

Exploring Florida

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Florida's Water Then and Now

Water is essential to the life and economy of Florida. Water is critical to the survival of plants, animals, and humans.

Throughout most of its history Florida was under water. Skeletons of coral, shellfish, and fish piled up on the sea floor over millions of years. This created a layer of limestone hundreds (in some places thousands) of feet thick. As the Appalachian Mountains eroded, sand and clay were deposited over Florida's limestone layer.

When the sea level fell, Florida emerged from the seas. Because limestone is porous, water gradually dissolved the rock and formed cracks and passages. Underground areas were formed that could hold large amounts of water. These areas are called aquifers. The water that is found underground is called ground water.

The aquifer systems under Florida provide the majority of the state's water. There are two major aquifers in Florida: the Floridan (the whole state), and the Biscayne (south Florida). The Floridan aquifer is the largest and deepest in the state. It holds ground water like a sponge. Its holes allow the water to move freely through it. The Floridan aquifer stretches for 82,000 square miles beneath Florida and parts of Alabama, Georgia, and South Carolina.

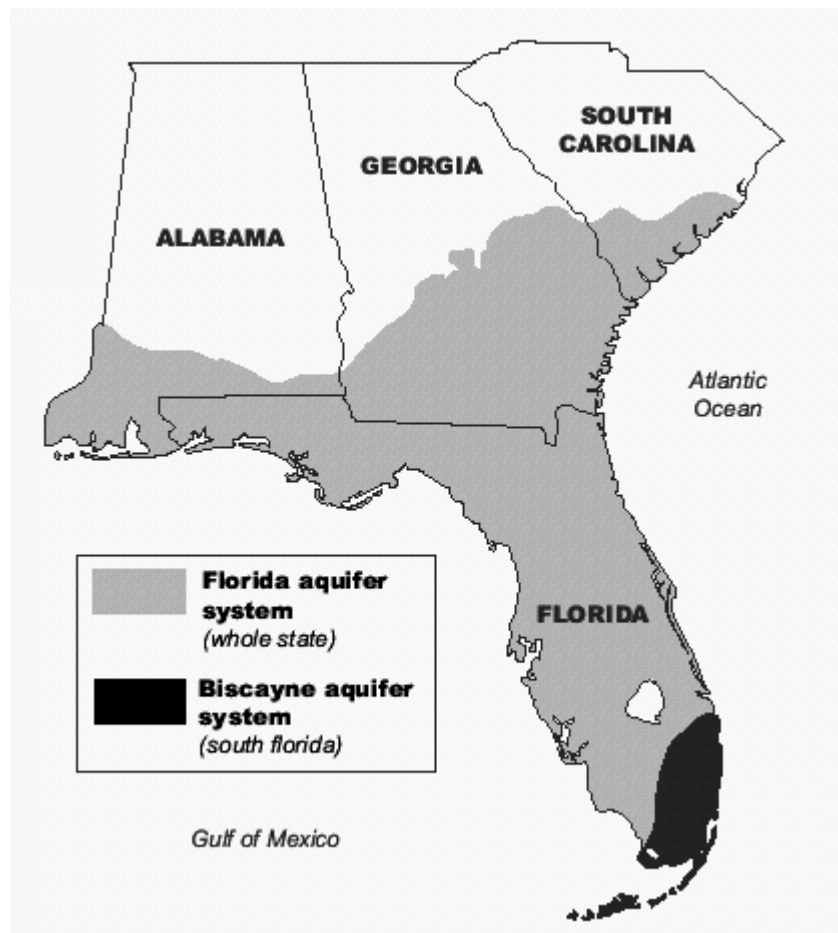
Wells are used to remove ground water from aquifers. Wells may exist in all shapes and sizes, but basically they are holes that are drilled into the aquifer. A pipe and pump are used to draw the ground water to the surface so that water may be supplied to cities, homes, and farms.

A spring is a place where ground water that is under pressure discharges through a natural opening in the Earth's surface. Florida has more than 300 springs, one of the largest concentrations in the world.

In addition to ground water, Florida has surface water. This is water that has not seeped into the ground and is exposed to the air. Most of the surface water is salt water in the ocean and gulf.

Florida has surface fresh water in rivers, lakes, streams, creeks, ponds, and wetlands. Florida has more than 7,700 lakes. Lakes and other fresh water areas provide important habitats for plants, birds, fish, and animals. Surface water areas are also a valuable Florida resource for human activities and enjoyment.

When the rain falls, water moves across land areas toward streams, lakes, rivers, or the coast. These land areas are

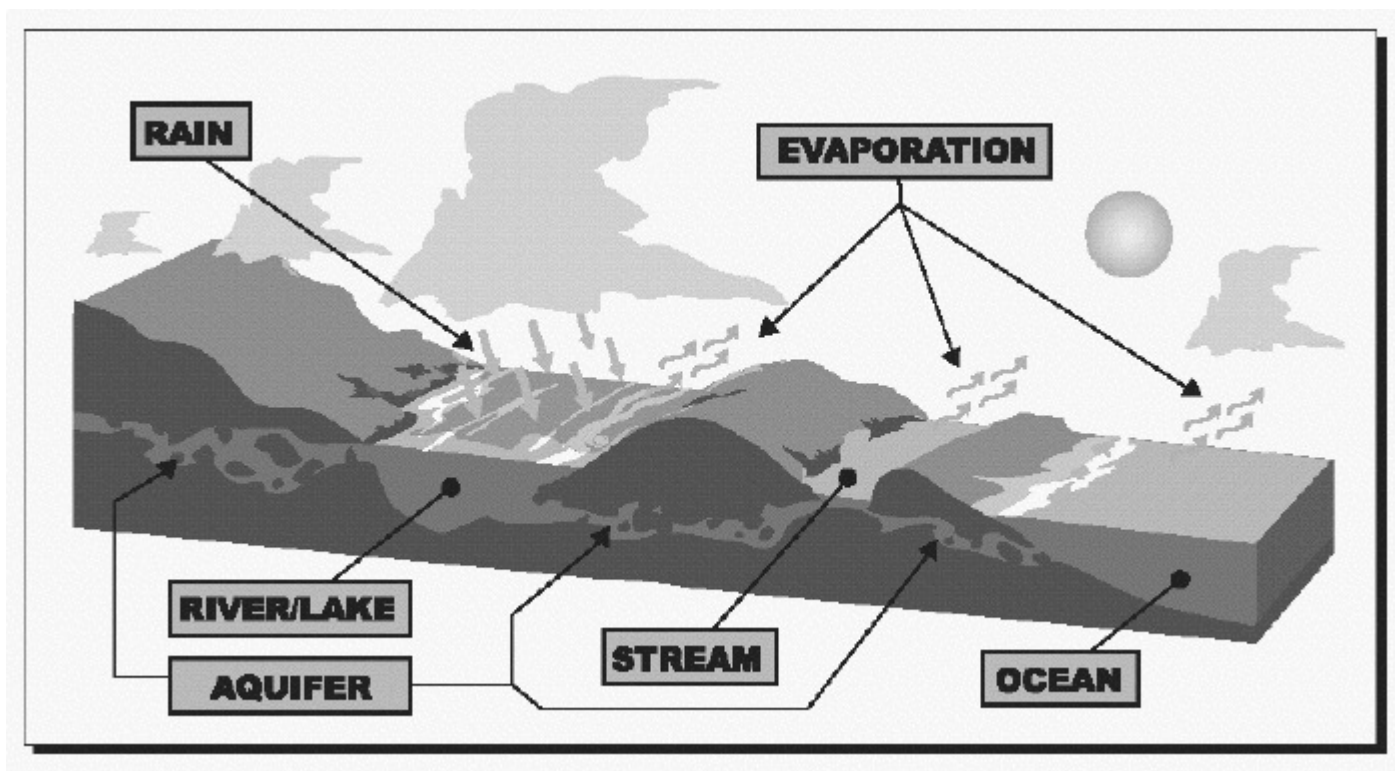


called watersheds. Watersheds provide aquifer recharge, natural flood protection, water purification, preservation of wildlife habitat, and public recreation.

Trash, sewage, litter, oil, chemicals, fertilizers, pesticides, and other pollutants can contaminate the watershed and the water flowing across it. Florida's aquifer system is extremely vulnerable to pollution because it is close to the surface in many areas. Most water pollution is caused by the activities of humans.

Wetlands play a very important role in maintaining the health of the watershed. Plants serve as a natural filter. They remove many pollutants from the water. Wetlands act as a natural reservoir system to store water and lessen the risks of flooding. Marshes, bogs, wet prairies, and swamps are examples of wetlands. The Everglades and the Green Swamp are very important to Florida's water supply.

Back in Florida's frontier days there was little concern about water. There was enough water for the Floridians of that time. For centuries, changes have been made in the natural environment in order to better serve the needs of Floridians.



The early inhabitants dug canals through the islands and mangrove forests of Florida. They wanted to provide more efficient canoe travel in the coastal areas. The settlers dug wells and built dams on rivers seeking more constant sources of drinking water. As Florida's population grew, so did competition between urban, agricultural, and industrial interests for dependable, inexpensive water.

In the 1900s, developers drained swamps and low-lying areas to increase the amount of land available for building homes and growing crops. Wetlands bordering bays, lakes, and rivers were filled in to create more land. Seawalls were built to straighten and maintain shorelines. Coastal areas have been most affected because large numbers of Florida's new residents choose to live near the beaches. All of these actions combined have changed the natural flow of water in the environment. This is disastrous to the natural balance.

In Florida, having enough water has become a critical issue. People are using water faster than it can be replaced. The growing population and varying amounts of rain mean that the need to conserve is very important. We must do everything possible to assure a water supply of good quality for today and the future.

In 1972, the state of Florida created five water management districts. These districts have the responsibility for regional water resource management and environmental protection. In 1989, Florida adopted legislation to improve water resource management and to direct future growth through planning programs. This legislation requires each

district to evaluate its water needs and sources.

Florida has established many state parks that function as preserves. They can be found in all areas of the state. The state parks are managed by the Florida Department of Environmental Protection to preserve Florida's resources.

Restoration projects are in place in many parts of the state. Wetlands are being reestablished. This is done by removal of invasive plants, creation of marshes, and excavation of additional open water ponds. Converting areas back to their original, natural form may include removing concrete, reshaping and grading shorelines, and planting vegetation along newly restored shores.

Even young people can help with Florida's water challenge. They can do things like taking shorter showers and turning on and off the water when brushing their teeth. Working together, Floridians can conserve this essential resource.

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