

WATER FEATURES Geary County, Kansas

The Water Features table gives estimates of various 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.

The months in the table indicate the portion of the year in which the feature 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 Water Features 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, the temporary inundation of an area, is 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.

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Be: Benfield-----	C		Ft	Ft	Ft				
Florence-----	C		---	---	---	---	---	---	---
Cc: Cline-----	C		---	---	---	---	---	---	---
Cf: Cline-----	C		---	---	---	---	---	---	---
Sogn-----	D		---	---	---	---	---	---	---
Cr: Crete-----	C		---	---	---	---	---	---	---
Cs: Crete-----	C		---	---	---	---	---	---	---
Ct: Crete-----	C		---	---	---	---	---	---	---
Eu: Eudora-----	B		---	---	---	---	---	---	---
		April	---	---	---	---	None	Very brief	Occasional
		May	---	---	---	---	None	Very brief	Occasional
		June	---	---	---	---	None	Very brief	Occasional
		July	---	---	---	---	None	Very brief	Occasional
		August	---	---	---	---	None	Very brief	Occasional
		September	---	---	---	---	None	Very brief	Occasional
		October	---	---	---	---	None	Very brief	Occasional
Ge: Geary-----	B		---	---	---	---	---	---	---
Gf: Geary-----	B		---	---	---	---	---	---	---
He: Haynie-----	B		---	---	---	---	---	---	---
		April	---	---	---	---	None	Very brief	Frequent
		May	---	---	---	---	None	Very brief	Frequent
		June	---	---	---	---	None	Very brief	Frequent
		July	---	---	---	---	None	Very brief	Frequent
		August	---	---	---	---	None	Very brief	Frequent
		September	---	---	---	---	None	Very brief	Frequent
		October	---	---	---	---	None	Very brief	Frequent
Hf: Hobbs-----	B		---	---	---	---	---	---	---
		April	---	---	---	---	None	Brief	Frequent
		May	---	---	---	---	None	Brief	Frequent
		June	---	---	---	---	None	Brief	Frequent
		July	---	---	---	---	None	Brief	Frequent
		August	---	---	---	---	None	Brief	Frequent
		September	---	---	---	---	None	Brief	Frequent
		October	---	---	---	---	None	Brief	Frequent
Hg: Hobbs-----	B		---	---	---	---	---	---	---
		April	---	---	---	---	None	Brief	Occasional
		May	---	---	---	---	None	Brief	Occasional
		June	---	---	---	---	None	Brief	Occasional
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
		October	---	---	---	---	None	Brief	Occasional
Hm: Holder-----	B		---	---	---	---	---	---	---
Ho: Holder-----	B		---	---	---	---	---	---	---
Id: Irwin-----	D		---	---	---	---	---	---	---
Ka:			---	---	---	---	---	---	---

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Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Kahola-----	B	January	---	---	---	---	None	---	Rare
		February	---	---	---	---	None	---	Rare
		March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	Very brief	Frequent
		May	---	---	---	---	None	Very brief	Frequent
		June	---	---	---	---	None	Very brief	Frequent
		July	---	---	---	---	None	Very brief	Frequent
		August	---	---	---	---	None	Very brief	Frequent
		September	---	---	---	---	None	Very brief	Frequent
		October	---	---	---	---	None	Very brief	Frequent
		November	---	---	---	---	None	---	Rare
		December	---	---	---	---	None	---	Rare
Kb: Kahola-----	B	January	---	---	---	---	None	---	Rare
		February	---	---	---	---	None	---	Rare
		March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	Very brief	Occasional
		May	---	---	---	---	None	Very brief	Occasional
		June	---	---	---	---	None	Very brief	Occasional
		July	---	---	---	---	None	Very brief	Occasional
		August	---	---	---	---	None	Very brief	Occasional
		September	---	---	---	---	None	Very brief	Occasional
		October	---	---	---	---	None	Very brief	Occasional
		November	---	---	---	---	None	---	Rare
		December	---	---	---	---	None	---	Rare
Ko: Konza-----	D		---	---	---	---	---	---	---
Lm: Ladysmith-----	D		---	---	---	---	---	---	---
Lo: Longford-----	C		---	---	---	---	---	---	---
M-W: Miscellaneous Water-----	---		---	---	---	---	---	---	---
Mb: Mccook-----	B	April	---	---	---	---	None	Very brief	Occasional
		May	---	---	---	---	None	Very brief	Occasional
		June	---	---	---	---	None	Very brief	Occasional
		July	---	---	---	---	None	Very brief	Occasional
		August	---	---	---	---	None	Very brief	Occasional
		September	---	---	---	---	None	Very brief	Occasional
		October	---	---	---	---	None	Very brief	Occasional
Mc: Mccook-----	B	April	---	---	---	---	None	Very brief	Rare
		May	---	---	---	---	None	Very brief	Rare
		June	---	---	---	---	None	Very brief	Rare
		July	---	---	---	---	None	Very brief	Rare
		August	---	---	---	---	None	Very brief	Rare
		September	---	---	---	---	None	Very brief	Rare
		October	---	---	---	---	None	Very brief	Rare
Mk: Mccook-----	B	April	---	---	---	---	None	Very brief	Occasional
		May	---	---	---	---	None	Very brief	Occasional
		June	---	---	---	---	None	Very brief	Occasional
		July	---	---	---	---	None	Very brief	Occasional
		August	---	---	---	---	None	Very brief	Occasional
		September	---	---	---	---	None	Very brief	Occasional
		October	---	---	---	---	None	Very brief	Occasional
Smokyhill-----	C	April	---	---	0.5-1.6	Brief	Rare	Brief	Occasional
		May	---	---	0.5-1.6	Brief	Rare	Brief	Occasional
		June	---	---	0.5-1.6	Brief	Rare	Brief	Occasional
		July	---	---	0.5-1.6	Brief	Rare	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
		October	---	---	---	---	None	Brief	Occasional
Mu: Muir-----	B	April	---	---	---	---	None	Brief	Rare
		May	---	---	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
Oc:									

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Map symbol and soil name	Hydro- logic group	Month	Soil Saturation		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Orthents-----	D		Ft	Ft	Ft				
Or:			---	---	---	---	---	---	---
Orthents, Earthen Dam----	---		---	---	---	---	---	---	---
Pt:			---	---	---	---	---	---	---
Pits, Quarries-----	---		---	---	---	---	---	---	---
Ra:			---	---	---	---	---	---	---
Reading-----	B		---	---	---	---	---	---	---
		March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		September	---	---	---	---	None	---	Rare
		October	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
Re:			---	---	---	---	---	---	---
Reading-----	B		---	---	---	---	---	---	---
		March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		September	---	---	---	---	None	---	Rare
		October	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
Sa:			---	---	---	---	---	---	---
Sarpy-----	A		---	---	---	---	---	---	---
		April	---	---	---	---	None	Brief	Occasional
		May	---	---	---	---	None	Brief	Occasional
		June	---	---	---	---	None	Brief	Occasional
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
		October	---	---	---	---	None	Brief	Occasional
Sc:			---	---	---	---	---	---	---
Sarpy-----	A		---	---	---	---	---	---	---
		April	---	---	---	---	None	Brief	Occasional
		May	---	---	---	---	None	Brief	Occasional
		June	---	---	---	---	None	Brief	Occasional
		July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
		October	---	---	---	---	None	Brief	Occasional
Sh:			---	---	---	---	---	---	---
Solomon-----	D		---	---	---	---	---	---	---
		March	---	---	0.5-1.6	Long	Occasional	---	None
		April	---	---	0.5-1.6	Long	Frequent	Brief	Occasional
		May	---	---	0.5-1.6	Long	Frequent	Brief	Occasional
		June	---	---	0.5-1.6	Long	Occasional	Brief	Occasional
		July	---	---	0.5-1.6	Long	Occasional	Brief	Occasional
		August	---	---	0.5-1.6	Long	Rare	Brief	Occasional
		September	---	---	0.5-1.6	Long	Rare	Brief	Occasional
		October	---	---	---	---	None	Brief	Occasional
St:			---	---	---	---	---	---	---
Sutphen-----	D		---	---	---	---	---	---	---
		March	---	---	0.0-1.0	Brief	Rare	---	None
		April	---	---	0.0-1.0	Brief	Occasional	Very brief	Occasional
		May	---	---	0.0-1.0	Brief	Occasional	Very brief	Occasional
		June	---	---	0.0-1.0	Brief	Occasional	Very brief	Occasional
		July	---	---	0.0-1.0	Brief	Occasional	Very brief	Occasional
		August	---	---	0.0-1.0	Brief	Rare	Very brief	Occasional
		September	---	---	0.0-1.0	Brief	Rare	Very brief	Occasional
		October	---	---	---	---	None	Very brief	Occasional
Tn:			---	---	---	---	---	---	---
Tully-----	C		---	---	---	---	---	---	---
To:			---	---	---	---	---	---	---
Tully-----	C		---	---	---	---	---	---	---
Vc:			---	---	---	---	---	---	---
Valentine-----	A		---	---	---	---	---	---	---
W:			---	---	---	---	---	---	---
Water-----	---		---	---	---	---	---	---	---
We:			---	---	---	---	---	---	---
Wells-----	B		---	---	---	---	---	---	---

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			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Ortello-----	B		Ft ---	Ft ---	Ft ---	---	---	---	---
Wf: Wells-----	B		---	---	---	---	---	---	---
Ortello-----	B		---	---	---	---	---	---	---

