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Hydrologic Data for Experimental Agricultural Watersheds in the United States 1968

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Hydrologic Data for Experimental Agricultural Watersheds in the United States 1968

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Miscellaneous Publication No. 1330

Agricultural Research Service
U.S. DEPARTMENT OF AGRICULTURE
In Cooperation With
State Agricultural Experiment Stations

PREFACE

This publication presents annual basic data on monthly precipitation and runoff; annual maximum discharges and volumes of runoff; daily precipitation and discharge amounts, and daily air temperature for some areas; and selected runoff events, with associated data on rainfall, land use, and antecedent conditions for agricultural watersheds where research was in progress during 1968. It is a continuation of processing and releasing hydrologic data of general interest collected cooperatively with other agencies.

Throughout the watershed studies the State agricultural experiment stations have collaborated in selecting, planning, and conducting these studies. In several studies the U.S. Geological Survey and State and local agencies, such as State water boards and highway departments of local drainage and conservation districts, have assisted in the work. The classification and correlation of soils and evaluation

of other watershed characteristics in the descriptions have been based mostly on field surveys by the U.S. Soil Conservation Service.

These data were collected originally for specific research objectives, which are still in progress or have been attained. In addition, they can serve many other purposes. This publication provides information for other government agencies, university staff members, graduate students, private engineers, and others who need detailed, factual information concerning agricultural watersheds. High-quality hydrologic data such as these have historic value in addition to providing a basis for research and design and evaluation of projects and programs for conservation and development of the Nation's water resources.

Although the data on which this publication is based were collected in 1968, the findings are still valid and are used for further research on agricultural watersheds.

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The decimal system of paging is used to index the watershed data. Pages are numbered at the bottom according to location and watershed number, and the data for each watershed are given on one or more pages. For example, page 10.1-1 is location 10 (Watkinsville, Ga.), Watershed 1 (W-1 at Watkinsville), and page 1 of the data for that watershed. For convenience in finding items listed in table 3, pages are also numbered consecutively at the top.

Table 3 is a list of continuing or new watersheds by State, locality, assigned location number, and land resource area, with number of watershed units and selected runoff events reported for 1968 in this publication. Table 4 includes similar data on discontinued watersheds.

Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1968

This is the 12th publication in the Agricultural Research Service (ARS) series on hydrologic data. The first three are described in the following section and the others are summarized in table 1. Since the decimal paging system used (see explanation on preceding page) is consistent with that at the bottom of pages in the other 11 publications, previously published records and general descriptions can be readily found and consulted.

This publication contains selected hydrologic data for 1968 and earlier years for some watersheds. It includes data on monthly precipitation and runoff, annual maximum discharge and volume of runoff for intervals of 1, 2, 6, and 12 hours and 1, 2, and 8 days for 174 watersheds; daily precipitation for 153 watersheds; mean daily discharge for 157 watersheds; daily maximum and minimum air temperatures for 16 watersheds; and detailed information on 1 or more selected typical storm events for 116 watersheds.

Information on selected storm events includes (1) tabular data for antecedent rainfall and runoff; (2) data on rainfall intensity and runoff for the event and on accumulated depth of rainfall and runoff; (3) description of watershed conditions at the time of the selected events; and (4) plottings of runoff hydrographs and rainfall histograms.

For newly established watersheds, descriptions of watershed physical characteristics, instrumentation, graphs, maps, land management, and recommended area of application of the results are also given. Revised or updated maps of some watersheds for which data have previously been published are included.

Previous publications in this series resulted from the cooperative efforts of several ARS watershed research projects and the editing staff in Beltsville, Md. Hydrologic data were summarized, arranged according to standardized formats, recorded on preprinted data

sheets, and submitted to the editing office for final review, assemblage, and publication.

The Hydrologic Data Laboratory designed and developed a computer-oriented system to produce camera copy sheets for this publication. Hydrologic data submitted by several research projects in digitized form and recorded on computer media are accepted by the system. The required data analyses and summaries are performed and the tables and plottings are provided within and by the system. Narrative information is incorporated into the system as upper and lower case alphabetic data using computer-compatible word-processing equipment. The format of the previous eight publications has been retained where practical in this publication, which is the first of the computer-produced references.

PUBLICATIONS OF EARLIER DATA

Historical hydrologic data on the experimental agricultural watersheds, both terminated and active, have been previously summarized in three looseleaf publications (reprints in bound volumes) by ARS. They are described in the following summaries. Beginning with the hydrologic data for 1956 through 1967, the types of data previously published separately in these three volumes were combined in U.S. Department of Agriculture Miscellaneous Publications 945, 994, 1070, 1164, 1194, 1216, 1226, and 1262. These eight publications are listed in table 1 as references 4-11. These reference numbers have been assigned to simplify citations to them in this and future publications. All 11 publications have been recorded on 16-mm microfilm. Copies can be made available for the cost of the film processing.

Reference 1.—MONTHLY PRECIPITATION AND RUNOFF FOR SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES. Soil and Water Conservation Research Branch, 691 pages, 1957. (Includes physical descriptions and land use of

TABLE 1.—*Description of references 4–12 of "Hydrologic Data for Experimental Agricultural Watersheds in the United States"*

Reference	For calendar year (19—)	Miscellaneous Publication No.	Year published (19—)	Total pages	Number of watersheds for which indicated data are given				Daily precipitation, discharge, and water-temperature sheds (max.-min.)
					Monthly precipitation and runoff	Annual maximum discharge and runoff for selected time intervals	Selected runoff events	New watersheds	
4.....	56–59	945	63	672	157	142	134	45	...
5.....	60–61	994	65	496	160	145	133	24	...
6.....	62	1070	68	447	164	155	136	13	50
7.....	63	1164	70	465	168	156	142	9	57
8.....	64	1194	71	460	163	163	143	8	57
9.....	65	1216	72	568	189	178	122	22	60
10.....	66	1226	72	399	198	185	106	11	60
11.....	67	1262	73	634	216	204	174	26	62
12.....	68	1330	76	546	174	174	116	1	174

334 experimental agricultural watersheds at 60 locations in 27 States from 1923 through 1957. Many of these watersheds were discontinued before 1955.)

Reference 2.—ANNUAL MAXIMUM FLOWS FROM SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES. Soil and Water Conservation Research Division, 330 pages, 1958. (Includes records from 322 watersheds at 59 locations in 27 States from 1923 through 1957. Many of these watersheds were discontinued before 1957.)

Reference 3.—SELECTED RUNOFF EVENTS FOR SMALL AGRICULTURAL WATERSHEDS IN THE UNITED STATES. Soil and Water Conservation Research Division, 374 pages, 1960. (Includes a sampling of 1 to 6 typical runoff events from 68 watersheds at 40 locations in 25 States from 1933 through 1959. The publication has maps of each watershed, watershed conditions for each event, including the 30-day antecedent rainfall and runoff, and tabular as well as graphic data on each storm.)

Copies of these three publications have been furnished to the Soil Conservation Service and other Federal, State, and local government agencies. They have also been distributed to State agricultural experiment stations, university libraries and engineering departments, private engineers and individuals when requested, and similar foreign institutions and individuals when requested.

Table 2 lists in which of the 12 references data are included for each watershed. This information also has been recorded on 16-mm microfilm.

Table 3 summarizes where data for each watershed can be found in this 12th publication.

Table 4 lists the watershed units where studies were discontinued in 1967.

FORM OF DATA PRESENTATION

The data in this publication are presented for each watershed in the following order: (1) Watershed description, if not previously published; (2) monthly precipitation and runoff; (3) average monthly precipitation and runoff for period of record; (4) annual maximum flows; (5) daily temperature extremes, daily precipitation, and discharge for some watersheds; (6) selected runoff events; (7) graphs of selected runoff events; and (8) watershed maps, if not previously published or if revised.

Continuing Watersheds

For current watersheds for which the descriptive information has been published in references 1 and 4–11, the tabular data begin at the top of the first page. On each page at the top center is a sequential page number and the decimal paging system is shown at the bottom.

Table 2. Index to information on experimental agricultural watersheds in references 1-12^{1/}

Water-shed id. cd.	Study location Town	Water-shed name-No.	Area in acres	Record (19--) ref. B 2/ 3/	Rev. E No. 3/	Index to information in references ^{1/}											
						01	02	03	04	05	06	07	08	09	10	11	12
01001	Arnot Forest	NY W-1	17.9	41 47		01	02										
01002	Arnot Forest	NY W-4	17.9	41 47		01	02										
02002	Cohocton	NY W-II	13.8	38 45		01	02	03									
02003	Cohocton	NY W-III	24.2	38 45		01	02	03									
04001	Freehold	NJ W-I	17.5	38 43		01	02	03									
04002	Freehold	NJ W-II	32.9	38 55		01	02	03									
04003	Freehold	NJ W-III	51.8	38 43		01	02										
05001	College Park	MD W-1	8.22	39 54		01	02	03									
05002	College Park	MD W-2	7.44	39 54		01	02	03									
05003	College Park	MD W-3	5.02	39 55		01	02										
05004	College Park	MD W-4	5.03	39 55		01	02										
05005	College Park	MD W-5	4.07	39 54		01	02										
05006	College Park	MD W-6	3.53	40 62	06	01	02	03	04	05	06						
05007	College Park	MD W-7	3.52	40 62	06	01	02	03	04	05	06						
05008	College Park	MD W-8	2.43	40 55		01	02	03									
05009	College Park	MD W-9	12.05	40 55		01	02	03									
05010	College Park	MD W-10	3.04	43 54		01	02										
06001	Hagerstown	MD W-I	46.3	38 47		01	02										
06002	Hagerstown	MD W-II	80.8	38 47		01	02	03									
07001	Auburn	AL W-I	27.0	45 47		01	02										
08001	Vero Beach	FL W-1	49,915.	51 73	06	01	02	03	04	05	06	07	08	09	10	11	
08002	Vero Beach	FL W-2	63,100.	55	06	01	02		04	05	06	07	08	09	10	11	
08003	Vero Beach	FL W-3	10,000.	55	06	01	02		04	05	06	07	08	09	10	11	
08004	Vero Beach	FL W-4	3,968.	59 73					06	07	08	09	10	11			
09001	Americus	GA W-I	22.8	38 43		01	02										
09002	Americus	GA W-II	42.8	38 42		01	02										
09003	Americus	GA W-III	32.0	38 42		01	02										
09004	Americus	GA W-IV	59.2	38 43		01	02	03									
10001	Watkinsville	GA W-1	19.2	39	07	01	02		04	05	06	07	08		12		
11001	High Point	NC W.F.D.R.	21,100.	23 53		01	02	03	04								
11002	High Point	NC M.C.	10,300.	34 41		01	02		04								
11003	High Point	NC U.R.	7,230.	34 41		01	02		04								
12001	Statesville	NC C-8	5.12	33 38		01	02										
12002	Statesville	NC W-23	6.00	33 38		01	02										
13001	Blacksburg	VA W-II	5.44	39 51		01	02										
13002	Blacksburg	VA W-III	19.3	39 67		01	02	03	04	05	06	07	08	09	10	11	
13003	Blacksburg	VA W-IV	3.49	51 67		01	02		04	05	06	07	08	09	10	11	
13004	Blacksburg	VA W-V	6.08	52 67		01	02		04	05	06	07	08	09	10	11	
13005	Blacksburg	VA W-VI	7.70	51 67		01	02		04	05	06	07	08	09	10	11	
13006	Blacksburg	VA T.C.	3,054.	57 69					04	05	06	07	08	09	10	11	12
13007	Blacksburg	VA C.C.	786.	57					05	06	07	08	09	10	11	12	
13008	Blacksburg	VA B.C.	893.	57	08				04	05	06	07	08	09	10	11	12
13009	Blacksburg	VA P.C.	182.	58 69	08				05	06	07	08	09	10	11	12	
13010	Blacksburg	VA L.W.C.	1,471.	58 74	08				05	06	07	08	09	10	11	12	
13011	Blacksburg	VA R.R.B.	555.	58	08				05	06	07	08	09	10	11	12	
13012	Blacksburg	VA P.M.B.	192.	58 69	08				05	06	07	08	09	10	11	12	
13013	Blacksburg	VA C.R.	2,023.	59 69	10				05	06	07	08	09	10	11	12	
13014	Blacksburg	VA F.C.	389.	60 69	08				05	06	07	08	09	10	11	12	
13015	Blacksburg	VA C.B.	1,058.	60	08				05	06	07	08	09	10	11	12	
14001	Chatham	VA W-I	13.3	38 48		01	02										
14002	Chatham	VA W-II	16.1	38 48		01	02										
14003	Chatham	VA W-III	17.1	38 48		01	02	03									
15001	Staunton	VA W-I	390.	48 55		01	02	03									
15002	Staunton	VA W-II	2,430.	48 55		01	02										
15003	Staunton	VA W-III	6,144.	48 55		01	02		04								

For footnotes, see end of table.

Table 2. Index to information on experimental agricultural watersheds in references 1-12^{1/}
(Continued)

Water- shed id. cd.	Study location Town	State	Water- shed name-No.	Area in acres	Record (19--) ref. B 2/ 3/	Rev. E No. 01 02 03 04 05 06 07 08 09 01 02 03 04 05 06 07 08 09 10 11 12	Index to information in reference ^{4/}											
							01	02	03	04	05	06	07	08	09	10	11	12
16006	Klingerstown	PA	WE-38	1,773.	68													12
17001	Edwardsville	IL	W-1	27.22	38 55		01	02	03									
17002	Edwardsville	IL	W-2	49.95	38 55		01	02										
17003	Edwardsville	IL	W-3	12.55	38 42		01	02										
17004	Edwardsville	IL	W-4	289.8	38 55		01	02	03									
18001	Elmwood	IL	WB-1	1.28	45 46		01											
18002	Elmwood	IL	WB-2	2.28	45 46		01											
18003	Elmwood	IL	WB-3	2.61	45 46		01											
18004	Elmwood	IL	WB-4	2.77	45 46		01											
18005	Elmwood	IL	WB-5	1.93	45 46		01											
18006	Elmwood	IL	WB-6	2.41	45 46		01											
18007	Elmwood	IL	WT-1	2.02	45 46		01											
18008	Elmwood	IL	WT-2	1.88	45 46		01											
18009	Elmwood	IL	WT-3	2.40	45 46		01											
18010	Elmwood	IL	WT-4	2.06	45 46		01											
18011	Elmwood	IL	WT-5	2.76	45 46		01											
18012	Elmwood	IL	WT-6	5.35	45 46		01											
19001	Lafayette	IN	W-1	2.55	40 53		01	02										
19002	Lafayette	IN	W-2	2.23	40 53		01	02										
19003	Lafayette	IN	W-4	2.01	40 53		01	02										
19004	Lafayette	IN	W-5	2.87	40 53		01	02	03									
19005	Lafayette	IN	W-6	2.79	40 53		01	02	03									
19006	Lafayette	IN	W-7	1.96	40 53		01	02										
19007	Lafayette	IN	W-8	1.96	40 53		01	02										
19008	Lafayette	IN	W-10	2.06	40 53		01	02										
19009	Lafayette	IN	W-11	2.05	40 53		01	02										
19010	Lafayette	IN	W-12	3.37	40 53		01	02										
19011	Lafayette	IN	W-13	3.02	40 53		01	02										
19012	Lafayette	IN	W-14	2.85	40 53		01	02										
19013	Lafayette	IN	W-15	3.59	40 53		01	02										
19014	Lafayette	IN	W-18	3.24	40 53		01	02										
19015	Lafayette	IN	W-20	2.64	40 52		01	02										
19016	Lafayette	IN	W-25	3.52	40 52		01	02										
19017	Lafayette	IN	W-31	1.64	40 51		01	02										
19018	Lafayette	IN	W-32	1.83	40 51		01	02										
19019	Lafayette	IN	W-33	3.44	40 51		01	02										
19020	Lafayette	IN	W-34	3.17	40 51		01	02										
20001	Clarinda	IA	W-V	3.25	32 42		01	02										
20002	Clarinda	IA	W-W	1.97	34 42		01	02										
20003	Clarinda	IA	W-X	1.97	34 42		01	02										
20004	Clarinda	IA	W-Y	3.25	32 42		01	02										
20005	Clarinda	IA	W-Z	3.12	32 42		01	02										
21001	Iowa City	IA		1,926.	24	07	01	02	03	04	05	06	07	08	09	10	11	12
22001	Shenandoah	IA	No. 1	128,000.	34 40		01	02										
22002	Shenandoah	IA	No. 2	67,200.	34 40		01	02										
23001	East Lansing	MI	A	1.98	41 59		01	02	04									
23002	East Lansing	MI	B	1.35	41 59		01	02	04									
23003	East Lansing	MI	W	1.65	41 59		01	02	04									
24001	Bethany	MO	Pa-A	2.03	34 42		01	02										
24002	Bethany	MO	Pa-B	5.56	32 42		01	02										
24003	Bethany	MO	Pa-C	1.97	37 42		01	02										
24004	Bethany	MO	D-1	7.51	34 42		01	02										
24005	Bethany	MO	D-2	8.03	34 42		01	02										
24006	Bethany	MO	D-3	4.48	32 42		01	02	03									
24007	Bethany	MO	1-58	2.12	33 42		01	02										
24008	Bethany	MO	IJ-1	2.13	33 42		01	02										

For footnotes, see end of table.

Table 2. Index to information on experimental agricultural watersheds in references 1-12^{1/}
 (Continued)

Water-shed id. cd.	Study location Town	State	Water-shed name-No.	Area in acres	Record (19--) B 2/	Rev. ref. E 3/	Index to information in reference ^{4/}												
							No.	01	02	03	04	05	06	07	08	09	10	11	12
25001	McCredie	MO	S.R.W.	153.	41	07	01	02		04	05	06	07	08	09	10	11	12	
25002	McCredie	MO	No. 2	44.3	51	63	07	01	02		04	05	06	07					
26001	Coshcocton	OH	102	1.26	37	46	06	01	02		04	05	06	07	08	09	10	11	12
26002	Coshcocton	OH	104	1.33	37	46		01	02		04								
26003	Coshcocton	OH	129	2.71	38	72	06	01	02		04	05	06	07	08	09	10	11	12
26004	Coshcocton	OH	135	2.69	38	70	06	01	02		04	05	06	07	08	09	10	11	12
26005	Coshcocton	OH	130	1.63	38	72	06	01	02		04	05	06	07	08	09	10	11	12
26006	Coshcocton	OH	107	2.59	38	46		01	02		04								
26007	Coshcocton	OH	131	2.21	38	70	06	01	02		04	05	06	07	08	09	10	11	12
26008	Coshcocton	OH	132	0.59	48	70	06	01	02		04	05	06	07	08	09	10	11	12
26009	Coshcocton	OH	134	0.92	38	47		01	02		04								
26010	Coshcocton	OH	123	1.37	39	39	06	01	02		04	05	06	07	08	09	10	11	12
26011	Coshcocton	OH	115	1.61	39	71	06	01	02		04	05	06	07	08	09	10	11	12
26012	Coshcocton	OH	127	1.65	49	71	06	01	02		04	05	06	07	08	09	10	11	12
26013	Coshcocton	OH	109	1.69	38		06	01	02		04	05	06	07	08	09	10	11	12
26014	Coshcocton	OH	103	0.65	39	71	06	01	02		04	05	06	07	08	09	10	11	12
26015	Coshcocton	OH	110	1.27	39	71	06	01	02		04	05	06	07	08	09	10	11	12
26016	Coshcocton	OH	113	1.45	39	73	06	01	02		04	05	06	07	08	09	10	11	12
26017	Coshcocton	OH	118	1.96	40	73	06	01	02		04	05	06	07	08	09	10	11	12
26018	Coshcocton	OH	111	1.18	39	71	06	01	02		04	05	06	07	08	09	10	11	12
26019	Coshcocton	OH	121	1.42	39	71	06	01	02		04	05	06	07	08	09	10	11	12
26020	Coshcocton	OH	106	1.56	39	72	06	01	02		04	05	06	07	08	09	10	11	12
26021	Coshcocton	OH	188	2.05	39	71	06	01	02		04	05	06	07	08	09	10	11	12
26022	Coshcocton	OH	124	2.07	39	47		01	02		04								
26023	Coshcocton	OH	185	7.40	39	71	06	01	02		04	05	06	07	08	09	10	11	12
26024	Coshcocton	OH	187	7.20	41	71	06	01	02		04	05	06	07	08	09	10	11	12
26025	Coshcocton	OH	192	7.59	39	71	06	01	02		04	05	06	07	08	09	10	11	12
26026	Coshcocton	OH	172	43.6	39	72	06	01	02		04	05	06	07	08	09	10	11	
26027	Coshcocton	OH	169	29.0	40	71	06	01	02		04	05	06	07	08	09	10	11	12
26028	Coshcocton	OH	177	75.6	40	71	06	01	02		04	05	06	07	08	09	10	11	12
26029	Coshcocton	OH	183	74.2	38	63	06	01	02	03	04	05	06	07					
26030	Coshcocton	OH	196	303.	37		06	01	02	03	04	05	06	07	08	09	10	11	12
26031	Coshcocton	OH	10	122.	39	71	06	01	02		04	05	06	07	08	09	10	11	12
26032	Coshcocton	OH	5	349.	40	71	06	01	02		04	05	06	07	08	09	10	11	12
26033	Coshcocton	OH	92	920.	39	71	06	01	02		04	05	06	07	08	09	10	11	12
26034	Coshcocton	OH	94	1,520.	39	71	06	01	02		04	05	06	07	08	09	10	11	12
26035	Coshcocton	OH	95	2,570.	39	72	06	01	02		04	05	06	07	08	09	10	11	12
26036	Coshcocton	OH	97	4,580.	37	71	06	01	02	03	04	05	06	07	08	09	10	11	12
26037	Coshcocton	OH	994	17,500.	36	71	06	01	02		04	05	06	07	08	09	10	11	
26038	Coshcocton	OH	174	52.8	60		06				05	06	07	08	09	10	11	12	
26039	Coshcocton	OH	194	187.	60		06				05	06	07	08	09	10	11	12	
26040	Coshcocton	OH	182	69.6	64	71											10	11	12
27001	Hamilton	OH	W-1	187.	38	44		01	02	03									
27002	Hamilton	OH	W-II	16.2	38	44		01	02										
27003	Hamilton	OH	W-III	28.8	38	44		01	02										
27004	Hamilton	OH	W-IV	20.3	38	44		01	02										
28001	Zanesville	OH	C.W.	2.55	34	45		01	02										
28002	Zanesville	OH	P.W.	3.57	34	45		01	02										
28003	Zanesville	OH	W.W.	2.23	34	45		01	02										
29001	Colby	WI	W-1	345.	49	66		01	02	03	04	05	06	07	08	09	10		
30001	Coon Valley	WI	No. 1	49,400.	34	40		01	02										
30002	Coon Valley	WI	No. 2	49,344.	34	40		01	02										
31001	Fennimore	WI	W-1	330.	38	67	07	01	02	03	04	05	06	07	08	09	10	11	
31002	Fennimore	WI	W-2	22.8	38	67	07	01	02	03	04	05	06	07	08	09	10	11	
31003	Fennimore	WI	W-3	52.5	38	67	07	01	02		04	05	06	07	08	09	10	11	
31004	Fennimore	WI	W-4	171.	38	67	07	01	02	03	04	05	06	07	08	09	10	11	

For footnotes, see end of table.

Table 2. Index to information on experimental agricultural watersheds in references 1-12^{1/}
(Continued)

Water-shed id. cd.	Study location Town	State	Water- shed name-No.	Area in acres	Record (19--) B 2/ E 3/	Rev. ref. No. 3/	Index to information in reference ^{4/}											
							01	02	03	04	05	06	07	08	09	10	11	12
32001	La Crosse	WI	U.P.W.	2.41	33 55		01	02										
32002	La Crosse	WI	U.C.W.	2.24	33 46		01	02										
32003	La Crosse	WI	C.W.	2.71	37 63	07	01	02		04	05	06	07					
32004	La Crosse	WI	C.W.A.	3.06	52 63	07	01	02		04	05	06	07					
32005	La Crosse	WI	E-3	1.01	33 42		01	02										
32006	La Crosse	WI	A-4	2.21	33 54		01	02										
33001	Bentonville	AR	W-1	10.03	38 43		01	02										
33002	Bentonville	AR	W-2	9.34	38 47		01	02										
33003	Bentonville	AR	W-3	14.25	38 47		01	02										
33004	Bentonville	AR	W-4	24.	39 47		01	02										
33005	Bentonville	AR	W-5	19.4	38 47		01	02	03									
33006	Bentonville	AR	W-6	10.75	39 47		01	02										
34001	Cherokee	OK	W-1	2.23	42 60		01	02	04									
34002	Cherokee	OK	W-2	4.82	42 60		01	02	04									
34003	Cherokee	OK	W-3	8.30	42 60		01	02	04									
34004	Cherokee	OK	W-4	4.35	42 60		01	02	04									
34005	Cherokee	OK	W-5	7.85	42 60		01	02	04									
34006	Cherokee	OK	W-6	1.75	42 60		01	02	04									
34007	Cherokee	OK	W-7	1.99	42 60		01	02	04									
34008	Cherokee	OK	W-8	4.72	41 60		01	02	04									
34009	Cherokee	OK	W-9	8.50	42 60		01	02	03	04								
34010	Cherokee	OK	W-10	1.68	60 67					05	06	07	08	09	10	11		
34011	Cherokee	OK	W-11	2.12	60 67					05	06	07	08	09	10	11		
34012	Cherokee	OK	W-12	1.68	60 67					05	06	07	08	09	10	11		
34013	Cherokee	OK	W-13	1.99	60 67					05	06	07	08	09	10	11		
34014	Cherokee	OK	W-14	2.16	60 67					05	06	07	08	09	10	11		
34015	Cherokee	OK	W-15	2.15	60 67					05	06	07	08	09	10	11		
35001	Guthrie	OK	W-1	33.40	32 53		01	02										
35002	Guthrie	OK	W-2	3.21	31 51		01	02										
35003	Guthrie	OK	W-3	3.13	30 51		01	02										
35004	Guthrie	OK	W-4	5.62	31 53		01	02										
35005	Guthrie	OK	W-5	5.28	31 47		01	02										
35006	Guthrie	OK	W-I	2.50	37 53		01	02										
35007	Guthrie	OK	W-II	5.09	42 55		01	02										
35008	Guthrie	OK	W-III	9.09	42 53		01	02										
35009	Guthrie	OK	W-IV	13.4	42 53		01	02										
35010	Guthrie	OK	W-V	15.7	42 53		01	02										
35011	Guthrie	OK	W-VI	94.8	42 55		01	02	03									
36001	Muskogee	OK	W-I	14.5	39 47		01	02										
36002	Muskogee	OK	W-II	65.4	39 45		01	02										
36003	Muskogee	OK	W-IV	24.9	38 47		01	02										
37001	Stillwater	OK	W-1	16.7	51 72	05	01	02	04	05	06	07	08	09	10	11	12	
37002	Stillwater	OK	W-3	92.	51 72		01	02	03	04	05	06	07	08	09	10	11	
37003	Stillwater	OK	W-4	206.	51 72		01	02	04	05	06	07	08	09	10	11	12	
38001	Garland	TX	W-I	25.	38 47		01	02										
38002	Garland	TX	W-III	10.4	38 47		01	02										
38003	Garland	TX	W-IV	16.2	39 47		01	02										
39001	Spur	TX	W-1	11.53	27 45		01	02										
39002	Spur	TX	W-2	9.39	27 45		01	02										
39003	Spur	TX	W-3	11.71	27 44		01	02										
39004	Spur	TX	W-5	5.81	27 45		01	02										
39005	Spur	TX	W-6	6.04	27 45		01	02										
39006	Spur	TX	W-11	8.70	30 45		01	02										
39007	Spur	TX	W-12	8.41	30 45		01	02										
39008	Spur	TX	W-14	8.53	30 45		01	02										
39009	Spur	TX	W-15	8.50	30 45		01	02										

For footnotes, see end of table.

Table 2. Index to information on experimental agricultural watersheds in references 1-12^{1/}
(Continued)

Water- shed id.	Study location cd.	Town	State	Water- shed name-No.	Area in acres	Record (19--) B 2/	Rev. E No. 3/	Index to information in reference ^{1/}												
								ref.	01	02	03	04	05	06	07	08	09	10	11	12
40001	Tyler	TX	W-2		9.15	43	44		01	02	03									
40002	Tyler	TX	W-3		7.94	32	42		01	02										
40003	Tyler	TX	W-4		5.75	31	42		01	02										
40004	Tyler	TX	W-5		1.73	32	42		01	02										
41001	Vega	TX	W-1		129.	38	43		01	02										
41002	Vega	TX	W-2		95.9	38	43		01	02	03									
42001	Riesel	TX	A		42.	38	43		01	02										
42002	Riesel	TX	C		579.	38		08	01	02	04	05	06	07	08	09	10	11	12	
42003	Riesel	TX	D		1,110.	37		08	01	02	03	04	05	06	07	08	09	10	11	12
42004	Riesel	TX	G		4,380.	38		08	01	02	04	05	06	07	08	09	10	11	12	
42005	Riesel	TX	J		5,860.	37	43		01	02	03									
42006	Riesel	TX	W-1		176.	37		08	01	02	03	04	05	06	07	08	09	10	11	12
42007	Riesel	TX	W-2		130.	37		08	01	02	04	05	06	07	08	09	10	11	12	
42008	Riesel	TX	W-6		42.3	39		08	01	02	04	05	06	07	08	09	10	11	12	
42009	Riesel	TX	W-8		40.4	38	43		01	02										
42010	Riesel	TX	W-10		19.7	38		08	01	02	04	05	06	07	08	09	10	11	12	
42011	Riesel	TX	Y		309.	37		08	01	02	04	05	06	07	08	09	10	11	12	
42012	Riesel	TX	Y-2		132.	39		08	01	02	04	05	06	07	08	09	10	11	12	
42013	Riesel	TX	Y-4		79.9	39		08	01	02	04	05	06	07	08	09	10	11	12	
42014	Riesel	TX	Y-6		20.9	39		08	01	02	04	05	06	07	08	09	10	11	12	
42015	Riesel	TX	Y-7		40.	39		08	01	02	04	05	06	07	08	09	10	11	12	
42016	Riesel	TX	Y-8		20.8	39		08	01	02	04	05	06	07	08	09	10	11	12	
42017	Riesel	TX	Y-10		21.0	38		08	01	02	04	05	06	07	08	09	10	11	12	
42018	Riesel	TX	SW-2		2.7	38	43		01	02										
42019	Riesel	TX	SW-3		3.09	39	43		01	02										
42020	Riesel	TX	SW-5		3.09	38	43		01	02										
42021	Riesel	TX	SW-6		3.04	38	43		01	02										
42022	Riesel	TX	SW-7		3.15	38	43		01	02										
42023	Riesel	TX	SW-11		3.23	38			01	02										
42024	Riesel	TX	SW-12		2.97	38		08	01	02	04	05	06	07	08	09	10	11	12	
42025	Riesel	TX	SW-13		3.19	38	43		01	02										
42026	Riesel	TX	SW-14		3.02	39	43		01	02										
42027	Riesel	TX	SW-16		3.17	37	43		01	02										
42028	Riesel	TX	SW-17		2.99	39		08	01	02	04	05	06	07	08	09	10	11	12	
42029	Riesel	TX	SW-18		3.04	38	43		01	02										
42030	Riesel	TX	Z		310.	39	43		01	02										
42031	Riesel	TX	P-1		.24	38		08			05	06	07	08	09	10	11	12		
42032	Riesel	TX	P-2		.24	38		08			05	06	07	08	09	10	11	12		
42033	Riesel	TX	P-3		.24	38		08			05	06	07	08	09	10	11	12		
42034	Riesel	TX	P-4		.24	38		08			05	06	07	08	09	10	11	12		
43001	Hays	KS	6L		2.85	34	38		01	02										
43002	Hays	KS	AG		1.61	32	47		01	02										
44001	Hastings	NE	W-3		481.	38	67	06	01	02	03	04	05	06	07	08	09	10	11	
44002	Hastings	NE	W-5		411.	39	61		01	02	04	05								
44003	Hastings	NE	W-8		2,086.	39	67	06	01	02	03	04	05	06	07	08	09	10	11	
44004	Hastings	NE	W-11		3,490.	39	67	06	01	02	04	05	06	07	08	09	10	11		
44005	Hastings	NE	1-H		3.62	39	67	06	01	02	04	05	06	07	08	09	10	11		
44006	Hastings	NE	2-H		3.40	39	67	06	01	02	04	05	06	07	08	09	10	11		
44007	Hastings	NE	3-H		3.95	39	67	06	01	02	04	05	06	07	08	09	10	11		
44008	Hastings	NE	4-H		3.84	39	67	06	01	02	04	05	06	07	08	09	10	11		
44009	Hastings	NE	5-H		3.93	39	67	06	01	02	04	05	06	07	08	09	10	11		
44010	Hastings	NE	6-H		4.16	39	67	06	01	02	04	05	06	07	08	09	10	11		
44011	Hastings	NE	7-H		4.15	39	67	06	01	02	04	05	06	07	08	09	10	11		
44012	Hastings	NE	8-H		3.93	39	67	06	01	02	04	05	06	07	08	09	10	11		
44013	Hastings	NE	9-H		3.78	39	54		01	02										
44014	Hastings	NE	10-H		3.98	39	54		01	02										
44015	Hastings	NE	11-H		3.85	39	54		01	02										

For footnotes, see end of table.

Table 2. Index to information on experimental agricultural watersheds in references 1-12^{1/}
(Continued)

Water-shed id. cd.	Study location Town	State	Water-shed name-No.	Area in acres	Record (19--)	Rev. ref.	Index to information in reference ^{4/}												
							B 2/ 3/	E 2/ 3/	No. 3/	01	02	03	04	05	06	07	08	09	
44016	Hastings	NE	12-H	3.66	39 54	01 02													
44017	Hastings	NE	13-H	3.41	39 54	01 02													
44018	Hastings	NE	14-H	3.35	39 54	01 02													
44019	Hastings	NE	15-H	3.62	39 54	01 02													
44020	Hastings	NE	16-H	3.57	39 54	01 02													
44021	Hastings	NE	17-H	3.96	39 54	01 02													
44022	Hastings	NE	18-H	3.74	39 67	06	01 02			04	05	06	07	08	09	10	11		
44023	Hastings	NE	19-H	4.10	41 54	01 02													
44024	Hastings	NE	20-H	4.05	41 54	01 02													
44025	Hastings	NE	21-H	3.94	41 54	01 02													
44026	Hastings	NE	22-H	3.99	41 67	06	01 02			06	07	08	09	10	11				
44027	Hastings	NE	23-H	4.06	41 67	01 02				06	07	08	09	10	11				
44028	Hastings	NE	24-H	4.21	41 54	01 02													
44029	Hastings	NE	25-H	2.24	63 67					07	08	09	10	11					
45001	Safford	AZ	W-I	519.	39	07	01 02			04	05	06	07	08	09	10	11		
45002	Safford	AZ	W-II	682.	39	08	01 02	03	04	05	06		08	09	10	11			
45003	Safford	AZ	W-IV	764.	39		01 02		04	05	06		08	09	10	11			
45004	Safford	AZ	W-V	723.	39	07	01 02		04	05	06	07	08	09	10	11			
46001	Colorado Spr.	CO	W-1	10.6	38 46	01 02													
46002	Colorado Spr.	CO	W-2	39.7	38 46	01 02													
46003	Colorado Spr.	CO	W-3	35.4	38 46	01 02													
46004	Colorado Spr.	CO	W-4	35.6	38 46	01 02	03												
47001	Albuquerque	NM	W-I	97.2	39	08	01 02	03	04	05	06		08	09	10	11	12		
47002	Albuquerque	NM	W-II	40.5	39	07	01 02		04	05	06	07	08	09	10	11	12		
47003	Albuquerque	NM	W-III	155.	39	07	01 02		04	05	06	07	08	09	10	11	12		
48001	Mexican Spr.	NM	W-1	187.	38 42	01 02													
48002	Mexican Spr.	NM	W-2	610.	37 42	01 02	03												
48003	Mexican Spr.	NM	W-3	1,325.	38 42	01 02													
48004	Mexican Spr.	NM	W-6	5,550.	37 42	01 02	03												
48005	Mexican Spr.	NM	W-7	8,495.	38 42	01 02													
48006	Mexican Spr.	NM	W-8	20,910.	37 42	01 02	03												
48007	Mexican Spr.	NM	W-10	17,220.	37 42	01 02													
48008	Mexican Spr.	NM	W-11	46,080.	37 39	01 02	03												
48009	Mexican Spr.	NM	W-12	2,550.	37 39	01 02													
48010	Mexican Spr.	NM	W-13	3,360.	37 39	01 02													
48011	Mexican Spr.	NM	W-14	3,560.	37 38	01 02													
48012	Mexican Spr.	NM	W-15	4,740.	37 39	01 02													
49001	Santa Fe	NM	W-I	141.	39 48	01 02	03												
49002	Santa Fe	NM	W-II	790.	39 48	01 02													
49003	Santa Fe	NM	W-III	51.6	39 48	01 02													
50001	Placerville	CA	W-1	41.	35 44	01 02	03												
51001	Santa Paula	CA	W-1	413.	38 42	01 02													
51002	Santa Paula	CA	W-3	106.	38 42	01 02													
51003	Santa Paula	CA	W-4	44.4	38 42	01 02													
51004	Santa Paula	CA	W-5	55.1	38 42	01 02													
51005	Santa Paula	CA	W-6	163.	38 42	01 02													
51006	Santa Paula	CA	H.B.R.	735.	36 42	01 02													
51007	Santa Paula	CA	L.A.	1,607.	34 40	01 02													
51008	Santa Paula	CA	H.P.R.	1,832.	34 43	01 02													
51009	Santa Paula	CA	H.A.B.	5,939.	34 37	01 02													
52001	Sebastopol	CA	W-1	83.	36 43	01 02	03												
52002	Sebastopol	CA	W-2	56.	36 40	01 02													
53001	Vacaville	CA	W-I	40.	37 42	01 02													
54001	Watsonville	CA	W-1	16.8		01 02													
54002	Watsonville	CA	W-2	18.5		01 02													
54003	Watsonville	CA	W-3	27.4	38 42	01 02	03												
54004	Watsonville	CA	W-4	10.1	38 42	01 02													

For footnotes, see end of table.

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Table 2. Index to information on experimental agricultural watersheds in references 1-12^{1/}
(Continued)

Water- shed id. cd.	Study location Town	State	Water- shed name-No.	Area in acres	Record (19--) B 2/	Rev. E No. 3/	Index to information in reference ^{1/}											
							01	02	03	04	05	06	07	08	09	10	11	12
55001	Emmett	ID	W-1	219.4	38	41	01	02										
55002	Emmett	ID	W-2	69.4	38	41	01	02	03									
56001	Moscow	ID	W-1	146.8	37	42	01	02	03									
56002	Moscow	ID	W-2	177.9	37	42	01	02	03									
57001	Newberg	OR	W-1	13.2	38	42	01	02	03									
57002	Newberg	OR	W-2	21.6	38	42	01	02										
57003	Newberg	OR	W-3	12.8	38	42	01	02	03									
57004	Newberg	OR	W-4	6.2	38	42	01	02	03									
58001	Dayton	WA	W-1	19.2	39	42	01	02										
59001	Pullman	WA	S.F.P.R.	51,900.	34	40	01	02										
59002	Pullman	WA	M.F.C.	17,600.	34	40	01	02										
59003	Pullman	WA	F.M.C.	46,000.	34	40	01	02										
60001	Pullman	WA	G.S.2	68.2	31	46	01	02	03									
60002	Pullman	WA	G.S.4	2.33	31	38	01	02										
60003	Pullman	WA	G.S.5	14.4	32	46	01	02										
60004	Pullman	WA	G.S.6	15.2	32	46	01	02										
60005	Pullman	WA	G.S.7	16,700.	32	38	01	02										
60006	Pullman	WA	G.S.8	762.	34	41	01	02	03									
60007	Pullman	WA	G.S.9	879.	41	46	01	02										
60008	Pullman	WA	G.S.10	4,430.	41	47	01	02	03									
61001	Monticello	IL	IA	82.	49	59	01	02	03	04								
61002	Monticello	IL	IB	45.5	49	59	01	02	03	04								
62001	Oxford	MS	W-4	2,000.	57	06	03	04	05	06	07	08	09	10	11	12		
62002	Oxford	MS	W-5	1,130.	57	06	03	04	05	06	07	08	09	10	11	12		
62003	Oxford	MS	W-10	5,530.	57	06	03	04	05	06	07	08	09	10	11	12		
62004	Oxford	MS	W-12	22,800.	57	06	04	05	06	07	08	09	10	11	12			
62005	Oxford	MS	W-17	32,100.	57	06	04	05	06	07	08	09	10	11	12			
62006	Oxford	MS	W-19	243.	57	64	06	04	05	06	07	08						
62007	Oxford	MS	W-24	511.	57	06	04	05	06	07	08	09	10	11	12			
62008	Oxford	MS	W-28	1,080.	57	06	04	05	06	07	08	09	10	11	12			
62009	Oxford	MS	W-30	113.	57	59	04											
62010	Oxford	MS	W-32	20,000.	57	06	04	05	06	07	08	09	10	11	12			
62011	Oxford	MS	W-34	75,000.	57	06	03	04	05	06	07	08	09	10	11	12		
62012	Oxford	MS	W-35	7,550.	57	06	04	05	06	07	08	09	10	11	12			
62013	Oxford	MS	WC-1	3.88	58	06	04	05	06	07	08	09	10	11				
62014	Oxford	MS	WC-2	1.45	58	06	04	05	06	07	08	09	10	11				
62015	Oxford	MS	WC-3	1.61	58	06	04	05	06	07	08	09	10	11				
62016	Oxford	MS	WP-4	3.01	58	63	06	04	05	06	07							
62017	Oxford	MS	W-17A	3,200.	57	06	05	06	07	08	09	10	11	12				
62018	Oxford	MS	W-35A	1,090.	57	06	05	06	07	08	09	10	11	12				
63001	Tombstone	AZ	W-1	57.7	54	07	04	05	06	07	08	09	10		12			
63002	Tombstone	AZ	W-2	43.9	54	07	04	05	06	07	09	10		12				
63003	Tombstone	AZ	W-3	2,220.	54	07	04	05	06	07	09	10	11	12				
63004	Tombstone	AZ	W-4	560.	54	07	04	05	06	07	08	09	10	11	12			
63005	Tombstone	AZ	W-5	5,510.	54	07	04	05	06	07								
63006	Tombstone	AZ	W-6	23,500.	62		07	08	09	10								
63007	Tombstone	AZ	6307	3,340.	66		10	11										
63008	Tombstone	AZ	6308	3,830.	63		08	09	10									
63011	Tombstone	AZ	6311	2,035.	63		08	09	10									
63015	Tombstone	AZ	6315	5,912.	65		09	10	11	12								
63103	Tombstone	AZ	63103	8.3	65		10	11	12									
63111	Tombstone	AZ	63111	143.	62		10	11	12									
64001	Santa Rosa	NM	W-1	42,880.	55		04	05	06	07	08	09	10	12				

For footnotes, see end of table.

Table 2. Index to information on experimental agricultural watersheds in references 1-12^{1/}
(Continued)

Water-shed id. cd.	Study location Town	State	Water-shed name-No.	Area in acres	Record (19--) B 2/	Rev. E No. 3/	Index to information in reference ^{4/}													
							01	02	03	04	05	06	07	08	09	10	11	12		
65002	Newell	SD	W-2	115.	58	73				04	05	06	07	08	09	10	11	12		
65003	Newell	SD	W-3	90.	58	61				04	05									
65004	Newell	SD	W-4	105.	58	61				04	05									
65005	Newell	SD	W-5	46.	58	73				04	05	06	07	08	09	10	11	12		
65006	Newell	SD	W-6	30.	58	61				04	05									
65007	Newell	SD	W-7	160.	58	73	05			04	05	06	07	08	09	10	11	12		
65008	Newell	SD	W-8	160.	58	61				04	05									
65009	Newell	SD	W-9	815.	58	61				04	05									
65010	Newell	SD	W-10	280.	58	61				04	05									
65011	Newell	SD	W-11	160.	58	61				04	05									
65012	Newell	SD	W-12	90.	58	73	05			04	05	06	07	08	09	10	11	12		
65013	Newell	SD	W-13	160.	58	73				04	05	06	07	08	09	10	11	12		
65014	Newell	SD	W-14	35.	58	73	05			04	05	06	07	08	09	10	11	12		
65015	Newell	SD	W-15	115.	58	73	05			04	05	06	07	08	09	10	11	12		
65016	Newell	SD	W-16	13,000.	58	61	05			04	05									
66001	Moorefield	WV	W-1	8.57	58	67	06			04	05	06	07	08	09	10	11	12		
66002	Moorefield	WV	W-2	10.06	58	67	06			04	05	06	07	08	09	10	11			
66004	Moorefield	WV	W-4	6.32	58	67	06			04	05	06	07	08	09	10	11			
66005	Moorefield	WV	W-5	9.55	58	67	06			04	05	06	07	08	09	10	11			
67001	N. Danville	VT	W-1	10,610.	58					04	05	06	07	08		11	12			
67002	N. Danville	VT	W-2	146.	58					04	05	06	07	08		11	12			
67003	N. Danville	VT	W-3	2,067.	60					05	06	07	08			11	12			
67004	N. Danville	VT	W-4	10,752.	60											11	12			
67005	N. Danville	VT	W-5	27,469.	60					05	06	07	08			11	12			
68001	Reynolds	ID	W-1	57,700.	63										07	08	09	10	11	12
68002	Reynolds	ID	W-2	8,990.	65										09	10	11	12		
68003	Reynolds	ID	W-3	7,846.	66										10	11	12			
68004	Reynolds	ID	W-4	13,453.	67											11	12			
68011	Reynolds	ID	W-11	306.	67											11	12			
68012	Reynolds	ID	W-12	205.	67											11	12			
68013	Reynolds	ID	W-13	100.	66										10	11	12			
68014	Reynolds	ID	W-14	33.	67										11	12				
69001	Chickasha	OK	100	2,340,000.	61					06	07	08	09	10	11	12				
69002	Chickasha	OK	200	273,000.	61					06	07	08	09	10	11	12				
69004	Chickasha	OK	400	112,910.	61	68				06	07	08	09	10						
69005	Chickasha	OK	500	43,840.	64					08	09	10	11	12						
69006	Chickasha	OK	600	243,050.	63	71				07	08	09	10	11	12					
69007	Chickasha	OK	700	50,830.	61					06	07	08	09	10	11	12				
69008	Chickasha	OK	611	4,845.	61	74				06	07	08	09							
69009	Chickasha	OK	612	563.	61	74				06	07	08	09	10	11	12				
69010	Chickasha	OK	111	16,640.	61					06	07	08	09	10	11	12				
69011	Chickasha	OK	131	25,660.	61					06	07	08	09	10	11	12				
69012	Chickasha	OK	411	34,180.	61	74				06	07	08	09	10	11	12				
69013	Chickasha	OK	511	38,910.	61					06	07	08	09	10	11	12				
69014	Chickasha	OK	110	25,150.	63					07	08	09	10	11	12					
69015	Chickasha	OK	522	132,930.	63	73				07	08	09	10	11	12					
69016	Chickasha	OK	512	22,780.	63					07	08	09	10	11	12					
69017	Chickasha	OK	621	21,310.	63	73				07	08	09	10	11	12					
69018	Chickasha	OK	121	128,960.	63	74				07	08	09	10	11	12					
69019	Chickasha	OK	513	12,314.	65										09	10	11	12		
69020	Chickasha	OK	514	7,225.	67											11				
69021	Chickasha	OK	5141	4,064.	67											11				
69022	Chickasha	OK	5142	360.	67	74										11				
69023	Chickasha	OK	5143	485.	67	74										11				
69024	Chickasha	OK	5144	1,456.	67											11				
69025	Chickasha	OK	5145	253.	67											11				
69026	Chickasha	OK	5146	762.	67											11				

For footnotes, see end of table.

Table 2. Index to information on experimental agricultural watersheds in references 1-12^{1/}
 (Continued)

Water-shed id. cd.	Study location Town	State	Water- shed name-No.	Area in acres	Record (19--) ref. B 2/ 3/	Rev. E No. 2/ 3/	Index to information in reference ^{4/}											
							01	02	03	04	05	06	07	08	09	10	11	12
69027	Chickasha	OK	311	15,206.	67										11	12		
69030	Chickasha	OK	C-1	17.8	65									09	10	11	12	
69031	Chickasha	OK	C-2	38.1	62									09	10	11	12	
69032	Chickasha	OK	C-3	44.3	65									09	10	11	12	
69033	Chickasha	OK	C-4	29.9	65									09	10	11	12	
69034	Chickasha	OK	C-5	12.8	65									09	10	11	12	
69035	Chickasha	OK	C-6	13.0	65									09	10	11	12	
69036	Chickasha	OK	C-7	26.5	65									09	10	11	12	
69037	Chickasha	OK	C-8	27.3	65									09	10	11	12	
69038	Chickasha	OK	R-1	17.8	62	74								09	10	11	12	
69039	Chickasha	OK	R-2	24.1	62	74								09	10	11	12	
69040	Chickasha	OK	R-3	25.8	62	74								09	10	11	12	
69041	Chickasha	OK	R-4	18.1	62	74								09	10	11	12	
69042	Chickasha	OK	R-5	23.7	66									10	11	12		
69043	Chickasha	OK	R-6	27.2	66									10	11	12		
69044	Chickasha	OK	R-7	19.2	66									10	11	12		
69045	Chickasha	OK	R-8	18.5	66									10	11	12		
70001	Sonora	TX	W-14	30,720.	61	73								11	12			
70002	Sonora	TX	S-9	1,774.	61	73								11	12			
70003	Sonora	TX	S-10	5,392.	61	73								11	12			
70004	Sonora	TX	S-11	10,787.	61	73								11	12			
70005	Sonora	TX	S-12	2,801.	61	73								11	12			
70006	Sonora	TX	S-13	686.	61	73								11	12			
70007	Sonora	TX	W-1	10.2	63									11	12			
70008	Sonora	TX	W-2	8.6	65									11	12			
70009	Sonora	TX	W-3	6.7	65									11	12			
70010	Sonora	TX	W-4	4.5	66									11	12			
70011	Sonora	TX	W-5	7.2	66									11	12			
70012	Sonora	TX	W-6	6.9	66									11	12			
70013	Sonora	TX	W-7	12.2	65	73								11	12			
71001	Treynor	IA	W-1	74.5	64								08	09	10	11	12	
71002	Treynor	IA	W-2	82.8	64								08	09	10	11	12	
71003	Treynor	IA	W-3	107.	64								08	09	10	11	12	
71004	Treynor	IA	W-4	150.	64								08	09	10	11	12	
71005	Treynor	IA	W-5	389.	63	74							08	09	10	11	12	
72001	Cottonwood	SD	H-2	2.13	63	73							09	10	11	12		
72002	Cottonwood	SD	L-2	2.38	63	73							09	10	11	12		
72005	Cottonwood	SD	M-1	2.35	63	73							09	10	11	12		
73002	Fort Staunton	NM	7302	32.2	66									10				
75001	Ahoskie	NC	W-A1	36,480.	64	74							09	10	11	12		
75002	Ahoskie	NC	W-A2	15,360.	64	74							09	10	11	12		
75003	Ahoskie	NC	W-A3	2,368.	64	74							09	10	11	12		
75004	Ahoskie	NC	W-A4	1,664.	64	74							09	10	11	12		

^{1/} For description of references 1-12, see pp. 1-2 and table 1.

^{2/} B = year (19--) record began; E = year (19--) record ended.

^{3/} Reference in which additional or revised watershed information has been included.

^{4/} For explanation of reference numbers, see pp. 1-2 and table 1.

The geographic location associated with each study, usually a city and State, and the local name and number of the watershed are recorded at the top of the first page for each watershed. This identification is followed by detailed information on the geographic location and the size of the watershed.

In the space to the right of the first table title, **MONTHLY PRECIPITATION AND RUNOFF** (inches), the location and watershed number (or designation) are given.

In the table for the current *calendar* year, the *precipitation* (P) in inches is given in the monthly columns and the yearly total in the last column, headed *annual*. In the line below, the corresponding *runoff* (Q) in inches is similarly given for each month and the total for the year. For some watersheds, data are included for years previous to the current year. Underneath, in two lines, are given the (P) and (Q) station average amounts (STA AV) by months, with average annual total for the period of record.

In the second table, entitled **ANNUAL MAXIMUM DISCHARGES** (inches per hour) and **ANNUAL MAXIMUM VOLUME OF RUNOFF** (inches) **FOR SELECTED TIME INTERVALS**, data are also given for the *calendar* year listed in the first column. Under the *maximum discharge* heading, the date column shows the month and day that the instantaneous peak in inches per hour occurred. In computing this rate, corrections were made, where needed, for any significant pondage above the runoff-measuring device. Under the *maximum volume* heading, the date refers to the month and day on which the interval began; for example, if the interval began August 30 at 2359, the entry in the date column would be 8-30. The depths for *1 hour* to *8 days* are the annual maximum values recorded, without regard to entire clock hours or days; thus, if the 6-hour interval began at 1332, the interval would end exactly 6 hours later at 1932. The volume given is in inches of average depth over the watershed for each of the seven selected time intervals (1, 2, 6, and 12 hours, and 1, 2, and 8 days). In the last section of the table, the maximum discharges and depths for the various periods are given under **MAXIMUM FOR PERIOD OF RECORD**.

Notes and footnotes below the first two tables include (1) a general statement as to watershed conditions and other physical changes for the period covered; (2) a statement as to the location (publication) where the most recent map may be found; (3) a statement pertaining to the length of precipitation and runoff records; and (4) location of the nearest long-term U.S. Weather Bureau precipitation station together with the record length.

For some watersheds, tables of **DAILY AIR TEMPERATURE** (maximum and minimum in degrees Fahrenheit), **DAILY PRECIPITATION** (inches), and **MEAN DAILY DISCHARGE** (cfs) are next, with explanation of the data in footnotes at the end of each table. The multiplier to convert mean daily discharge in cubic feet per second to inches per day is given as the first note to the mean daily discharge table. Co-operating agencies are located at the bottom of the first page for each watershed just above the index page number.

If no daily tables are given, the tabular data for **SELECTED RUNOFF EVENTS** begin in the remaining space on the first page and are carried forward on continuation sheets (or pages) until completed. In general, the **SELECTED RUNOFF EVENTS** were those in which runoff was produced by a relatively uniform rainfall excess of short duration. The information for each event includes tabulation of (1) *antecedent* rainfall and runoff that occurred on the day of the event prior to the beginning of the event; (2) rainfall intensities and accumulated amounts for the event; (3) runoff rates and accumulated amounts for the event; and (4) specific watershed conditions at the time of the event.

Simple graphs of rainfall and runoff rates are shown for all events on pages following the tabular data. Maps follow the graphs unless previously published in references 3-11 or unless shown herein on the map of another watershed.

In the Notes at the bottom of the first page for runoff events, the multiplier to convert runoff rates in cubic feet per second to inches per hour is given. The notes on continuation pages contain the statement on the multiplier and similar explanations of the data on each page.

New Watersheds

For the watershed installed in recent years and not reported previously, the presentation begins with the watershed description in the upper part of the first page. The explanations and definitions on which the description is based are given in the next section.

The first line, centered at the top of the sheet, indicates the *project location*, which is the nearest city or town, and the number or name of the watershed used locally. The descriptive material is then given under the 12 major topics listed generally down the left side of the sheet: *Location, Area, Slopes, Soils, Erosion, Land Capability, Geology, Surface Drainage, Character of Flow, Instrumentation, Watershed Conditions, and Generally Represents*.

After this description, the tabular data are summarized in the first two tables and notes are included as previously described for Continuing Watersheds. The tabular data for daily air temperature, precipitation, and discharge, if presented, precede the tabular data for SELECTED RUNOFF EVENTS. The rest of the material of the series for the particular watershed follows in the same order as previously indicated.

WATERSHED DESCRIPTIONS

The following definitions and explanations were used in describing watershed location, watershed characteristics, instrumentation, land management, and recommended area of application of the hydrologic data.

LOCATION gives county and State, distance and direction of the runoff gaging station from the nearest city or town, and the major river basin in which it lies. When two or more basins are involved, the tributary or subbasin is mentioned first, followed by the major basin.

AREA of watershed is given in acres if less than 640 acres, and in both acres and square miles (in parentheses) if more than 1 square mile. If areas are revised, additional values are included with notes on date of change.

SLOPES are given in terms of the ranges commonly used in survey work in the locality. The percentages of the watershed lying in each slope class are listed. As an example, 8% is in 0-2% class means that 8 percent of the watershed area has slopes ranging from 0 to 2 percent.

SOILS are described briefly, according to definitions from the U.S. Department of Agriculture SOIL SURVEY MANUAL, Agriculture Handbook 18, published in 1951. Soil descriptions are given for the new watersheds. Soil-type name consists of the soil series plus the textural class, determined primarily by the texture of the upper part of the soil profile.

Soil texture refers to the relative proportions of the various size groups (or separates) of individual soil grains in a mass of soil. Specifically it refers to the proportions of clay, silt, and sand less than 2 mm in diameter. The various classes of texture in order of increasing percentages of the smaller size groups are (1) sand, (2) loamy sand, (3) sandy loam, (4) loam, (5) silt loam, (6) silt, (7) sandy clay loam, (8) clay loam, (9) silty clay loam, (10) sandy clay, (11) silty clay, and (12) clay. In some of the descriptions the broader classification of coarse, moderately coarse, medium, moderately fine, and fine has been used—the coarse soils are the sands and the fine soils the clays.

Soil structure refers to the aggregation of primary soil particles into compound particles, or clusters of primary particles, that are separated from adjoining aggregates by surfaces of weakness. Structure *grade*, or the durability of the aggregates when subjected to disturbance, is described as *structureless, weak, moderate, or strong*. For some soils the structureless grade is described as *massive*, if coherent, or *single grain*, if noncoherent. The size of the aggregates is reported as *very fine, fine, medium, coarse, or very coarse*. Structure *shape* is given as being *platy, prismatic, columnar, angular blocky, subangular blocky, granular, or crumb*.

Permeability is the quality of a soil that enables it to transmit water or air. This quality is indicated by the terms *very slow, slow, moderately slow, moderate, moderately rapid, rapid, or very rapid*.

Internal soil drainage is the quality of a soil that permits the downward flow of excess water through it. Internal drainage is reflected in the frequency and duration of periods of saturation with water. It is determined by the texture, structure, and other characteristics of the soil profile and of underlying layers and by the height of the water table, either permanent or perched, in relation to the water added to the

soil. *Internal drainage* is described as *none*, *very slow*, *slow*, *medium*, *rapid*, or *very rapid*.

Soils may be grouped into *soil drainage* classes, based on observations and inferences used to obtain classes of *runoff*, *soil permeability*, and *internal soil drainage*. These classes are given in some soils descriptions to identify *internal drainage*. They are *very poorly drained*, *poorly drained*, *imperfectly* or *somewhat poorly drained*, *moderately well drained*, *well drained*, *somewhat excessively drained*, or *excessively drained*.

Erosion conditions on the watershed are described according to the following classification for water and wind erosion, also briefed from Agriculture Handbook 18. The percentage of the watershed in the following erosion classes is given.

Class 1.—The soil has a few rills or places with thin A horizons that give evidence of accelerated erosion, but not to an extent to alter greatly the thickness and character of the A horizon. Except for soils having very thin A horizons (less than 8 inches), the surface soil consists entirely of A horizon throughout nearly all the delineated areas. Up to about 25 percent of the original A horizon, or original plowed layer in soils with thin A horizons, has been removed from most of the area. This class also includes the areas with no erosion.

Class 2.—The soil has been eroded to the extent that ordinary tillage implements reach through the remaining A horizon or well below the depth of the original plowed layer in soils with thin A horizons. Generally the plowed layer consists of a mixture of the original A horizon and the underlying horizons. Mapped areas of eroded soil usually have patches in which the plowed layer consists entirely of the original A horizon, and others in which it consists entirely of underlying horizons. Shallow gullies may be present. Approximately 25 to 75 percent of the original A horizon or surface soil may have been lost from most of the area.

Class 3.—The soil has been eroded to the extent that all or practically all the original surface soil, or A horizon, has been removed. The plowed layer consists essentially of materials from the B or other underlying horizons. Patches in which the plowed layer is a mixture of the original A horizon and the B horizon, or other underlying horizons, may be included

within mapped areas. Shallow gullies, or a few deep ones, are common in some soil types. More than about 75 percent of the original surface soil, or A horizon, and commonly part or all the B horizon, or other underlying horizons, have been lost from most of the area.

Class 4.—The land has been eroded until it has an intricate pattern of moderately deep or deep gullies. Soil profiles have been destroyed except in small areas between the gullies. Such land is not useful for crops in its present condition. Reclamation for crop production or for improved pasture is difficult, but may be practicable if other characteristics of the soil are favorable and erosion can be controlled.

Class +.—Recent alluvial and colluvial deposition.

LAND CAPABILITY is given as classified by Klingebiel and Montgomery in U.S. Department of Agriculture LAND-CAPABILITY CLASSIFICATION, Agriculture Handbook 210, published in 1961. The classification expresses the suitability of land for use without deterioration. The eight land-capability classes are distinguished according to the risk of land damage or difficulty of land use. The following classes I—IV are suitable for cultivation and other uses, whereas classes V—VIII are not suitable for cultivation.

Class I.—Very good land for cultivation; nearly level and productive; not subject to erosion; needs only ordinary good farming methods.

Class II.—Good land for cultivation; mostly gently sloping; not more than moderately subject to erosion; some land may be rather wet; can be farmed safely with easily applied practices.

Class III.—Moderately good land for cultivation; mostly moderately sloping; some areas too wet or too dry; can be farmed safely with practical conservation measures, carefully applied; usually a combination of two or more measures is needed.

Class IV.—Fairly good land, suitable for occasional cultivation; generally strongly sloping; often shallow or very sandy; often found in dry climate.

Class V.—Land very well suited for grazing or forestry; requires good range or woodland management.

Class VI.—Land well suited for grazing or forestry; steeply sloping land, or stony or shallow soil; eroded, droughty, or wet land; requires careful management.

Class VII.—Land fairly well suited for grazing or forestry; severely limited in use by such factors as very steep slope, shallow or droughty soil, wetness, severe erosion, or excessive salinity; requires very careful management.

Class VIII.—Land not suitable for cultivation, grazing, or forestry; may be useful for wildlife, recreation, or protection of water supplies.

GEOLOGY of the one new watershed is reported herein. The parts of the watershed occupied by various geological formations or series are briefly described, together with strike and dip of the strata, thickness, and relative position, when known. Faults, perched water tables, outcrops, if present, and other details relating to the movement of water within the drainage area or affecting the hydrology of the watershed are described.

SURFACE DRAINAGE refers to the ease with which excess water flows from the watershed area. The length of the principal waterway is the distance from the gaging station to the most remote point on the watershed boundary, measured along the flood plain of the watercourse.

CHARACTER OF FLOW describes the flow of the principal watercourse with respect to permanence and space. The following definitions are from Meinzer's OUTLINE OF GROUND-WATER HYDROLOGY, U.S. Geological Survey Water-Supply Paper 494, published in 1923.

As to permanence, streams may be divided into perennial, intermittent, and ephemeral streams.

A *perennial stream*, or stretch of a stream, flows continuously. Perennial streams are generally fed in part by springs, and their upper surfaces usually stand lower than the water table in the localities through which they flow.

Intermittent streams may be divided, with respect to their water source, into spring-fed intermittent streams and surface-fed intermittent streams. They also flow in direct response to precipitation.

A *spring-fed intermittent stream*, or stretch of a stream, flows only at certain times when it receives water from springs. The intermittent

character of streams of this type is generally caused by fluctuations of the water table, whereby the stream channels stand part of the time below and part of the time above the water table. This is the ordinary type of intermittent stream,

A *surface-fed intermittent stream*, or stretch of a stream, flows during protracted periods when it receives water from some surface source, generally the gradual and long-continued melting of snow in a mountainous or other cold tributary area. The term may be arbitrarily restricted to streams or stretches of streams that flow continuously during at least 1 month.

An *ephemeral stream*, or stretch of a stream, flows only in direct response to precipitation. It receives no water from springs and no long-continued supply from melting snow or other surface source. Its stream channel is at all times above the water table. The term may be arbitrarily restricted to streams or stretches of streams that do not flow continuously for as long as 1 month.

With respect to continuity in space, streams may be divided into continuous and interrupted streams. An *interrupted stream* contains (1) perennial stretches with intervening, intermittent, or ephemeral stretches or (2) intermittent stretches with intervening ephemeral stretches. These two classes of interrupted streams are designated, respectively, *perennial interrupted streams* and *intermittent interrupted streams*. A *continuous stream* does not have interruptions in space. It may be perennial, intermittent, or ephemeral, but it does not habitually have wet and dry stretches.

INSTRUMENTATION describes the type of runoff control or measuring device, number and type of precipitation gages, type of charts used, and snow courses, if employed.

WATERSHED CONDITIONS describes the general use and farm, forest, or range practices before the period of record and the conservation measures, crops, yields, and general cultural operations and practices during the period of record. Rotation crops are listed in the order grown. Operations are described with commonly used agricultural terms, and only those that appear to have a significant relationship to the hydrology of the watershed are mentioned.

GENERALLY REPRESENTS gives the broad area of application for which the data of the specific watershed are recommended. The land resource areas named are those delineated on the map titled "Location of Experimental Agricultural Watersheds of the Agricultural Research Service," on pages 20 and 21. Solid circles show the approximate locations of the continuing or new watersheds; open circles show approximate locations of the discontinued studies. For a few studies the circles indicate the locations of the project headquarters instead of the watershed locations. A larger index map with more detail is included in reference 4.

For some studies there is an apparent contradiction between the watershed location on the maps and the descriptive information under Generally Represents. This is caused by the small scale of maps; it is difficult to show many small local variations in boundaries of the land resources areas. The descriptive statements, instead of the map location, should be the guide to the application of the data.

STANDARD SYMBOLS FOR TABULAR DATA

The following capital letters have been used as standard symbols throughout this publication to designate specific items or meanings:

<i>Symbol</i>	<i>Meaning</i>
E	— value is estimated or partially estimated.
H	— precipitation in form of hail.
L	— precipitation in form of sleet or freezing rain.
M	— mixed precipitation in form of rain, snow, and sleet.
N	— precipitation in form of rain and snow.
P	— monthly or annual precipitation in inches.
Q	— monthly or annual runoff in inches.
RG	— rain gage, generally followed by gage number.
S	— precipitation in form of snow.
STA AV (or AVG)	—station average for period of record.
T	— trace, indicates that the value is not large enough to round to the lowest significant digit. In some arrays a trace value is indicated by all zeros, with more than one zero located to the right of the decimal.

Time-of-day symbols or designations *a*, *p*, *m*, and *n* used in previous publications through

1961 have been discontinued, and military time (0001-2400) has been substituted in publications since then. Unless stated otherwise, time used in tables is eastern, central, mountain, or Pacific standard, whichever applies to the given location.

PERSONNEL RESPONSIBLE FOR COMPILATION

At each research location many individuals have contributed to the planning and establishment of the watersheds and the collection, compilation, and analysis of the data. Some of those who made substantial contributions to the success of the research work behind this report are—

<i>Name</i>	<i>Location</i>
Aurelius P. Barnett	10
James B. Burford, Jan C. Carr, Vernon O. Shanholtz	13
Jan C. Carr, J. B. Urban	16
Larry A. Kramer, Marion Mazzocco, Keith E. Saxton	21, 25, 71
Lloyd L. Harrold	26
Wendell R. Gwinn, William O. Ree, Francis L. Wimberly	37
Clarence W. Richardson, Dee Allen Wright	42
Orfelia Garcia, Leonard J. Lane	45, 47, 63, 64, 73
Gerald R. Bolton, William A. Champion, Robert Darden, Farris E. Dendy, Robert B. Wilson	62
Clayton L. Hanson, Armine R. Kuhlman	65, 72
Rodger DeAngelis, Douglas Grant	67
John M. Clark, Roger L. Engleman, Walter J. Rawls	68
Donn, G. DeCoursey, Monroe A. Hartman, Arlin D. Nicks, Edd D. Rhoades, Russel R. Schoof, Oscar D. Workman	69
Dee Allen Wright	70
Rebecca B. Slack, Thomas K. Woody, Paul Yates	75

ADDITIONAL PUBLICATIONS BY LOCATION

In references 1 and 4-11 (see pp. 1 and 2), citations to other publications that present watershed data and interpretations of results in various journals, bulletins, and periodicals are given at the end of the introductions for many of the locations. Following is a listing of publi-

cations that have resulted from related work through 1968 at the various locations. Several publications pertaining to the overall program of hydrology that do not apply to a specific location are included at the end of this listing under General References.

17. *Edwardsville, Illinois*

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BENTZ, W. W., and AMERMAN, C. R.

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67. *North Danville, Vermont*

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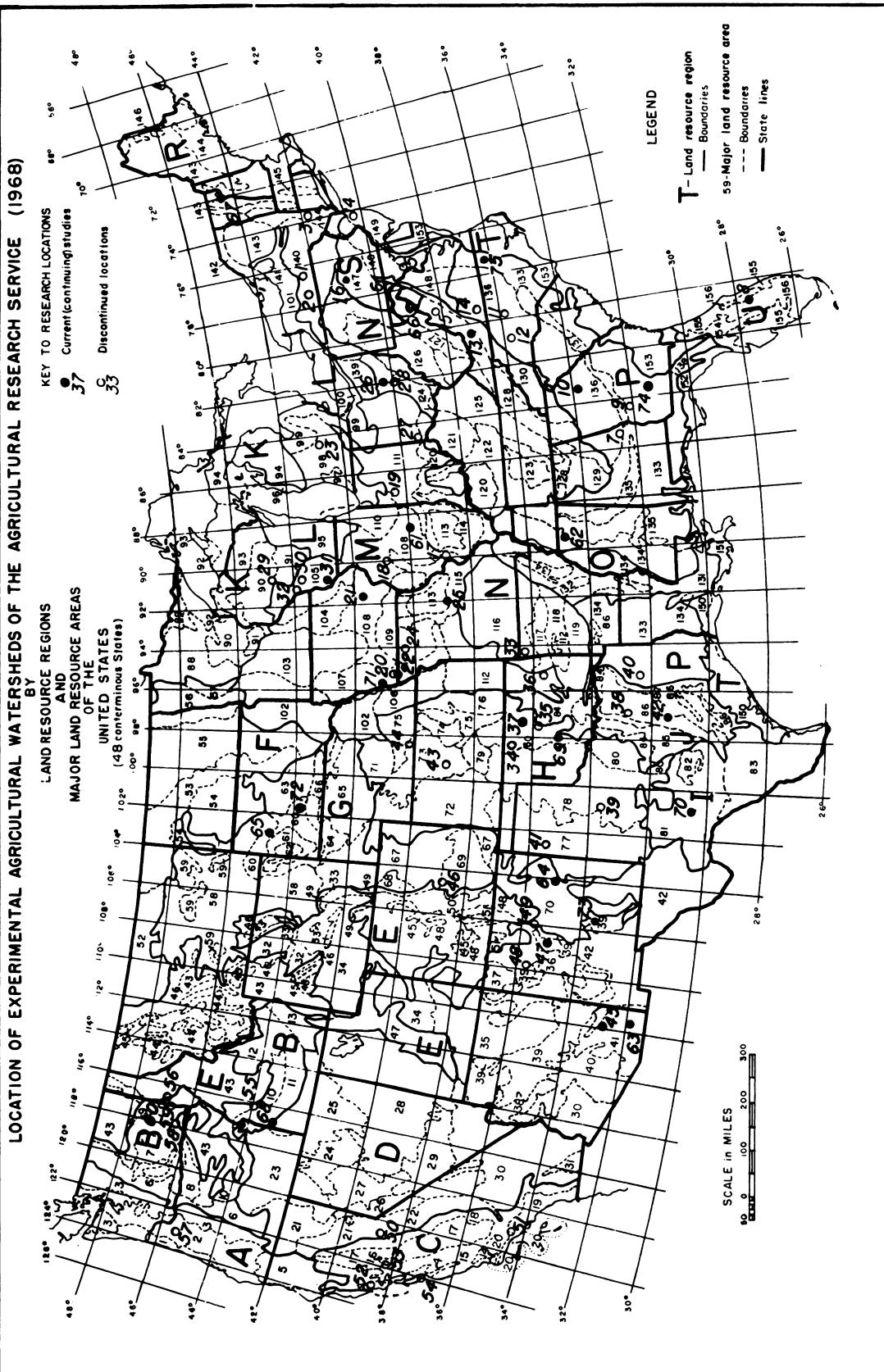
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UNITED STATES INDEX MAP AND RELATED DATA

[Pages 20 through 22]



LEGEND FOR LAND RESOURCE REGIONS AND MAJOR LAND RESOURCE AREAS

(of the 48 conterminous States)

A NORTHWESTERN FOREST, FORAGE, AND SPECIALTY CROP REGION

- 1 Northern Pacific Coast Range and Valley*
- 2 Willamette and Puget Sound Valleys
- 3 Olympic and Western Slope Cascade Mountains
- 4 California Coastal Redwood Belt
- 5 Shasta-Yurok Trinity Area
- 6 Eastern Slope Cascade Mountains
- 7 Columbia Basin
- 8 Columbia Plateau
- 9 Palouse and Nez Perce Prairies
- 10 Upper Snake River Lava Plains and Hills
- 11 Snake River Plains
- 12 Lost River Valleys and Mountainous
- 13 Eastern Idaho Plateaus

C CALIFORNIA SUBTROPICAL FRUIT, TRUCK, AND SPECIALTY CROP REGION

- 14 Central California Valley*
- 15 Central California Coast Range
- 16 California Delta
- 17 Sacramento and San Joaquin Valley*
- 18 Sierra Nevada Foothills
- 19 Southern California Coastal Plain
- 20 Southern California Mountains

D WESTERN RANGE AND IRRIGATED REGION

- 21 Klamath and Shasta Valleys and Basins
- 22 Sierra Nevada Range
- 23 Malheur High Plateau
- 24 Hambur High Plateau
- 25 Owyhee High Plateau
- 26 Caron Basin and Mountains
- 27 Fullen-Lovelock Area
- 28 Great Salt Lake Area
- 29 Southern Nevada Basins and Range
- 30 Sonoran Basin and Range
- 31 Imperial Valley
- 32 Northern Intermountain Desertic Basins
- 33 Sevierland Desertic Basins
- 34 Central Desertic Basins, Mountains and Plateaus
- 49 (See below)
- 50 Colorado and Green Rivers Plateaus
- 51 New Mexico and Arizona Plateaus and Mesas
- 52 Black, Huipas, and Cerbat Mountains
- 53 New Mexico and New Mexico Mountains
- 54 Central and Arizona Basin and Range
- 55 Southern Desertic Basins, Plains and Mountains
- 56 San Luis Valley
- 57 High Intermountain Valley

E ROCKY MOUNTAIN RANGE AND FOREST REGION

- 41 Northern Rocky Mountains
- 44 Northern Rocky Mountain Valley
- 45 Alpine Meadows and Backland
- 46 Northern Rocky Mountain Foothills
- 47 Wasatch and Uinta Mountains
- 48 Southern Rocky Mountain Foothills
- 49 San Luis Valley
- 50 High Intermountain Valley

F NORTHERN GREAT PLAINS SPRING WHEAT REGION

- 52 Brown Glaciated Plain
- 53 Dark Brown Glaciated Plain
- 54 Rolling Soft Shale Plain
- 55 Black Glaciated Plains
- 56 Red River Valley of the North
- 57 Western Minnesota Forest-Prairie Transition
- 58 Northern Rolling High Plains
- 59 Northern Smooth High Plains
- 60 Pierre Shale Plains and Badlands*
- 61 Black Hills Foothslopes*
- 62 Black Hills
- 63 Rolling Pierre Shale Plains*
- 64 Mixed Sandy and Silty Tableland
- 65 Nebraska Sand Hills
- 66 Dakota Nebraska Eroded Tableland
- 67 Central High Plains
- 68 Irrigated Upper Platte River Valley
- 69 Upper Arkansas Valley Rolling Plains
- 70 Pecos Canadian Plains and Valleys

G WESTERN GREAT PLAINS RANGE AND IRRIGATED REGION

- 71 Central Nebraska Loess Hills*
- 72 Central High Tableland
- 73 Rolling Plains and Breaks*
- 74 Central Kansas Sandstone Hills
- 75 Central Loess Plains
- 76 Bluestem Hills
- 77 Southern High Plains
- 78 Central Rolling Red Plains
- 79 Great Bend Sand Plains
- 80 Central Rolling Red Prairies

H CENTRAL GREAT PLAINS WINTER WHEAT AND RANGE REGION

- 81 Edwards Plateau
- 82 Texas Central Basin
- 83 Rio Grande Plain
- 84 Cross Timbers
- 85 Grand Prairie
- 86 Texas Blackland Prairie
- 87 Texas Chayen Area

I SOUTHWESTERN PLATEAUS, COTTON, AND PLAINS, RANGE AND COTTON REGION

- 88 Texas Central Florida Ridge
- 89 Eastern Ohio Till Plain
- 90 Glacial Allegheny Plateau and Catskill Mountains
- 91 Tughill Plateau
- 92 Lawrence Mountain Plain
- 93 Northern Mississippi Valley Alluvium
- 94 Eastern Arkansas Prairies*
- 95 (See P Below)

J SOUTHWESTERN PRAIRIES, COTTON, AND FORAGE REGION

- 96 Northern Piedmont
- 97 Carolina and Georgia Sandhills
- 98 South Central Florida Ridge
- 99 Southern Coastal Plain
- 100 Mississippi Valley Silty Uplands
- 101 Alabama and Mississippi Blackland Prairies
- 102 Southern Piedmont
- 103 Carolina and Georgia Sandhills
- 104 North Central Florida Ridge
- 105 Southern Coastal Plain
- 106 Northern Coastal Plain
- 107 Northern Piedmont
- 108 Northern Coastal Plain

(continued)

N	EAST AND CENTRAL GENERAL FARMING AND FOREST REGION
112	(See M Above)
113	Ozark Highland
114	Boston Mountains
115	Arkansas Valley and Ridge*
116	Quachita Mountains
117	Ouachita Mountains
118	Kentucky Bluegrass
119	Highland Rim and Pennyrile
120	Nashville Basin
121	West Tennessee Allegheny Plateau
122	Cumberland Plateau and Mountain*
123	Central Allegheny Plateau
124	Eastern Allegheny Plateau and Mountain*
125	Southern Appalachian Ridges and Valleys*
126	Sand Mountain
127	Blue Ridge
128	Southern Mississippi Valley Alluvium
129	Alabama and Mississippi Blackland Prairies
130	Eastern Arkansas Prairies*
131	(See P Below)
P	SOUTH ATLANTIC AND GULF SLOPE CASH CROP, FOREST, AND LIVESTOCK REGION
86	(See J Above)
87	Southern Coastal Plain
88	Mississippi Delta Cotton and Feed Grains Region
89	Southwestern Missouri Valley Alluvium
90	Eastern Arkansas Prairies*
R	NORTHEASTERN FORAGE AND FOREST REGION
132	Carolina and Georgia Sandhills
133	North Central Florida Ridge
134	Southern Coastal Plain
135	Alabama and Mississippi Blackland Prairies
136	Southern Piedmont
137	Carolina and Georgia Sandhills
138	North Central Florida Ridge
S	NORTHERN ATLANTIC SLOPE, TRUCK, FRUIT, AND POULTRY REGION
139	Eastern Ohio Till Plain
140	Glacial Allegheny Plateau and Catskill Mountains
141	Tughill Plateau
142	St. Lawrence Mountain Plain
143	Northeastern Mountain Plain
144	New England and Eastern New York Upland
145	Connecticut Valley
146	Aroostook Area
T	ATLANTIC AND GULF COAST LOWLANDS, FOREST AND TRUCK CROP REGION
147	Northern Appalachian Ridges and Valley*
148	Northern Piedmont
149	Northern Coastal Plain
U	FLORIDA SUBTROPICAL FRUIT, TRUCK CROP, AND RANGE REGION
150	Gulf Coast Prairies
151	Gulf Coast Marsh
152	Gulf Coast Flatwoods
153	Atlantic Coast Flatwoods
154	South Central Florida Ridge
155	Central Florida Flatwoods
156	Florida Everglades and Associated Areas*

Compiled by Morris E. Austin

Information from SCs, State, and other Offices

Table 3. Experimental agricultural watersheds, listed by State, locality, and location number, under study during 1968 and included in this publication

State	Locality	Assigned location number	Major land resource area ^{1/}	Watershed units	Events reported	Pages
Arizona.....	Tombstone.....	63	D-41	10	18	281-325
Georgia.....	Watkinsville.....	10	P-136	1	3	24-29
Idaho.....	Reynolds.....	68	D-23, D-25	8	7	360-392
Iowa.....	Iowa City.....	21	M-108	1	0	79-80
	Treynor.....	71	M-107	5	4	508-522
Mississippi....	Oxford.....	62	P-133, P-134	2/12	12	245-260
Missouri.....	McCredie.....	25	M-113	1	1	81-84
New Mexico.....	Albuquerque.....	47	D-42	3	3	234-244
	Santa Rosa.....	64	G-70	1	1	326-330
North Carolina	Ahoskie.....	75	P-133	4	4	531-542
Ohio.....	Coshocton.....	26	N-124	3/33	0	85-150
Oklahoma.....	Chickasha.....	69	H-78, H-80, J-84	33	29	393-474
	Stillwater.....	37	H-80	3	4	151-160
Pennsylvania...	Klingerstown.....	16	S-147	1	1	70-78
South Dakota...	Newell.....	65	G-58, G-59, G-60	7	0	331-344
	Cottonwood.....	72	G-60	3	2	523-530
Texas.....	Riesel (Waco).....	42	J-86	20	20	161-233
	Sonora.....	70	I-81	13	10	475-507
Vermont.....	North Danville.....	67	R-144	5	5	345-359
Virginia.....	Blacksburg.....	13	N-128, S-147, N-130, P-136, S-148	4/10	10	30-69

^{1/} See location map (p.20) and legend (p.21).

^{2/} 3 watersheds (Oxford, Miss.) discontinued Sept. 1968.

^{3/} 1 watershed (Coshocton, Ohio) discontinued Jan. 1968 and 1 not reported for 1968.

^{4/} 4 watersheds (Blacksburg, Va.) discontinued Jan. 1968.

Table 4. Watersheds, listed by State and locality, where observations were discontinued during 1967^{1/}

State	Locality	Major land resource area ^{2/}	Discontinued watershed units		
			Number	Record period (19--)	Assigned location and watershed number
Mississippi.....	Oxford.....	P-133, P-134	3	58-67	62.13-62.15
Nebraska.....	Hastings.....	H-71, H-73, H-74	12	39-67	44.1, 44.3-44.12, 44.22
			3	62-67	44.26, 44.27, 44.29
Ohio.....	Coshocton....	N-124	1	36-67	26.26, 3/ 26.37
Oklahoma.....	Cherokee.....	H-80	6	60-67	34.10-34.15
Virginia.....	Blacksburg....	N-138, S-147	1	40-67	13.2
West Virginia...	Moorefield...	N-128, S-147	3	52-67	13.3 13.4, 13.5
			4	58-67	66.1, 66.2, 66.4, 66.5
Wisconsin.....	Fennimore....	M-105	4	38-67	31.1-31.4

^{1/} For discontinued watershed studies prior to 1967, see tables in previous publications.

^{2/} See location map (p. 20) and legend (p. 21).

^{3/} Data obtained but not reported in 1968.

**WATERSHED DATA BY LOCATION NUMBER
AND
DECIMAL PAGING**

[10.001-1 TO 75.004-3, A TOTAL OF 519 DATA SHEETS]

For location by States and Land Resource Areas
and Regions, see U.S. Index Map, page 20.

TREYNOR, IOWA WATERSHED 1

LOCATION: Pottawattamie County, Iowa; approximately 6 miles southwest of Treynor; Silver Creek, West Nishnabotna River, Missouri River Basin.

AREA: 74.50 acres

MONTHLY PRECIPITATION AND RUNOFF (inches)													TREYNOR, IOWA WATERSHED 1											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual											
P	0.34	0.10	0.37	3.38	3.63	3.02	3.88	4.60	3.54	6.96	1.12	1.62	32.56											
1968	0	0.195	0.118	0.142	0.142	0.187	0.397	0.155	0.195	0.118	0.654	0.214	0.279	2.795										
STA AV	P	0.56	0.50	1.06	3.03	4.27	8.51	3.51	3.85	5.20	2.28	0.81	0.85	34.42										
	Q	0.235	0.463	0.601	0.352	0.696	3.442	0.386	0.362	0.748	0.339	0.235	0.241	8.100										
ANNUAL MAXIMUM DISCHARGE (in/hr) AND MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																								
	Maximum Discharge Date Rate	1 Hour Date Vol.	2 Hours Date Vol.		Maximum Volume for Selected Time Interval	6 Hours Date Vol.	12 Hours Date Vol.	1 Day Date Vol.	2 Days Date Vol.	8 Days Date Vol.														
1968	6-13	0.887	6-13	0.204	10-16	0.302	10-16	0.404	10-16	0.423	10-16	0.430	10-16	0.441	10-16	0.488								
MAXIMUMS FOR PERIOD OF RECORD																								
	6-20 1967	5.835	6-20 1967	3.150	6-20 1967	4.160	6-20 1967	4.224	6-20 1967	4.232	6-20 1967	4.246	6-20 1967	4.264	6-20 1967	4.282	6-20 1967	4.297	6-20 1967	4.300	6-20 1967	4.300	5.979	

NOTES: Watershed conditions: 95% contoured corn; 5% gullies and grassed waterways; precipitation from rain gage 117 before April 1 and after November 12; Thiessen average of gages 116, 117, 118 for remainder of year. Precipitation records began January 1, 1964. Runoff records began February 10, 1964. January 1 to February 10, 1964 runoff estimated and included in average. For daily air temperature, in the vicinity, see table for Watershed 3, (71.003). For topographic map of watershed, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1964, USDA Misc. Pub. 1194, p. 71-1-5. For long-time precipitation records, see U.S. Weather Bureau records at Omaha, Nebraska.

1968 DAILY PRECIPITATION (inches)													TREYNOR, IOWA WATERSHED 1										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec											
1	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.08											
2	0.0	0.0	0.0	0.13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0											
3	0.0	0.0	0.0	0.34	0.0	0.0	0.0	0.0	0.90	0.0	0.0	0.0											
4	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.16	0.0	0.0	0.0	0.0											
5	0.0	0.0	0.0	0.0	0.0	0.09	0.0	0.0	0.68	0.0	0.0	0.21											
6	0.0	0.0	0.0	0.0	0.19	0.0	0.0	0.0	0.0	0.0	0.0	0.02											
7	0.0	0.0	0.05	0.0	0.49	0.0	0.0	0.0	0.0	0.0	0.0	0.0											
8	0.0	0.0	0.0	0.0	0.0	0.0	0.63	0.50	0.02	1.26	0.0	0.0											
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0											
10	0.0	0.0	0.0	0.0	0.0	1.25	0.0	0.66	0.0	0.0	0.54	0.0											
11	0.27	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0											
12	0.05	0.0	0.0	0.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0											
13	0.0	0.0	0.0	0.34	1.09	0.87	0.0	0.0	0.0	0.0	0.0	0.0											
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.30											
15	0.0	0.0	0.0	0.0	0.0	0.06	0.14	0.02	0.0	0.0	0.0	0.0											
16	0.0	0.0	0.0	0.0	0.0	1.25	0.27	1.46	4.62	0.05	0.0	0.0											
17	0.0	0.0	0.0	0.24	0.06	0.0	0.0	0.30	0.31	0.0	0.0	0.0											
18	0.0	0.0	0.22	0.46	0.0	0.0	0.0	0.61	0.0	0.0	0.0	1.08											
19	0.0	0.0	0.0	0.22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04											
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0											
21	0.0	0.0	0.0	0.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.30											
22	0.0	0.0	0.0	0.65	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.0											
23	0.0	0.0	0.0	0.29	0.0	0.16	0.09	0.27	0.02	0.0	0.0	0.0											
24	0.0	0.0	0.0	0.0	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0											
25	0.0	0.10	0.0	0.0	0.90	0.31	0.0	0.0	0.0	0.0	0.0	0.0											
26	0.0	0.0	0.0	0.0	0.04	0.02	0.0	1.58	0.0	0.0	0.0	0.0											
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12											
28	0.0	0.0	0.0	0.0	0.43	0.03	0.0	0.0	0.0	0.0	0.0	0.0											
29	0.02	0.0	0.0	0.0	0.0	0.17	0.27	0.23	0.0	0.0	0.0	0.0											
30	0.0	0.0	0.10	0.0	0.0	0.0	1.58	0.29	0.21	0.0	0.0	0.0											
31	0.0	0.0	0.0	0.27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0											
TOTAL	0.34	0.10	0.37	3.38	3.63	3.02	3.88	4.60	3.54	6.96	1.12	1.62											
STA AV	P	0.56	0.50	1.06	3.03	4.27	8.51	3.51	3.85	5.20	2.28	0.81	0.85										

NOTES: Daily precipitation amounts are from rain gage 117 before April 1 and after November 12; Thiessen weighted average values from stations 116, 117, and 118 for remainder of year. STA AV are based on 5 yr record period.

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1968 MEAN DAILY DISCHARGE (cfs)												TREYNOR, IOWA WATERSHED 1					
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					
1	0.014	0.014	0.017	0.013	0.013	0.017	0.013	0.007	0.007	0.010	0.019	0.019					
2	0.014	0.017	0.014	0.016	0.013	0.017	0.012	0.007	0.007	0.012	0.019	0.021					
3	0.014	0.017	0.018	0.025	0.011	0.016	0.012	0.007	0.032	0.020	0.019	0.019					
4	0.012	0.019	0.016	0.014	0.012	0.013	0.012	0.010	0.008	0.023	0.022	0.019					
5	0.012	0.016	0.014	0.011	0.014	0.014	0.012	0.007	0.008	0.025	0.026	0.016					
6	0.014	0.012	0.014	0.013	0.016	0.013	0.013	0.006	0.007	0.009	0.025	0.018					
7	0.014	0.013	0.014	0.014	0.025	0.014	0.012	0.006	0.006	0.008	0.022	0.016					
8	0.012	0.014	0.014	0.010	0.015	0.015	0.016	0.016	0.007	0.160	0.019	0.021					
9	0.010	0.015	0.014	0.011	0.015	0.012	0.008	0.008	0.006	0.014	0.024	0.019					
10	0.010	0.012	0.014	0.011	0.018	0.134	0.008	0.031	0.007	0.010	0.025	0.019					
11	0.010	0.010	0.014	0.009	0.016	0.034	0.008	0.008	0.006	0.010	0.024	0.021					
12	0.010	0.010	0.015	0.011	0.016	0.015	0.010	0.007	0.006	0.010	0.019	0.022					
13	0.010	0.010	0.019	0.017	0.063	0.663	0.009	0.006	0.007	0.010	0.022	0.017					
14	0.010	0.011	0.015	0.013	0.015	0.018	0.009	0.006	0.006	0.010	0.030	0.019					
15	0.010	0.012	0.016	0.010	0.012	0.014	0.010	0.008	0.007	0.010	0.026	0.019					
16	0.011	0.012	0.014	0.011	0.013	0.014	0.043	0.010	0.037	1.324	0.025	0.019					
17	0.014	0.010	0.014	0.012	0.013	0.016	0.012	0.007	0.033	0.052	0.025	0.019					
18	0.018	0.010	0.014	0.022	0.014	0.015	0.009	0.013	0.029	0.033	0.022	0.258					
19	0.020	0.013	0.014	0.018	0.012	0.015	0.009	0.009	0.019	0.029	0.021	0.035					
20	0.075	0.012	0.014	0.016	0.015	0.016	0.009	0.009	0.016	0.025	0.024	0.025					
21	0.098	0.010	0.014	0.019	0.017	0.015	0.009	0.009	0.013	0.025	0.025	0.025					
22	0.023	0.010	0.014	0.036	0.019	0.016	0.009	0.009	0.012	0.025	0.025	0.025					
23	0.016	0.010	0.014	0.024	0.016	0.015	0.011	0.010	0.011	0.025	0.022	0.025					
24	0.019	0.010	0.014	0.012	0.013	0.017	0.010	0.007	0.010	0.025	0.020	0.022					
25	0.038	0.012	0.013	0.014	0.034	0.020	0.009	0.006	0.010	0.025	0.019	0.019					
26	0.026	0.014	0.013	0.013	0.021	0.018	0.010	0.332	0.010	0.020	0.019	0.019					
27	0.015	0.014	0.012	0.013	0.018	0.015	0.009	0.011	0.010	0.019	0.021	0.019					
28	0.017	0.014	0.012	0.012	0.050	0.016	0.009	0.007	0.010	0.019	0.020	0.019					
29	0.018	0.015	0.012	0.013	0.017	0.015	0.011	0.009	0.010	0.019	0.021	0.019					
30	0.014		0.016	0.011	0.018	0.013	0.139	0.013	0.012	0.019	0.021	0.019					
31	0.014		0.013		0.021		0.009	0.008		0.019		0.019					
MEAN	0.0197	0.0127	0.0143	0.0148	0.0188	0.0415	0.0156	0.0197	0.0124	0.0660	0.0224	0.0281					
INCHES	0.195	0.118	0.142	0.142	0.187	0.397	0.155	0.195	0.118	0.654	0.214	0.279					
STA AV	0.235	0.463	0.601	0.352	0.696	3.442	0.386	0.362	0.748	0.339	0.235	0.241					

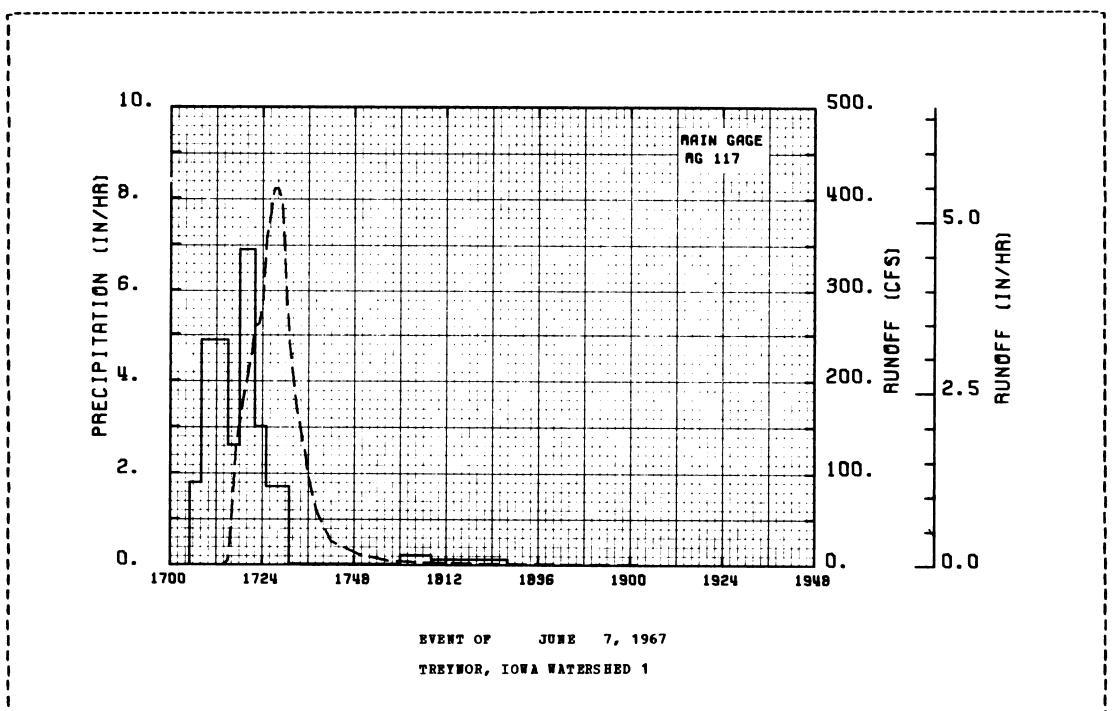
NOTES: To convert mean daily discharge in CFS to IN/DAY, multiply by 0.31948. STA AV are based on 5 yr record period.

1967 SELECTED RUNOFF EVENT				TREYNOR, IOWA WATERSHED 1							
ANTECEDENT CONDITIONS				RAINFALL				RUNOFF			
Date Mo-Day	Rainfall (inches)	Runoff (inches)	Date Mo-Day	Date of Day	Intensity (in/hr)	Acc. (inches)	Date Mo-Day	Date of Day	Rate (cfs)	Acc. (inches)	
EVENT OF JUNE 7, 1967											
6- 7	RG 117 0.11	0.007	6- 7	RG 117 1705	0.0	0.0	6- 7	1707	0.060	0.0	
				1708	1.7999	0.09		1709	0.080	0.0	
				1715	4.8856	0.66		1710	0.120	0.0	
				1718	2.6006	0.79		1711	0.170	0.0	
				1722	6.9001	1.25		1713	0.360	0.0001	
WATERSHED CONDITIONS:											
95% contoured corn 4-6 in.				1725	2.9998	1.40		1714	0.760	0.0002	
tall, less than 10% canopy,				1731	1.6999	1.57		1715	5.640	0.0009	
rotary hoed 3 days prior				1800	0.0207	1.58		1716	50.580	0.0071	
to event; 5% gullies and				1808	0.2250	1.61		1717	127.450	0.0268	
grassed waterways, grass				1828	0.1200	1.65		1719	180.900	0.0954	
10-16 in. tall.								1721	226.000	0.1853	
								1722	260.300	0.2390	
30 Day Antecedent Conditions:											
	Rainfall (inches)	Runoff (inches)						1723	262.300	0.2976	
Date								1724	285.300	0.3581	
05-08 thru								1725	356.100	0.4290	
05-27	0.0	0.092						1726	382.900	0.5107	
05-28	0.54	0.007						1727	411.300	0.5997	
05-29	0.30	0.005						1728	411.300	0.6906	
05-30	1.54	0.014						1729	396.700	0.7799	
05-31	0.90	0.012						1730	312.100	0.8594	
06-01	0.04	0.009									
06-02,03	0.0	0.011						1731	240.750	0.9205	
06-04	1.25	0.194						1733	165.900	1.0104	
06-05	2.44	1.614						1735	122.800	1.0747	
06-06	0.0	0.009						1736	95.840	1.0989	
								1738	59.010	1.1334	
								1740	41.070	1.1555	
								1742	25.100	1.1702	
								1744	20.920	1.1804	
								1749	11.260	1.1983	
								1757	4.560	1.2123	
								1807	2.350	1.2200	
								1822	1.090	1.2257	
								1823	0.970	1.2259	
								1827	1.090	1.2268	
								1839	1.090	1.2297	

NOTES: To convert runoff in CFS to IN/Hr, multiply by 0.01331. Event precipitation totals for rain gages 116 and 118 are 1.52 in. and 1.24 in., respectively and Thiessen weighted average total for event is 1.46 in.

1967 SELECTED RUNOFF EVENT					TREYNOR, IOWA WATERSHED 1						
ANTECEDENT CONDITIONS			RAINFALL			RUNOFF					
Date Mo-Day	Rainfall (inches)	Runoff (inches)	Date Mo-Day	Time of Day	Intensity (in/hr)	Acc. (inches)	Date Mo-Day	Time of Day	Rate (Cfs)	Acc. (inches)	
EVENT OF JUNE 7, 1967 (CONTINUED)											
6- 7	1842	0.760	1850	0.460	1.2303		1902	0.360	1.2314		1.2325

NOTES: To convert runoff in CFS to IN/HR, multiply by 0.01331. Event precipitation totals for rain gages 116 and 118 are 1.52 in. and 1.24 in., respectively and Thiessen weighted average total for event is 1.46 in.



TREYNOR, IOWA WATERSHED 2

LOCATION: Pottawattamie County, Iowa; approximately 6 miles southwest of Treynor; Keg Creek, Missouri River Basin.

AREA: 82.80 acres

MONTHLY PRECIPITATION AND RUNOFF (inches)												TREYNOR, IOWA WATERSHED 2					
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual				
1968	P 0	0.34 0.256	0.10 0.202	0.37 0.204	3.35 0.212	3.55 0.188	3.15 0.481	3.85 0.138	4.58 0.169	3.61 0.105	6.88 0.640	1.13 0.157	1.62 0.184	32.53 2.938			
STA AV	P 0	0.56 0.254	0.50 0.564	1.05 0.642	3.01 0.353	4.16 0.686	8.49 3.224	3.44 0.315	3.70 0.331	5.20 0.669	2.25 0.331	0.82 0.213	0.85 0.216	34.04 7.800			

ANNUAL MAXIMUM DISCHARGE (in/hr) AND MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																
Date	Maximum Discharge			Maximum Volume for Selected Time Interval												
	Rate	1 Hour	2 Hours	6 Hours	12 Hours	1 Day	2 Days	8 Days	Date	Vol.	Date	Vol.	Date	Vol.	Date	Vol.
1968	6-13	1.131	6-13	0.272	10-16	0.307	10-16	0.399	10-16	0.417	10-16	0.422	10-16	0.433	10-16	0.485

MAXIMUMS FOR PERIOD OF RECORD															
1967	1967	1967	1967	1967	1967	1967	1967	1967	1967	1967	1967	1967	1967	1967	1967

NOTES: Watershed conditions: 95% contoured corn; 5% gullies and grassed waterways. Precipitation from gage 117 before April 1 and after November 12; Thiessen average of gages 115, 116, and 118 for remainder of year. Precipitation records began January 1, 1964. Runoff records began February 3, 1964. January 1 - February 3, 1964 runoff estimated and included in average. For daily air temperature, in the vicinity, see table for Watershed 3 (71.003). For topographic map of watershed, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1964, USDA Misc. Pub. 1194, p. 71.2-5. For long-time precipitation records, see U.S. Weather Bureau records period at Omaha, Nebraska.

1968 DAILY PRECIPITATION (inches)												TREYNOR, IOWA WATERSHED 2			
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
1	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08		
2	0.0	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
3	0.0	0.0	0.0	0.33	0.0	0.0	0.0	0.0	0.99	0.0	0.0	0.0	0.0		
4	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.17	0.0	0.0	0.0	0.0	0.0		
5	0.0	0.0	0.0	0.0	0.0	0.13	0.0	0.0	0.0	0.68	0.22	0.0			
6	0.0	0.0	0.0	0.0	0.22	0.0	0.0	0.0	0.0	0.0	0.02	0.0			
7	0.0	0.0	0.05	0.0	0.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
8	0.0	0.0	0.0	0.0	0.0	0.0	0.62	0.51	0.02	1.29	0.0	0.0			
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0.0			
10	0.0	0.0	0.0	0.0	0.0	1.23	0.0	0.60	0.0	0.0	0.54	0.0			
11	0.27	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0			
12	0.05	0.0	0.0	0.27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
13	0.0	0.0	0.0	0.33	1.08	0.95	0.0	0.0	0.0	0.0	0.0	0.0			
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.30	0.0			
15	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.19	0.02	0.0	0.0	0.0			
16	0.0	0.0	0.0	0.0	0.0	1.32	0.28	1.43	4.56	0.05	0.0				
17	0.0	0.0	0.26	0.05	0.0	0.0	0.0	0.34	0.28	0.0	0.0				
18	0.0	0.0	0.22	0.44	0.0	0.0	0.0	0.50	0.59	0.0	0.0	1.08			
19	0.0	0.0	0.0	0.21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04			
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
21	0.0	0.0	0.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.30			
22	0.0	0.0	0.63	0.13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
23	0.0	0.0	0.29	0.0	0.16	0.10	0.24	0.02	0.0	0.0	0.0	0.0			
24	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0			
25	0.0	0.10	0.0	0.87	0.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
26	0.0	0.0	0.0	0.05	0.02	0.0	1.59	0.0	0.0	0.0	0.0	0.12			
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
28	0.0	0.0	0.0	0.39	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
29	0.02	0.0	0.0	0.0	0.0	0.14	0.27	0.22	0.0	0.0	0.0	0.0			
30	0.0	0.0	0.10	0.0	0.0	0.0	1.49	0.28	0.20	0.0	0.0	0.0			
31	0.0	0.0	0.0	0.27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
TOTAL	0.34	0.10	0.37	3.35	3.55	3.15	3.85	4.58	3.61	6.88	1.13	1.62			
STA AV	0.56	0.50	1.05	3.01	4.16	8.49	3.44	3.70	5.20	2.25	0.82	0.85			

NOTES: Daily precipitation amounts are Thiessen weighted average values from stations 115, 116, and 118 for period of April 1 through November 12, and from station 117 for remainder of year. STA AV are based on 5 yr record period.

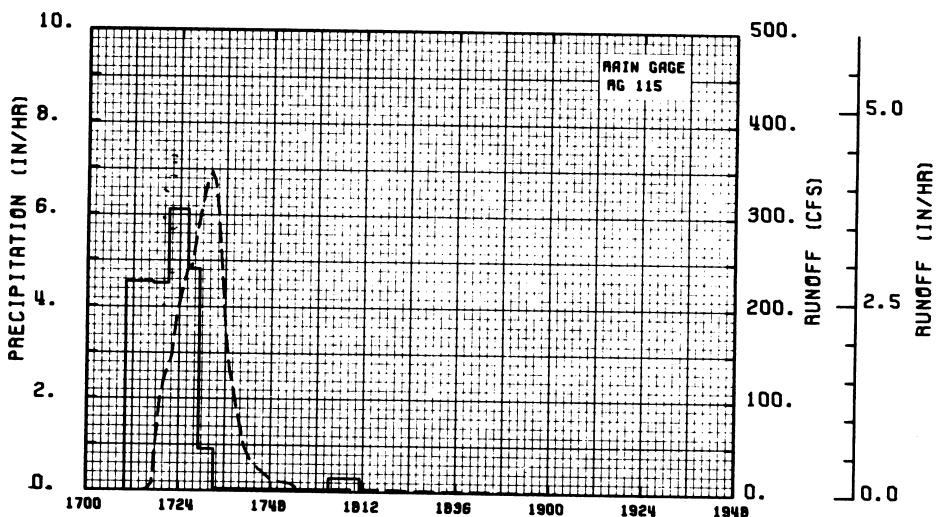
1968 MEAN DAILY DISCHARGE (cfs)												TREYNOR, IOWA WATERSHED 2					
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					
1	0.017	0.027	0.032	0.022	0.015	0.022	0.016	0.009	0.006	0.008	0.017	0.017					
2	0.017	0.027	0.024	0.027	0.015	0.019	0.014	0.009	0.006	0.006	0.017	0.019					
3	0.017	0.027	0.022	0.031	0.012	0.019	0.014	0.009	0.005	0.006	0.017	0.018					
4	0.017	0.027	0.028	0.026	0.012	0.018	0.012	0.012	0.013	0.006	0.017	0.018					
5	0.017	0.027	0.030	0.029	0.012	0.021	0.012	0.008	0.009	0.016	0.021	0.014					
6	0.017	0.027	0.030	0.029	0.018	0.016	0.013	0.008	0.008	0.009	0.021	0.015					
7	0.017	0.029	0.030	0.027	0.027	0.015	0.012	0.006	0.006	0.007	0.017	0.011					
8	0.017	0.030	0.027	0.027	0.016	0.014	0.021	0.016	0.007	0.198	0.017	0.013					
9	0.017	0.026	0.027	0.030	0.016	0.014	0.015	0.008	0.007	0.019	0.017	0.014					
10	0.017	0.022	0.024	0.030	0.016	0.130	0.012	0.026	0.006	0.010	0.019	0.015					
11	0.017	0.022	0.023	0.024	0.016	0.062	0.011	0.008	0.006	0.010	0.022	0.018					
12	0.017	0.022	0.019	0.024	0.016	0.022	0.012	0.007	0.006	0.010	0.021	0.021					
13	0.017	0.022	0.020	0.032	0.055	0.979	0.011	0.008	0.006	0.010	0.021	0.013					
14	0.017	0.022	0.021	0.023	0.028	0.025	0.011	0.008	0.006	0.010	0.028	0.011					
15	0.017	0.022	0.022	0.019	0.019	0.022	0.012	0.011	0.007	0.010	0.027	0.010					
16	0.019	0.019	0.019	0.022	0.017	0.022	0.038	0.012	0.037	1.455	0.022	0.012					
17	0.022	0.017	0.019	0.020	0.018	0.020	0.008	0.006	0.031	0.045	0.019	0.014					
18	0.022	0.024	0.025	0.032	0.022	0.017	0.007	0.016	0.024	0.039	0.015	0.136					
19	0.022	0.027	0.020	0.023	0.018	0.014	0.009	0.008	0.014	0.039	0.014	0.029					
20	0.076	0.024	0.018	0.023	0.019	0.014	0.008	0.007	0.009	0.036	0.017	0.022					
21	0.084	0.019	0.017	0.025	0.020	0.014	0.008	0.006	0.008	0.033	0.018	0.022					
22	0.038	0.019	0.014	0.044	0.022	0.013	0.008	0.007	0.008	0.030	0.015	0.022					
23	0.036	0.022	0.017	0.027	0.016	0.016	0.011	0.008	0.010	0.027	0.013	0.019					
24	0.035	0.022	0.020	0.015	0.014	0.021	0.009	0.007	0.008	0.027	0.014	0.017					
25	0.053	0.022	0.023	0.022	0.036	0.027	0.008	0.007	0.006	0.027	0.015	0.017					
26	0.046	0.026	0.024	0.019	0.022	0.021	0.008	0.296	0.006	0.023	0.017	0.017					
27	0.039	0.027	0.024	0.016	0.020	0.019	0.008	0.018	0.006	0.022	0.017	0.017					
28	0.042	0.027	0.021	0.017	0.055	0.019	0.006	0.009	0.006	0.022	0.018	0.017					
29	0.038	0.027	0.021	0.016	0.019	0.022	0.008	0.009	0.006	0.022	0.016	0.017					
30	0.033	0.021	0.015	0.016	0.018	0.122	0.014	0.009	0.022	0.017	0.017	0.017					
31	0.030	0.024		0.028		0.014	0.008		0.021		0.017	0.017					
MEAN	0.0287	0.0242	0.0229	0.0246	0.0211	0.0558	0.0155	0.0190	0.0122	0.0718	0.0182	0.0207					
INCHES	0.256	0.202	0.204	0.212	0.188	0.481	0.138	0.169	0.105	0.640	0.157	0.184					
STA. AV	0.254	0.564	0.642	0.353	0.686	3.224	0.315	0.331	0.669	0.331	0.213	0.216					

NOTES: To convert mean daily discharge in CFS to IN/DAY, multiply by 0.28746. STA AV are based on 5 yr record period.

NOTES: To convert runoff in CFS to IN/HR, multiply by 0.01198. Event precipitation totals for rain gages 116 and 118 are 1.52 in. and 1.24 in., respectively and the Thiessen weighted average event precipitation is 1.51 inches.

1967 SELECTED RUNOFF EVENT				TREYNOR, IOWA WATERSHED 2							
ANTECEDENT CONDITIONS				RAINFALL				RUNOFF			
Date Mo-Day	Rainfall (inches)	Runoff (inches)	Date Mo-Day	Date of Day	Intensity (in/hr)	Acc. (inches)	Date Mo-Day	Date of Day	Time Rate (cfs)	Acc. (inches)	
EVENT OF JUNE 7, 1967 (CONTINUED)											
6- 7			1810		2.540	0.9962					
			1813		2.540	0.9977					
			1819		2.250	1.0006					
			1823		1.700	1.0022					
			1827		1.380	1.0034					
			1834		1.050	1.0051					
			1847		0.730	1.0074					
			1853		0.580	1.0082					
			1856		0.450	1.0085					
			1902		0.420	1.0090					

NOTES: To convert runoff in CFS to IN/HR, multiply by 0.01198. Event precipitation totals for rain gages 116 and 118 are 1.52 in. and 1.24 in., respectively and the Thiessen weighted average event precipitation is 1.51 inches.



EVENT OF JUNE 7, 1967
TREYNOR, IOWA WATERSHED 2

TREYNOR, IOWA WATERSHED 3

LOCATION: Pottawattamie County, Iowa; approximately 3 miles southwest of Treynor; Silver Creek, West Nishnabotna River, Missouri River Basin.

AREA: 107.00 acres

MONTHLY PRECIPITATION AND RUNOFF (inches)												TREYNOR, IOWA WATERSHED 3																
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual															
P	0.30	0.10	0.27	3.77	3.51	3.16	3.37	3.68	3.64	6.68	0.92	1.63	31.03	0	0.232	0.148	0.136	0.128	0.161	0.104	0.103	0.091	0.787	0.196	0.360	2.600		
STA AV	P	0.52	0.51	1.00	3.27	4.17	8.47	3.17	3.02	5.02	2.28	0.75	0.84	33.02	O	0.208	0.467	0.542	0.319	0.276	1.016	0.387	0.242	0.346	0.405	0.246	0.241	4.695
ANNUAL MAXIMUM DISCHARGE (in/hr) AND MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																												
	Maximum Discharge Date Rate	1 Hour Date	2 Hours Vol.	6 Hours Date	12 Hours Vol.	1 Day Date	2 Days Vol.	8 Days Vol.																				
1968	10-8	0.267	10-16	0.185	10-16	0.333	10-16	0.468	10-16	0.495	10-16	0.503	10-16	0.513	10-8	0.565												
MAXIMUMS FOR PERIOD OF RECORD																												
6-20	2.010	6-20	1.005	6-20	1.287	6-20	1.336	6-20	1.350	6-20	1.371	6-20	1.408	6-14	1.741	1967	1967	1967	1967	1967	1967	1965	1965	1967				

NOTES: Watershed conditions: 96% permanent pasture with controlled grazing; 4% gravel roads and farmstead. Precipitation: arithmetic average of gauges 113 and 114 before April 1 and after November 12; Thiessen average of gauges 112, 113 and 114 for remainder of year. Precipitation records began January 1, 1964. Runoff records began January 2, 1964, January 1, 1964 runoff estimated and included in average. For topographic map of watershed, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1964, USDA Misc. Pub. 1194, p. 71.3-4. For long-time precipitation records, see U.S. Weather Bureau records at Omaha, Nebraska.

1968 DAILY AIR TEMPERATURE (degrees F)												TREYNOR, IOWA WATERSHED 3												
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec												
	max min																							
1	16	14	38	24	60	20	58	24	88	52	80	55	80	54	80	56	77	53	85	59	67	44	34	32
2	16	-6	43	22	34	14	46	34	90	56	90	59	74	54	82	58	86	56	70	45	47	38	42	34
3	10	-10	44	28	42	10	68	38	70	50	94	62	85	52	84	67	80	59	59	38	55	30	39	26
4	10	-4	50	28	66	23	37	22	60	38	90	65	88	62	87	70	69	53	64	33	60	34	55	26
5	26	0	50	30	54	34	45	18	62	32	90	70	88	60	96	75	70	50	56	47	48	40	36	22
6	0	-12	36	24	55	24	68	30	62	50	88	66	81	64	96	74	74	50	66	46	43	36	40	20
7	6	-16	34	17	62	29	58	41	59	43	90	70	90	65	93	74	84	56	76	44	38	32	26	10
8	23	12	44	14	62	42	60	40	72	43	91	68	96	65	84	70	72	56	63	58	31	22	32	8
9	24	8	28	14	46	36	68	34	62	40	94	73	82	60	88	68	70	52	60	42	36	20	44	22
10	19	4	20	4	41	26	72	32	66	40	86	60	88	56	68	54	74	48	66	39	31	28	46	22
11	22	6	22	-1	44	22	87	41	62	39	79	60	96	66	75	51	76	46	73	46	30	20	52	32
12	20	-2	19	8	36	12	76	54	70	38	78	57	89	70	82	54	78	48	73	58	27	6	60	14
13	11	1	20	7	48	13	62	42	76	54	90	60	92	74	92	64	83	54	78	65	38	22	14	2
14	20	2	27	5	64	34	52	35	80	54	76	58	94	72	86	64	83	58	79	64	37	28	12	-2
15	22	4	37	20	68	32	74	34	80	53	66	52	92	72	88	72	79	56	86	70	44	33	20	-1
16	31	6	38	6	69	34	82	51	61	45	74	50	91	72	92	62	68	54	74	49	39	34	36	10
17	38	20	20	-2	63	50	68	40	64	42	84	58	82	72	78	56	68	49	50	40	38	32	34	20
18	40	26	38	2	74	48	52	40	50	40	88	64	90	70	82	66	56	52	56	39	34	27	34	30
19	45	22	48	24	50	30	57	50	60	38	90	60	86	64	92	72	68	51	63	34	28	16	32	19
20	49	26	22	3	37	22	60	45	62	41	92	70	90	62	94	73	78	48	69	38	49	16	19	11
21	48	28	19	-4	38	22	67	39	68	42	88	64	92	70	94	75	86	66	74	48	60	36	31	14
22	36	26	25	10	26	12	59	42	53	48	92	57	88	67	95	74	85	68	62	43	64	30	32	14
23	31	19	30	4	44	14	52	34	68	50	94	68	84	72	96	70	76	62	61	44	54	36	14	4
24	42	20	33	24	68	25	52	30	68	42	87	69	90	69	84	58	74	52	46	32	52	30	12	0
25	46	26	34	28	74	46	45	28	58	52	77	51	86	67	84	55	78	48	60	31	48	31	20	9
26	42	30	36	32	78	38	62	34	57	50	63	50	86	68	80	58	78	50	74	39	41	32	26	20
27	35	30	44	29	69	46	67	43	71	46	77	48	86	64	82	62	76	49	48	36	39	19	26	14
28	51	28	32	10	80	44	62	42	76	53	98	58	83	56	74	61	80	53	50	32	40	24	20	13
29	51	16	33	4	71	44	76	43	72	50	95	66	86	58	66	60	74	54	66	32	39	18	22	7
30	38	12	48	88	44	84	48	74	50	82	58	84	66	74	58	85	58	76	41	44	23	7	-16	
31	40	30			50	30			70	59			72	58	74	55			82	53		6	-9	
AV.	29	11	33	14	56	29	62	37	67	46	85	60	86	64	84	64	76	53	66	44	43	27	29	13
MEAN	20.6	23.8	43.3	50.0	56.8	73.2					75.7	74.4	64.9						55.7	35.7	21.8			
STA AV	30	12	35	14	48	25	61	38	72	50	81	60	86	65	81	60	73	52	66	42	48	29	35	17

NOTES: Temperature data taken from hygrothermograph charts. The recording period is from 0001 to 2400 for the date shown. STA AV based on 4 yr record period.

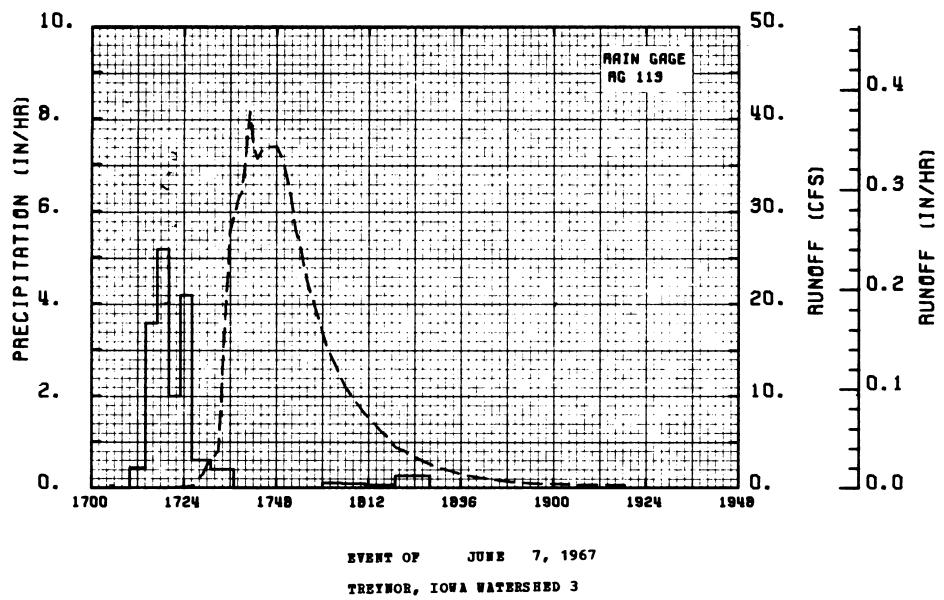
1968 DAILY PRECIPITATION (inches)												TREYNOR, IOWA WATERSHED 3												
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec												
1	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.07												
2	0.0	0.0	0.0	0.11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0												
3	0.0	0.0	0.0	0.39	0.0	0.0	0.0	0.0	1.25	0.0	0.0	0.0												
4	0.0	0.0	0.0	0.06	0.0	0.0	0.0	0.17	0.0	0.0	0.0	0.0												
5	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.66	0.20	0.0												
6	0.0	0.0	0.0	0.0	0.29	0.0	0.0	0.0	0.0	0.02	0.02	0.0												
7	0.0	0.0	0.05	0.0	0.46	0.0	0.0	0.0	0.0	0.0	0.0	0.0												
8	0.0	0.0	0.0	0.0	0.0	0.0	0.28	0.28	0.02	1.61	0.0	0.0												
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0												
10	0.0	0.0	0.0	0.0	0.0	0.97	0.0	0.21	0.0	0.33	0.0	0.0												
11	0.25	0.0	0.0	0.0	0.0	0.08	0.0	0.0	0.0	0.0	0.0	0.0												
12	0.03	0.0	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0												
13	0.0	0.0	0.0	0.40	0.94	1.23	0.0	0.0	0.0	0.0	0.0	0.0												
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.32	0.0												
15	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.24	0.0	0.0	0.0	0.0												
16	0.0	0.0	0.0	0.0	0.0	0.0	1.07	0.19	1.52	4.08	0.05	0.0												
17	0.0	0.0	0.0	0.23	0.03	0.0	0.04	0.0	0.02	0.26	0.0	0.0												
18	0.0	0.0	0.07	0.33	0.0	0.0	0.54	0.64	0.0	0.0	1.14	0.0												
19	0.0	0.0	0.0	0.24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07												
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0												
21	0.0	0.0	0.0	0.43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28												
22	0.0	0.0	0.0	0.77	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0												
23	0.0	0.0	0.0	0.51	0.0	0.19	0.07	0.18	0.02	0.0	0.0	0.0												
24	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.36	0.0	0.0	0.0	0.0												
25	0.0	0.08	0.0	0.0	0.91	0.34	0.0	0.0	0.0	0.0	0.0	0.0												
26	0.0	0.02	0.0	0.0	0.02	0.03	0.0	1.34	0.0	0.0	0.0	0.0												
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07												
28	0.0	0.0	0.0	0.0	0.34	0.03	0.0	0.0	0.0	0.0	0.0	0.0												
29	0.02	0.0	0.0	0.0	0.0	0.12	0.26	0.22	0.0	0.0	0.0	0.0												
30	0.0	0.0	0.15	0.0	0.0	0.0	1.26	0.31	0.17	0.0	0.0	0.0												
31	0.0	0.0	0.0	0.40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0												
TOTAL	0.30	0.10	0.27	3.77	3.51	3.16	3.37	3.68	3.64	6.68	0.92	1.63												
STA AV	0.52	0.51	1.00	3.27	4.17	8.47	3.17	3.02	5.02	2.28	0.75	0.84												

NOTES: Daily precipitation amounts are arithmetic average values from stations 113 and 114 before April 1 and after November 12; Thiessen weighted average values from gages 112, 113 and 114 for remainder of year. STA AV are based on 5 yr record period.

1968 MEAN DAILY DISCHARGE (cfs)												TREYNOR, IOWA WATERSHED 3												
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec												
1	0.022	0.027	0.022	0.019	0.019	0.017	0.011	0.009	0.007	0.006	0.027	0.033												
2	0.022	0.027	0.022	0.022	0.017	0.017	0.012	0.010	0.006	0.006	0.027	0.030												
3	0.022	0.027	0.022	0.025	0.017	0.017	0.011	0.010	0.135	0.006	0.027	0.027												
4	0.022	0.027	0.022	0.020	0.017	0.015	0.010	0.012	0.015	0.007	0.027	0.027												
5	0.022	0.027	0.022	0.019	0.017	0.016	0.011	0.009	0.010	0.012	0.029	0.027												
6	0.022	0.027	0.022	0.019	0.019	0.014	0.012	0.008	0.009	0.008	0.028	0.027												
7	0.022	0.027	0.022	0.017	0.028	0.015	0.010	0.009	0.007	0.007	0.027	0.027												
8	0.022	0.027	0.022	0.017	0.017	0.014	0.010	0.011	0.007	0.665	0.027	0.027												
9	0.022	0.027	0.022	0.017	0.017	0.014	0.010	0.009	0.006	0.031	0.028	0.027												
10	0.022	0.026	0.022	0.017	0.027	0.008	0.010	0.010	0.006	0.015	0.031	0.027												
11	0.022	0.026	0.022	0.017	0.025	0.008	0.008	0.007	0.012	0.027	0.030	0.030												
12	0.022	0.024	0.022	0.019	0.017	0.014	0.009	0.006	0.012	0.027	0.030	0.030												
13	0.022	0.022	0.022	0.021	0.025	0.256	0.008	0.008	0.005	0.010	0.030	0.027												
14	0.022	0.022	0.022	0.019	0.021	0.024	0.008	0.007	0.005	0.010	0.034	0.027												
15	0.022	0.022	0.022	0.017	0.017	0.017	0.008	0.010	0.005	0.010	0.033	0.027												
16	0.022	0.022	0.022	0.017	0.017	0.020	0.008	0.008	0.085	2.209	0.033	0.027												
17	0.022	0.022	0.022	0.017	0.017	0.017	0.011	0.007	0.012	0.085	0.030	0.027												
18	0.022	0.022	0.022	0.023	0.017	0.014	0.010	0.012	0.017	0.044	0.027	0.594												
19	0.022	0.022	0.019	0.020	0.017	0.014	0.008	0.008	0.012	0.039	0.027	0.081												
20	0.051	0.022	0.021	0.020	0.017	0.014	0.009	0.006	0.009	0.036	0.031	0.057												
21	0.105	0.022	0.021	0.018	0.017	0.014	0.009	0.006	0.008	0.033	0.033	0.055												
22	0.062	0.022	0.019	0.030	0.017	0.014	0.008	0.005	0.008	0.033	0.033	0.050												
23	0.042	0.022	0.022	0.022	0.021	0.014	0.006	0.011	0.006	0.027	0.030	0.043												
24	0.041	0.022	0.021	0.019	0.014	0.014	0.013	0.005	0.008	0.027	0.027	0.039												
25	0.089	0.022	0.022	0.022	0.033	0.018	0.009	0.005	0.007	0.027	0.030	0.039												
26	0.062	0.022	0.022	0.020	0.018	0.017	0.009	0.188	0.007	0.027	0.033	0.039												
27	0.040	0.022	0.022	0.020	0.017	0.014	0.008	0.029	0.007	0.027	0.033	0.036												
28	0.042	0.022	0.022	0.022	0.021	0.014	0.006	0.011	0.006	0.027	0.030	0.030												
29	0.035	0.022	0.022	0.022	0.017	0.013	0.007	0.010	0.006	0.027	0.027	0.027												
30	0.027	0.020	0.022	0.017	0.012	0.165	0.012	0.016	0.008	0.027	0.030	0.027				</td								

1967 SELECTED RUNOFF EVENT				TREYNOR, IOWA WATERSHED 3							
ANTECEDENT CONDITIONS			RAINFALL			RUNOFF					
Date Mo-Day	Rainfall (inches)	Runoff (inches)	Date Mo-Day	Time of Day	Intensity (in/hr)	Acc. (inches)	Date Mo-Day	Time of Day	Rate (cfs)	Acc. (inches)	
EVENT OF JUNE 7, 1967											
6- 7	RG 113 0.17	0.005	6- 7	RG 113 1710 0.0 1714 0.4500 1717 3.5998 1720 5.1997 1723 1.9999	0.0 0.03 0.21 0.47 0.57	6- 7	1717 0.030 1719 0.040 1720 0.060 1722 0.150 1724 0.180	0.0 0.0 0.0 0.0 0.0001			
WATERSHED CONDITIONS:											
96% pasture, good stand, moderately grazed, 60% 10-12 in. tall, 40% 2-4 in. tall; 4% gravel roads and farmstead.											
1726 4.2010 0.78 1731 0.5999 0.83 1737 0.4000 0.87 1800 0.0 0.87 1805 0.1200 0.88											
1726 0.230 0.0002 1727 0.510 0.0003 1728 1.050 0.0004 1729 1.630 0.0006 1730 2.570 0.0009											
30 Day Antecedent Conditions:											
Rainfall Runoff Date (inches) (inches)											
1811 0.1000 0.89 1819 0.0750 0.90 1828 0.2667 0.94											
1731 3.300 0.0014 1732 3.580 0.0019 1733 4.190 0.0025 1734 12.930 0.0038 1735 20.920 0.0064											
05-08 thru 05-27 0.0 0.061 05-28 0.36 0.003 05-29 0.29 0.003 05-30 1.29 0.007 05-31 0.71 0.005 06-01 0.16 0.005 06-02 0.0 0.003 06-03 0.0 0.003 06-04 1.23 0.004 06-05 1.89 0.246 06-06 0.0 0.007											
1736 28.070 0.0102 1737 29.660 0.0146 1738 31.320 0.0194 1739 32.150 0.0243 1740 35.660 0.0295 1741 40.820 0.0356 1742 37.000 0.0415 1743 35.660 0.0471 1744 36.560 0.0527 1745 37.000 0.0584											
1748 37.000 0.0755 1749 36.110 0.0812 1750 34.770 0.0867 1751 32.980 0.0919 1752 30.900 0.0968											
1753 27.690 0.1014 1754 26.550 0.1056 1755 24.340 0.1095 1756 22.250 0.1131 1758 19.650 0.1196											
1801 15.480 0.1277 1806 10.900 0.1379 1811 7.980 0.1452 1814 5.870 0.1506 1818 5.050 0.1523											
1819 4.440 0.1530 1820 4.190 0.1537 1821 4.080 0.1543 1823 3.520 0.1555 1827 2.710 0.1574											
1831 2.080 0.1589 1835 1.560 0.1600 1841 1.050 0.1612 1849 0.650 0.1623 1857 0.450 0.1630											
1910 0.340 0.1638 1915 0.320 0.1641 1918 0.290 0.1642 1920 0.270 0.1643											

NOTES: To convert runoff in CFS to IN/HR, multiply by 0.009268. Event precipitation totals for rain gages 112 and 114 are 0.97 in. and 0.88 in., respectively and the Thiessen weighted average event precipitation is 0.93 in.



TREYNOR, IOWA WATERSHED 4

LOCATION: Pottawattamie County, Iowa; approximately 3 miles southwest of Treynor; Silver Creek, West Mishnabotna River, Missouri River Basin.

AREA: 150.00 acres

MONTHLY PRECIPITATION AND RUNOFF (inches)												TREYNOR, IOWA WATERSHED 4		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
1968 P 0	0.29	0.10	0.27	3.86	3.49	3.32	3.45	3.85	3.96	6.92	1.09	1.57	32.17	
	0.378	0.340	0.317	0.311	0.364	0.381	0.354	0.267	0.216	0.390	0.509	0.521	4.387	
STA AV P 0	0.52	0.51	0.99	3.27	4.12	8.58	3.23	2.99	5.52	2.35	0.79	0.82	33.68	
	0.409	0.422	0.663	0.448	0.516	1.251	0.970	0.593	0.650	0.637	0.553	0.486	7.597	

ANNUAL MAXIMUM DISCHARGE (in/hr) AND MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																	
		Maximum Discharge		1 Hour		2 Hours		6 Hours		12 Hours		1 Day		2 Days		8 Days	
		Date	Rate	Date	Vol.	Date	Vol.	Date	Vol.	Date	Vol.	Date	Vol.	Date	Vol.		
1966		6-13	0.151	6-13	0.044	6-13	0.045	6-14	0.047	6-14	0.049	6-13	0.055	6-13	0.066	10-16	0.133
MAXIMUMS FOR PERIOD OF RECORD																	
		6-25	0.296	6-22	0.166	6-20	0.228	2-28	0.352	2-28	0.496	2-28	0.645	2-28	0.758	6-20	1.072
		1966		1964		1967		1965		1965		1965		1965		1967	

NOTES: Watershed conditions: 82% contoured corn above level terraces which have a capacity of 2 in. of runoff; 7% contoured corn below the bottom terraces; 10% grassed terrace back-slopes; 1% gully. Precipitation from gage 113 before April 1 and after November 12; Thiessen average of gauges 111, 112 and 113 for remainder of year. Precipitation records began January 1, 1964. Runoff records began February 27, 1964. January 1-February 27, 1964 runoff estimated and included in average. For daily air temperature, in the vicinity, see table for Watershed 3, (71-003). For topographic map of watershed, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1965. USDA Misc. Pub. 1194, p. 71-4-4. For long-time precipitation records, see U.S. Weather Bureau records at Omaha, Nebraska.

1968		DAILY PRECIPITATION (inches)												TREYNOR, IOWA WATERSHED 4		
Day		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
1		0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07
2		0.0	0.0	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3		0.0	0.0	0.0	0.37	0.0	0.0	0.0	0.0	1.46	0.0	0.0	0.0	0.0	0.0	0.0
4		0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.24	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5		0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.0	0.0	0.66	0.20	0.0	0.0	0.0	0.0
6		0.0	0.0	0.0	0.0	0.25	0.0	0.0	0.0	0.0	0.02	0.02	0.0	0.0	0.0	0.0
7		0.0	0.0	0.05	0.0	0.44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.24	0.25	0.02	1.60	0.0	0.0	0.0	0.0
9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0.0	0.0	0.0	0.0
10		0.0	0.0	0.0	0.0	0.0	0.0	0.92	0.0	0.21	0.0	0.51	0.0	0.0	0.0	0.0
11		0.25	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12		0.02	0.0	0.0	0.32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13		0.0	0.0	0.0	0.44	0.93	1.36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.31	0.0	0.0	0.0	0.0
15		0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.24	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16		0.0	0.0	0.0	0.0	0.0	0.0	1.07	0.21	1.62	4.25	0.05	0.0	0.0	0.0	0.0
17		0.0	0.0	0.0	0.28	0.04	0.0	0.05	0.0	0.02	0.32	0.0	0.0	0.0	0.0	0.0
18		0.0	0.0	0.07	0.34	0.0	0.0	0.0	0.55	0.66	0.0	0.0	1.06	0.0	0.0	0.0
19		0.0	0.0	0.0	0.24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0
20		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21		0.0	0.0	0.0	0.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.27
22		0.0	0.0	0.0	0.77	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23		0.0	0.0	0.0	0.54	0.0	0.20	0.08	0.18	0.02	0.0	0.0	0.0	0.0	0.0	0.0
24		0.0	0.0	0.0	0.0	0.0	0.10	0.44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25		0.0	0.08	0.0	0.0	0.93	0.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26		0.0	0.02	0.0	0.0	0.03	0.02	0.0	1.40	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09
28		0.0	0.0	0.0	0.0	0.35	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29		0.02	0.0	0.0	0.0	0.0	0.12	0.26	0.22	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30		0.0	0.0	0.15	0.0	0.0	0.0	1.29	0.35	0.16	0.0	0.0	0.0	0.0	0.0	0.0
31		0.0	0.0	0.0	0.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL		0.29	0.10	0.27	3.86	3.49	3.32	3.45	3.85	3.96	6.92	1.09	1.57			
STA AV		0.52	0.51	0.99	3.27	4.12	8.58	3.23	2.99	5.52	2.35	0.79	0.82			

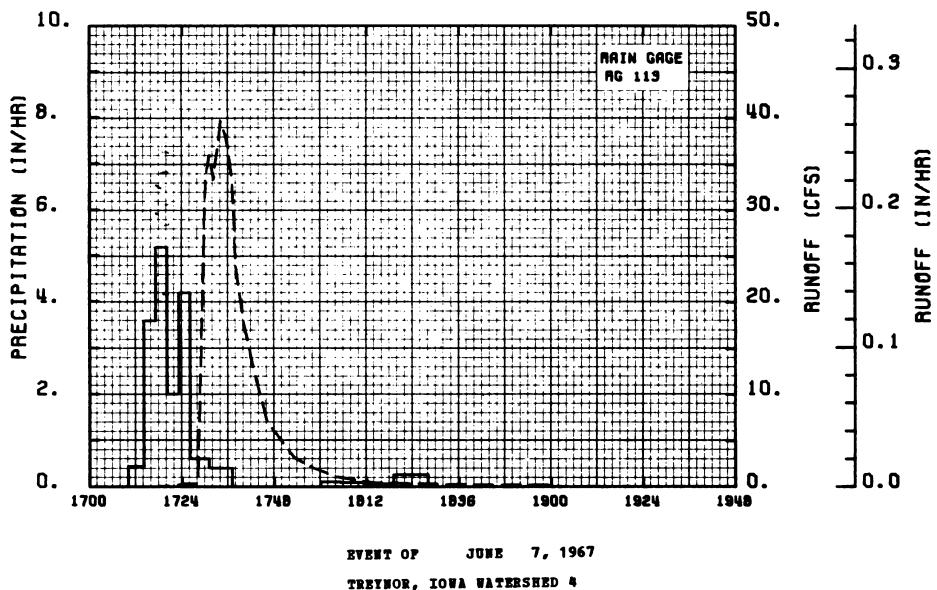
NOTES: Daily precipitation amounts are Thiessen weighted average values from stations 111, 112 and 113 for period of April 1 through November 12, and from 113 for remainder of year. STA AV are based on 5 yr record period.

1968 MEAN DAILY DISCHARGE (cfs) TREYNOR, IOWA WATERSHED 4												
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.083	0.083	0.064	0.068	0.073	0.073	0.073	0.064	0.047	0.039	0.105	0.105
2	0.078	0.083	0.064	0.068	0.073	0.073	0.073	0.064	0.044	0.039	0.105	0.105
3	0.073	0.083	0.064	0.070	0.073	0.073	0.073	0.064	0.062	0.039	0.105	0.105
4	0.073	0.083	0.068	0.064	0.073	0.068	0.073	0.065	0.052	0.039	0.105	0.099
5	0.073	0.078	0.068	0.064	0.073	0.074	0.073	0.059	0.047	0.048	0.105	0.099
6	0.073	0.073	0.068	0.064	0.073	0.068	0.073	0.055	0.047	0.043	0.105	0.105
7	0.073	0.073	0.064	0.064	0.080	0.068	0.073	0.055	0.043	0.039	0.105	0.105
8	0.073	0.073	0.064	0.058	0.073	0.064	0.075	0.061	0.039	0.071	0.105	0.105
9	0.073	0.073	0.064	0.055	0.073	0.064	0.077	0.055	0.041	0.053	0.110	0.105
10	0.073	0.073	0.064	0.055	0.073	0.071	0.076	0.061	0.044	0.047	0.116	0.105
11	0.073	0.073	0.064	0.051	0.073	0.063	0.075	0.055	0.045	0.047	0.110	0.105
12	0.073	0.073	0.064	0.058	0.073	0.052	0.073	0.055	0.045	0.047	0.105	0.099
13	0.073	0.073	0.064	0.067	0.078	0.336	0.073	0.055	0.045	0.047	0.105	0.094
14	0.073	0.073	0.064	0.065	0.074	0.074	0.073	0.055	0.045	0.047	0.110	0.094
15	0.073	0.073	0.064	0.064	0.073	0.068	0.073	0.057	0.043	0.047	0.116	0.094
16	0.073	0.073	0.064	0.064	0.073	0.064	0.083	0.056	0.068	0.197	0.116	0.099
17	0.073	0.073	0.064	0.064	0.073	0.064	0.073	0.055	0.052	0.125	0.110	0.105
18	0.073	0.073	0.065	0.070	0.073	0.068	0.073	0.060	0.054	0.097	0.105	0.148
19	0.073	0.073	0.064	0.065	0.073	0.073	0.070	0.050	0.051	0.094	0.105	0.119
20	0.073	0.073	0.064	0.064	0.073	0.073	0.070	0.047	0.047	0.101	0.105	0.116
21	0.078	0.073	0.064	0.066	0.073	0.073	0.070	0.045	0.044	0.105	0.105	0.116
22	0.083	0.073	0.064	0.079	0.073	0.073	0.073	0.045	0.043	0.105	0.105	0.110
23	0.083	0.073	0.064	0.084	0.073	0.080	0.073	0.045	0.039	0.105	0.105	0.105
24	0.083	0.073	0.064	0.068	0.073	0.075	0.072	0.043	0.039	0.105	0.105	0.105
25	0.083	0.073	0.064	0.068	0.083	0.080	0.068	0.044	0.039	0.105	0.105	0.105
26	0.083	0.068	0.064	0.068	0.073	0.083	0.064	0.062	0.039	0.105	0.105	0.105
27	0.083	0.073	0.064	0.064	0.073	0.078	0.061	0.051	0.039	0.105	0.105	0.105
28	0.083	0.068	0.064	0.064	0.074	0.075	0.061	0.047	0.039	0.105	0.105	0.105
29	0.083	0.064	0.064	0.064	0.073	0.075	0.061	0.050	0.039	0.105	0.105	0.105
30	0.083	0.069	0.068	0.073	0.073	0.080	0.053	0.039	0.105	0.105	0.105	0.105
31	0.083	0.065	0.065	0.079				0.068	0.047	0.105	0.105	0.105
MEAN	0.0769	0.0739	0.0685	0.0653	0.0740	0.0800	0.0719	0.0542	0.0453	0.0798	0.1068	0.1060
INCHES	0.378	0.340	0.317	0.311	0.364	0.381	0.354	0.267	0.216	0.390	0.509	0.521
STA AV	0.409	0.422	0.663	0.448	0.516	1.251	0.970	0.593	0.650	0.637	0.553	0.486

NOTES: To convert mean daily discharge in CFS to IN/DAY, multiply by 0.15868. STA AV are based on 5 yr record period.

1967 SELECTED RUNOFF EVENT TREYNOR, IOWA WATERSHED 4											
ANTECEDENT CONDITIONS			RAINFALL				RUNOFF				
Date	Rainfall	Runoff	Date	Time	Intensity	Acc.	Date	Time	Rate	Acc.	
Mo-Day	(inches)	(inches)	Mo-Day	of Day	(in/hr)	(inches)	Mo-Day	of Day	(cfs)	(inches)	
EVENT OF JUNE 7, 1967											
RG 113			RG 113				6- 7 1718 0.090 0.0				
6- 7	0.17	0.0	6- 7	1710	0.0	0.0	6- 7	1718	0.090	0.0	
				1714	0.4500	0.03		1722	0.230	0.0001	
				1717	3.5998	0.21		1724	0.390	0.0003	
				1720	5.1997	0.47		1728	0.390	0.0003	
				1723	1.9999	0.57		1730	33.580	0.0041	
WATERSHED CONDITIONS:											
82% contoured corn above level terraces; 7% contoured corn below terraces, all corn 4-6 in. tall. Less than 10% canopy; 10% grassed terrace back-slopes grass 12-18 in. tall.											
1726 4.2010 0.78 1731 36.000 0.0079											
1731 0.5999 0.83 1732 33.280 0.0117											
1737 0.4000 0.87 1733 36.450 0.0155											
1800 0.0 0.87 1734 39.630 0.0193											
1805 0.1200 0.88 1735 38.270 0.0236											
30 Day Antecedent Conditions:											
Rainfall Runoff											
Date (inches) (inches)											
05-08 thru 05-27 0.0 0.157 1744 10.150 0.0452											
05-28 0.36 0.009 1746 7.050 0.0471											
05-29 0.29 0.009 1753 3.090 0.0510											
05-30 1.29 0.012 1758 2.000 0.0524											
05-31 0.71 0.011 1804 1.040 0.0534											
06-01 0.16 0.010 1814 0.450 0.0552											
06-2, 3 0.0 0.018 1832 0.260 0.0559											
06-04 1.23 0.010 1840 0.210 0.0562											
06-05 1.89 0.125 1859 0.180 0.0566											
06-06 0.0 0.013											

NOTES: To convert runoff in CFS to IN/HR, multiply by 0.00661. Event precipitation totals for gages 111 and 112 are 1.07 in. and 0.97 in., respectively and the Thiessen average event precipitation is 1.00 in.



TREYNOR, IOWA WATERSHED 5

LOCATION: Pottawattamie County, Iowa; approximately 9 miles southeast of Treynor and 3 miles southwest of Macedonia; West Nishnabotna River, Missouri River Basin.

AREA: 389.00 acres

MONTHLY PRECIPITATION AND RUNOFF (inches)												TREYNOR, IOWA WATERSHED 5																													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual																												
P	0.37	0.10	0.41	3.23	2.51	2.57	2.23	3.42	3.19	6.26	1.05	1.68	27.02	O	0.300	0.189	0.213	0.200	0.159	0.091	0.070	0.069	0.041	0.231	0.129	0.190	1.882														
1968	0													STA AV	0.51	0.51	1.33	3.04	3.29	7.26	3.05	3.69	4.82	1.89	1.01	0.93	31.32	O	0.250	0.348	0.636	0.325	0.301	1.290	0.545	0.336	0.515	0.338	0.297	0.282	5.464
ANNUAL MAXIMUM DISCHARGE (in/hr) AND MAXIMUM VOLUMES OF RUNOFF (inches) FOR SELECTED TIME INTERVALS																																									
	Maximum Discharge Date Rate		1 Hour Date Vol.		2 Hours Date Vol.		6 Hours Date Vol.		12 Hours Date Vol.		1 Day Date Vol.		2 Days Date Vol.		8 Days Date Vol.																										
1968	10-8	0.036	10-16	0.024	10-16	0.044	10-16	0.081	10-16	0.112	10-16	0.117	10-16	0.123	10-16	0.146																									
MAXIMUMS FOR PERIOD OF RECORD																																									
6-20	1.250	6-20	0.890	6-20	1.271	6-20	1.529	6-20	1.575	6-20	1.636	6-20	1.744	6-20	2.460																										
1967		1967		1967		1967		1967		1967		1967		1967																											

NOTES: Watershed conditions: Percent crop distribution of area above or below level terraces, respectively is: corn, 24 and 6; beans, 24 and 0; small grain, 15 and 1; hay and clover, 7 and 1; pasture, 11 and 7; and roads and farmsteads, 1 and 3. Precipitation: Before April 4 and after November 1 arithmetic average of gages 101 and 108; Thiessen average of seven recording gauges for remainder of year. Precipitation and runoff records began February 6, 1963. January 1-February 6, 1963 precipitation and runoff estimated and included in average. Maximum discharge rate and volumes for selected time intervals for the period of record reported previously are revised. For daily air temperature, in the vicinity, see table for Watershed 3, (71.003). For topographic map of watershed, see Hydrologic Data for Experimental Agricultural Watersheds in the United States, 1964, USDA Misc. Pub. 1194, p. 71.5-6. For long-time precipitation records, see U.S. Weather Bureau records at Omaha, Nebraska.

1968 DAILY PRECIPITATION (inches)												TREYNOR, IOWA WATERSHED 5												
	Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec											
	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10
	2	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.07	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	6	0.0	0.0	0.0	0.0	0.0	0.18	0.0	0.18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	7	0.0	0.0	0.05	0.0	0.44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	8	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.18	0.13	0.02	1.73	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.61	0.0	0.29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	11	0.31	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	12	0.04	0.0	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	13	0.0	0.0	0.0	0.24	0.73	0.98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	14	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.22	0.45	0.97	3.58	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	17	0.0	0.0	0.06	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.36	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	18	0.0	0.0	0.22	0.94	0.0	0.0	0.0	0.0	0.65	0.67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.14	0.0
	19	0.0	0.0	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11
	20	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	21	0.0	0.0	0.0	0.36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14
	22	0.0	0.0	0.0	0.62	0.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13
	23	0.0	0.0	0.0	0.10	0.0	0.39	0.13	0.43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	24	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	25	0.0	0.10	0.0	0.0	0.51	0.28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	26	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.40	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
	28	0.0	0.0	0.0	0.0	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	29	0.02	0.0	0.0	0.0	0.0	0.0	0.17	0.20	0.21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	30	0.0	0.10	0.0	0.0	0.0	0.0	0.0	1.28	0.57	0.08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	31	0.0	0.0	0.0	0.36	0.0	0.04	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL	0.37	0.10	0.41	3.23	2.51	2.57	2.23	3.42	3.19	6.26	1.05	1.68											
	STA AV	0.51	0.51	1.33	3.04	3.29	7.26	3.05	3.69	4.82	1.89	1.01	0.93											

NOTES: Daily precipitation amounts are Thiessen weighted average values from seven stations (101 through 107) for period of April 4 through November 1 and are arithmetic averages from stations 101 and 108 for remainder of the year. STA AV are based on 6 yr record period.

1968 MEAN DAILY DISCHARGE (cfs)												TREYNOR, IOWA WATERSHED 5					
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					
1	0.132	0.115	0.129	0.086	0.087	0.067	0.029	0.037	0.022	0.015	0.058	0.072					
2	0.121	0.107	0.103	0.100	0.082	0.054	0.033	0.035	0.014	0.015	0.058	0.072					
3	0.121	0.118	0.111	0.149	0.073	0.047	0.034	0.043	0.169	0.012	0.058	0.072					
4	0.137	0.121	0.125	0.095	0.068	0.041	0.030	0.041	0.040	0.009	0.058	0.072					
5	0.171	0.112	0.110	0.103	0.077	0.037	0.031	0.029	0.025	0.007	0.058	0.062					
6	0.176	0.117	0.115	0.095	0.093	0.034	0.040	0.025	0.021	0.010	0.058	0.062					
7	0.213	0.112	0.114	0.096	0.158	0.038	0.034	0.017	0.019	0.010	0.058	0.064					
8	0.215	0.127	0.137	0.065	0.087	0.038	0.035	0.027	0.016	0.399	0.052	0.049					
9	0.199	0.118	0.112	0.069	0.079	0.039	0.034	0.035	0.015	0.177	0.047	0.047					
10	0.182	0.107	0.099	0.069	0.082	0.043	0.031	0.058	0.015	0.035	0.048	0.058					
11	0.181	0.100	0.094	0.065	0.082	0.068	0.033	0.029	0.013	0.029	0.074	0.083					
12	0.164	0.099	0.126	0.070	0.074	0.043	0.034	0.024	0.015	0.029	0.086	0.116					
13	0.164	0.102	0.137	0.101	0.111	0.141	0.028	0.026	0.015	0.029	0.091	0.098					
14	0.164	0.104	0.121	0.085	0.130	0.109	0.021	0.022	0.015	0.029	0.098	0.052					
15	0.153	0.127	0.121	0.070	0.079	0.047	0.019	0.030	0.015	0.029	0.126	0.024					
16	0.183	0.114	0.121	0.072	0.076	0.047	0.033	0.124	0.015	1.601	0.097	0.020					
17	0.156	0.091	0.132	0.077	0.076	0.052	0.032	0.022	0.018	0.396	0.079	0.043					
18	0.167	0.101	0.162	0.250	0.072	0.045	0.026	0.124	0.016	0.082	0.065	0.415					
19	0.165	0.103	0.134	0.126	0.068	0.041	0.014	0.032	0.018	0.072	0.058	0.092					
20	0.185	0.094	0.099	0.109	0.072	0.032	0.021	0.022	0.015	0.072	0.065	0.065					
21	0.191	0.099	0.100	0.090	0.077	0.033	0.013	0.019	0.015	0.072	0.072	0.058					
22	0.142	0.090	0.100	0.419	0.079	0.031	0.012	0.014	0.015	0.072	0.072	0.061					
23	0.121	0.090	0.100	0.132	0.080	0.049	0.015	0.030	0.018	0.072	0.072	0.110					
24	0.130	0.103	0.106	0.099	0.068	0.047	0.015	0.023	0.018	0.072	0.072	0.118					
25	0.155	0.103	0.103	0.103	0.112	0.055	0.015	0.014	0.015	0.072	0.072	0.172					
26	0.150	0.103	0.103	0.099	0.105	0.052	0.015	0.022	0.015	0.065	0.072	0.189					
27	0.138	0.113	0.105	0.096	0.071	0.043	0.015	0.032	0.015	0.058	0.072	0.176					
28	0.163	0.103	0.094	0.096	0.069	0.036	0.015	0.019	0.015	0.058	0.072	0.176					
29	0.148	0.103	0.098	0.098	0.070	0.044	0.019	0.027	0.015	0.058	0.072	0.165					
30	0.119	0.094	0.091	0.063	0.027	0.269	0.089	0.015	0.058	0.072	0.125						
31	0.131	0.084	0.073	0.149	0.031	0.058											
MEAN	0.1581	0.1068	0.1126	0.1091	0.0837	0.0494	0.0369	0.0362	0.0222	0.1217	0.0703	0.1002					
INCHES	0.300	0.189	0.213	0.200	0.159	0.091	0.070	0.069	0.041	0.231	0.129	0.190					
STA AV	0.250	0.348	0.636	0.325	0.301	1.290	0.545	0.336	0.515	0.338	0.297	0.282					

NOTES: To convert mean daily discharge in CFS to IN/DAY, multiply by 0.06119. STA AV are based on 6 yr record period.