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 (/confluence/hmsdocs)

HEC-HMS Technical Reference
Manual
(/confluence/hmsdocs/hmstrm)

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(<https://www.hec.usace.army.mil/confluence/display/HMSDOCS/HEC-HMS+Documentation>)

HEC-HMS Downloads (<https://www.hec.usace.army.mil/software/hec-hms/downloads.aspx>)

- Soils are classified into four HSG's (A, B, C, and D) according to their minimum infiltration rate, which is obtained for bare soil after prolonged wetting. Appendix A [of TR-55] defines the four groups and provides a list of most of the soils in the United States and their group classification. The soils in the area of interest may be identified from a soil survey report, which can be obtained from local SCS offices or soil and water conservation district offices.
- There are a number of methods for determining cover type. The most common are field reconnaissance, aerial photographs, and land use maps.
- Treatment is a cover type modifier (used only in Table 2-2b) to describe the management of cultivated agricultural lands. It includes mechanical practices, such as contouring and terracing, and management practices, such as crop rotations and reduced or no tillage.
- Hydrologic condition indicates the effects of cover type and treatment on infiltration and runoff and is generally estimated from density of plant and residue cover on sample areas. Good hydrologic condition indicates that the soil usually has a low runoff potential for that specific hydrologic soil group, cover type and treatment. Some factors to consider in estimating the effect of cover on infiltration and runoff are: (a) canopy or density of lawns, crops, or other vegetative areas; (b) amount of year-round cover; (c) amount of grass or close-seeded legumes in rotations; (d) percent of residue cover; and (e) degree of surface roughness.
- The index of runoff potential before a storm event is the antecedent runoff condition (ARC). The CN for the average ARC at a site is the median value as taken from sample rainfall and runoff data. The curve numbers in table 2-2 are for the average ARC, which is used primarily for design applications.
- The percentage of impervious area and the means of conveying runoff from impervious areas to the drainage systems should be considered in computing CN for urban areas. An impervious area is considered connected if runoff from it flows directly into the drainage systems. It is also considered connected if runoff from it occurs as shallow concentrated shallow flow that runs over a pervious area and then into a drainage system. Runoff from unconnected impervious areas is spread over a pervious area as sheet flow.

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 (/confluence/hmsdocs)

HEC-HMS Technical Reference
Manual
(/confluence/hmsdocs/hmstrm)

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(<https://www.hec.usace.army.mil/confluence/display/HMSDOCS/HEC-HMS+Documentation>)

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Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ⁴		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96

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HEC-HMS Technical Reference
Manual
(/confluence/hmsdocs/hmstrm)

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1/2 acre	25	54	70	80	85
. . . .					
1 acre	20	51	68	79	84
. . . .					
2 acre	12	46	65	77	82
. . . .					
<i>Developing urban areas</i>					
Newly graded areas (pervious areas only, no vegetation) ⁵		77	86	91	94
. . . .					
Idle lands (CN's are determined using cover types similar to those in table 2-2c					

¹ Average runoff condition, and $I_a = 0.2S$.

² The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

³ CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

⁴ Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

⁵ Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4, based on the degree of development (imperviousness area percentage) and the CN's for the newly graded pervious areas.

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HEC-HMS Technical Reference
Manual
(/confluence/hmsdocs/hmstrm)

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	Good	67	78	85	89
SR + CR	Poor	71	80	87	90
	Good	64	75	82	85
Contoured (C)	Poor	70	79	84	88
	Good	65	75	82	86
C + 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
C & T + CR	Poor	65	73	79	81
	Good	61	70	77	80

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HEC-HMS Technical Reference Manual
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(<https://www.hec.usace.army.mil/confluence/display/HMSDOCS/HEC-HMS+Documentation>)

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Close-seeded or broadcast legumes or rotation meadow		Good	59	70	78	81
	C & T + CR	Poor	60	71	78	81
		Good	58	69	77	80
	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C & T	Poor	63	73	80	83
		Good	51	67	76	80

¹ Average runoff condition, and $I_a = 0.2S$.

² *Crop residue cover* applies only if residue is on at least 5% of the surface throughout the year.

³ Hydrologic condition is based on combination of factors that affect infiltration and runoff, including (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes in rotations, (d) percent of residue cover on the land surface (good $\geq 20\%$), and (e) degree of surface roughness.

Poor: Factors impair infiltration and tend to increase runoff.

Good: Factors encourage average and better than average infiltration and tend to decrease runoff.

SCS TR-55 Table 2-2c – Runoff curve numbers for other agricultural lands¹

Cover description		Curve numbers for hydrologic soil group							
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HEC-HMS Technical Reference Manual
(/confluence/hmsdocs/hmstrm)

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Brush – brush-weed mixture with brush	Poor	48	67	77	83		
the major element. ³	Fair	35	56	70	77		
	Good	30 ⁴	48	65	73		
Woods – grass combination (orchard	Poor	57	73	82	86		
or tree farm). ⁵	Fair	43	65	76	82		
	Good	32	58	72	79		
Woods. ⁶	Poor	45	66	77	83		
	Fair	36	60	73	79		
	Good	30 ⁴	55	70	77		
Farmsteads – buildings, lanes, driveways,	☒	59	74	82	86		
and surrounding lots.							

¹ Average runoff condition, and $I_a = 0.2S$.

² *Poor*: <50% ground cover or heavily grazed with no mulch.

Fair: 50 to 75% ground cover and not heavily grazed.

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HEC-HMS Technical Reference Manual
(/confluence/hmsdocs/hmstrm)

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(<https://www.hec.usace.army.mil/confluence/display/HMSDOCS/HEC-HMS+Documentation>)

HEC-HMS Downloads (<https://www.hec.usace.army.mil/software/hec-hms/downloads.aspx>)

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(/confluence/hmsdocs/hmstrm)

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(/confluence/hmsdocs/hmstrm/snow-accumulation-and-melt)

Evaporation and Transpiration
(/confluence/hmsdocs/hmstrm/evaporation-and-transpiration)

Canopy,

Cover type	Hydrologic condition ²	A ³	B	C	D
Herbaceous – mixture of grass, weeds, and low-growing brush, with brush the minor element.	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen – mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper – pinyon, juniper, or both; grass understory.	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sagebrush with grass understory.	Poor		67	80	85
	Fair		51	63	70
	Good		35	47	55
Desert shrub – major plants include saltbrush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus.	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

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Manual
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HEC-HMS Docs
(<https://www.hec.usace.army.mil/confluence/display/HMSDOCS/HEC-HMS+Documentation>)

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Manual
([/confluence/hmsdocs/hmstrm](https://www.hec.usace.army.mil/confluence/hmsdocs/hmstrm))

HEC-HMS Docs
(<https://www.hec.usace.army.mil/confluence/display/HMSDOCS/HEC-HMS+Documentation>)

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(<https://www.hec.usace.army.mil/confluence/display/HMSDOCS/HEC-HMS+Documentation>)

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Manual
([/confluence/hmsdocs/hmstrm](https://www.hec.usace.army.mil/confluence/hmsdocs/hmstrm))

HEC-HMS Docs
(<https://www.hec.usace.army.mil/confluence/display/HMSDOCS/HEC-HMS+Documentation>)

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Manual
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(<https://www.hec.usace.army.mil/confluence/display/HMSDOCS/HEC-HMS+Documentation>)

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