



Missouri Streams Fact Sheet



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Perennial, intermittent and *ephemeral* classifications describe a stream based on its usual level of flow. These descriptions are related to the stream being a *losing* or a *gaining system*. A losing stream flows above the water table and loses flow to the groundwater system. This is common in some areas of the Ozarks. Gaining streams are below the water table and receive groundwater flow through springs or seepage. A stream may have sections of each type, depending on the geologic area over which it flows.

Perennial Streams

Perennial streams flow all year except during severe drought (Figure 1). Perennial streams are mostly gaining systems and have base flow during dry periods. Perennial streams are shown as solid, blue lines on topographic maps.



Figure 1

Intermittent Streams

Intermittent streams flow only during certain times of the year from springs or from runoff from rain events. They can be either losing or gaining systems. During times of dry weather, intermittent streams may dry up to a series of disconnected pools but still sustain aquatic life (Figure 2). Intermittent streams are shown as dashed, blue lines on topographic maps.



Figure 2

Ephemeral Streams

Ephemeral streams have water in them only during and immediately after a rainstorm or snowmelt (Figure 3). They are losing streams because they are above the water table. Ephemeral streams are often found in the headwaters of a stream system. Ephemeral streams are usually not identified on topographic maps.



Figure 3

Caution is needed when using a topographic map to learn if a small stream is perennial, intermittent or ephemeral. Classification of a small stream often depends on streamflow conditions when the flyover was made to update or create the map. If a flyover occurs during an unusually wet period, the intermittent stream will have water in it and the cartographer may classify it as perennial. Conversely, the cartographer may record a perennial stream as intermittent if the flyover occurred during a dry period. Other changes, such as impoundments being built or water use changing after the map was made, may result in a misclassification of streams on any map.