Table 2-3b.-Runoff curve numbers for other agricultural lands'					
Cover description Cover type	Hydrologic condition	Curve numbers for hydrologic soil group-			
		A	B	C	D
Pasture, grassland, or range-continuous forage for grazing.2	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow-continuous grass, protected from grazing and generally mowed for hay.					
	-	30	58	71.	78
Brush-brush-weed-grass mixture with brush the major element.3	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	34	48	65	73
Woods-grass combination (orchard or tree farm).5	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods'	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	3()4	55	70	77
		59	74	82	86

Farmsteads-buildings, lanes, driveways, and surrounding lots.

'Average runoff condition.
2Poor: <50% ground cover or heavily grazed with no mulch. *Fair:* 50% to 75% ground cover and not heavily grazed.
Good: > 75% ground cover and lightly or only occasionally grazed.
2Poor: <50% ground cover.
Fair: 50 to 75% ground cover.
Good: > 75% ground cover.
~Actual curve number is less than 30; use CN . 30 for runoff computations.

ICN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture. .
'Poor: Forest, litter, small trees, and brush have been destroyed by heavy grazing or regular burning.
FBir: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

Table 2-3c.-Runoff curve numbers for 8'Id and farmland rangeland.'

Figure B-1.—SCS 24-*Hour rainfall distributions.*

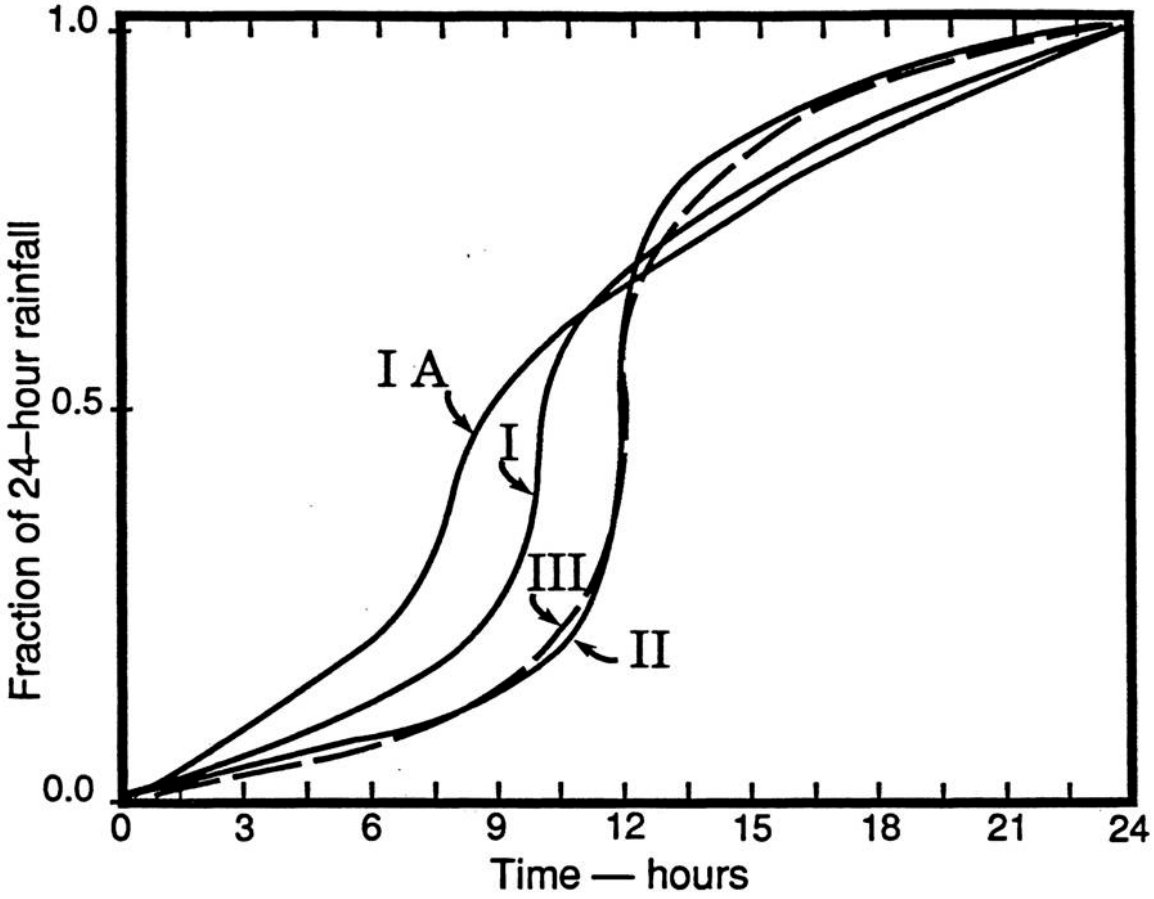


Figure 2-1 —**Approximate geographic boundaries for SCS rainfall distributions**

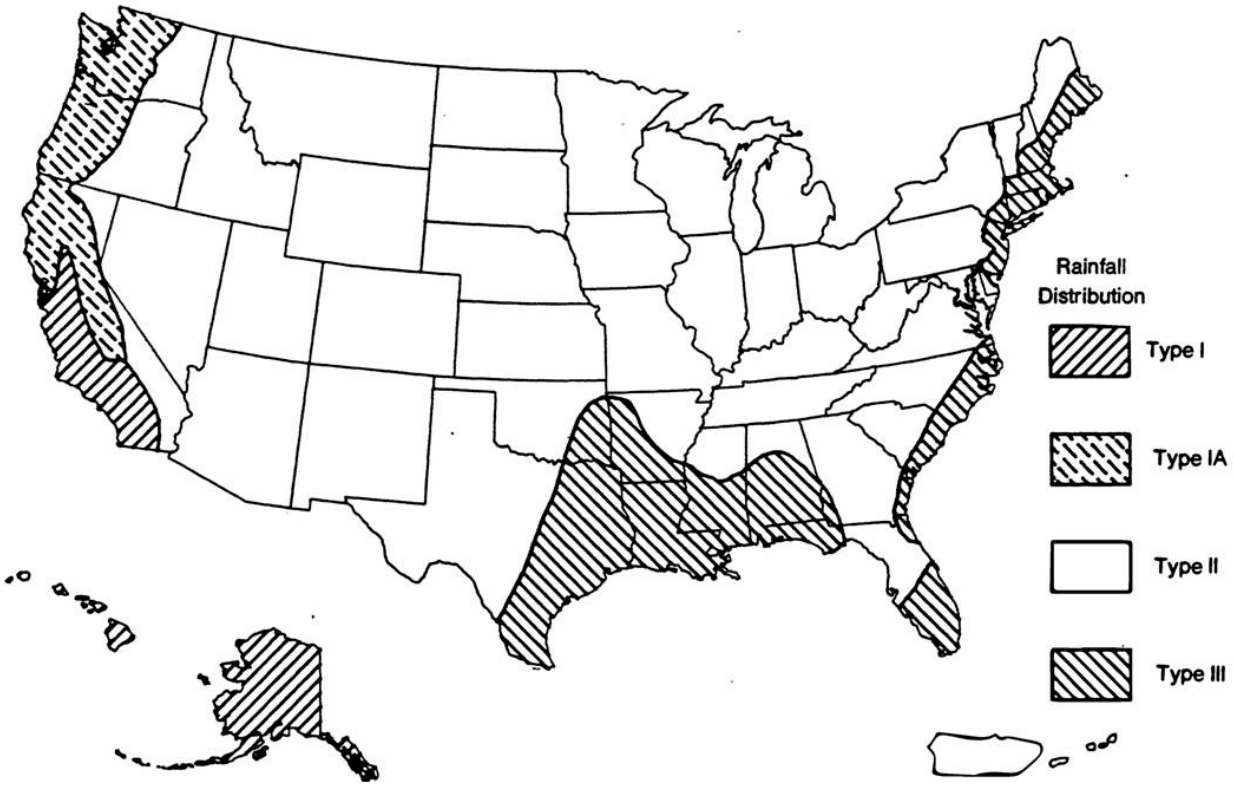


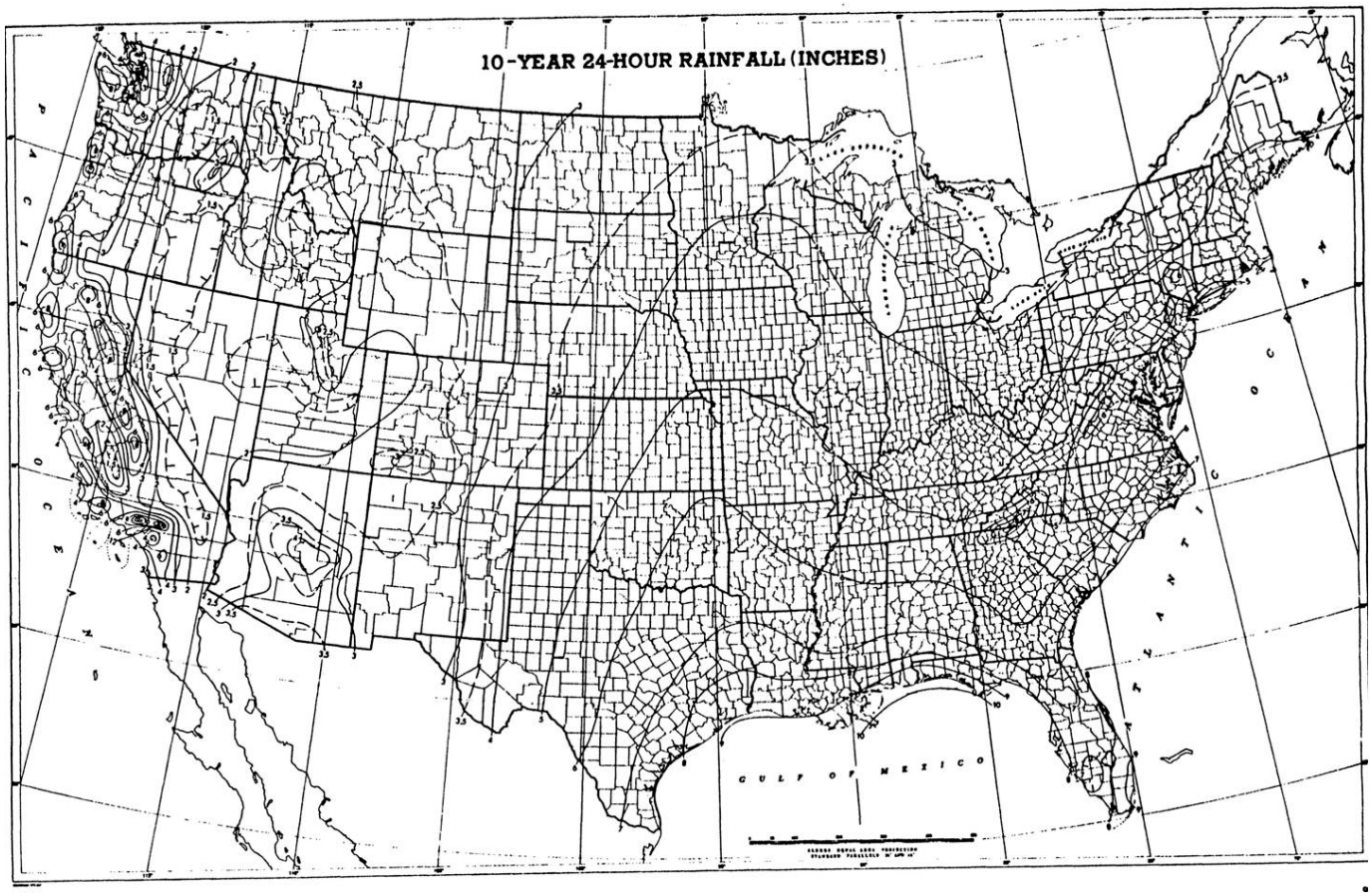
Table 2-2.-Runoff depth for selected CN'. and rainfall amount.1												
Runoff (Q) for curve number of-												
Rainfall	40	45	50	55	60	65	70	75	80	85	90	95
	--	-	-	-	-	-	-	-	-	-	---	-
1	0	0	0	0	0	0	0	0.03	0.08	0.17	0.32	0.56
1.2	0	0	0	0	0	0	0.03	0.07	0.15	0.27	0.46	0.74
1.4	0	0	0	0	0	0.02	0.06	0.13	0.24	0.39	0.61	0.92
1.6	0	0	0	0	0.01	0.05	.1 1	0.2	0.34	0.52	0.76	1.11
1.8	0	0	0	0	0.03	0.09	0.17	0.29	0.44	0.65	0.93	1.29
2	0	0	0	0.02	0.06	0.14	0.24	0.38	0.56	0.8	1.09	1.48
2.5	0	0	0.02	0.08	0.17	0.3	0.46	0.65	0.89	1.18	1.53	1.96
3	0	0.02	0.09	.1 9	0.33	0.51	0.71	0.96	1.25	1.59	1.98	2.45
3.5	0.02	0.08	0.2	0.35	0.53	0.75	1.01	1.3	1.64	2.02	2.45	2.94
4	0.06	0.18	0.33	0.53	0.76	1.03	1.33	1.67	2.04	2.46	2.92	3.43
4.5	0.14	0.3	0.5	0.74	1.02	1.33	1.67	2.05	2.46	2.91	3.4	3.92
5	0.24	0.44	0.69	0.98	1.3	1.65	2.04	2.45	2.89	3.37	3.88	4.42
6	0.5	0.8	1.14	1.52	1.92	2.35	2.81	3.28	3.78	4.3	4.85	5.41
7	0.84	1.24	1.68	2.1 2	2.6	3.1	3.62	4.15	4.69	5.25	5.82	6.41
8	1.25	1.74	2.25	2.78	3.33	3.89	4.46	5.04	5.63	6.21	6.81	7.4
9	1.71	2.29	2.88	3.49	4.1	4.72	5.33	5.95	6.57	7.18	7.79	8.4
10	2.23	2.89	3.56	4.23	4.9	5.56	6.22	6.88	7.52	8.16	8.78	9.4
11	2.78	3.52	4.26	5	5.72	6.43	7.13	7.81	8.48	9.13	9.77	10.39
12	3.38	4. 19	5	5.79	6.56	7.32	8.05	8.76	9.45	10.1 1	10.76	11 .39
13	4	4.89	5.76	6.61	7.42	8.21	8.98	9.71	10.42-	11.1	11.76	12.39
14	4.65	5.62	6.55	7.44	8.3	9.1 2	9.91	10.67	11 .39	12.08	12.75	13.39
15	5.33	6.36	7.35	8.29	9.19	10.04	10.85	11.63	12.37	13.07	13.74	14.39

Table 2.3 runoff curve numbers for cultivated agricultural lands

Cover description	curve numbers for hydrologic soil group-					
Cover type	**Treatment2**	**Hydrologic condition3**	**A**	**B**	**C**	**D**
Fallow	Bare soil		n	86	91	94
	Crop residue cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight row	Poor	72	81	88	91
		Good	67	78	85	89
	Straight row + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	Contoured + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & terraced (C&T)	Poor	66	74	80	82
		Good	62	71	78	81
	Contoured & terraced + CR	Poor	65	73	79	81
		Good	61	70	77	80
Small grain	Straight row	Poor	65	76	84	88
		Good	63	75	83	87
	Straight row + CR	Poor	64	75	83	86
		Good	60	72	80	84
	Contoured	Poor	63	74	82	85
		Good	61	73	81	84
	Contoured + CR	Poor	62	73	81	84
		Good	60	72	80	83
	Contoured & terraced	Poor	61	72	79	82
		Good	59	70	78	81
	Contoured & terraced + CR	Poor	60	71	78	81
		Good	58	69	77	80
Close-seeded or broadcast legumes or rotation meadow	Straight row	Poor	66	77	85	89
		Good	58	72	81	85
	Contoured	Poor	64	75	83	85
		Good	55	69	78	83
	Contoured & terraced	Poor	63	73	80	83
		Good	51	67	76	80

Table 2-3b.-Runoff curve numbers for other agricultural lands1					
Cover description	Curve numbers for hydrologic soil group-				
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range-continuous forage for grazing.2 .	Poor Fair Good	68 49 39	79 69 61	86 79 74	89 84 80
Meadow-continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	78
Brush-brush-weed-grass mixture with brush the major element.3	Poor Fair Good	48 35 34	67 66 48	77 70 65	83 77 73
Woods-grass combination (orchard or tree farm).5	Poor Fair Good	57 43 32	73 65 58	82 76 72	86 82 79
Woods'	Poor Fair Good	45 36 34	66 60 55	77 73 70	83 79 77
Farmsteads-buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

5-YEAR 24-HOUR RAINFALL (INCHES)
GULF OF MEXICO


10-YEAR 24-HOUR RAINFALL (INCHES)
GULF OF MEXICO

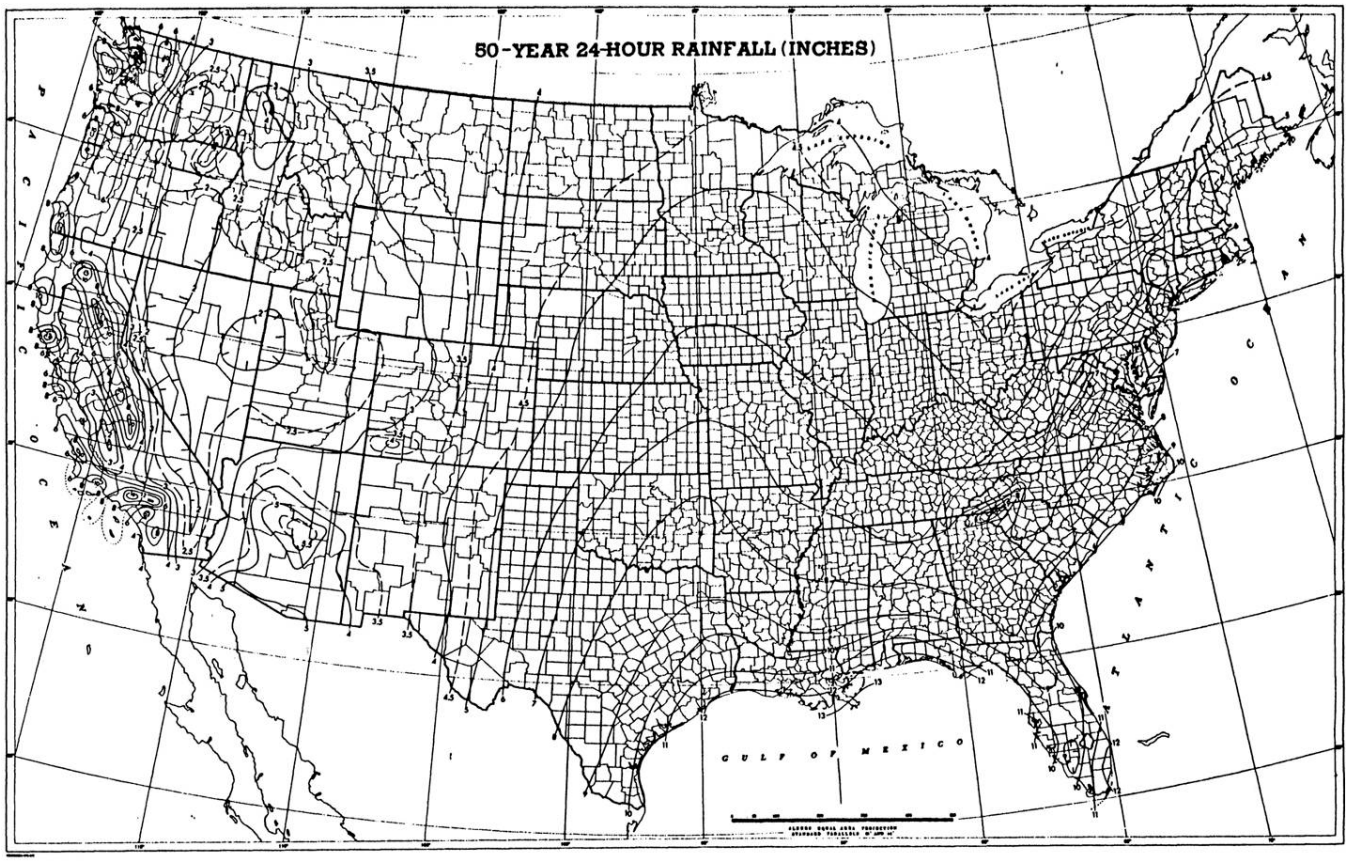

50-YEAR 24-HOUR RAINFALL (INCHES)
GULF OF MEXICO

Figure 2-27 .—**Time of concentration (T_c) nomograph**

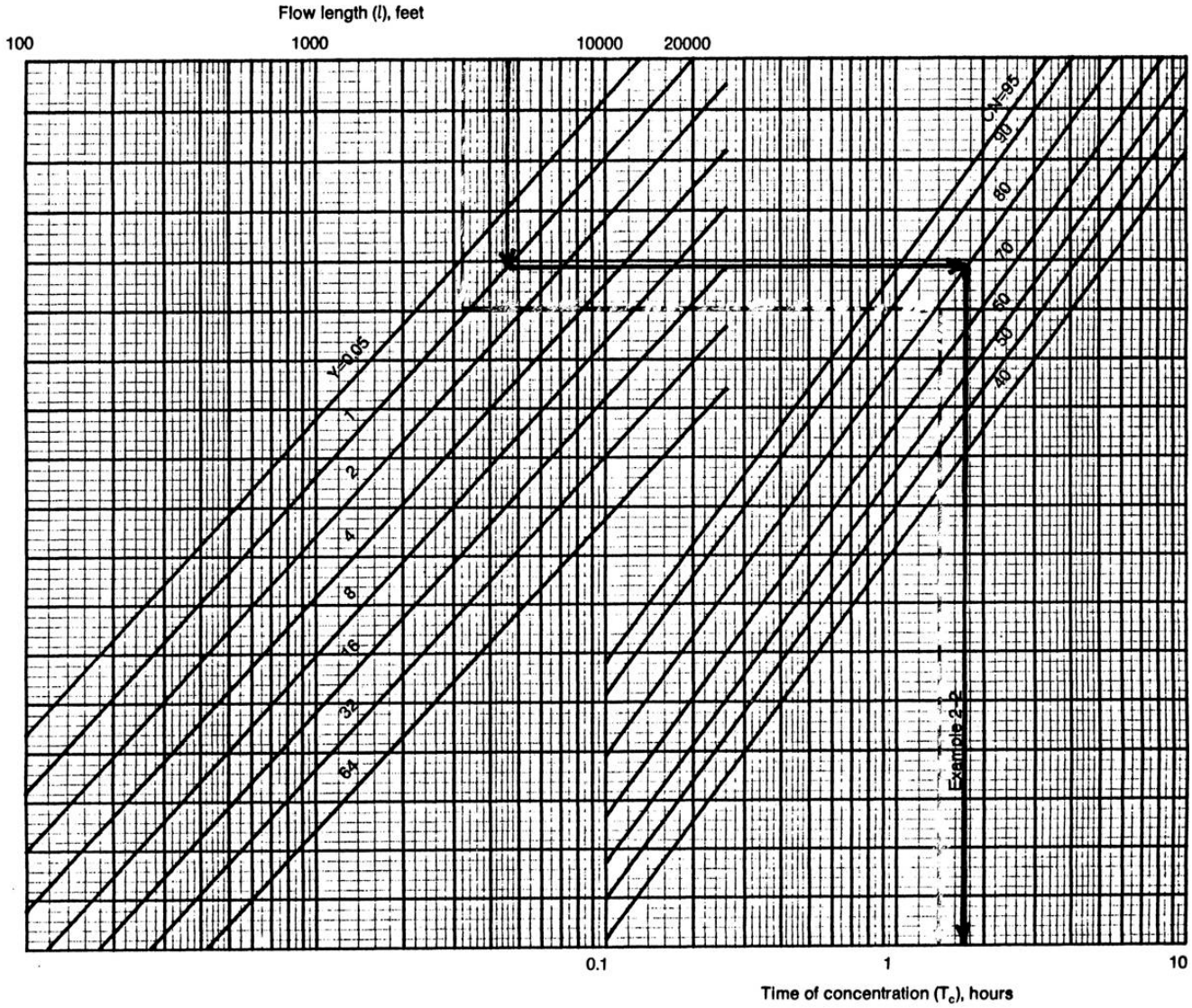


Table 2-4.-1. values for runoff curve numbers			
Curve number	18 (in)	Curve number	18 (in)
40	3.000	68	0.941
41	2.878	69	0.899
42	2.762	70	.0.857
43	2.651	71	0.817
44	2.545	72	0.778
45	2.444	73	0.740
46	2.348	74	0.703
47	2.255	75	0.667
48	2.167	76	0.632
49	2.082	77	0.597
50	2.000	78	0.564
51	1.922	79	0.532
52	1.846	80	0.500
53	1.774	81	0.469
54	1.704	82	0.439
55	1.636	83	0.410
56	1.571	84	0.381
57	1.509	85	0.353
58	1.448	86	0.326
59	1.390	87	0.299
60	1.333	88	0.273
61	1.279	89	0.247
62	1.226	90	0.222
63	1.175	91	0.198
64	1.125	92	0.174
65	1.077	93	0.151
66	1.030	94	0.128
67	0.985	95	0.105

Exhibit 2-II —**Unit peak discharge (q_u) for SCS Type II rainfall distribution**

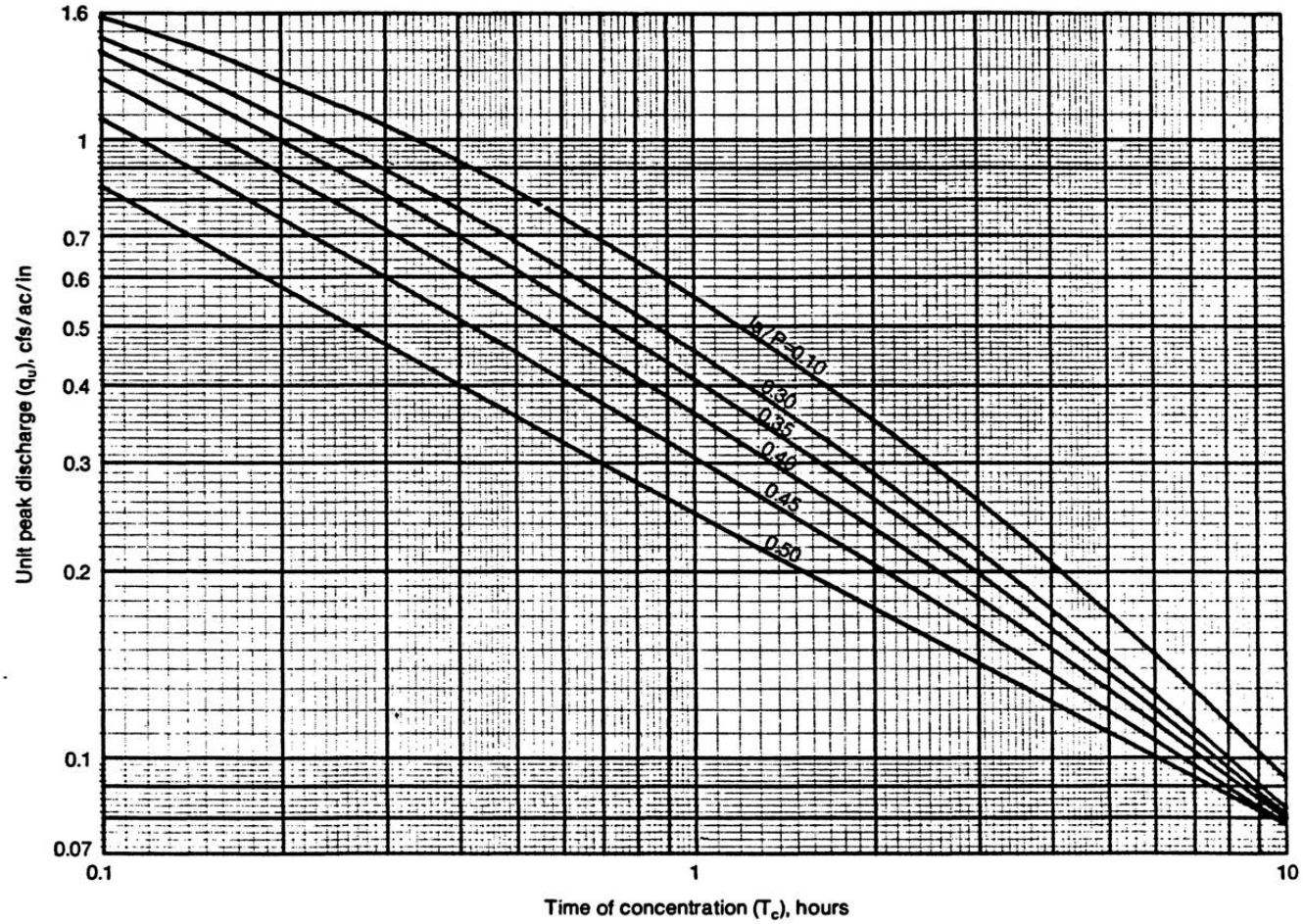


Exhibit 2-II-Unlt peak discharge (q_u) for NRCS Type II rainfall distribution

A-16

ENG - Hydrology Training Series.

Example 1

Worksheet 2Estimating Time of Concentration and peak discharge

Client _____ By_____ Date_____

County_____ State_____ Checked_____ Date_____

Practice_____

Estimating time of concentration

1. Data			
Rainfall distribution type	=		(I,IA,II,III)
Drainage area	A=		Ac
Runoff curve number	CN=		
Watershed slope	Y=		%
Flow length	*l*		Ft
2. using /,Y,CN and figure 2-27 or equation 2-5			
3. ___ _____=_____			

Estimating peak discharge	Storm#1	Storm#2	Storm #3
1. Frequency……yr			
2. Rainfall,P (24hour)……in			
3. Initial abstraction,I_a……in			
4. Compute I_a/P ratio……			
5. Unit peak discharge q_w……cfs/ac/in (Use T_c and I_a/P with exhibit 2-__)			
6. Runoff Q……in (use P and CN with figure 2-6 or table 2-2)			
7. Peak discharge, q_p……cfs (where q_p=q_uAQ) [A*5*6]			