

Water Features

Madison County, Tennessee

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
Ar:										
Arents	B	---	Jan-Dec			---	---	None	---	None
Urban land	---	---	Jan-Dec			---	---	None	---	None
Ca:										
Calhoun	D	---	January	0.0-1.0	>6.0	---	---	None	---	None
			February	0.0-1.0	>6.0	---	---	None	---	None
			March	0.0-1.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			December	0.0-1.0	>6.0	---	---	None	---	None
Henry	D	---	January	0.5-1.5	1.5-3.0	---	---	None	---	None
			February	0.5-1.5	1.5-3.0	---	---	None	---	None
			March	0.5-1.5	1.5-3.0	---	---	None	---	None
			April	0.5-1.5	1.5-3.0	---	---	None	---	None
			December	0.5-1.5	1.5-3.0	---	---	None	---	None
Co:										
Calloway	C	---	January	1.0-2.0	1.2-3.2	---	---	None	---	None
			February	1.0-2.0	1.2-3.2	---	---	None	---	None
			March	1.0-2.0	1.2-3.2	---	---	None	---	None
			April	1.0-2.0	1.2-3.2	---	---	None	---	None
			December	1.0-2.0	1.2-3.2	---	---	None	---	None

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				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
Cs:										
Collins	C	---	January	2.0-2.5	4.3->6.0	---	---	None	Brief	Frequent
			February	2.0-2.5	4.3->6.0	---	---	None	Brief	Frequent
			March	2.0-2.5	4.3->6.0	---	---	None	Brief	Frequent
			April	2.0-2.5	4.3->6.0	---	---	None	Brief	Frequent
			December	2.0-2.5	4.3->6.0	---	---	None	Brief	Frequent
DuB:										
Dulac	C	---	January	1.0-2.0	1.3-2.8	---	---	None	---	None
			February	1.0-2.0	1.3-2.8	---	---	None	---	None
			March	1.0-2.0	1.3-2.8	---	---	None	---	None
			April	1.0-2.0	1.3-2.8	---	---	None	---	None
			December	1.0-2.0	1.3-2.8	---	---	None	---	None
DuB3:										
Dulac	C	---	January	1.0-2.0	1.3-2.8	---	---	None	---	None
			February	1.0-2.0	1.3-2.8	---	---	None	---	None
			March	1.0-2.0	1.3-2.8	---	---	None	---	None
			April	1.0-2.0	1.3-2.8	---	---	None	---	None
			December	1.0-2.0	1.3-2.8	---	---	None	---	None
DuC3:										
Dulac	C	---	January	1.0-2.0	1.3-2.8	---	---	None	---	None
			February	1.0-2.0	1.3-2.8	---	---	None	---	None
			March	1.0-2.0	1.3-2.8	---	---	None	---	None
			April	1.0-2.0	1.3-2.8	---	---	None	---	None
			December	1.0-2.0	1.3-2.8	---	---	None	---	None

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				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
DuD3:										
Dulac	C	---	January	1.0-2.0	1.3-2.8	---	---	None	---	None
			February	1.0-2.0	1.3-2.8	---	---	None	---	None
			March	1.0-2.0	1.3-2.8	---	---	None	---	None
			April	1.0-2.0	1.3-2.8	---	---	None	---	None
			December	1.0-2.0	1.3-2.8	---	---	None	---	None
EuE:										
Eustis	A	---	Jan-Dec			---	---	None	---	None
Fa:										
Falaya	D	---	January	1.0-2.0	>6.0	---	---	None	Brief	Frequent
			February	1.0-2.0	>6.0	---	---	None	Brief	Frequent
			March	1.0-2.0	>6.0	---	---	None	Brief	Frequent
			April	1.0-2.0	>6.0	---	---	None	Brief	Frequent
			December	1.0-2.0	>6.0	---	---	None	Brief	Frequent
GrA:										
Grenada	C	---	January	1.0-2.0	1.5-3.0	---	---	None	---	None
			February	1.0-2.0	1.5-3.0	---	---	None	---	None
			March	1.0-2.0	1.5-3.0	---	---	None	---	None
			April	1.0-2.0	1.5-3.0	---	---	None	---	None
			December	1.0-2.0	1.5-3.0	---	---	None	---	None
GrB:										
Grenada	C	---	January	1.0-2.0	1.5-3.0	---	---	None	---	None
			February	1.0-2.0	1.5-3.0	---	---	None	---	None
			March	1.0-2.0	1.5-3.0	---	---	None	---	None
			April	1.0-2.0	1.5-3.0	---	---	None	---	None
			December	1.0-2.0	1.5-3.0	---	---	None	---	None

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				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
GrB3:										
Grenada	C	---	January	1.0-2.0	1.5-3.0	---	---	None	---	None
			February	1.0-2.0	1.5-3.0	---	---	None	---	None
			March	1.0-2.0	1.5-3.0	---	---	None	---	None
			April	1.0-2.0	1.5-3.0	---	---	None	---	None
			December	1.0-2.0	1.5-3.0	---	---	None	---	None
GrC3:										
Grenada	C	---	January	1.0-2.0	1.5-3.0	---	---	None	---	None
			February	1.0-2.0	1.5-3.0	---	---	None	---	None
			March	1.0-2.0	1.5-3.0	---	---	None	---	None
			April	1.0-2.0	1.5-3.0	---	---	None	---	None
			December	1.0-2.0	1.5-3.0	---	---	None	---	None
lu:										
luka	C	---	January	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			February	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			March	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			April	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			December	2.0-3.0	>6.0	---	---	None	Brief	Frequent
LeB:										
Lexington	B	---	Jan-Dec			---	---	None	---	None
LeB3:										
Lexington	B	---	Jan-Dec			---	---	None	---	None
LeC:										
Lexington	B	---	Jan-Dec			---	---	None	---	None

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				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
LeC3:										
Lexington	B	---	Jan-Dec			---	---	None	---	None
LeD:										
Lexington	B	---	Jan-Dec			---	---	None	---	None
LeD3:										
Lexington	B	---	Jan-Dec			---	---	None	---	None
LeE:										
Lexington	B	---	Jan-Dec			---	---	None	---	None
LgC:										
Lexington	B	---	Jan-Dec			---	---	None	---	None
Urban land	---	---	Jan-Dec			---	---	None	---	None
LmE3:										
Lexington	B	---	Jan-Dec			---	---	None	---	None
Smithdale	B	---	Jan-Dec			---	---	None	---	None
LoB:										
Loring	C	---	January	1.0-2.3	1.2-2.9	---	---	None	---	None
			February	1.0-2.3	1.2-2.9	---	---	None	---	None
			March	1.0-2.3	1.2-2.9	---	---	None	---	None
			April	1.0-2.3	1.2-2.9	---	---	None	---	None
			December	1.0-2.3	1.2-2.9	---	---	None	---	None

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Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
LoB3:										
Loring	C	---	January	1.0-2.3	1.2-2.9	---	---	None	---	None
			February	1.0-2.3	1.2-2.9	---	---	None	---	None
			March	1.0-2.3	1.2-2.9	---	---	None	---	None
			April	1.0-2.3	1.2-2.9	---	---	None	---	None
			December	1.0-2.3	1.2-2.9	---	---	None	---	None
LoC3:										
Loring	C	---	January	1.0-2.0	1.2-2.9	---	---	None	---	None
			February	1.0-2.0	1.2-2.9	---	---	None	---	None
			March	1.0-2.0	1.2-2.9	---	---	None	---	None
			April	1.0-2.0	1.2-2.9	---	---	None	---	None
			December	1.0-2.0	1.2-2.9	---	---	None	---	None
Ma:										
Mantachie	C	---	January	1.0-1.5	>6.0	---	---	None	Brief	Occasional
			February	1.0-1.5	>6.0	---	---	None	Brief	Occasional
			March	1.0-1.5	>6.0	---	---	None	Brief	Occasional
			April	1.0-1.5	>6.0	---	---	None	Brief	Occasional
			December	1.0-1.5	>6.0	---	---	None	Brief	Occasional
MeA:										
Memphis	B	---	Jan-Dec			---	---	None	---	None
MeB:										
Memphis	B	---	Jan-Dec			---	---	None	---	None
MeB2:										
Memphis	B	---	Jan-Dec			---	---	None	---	None

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				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
MeC3:										
Memphis	B	---	Jan-Dec					None	---	None
Oc:										
Ochlockonee	B	---	January	3.0-5.0	>6.0	---	---	None	Brief	Frequent
			February	3.0-5.0	>6.0	---	---	None	Brief	Frequent
			March	3.0-5.0	>6.0	---	---	None	Brief	Frequent
			April	3.0-5.0	>6.0	---	---	None	Brief	Frequent
			December	3.0-5.0	>6.0	---	---	None	Brief	Frequent
PrB:										
Providence	C	---	January	1.0-2.9	1.5-3.2	---	---	None	---	None
			February	1.0-2.9	1.5-3.2	---	---	None	---	None
			March	1.0-2.9	1.5-3.2	---	---	None	---	None
			April	1.0-2.9	1.5-3.2	---	---	None	---	None
			December	1.0-2.9	1.5-3.2	---	---	None	---	None
PrC3:										
Providence	C	---	January	1.0-2.5	1.5-3.2	---	---	None	---	None
			February	1.0-2.5	1.5-3.2	---	---	None	---	None
			March	1.0-2.5	1.5-3.2	---	---	None	---	None
			April	1.0-2.5	1.5-3.2	---	---	None	---	None
			December	1.0-2.5	1.5-3.2	---	---	None	---	None
PrD3:										
Providence	C	---	January	1.0-2.5	1.5-3.2	---	---	None	---	None
			February	1.0-2.5	1.5-3.2	---	---	None	---	None
			March	1.0-2.5	1.5-3.2	---	---	None	---	None
			April	1.0-2.5	1.5-3.2	---	---	None	---	None
			December	1.0-2.5	1.5-3.2	---	---	None	---	None

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				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
SmE:										
Smithdale	B	---	Jan-Dec			---	---	None	---	None
SmF:										
Smithdale	B	---	Jan-Dec			---	---	None	---	None
SwD:										
Sweatman	C	---	Jan-Dec			---	---	None	---	None
SwE:										
Sweatman	C	---	Jan-Dec			---	---	None	---	None
Vk:										
Vicksburg	B	---	January	2.5-5.0	>6.0	---	---	None	Brief	Rare
			February	2.5-5.0	>6.0	---	---	None	Brief	Rare
			March	2.5-5.0	>6.0	---	---	None	Brief	Rare
			April	2.5-5.0	>6.0	---	---	None	Brief	Rare
			December	2.5-5.0	>6.0	---	---	None	---	None
Wa:										
Waverly	D	---	January	0.3-0.8	>6.0	---	---	None	Very long	Frequent
			February	0.3-0.8	>6.0	---	---	None	Very long	Frequent
			March	0.3-0.8	>6.0	---	---	None	Very long	Frequent
			April	0.3-0.8	>6.0	---	---	None	Very long	Frequent
			May	0.3-0.8	>6.0	---	---	None	Very long	Frequent
			June	0.3-0.8	>6.0	---	---	None	Very long	Frequent
			November	0.3-0.8	>6.0	---	---	None	Very long	Frequent
			December	0.3-0.8	>6.0	---	---	None	Very long	Frequent

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				<i>Ft</i>	<i>Ft</i>	<i>Ft</i>				
Wf:										
Waverly	D	---	January	0.3-0.8	>6.0	1.0-2.0	Long	Frequent	Long	Frequent
			February	0.3-0.8	>6.0	1.0-2.0	Long	Frequent	Long	Frequent
			March	0.3-0.8	>6.0	1.0-2.0	Long	Frequent	Long	Frequent
			April	0.3-0.8	>6.0	1.0-2.0	Long	Frequent	Long	Frequent
			May	0.3-0.8	>6.0	1.0-2.0	Long	Frequent	Long	Frequent
			June	0.3-0.8	>6.0	1.0-2.0	Long	Frequent	Long	Frequent
			November	0.3-0.8	>6.0	1.0-2.0	Long	Frequent	Long	Frequent
			December	0.3-0.8	>6.0	1.0-2.0	Long	Frequent	Long	Frequent

Water Features

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

"Hydrologic soil groups" are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

"Surface runoff" refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The "months" in the table indicate the portion of the year in which a water table, ponding, and/or flooding is most likely to be a concern.

"Water table" refers to a saturated zone in the soil. The water features table indicates, by month, depth to the top ("upper limit") and base ("lower limit") of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

"Ponding" is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates "surface water depth" and the "duration" and "frequency" of ponding. Duration is expressed as "very brief" if less than 2 days, "brief" if 2 to 7 days, "long" if 7 to 30 days, and "very long" if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. "None" means that ponding is not probable; "rare" that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); "occasional" that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and "frequent" that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

"Flooding" is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

"Duration" and "frequency" are estimated. Duration is expressed as "extremely brief" if 0.1 hour to 4 hours, "very brief" if 4 hours to 2 days, "brief" if 2 to 7 days, "long" if 7 to 30 days, and "very long" if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. "None" means that flooding is not probable; "very rare" that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); "rare" that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); "occasional" that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); "frequent" that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and "very frequent" that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.