Stormwater Runoff and Impervious Surfaces

Perhaps the **most defining characteristic of urban streams** is the **increased amount and rapidity of stormwater or surface runoff** to those systems. Impervious surfaces associated with urbanization **reduce infiltration and increase surface runoff** (see Figure 16), altering the pathways by which water (and any associated contaminants) reach urban streams.

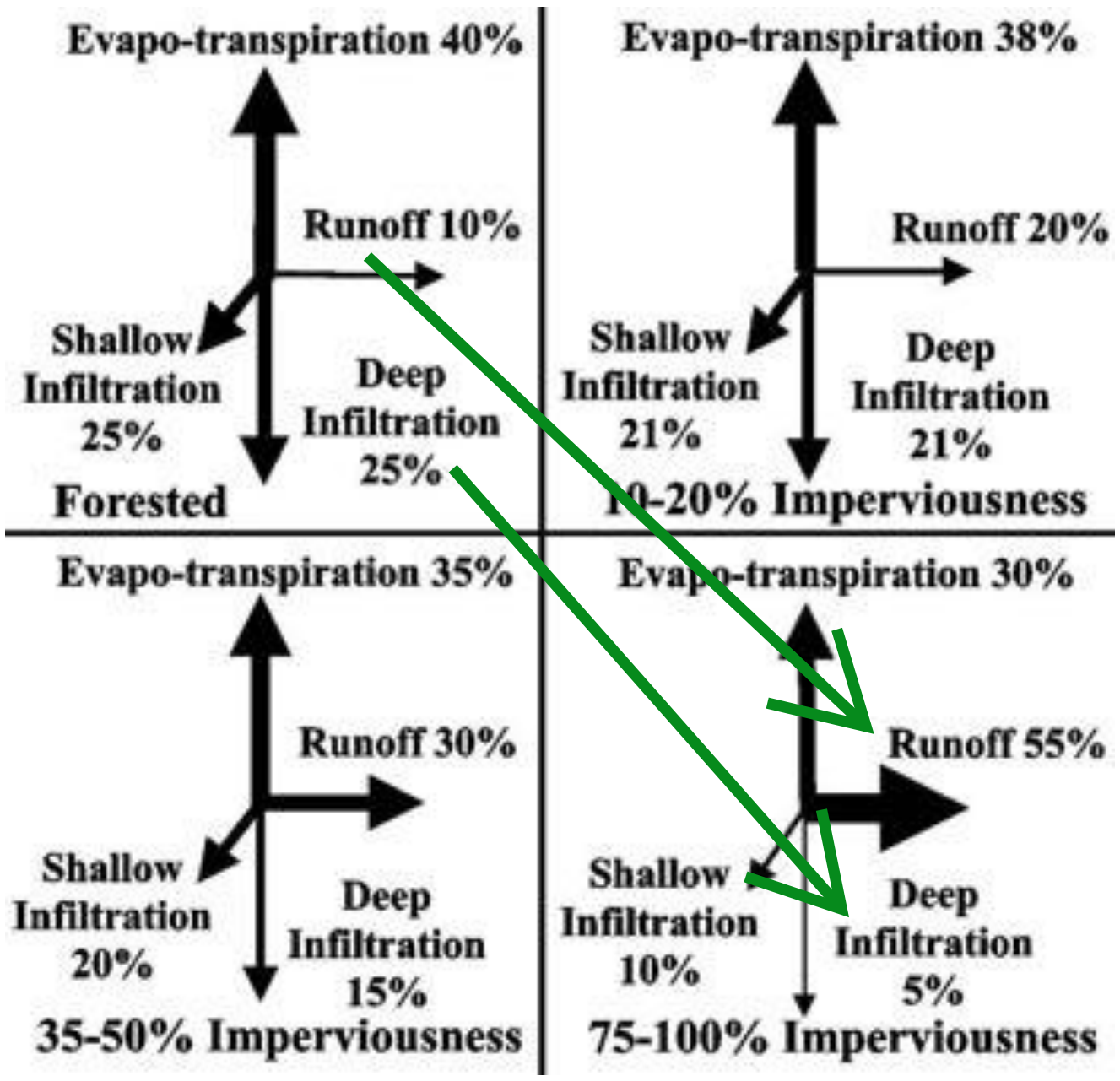

Figure 16. The shift in relative hydrologic flow in increasingly impervious watersheds. Note the large increase in stormwater runoff as imperviousness increases, at the expense of infiltration. From *Paul MJ & Meyer JL. 2001. The ecology of urban streams. Annual Review of Ecology & Systematics 32:333-365.* © 2001 by Annual Reviews. Reprinted with permission.

https://www.epa.gov/caddis/urbanization-stormwater-runoff

As imperviousness increases,
deep Infiltration goes from 25% to 5%;
and runoff goes from 10% to 55%.

"Hard surfaces that don't drain water can result in flooding."