# Florida Native Landscaping

## ORH 3815/5815C

## Lecture 3

## Defining Florida's temperature zones and plant ecosystems

UF
UNIVERSITY of FLORIDA

# Lecture Outline/Objectives

1. Defining and comparing trees and shrubs
2. Plant types and leaf persistence
3. USDA hardiness zones, AHS heat zones
4. North, Central and South Florida

# What is a tree?

- Any plant that, even if in only a few instances, exhibits a single, well-defined trunk of approximately 5 cm in diameter (Nelson, 1994).
- Woody plants that typically have one or a few trunks and a larger crown (Brochat and Meerow, 1996).
  - A woody plant which is usually 20’ tall or more at maturity and generally has a single trunk that is un-branched to about 3-4’ above the ground and a more or less definite crown (National Audubon Society, 1991)

# What is a shrub?

- Plants that are predominately herbaceous but take on a bushy, shrub-like appearance
- Plants that are shrubby and have either multiple or single trunks that do not normally exceed 12’ in height (Nelson, 1994)
- Plants that are woody, multi-stemmed, and do not usually have exposed trunks (Broschat and Merrow, 1996).

A woody plant which is usually less than 20’ tall at maturity, with several erect or spreading woody stems and a bushy appearance (National Audubon Society, 1991)

# Plant Types

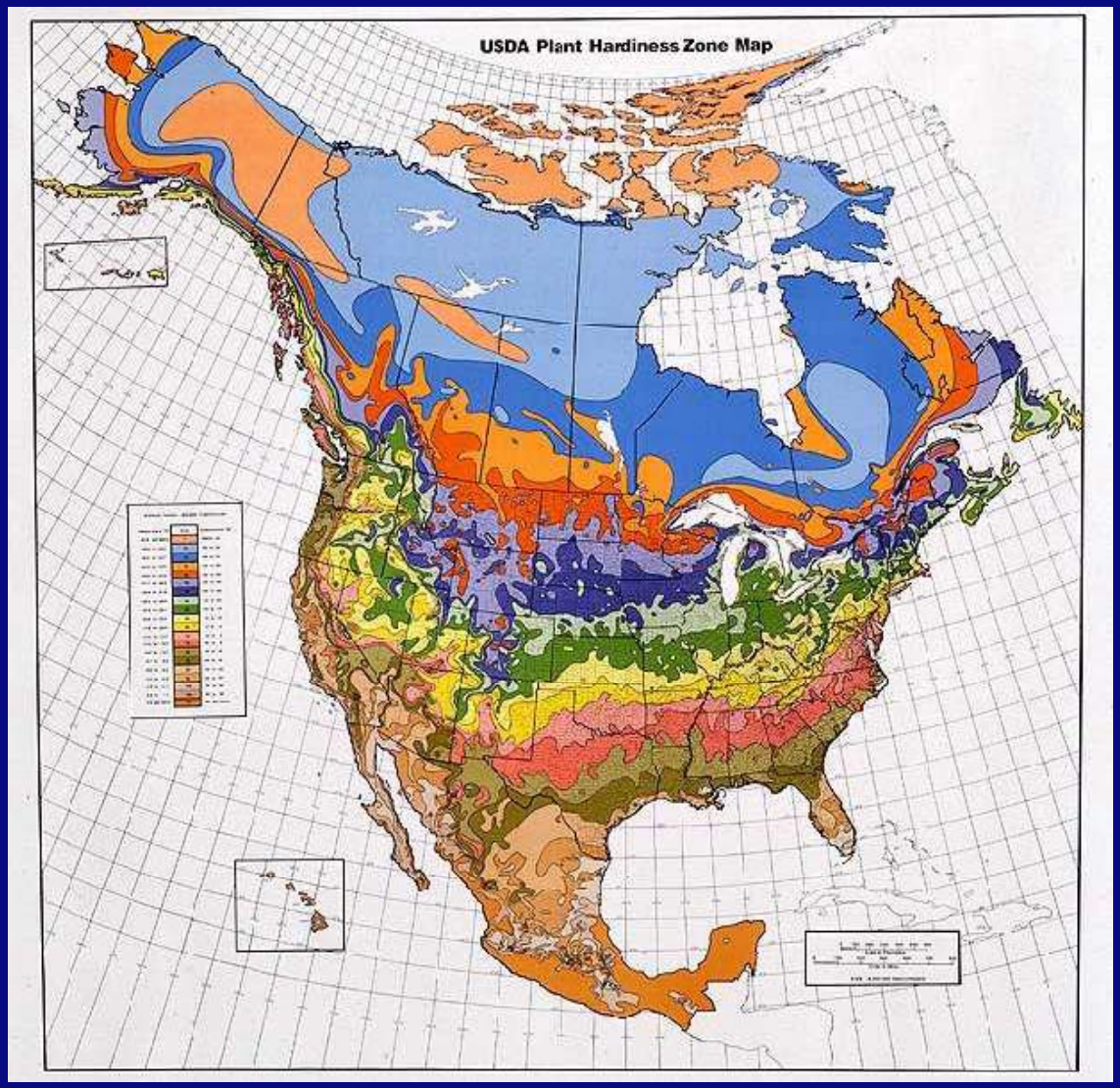
Woody Plants

- Deciduous- plants that drop their leaves during the winter
- Evergreen- plants that retain their leaves year round

Herbaceous Plants

- Annual- grown for only one season; a plant that completes its life cycle in one growing season
- Perennial- a plant that lives for more than two years, flowering more than once (polycarpic) or dying after the first flowering (monocarpic).

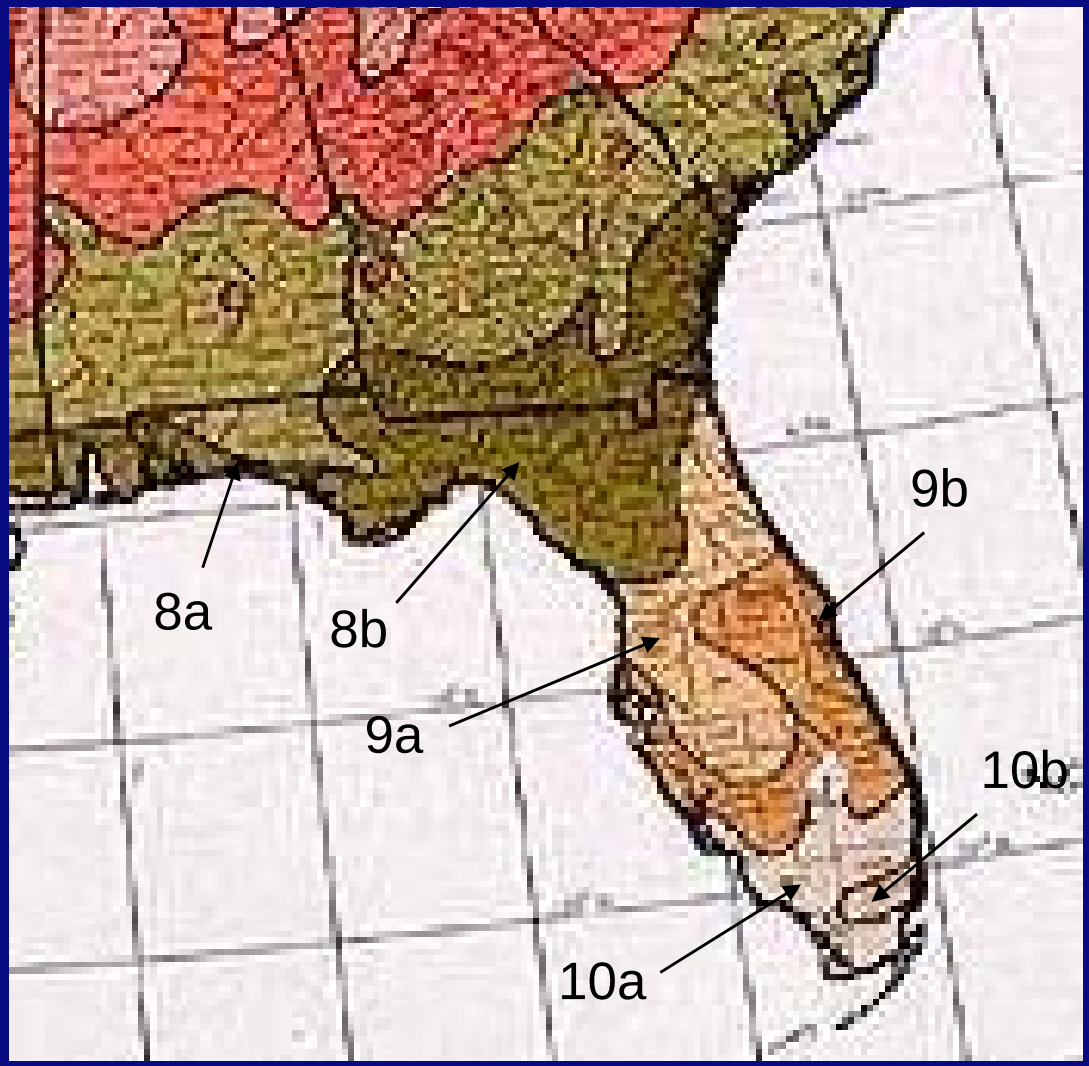
# USDA Hardiness Zone Map




http://www.usna.usda.gov/Hardzone/ushzmap.html

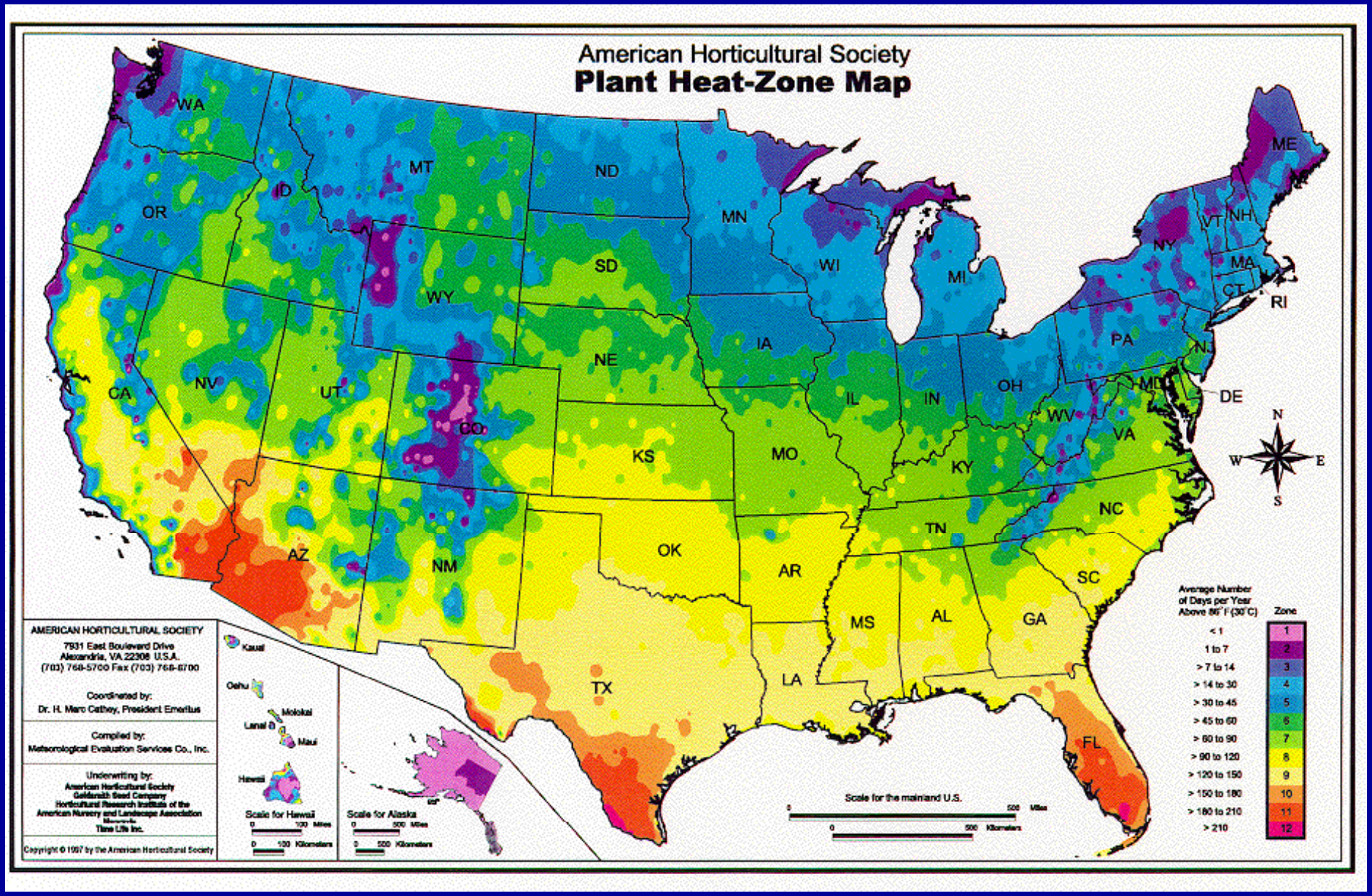
# USDA Hardiness Zone Map of Florida

| Zone | Ave. annual min. temp range |
|---|---|
| 8a | 10-15F |
| 8b | 15-20F |
| 9a | 20-25F |
| 9b | 25-30F |
| 10a | 30-35F |
| 10b | 35-40F |
| 11 | above 40F |



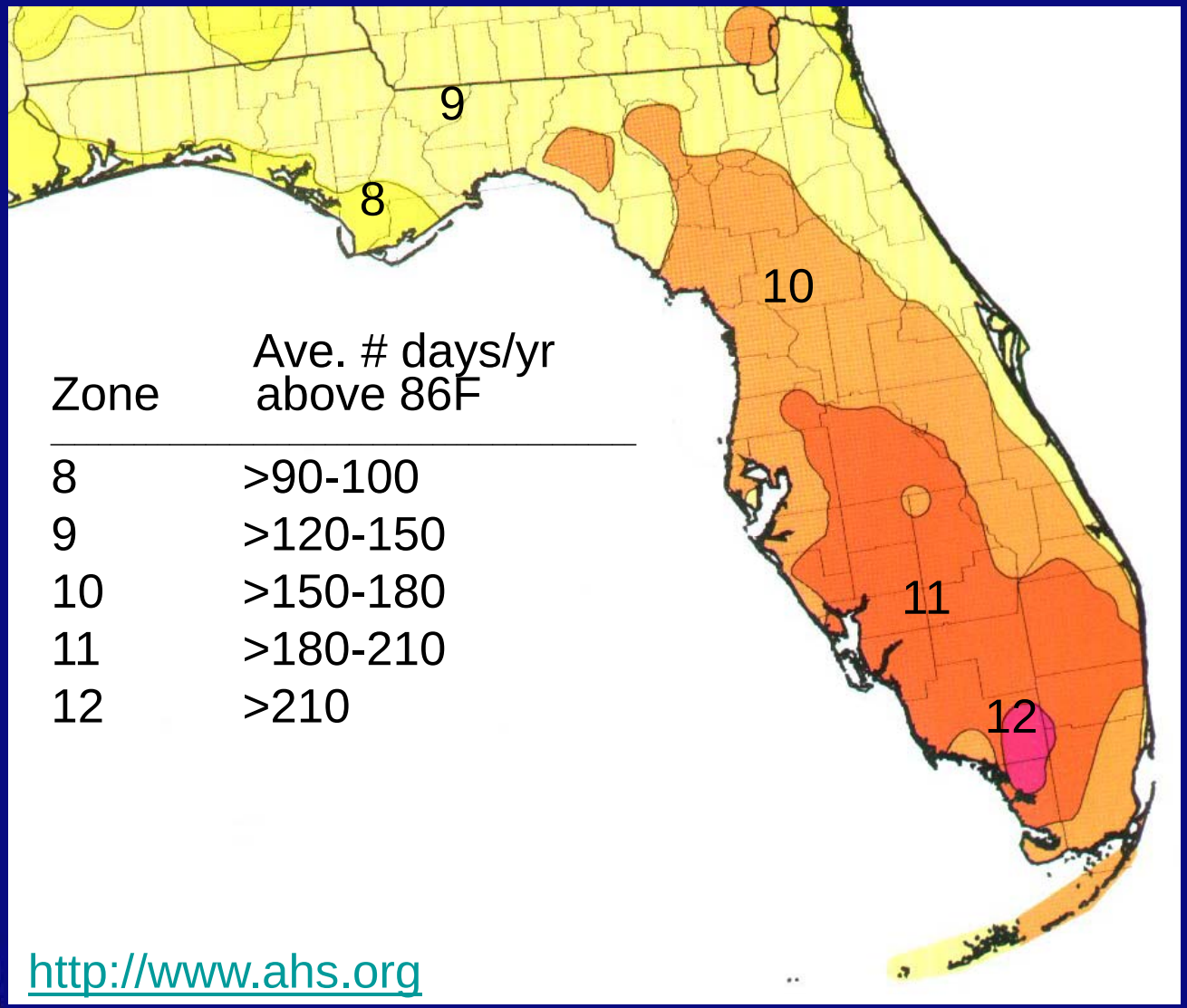

www.usna.usda.gov

# Am. Hort Soc. Heat Zone Map




http://www.ahs.org/pdfs/05_heat_map.pdf

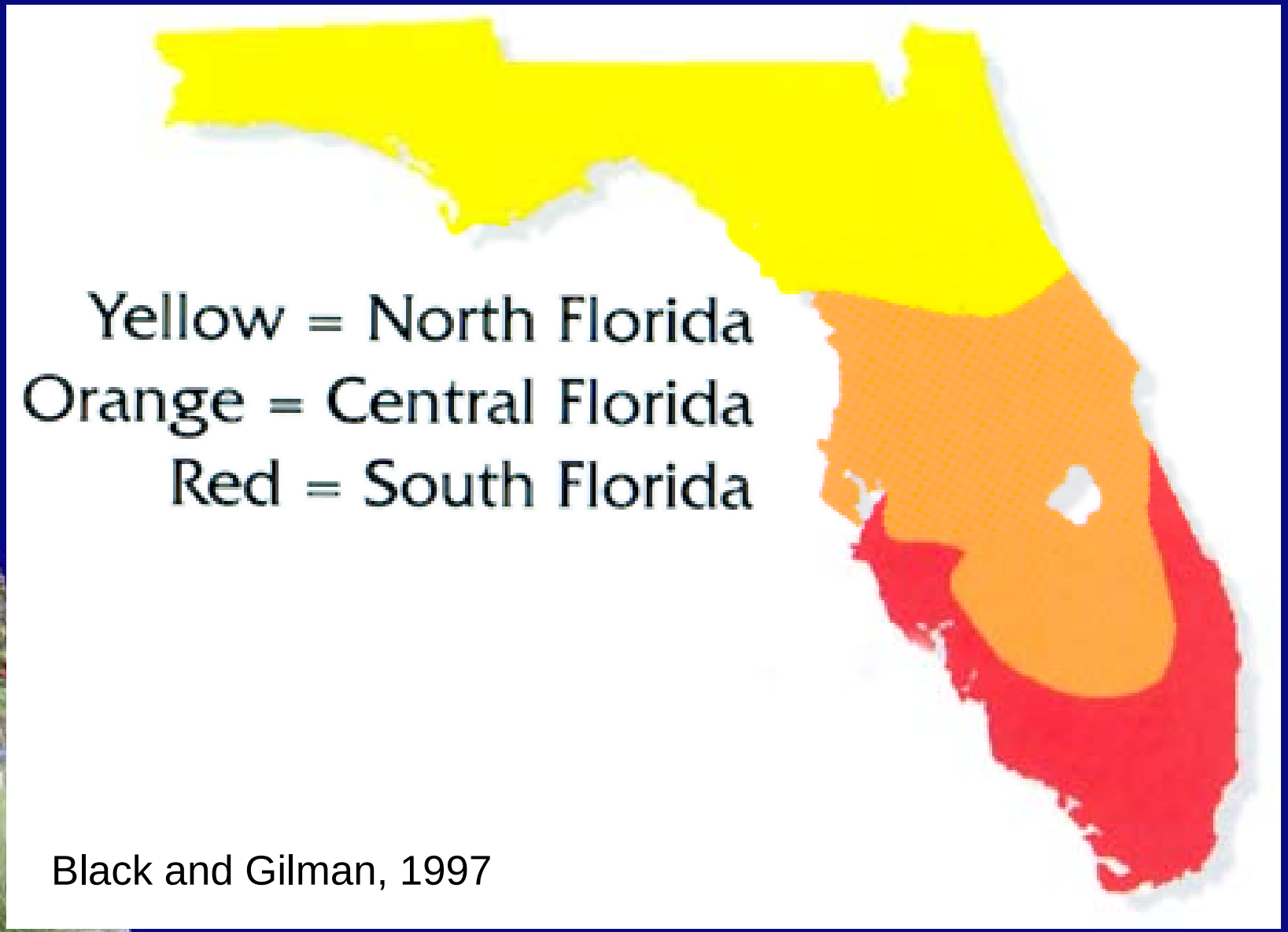
# American Horticultural Society Heat Zone Map of Florida




| Zone | Ave. # days/yr above 86F |
|---|---|
| 8 | >90-100 |
| 9 | >120-150 |
| 10 | >150-180 |
| 11 | >180-210 |
| 12 | >210 |

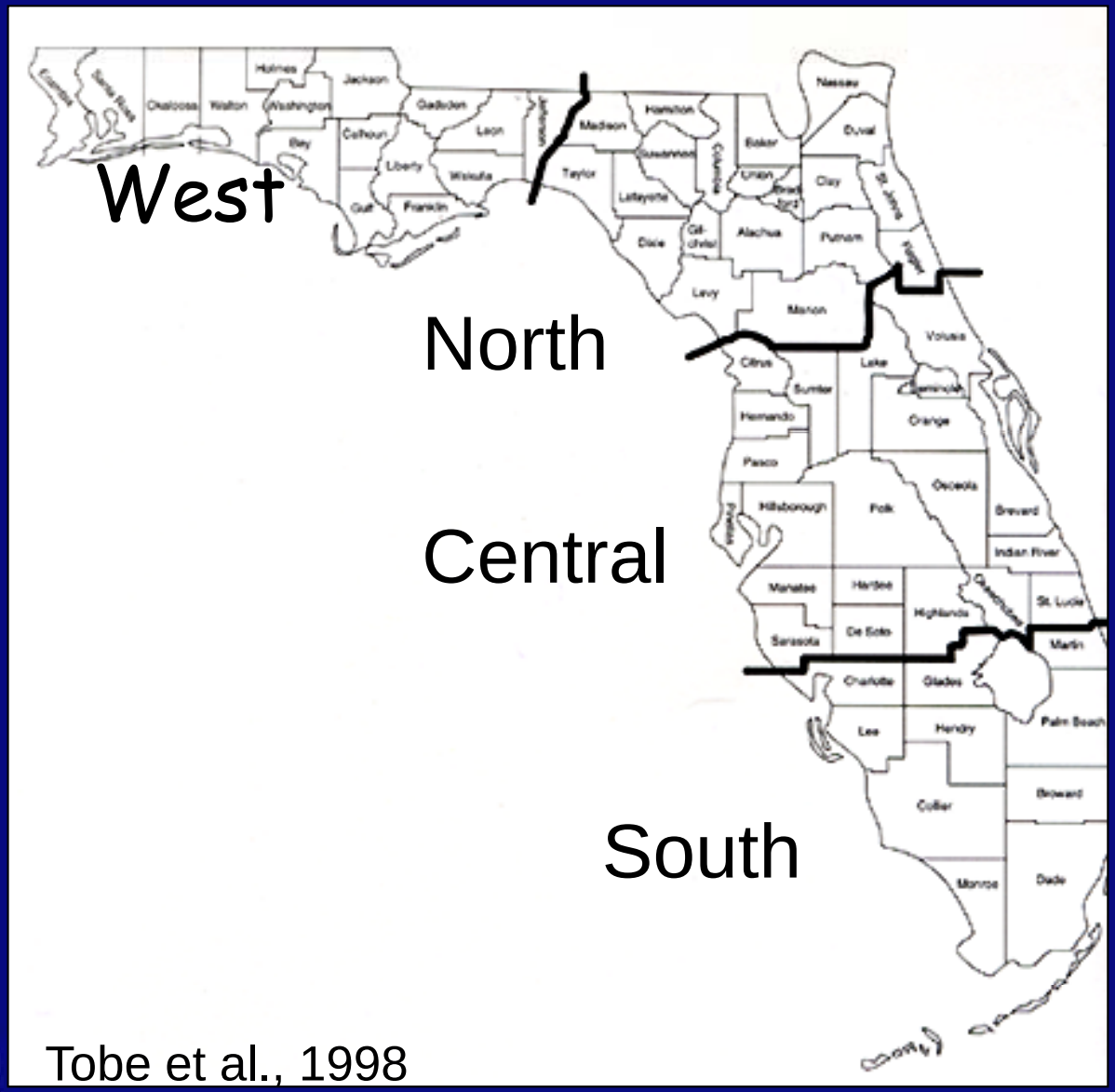
http://www.ahs.org

# North, Central and South Florida



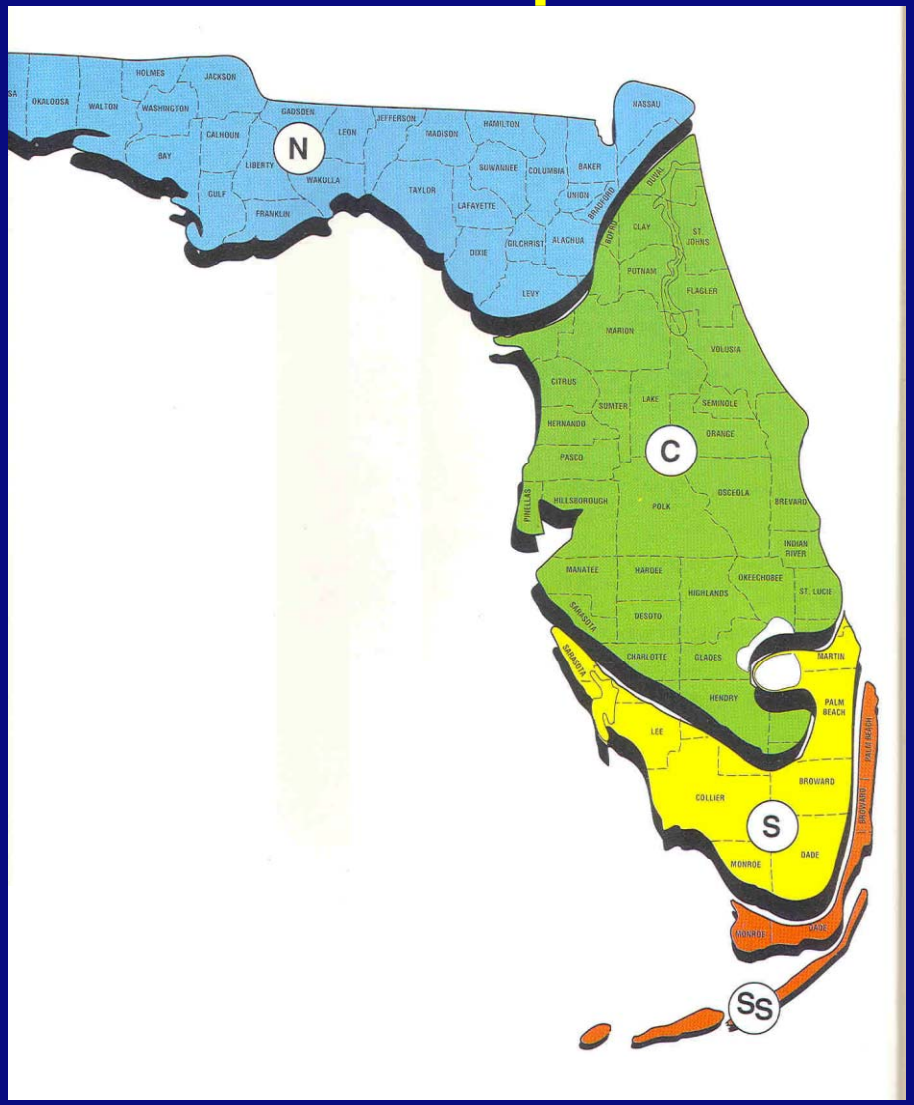

Black and Gilman, 1997

# West, North, Central and South Florida



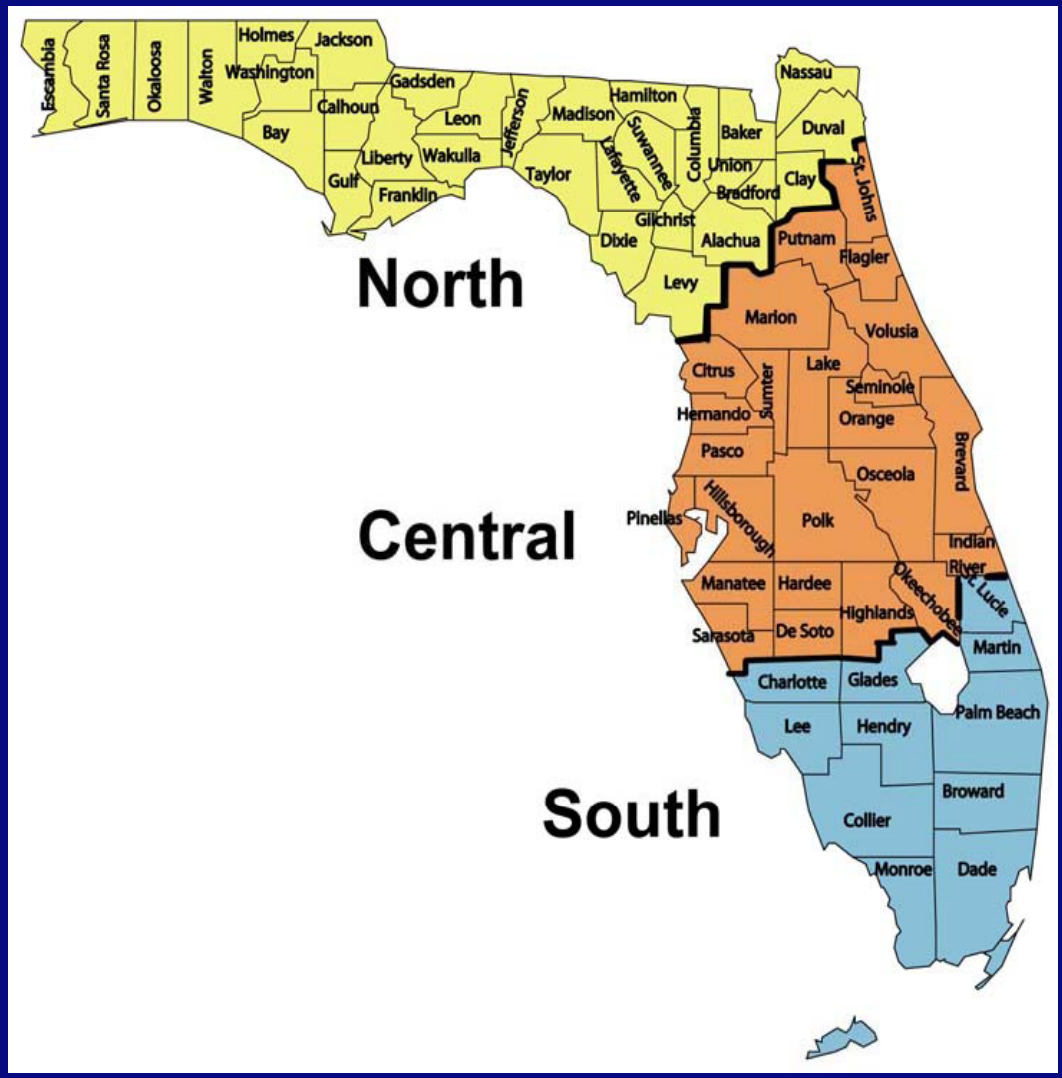

Tobe et al., 1998

# North, Central, South and South Subtropical Florida

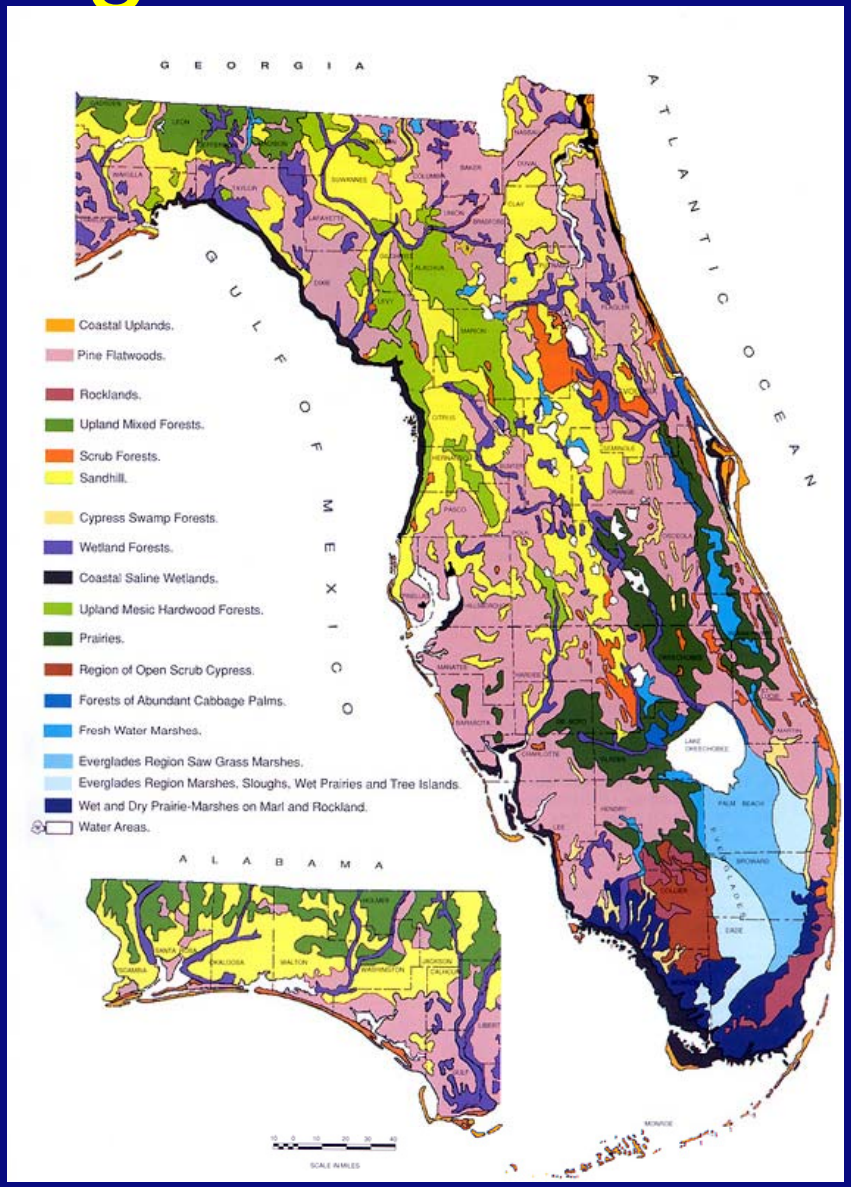



Florida Game and Freshwater Fish Commission

# IFAS Assessment and FLEPPC Map



# General Map of Natural Vegetation of Florida



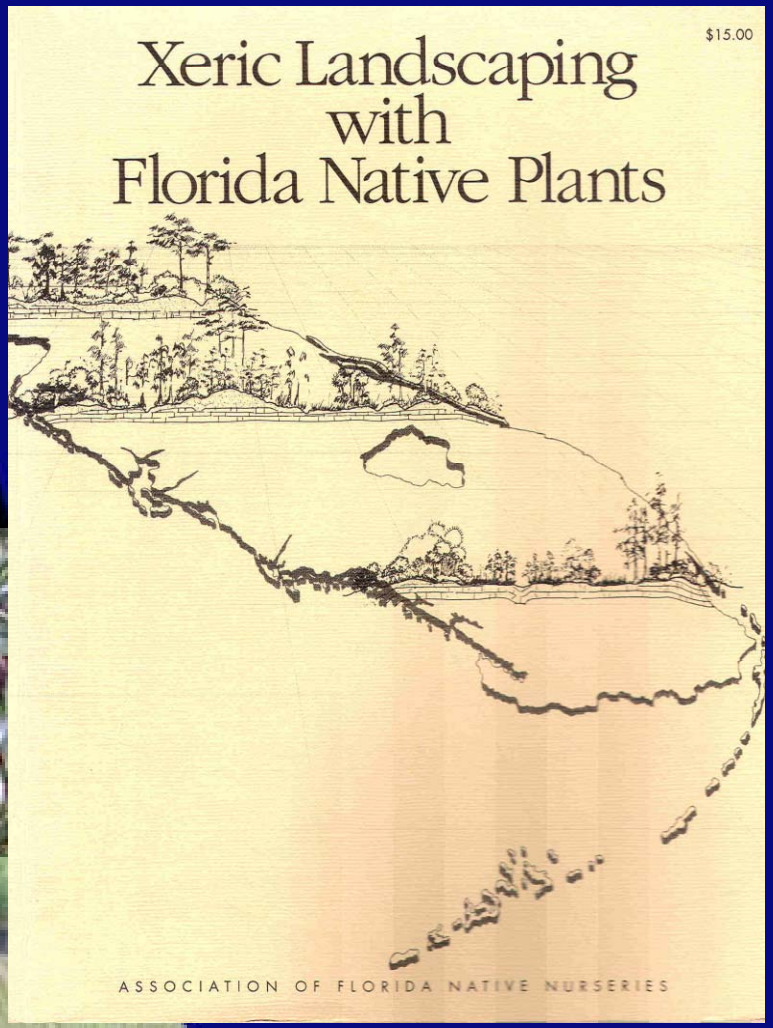

by John Davis (modified by AFNN, 1991)

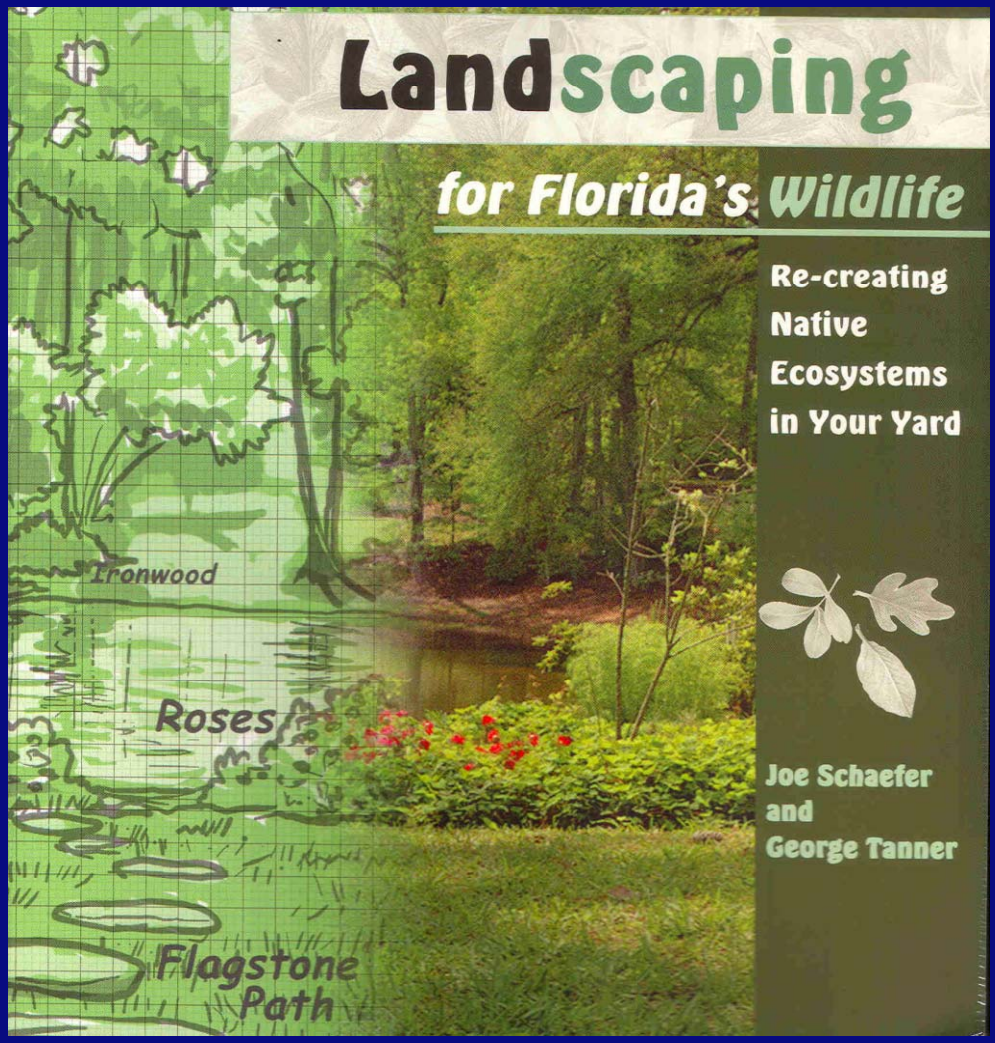
# Ecosystem-

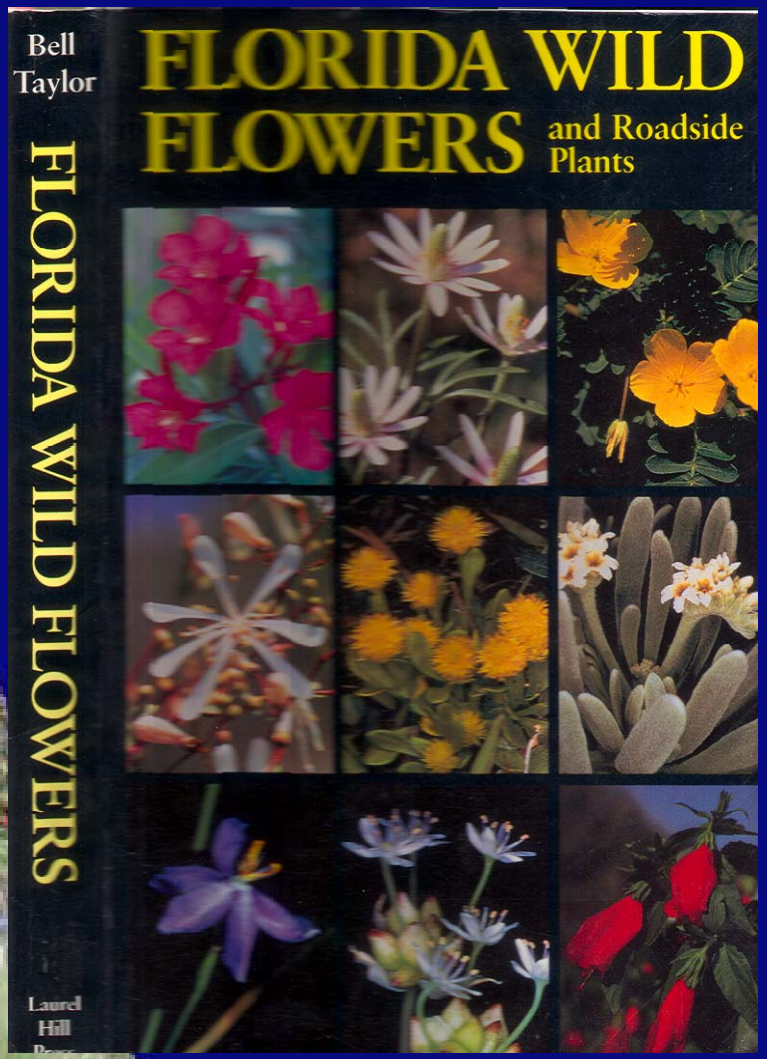


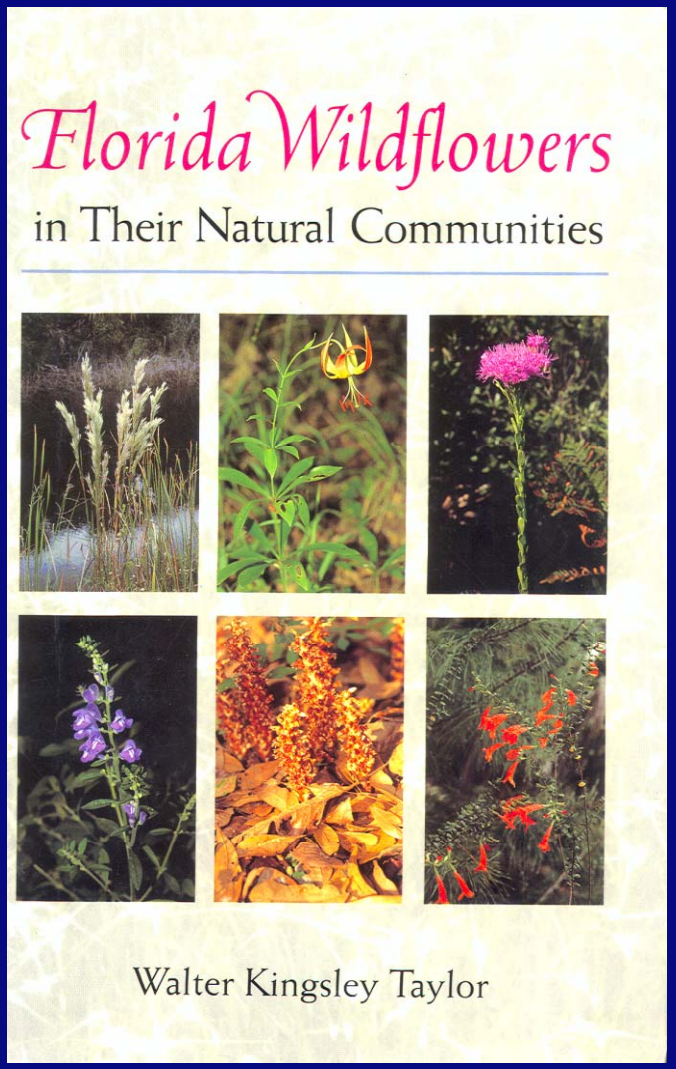
www.irrecenvhort.ifas.ufl.edu

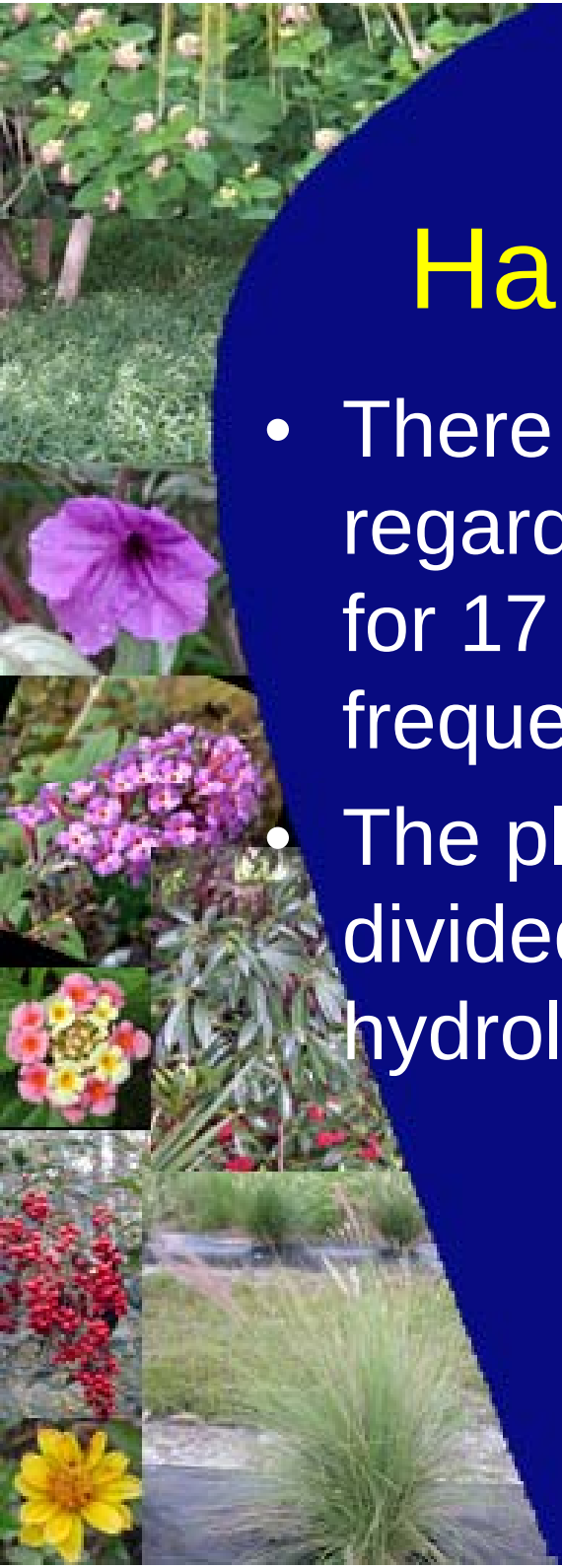
# Plant Associations




Bell
Taylor
FLORIDA WILD FLOWERS
and Roadside Plants
FLORIDA WILD FLOWERS
Laurel Hill


Florida Wildflowers
in Their Natural Communities
Walter Kingsley Taylor



# Classification of Native Habitats (Bell and Taylor, 1982)

- There seems to be a general consensus regarding the characteristics and terminology for 17 of Florida's major habitats most frequently encountered.
- The plant communities of Florida can be divided into three major categories based on hydrological characteristics:
  - Upland -generally not subject to water inundation
  - Wetland-subject to seasonal flooding
  - Aquatic-permanently flooded

# I. UPLAND

A. Open
   1. Coastal Strand
   2. Dry Prairies
   3. Savanna

B. Forest-Pine and Hardwood
   4. Pine Flatwoods
   5. Sand Scrub
   6. Turkey Oak Sandhill
   7. Mixed-pine Hardwood
   8. Hardwood Hammocks
   9. Tropical Hammocks

Lagoon bay 2.JPG

# II. WETLAND

A. Open

10. Coastal Marshes
11. Wet Prairie
12. Fresh water Marshes
13. Cypress Scrub

B. Forest

14. Cypress Swamp
15. Hardwood Swamps or Swamp Forest
16. Mangrove Swamp

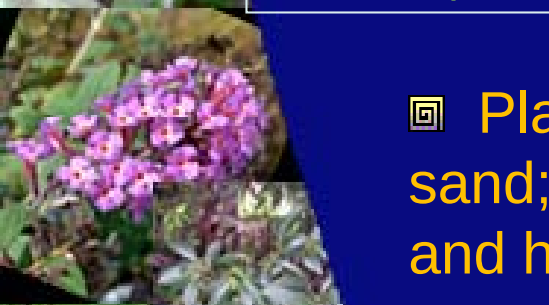
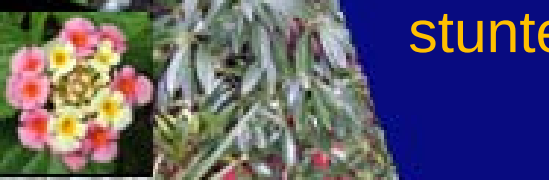
# III. AQUATIC

17. Open, freshwater springs, lakes, ponds, rivers and streams

# What Native Plants are Appropriate for Your Landscape?

- Seven Major Ecosystems Occur Throughout Florida:
  1. Coastal Strand
  2. Sand Scrub
  3. Sandhills
  4. Hardwood Hammocks
  5. Flatwoods
  6. Swamp
  7. Freshwater Marsh

(Schaefer and Tanner, 1998)


# Coastal Strand

"Florida's Seashore"-Neutral to alkaline soil composed of coarse sand and shell fragments, little organic matter, well drained. -(Schaefer and Tanner, 1998)

- Plants must be tolerant of salt spray, wind, and shifting sand; Vegetation consists of low growing grasses, vines, and herbaceous plants with few trees or large shrubs (often stunted)

| | | |
|---|---|---|
| Sea Oats | Blanket flower | Beach Sunflower |
| Sea Purslane | Beach Morning Glory | Railroad Vine |
| Cocoplum | Saw Palmetto | Bay Cedar |
| Live Oak | Cabbage Palm | Sea Grape |

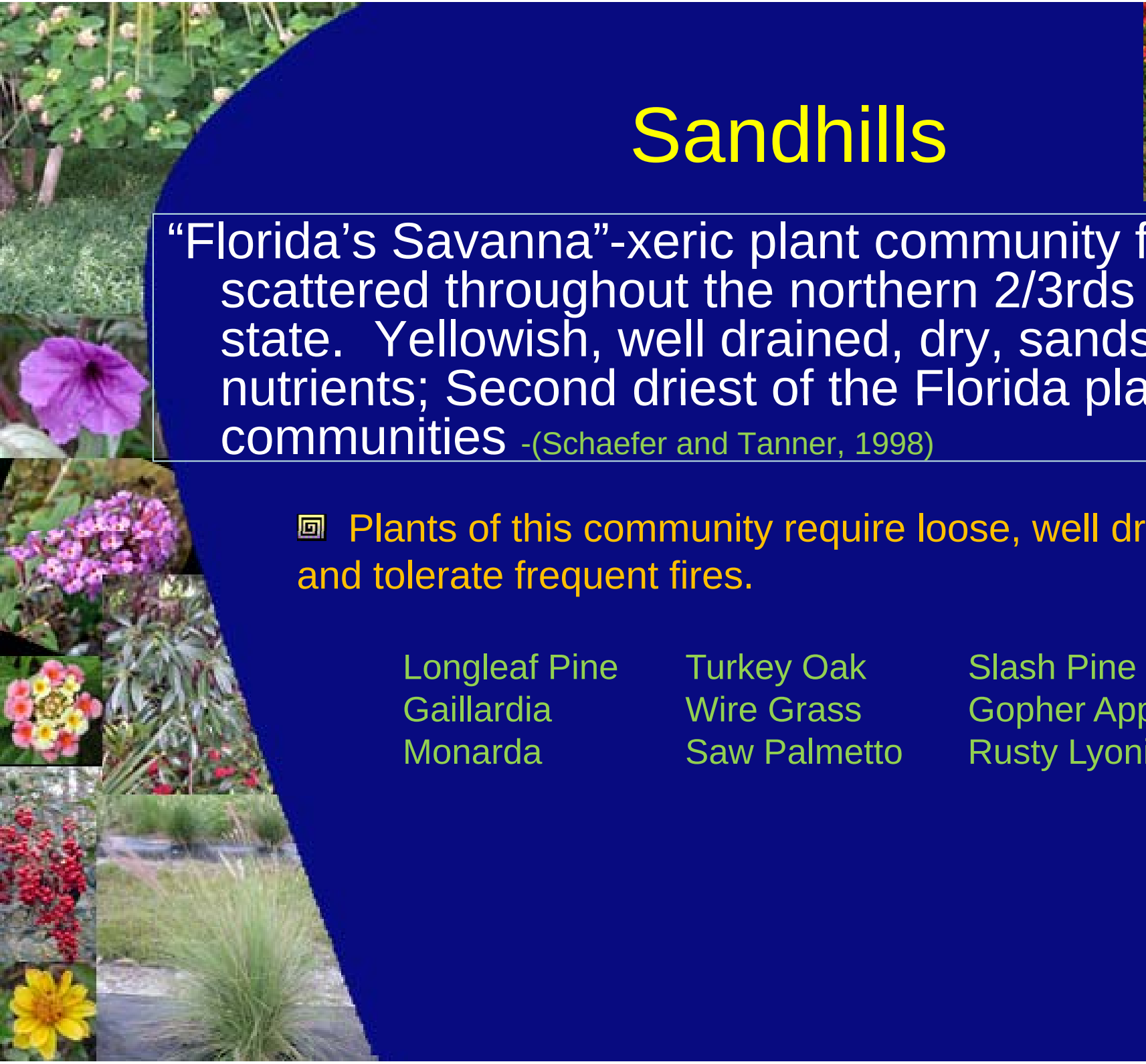
# Coastal Strand

# Sand Scrub

"A xeric upland plant community"-The best drained and driest Florida plant community; Occurs primarily on the inland ridges (elevated areas) and on the coastal dune; Home of many endemic species (species found nowhere else in the world). -(Schaefer and Tanner, 1998)

- Plants of this community require good drainage and suffer from flooding and wet or heavy soils; can endure light shade and slight salt exposure

| | | |
|---|---|---|
| Bear Grass | Scrub Palmetto | Sand Pine |
| Myrtle Oak | Polygonella spp. | Scrub Hickory |
| Gopher Apple | Saw Palmetto | Day Flower |



# Sandhills

"Florida's Savanna"-xeric plant community found scattered throughout the northern 2/3rds of the state. Yellowish, well drained, dry, sands, low in nutrients; Second driest of the Florida plant communities -(Schaefer and Tanner, 1998)

- Plants of this community require loose, well drained soil and tolerate frequent fires.

| | | |
|---|---|---|
| Longleaf Pine | Turkey Oak | Slash Pine |
| Gaillardia | Wire Grass | Gopher Apple |
| Monarda | Saw Palmetto | Rusty Lyonia |

# Sandhill and Scrub


# Hardwood Hammocks

"Florida's Most Diverse Ecosystem"-occur commonly in north-central FL and sparingly in north and west FL on rolling terrain; soils range from poorly to well drained and are high in nutrients containing more organic matter and litter than drier sites. -(Schaefer and Tanner, 1998)

- Plants of this community require good soil fertility and moisture and can be identified by thick stands of shade-tolerant hardwoods with few pine trees.

| | | |
|---|---|---|
| Laurel Oak | Live Oak | Pignut Hickory |
| Beauty Berry | Holly | Saw Palmetto |
| Elm | Viburnum | Coral Bean |

# Hardwood Hammock

# Flatwoods

"Florida's Most Extensive Ecosystem"-occur extensively in the northeastern region of the state and to the east and west of the sandy, drier ridges that run north and south through the center of the state; occur on nearly level land, moderately to poorly drained. -(Schaefer and Tanner, 1998)

- Acid soils are sandy, low in organic matter, and usually underlain by an impervious hardpan or clay layer, one to three feet below the surface; Plants of this community tolerate a wide range of moisture and soil fertility levels and are generally not tolerant of salt and shade.

| | | |
|---|---|---|
| Slash Pine | Live Oak | Lovegrass |
| Wax Myrtle | Saw Palmetto | Gallberry |
| Coontie | Longleaf pine | |

# Pine Flatwoods

# Swamp

"The flooded trees community"-occur throughout FL along river and lake margins mixed in with other plant communities; located in low areas that are either flooded or saturated part of the year; Dark soils are poorly drained, and water is at or above ground level most of the year. -(Schaefer and Tanner, 1998)

- Plants of this community are adapted to wet conditions, fairly fertile conditions, with little salt tolerance and some shade tolerance

| | | |
|---|---|---|
| Cypress | Red Maple | Sweet Bay |
| Buttonbush | Dahoon Holly | Red Bay |
| Wax Myrtle | Sweetspire | Cinnamon Fern |

# Fresh Water Marsh

"Florida's lakes of grass"-wetlands dominated by rooted herbaceous plants growing in and emerging above shallow water; constitute 1/3rd of Florida's wetlands and occur in low, flat, poorly drained areas. -(Schaefer and Tanner, 1998)

- Marsh vegetation is predominantly herbaceous with accumulation of peat common

| | | |
|---|---|---|
| Pickerelweed | Swamp Lily | Cordgrass |
| Bulrush | Maidencane | Blue eyed grass |

# The Everglades

# Choose the right plant for the right place in your landscape!

*Plant associations can help you get there!*