

The Florida Environment: An Overview¹

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Florida's Environment Series

Florida has a humid, subtropical climate that ranges from temperate conditions in the north to near tropical conditions in the extreme south. This climatic regime supports diverse plant communities that include northern species typical of the Appalachian Mountains and tropical species from the Caribbean. Seasonal climatic patterns are characterized by cool, dry winters and hot, rainy summers. Summer convection storms (thunderstorms) make Florida the lightning capital of the United States. Major storm events, particularly hurricanes, can have long-lasting impacts on the ecology and economy of local areas.

The topography of Florida is the result of deposition and erosion of substrates related to the rise and fall of sea level and other processes of erosion. The highest point in Florida, Britton Hill in Walton County (345 feet above sea level), is found in the northwestern part of the state known as the Florida Panhandle. Florida's highest elevation is the lowest high point among states in the nation. The higher elevations in the Panhandle and along Florida's central ridge are believed to represent ancient coastal

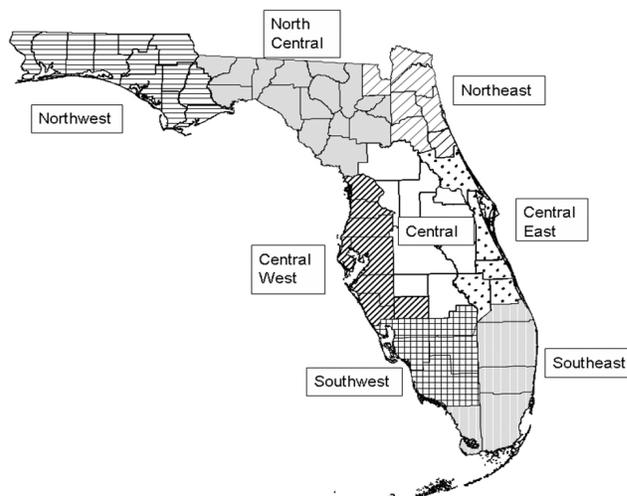


Figure 1. Delineation of Florida's eight regional profiles.
Credits: UF/IFAS

terraces 5-25 million years old. Florida's mean elevation is sea level. If climate change causes the sea level to rise during the next century, much of south Florida could once again become a shallow sea.

Both climate and topography influence two of the most important natural disturbance processes with which Florida's ecosystems have evolved – fire and flooding. Seasonal thunderstorms and the

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lightning associated with them have been a historical source of fire, which has shaped many of Florida's natural communities, such as pinelands, scrub, and prairies. Fire is important for many types of wetlands as well, which are also influenced by flooding. Historically, seasonal flooding in the greater Everglades ecosystem covered most of south Florida in shallow water that moved across the landscape in what is known as sheet flow (Fig. 2). Flooding is more localized in other areas of the state, but flooding and drying are natural processes for most Florida wetlands. Unnatural disturbances, such as nonnative plants and destructive human activities have had a more recent but profound impact on Florida's natural communities.

Florida soils vary throughout the state in regard to proportions of sand, clay, and organic content, and in depth above the underlying limestone bedrock, all of which influence the plant communities above. The underlying limestone, which is known as karst, is carbonate rock created from the deposition of countless marine invertebrates during periods when Florida was under water. Because rain can slowly dissolve limestone, Florida's karst geology contains many sinkholes, caves, springs and aquifers, including the massive Floridan aquifer, an important source of groundwater in much of the state.

Florida's surface waters include Lake Okeechobee, the 4th largest natural lake completely enclosed within the continental United States, and thousands of small lakes, mostly along the central ridge of the peninsula. Surface waters also form a network of nearly 1,700 rivers and streams across the state that transport sediments and nutrients essential to wetlands and the diverse assemblage of native plants and animals that depend on them. As rivers and streams mix with coastal waters, they create estuarine environments, which are some of the most productive ecosystems on the planet and are crucial to Florida's marine fisheries. Scientists estimate that more than 70 percent of Florida's important recreational and commercial fish and shellfish rely on estuarine habitats at some point during their life cycle. Florida has 1,300 miles of coastline bordering many unique estuaries and three National Estuary Research Reserves have been established to study and protect

these vital ecosystems (labeled in block capital letters, Fig. 2).

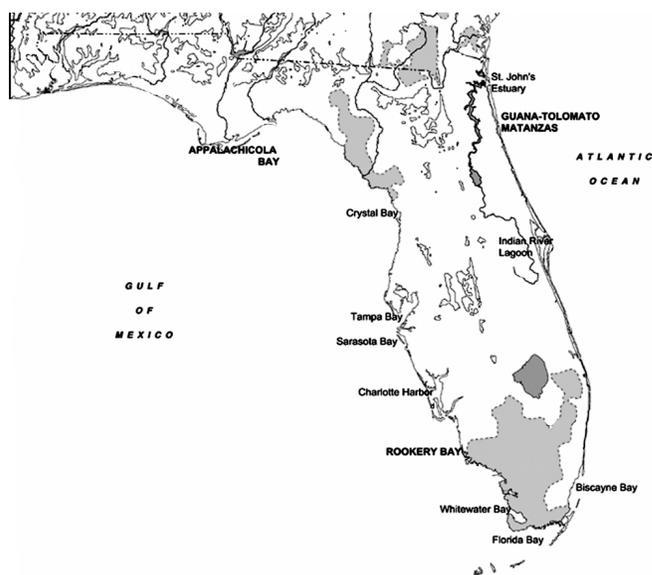


Figure 2. Florida's major bays and estuaries. Credits: NOAA

Various combinations of climate, soils topography and hydrology, and disturbance processes influence growing conditions, plant communities, and habitat characteristics across the state. Plant communities influence local wildlife populations, which influenced the distribution and history of native peoples and pioneers that depended on them for survival. As technological innovation increased the efficiency with which resources could be utilized, exploited, converted or transported, Florida's landscape became even more complex as habitats were altered to fulfill needs of increasing numbers of people.

Consequently, different regions of Florida have unique ecological, historical, and cultural features. More detailed information on Florida's natural areas, conservation lands, and cultural history is provided in a series of eight regional profiles describing the Florida environment (Fig. 1). These documents are available on EDIS, the Electronic Data Information Source of UF/IFAS Extension (ONLINE:<http://edis.ifas.ufl.edu>). Each profile quantifies conservation lands in that region based on the 2006 Florida Natural Areas Inventory conservation land database (ONLINE: www.fnai.org). Because conservation lands are continually purchased in Florida, acreage information

will continue to increase as long as efforts to protect natural areas in Florida continue. A second table includes examples of representative natural areas in each region. Most of these allow public access and provide excellent opportunities for nature-based recreation. Omission of any particular park, refuge, or other conservation area should not be construed as a value judgment, as all natural areas have value.

Additional Information

Published Resources

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Online Resources

Florida Division of Historical Resources,
<http://www.flheritage.com/>

Florida Fish & Wildlife Commission Wildlife
Viewing Sites, <http://www.myfwc.com/viewing/>

Florida's Historic Places,
<http://fcit.coedu.usf.edu/florida/lessons/places.htm>

Florida's Museum of Natural History,
<http://www.flmnh.ufl.edu/>

Florida's Scenic Highways,
<http://www.dot.state.fl.us/emo/scenichwy/default.htm>

Florida State Parks,
<http://www.floridastateparks.org/>

Florida Water Management Districts,
<http://dlis.dos.state.fl.us/fgils/wmd.html>

P.K. Yonge Library of Florida History,
<http://web.uflib.ufl.edu/spec/pkyonge/index.html>

Touring the Georgia-Florida Coast,
<http://www.cr.nps.gov/nr/travel/geo-flor/g-fintro.htm>

Visit Florida, <http://www.visitflorida.com>