

Fluctuating lake levels

FAST FACT

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Central Florida's lakes

Thousands of large and small lakes dot the Florida landscape, adding to the state's unique environment. About 35 percent of Florida's lakes, predominantly shallow water bodies, are in central Florida counties — Lake, Orange and Osceola.

Central Florida's lakes add to the quality of life for the state's residents and visitors, offering an abundance of opportunities for fishing, boating, wildlife viewing, swimming and other recreational activities. The region's lakes also provide habitat critical to the survival of alligators, turtles, fish and birds such as hawks, eagles, ducks and herons.

The natural beauty and recreational opportunities of the region's lakes contribute significantly to the economy of central Florida.

Characteristics of the lakes

Central Florida's lakes vary greatly in their size and nature. The surface areas of the region's lakes range from thousands of acres to less than one acre. Many central Florida lakes were

formed from sinkholes — areas where the erosion of underground limestone allowed depressions to form in the Earth.

Some lakes are naturally connected to other water bodies, allowing water to move among lakes and between lakes and rivers. Other lakes are artificially connected to one another by canals dug many decades ago to relocate water, in many cases to protect farms and communities from floods.

Most of central Florida's lakes are landlocked, receiving water directly from rainfall, from storm water that is carried through canals and ditches into the lakes, and from groundwater. In landlocked lakes, water is predominantly lost from evaporation and seepage into the surrounding soils, as well as from irrigation of lakeside lawns.

Rainfall, either directly or indirectly through stormwater runoff and shallow groundwater, is the single greatest factor affecting water levels in central Florida's lakes.

While central Florida averages between 45 and 50 inches of rain annually, much of the water is lost to evaporation each year. In drier than normal years when the amount of evaporation exceeds the amount of rainfall, lake levels decline. In wetter than normal years, lake levels increase, leading some lakes to expand in size as water seeps into adjacent marshes.

Fluctuating lake levels

Water levels in central Florida's lakes vary over time from short-term, storm-related rises to long-term fluctuations caused by rainfall.

Lake levels can change seasonally and annually. During periods of below-normal rainfall, lake levels drop, at times becoming so low that boating access becomes limited. Lake levels may continue to decline for several years,



As with lakes throughout north and east-central Florida, water levels at this lake dropped due to a lack of rainfall in 2000, leaving boat ramps unusable.

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A canoe and dock sit on dry land in central Florida in the summer of 2000 in a location that had been lakeshore.

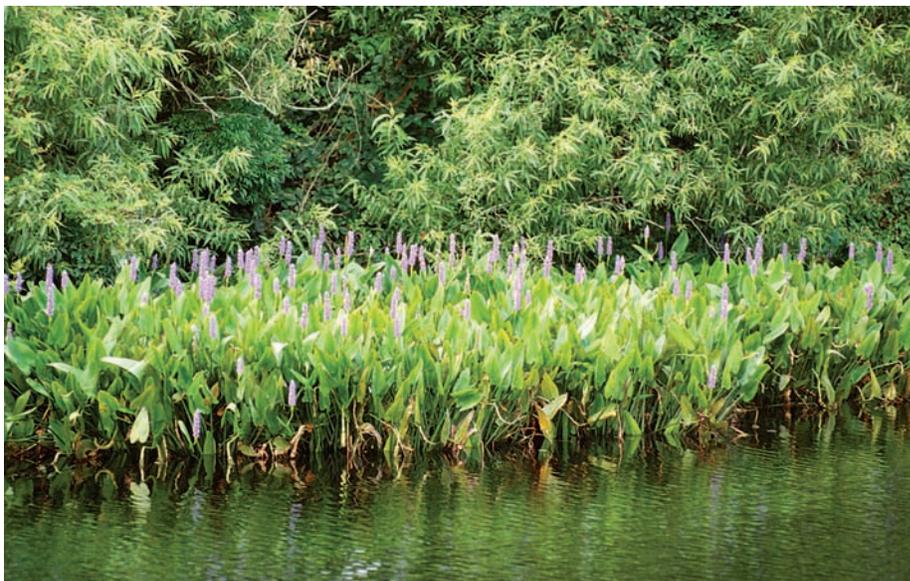
impairing the use of docks and affecting lakeside businesses. Lake levels generally rebound, at times leading to water levels so high that lakeside property owners may experience too much water.

While the St. Johns River Water Management District has some control over lake levels in the Harris Chain of Lakes in Lake County through the operation of three dams, water level fluctuations are predominantly driven by rainfall.

During extreme drought conditions, such as the region experienced in 2000, the District allows only a minimal amount of water to flow through the structures. Only enough water is moved to keep the creeks and rivers from becoming stagnant. During high-water conditions, water movement through the dams is controlled to the degree that it can to avoid wide-scale flooding. In lakes without water control structures, such as is the case with most of central Florida's lakes, little can be done to artificially raise or lower water levels.

Underground water supplies, which are fed by rainfall, also can affect lake levels. As water levels belowground decline, the pressure beneath the land surface drops, causing an increase in water seeping from lakes into the ground.

Natural fluctuations in water bodies encourage vegetation germination and growth. This provides habitat for fish and wildlife, and helps improve water quality.



Effects of fluctuating lake levels

While the low water levels and exposed lake bottoms that occur during drought conditions are unattractive to many and can interfere with commercial and recreational activities, fluctuating water levels are normal and healthy for Florida's lakes.

The fluctuations that bring extremely low water levels benefit the entire ecosystem. Benefits include:

- Growth of new vegetation on exposed lake bottom and in adjacent marshes due to increased seed germination
- Improved habitat for fish and other aquatic organisms, and improved water quality as a result of increased vegetation growth

The fluctuations that bring extremely high water levels have the most dramatic impact on lakeside residents and businesses, but those high levels also provide environmental benefits, including:

- Rehydration of adjacent wetland vegetation and soils
- Improved wildlife habitat through plant growth and soil hydration
- Increased fish population through provision of a protected habitat for fish spawning/feeding
- Improved water quality through the settling of pollutants in wetlands