



How Much Rainwater Comes off Your Roof?

Rainwater can be captured from any impermeable surface such as a driveway, a patio or a roof. The amount of rainwater collected depends on the size of the collection area. Believe it or not, for every inch of rain that falls on a catchment area of 1,000 square feet, you can expect to collect approximately 600 gallons of rainwater. Ten inches of rain falling on a 1,000 square foot catchment area will generate about **6,000 gallons** of rainwater! That's right, 6,000 gallons! More than you were expecting, right?

To determine what you might collect:

1. Determine the size of the collection area by multiplying the length by the width. For example, if a roof is 20' by 80', then the area of the roof is 1600 square feet.

$$20' \times 80' = 1600 \text{ sq. feet}$$

2. Since, for every inch of rainfall, we can expect to collect 600 gallons in every 1000 square feet of collection area, that means that every square foot of roof will collect 0.6 gallons of rainwater for every inch of rain that falls.

$$1000 \text{ sq.feet} / .06 \text{ gal} = 600 \text{ gal}$$

3. To calculate how much rainfall will collect on each square foot of roof over the entire rainy season, multiply the amount collected per inch of rainfall, 0.6 gallons, by the total number of inches of rainfall during the year (the 30-year average Petaluma is 25.85").

$$25.85'' \times 0.6 \text{ gallons} = 15.5 \text{ gallons per square foot}$$

4. Then, to calculate the number of gallons collected on the entire roof, multiplying the total roof area of 1600 square feet by 17.4 gallons.

$$1600 \times 15.5 = 24,800 \text{ gallons}$$

Nearly 25,000 gallons of water pours off every roof in Petaluma every year. Imagine all that rainwater going down the storm drains into the rivers, ocean and bay! Imagine, instead, all that water going into our gardens and percolating into the aquifer. Sounds good, right?