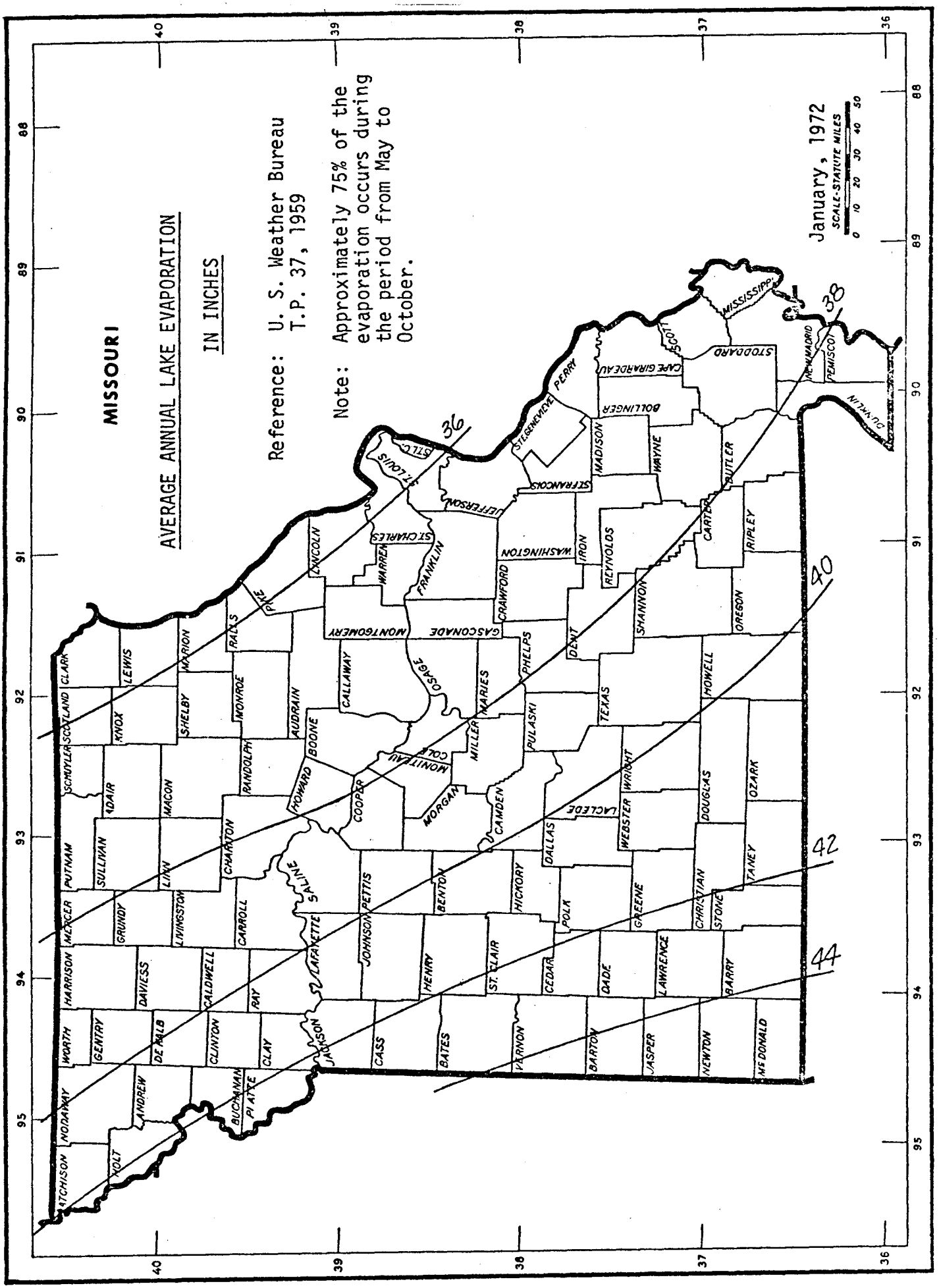
RUNOFF FOR INCHES OF RAINFALL

Inches \ Tenths	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
0			0.00	0.01	0.03	0.07	0.12	0.17	0.23	0.29	CURVE
1	0.36	0.43	0.50	0.58	0.66	0.74	0.82	0.91	0.99	1.08	91
2	1.16	1.25	1.34	1.43	1.52	1.61	1.70	1.79	1.89	1.98	
3	2.07	2.16	2.26	2.35	2.45	2.54	2.64	2.73	2.83	2.92	
4	3.02	3.11	3.21	3.31	3.40	3.50	3.59	3.69	3.79	3.89	
5	3.98	4.08	4.18	4.27	4.37	4.47	4.57	4.66	4.76	4.86	
6	4.96	5.06	5.15	5.25	5.35	5.45	5.55	5.64	5.74	5.84	
7	5.94	6.04	6.14	6.23	6.33	6.43	6.53	6.63	6.73	6.83	
8	6.92	7.02	7.12	7.22	7.32	7.42	7.52	7.62	7.72	7.81	
0			0.00	0.02	0.05	0.09	0.14	0.20	0.26	0.33	CURVE
1	0.40	0.48	0.56	0.64	0.72	0.80	0.89	0.97	1.06	1.15	92
2	1.24	1.33	1.42	1.51	1.60	1.69	1.79	1.88	1.97	2.07	
3	2.16	2.26	2.35	2.45	2.54	2.64	2.73	2.83	2.92	3.02	
4	3.12	3.21	3.31	3.41	3.50	3.60	3.70	3.80	3.89	3.99	
5	4.09	4.19	4.28	4.38	4.48	4.58	4.68	4.77	4.87	4.97	
6	5.07	5.17	5.27	5.36	5.46	5.56	5.66	5.76	5.86	5.96	
7	6.05	6.15	6.25	6.35	6.45	6.55	6.65	6.75	6.85	6.94	
8	7.04	7.14	7.24	7.34	7.44	7.54	7.64	7.74	7.84	7.93	
0			0.00	0.02	0.06	0.11	0.17	0.23	0.30	0.37	CURVE
1	0.45	0.53	0.61	0.69	0.78	0.87	0.95	1.04	1.13	1.22	93
2	1.31	1.41	1.50	1.59	1.69	1.78	1.87	1.97	2.06	2.16	
3	2.25	2.35	2.45	2.54	2.64	2.73	2.83	2.93	3.03	3.12	
4	3.22	3.32	3.41	3.51	3.61	3.71	3.81	3.90	4.00	4.10	
5	4.20	4.30	4.39	4.49	4.59	4.69	4.79	4.89	4.98	5.08	
6	5.18	5.28	5.38	5.48	5.58	5.68	5.78	5.87	5.97	6.07	
7	6.17	6.27	6.37	6.47	6.57	6.67	6.77	6.86	6.96	7.06	
8	7.16	7.26	7.36	7.46	7.56	7.66	7.76	7.86	7.96	8.06	

RUNOFF FOR INCHES OF RAINFALL

	Inches \ Tenths	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
CURVE 94	0			0.01	0.04	0.08	0.14	0.20	0.27	0.35	0.42
	1	0.50	0.59	0.67	0.76	0.85	0.94	1.03	1.12	1.21	1.30
	2	1.40	1.49	1.58	1.68	1.77	1.87	1.97	2.06	2.16	2.25
	3	2.35	2.45	2.54	2.64	2.74	2.84	2.93	3.03	3.13	3.23
	4	3.32	3.42	3.52	3.62	3.72	3.82	3.91	4.01	4.11	4.21
	5	4.31	4.41	4.51	4.60	4.70	4.80	4.90	5.00	5.10	5.20
	6	5.30	5.40	5.50	5.59	5.69	5.79	5.89	5.99	6.09	6.19
	7	6.29	6.39	6.49	6.59	6.69	6.79	6.88	6.98	7.08	7.18
	8	7.28	7.38	7.48	7.58	7.68	7.78	7.88	7.98	8.08	8.18
CURVE 95	0			0.01	0.05	0.11	0.17	0.24	0.32	0.40	0.48
	1	0.56	0.65	0.74	0.83	0.92	1.01	1.11	1.20	1.29	1.39
	2	1.48	1.58	1.67	1.77	1.87	1.96	2.06	2.16	2.25	2.35
	3	2.45	2.55	2.65	2.74	2.84	2.94	3.04	3.14	3.23	3.33
	4	3.43	3.53	3.63	3.73	3.83	3.93	4.02	4.12	4.22	4.32
	5	4.42	4.52	4.62	4.72	4.82	4.92	5.01	5.11	5.21	5.31
	6	5.41	5.51	5.61	5.71	5.81	5.91	6.01	6.11	6.21	6.31
	7	6.41	6.51	6.61	6.70	6.80	6.90	7.00	7.10	7.20	7.30
	8	7.40	7.50	7.60	7.70	7.80	7.90	8.00	8.10	8.20	8.30
CURVE 96	0		0.00	0.03	0.07	0.14	0.21	0.29	0.37	0.45	0.54
	1	0.63	0.72	0.81	0.91	1.00	1.09	1.19	1.29	1.38	1.48
	2	1.57	1.67	1.77	1.87	1.96	2.06	2.16	2.26	2.36	2.45
	3	2.55	2.65	2.75	2.85	2.95	3.04	3.14	3.24	3.34	3.44
	4	3.54	3.64	3.74	3.84	3.94	4.04	4.13	4.23	4.33	4.43
	5	4.53	4.63	4.73	4.83	4.93	5.03	5.13	5.23	5.33	5.43
	6	5.53	5.63	5.73	5.83	5.93	6.03	6.12	6.22	6.32	6.42
	7	6.52	6.62	6.72	6.82	6.92	7.02	7.12	7.22	7.32	7.42
	8	7.52	7.62	7.72	7.82	7.92	8.02	8.12	8.22	8.32	8.42


MISSOURI
AVERAGE ANNUAL LAKE EVAPORATION
IN INCHES
Reference: U. S. Weather Bureau T.P. 37, 1959
Note: Approximately 75% of the evaporation occurs during the period from May to October.
January, 1972
SCALE-STATUTE MILES
0 10 20 30 40 50
36
38
40
42
44
ATCHISON
NODAWAY
WORTH
MERCER
PUTNAM
SCHUYLER
SCOTLAND
CLARK
HARRISON
GRUNDY
SULLIVAN
ADAIR
KNOX
LEWIS
GENTRY
DAVIESS
LINN
MACON
SHELBY
MARION
DE KALB
CALDWELL
LIVINGSTON
CHARITON
MONROE
RALLS
CLINTON
CARROLL
RANDOLPH
PIKE
ANDREW
BUCHANAN
PLATTE
CLAY
RAY
SALINE
LINCOLN
AUDRAIN
BOONE
HOWARD
COOPER
LAFAYETTE
JOHNSON
PETTIS
CALLAWAY
MONTGOMERY
WARREN
ST. CHARLES
ST. LOUIS
FRANKLIN
JEFFERSON
OSAGE
GASCONADE
MONITEAU
COLE
MORGAN
BENTON
HENRY
ST. CLAIR
CASS
BATES
VERNON
HICKORY
CAMDEN
MILLER
MARIES
PULASKI
PHELPS
CRAWFORD
WASHINGTON
STE. GENEVIEVE
PERRY
STFRANCOIS
IRON
REYNOLDS
MADISON
BOLLINGER
CAPE GIRARDEAU
SCOTT
WAYNE
DENT
TEXAS
SHANNON
CARTER
RIPLEY
BUTLER
STODDARD
MISSISSIPPI
NEW MADRID
PEMISCOT
DUNKLIN
OREGON
HOWELL
OZARK
DOUGLAS
WRIGHT
WEBSTER
LACLEDE
DALLAS
POLK
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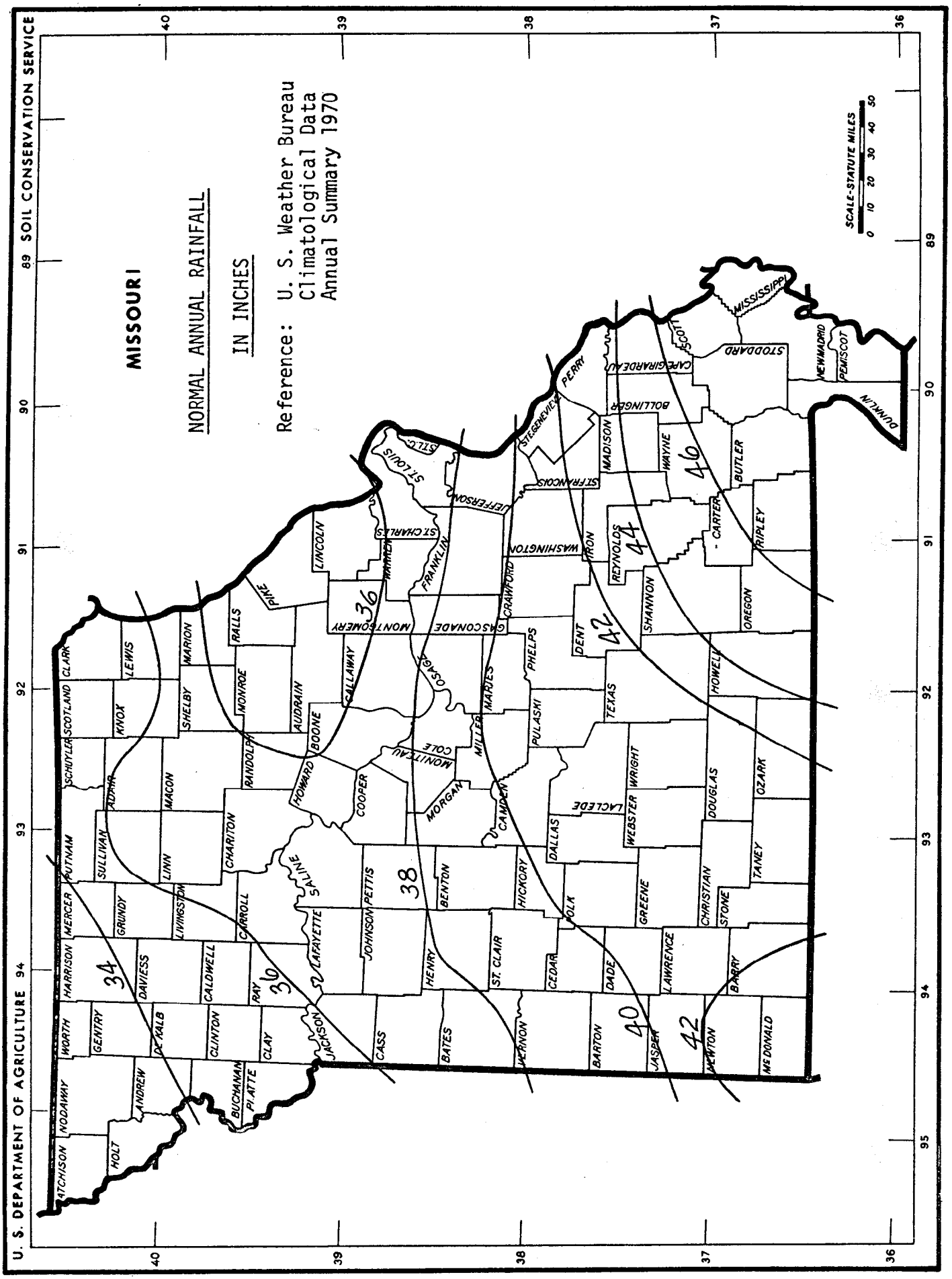
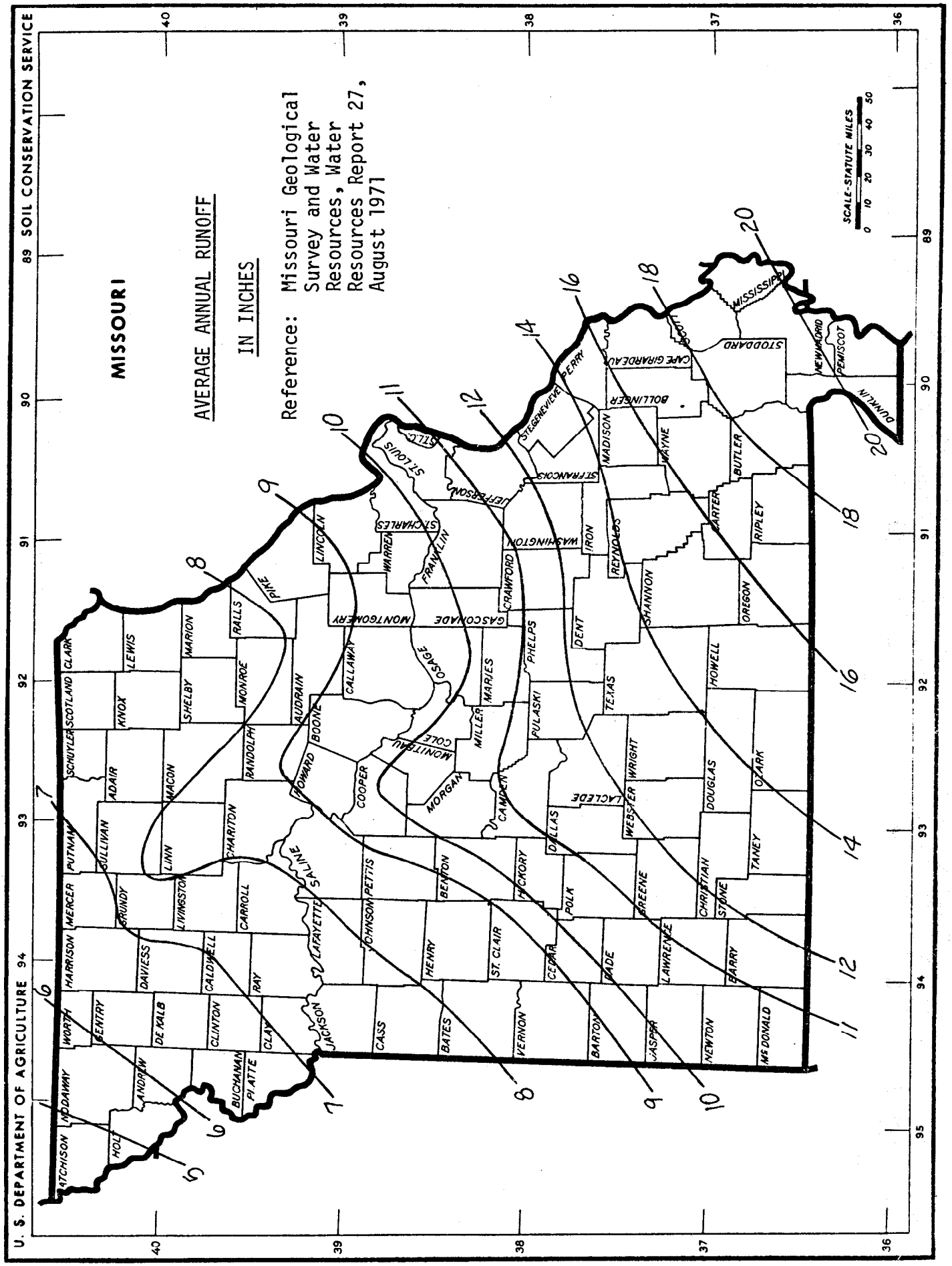
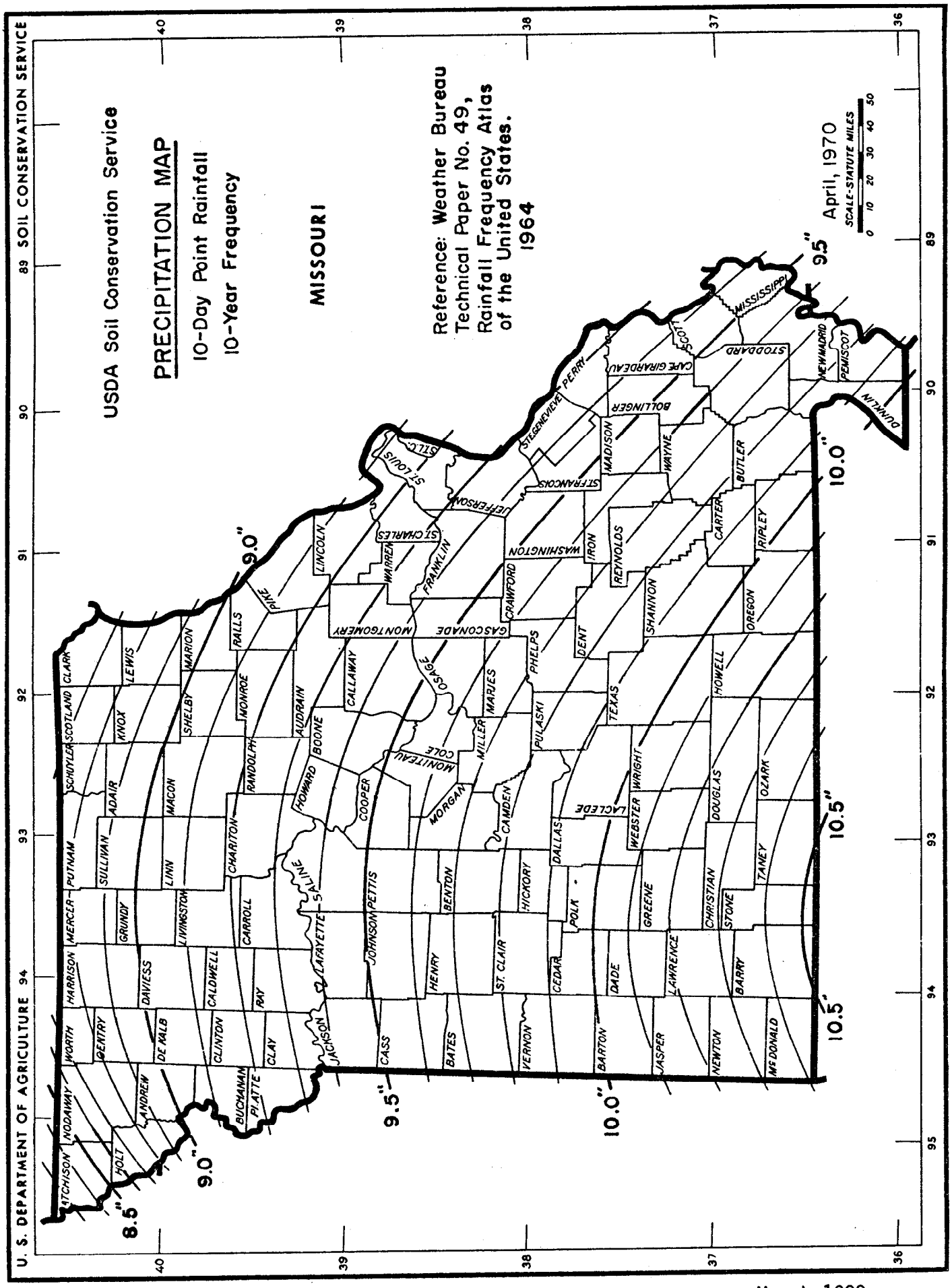
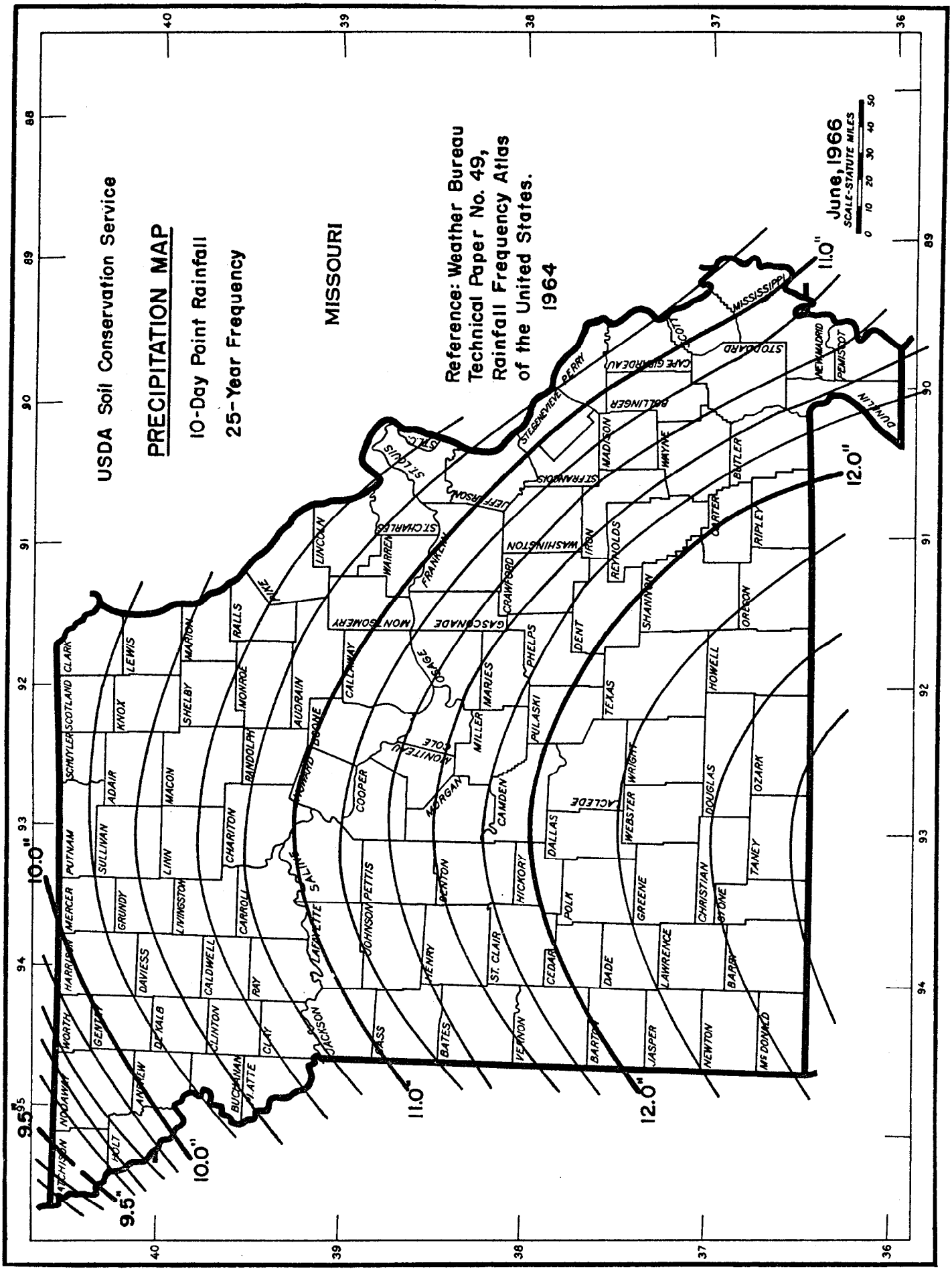
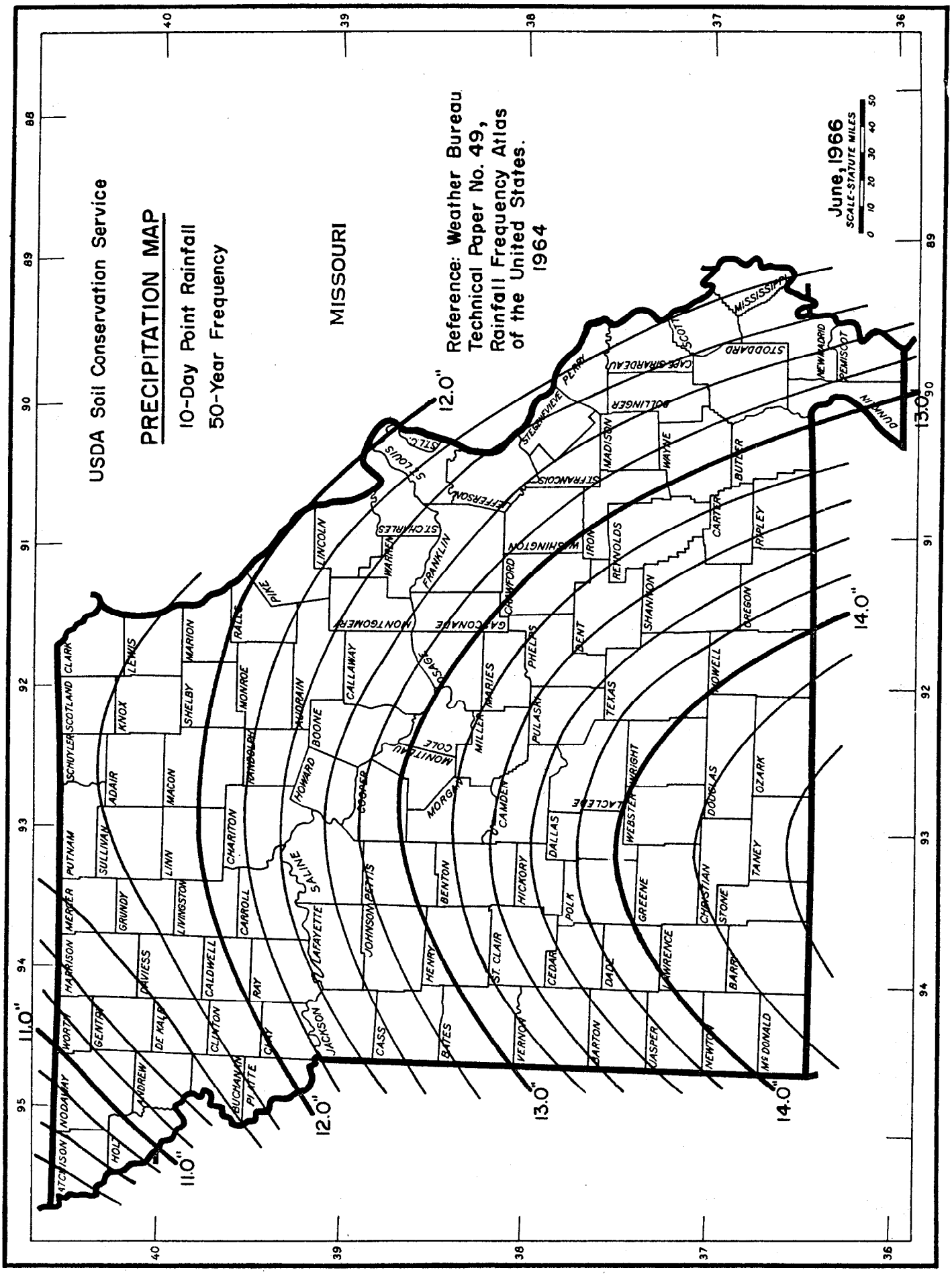
CHRISTIAN
STONE
TANEY
BARRY
NEWTON
McDONALD

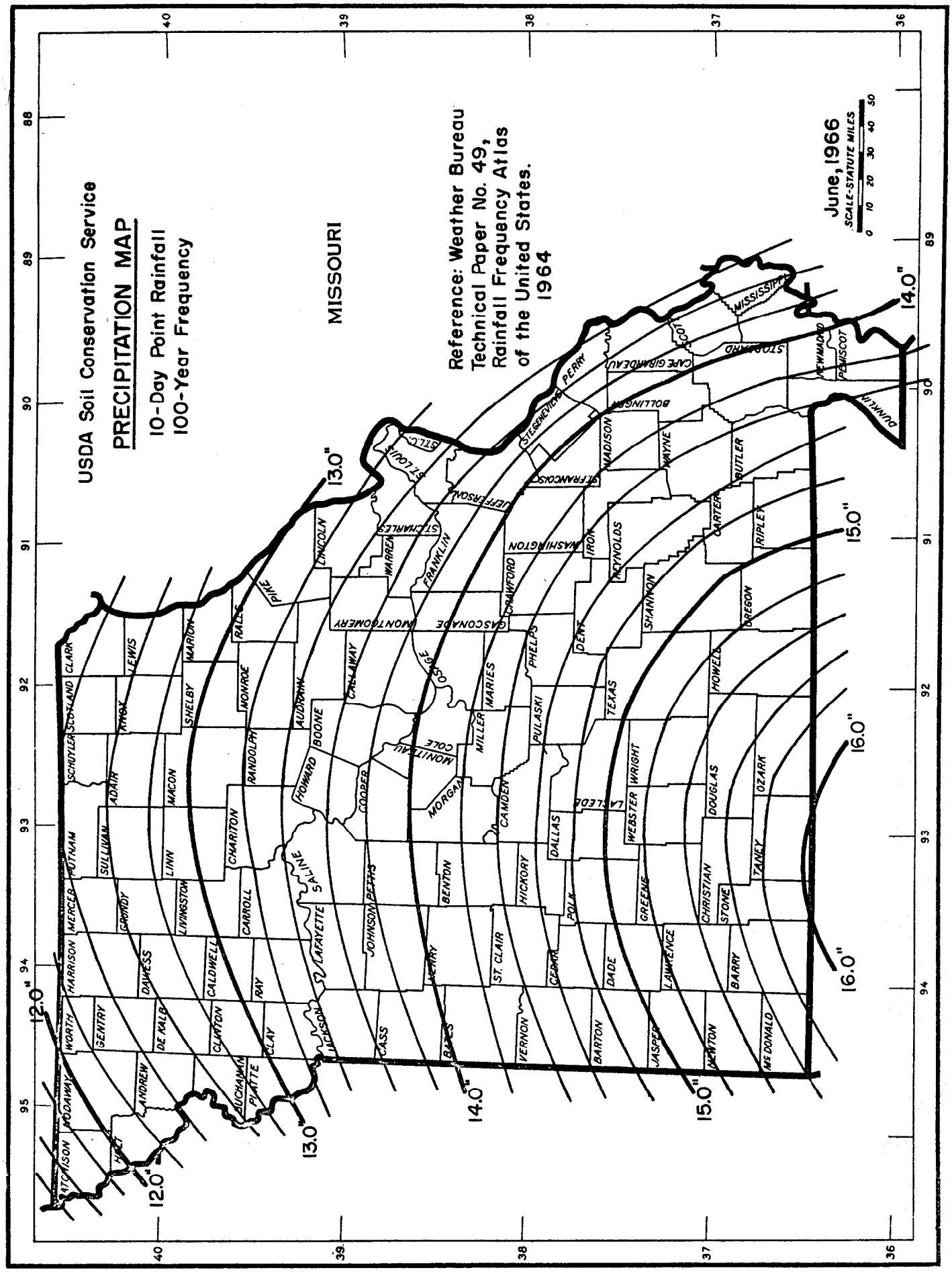

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
MISSOURI
NORMAL ANNUAL RAINFALL
IN INCHES
Reference: U. S. Weather Bureau
Climatological Data
Annual Summary 1970
SCALE-STATUTE MILES
0 10 20 30 40 50
34
36
38
40
42
44
46
ATCHISON
NODAWAY
HOLT
ANDREW
BUCHANAN
PLATTE
WORTH
GENTRY
DE KALB
CLINTON
CLAY
JACKSON
HARRISON
MERCER
DAVIESS
CALDWELL
RAY
PUTNAM
GRUNDY
LIVINGSTON
CARROLL
LAFAYETTE
SULLIVAN
LINN
CHARITON
SALINE
SCHUYLER
ADAIR
MACON
RANDOLPH
HOWARD
SCOTLAND
KNOX
SHELBY
MONROE
BOONE
COOPER
CLARK
LEWIS
MARION
RALLS
AUDRAIN
CALLAWAY
MONTGOMERY
PIKE
LINCOLN
WARREN
ST. CHARLES
ST. LOUIS
FRANKLIN
GASCONADE
OSAGE
MONITEAU
COLE
MORGAN
JOHNSON
PETTIS
BENTON
HENRY
CASS
BATES
MILLER
MARIES
CAMDEN
HICKORY
ST. CLAIR
VERNON
CRAWFORD
PHELPS
PULASKI
DALLAS
POLK
CEDAR
BARTON
DADE
JASPER
WASHINGTON
IRON
DENT
TEXAS
LACLEDE
WEBSTER
WRIGHT
GREENE
LAWRENCE
BARRY
McDONALD
NEWTON
JEFFERSON
STE. GENEVIEVE
PERRY
MADISON
REYNOLDS
SHANNON
WAYNE
BOLLINGER
CAPE GIRARDEAU
SCOTT
MISSISSIPPI
STODDARD
CARTER
BUTLER
RIPLEY
OREGON
HOWELL
DOUGLAS
OZARK
TANEY
CHRISTIAN
STONE
NEW MADRID
PEMISCOT
DUNKLIN

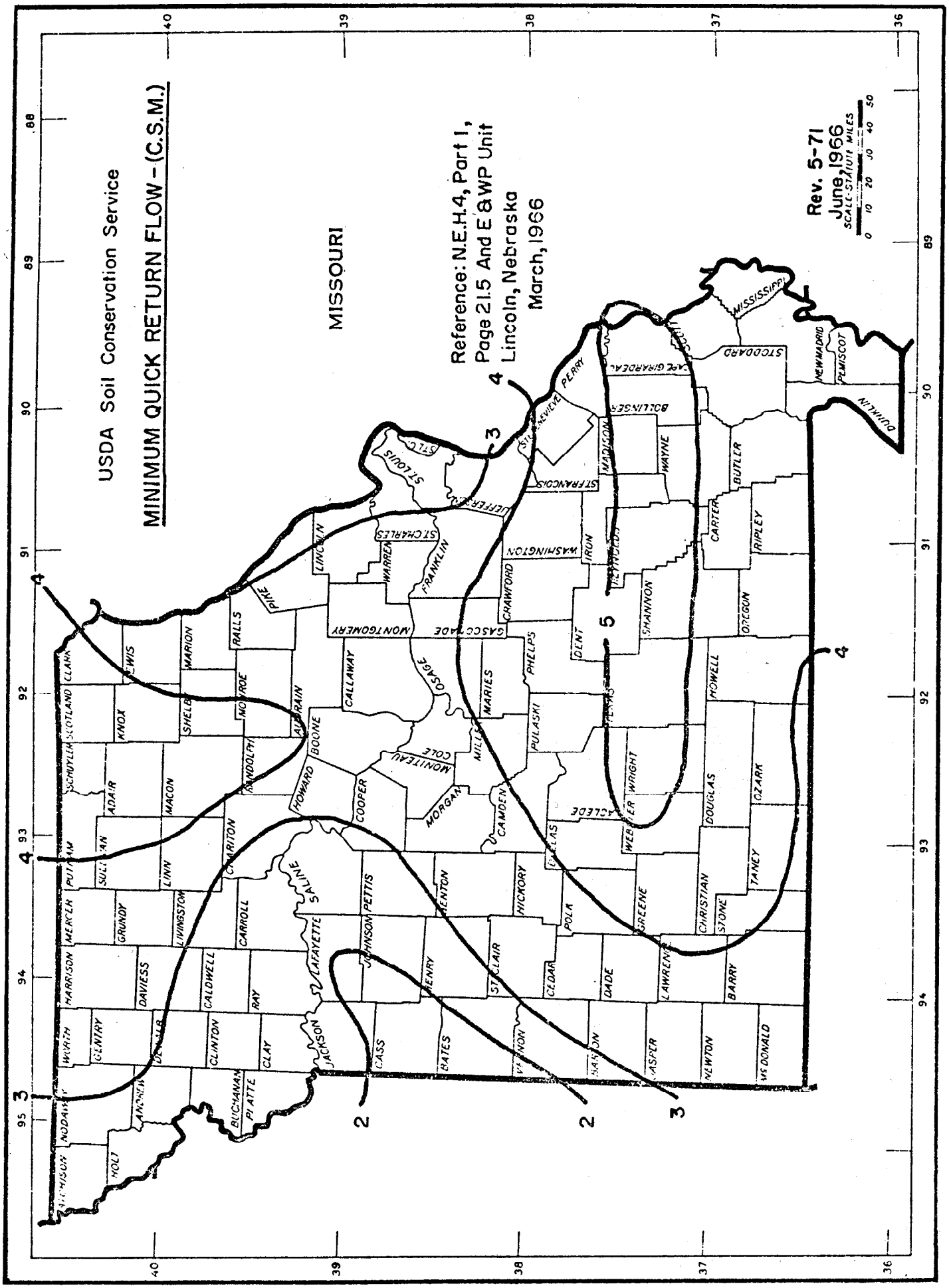

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE
MISSOURI
AVERAGE ANNUAL RUNOFF
IN INCHES
Reference: Missouri Geological Survey and Water Resources, Water Resources Report 27, August 1971
SCALE-STATUTE MILES
0 10 20 30 40 50
5
6
7
8
9
10
11
12
14
16
18
20


U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
USDA Soil Conservation Service
PRECIPITATION MAP
10-Day Point Rainfall
10-Year Frequency
MISSOURI
Reference: Weather Bureau Technical Paper No. 49, Rainfall Frequency Atlas of the United States. 1964
April, 1970
SCALE-STATUTE MILES
0 10 20 30 40 50
8.5"
9.0"
9.5"
10.0"
10.5"
ATCHISON
NODAWAY
HOLT
WORTH
GENTRY
ANDREW
DE KALB
BUCHANAN
PLATTE
CLAY
JACKSON
CASS
BATES
VERNON
BARTON
JASPER
NEWTON
McDONALD
HARRISON
DAVIESS
CALDWELL
CLINTON
RAY
LAFAYETTE
JOHNSON
HENRY
ST. CLAIR
CEDAR
DADE
LAWRENCE
BARRY
MERCER
GRUNDY
LIVINGSTON
CARROLL
SALINE
PETTIS
BENTON
HICKORY
POLK
GREENE
CHRISTIAN
STONE
TANEY
PUTNAM
SULLIVAN
LINN
CHARITON
HOWARD
COOPER
MORGAN
CAMDEN
DALLAS
WEBSTER
WRIGHT
DOUGLAS
OZARK
SCHUYLER
ADAIR
MACON
RANDOLPH
BOONE
COLE
MILLER
PULASKI
LACLEDE
SCOTLAND
KNOX
SHELBY
MONROE
AUDRAIN
MONITEAU
MARIES
TEXAS
HOWELL
CLARK
LEWIS
MARION
RALLS
PIKE
CALLAWAY
OSAGE
PHELPS
DENT
OREGON
LINCOLN
WARREN
MONTGOMERY
GASCONADE
CRAWFORD
SHANNON
ST. CHARLES
FRANKLIN
WASHINGTON
IRON
REYNOLDS
RIPLEY
ST. LOUIS
JEFFERSON
STFRANCOIS
MADISON
WAYNE
BUTLER
CARTER
STGENEVIEVE
PERRY
BOLLINGER
CAPE GIRARDEAU
SCOTT
STODDARD
MISSISSIPPI
NEW MADRID
PEMISCOT
DUNKLIN


USDA Soil Conservation Service
PRECIPITATION MAP
10-Day Point Rainfall
25-Year Frequency
MISSOURI
Reference: Weather Bureau Technical Paper No. 49, Rainfall Frequency Atlas of the United States. 1964
June, 1966
SCALE-STATUTE MILES
0 10 20 30 40 50
9.5"
10.0"
11.0"
12.0"
ATCHISON
NODAWAY
HOLT
WORTH
GENTRY
ANDREW
DE KALB
BUCHANAN
PLATTE
CLAY
CLINTON
HARRISON
DAVIESS
CALDWELL
RAY
MERCER
GRUNDY
LIVINGSTON
CARROLL
PUTNAM
SULLIVAN
LINN
CHARITON
SCHUYLER
SCOTLAND
ADAIR
MACON
RANDOLPH
CLARK
KNOX
LEWIS
SHELBY
MARION
MONROE
RALLS
PIKE
LINCOLN
AUDRAIN
CALLAWAY
BOONE
COOPER
SALINE
LAFAYETTE
JOHNSON
PETTIS
JACKSON
CASS
HENRY
BENTON
MORGAN
MONITEAU
COLE
OSAGE
MARIES
MILLER
CAMDEN
HICKORY
ST. CLAIR
BATES
VERNON
CEDAR
POLK
DALLAS
PULASKI
PHELPS
DENT
TEXAS
WEBSTER
WRIGHT
LACLEDE
GREENE
DADE
BARTON
JASPER
LAWRENCE
NEWTON
McDONALD
DOUGLAS
OZARK
TANEY
CHRISTIAN
STONE
BARRY
HOWELL
OREGON
SHANNON
RIPLEY
CARTER
BUTLER
WAYNE
MADISON
IRON
REYNOLDS
WASHINGTON
CRAWFORD
GASCONADE
MONTGOMERY
WARREN
ST. CHARLES
FRANKLIN
JEFFERSON
ST. LOUIS
ST. FRANCOIS
STE. GENEVIEVE
PERRY
BOLLINGER
CAPE GIRARDEAU
STODDARD
SCOTT
MISSISSIPPI
NEW MADRID
PEMISCOT
DUNKLIN


USDA Soil Conservation Service
PRECIPITATION MAP
10-Day Point Rainfall
50-Year Frequency
MISSOURI
Reference: Weather Bureau Technical Paper No. 49, Rainfall Frequency Atlas of the United States. 1964
June, 1966
SCALE-STATUTE MILES
0 10 20 30 40 50
11.0"
12.0"
13.0"
14.0"


USDA Soil Conservation Service
PRECIPITATION MAP
10-Day Point Rainfall
100-Year Frequency
MISSOURI
Reference: Weather Bureau
Technical Paper No. 49,
Rainfall Frequency Atlas
of the United States.
1964
June, 1966
SCALE-STATUTE MILES
0 10 20 30 40 50
12.0"
13.0"
14.0"
15.0"
16.0"


USDA Soil Conservation Service
MINIMUM QUICK RETURN FLOW - (C.S.M.)
MISSOURI
Reference: N.E.H.4, Part I, Page 21.5 And E&WP Unit Lincoln, Nebraska March, 1966
Rev. 5-71 June, 1966
SCALE-STATUTE MILES
0 10 20 30 40 50
ST. LOUIS
PIKE
LINCOLN
WARREN
FRANKLIN
ST. CHARLES
JEFFERSON
PERRY
MADISON
WAYNE
BUTLER
CARTER
RIPLEY
IRON
WASHINGTON
CRAWFORD
SHANNON
OREGON
DENT
PHELPS
GASCONADE
MONTGOMERY
OSAGE
MARIES
PULASKI
HOWELL
CALLAWAY
BOONE
MONITEAU
COLE
MILLER
CAMDEN
WEBSTER
WRIGHT
DOUGLAS
OZARK
HOWARD
COOPER
MORGAN
RALLS
MONROE
RANDOLPH
CLARK
LEWIS
MARION
SCOTLAND
KNOX
SHELBY
SCHUYLER
ADAIR
MACON
PUTNAM
SULLIVAN
LINN
CHARITON
SALINE
LAFAYETTE
JOHNSON
PETTIS
BENTON
HICKORY
POLK
GREENE
CHRISTIAN
STONE
TANEY
MERCER
GRUNDY
LIVINGSTON
CARROLL
HARRISON
DAVIESS
CALDWELL
RAY
HENRY
ST. CLAIR
CEDAR
DADE
LAWRENCE
BARRY
WORTH
GENTRY
DEKALB
CLINTON
CLAY
JACKSON
CASS
BATES
VERNON
BARTON
JASPER
NEWTON
MCDONALD
NODAWAY
HOLT
ANDREW
BUCHANAN
PLATTE
MISSISSIPPI
NEW MADRID
PEMISCOT
DUNKLIN
STODDARD
CAPE GIRARDEAU
BOLLINGER
STE. GENEVIEVE
ST. FRANCOIS
2
3
4
5

To obtain the most current HYDROLOGIC SOIL GROUP rating for a particular soil type[1/]:

1. Enter Missouri NRCS Homepage on the ***Internet*** ***through Netscape Navigator***.
2. Click on "Missouri Field Office Technical Guide".
3. Click on "Section II - Soil and Site Information".
4. Click on "Engineering Interpretations".
5. Click on ***county.list***, at top of screen.
6. Click on the "county name" in which you are evaluating a soil.
7. Click on water.txt "Water Features".
8. Find Soil Map Symbol you are evaluating and read the corresponding Hydrologic Soil Group[2/].

NOTE: [1/] Contact your Area Engineer or local Soil Scientist if you have any questions in interpreting results.
[2/] Double group designations, i.e. "B/D", are explained in table endnote.

Unit peak discharge (q_u) for SCS [NRCS] Type II rainfall distribution
(Ref. Pg. 2-13, Engineering Field Handbook, Chapter 2)

T_c (hrs)	I_a/P 0.10	0.30	0.35	0.40	0.45	0.50
0.1	1.59	1.46	1.40	1.26	1.08	0.84
0.2	1.25	1.09	1.00	0.89	0.75	0.58
0.3	1.06	0.90	0.82	0.72	0.60	0.46
0.4	0.93	0.78	0.70	0.61	0.52	0.40
0.5	0.83	0.69	0.62	0.54	0.45	0.36
0.6	0.75	0.62	0.56	0.48	0.41	0.32
0.7	0.68	0.56	0.51	0.44	0.37	0.30
0.8	0.64	0.52	0.47	0.41	0.35	0.28
0.9	0.60	0.48	0.44	0.39	0.33	0.26
1.0	0.56	0.46	0.41	0.36	0.31	0.25
1.5	0.44	0.35	0.32	0.29	0.25	0.20
2.0	0.35	0.29	0.26	0.24	0.21	0.18
2.5	0.30	0.25	0.23	0.21	0.18	0.16
3.0	0.26	0.22	0.20	0.18	0.16	0.14
3.5	0.23	0.20	0.18	0.17	0.15	0.13
4.0	0.21	0.17	0.16	0.15	0.14	0.12
4.5	0.19	0.16	0.15	0.14	0.13	0.12
5.0	0.17	0.15	0.14	0.13	0.12	0.11
5.5	0.16	0.14	0.13	0.12	0.11	0.11
6.0	0.15	0.13	0.12	0.11	0.11	0.10
6.5	0.14	0.12	0.11	0.11	0.10	0.09
7.0	0.13	0.11	0.11	0.10	0.10	0.09
7.5	0.12	0.11	0.10	0.10	0.09	0.09
8.0	0.11	0.10	0.10	0.09	0.09	0.09
8.5	0.11	0.10	0.09	0.09	0.09	0.09
9.0	0.10	0.09	0.09	0.09	0.08	0.08
9.5	0.10	0.09	0.08	0.08	0.08	0.08
10.0	0.09	0.09	0.08	0.08	0.08	0.08

VOLUME AND PEAK RATE OF RUNOFF

Landowner: 1/ _____

By: 2/ _____ Date: 3/ _____

Checked: 4/ _____ Date: 5/ _____

Land Use	Treatment	Hydrologic Soil Group								Sum of Product Acres X CN
		A		B		C		D		
		Acres	CN	Acres	CN	Acres	CN	Acres	CN	
Row Crops	Straight Row		67		78		85		89	
	Contour		65		75	6/	82		86	7/
	Contour/Terrace		62		71		78		81	
Small Grain	----------		63		75		83		87	
Hayland	----------		58		72		81		85	
Pasture	Poor		68		79		86		89	
	Fair		49		69		79		84	
	Good		39		61		74		80	
Woodland	Poor Cover		45		66		77		83	
	Good cover		25		55		70		77	
Roads	Includes R.O.W.		74		84		90		92	
Farmsteads	----------		59		74		82		86	
Other										
									Total Product	8/

DA = Drainage Area = Total Acres 9/ _____

For curve numbers of other land uses, See EFH pages MO-2-9 and 10

Computed Runoff CN = $\frac{\text{Total Product}}{\text{Total Acres}}$ = $\frac{8/}{9/}$ = 10/ _____; Use CN* = 11/ _____

Practice 12/ _____

Frequency Years _____ 13/ _____

Rainfall, P Inches _____ 14/ _____

Runoff, Q Inches _____ 15/ _____

(EFH MO-2-11 to 24)

Total Runoff = $\frac{9/\ (DA \times Q)}{12}$ 15/ Ac-ft = _____ 16/ _____

Average Watershed Landslope, Y = 17/ _____ % Flow Length, ℓ = 18/ _____ ft

Time of Concentration

T_c using ℓ, Y, CN and Figure 2-27, page 2-41 or using equation 2-5, page 2-5 of EFH

T_c = 19/ _____ hrs Initial abstraction, I_a = 20/ _____ in (Use CN with table 2-4 page 2-89)

Compute I_a / P ratios _____ 21/ _____

Unit peak discharge, q_u _____ 22/ _____

(Use T_c and I_a / P with exhibit 2-11, page 2-13 or EFH MO-2-34)

Peak Discharge, q_p , cfs _____ 23/ _____

($q_p = q_u$ A Q) where q_u = unit peak discharge; A = drainage area; and Q = runoff

* When the job warrants the use of CN other than 65, 70, 75, etc., a straight line interpolation can be made between discharge values for bracketing CN's.

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Instruction for use of Form MO-ENG-13 -- VOLUME AND PEAK RATE OF RUNOFF

Form MO-ENG-13 is used to estimate runoff amounts from a given watershed (drainage area) when the land use, treatment condition, hydrologic soil group for various subunits of the watershed area, rainfall frequency, average watershed landslope, and flow length are known.

The following procedure describes how the form is used. Most of the needed references are stated on the form. The circled numerals refer to the numbers shown on the example.

1/ Record landowner's name.

2/ Name of person making computations.

3/ Date when computations are made.

4/ Name of person checking computations.

5/ Date when computations are checked.

6/ Determine the subunits of the drainage area with the various combinations of land use, hydrologic treatment, and hydrologic soil group (with instructions from page MO-2-33, EFH).

7/ Accumulate the sum of the products (Acres multiplied by CN) for each individual line and enter in "Sum of Product" column.

8/ Calculate Total Product by adding the Sum of Product figures 7/.

9/ Record Total Acres in drainage area.

10/ Compute Runoff CN by dividing 8/ by 9/ .

11/ Round computed CN to nearest "5", i.e. 65, 70, 75, etc.
(See note on bottom of MO-ENG-C13.)

12/ Record which conservation practice is being evaluated, as listed in Section IV of Missouri Field Office Technical Guide (MO FOTG).

13/ Determine for the specific standard and specification which storm frequency(ies), as a minimum, will be evaluated.

14/ Record rainfall amounts for the storm frequencies being evaluated. These can be found on pages MO-2-1 thru MO-2-7 in EFH.

15/ Refer to MO-2-11 thru MO-2-24 for the runoff amounts when CN 11/ and rainfall amounts 14/ are known.

16/ Compute Runoff Volume by dividing 9/ by 12 and multiplying by 15/.

17/ Determine average watershed landslope using topographic maps, soils maps, and/or field reviews. See page 2-5, EFH.

18/ Determine flow length. Refer to page 2-5, EFH.

19/ Determine the time of concentration either by use of Figure 2-27 on page 2-41, EFH or by calculating with the use of Eq. 2-5 on page 2-5, EFH.

Use of Figure 2-27 on EFH page 2-41

Orient the sheet so that "Flow length (ℓ), feet" is to the top of the page (the printed page top is on your right side). *Note: The T_c scale is a log scale.*

Enter graph with flow length (ℓ). Go vertically down until the watershed landslope (Y) is reached. Move horizontally to the right until the curve number (CN) is reached, then move vertically down to the edge of the graph and read the time of concentration (T_c) in hours.

20/ Read initial abstraction (I_a) value from table 2-4 on page 2-89, EFH.

21/ Compute I_a/P by dividing 20/ by 14/.

22/ Read unit peak discharge (q_u) using 19/ and 21/, from exhibit 2-II, page 2-13, EFH or page MO-2-34, EFH.

23/ Calculate q_p by multiplying 22/, 9/, and 15/.