

Florida's Water

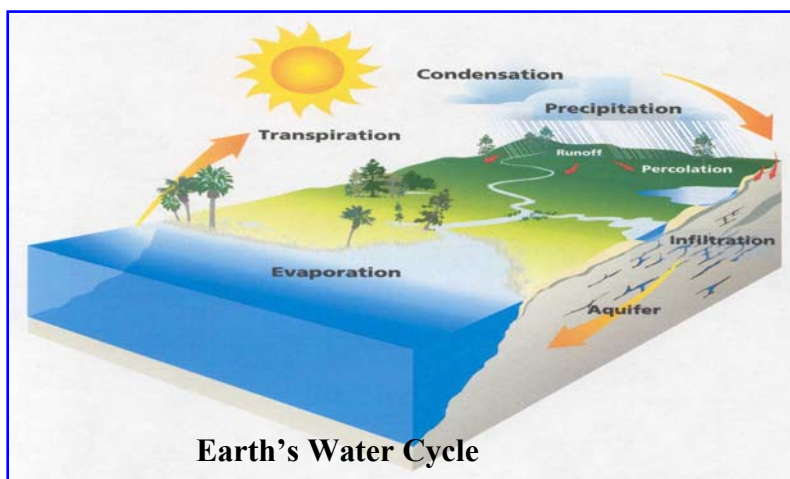
Florida appears to be a wet state with 1,800 miles of coastline, over 7,700 fresh water lakes, including the second largest lake inside the US, Lake Okeechobee. There are 1,711 streams, rivers, and creeks criss-crossing the state flowing in every compass direction.

Additionally, there are over 200 springs that flow about 7 billion gallons a day. We also are fortunate to have one of the world's most productive aquifers, or under-ground rivers, the Floridan aquifer. It supplies 80 percent of the state's fresh water. Anyone living here during the summer rainy season would certainly think there is an unlimited water supply.



Is there a bountiful and endless supply of fresh water in Florida? Can the addition of a thousand new residents every day continue without maxing out the water supply? That's a difficult question to answer and much thought and planning is being invested to ensure water will be available in the future.

Let's look at the basics. A model of how the earth's water system operates, called the water cycle or the hydrologic cycle, is shown below. Water is constantly in motion throughout



the cycle in the form of rainfall, runoff into streams, rivers and the oceans, percolation into the ground, and evaporation back to the clouds, where condensation releases the water back to the earth again. Wind currents control cloud movements causing some areas to receive more rain and some areas less or even periods of drought. The world's total water volume is constant; only the

precipitation patterns change. As the population grows we encounter distribution problems and localized shortages. For example, about 75 percent of Florida's residents live within ten miles of the coasts, creating heavy water demand over a smaller portion of the land area. This also creates other problems such as salt water intrusion into the underground water reserves.

Annually, Florida uses about 3 trillion gallons of fresh water but receives about 50 trillion gallons of rain water. We have 16 times more rain water than we use! So what's the problem?

What Happens to Florida's Rain Water?

- Lost from evaporation to the atmosphere 70%
- Lost from runoff into creeks, rivers, Gulf, Atlantic 20%
- Percolates into the ground to recharge wells, aquifers 10%

Most of the rain water is lost and unavailable for use. In Florida, the components of the water cycle are sized according to the figures in the box. As you see, about 90 percent of our rain water does not replenish underground sources. Innovative ways to capture more rainwater are being put to use in places like Tampa Bay Water's 15 billion gallon Bill Young Reservoir near Brandon. During times of high flow on the Alafia, Hillsborough and other rivers, some river water is diverted to the reservoir for use in dry times.



Another fresh water resource is the conservation of the drinking quality water used for irrigating lawns and landscapes. About half the water

consumed in today's residences is for irrigation purposes. More water efficient lawns and irrigation systems as well as alternative irrigation water sources such as reclaimed water could reduce the water demand per residence.

So part of the solution to having enough water is how well we plan and develop resources for the future. Another vital part of the answer is how wisely and responsibly we citizens use water in our daily activities.

More information about Florida's water is available from The Southwest Florida Water Management District, 2379 Broad St., Brooksville, FL 34604, phone: 800-231-6103, or at www.waterratners.org. or call the Manatee County Extension Service Office at (941) 722-4524 or go to their website at manatee.ifas.ufl.edu.

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