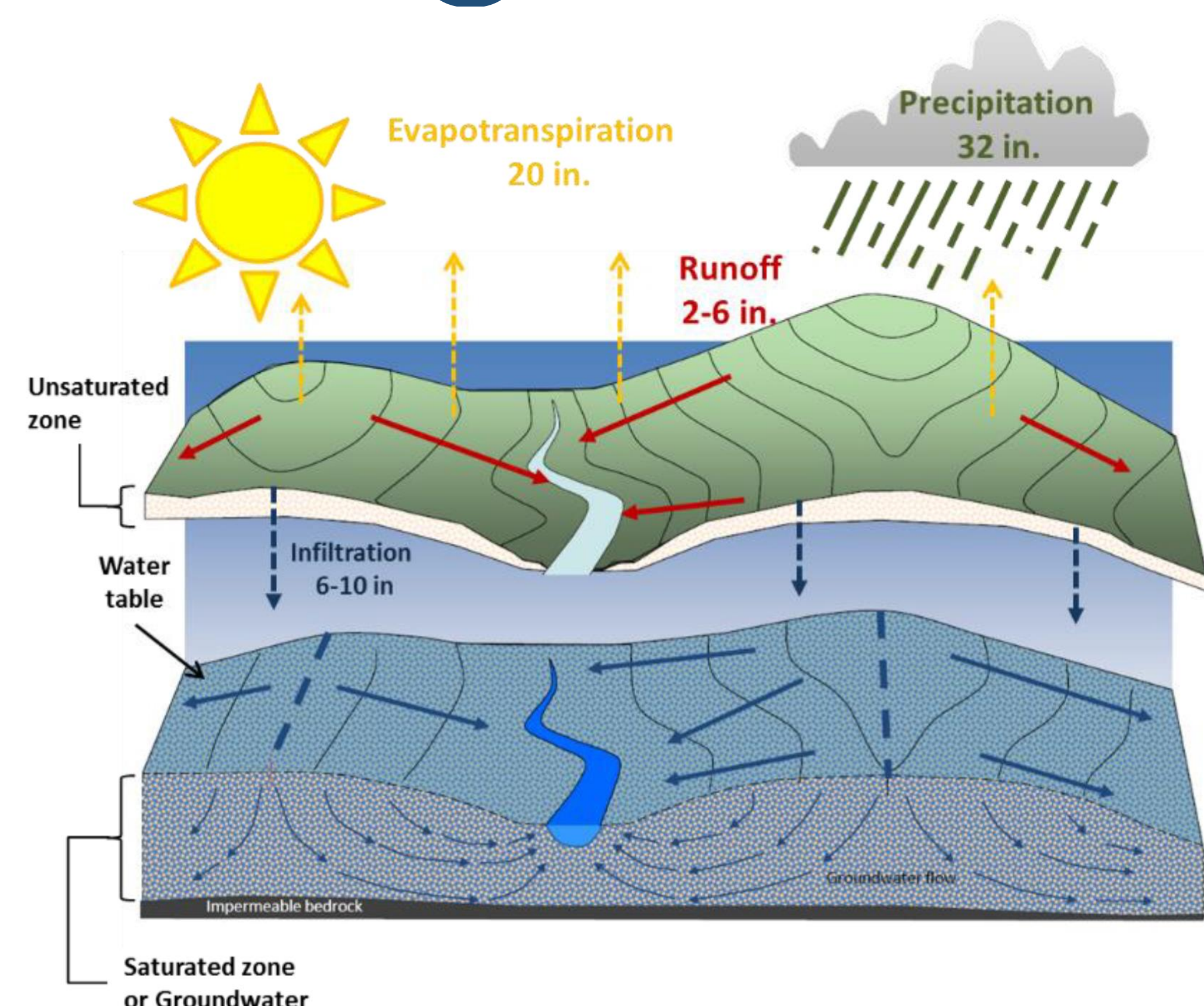


Groundwater In Portage County

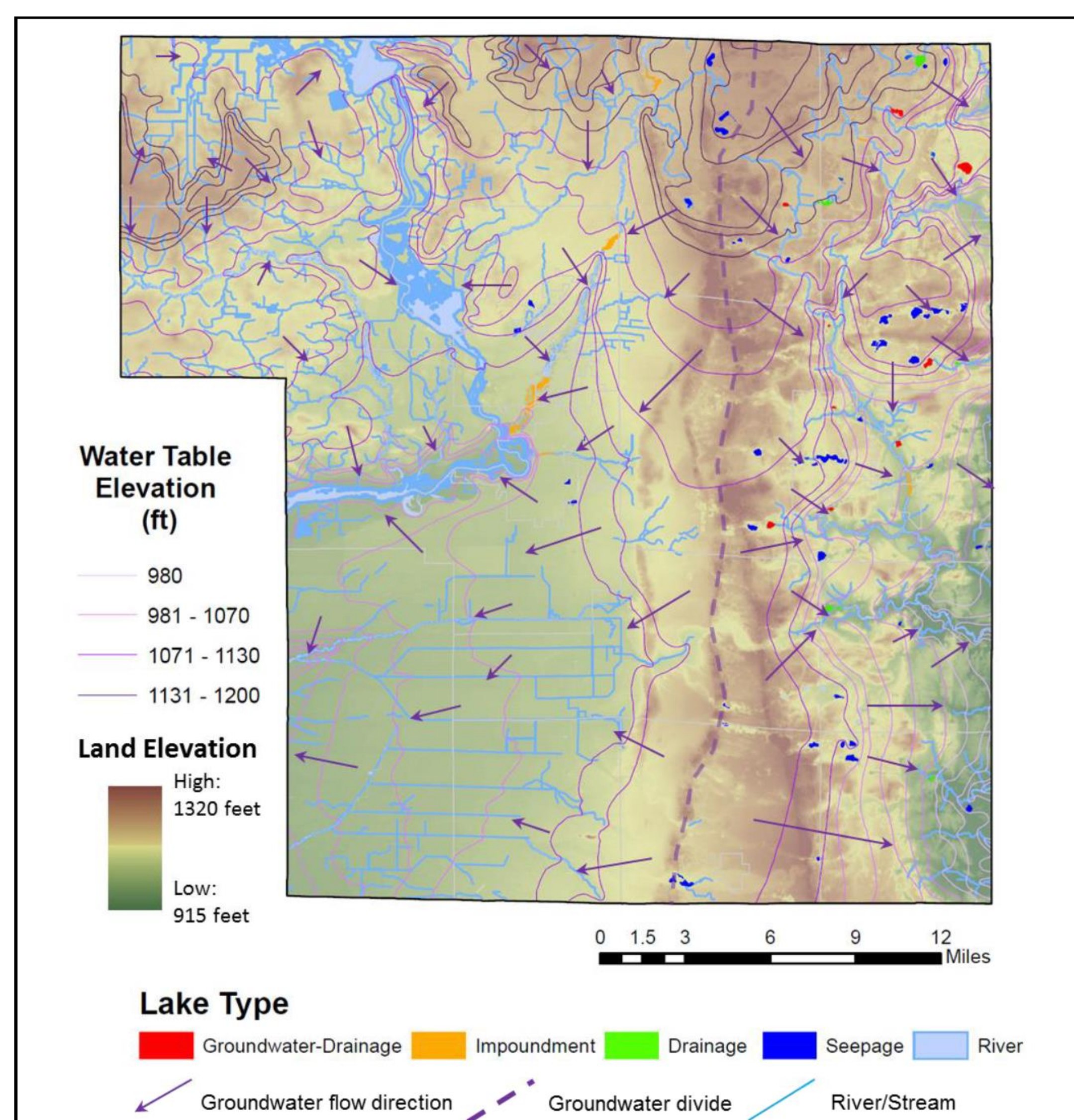
Portage county receives about 32 inches of precipitation annually. Almost 20 inches of this precipitation ends up back in the atmosphere by direct evaporation or by passing through plants in the process of transpiration. Of the remaining 12 inches, about 2 inches of water reaches Portage County lakes and rivers as runoff or water that flows over the ground's surface.



The other 10 inches of annual precipitation is a good estimate of what actually infiltrates past the root zone of plants and ultimately becomes groundwater. The infiltrating water moves downward because of gravity until it reaches the water table, the point at which all the empty spaces between the soil particles or rock are completely filled with water. The water table represents the top of the groundwater resource. Groundwater moves very slowly between particles of sand and gravel or through unconnected cracks in rocks. These water-bearing geological units such as sand and gravel are called aquifers.

Groundwater is always moving. It is able to move because the empty spaces within aquifers are interconnected. The size and connectivity of the spaces within an aquifer determine how quickly groundwater moves, how easily it is contaminated, and how much water a well is able to pump.

Groundwater moves as a result of differences in energy. Simply, groundwater moves from high energy to low energy. One measurement of energy is groundwater elevation. Groundwater generally moves from areas where the water table elevation is higher to areas where it is lower. From this, we are able to create a groundwater flow map as seen in the figure to the left.



In Portage county, surface waters are located in the areas where the water table intersects the land surface. Groundwater generally moves towards these low spots on the landscape, where it discharges to surface waters, such as a river, stream, lake, spring, or wetland. Because they are connected, surface waters and groundwater are generally considered a single resource.

For more information contact the Portage County Water Resource Specialist, Jen McNelly at 715-346-1334 or mcnellyj@co.portage.wi.us

