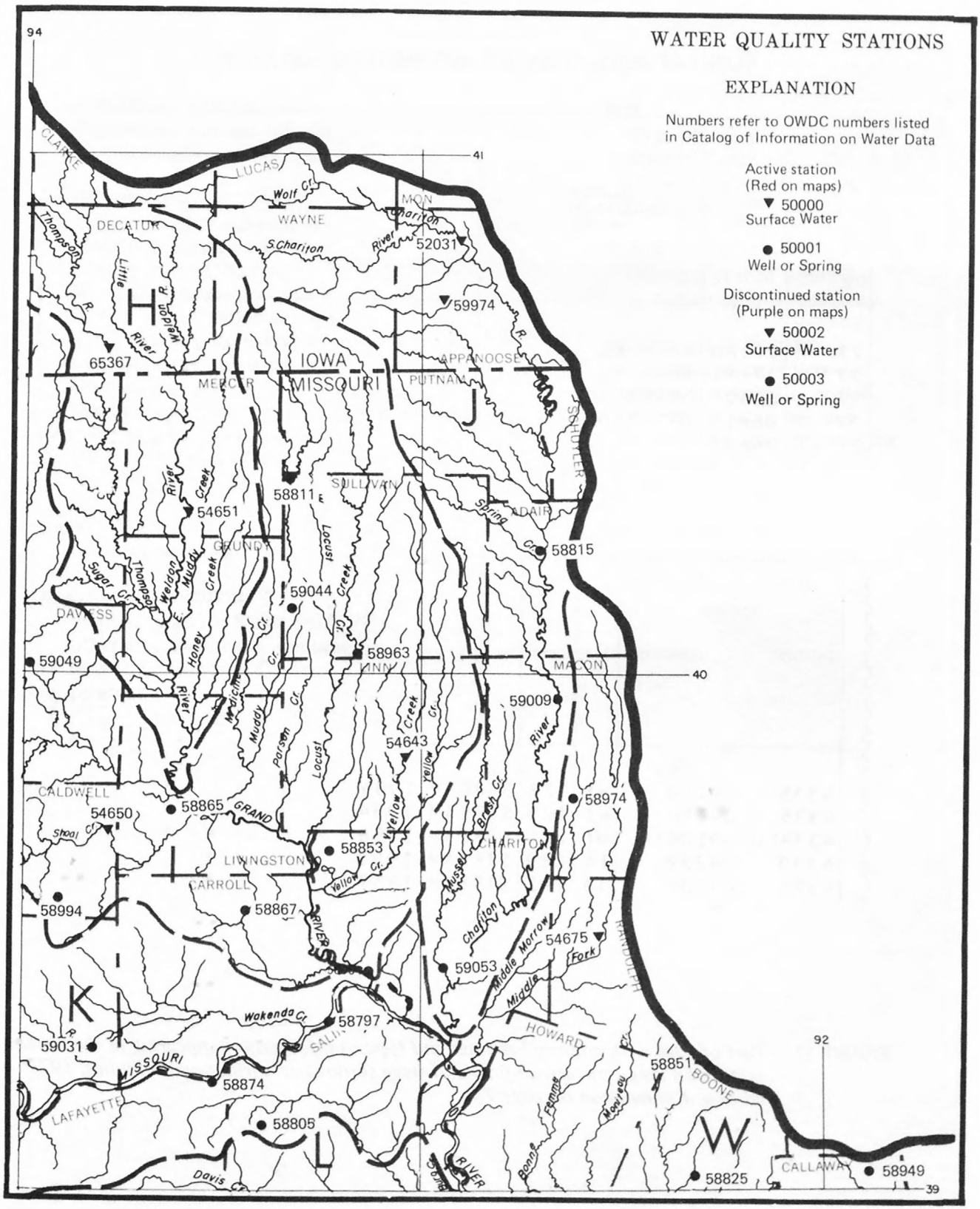


FIGURE 16. -- *Part of OWDC Map 31 showing locations of water-quality stations*

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME
27	X	17680	8A-8 AB	MISS R L D 8 GENOA WIS
27	X	17681	8B-3 BL	MISS R L D 8 GENOA WIS
27	X	08326	05387100	N F BAD AXE R NR GENOA WIS
27	T	06619	05387300	UPPER IOWA R AT CHESTER IOWA
27	T	06618	05387400	UPPER IOWA R NR KENDALVILLE IA

LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD: BEGAN	PERIOD OF RECORD: DISCONTINUED	INTERRUPTED RECORD	STORAGE OF DATA: PUBLISHED	STORAGE OF DATA: NOT PUBLISHED	STORAGE OF DATA: DATA ON PUNCHCARD	STORAGE OF DATA: DATA ON MAG. STOR. DEVICE	STORAGE OF DATA: OTHER
4335	09110	WI	123	STREAM	1934				*			
4335	09110	WI	123	STREAM	1934				*			
433310	0910858	WI	123	STREAM	1958			*	*			
4330	09222	IA	089	STREAM	1957			*				
4328	09202	IA	191	STREAM	1957			*				

FIGURE 17.—*Part of page with column headings and type of information appearing in the Catalog section on long-term streamflow and stage stations on surface-water bodies, 1972 edition. Explanation on page 73.*

EXPLANATION OF ITEMS FOR FIGURE 17 (FIRST EXAMPLE)

MAP NUMBER AND LETTER
Geographic unit and subunit in which station is located.

OWDC NUMBER
Unique number assigned to identify the data-acquisition activity in the Office of Water Data Coordination's (OWDC) information storage and retrieval system, and to crosstie the index and the companion station-location maps.

AGENCY STATION NUMBER AND NAME
Assigned by reporting agency.

LATITUDE-LONGITUDE
Given as reported.

STATE AND COUNTY
Symbols used for States (and other areas) and code numbers used for counties and independent cities.

SITE
Type of water body sampled: Stream, Canal, Lake, Reservoir (Reser), Estuary (Estary), Spring, etc.

PERIOD OF RECORD
Calendar year of beginning or ending of station activity.

INTERRUPTED RECORD
Asterisk indicates that during the period of record, station operation was suspended one or more times for an interval of 1 year or more.

STORAGE OF DATA
Asterisk indicates in what form data are stored.

OWDC NUMBER	DRAINAGE AREA (SQUARE MILES)	TYPES OF FIELD MEASUREMENT				TYPES OF DATA																		AGENCY REPORTING
		STAGE																						
		FREQUENCY	RECORDED	TELEMETERED	DISCHARGE (FREQUENCY)	DAILY DISCHARGE	PEAK STAGE OR DISCHARGE	LOW FLOW	CROSS-SECTION	FLOW DURATION	FLOOD FREQUENCY	COEFFICIENT OF ROUGHNESS	QW RECURRING MEASUREMENT	QW NONRECURRING MEASUREMENT	TIME OF TRAVEL	FLOOD PLAIN MAPS	PRECIPITATION	TIDES	DATUM (MEAN SEA LEVEL)	SEDIMENTATION STUDIES	CONTENTS	SURFACE INFLOW-OUTFLOW	CHANGE CONTENTS/LEVEL	
17680		1	*			*											*		*		*	*	*	CE
17681		1	*			*	*												*					CE
08326	68.8	1	*		2	*	*	*	*			*	*											GS
06619	141	9			9			*																GS
06618	273	9			9			*																GS

EXPLANATION OF ITEMS FOR FIGURE 17 (SECOND EXAMPLE)

DRAINAGE AREA

Number given is drainage area, in square miles, above the point of measurement. An asterisk indicates the total drainage area may include non-contributing areas; an "A" indicates the number is approximate.

TYPES OF FIELD MEASUREMENTS

Frequency of measurement of stage and/or discharge is indicated by the following numbers:

1 Continuous
2 Seasonal
3 Daily
4 Weekly
5 Monthly
6 Quarterly
7 Annually
8 Other period
9 Irregular

Stage measurements that are recorded and/or telemetered are indicated by an asterisk.

TYPES OF DATA

Asterisks are used in appropriate columns to indicate other types of data that are available for the station.

AGENCY REPORTING

Code assigned to agency that reported the data-acquisition activity.

FIGURE 17.— Continued.

MAP NUMBER	MAP LETTER	OWDC NUMBER	AGENCY STATION NUMBER	STATION NAME
25	D	67627	05455010	S B RALSTON C AT IOWA CITY IA
25	D	52043	05455500	ENGLISH R AT KALONA IOWA
25	C	57068	R CE-27	RED CEDAR R
25	C	63310	05457000	CEDAR R NR AUSTIN MINN
25	C	57067	R CE-12	RED CEDAR R

LATITUDE	LONGITUDE	STATE	COUNTY	SITE	PERIOD OF RECORD		INTERRUPTED RECORD	STORAGE OF DATA				
					BEGAN	DISCONTINUED		PUBLISHED	NOT PUBLISHED	DATA ON PUNCHCARD	DATA ON MAG. STOR. DEVICE	OTHER
413905	0913027	IA	103	STREAM	1969			*			*	
412759	0914256	IA	183	STREAM	1965			*		*		
434405	0925707	MN	099	STREAM	1967			*				
433810	0925820	MN	099	STREAM	1961		*	*		*	*	
433626	0925911	MN	099	STREAM	1967			*				

FIGURE 18.—*Part of page with column headings and type of information appearing in the Catalog section on long-term surface- and ground-water quality stations, 1972 edition. Explanation on page 76.*

EXPLANATION OF ITEMS FOR FIGURE 18 (FIRST EXAMPLE)

MAP NUMBER AND LETTER
Geographic unit and subunit in which station is located.

OWDC NUMBER
Unique number assigned to identify the data-acquisition activity in the Office of Water Data Coordination's (OWDC) information storage and retrieval system, and to crosstie the index and the companion station-location maps.

AGENCY STATION NUMBER AND NAME
Assigned by reporting agency.

LATITUDE-LONGITUDE
Given as reported.

STATE AND COUNTY
Symbols used for States (and other areas) and code numbers used for counties and independent cities.

SITE
Type of water body sampled: Stream, Canal, Lake, Reservoir (Reser), Estuary (Estary), Spring, Well, etc.

PERIOD OF RECORD
Calendar year of beginning or ending of station activity.

INTERRUPTED RECORD
Asterisk indicates that during the period of record, station operation was suspended one or more times for an interval of 1 year or more.

STORAGE OF DATA
Asterisk indicates in what form data are stored.

OWDC NUMBER	TYPES OF DATA																			
	PHYSICAL										CHEMICAL									
	TEMPERATURE	SPECIFIC CONDUCTANCE	TURBIDITY	COLOR	ODOR	PH (FIELD)	PH (LAB)	EH	SUSPENDED SOLIDS	OTHER	DISSOLVED SOLIDS	CHLORIDE	NUTRIENTS (NITROGEN)	NUTRIENTS (PHOSPHORUS)	COMMON IONS	HARDNESS	RADIOCHEMICAL	DISSOLVED OXYGEN
67627	5	5				5												
52043	5	5				5												
57068	5	5	5	7	7	5			5	5		5	5	5	5	5	7	5
63310	5	5		7			7				7	7		7	7	7		
57067	5	5	5	7	7	5			5	5		5	5	5	5	5	7	5

	CHEMICAL						BIOLOGIC			SEDIMENT				SUPPLEMENTARY DATA						AGENCY REPORTING
	OTHER GASES	MINOR ELEMENTS	PESTICIDES	DETERGENTS-MBAS	BIOCHEMICAL OXYGEN DEMAND	CARBON (TOTAL, DISSOLVED ETC.)	COLIFORMS	OTHER MICRO-ORGANISMS	OTHER	CONCENTRATION (SUSPENDED)	PARTICLE SIZE (SUSPENDED)	PARTICLE SIZE (BED MATERIAL)	OTHER	SURFACE WATER STATION	GROUND WATER STATION	WATER STAGE OR LEVEL	WATER DISCHARGE	TIME OF TRAVEL	DRAINAGE AREA	
										5				*		*	*		*	GS
										5				*		*	*		*	GS
			7	5	5		5	7					5							L11
														*		*	*		*	GS
			7	5	5		5	7					5							L11

FIGURE 18.—Continued. Explanation on page 78.

EXPLANATION OF ITEMS FOR FIGURE 18 (SECOND EXAMPLE)

TYPES OF DATA

Frequency of determination or measurement of a parameter listed is indicated by the following numbers. If part or all of the data are telemetered, this is shown by the letter T.

1 Continuous	5 Monthly
2 Seasonal	6 Quarterly
3 Daily	7 Annually
4 Weekly	8 Other period

An asterisk indicates that the parameter has been measured, but that the measurement either was discontinued or the frequency of measurement is not known to OWDC.

SUPPLEMENTARY DATA

Asterisks are used in appropriate columns to indicate other types of water-data activities at the site.

AGENCY REPORTING

Code assigned to agency that reported the data-acquisition activity.

BASIN CODE		OWDC SITE NUMBER	STATION NUMBER AND NAME	LATITUDE	LONGITUDE
NUMBER	LETTER				
18	R	05162	3 HOGJAW VALLEY NICKAJACK PROJECT	345802	0853900
18	R	05163	4 HOGJAW VALLEY NICKAJACK PROJECT	345608	0854023
18	R	05164	5 HOGJAW VALLEY NICKAJACK PROJECT	345826	0853839
18	R	05148	12 HOGJAW VALLEY NICKAJACK PROJECT	345759	0853934
18	R	05147	11 HOGJAW VALLEY NICKAJACK PROJECT	345743	0853946

STATE	COUNTY	TYPE OF STATION	PERIOD OF RECORD		FREQUENCY	PRINCIPLE MEASUREMENTS					
						WATER LEVEL OR PRESSURE HEAD		DISCHARGE OR RECHARGE			
			BEGAN	DISCONTINUED		NON PUMPING	PUMPING	NATURAL FLOW	PUMPAGE	RECHARGE	REFLECT OUTSIDE INFLUENCE
AL	071	WELL	1965		MO			*			
AL	071	WELL	1965		MO			*			
AL	071	WELL	1965		MO			*			
AL	071	WELL	1965		MO	*					
AL	071	WELL	1965		MO	*					

FIGURE 19.—*Part of page with column headings and type of information appearing in the index to ground-water stations, 1968 edition of the Catalog of Information on Water Data. Explanation on page 80.*

EXPLANATION OF ITEMS FOR FIGURE 19 (FIRST EXAMPLE)

BASIN CODE NUMBER AND LETTER
Geographic unit and subunit in which station is located.

OWDC SITE NUMBER
A sequential numbering system used by OWDC to identify the data-acquisition activity.

AGENCY STATION NUMBER AND NAME
Number and name assigned to station by reporting agency.

LATITUDE AND LONGITUDE
Latitude and longitude are given to the nearest second, if so reported. If reported to nearest minute, seconds are left blank; if reported to nearest degree, minutes and seconds are left blank.

STATE AND COUNTY
Abbreviations used for States (or other areas) and code numbers used for counties.

TYPE OF STATION
Indicates whether data acquired pertain to water from a well or spring.

PERIOD OF RECORD
Calendar year of beginning or ending of station activity.

FREQUENCY
Frequency of principal measurement is indicated by the following abbreviations:

C REC	Continuous recorder
T	Telemetered
DA	Daily
WK	Weekly
MO	Monthly
QU	Quarterly
SANN	Semi-annually
ANN	Annually
OP	Other periodic

PRINCIPAL MEASUREMENT—Water level or pressure head or discharge or recharge.

Asterisk in appropriate column indicates main purpose of station.

REFLECT OUTSIDE INFLUENCE
"Yes" indicates that data collected at this station may be influenced by nearby activities of man; "No" indicates station unaffected.

FIGURE 19.—Continued.

OWDC SITE NUMBER	SUPPLEMENTARY DATA															ALTITUDE				STORAGE					AGENCY REPORTING
	ANNUAL PUMPAGE OR FLOW	SPECIFIC CAPACITY	WATER QUALITY, RECURRING	WATER QUALITY, NON-RECURRING	DEPTH OF WELL	CASING RECORD	SCREEN RECORD	DRILLER'S LOG	GEOLOGIC LOG	INSTRUMENT LOG	COEF. OF PERM., TRANS., OR STORAGE	NON PUMPING WATER LEVEL OR PRESSURE HEAD	PUMPING WATER LEVEL OR PRESSURE HEAD	NATURAL FLOW OR PUMPAGE	RECHARGE	SPIRIT LEVEL OR TRANSIT	ALTIMETER OR HAND LEVEL	TOPOGRAPHIC MAP	NOT DETERMINED	PUBLISHED	NOT PUBLISHED	DATA ON PUNCH CARD	DATA ON MAGNETIC TAPE	OTHER	
05162																		*			*				TVA
05163																		*			*				TVA
05164																		*			*				TVA
05148					*											*					*				TVA
05147				*	*											*					*				TVA

EXPLANATION OF ITEMS FOR FIGURE 19 (SECOND EXAMPLE)

SUPPLEMENTARY DATA

Asterisks are used in appropriate columns to indicate type of additional data available for station. These data may have been obtained on a one-time or a repetitive basis.

ALTITUDE

Asterisk indicates method by which altitude of station was determined.

STORAGE OF DATA

Asterisks are used in appropriate columns to indicate in what form the data are stored.

AGENCY REPORTING

Agency that reported the data-acquisition activity.

FIGURE 19.—Continued.

OWDC No.	Title	Area covered
A001	Shellfish Ecology Program	Chesapeake Bay, Maryland
A002	Surf Clam Program	Mid Atlantic Coast
A003	Alaskan Coastal and Estuarine Oceanography	Southeastern Alaska
A005	Sea Lamprey Chemical Control - Lake Huron	Streams Tributary to Lake Huron
A006	Sea Lamprey Chemical Control - Lake Michigan	Streams Tributary to Lake Michigan

EXPLANATION OF ITEMS FOR FIGURE 20 (FIRST EXAMPLE)

OWDC NUMBER

A sequential numbering system used by OWDC to identify each project as to its origin. For example, A001: prefix letter designates type of agency and the three digits are a sequential number within each agency's listing. Three groups of contributors are identified by the prefix letter and color-coded pages as follows:

A, B, C (green paper) - Federal agencies (exclusive of U.S. Geological Survey)
D, E, F (buff paper) - Non-Federal agencies
G, H, I, J (blue paper) - U.S. Geological Survey

For further explanation, see "Index to Areal Investigations and Miscellaneous Water Data Activities" on page 2, and the first color-coded page of each group.

TITLE

Title of the study as given by the agency completing the form.

AREA COVERED

General geographic area of the investigation. Location usually is given to the nearest quarter of a State; for example, "southwest Arizona."

FIGURE 20.—*Part of page with column headings and type of information appearing in the index to areal investigations and miscellaneous water-data activities, 1970 edition of Catalog.*

Dates 19-	Description				Publication planned	Reporting agency	OWDC No.
	Purpose		1. General hydrology 2. Surface water hydrology 3. Ground water hydrology 4. Water quality 5. Streams 6. Lakes, reservoirs, estuaries	7. Ground water 8. Basin characteristics 9. Water use 10. Atmospheric 11. Socio-economic			
	1st	2d	Objective	Scope			
61-	Othe			6	Yes	BCF	A001
63-	Othe		1, 2, 4	6	Yes	BCF	A002
63-	FWRM	PCAE	2, 4	6, 9, 10	Yes	BCF	A003
61-	FWRM	PCRe	2, 4	5, 6	Yes	BCF	A005
60-	FWRM	PCRe	2, 4	5, 6	Yes	BCF	A006

EXPLANATION OF ITEMS FOR FIGURE 20 (SECOND EXAMPLE)

DATES

Starting and finishing year of the study.

DESCRIPTION

PURPOSE

The first and second purposes of the study. To meet space limitations the following abbreviations are used:

DiIm	Diversion/Importation
FWRM	Fish and Wildlife Resources Management
FLCo	Flood Control
GRIn	General Resource Information
HyPo	Hydroelectric Power
IIAC	Interstate/International Apportionment, Control
IrRe	Irrigation/Reclamation
LaMa	Land Management
NaSe	National Security
NaWa	Navigation and Waterways
OHRS	Other Health-Related Subjects
RPEW	Research Plot or Experimental Watershed
PCAF	Pollution Control, Abatement, Enforcement
PCRe	Protection and Conservation Resources
PSFF	Public Safety (Flood Warning, Flood-Plain Delineation)
Recr	Recreation
ReSW	Representative Small Watershed
Saln	Salinity (Control, Abatement)
TAFH	Technical Application in Field of Hydrology
WDDi	Waste Disposal Dilution
WRLE	Water Rights, Litigation, Enforcement
WSFI	Water Supply (Federal Installation)
WSPD	Water Supply (Planning and Development)
Othe	Other

OBJECTIVE

Primary field in hydrology in which data will be gathered.

SCOPE

Supplementary data will be gathered in these areas.

PUBLICATIONS PLANNED

Reporting agency does or does not plan to publish report on this study.

REPORTING AGENCY

Agency that reported information. Abbreviations are identified in tables 1 and 2.

FIGURE 20.—Continued.

GPO 871-896