

Example of a simple rainwater harvesting system.

Benefits to Rain Water Harvesting

- Rainwater is a relatively clean and absolutely free source of water that can be an excellent back-up drinking supply
- It is socially acceptable and environmentally responsible
- It promotes self-sufficiency and helps conserve water
- Rainwater is better for landscape plants and gardens because it is not chlorinated
- It reduces storm water runoff from homes and businesses
- It uses simple technologies that are inexpensive and easy to maintain
- It can be used as a main source of water or as a backup source to wells and municipal water
- The system can be easily retrofitted to an existing structure or built during new home construction

What are Rain Water Harvesting Systems?

Rainwater harvesting is the accumulation and storage of rainwater for reuse before it reaches the aquifer. In other words it is collecting the run-off from a structure or other impervious surface in order to store it for later use. Traditionally, this involves harvesting the rain from a roof. The rain will collect in gutters that channel the water into downspouts and then into some sort of storage vessel, either a rain barrel or an underground cistern. Depending on the desired usage rainwater collection systems can be as simple as collecting rain in a rain barrel or as elaborate as harvesting rainwater into large cisterns to supply your entire household demand.



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Lower RGV
Storm
Water Task
Force

Residential Rain Harvesting
Systems



Components to a rainwater harvesting system

Usages for Rainwater

- Watering your lawn and garden
- Washing your car
- Filling your swing pool
- All indoor non-portable fixtures such as toilets and washing machines
- All potable needs when properly filtered and disinfected

Rainwater is an easily obtained resource and it is an excellent way to satisfy your home watering needs.

How to Collect Rainwater

There are six basic components to a rainwater harvesting system.

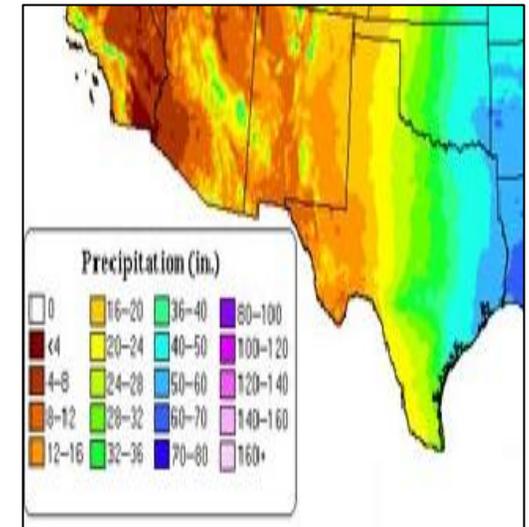
- **Catchment:** roof surface to collect the rain
- **Conveyance:** channels or pipes from roof or catchment area to storage
- **Roof washing:** 'first flush' diverter system to filter and remove contaminants
- **Storage:** cisterns or tanks where collected rainwater is securely stored - i.e. insect proof
- **Purification:** includes filtration, ozone or UV light to purify the collected rainwater for potable use
- **Distribution:** system that delivers the rainwater, usually including a small pump and pressure tank

How Much Rainwater Can You Collect?

The amount of rainfall that you can collect is governed by the following formula:

$$1" \text{ of rain} \times 1 \text{ sq. ft.} = 0.623 \text{ gallons}$$

To calculate the amount of rainwater you can collect, you need to know your annual average precipitation for your area



Annual average precipitation for Texas.