How much rain can a tree retain?

One mature tree reduces stormwater runoff by over 1,000 gallons per year.

Trees manage stormwater runoff. They help reduce pollution and make waterways healthy for people and fish.

Trees are the “new” technology to retain water on site, to slow the flow to our waterways.

Trees in your yard and your community protect water and soil resources. Trees reduce the amount of runoff and pollutants in creeks, ponds and other receiving waters in three primary ways:

- surfaces of leaves, branches, and trunks intercept and store rainfall, thereby reducing the amount of runoff, soil erosion, and delaying the onset of peak flows;

- root growth and decomposition of organic matter increase the capacity and rate of infiltration of rainfall into the soil and reduce surface flow;

- the tree’s system recycles rainfall back into the atmosphere as evaporation.

Incorporate Trees into Stormwater Management on Your Property

1. Increase the tree canopy on your property by planting large trees with full crowns and broader leaves, such as maple, oak, and beech.

2. Plant needle-leaf and broad leaf evergreens on the north side for wind shields and for winter rainfall interception; avoid planting evergreens in front of south-facing windows to maximize winter solar heat gain.

3. Encourage your community to plant more trees in appropriate areas such as parkways, boulevards, parking lots, traffic islands, swales, median strips, and “rain gardens.” This will aid the retention/detention and infiltration/filtration processes.

4. With new tree plantings, extend a thin layer of organic mulch to the drip line to improve your tree’s ability to absorb rainfall.

Center for Urban Forest Research
Pacific Southwest Research Station,
USDA Forest Service
1 Shields Avenue, Suite 1103
Davis, CA 95616-8587
(530) 752-7636 • Fax (530) 752-6634
http://cufr.ucdavis.edu/