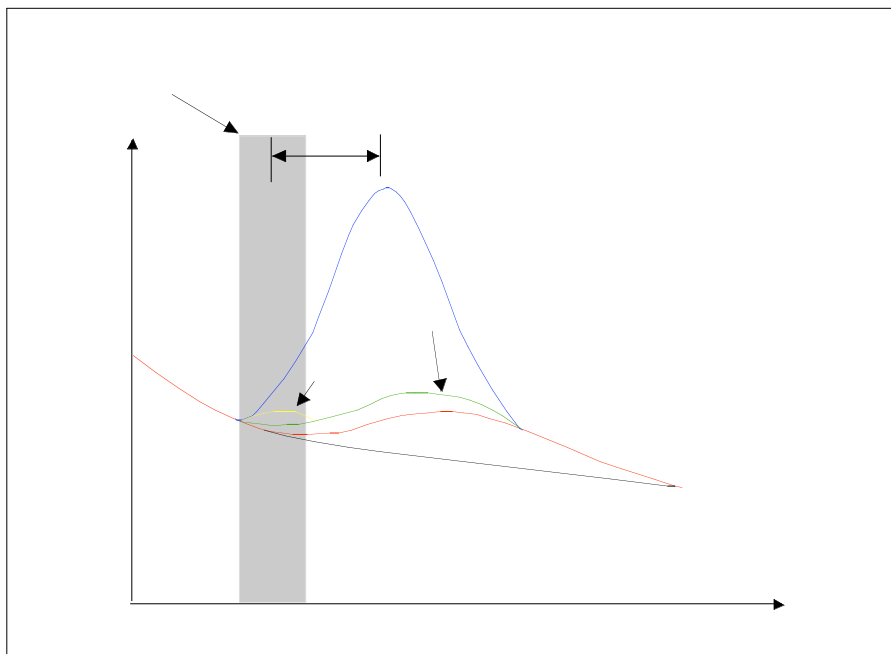


River Flow

The water flow in a river is primarily a function of:

- 1) Overland Flow – also known as runoff. This flow results from precipitation on land and occurs when the land has reached infiltration capacity. In other words, no more water can seep into the ground. Water precipitating on land runs down slopes in a sheet flow, then focuses on rills, then eventually the water flows into a stream and overland flow. Generally, Overland Flow is important within a few hours or at most a few days after a precipitation event. The Lag Time is the time between the centroid of the rainfall period and the greatest Overland Flow.
- 2) Base Flow results from infiltration (the water that seeps into the ground during precipitation) adding water to the groundwater system. The water flows underground through fractures and pore spaces (spaces between sediment or rock grains) down a hydraulic gradient to a stream where it then flows into the stream from the sides and base of the channel. Gaining (of effluent) streams get most of their water in this manner. This is why you still see water in the rivers even though there has not been any rainfall in a long time. Base Flow continually declines through time as the groundwater reservoir is depleted. However, after a precipitation event, the Base Flow temporarily increases.

Additional, but minor, flow may be added by interflow, the down-slope flow of water through unstratified soils, and direct precipitation on the stream.



A stream hydrograph showing the input of different types of flow.