

Rain Barrels and Rain Catchment Systems:
What are they and why are they important?

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November 25, 2008

Over the past 13 months South Carolina has been experiencing a drought. During September 2007, all counties in the state of South Carolina, excluding Jasper and Beaufort Counties, were considered to be experiencing extreme drought conditions according to the South Carolina State Climatology Office. Although some of the state received rain from Hurricane Fay, only 16 of the state's 46 counties are no longer considered to be in drought status leaving 65% of South Carolina's counties in drought status. Eight upstate counties are still experiencing extreme drought conditions.

Drought conditions affect the entire state. South Carolina is drained by four major drainage basins, two of which originate in the upstate region. Therefore, half of the state depends on water that comes from areas in extreme drought conditions, historical lake lows and reduced stream flow.

In July 2008, Governor Mark Sanford urged South Carolina residents to conserve water. Since approximately half of household water is used outdoors, many people are turning to an ancient and traditional practice of rain harvesting through the use of rain barrels.

Rain barrels, or similar rain catchment systems, have been used throughout history in many different cultures, from Mesoamericans to ancient Rome. In the highlands of central Mexico, the construction of a small cistern often precedes the building of a house. Today the most extensive rain water collection system is located at the Lady Bird Johnson Wildflower Center in Austin, Texas (Winterbottom, 2000).

Rainwater collection systems offer many benefits to individuals who utilize them, ranging from lower water costs to a better quality of water for cultivation. Rainwater collection systems also benefit the environment. The obvious advantages are no withdrawal of groundwater or use of municipal water supplies. The less obvious advantage of rainwater collection systems is that it helps reduce stormwater runoff, which in turn reduces the amount of storm flow that could lead to downstream flooding and stream bank erosion. So how does a rain barrel work? It works by being placed near a roof or a downspout. The rain barrel is connected to the downspout either by shortening your gutter or connecting a pipe to divert rain from the roof into the barrel. Rain barrels and rain catchment systems can range from simple to complex. The simplest of barrels rely on gravity to deliver water, but more ambitious homeowners may choose to use pumps and flow controls to better meet their water needs. What is important to remember is that unless a proper filtration system is installed, water from rain barrels or other catchment systems is not potable for humans or pets.



What is very interesting about rain barrels and rain catchment systems is that there does not have to be a lot of rain to fill your barrels. This is good news for residents of the state in drought areas who may go weeks without seeing even a quarter of an inch of rain. A typical roof has 1,200 square feet of impermeable surface and four downspouts. If a rain barrel is attached to every downspout then only 0.3 inches of rain would be needed to fill the rain barrels. A 2,000 square foot roof could collect 1,200 gallons of water with just one inch of rain. That is amazing! Rain barrels come with a spigot near the bottom of the barrel so that a standard garden hose can be connected, and the water saved can be used for irrigation.

So, start thinking about building your rain barrels! Check back often on the Carolina Clear website <http://www.clemson.edu/carolinaclear/> for specific directions on how to construct a rain barrel along with safety concerns and mosquito control tips and tricks.