Reduce impact of dry winter

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Permaculture in practice

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This season certainly has been beautiful. It's been warm. It's been clear. Except for some unseasonably persistent winds, we've enjoyed an extremely pleasant winter here on our high desert plateau.

Of course, "nice" weather is really a matter of perspective. If you could somehow express to your plants this enthusiasm, you would probably get a response similar to one from someone in the ski business.

"Like Hell!" he'd say. "Snow and cold weather are essential elements of my survival, and when the wind blows whatever moisture we do have off the ground it makes matters worse!"

For skiers, there's always next season. For plant lovers, such a winter of discontent could mean garden gloom. Fortunately there are some simple water harvesting strategies that can reduce the potentially devastating effects of a warm, dry, windy winter.

Mulching is the most important. Mulch is defined as any material that blankets the earth and helps retain soil moisture. Bark, straw, compost and even gravel are good materials.

Any flora planted in the desert will be much healthier if it is mulched because this also moderates temperature changes, prevents soil erosion and often adds essential nutrients to the soil. Mulches are also inexpensive and easy to put down either in simple rings around the root zones of your plants or across a denuded landscape.

If cardboard, manure and straw are put down (in this order) they form a "sheet mulch" that is effective as a weed barrier and creates a perfect microclimate for worms, fungi and other soil conditioners.

Another important component of effective water harvesting is the "on-contour swale." This is a simple ditch dug perpendicular to the direction of rainwater runoff with the dirt from the ditch placed and tamped on the downhill side like a berm. The extra moisture that inevitably accumulates under an on-contour swale creates a mini-oasis microclimate.

If properly installed, swales will harvest the sheet flow associated with monsoonal rains and will capture essential snowmelt.

Pumice wicks and French drains are also important components of an effective water-harvesting system. They are especially valued if the system includes a building, a road or any impervious surface (which can include hardpan clay). Water from these surfaces can be directed into trenches or even holes filled with gravel or pumice that prevent localized erosion and create miniature underground reservoirs. When perennials are planted next to these reservoirs their chances of survival are significantly increased.

Cisterns are the most well-known component of water harvesting, but they are usually more expensive than any of the systems discussed above. The storage tanks are expensive and cisterns usually require an electric pump and an irrigation system.

Cisterns are extremely effective, though, because the water they store can be used throughout an extended period of drought. Keep in mind that cisterns can freeze if they are not buried underground or painted black and exposed to plenty of direct sunlight.

Mulch, swales, french drains, pumice wicks and cisterns are five of the best ways to harvest the water resources that are freely (although infrequently) available from the desert sky. Water rights are expensive and many municipal water supplies are limited. If we do not install such systems voluntarily we may one day be forced to as underground supplies are pumped primarily for drinking. As stewards of the desert landscape, it is our responsibility to implement such techniques.

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