

# Climate Changed: How Research, Science, & Reporting Translate To Policy & Practice



Water Institute Symposium  
February 21, 2024

Gerald Murphy, Jennison Kipp & Pierce Jones  
Program for Resource Efficient Communities  
UF/IFAS Extension

Brenda Defoe-Surprenant  
East Central Florida Regional Planning Council

# Climate Changed Context:

## Impacts, Housing Vulnerability, Real Costs, Real Opportunities

UF Water Symposium, 21 Feb 2024

Jennison Kipp

Sustainable Communities State Specialized Program Agent  
Program for Resource Efficient Communities (PREC)



**PREC**  
PROGRAM FOR RESOURCE  
EFFICIENT COMMUNITIES



**UF|IFAS**  
UNIVERSITY of FLORIDA

# Why? Urban Land Development Today To 2070



≡ TOC

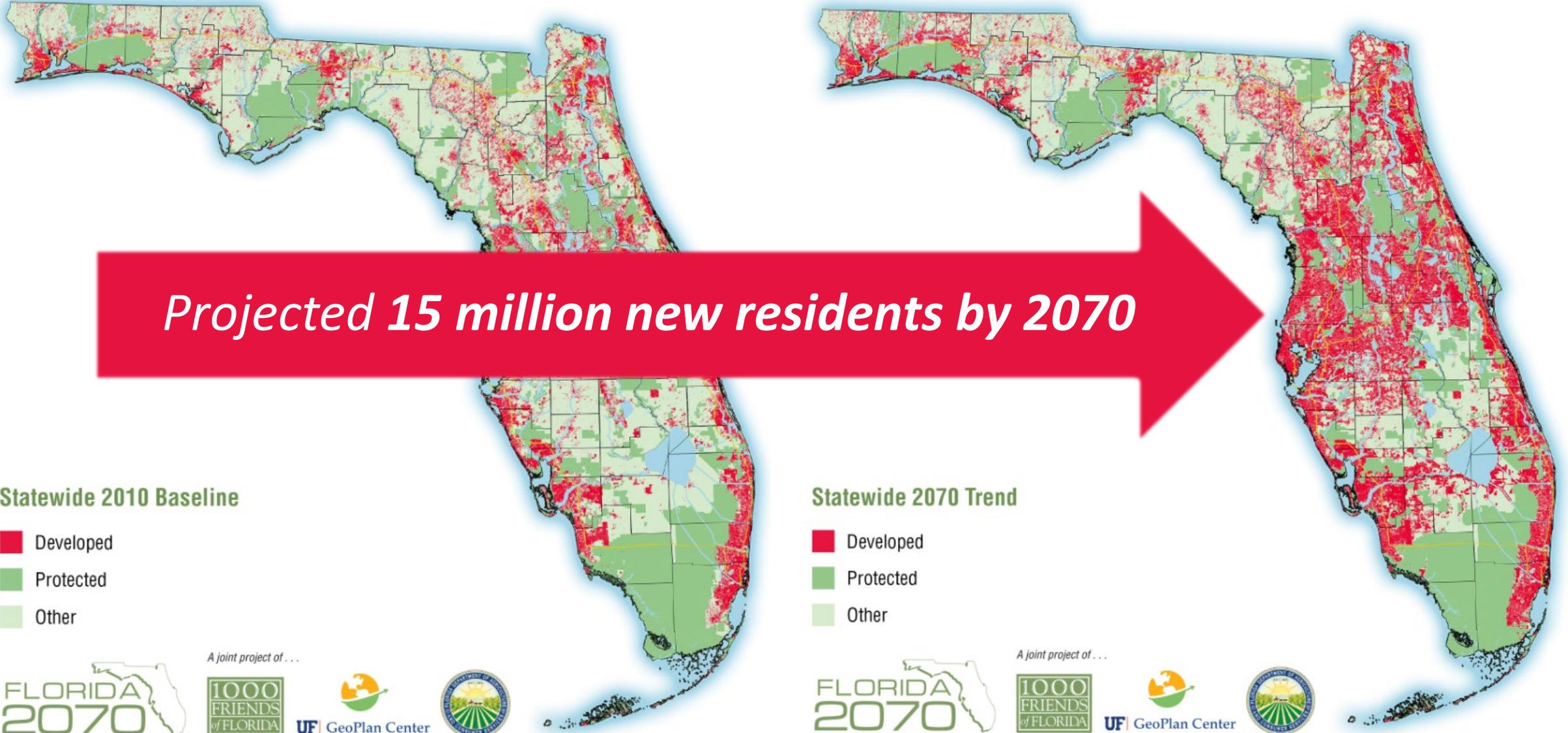
WHAT IS YOUR VISION  
FOR FLORIDA'S FUTURE?



<https://1000friendsofflorida.org/florida2070>

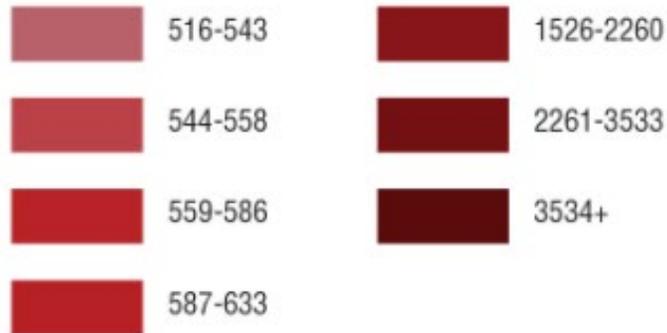
A SPECIAL REPORT FLORIDA 2070

# Florida's Population 2010 V. 2070



# Florida's Water Supply & Quality

*Projected 54% increase in water demand by 2070*



**Statewide 2070 Trend**  
*(Total demand by census block in gallons per day per acre)*

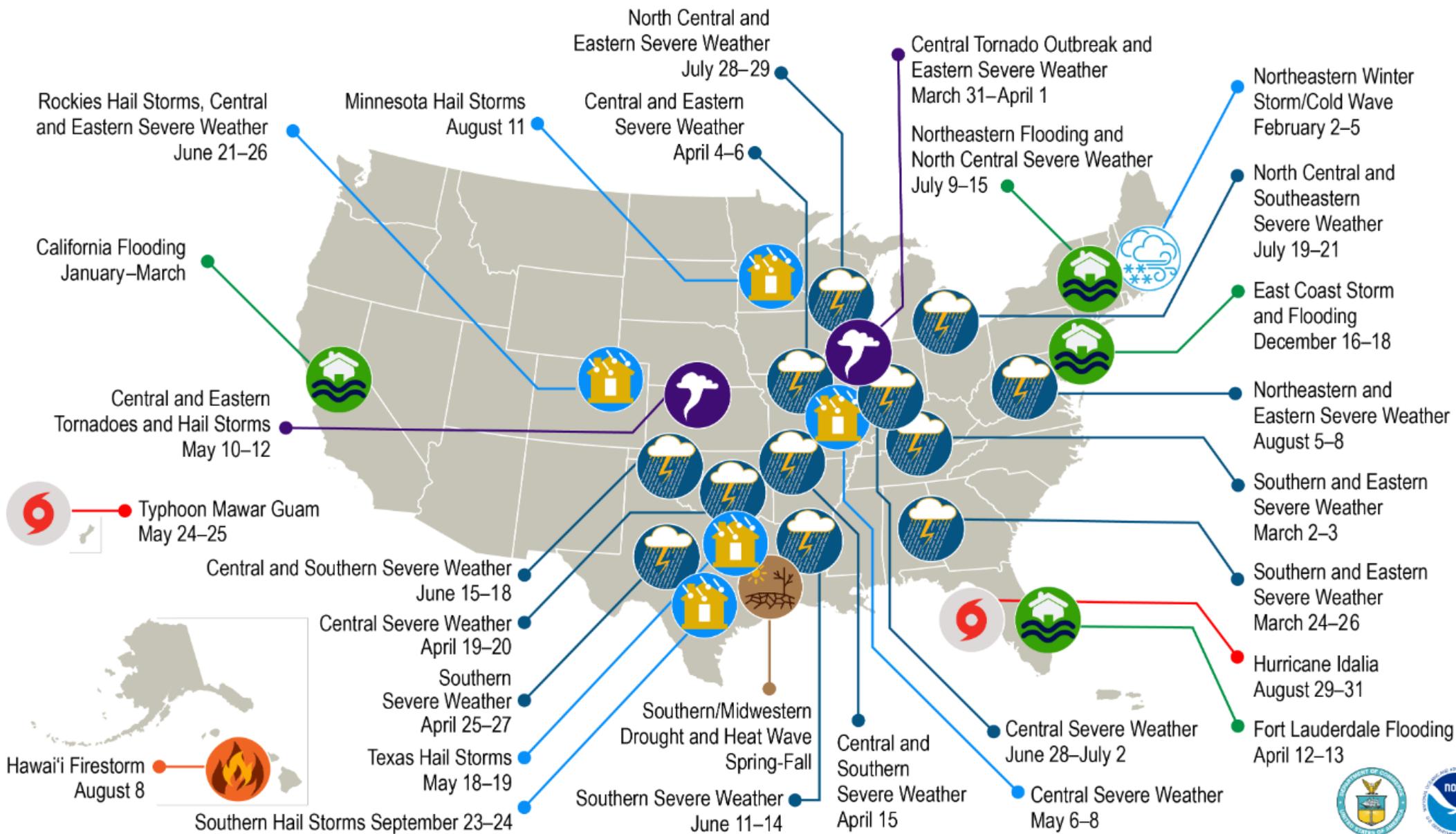
This map uses a mathematically-generated geometric scale to better visualize the results due to the wide range in values. Each category has roughly the same number of data entries.



A joint project of . . .



# U.S. 2023 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 28 separate billion-dollar weather and climate disasters that impacted the United States in 2023.

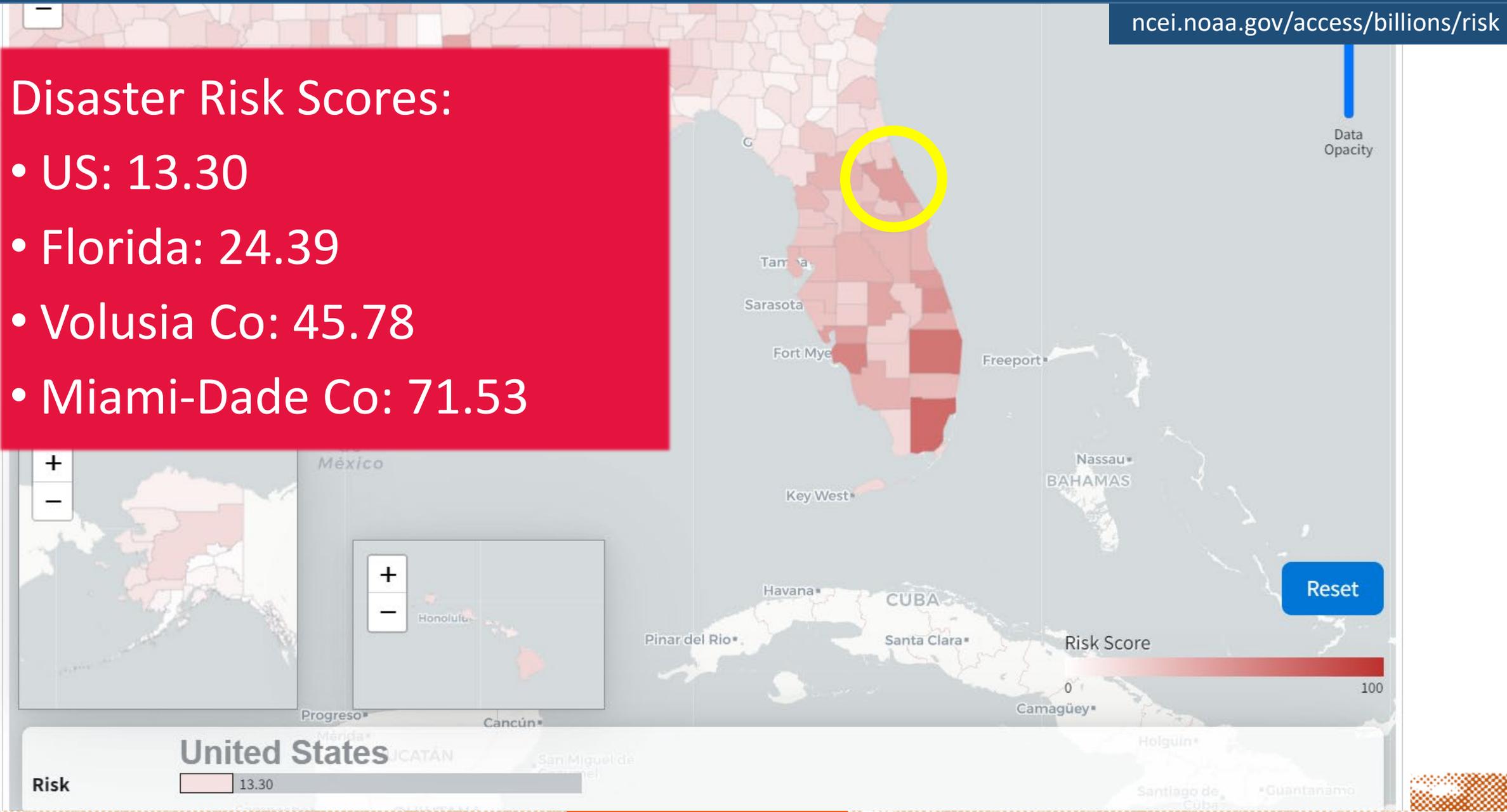


# Billion-Dollar Weather & Climate Disaster Risk (NOAA)

[ncei.noaa.gov/access/billions/risk](https://ncei.noaa.gov/access/billions/risk)

## Disaster Risk Scores:

- US: 13.30
- Florida: 24.39
- Volusia Co: 45.78
- Miami-Dade Co: 71.53



# Climate Risk & Vulnerability Scores (NOAA)

[ncei.noaa.gov/access/billions/risk](https://ncei.noaa.gov/access/billions/risk)

Data Type	Volusia County	Florida	U.S.
<b>Weather and Climate Risk</b>			
 <b>Drought Risk</b>	4.37	12.22	11.61
 <b>Flooding Risk</b>	26.67	15.42	9.13
 <b>Freeze Risk</b>	46.23	18.69	15.72
 <b>Severe Storm Risk</b>	49.65	24.95	16.99
 <b>Tropical Cyclone Risk</b>	49.92	22.66	4.36
 <b>Wildfire Risk</b>	47.53	23.71	6.30
 <b>Winter Storm Risk</b>	--	2.43	13.71

\*Credit: Andrea Galinski, UF

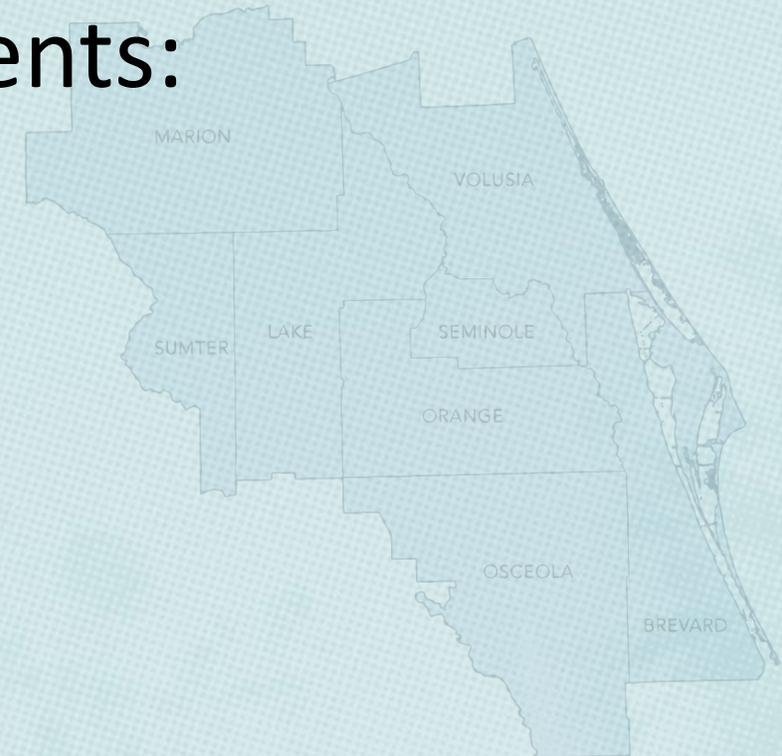


# New Model for Vulnerability Assessments: Housing + Compounding Vulnerabilities in East Central Florida

Andrea Galinski, Assistant Professor, University of Florida

Environmental Justice Approaches in Water Research, Education and Policy  
UF Water Institute Symposium

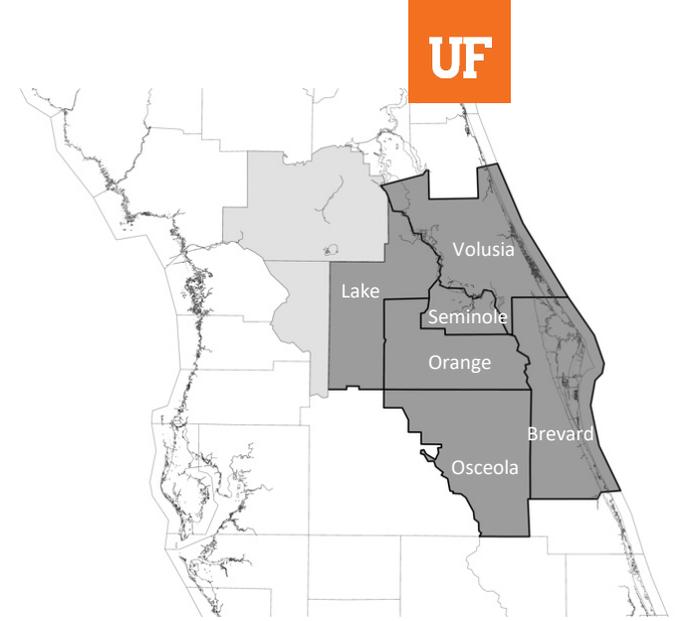
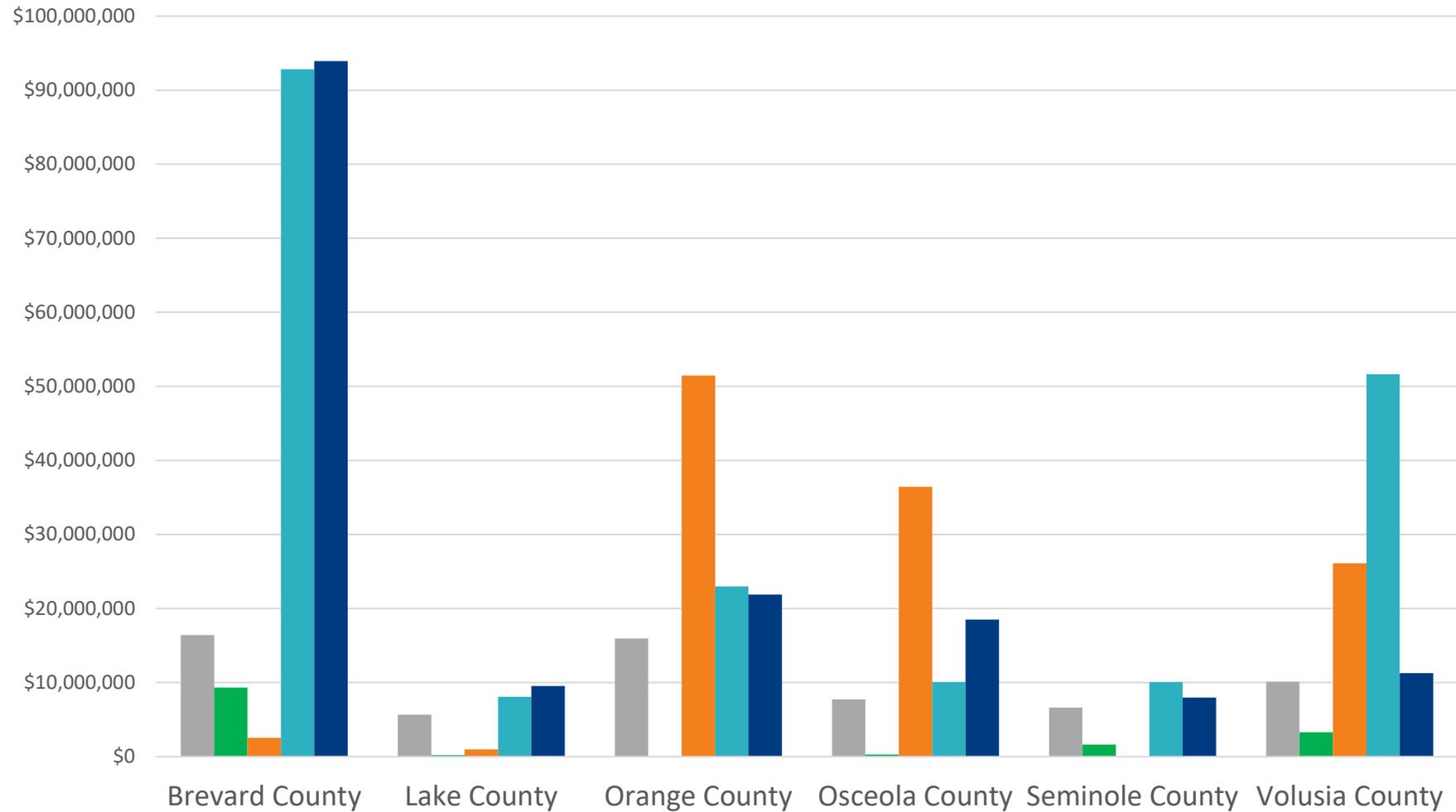
Feb 20, 2024



\*Credit: Andrea Galinski, UF

# Hurricane and Tropical Storm Impacts in East Central FL Region

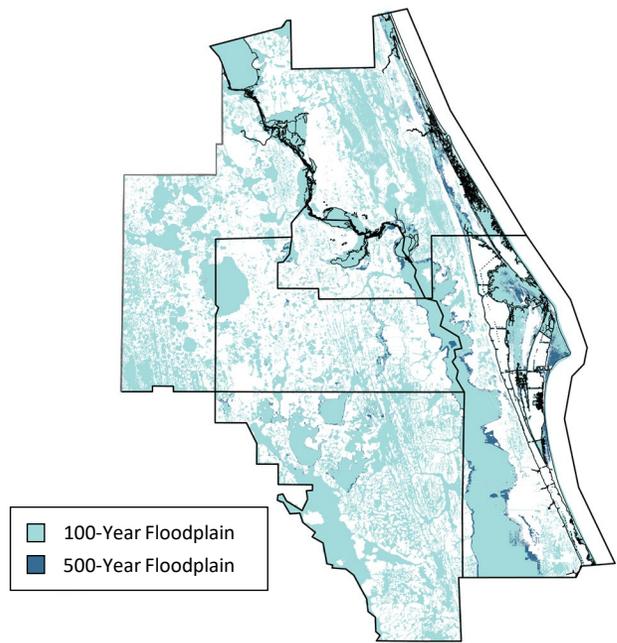
## From Irma, Fay, Bonnie/Charlie, Frances, and Jeanne



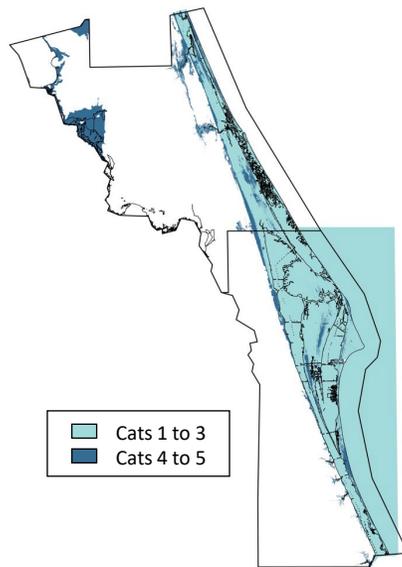
- Hurricane Irma (2017)
- Tropical Storm Fay (2008)
- Tropical Storm Bonnie/Hurricane Charlie (2004)
- Hurricane Frances (2004)
- Hurricane Jeanne (2004)

# What flood hazards does the region face?

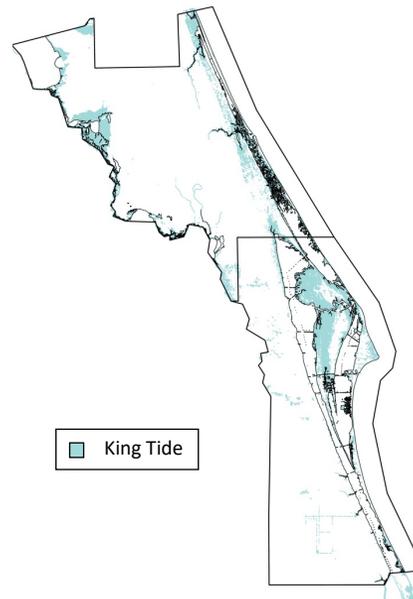
## Data Layers



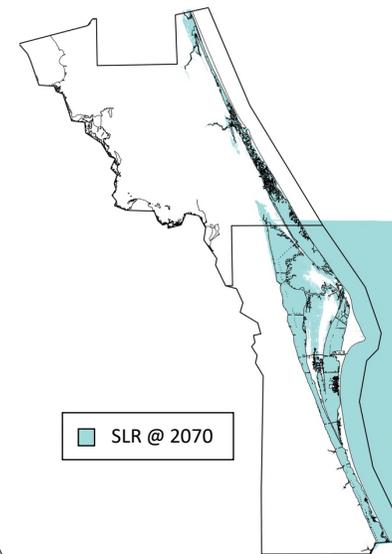
FEMA Floodway  
100-year + 500-year Floodplains



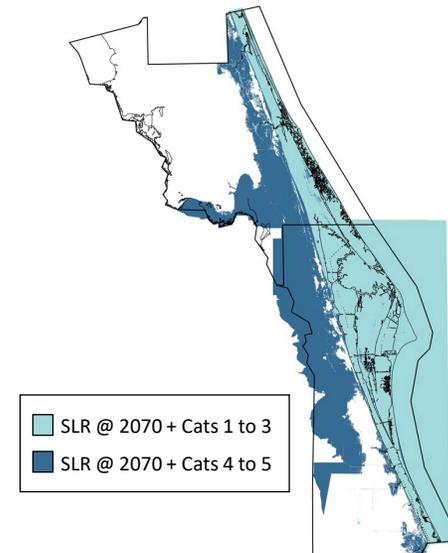
Storm Surge\*



King Tide\*



Sea Level Rise\*  
(2070)

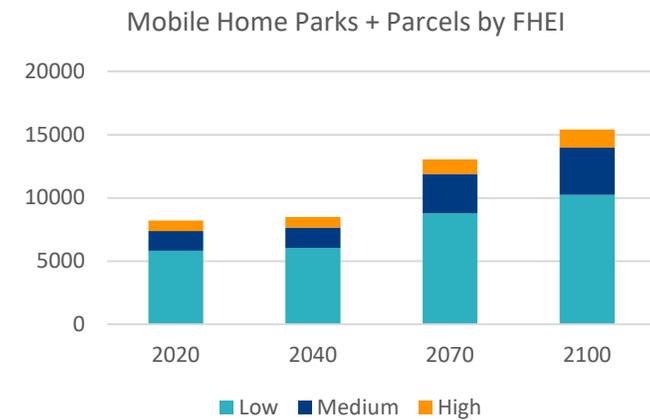
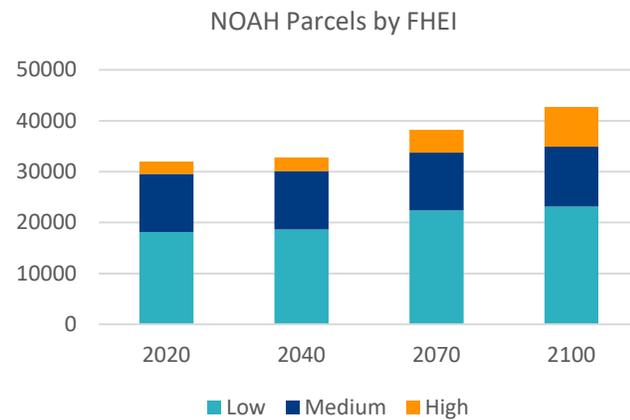
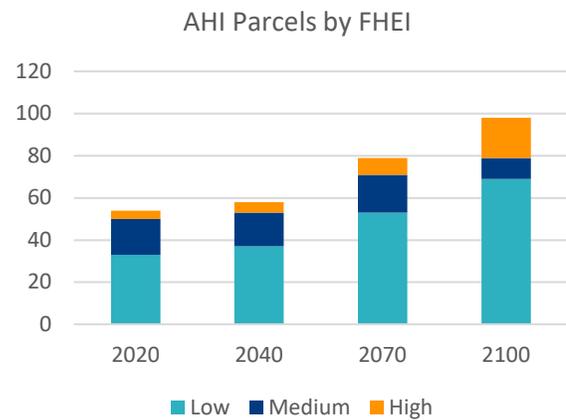
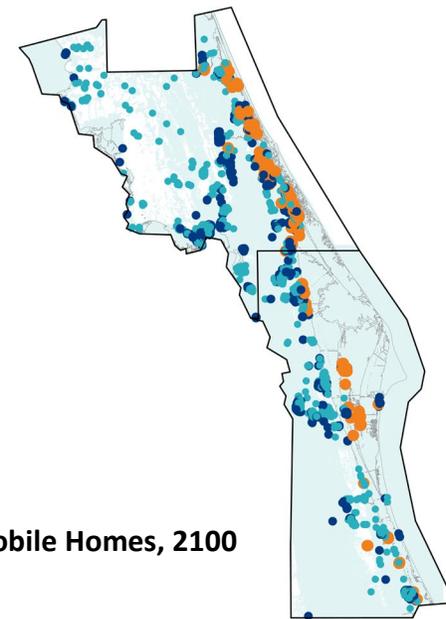
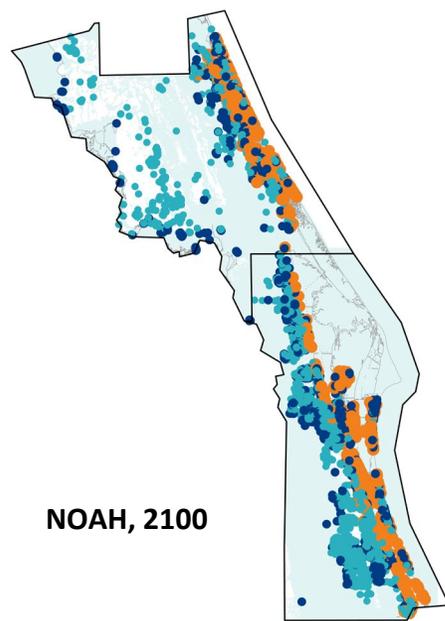
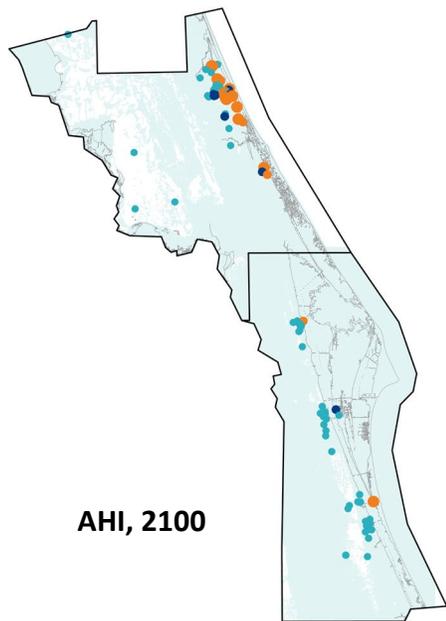


Storm Surge + SLR\*  
(2070)

\* Available for Volusia and Brevard Counties

# Where is affordable housing exposed to current/future flood hazards?

## AHI, NOAH, Mobile Homes by Flood Hazard Exposure Index (FHEI)



# Like much of Florida, the East Central Florida Region faces an affordable housing “crisis” ...

...But it is more than a crisis.  
It has become a permanent structural condition of unaffordability.

As Florida home prices spike, middle-class residents wonder if they can afford to stay

AFFORDABLE HOUSING

In Palm Bay, rent hikes are pushing some seniors into homelessness

**Orlando-area rent prices are up 20% since January, the highest increase in market history**

Osceola County mom gets a new job to afford rent hike

**Volusia County leaders discuss affordable housing as rents soar; no easy solutions**

Mary Helen Moore The Daytona Beach News-Journal  
Published 8:25 a.m. ET Dec. 8, 2021 | Updated 8:32 a.m. ET Dec. 8, 2021

**‘We are out of balance:’ Orlando housing market soared in 2021 amid low inventory, high demand**

December 2021 report shows median price of a home reaches \$340,000

Affordable Housing Opportunities Scarce for Volusia Residents

Florida sees signals of a climate-driven housing crisis

**Shrinking inventory, rising rents and \$2 billion loss created Florida’s affordable housing crisis**

Lawmakers took over \$2 billion from Florida housing trust fund

**Older Orlando apartment complex trades for \$1.2M over listing, reflecting continued demand**

**'Red-hot' housing market on Space Coast marked by record prices and low inventory**

# Climate Changed: How Research, Science, & Reporting Translate To Policy & Practice

## Agenda:

- Context Jennison Kipp
- Florida Policy Jerry Murphy
- Regional Implementation Brenda Defoe-Surprenant
- Land Developers Pierce Jones
- Developer Engagement Jennison Kipp
- Questions and Discussion





# Climate Changed: How Research, Science, and Reporting Translate to Policy and Practice

**Water Institute Symposium February 21, 2024**

FOR THE

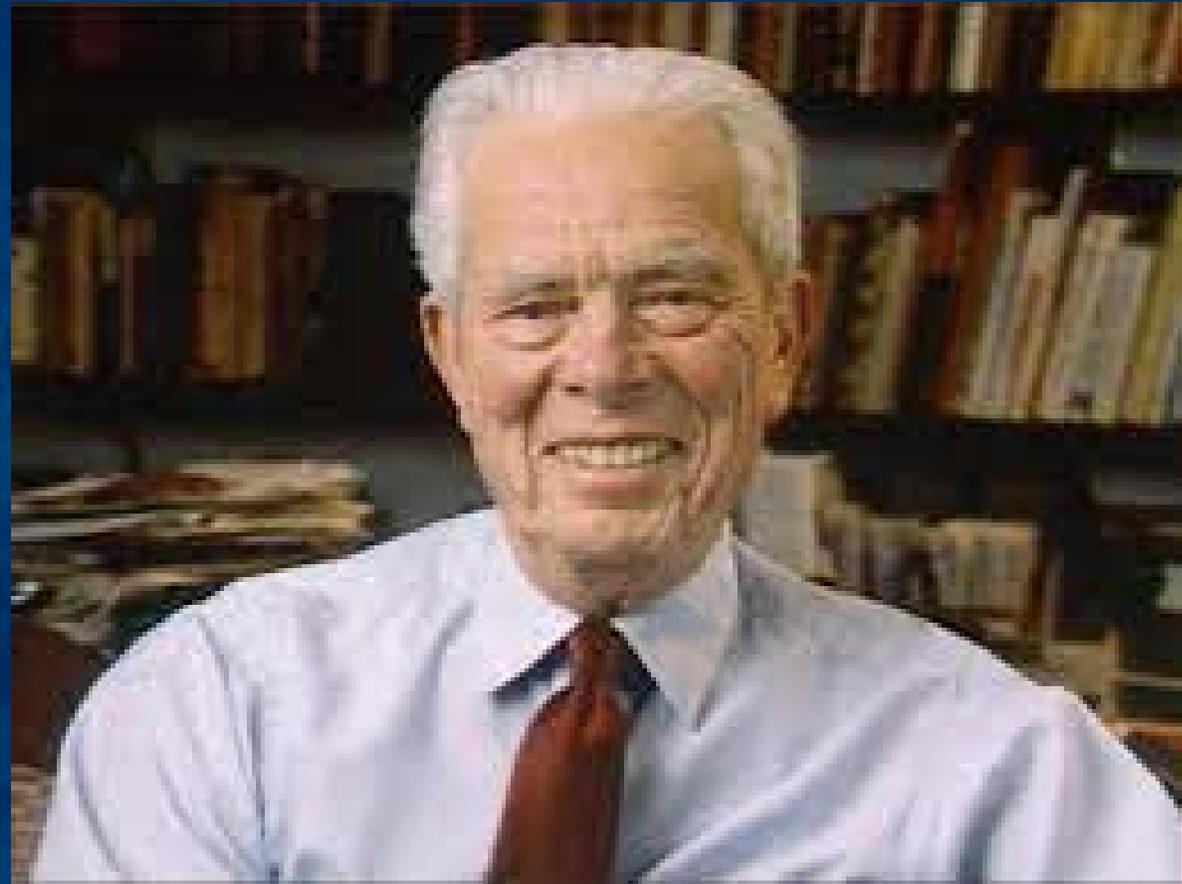
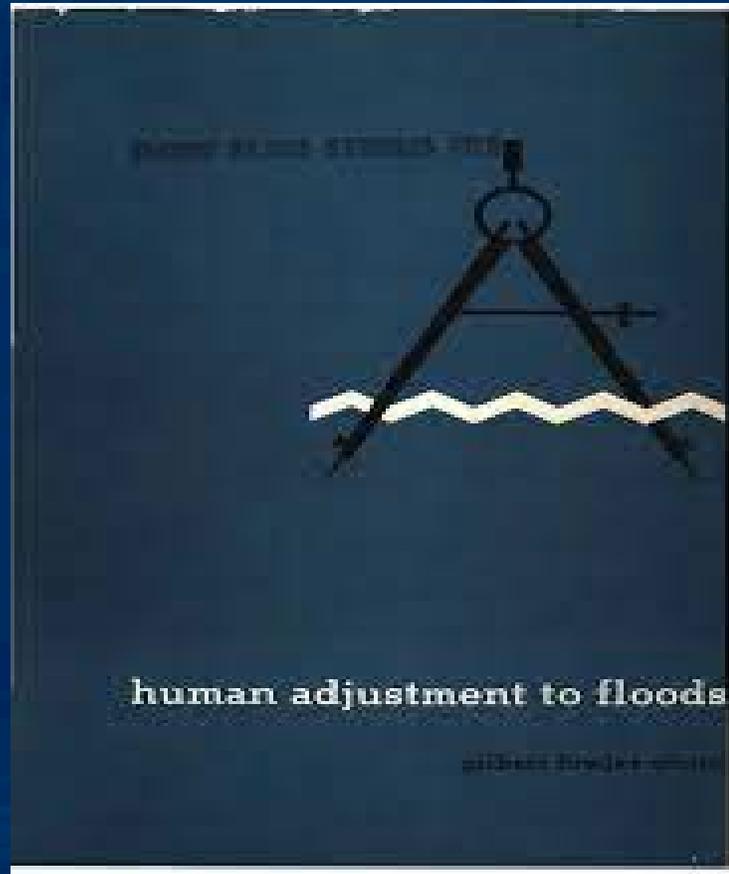
#GATORGOOD

**Gerald Murphy, JD, AICP, CFM**

**State Specialized Program Agent – Flood Resilient Communities**

**UF|IFAS Extension - Program for Resource Efficient Communities**

# Gilbert White, *Human Adjustment to Floods* (1945)



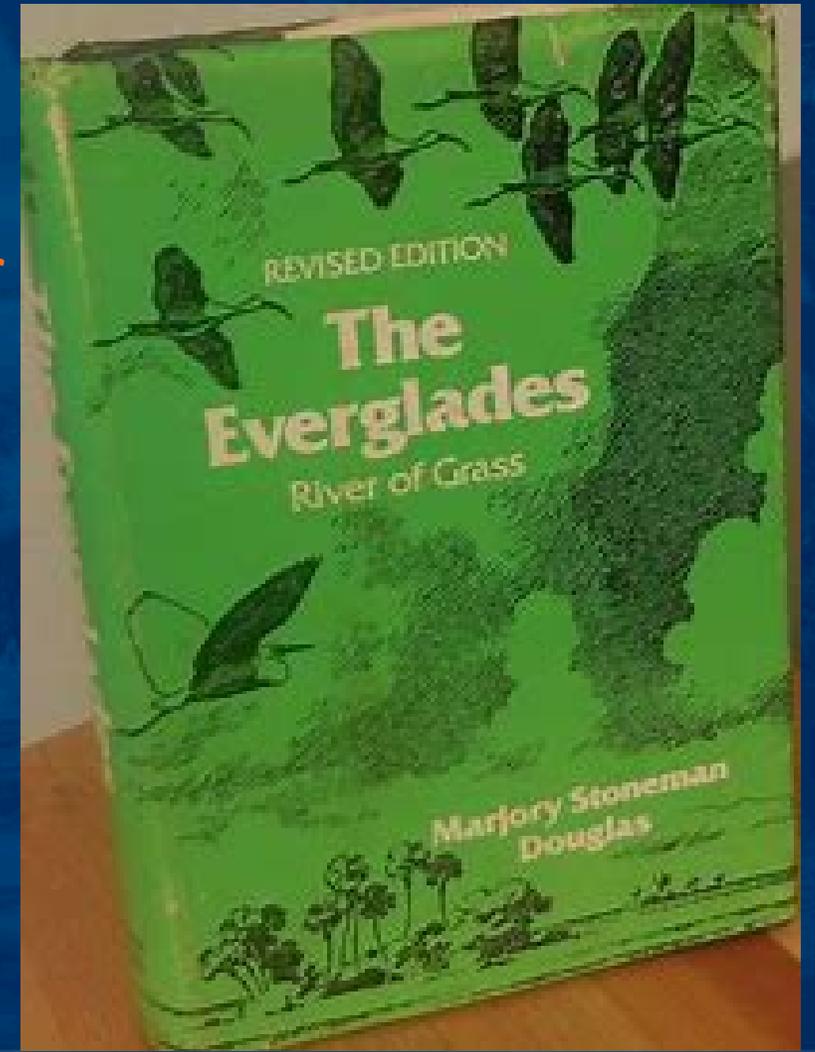
## Gilbert White, *Human Adjustment to Floods* (1945)

"It has become common in scientific as well as popular literature to consider floods as great natural **adversaries** which man seeks persistently to overpower. . . . This simple and prevailing view neglects in large measure the possible feasibility of other forms of **adjustment.**"

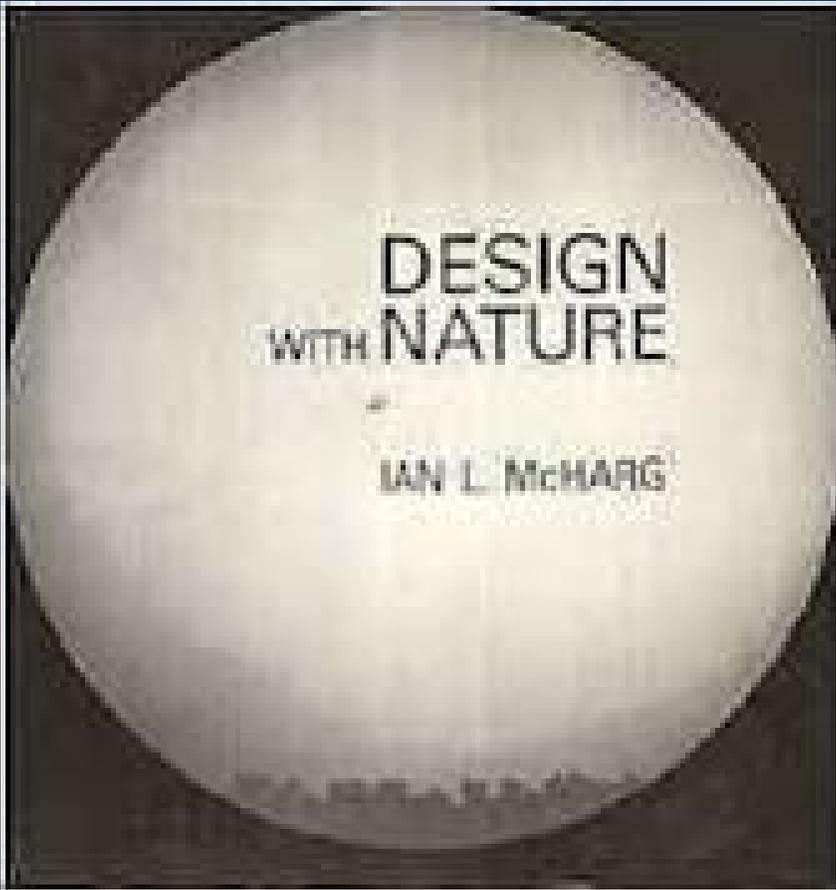
# A Brief History of Modern Floridan Environmental Awareness and Policy

1947

- November 6, Marjory Stoneman Douglas, *The Everglades: River of Grass* publication released.
- December 6, Everglades National Park dedicated by President Harry Truman



# Ian McHarg, *Design with Nature* (1969)



# Everglades Fires of 1970 and 1971

During the last 17 days of April 1971, smoke from wildfires in the Florida Everglades drifted over the east coast of southern Florida.



Smoke restricted visibilities 67.9% of the time at Palm Beach International Airport.

# Modern Floridan Planning and Growth Management – 1970s

1970

- November, Reubin O'D Askew elected Governor of Florida

1971

- Reubin O'D Askew inaugurated Governor
- Environmental and Land Management Study Committee (**ELMS I**) established

1972

- The State Comprehensive Planning Act (Ch. 72-295, 1972 Fla. Laws 1072) [**F.S. Ch. 163**]
- The Water Resources Act (Ch. 72-299, 1972 Fla. Laws 1082) [**F.S. Ch. 373**]
- The Environmental Land and Water Management Act (Ch. 72-317, 1972 Fla. Laws 1162 ) [**F.S. Ch. 380**]

# Modern Floridan Planning and Growth Management – 1970s (continued)

1973

- December, **ELMS I** issues final Report to Governor Askew; recommends adoption of the Local Government Comprehensive Planning Act

1975

- Local Government Comprehensive Planning Act (LGCPA , Ch. 75-257, 1975 Fla. Laws 794)[**F.S. Ch. 163**]; mandated that each of Florida's local governments adopt a local **comprehensive plan**. [Coastal]

1979

- November, Bob Graham elected Governor; inaugurated January 1980

# Modern Florida Planning and Growth Management – 1980s

1982

- August 23, Governor Graham establishes **ELMS II**, (Fla. Exec. Order No. 82-95).

1983

- ELMS II issues report recommending a framework that would maintain the proper balance and interaction between state policies, regional concerns, and Florida's traditionally strong local governments

1984

- June, Governor Graham signs the Florida State and Regional Planning Act of 1984 (Ch. 84-257, 1984 Fla. Laws 1166).

# Modern Florida Planning and Growth Management – 1980s (continued)

1985 - The Growth Management Act – mandating:

- a state comprehensive plan,
- regional planning councils to prepare regional policy plans,
- greater coordination between state, regional, and local plans, and
- state review and approve local comprehensive plans, with emphasis first on coastal counties
- State Planning Agency (DCA).

1991 - Governor Chiles created **ELMS III** in 1991, leading to a number of procedural refinements to growth management.

# 2004 & 2005 Tropical Storm Season



# 2007 Post-Disaster Redevelopment Plan Planning Initiative

- In the aftermath of the 2004-2005 Tropical Storm seasons,  
~~The Florida Department of Community Affairs (DCA)~~  
~~The Florida Department of Economic Opportunity (DEO)~~  
FloridaCommerce began the initiative to help coastal and inland local governments prepare post-disaster redevelopment plans. A focus group consisting of representatives of federal, state, and local government, state universities, and Florida planning organizations provided guidance to FloridaCommerce.
- **Florida Statutes Section 163.3178(2)(f) [Coastal Management]**

# 2011 Community Planning Act

“Then came the great recession and its political consequences. Rather than recognizing that Florida’s economic future and its contemporary commitment to growth management and environmental protection were symbiotic, new political voices shouted that the protective environmental standards were a barrier to economic development and jobs. This came to a head in 2011 when a legislative wrecking crew demolished almost 40 years of environmental protection.

# 2011 Community Planning Act

“Absent from this chapter of Florida history was the ELMS approach. There was no thoughtful analysis of the relationship between environmental protection and economic growth. There was little legislative consideration of the four-decade contribution of intelligent and sustained land and water policy to the most dynamic period of economic growth in Florida’s history. Rather than the scalpel which had been used throughout that time span to modify policies as changed circumstances dictated, a sledgehammer was taken to the foundations of Florida’s quality of life-led economy.” –Bob Graham

# Biggert–Waters Flood Insurance Reform Act of 2012

- designed to allow National Flood Insurance Program premiums to rise to reflect the true risk of living in high-flood areas.
- supposed to deal with the "insolvency" of the National Flood Insurance Program by requiring the premiums to reflect real flood risks.
- The result was a 10 fold increase in premiums!

# 2015 “Peril of Flood” Act

(f) A redevelopment component ~~which~~ that outlines the principles ~~which shall~~ that must be used to eliminate inappropriate and unsafe development in the coastal areas when opportunities arise.

A redevelopment component that outlines the principles that must be used to eliminate inappropriate and unsafe development in the coastal areas when opportunities arise. The component must:

# 2015 “Peril of Flood” Act

1. Include development and redevelopment principles, strategies, and engineering solutions that **reduce the flood risk in coastal areas** which results from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of sea-level rise.
2. Encourage the use of best practices development and redevelopment principles, strategies, and engineering solutions that will result in the **removal of coastal real property from flood zone designations** established by the Federal Emergency Management Agency.
3. Identify site development techniques and best practices that may **reduce losses due to flooding and claims made under flood insurance policies** issued in this state.
4. Be **consistent with, or more stringent than**, the flood-resistant construction requirements in the Florida Building Code and applicable flood plain management regulations set forth in 44 C.F.R. part 60.
5. Require that any construction activities seaward of the coastal construction control lines established pursuant to s. 161.053 be consistent with chapter 161.
6. Encourage local governments to participate in the **National Flood Insurance Program Community Rating System** administered by the Federal Emergency Management Agency to achieve flood insurance premium discounts for their residents.

# 2021-23 Resilient Florida Grant Program

- 380.093 Resilient Florida Grant Program ( § 1, Ch. 2021-28; § 4, ch. 2022-89; s. 1, ch. 2023-231.)
- 380.0933 Florida Flood Hub for Applied Research and Innovation ( § 2, Ch. 2021-28; § 36, Ch. 2022-4; § 5, Ch. 2022-89.)
- 380.0935 Resilient Florida Trust Fund ( § 1, Ch. 2021-29)
- 380.0937 Public financing of construction projects within areas at risk due to sea level rise ( § 2, Ch. 2023-231)

# 2021-23 Resilient Florida Grant Program (F.S. § 380.093)

- (1) LEGISLATIVE INTENT.— The Legislature recognizes:
  - (a) vulnerability to adverse impacts from flooding from increasing of rainfall events, storm surge and sea level rise.
    - economic, social, environmental, and public health and safety challenges to the state.
    - Allocate funds to prioritize addressing the most significant risks.
  - (b) flooding and SLR affect **coastal and inland** communities
    - coordinated approach to improve resilience to flooding and SLR.
  - (c) comprehensive statewide assessment of risks posed by flooding and SLR to develop a coordinated approach to addressing such risks.

# 2021-23 Resilient Florida Grant Program (F.S. § 380.093)

## (2) DEFINITIONS—

### (a) “Critical asset”

1. Transportation assets and evacuation routes, including airports, bridges, bus terminals, ports, major roadways, marinas, rail facilities, and railroad bridges.
2. Critical infrastructure, including wastewater treatment facilities, lift stations....
3. Critical community; emergency facilities, e.g., schools, colleges, universities....
4. Natural, cultural, and historical resources, including conservation lands, parks, shorelines, surface waters, wetlands, and historical and cultural assets.

# 2021-23 Resilient Florida Grant Program (F.S. § 380.093)

## (3) RESILIENT FLORIDA GRANT PROGRAM.—

(a) FDEP

(b) Subject to appropriation, FDEP may provide grants to local governments for:

- community resilience planning;
- vulnerability assessments;
- projects, plans, and policies to prepare for flooding and SLR; and
- adapting critical assets to flooding and SLR;

(c), (d) Vulnerability Assessments [STATUTORIALLY-COMPLIANT CRITERIA];

# 2021-23 Resilient Florida Grant Program (F.S. § 380.093)

(4) COMPREHENSIVE STATEWIDE FLOOD VULNERABILITY AND SEA LEVEL RISE DATA SET AND ASSESSMENT.

(a) By July 1, 2022, FDEP shall . . . comprehensive statewide flood vulnerability and SLR **data set** . . . [CRITERIA];

(b) By July 1, 2023, FDEP shall . . . comprehensive statewide flood vulnerability and SLR **assessment** . . . [CRITERIA];

(c) FDEP shall update the comprehensive statewide flood vulnerability and SLR data set and assessment every 5 years or more frequently if necessary.

# 2021-23 Resilient Florida Grant Program (F.S. § 380.093)

(5) STATEWIDE FLOODING AND SEA LEVEL RISE RESILIENCE PLAN.

(a) By December 1, 2021, and each December 1 thereafter, FDEP shall develop a Statewide Flooding and SLR **Resilience Plan** on a 3-year planning horizon . . . [CRITERIA]

(b) The plan submitted by December 1, 2021, [PRELIMINARY]

(c) Each plan submitted by FDEP must include [CRITERIA]

(d) By September 1, 2021; each September 1 thereafter, local governments submit proposed mitigation projects to FDEP

(e) Projects must have a minimum 50 % cost share or assists or In a financially disadvantaged small community [DEFINITION; CRITERIA]

(f), (g) [ELIGIBILITY]; (h) [SCORING]; (i) [\$100M]; (j) [RULEMAKING]

# 2021-23 Resilient Florida Grant Program (F.S. § 380.093)

(6) REGIONAL RESILIENCE ENTITIES.— Subject to specific legislative appropriation, the department may provide funding for the following purposes to regional entities that are established by general purpose local governments and whose responsibilities include planning for the resilience needs of communities and coordinating intergovernmental solutions to mitigate adverse impacts of flooding and sea level rise:

- (a) Providing **technical assistance** to counties and municipalities.
- (b) **Coordinating multijurisdictional vulnerability assessments.**
- (c) **Developing project proposals** to be submitted for inclusion in the Statewide Flooding and SLR Resilience Plan.



# Vulnerability Assessments

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UF WATER INSTITUTE SYMPOSIUM

FEBRUARY 2024



**The Legislature recognizes that the state is particularly vulnerable to adverse impacts from flooding resulting from increases in frequency and duration of rainfall events, storm surge from more frequent and severe weather systems, and sea level rise.** Such adverse impacts pose economic, social, environmental, and public health and safety challenges to the state.

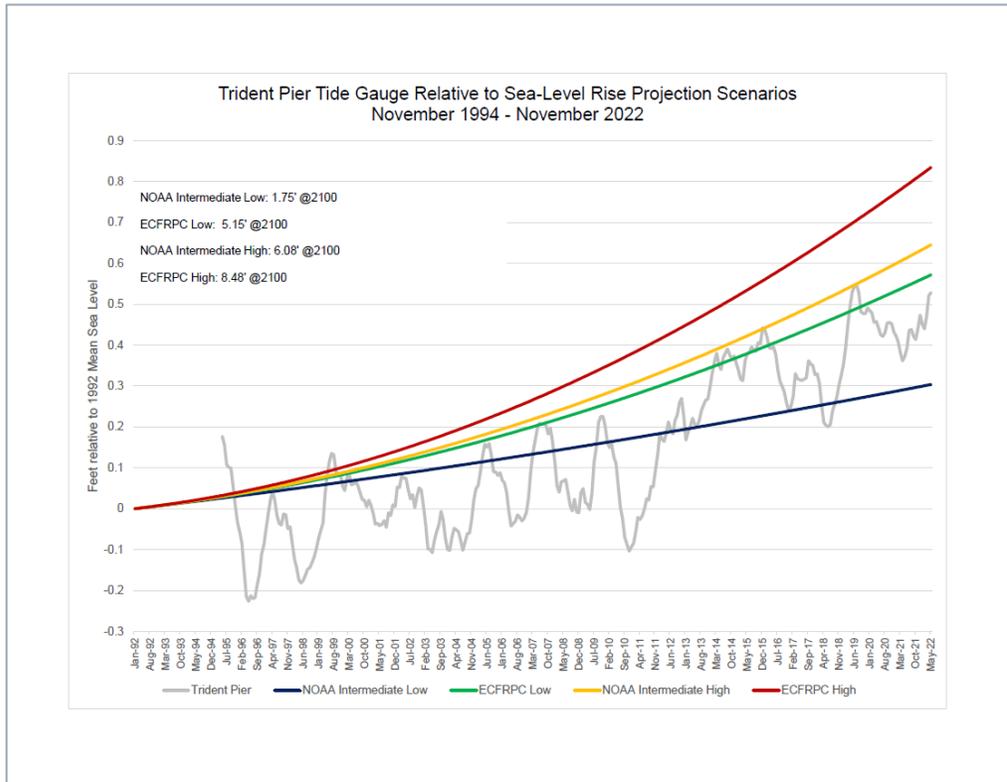
SECTION 380.093, F.S.

# Vulnerability Assessment Components

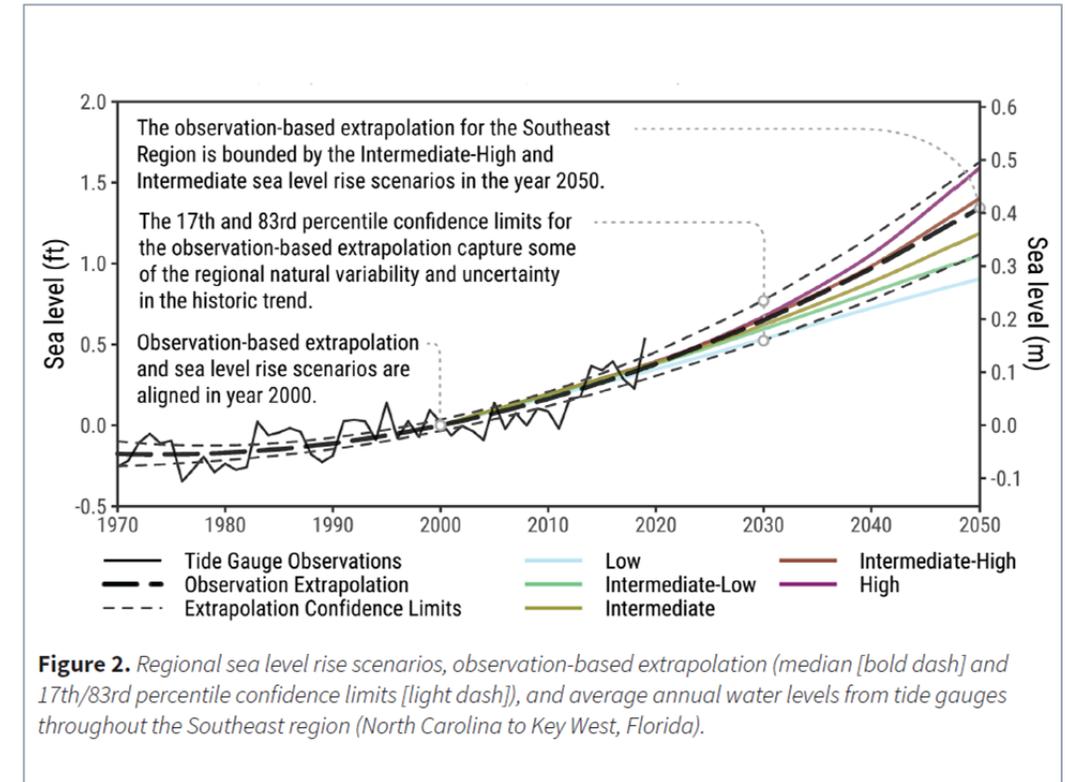
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1. Critical Asset Inventory & Data (local & regional)
2. Exposure Analysis
3. Sensitivity Analysis
4. Community Outreach (recommended/optional)
5. Report, Maps, and Tables
6. Peril of Flood Compliance (if applicable)

# Tide Gauge Historic Trends/Observations & Future Projections



Source: Dr. Jason Evans (Stetson University)

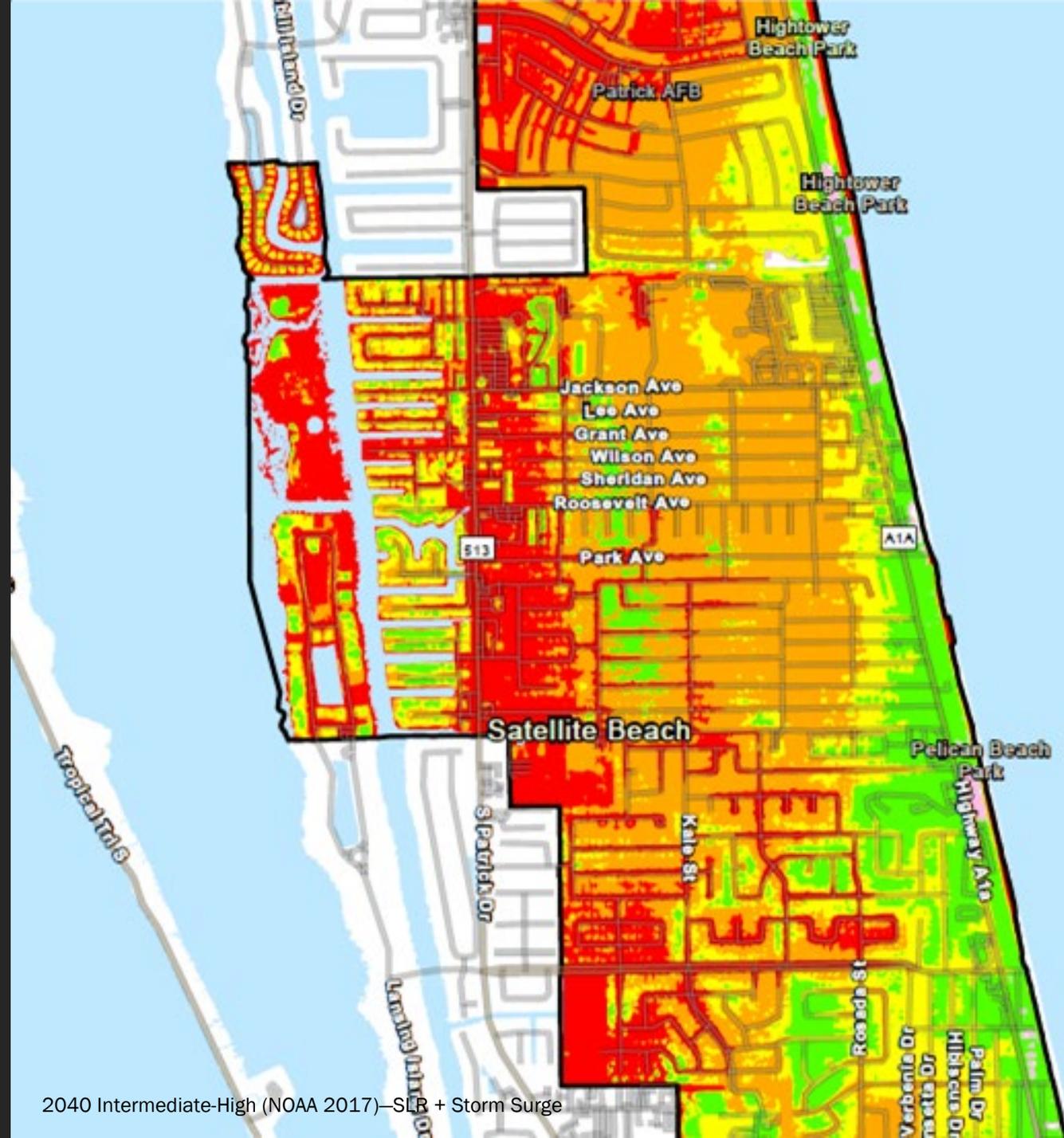


**Figure 2.** Regional sea level rise scenarios, observation-based extrapolation (median [bold dash] and 17th/83rd percentile confidence limits [light dash]), and average annual water levels from tide gauges throughout the Southeast region (North Carolina to Key West, Florida).

Source: Application Guide for the 2022 Sea Level Rise Technical Report, National Oceanic and Atmospheric Administration Office (NOAA).

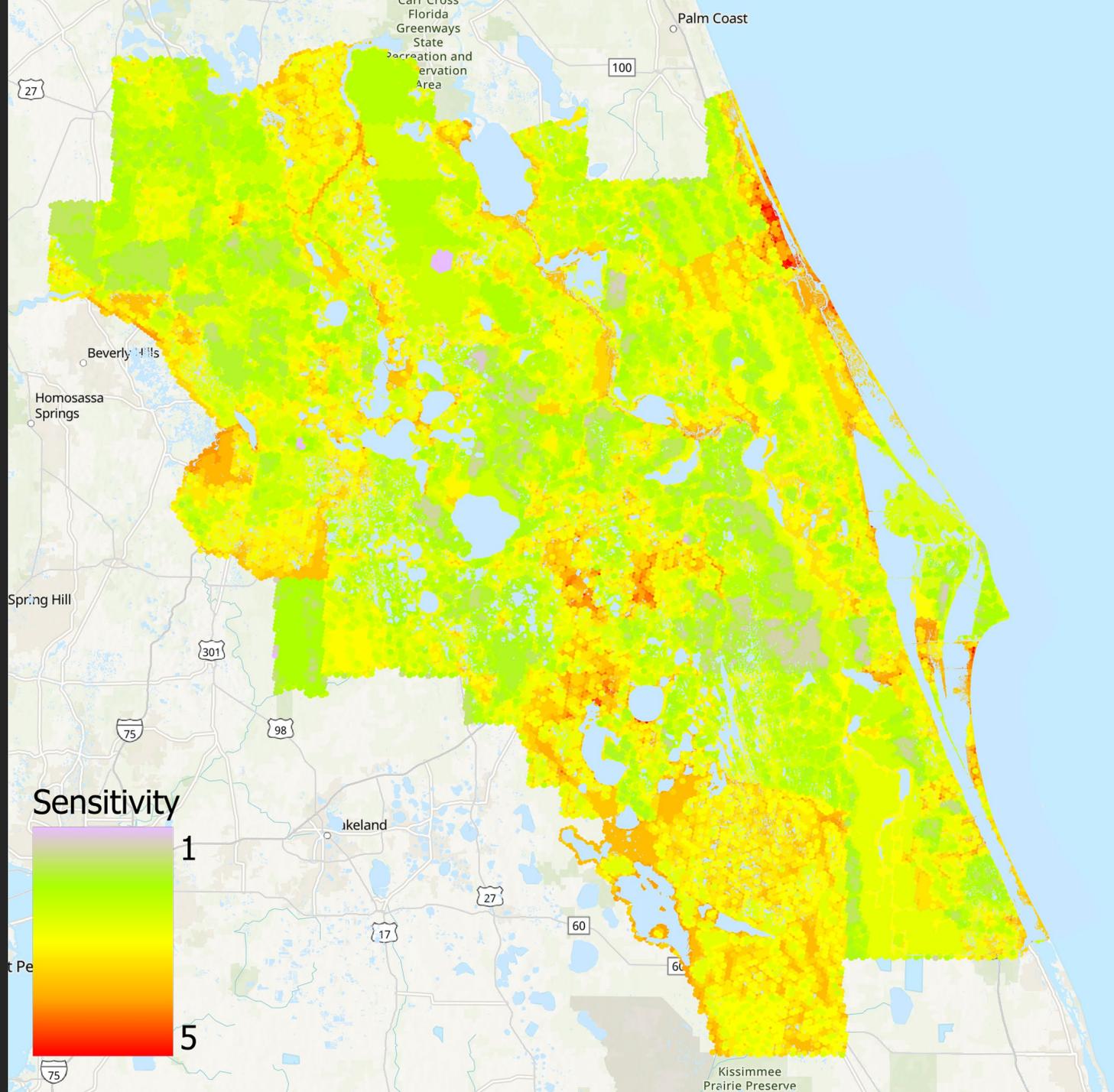
# Exposure Analysis

1. Transportation assets and evacuation routes
2. Critical infrastructure (many of which are water-related)
3. Critical community and emergency facilities
4. Natural, cultural, and historical resources



# Sensitivity Analysis

Infrastructure + People



# Where Does that Leave Us?

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Infrastructure & the  
cost(s) of resilience...



Policy, Comprehensive  
Plans, and land  
development codes  
(LDCs)...





# Thank you.

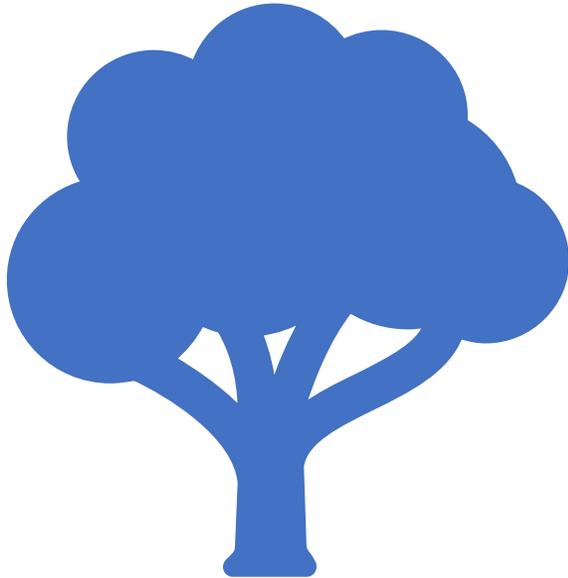
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BRENDA DEFOE-SURPRENANT, DIRECTOR OF PLANNING

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# Land Developers: Sunbridge

Water Institute Symposium  
February 21, 2024



Pierce Jones & Jennison Kipp  
Program for Resource Efficient Communities  
UF/IFAS Extension

# Program for Resource Efficient Communities

## Mission Statement

We promote design, construction and management practices in master planned communities that make more efficient use of energy and water and that minimize environmental degradation.



# Florida Land Development Conventional Practice

# Florida Land Development

## Master Planned Communities



The Bonita Bay Group™

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Our Communities  
Golf Courses & Marina  
New Projects  
Our Philosophy  
Affiliated Businesses  
Press Room  
Refer A Friend  
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Welcome to The Bonita Bay Group

The Bonita Bay Group™ offers exceptional community living with its environmentally sound development philosophies and innovative designs. Residents enjoy traditional neighborhood gathering spots, recreational facilities and access to community parks that blend seamlessly with surrounding habitats.

*Distinctive Lifestyle Experiences*

**Bonita Bay**  
**MEDITERRA**  
**THE BROOKS**  
*Verandah*  
*Shadow Wood* PRESERVE  
the estates at **TWINEAGLES**  
**SWEETWATER LANDING**

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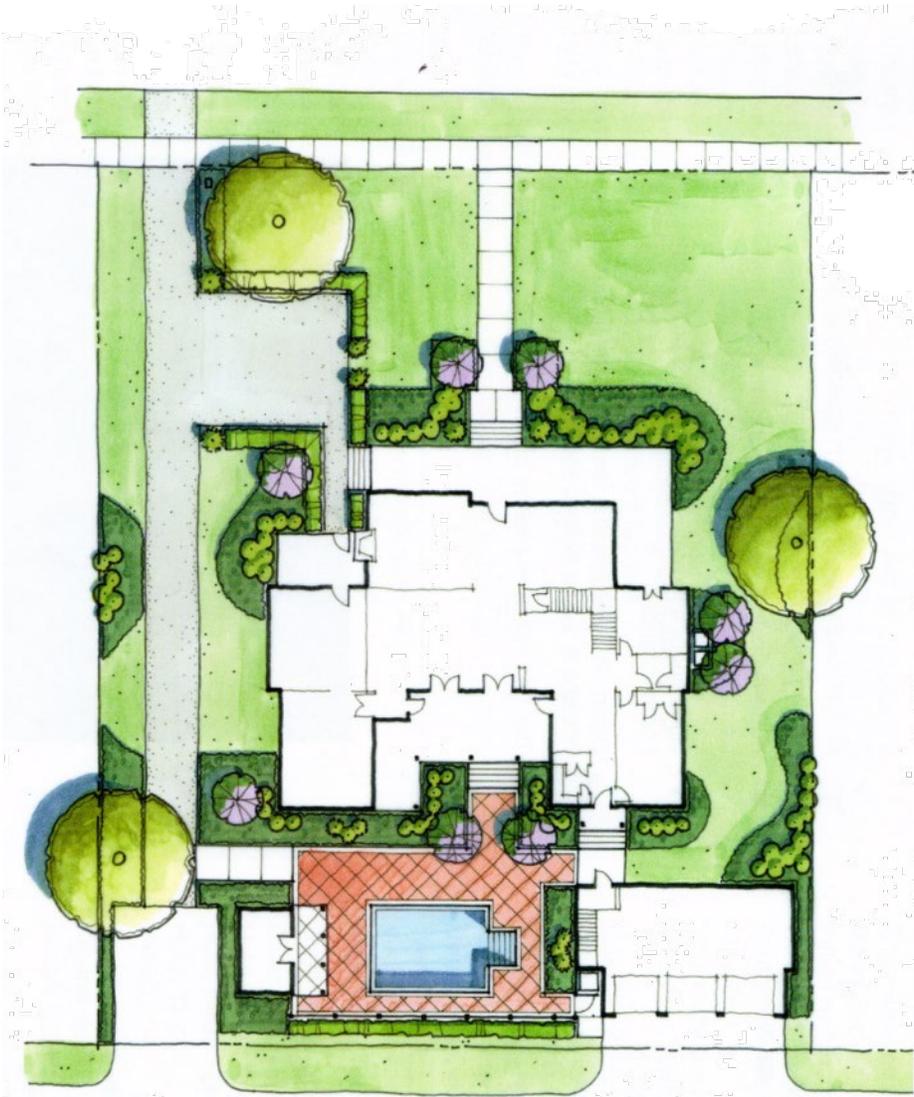
# Florida Land Development

## Oakland Park



# Florida Land Development

## Oakland Avenue Lot



### FRONT YARD

- Trees . . . . . minimum of 2 canopy trees and 2 accent trees
- Shrubs . . . . . 20% minimum
- Groundcover . . 15% minimum
- Turf . . . . . 60% maximum

### SIDE YARD

- Trees . . . . . minimum of 1 canopy tree and 2 accent trees
- Shrubs . . . . . 30% minimum
- Groundcover . . 0% minimum
- Turf . . . . . 70% maximum

### ALLEY YARD

- Shrubs . . . . . 30% minimum
- Groundcover . . 0% minimum
- Turf . . . . . 70% maximum

# Florida Land Development

## Conventional Practice



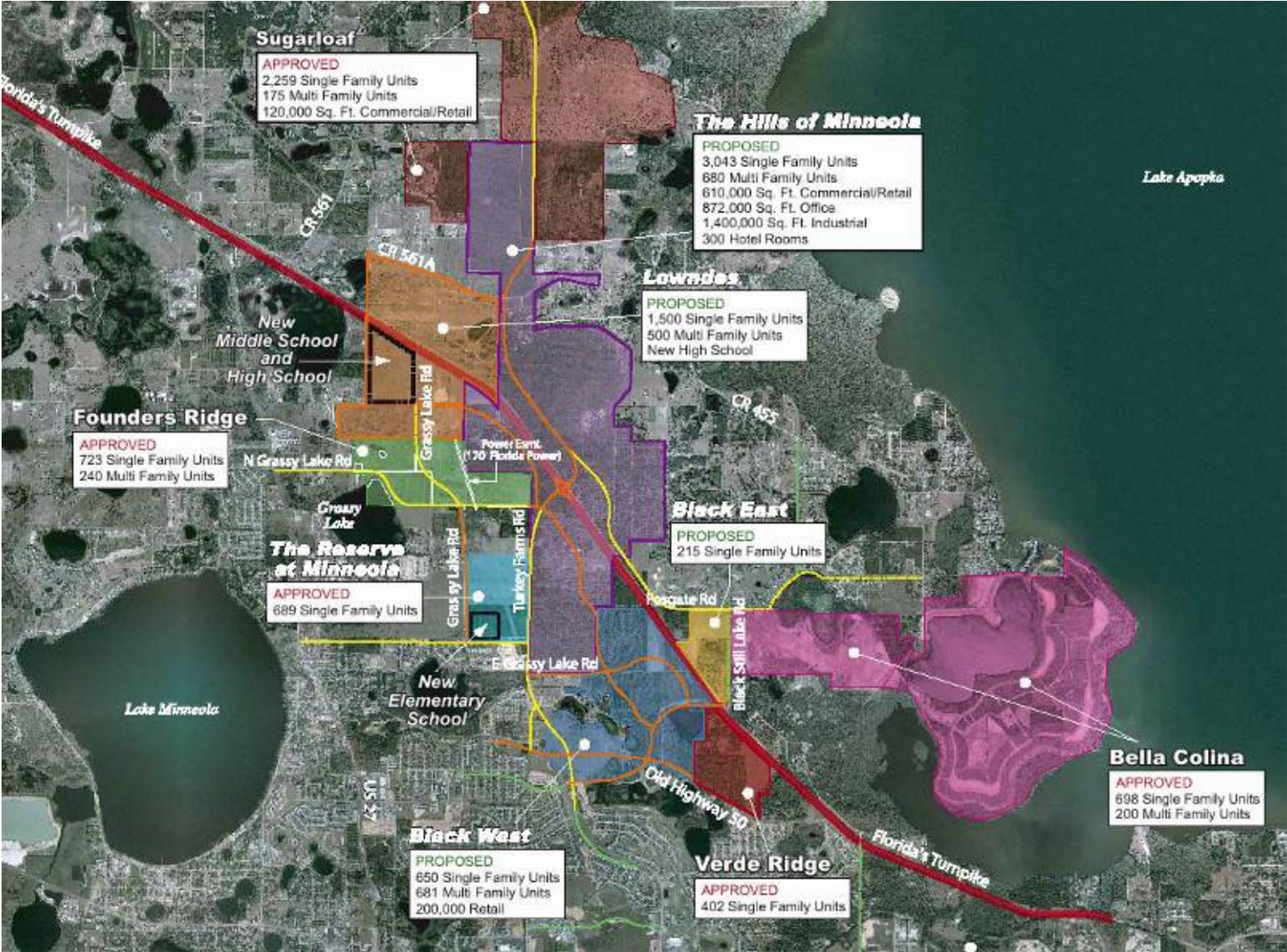
# Florida Land Development

## Conventional Practice



# Florida Land Development

## Lake County



# Florida Land Development Water Supply Impacts

# St. Petersburg Times

## Man jailed for brown lawn gets help from neighbors

By Erin Sullivan, Times Staff Writer

In print: Monday, October 13, 2008

BAYONET POINT — "He's in prison for God knows how long because we can't afford to sod the lawn," said his sobbing daughter, Jennifer Lehr.

Prudente has owned a home in the deed restricted community since 1998. The covenants require homeowners to keep their lawns covered with grass.



*Free from jail, Joseph Prudente, 66, inspects his new lawn with pride Sunday. Prudente, who says he barely has enough to pay the mortgage, was jailed for having a brown lawn.*

# St. Petersburg Times

## Tampa Bay Water makes last withdrawal from tapped out reservoir

*By Craig Pittman, Times Staff Writer  
In Print: Saturday, March 14, 2009*

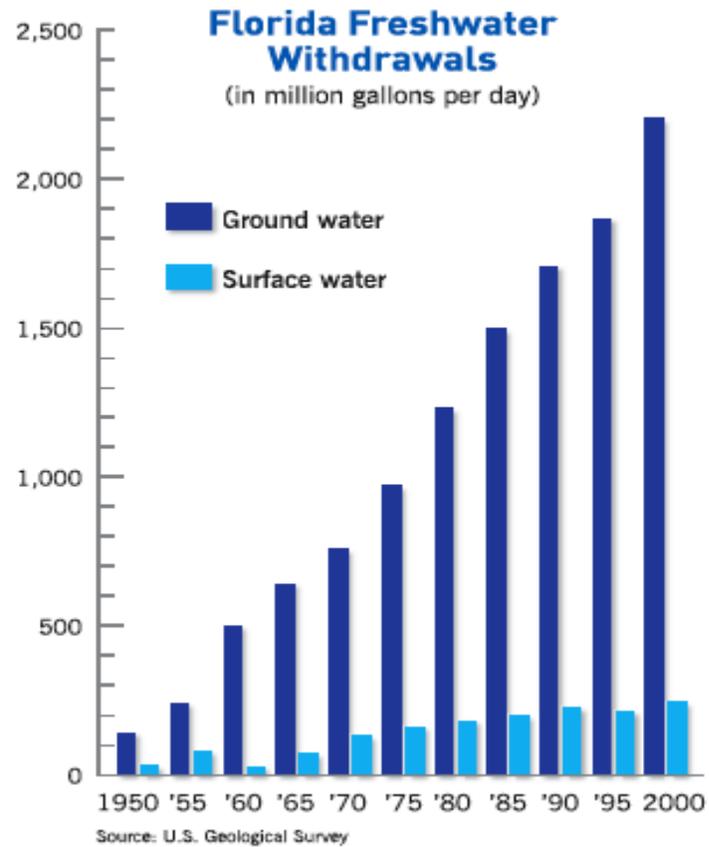
Get used to having a brown lawn for a while. As of this week, Tampa Bay Water has virtually drained its 15 billion-gallon reservoir.



From now until the summer rainy season, it must rely on its two remaining sources of water: its sometimes troubled desalination plant and the dwindling supply in the underground aquifer. "It's going to be a long couple of months waiting for the rainy season," Tampa Bay Water spokeswoman Michelle Robinson said Friday.

# Florida Land Development

## Water Supply Impacts

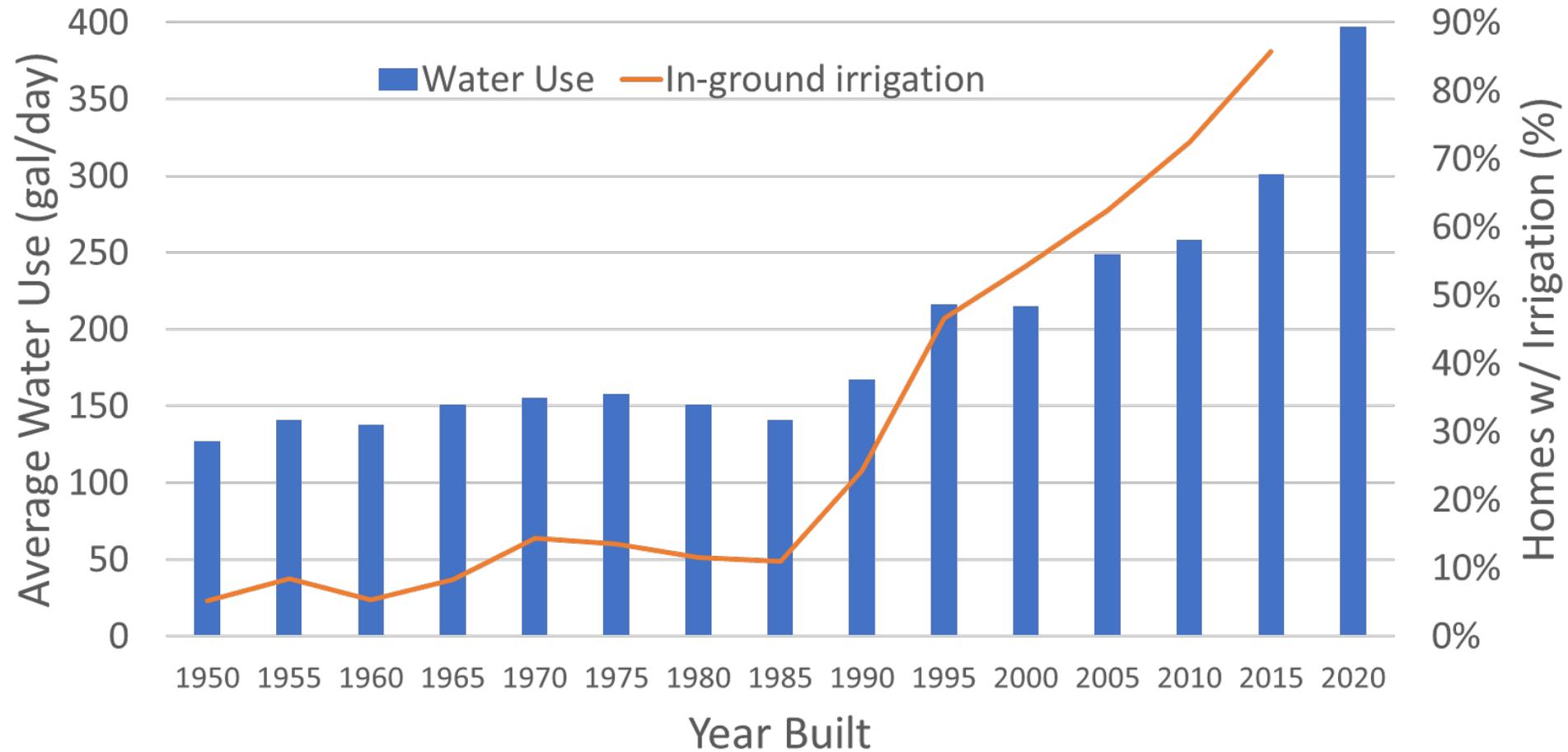


Tampa Bay Water Desalinization Facility



# Average Daily Water Use by Year Built

2022 Study of Single-Family, Detached Homes in Gainesville, FL

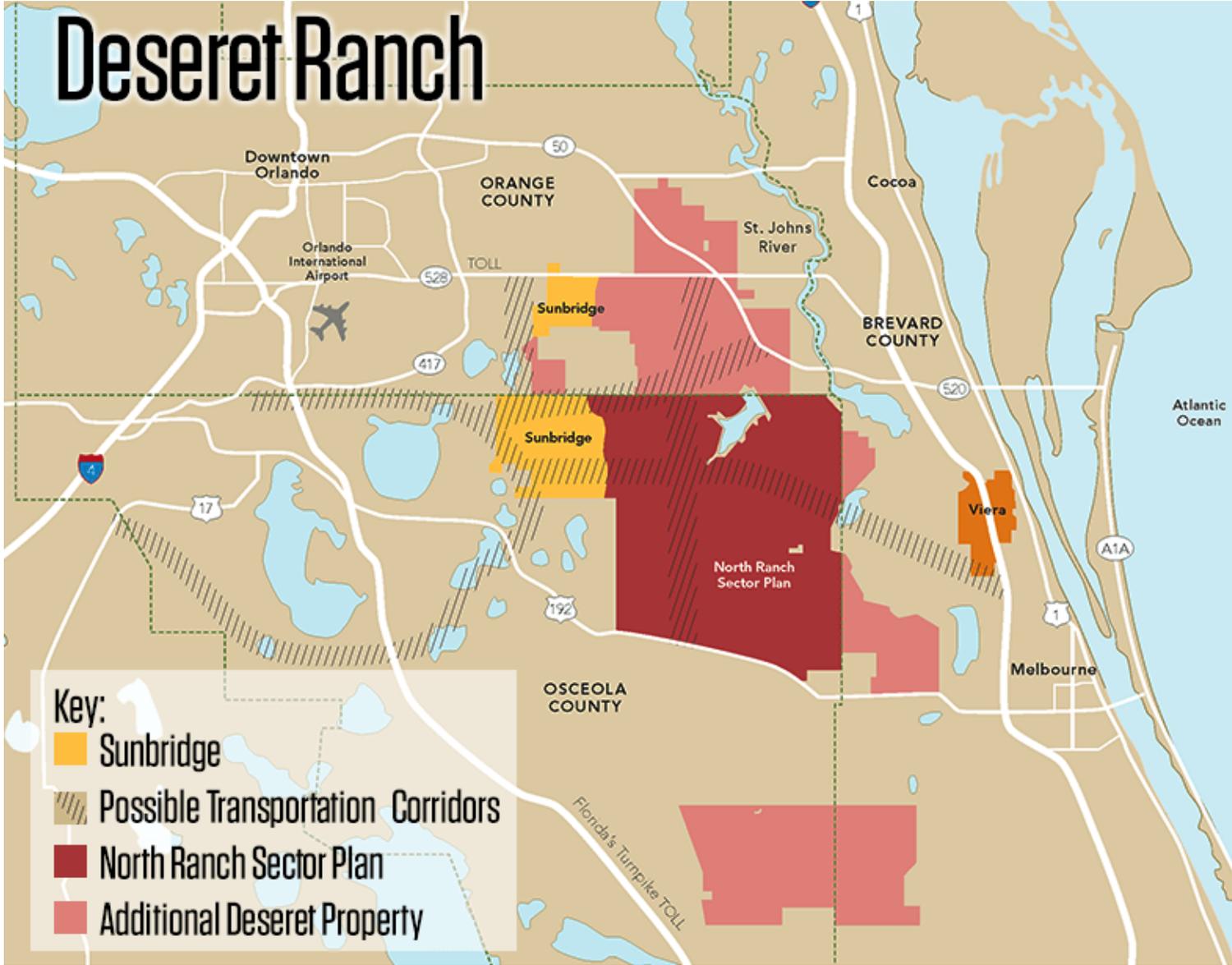




# Florida Land Development *Sunbridge*

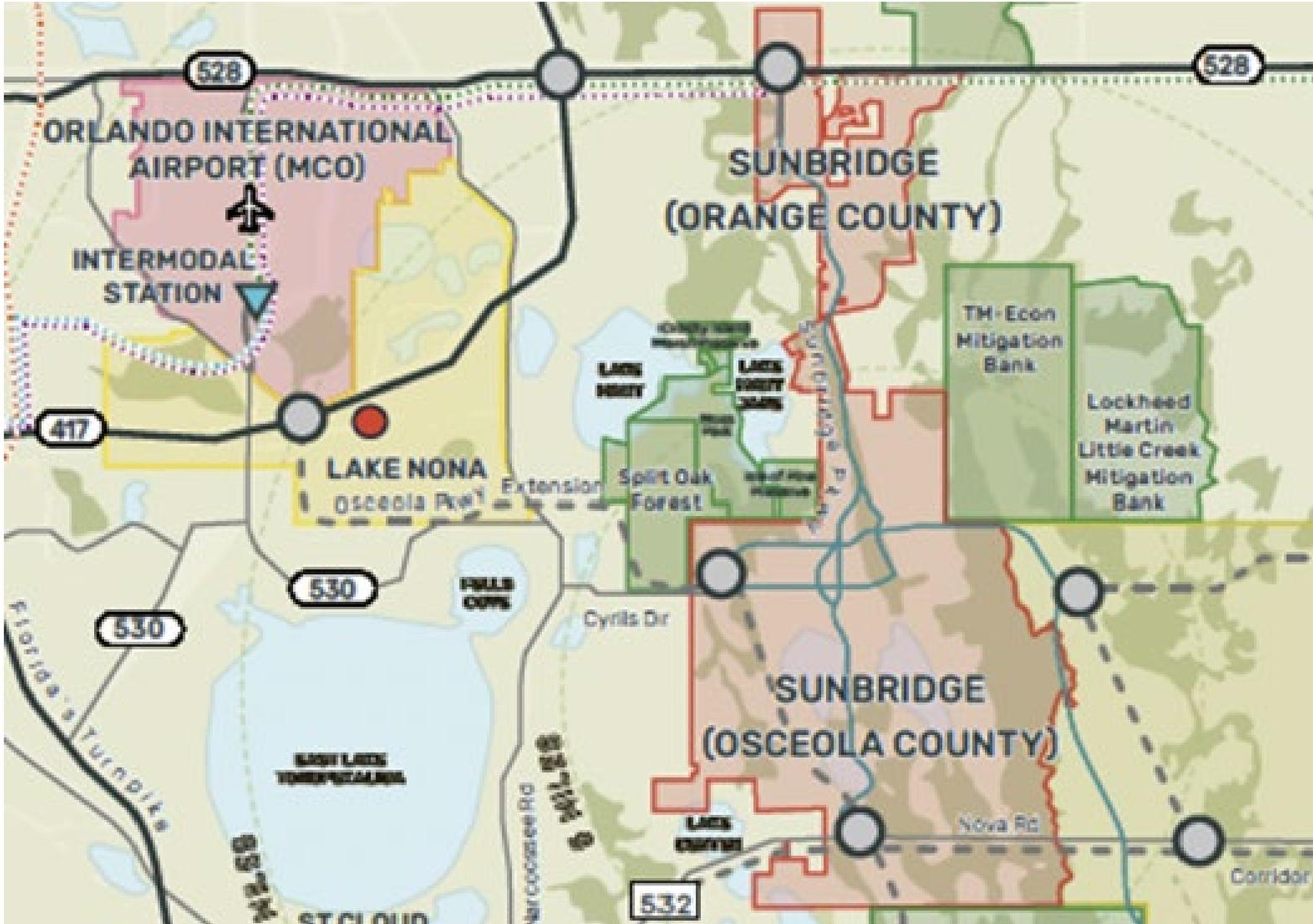
# Florida Land Development

## Sunbridge



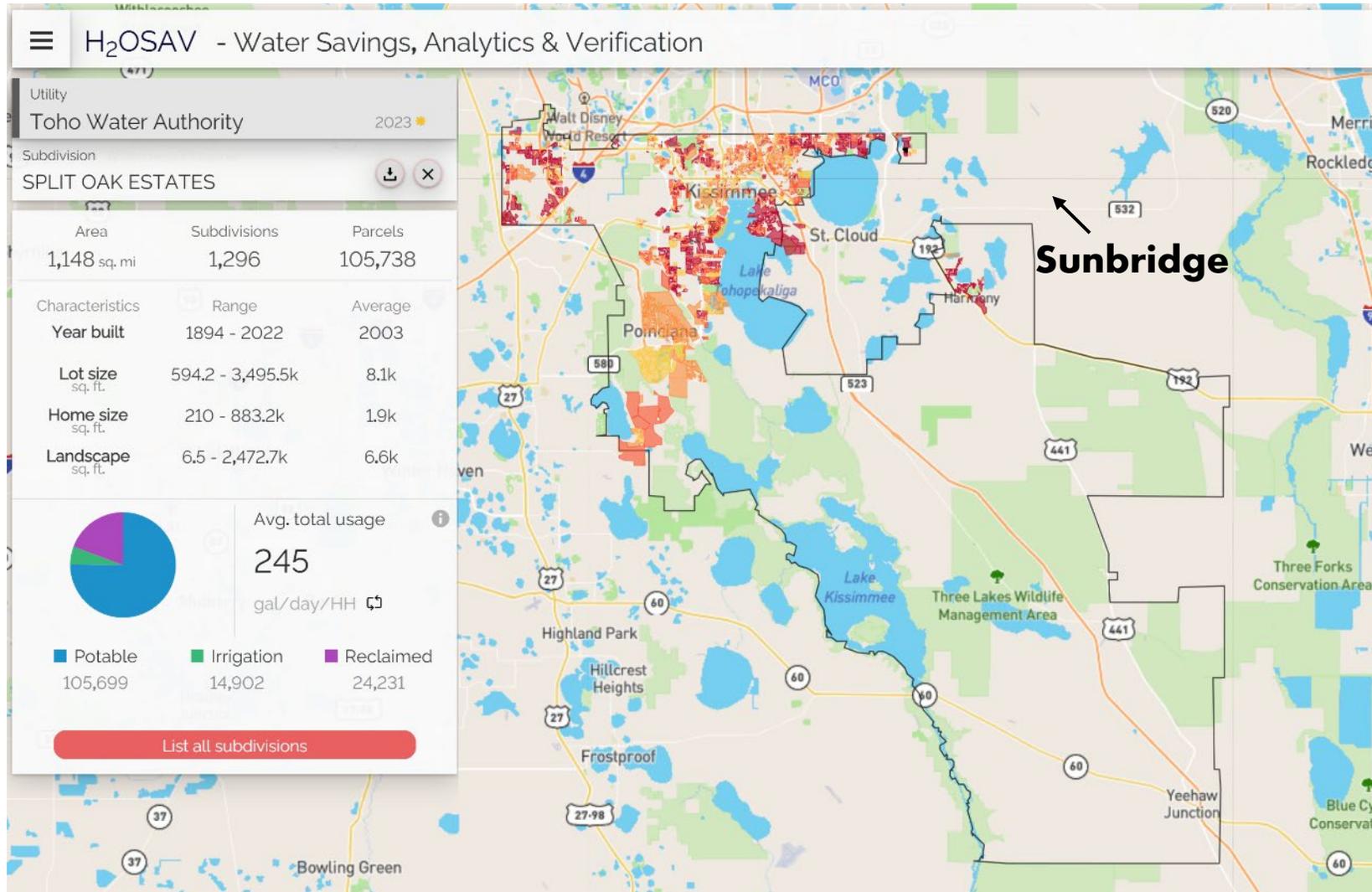
# Florida Land Development

## Sunbridge



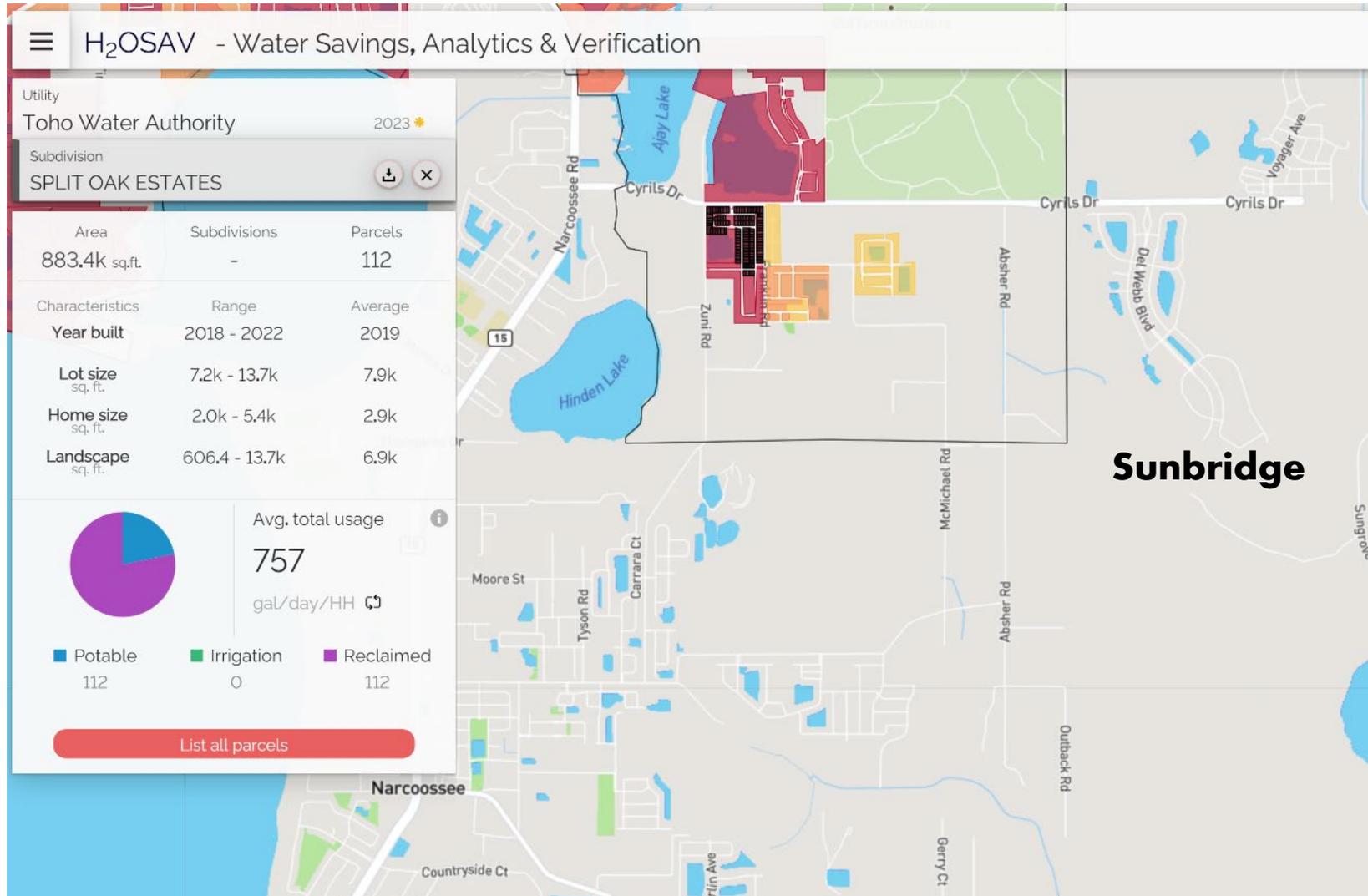
# Water Supply

## Toho Water Authority 2023



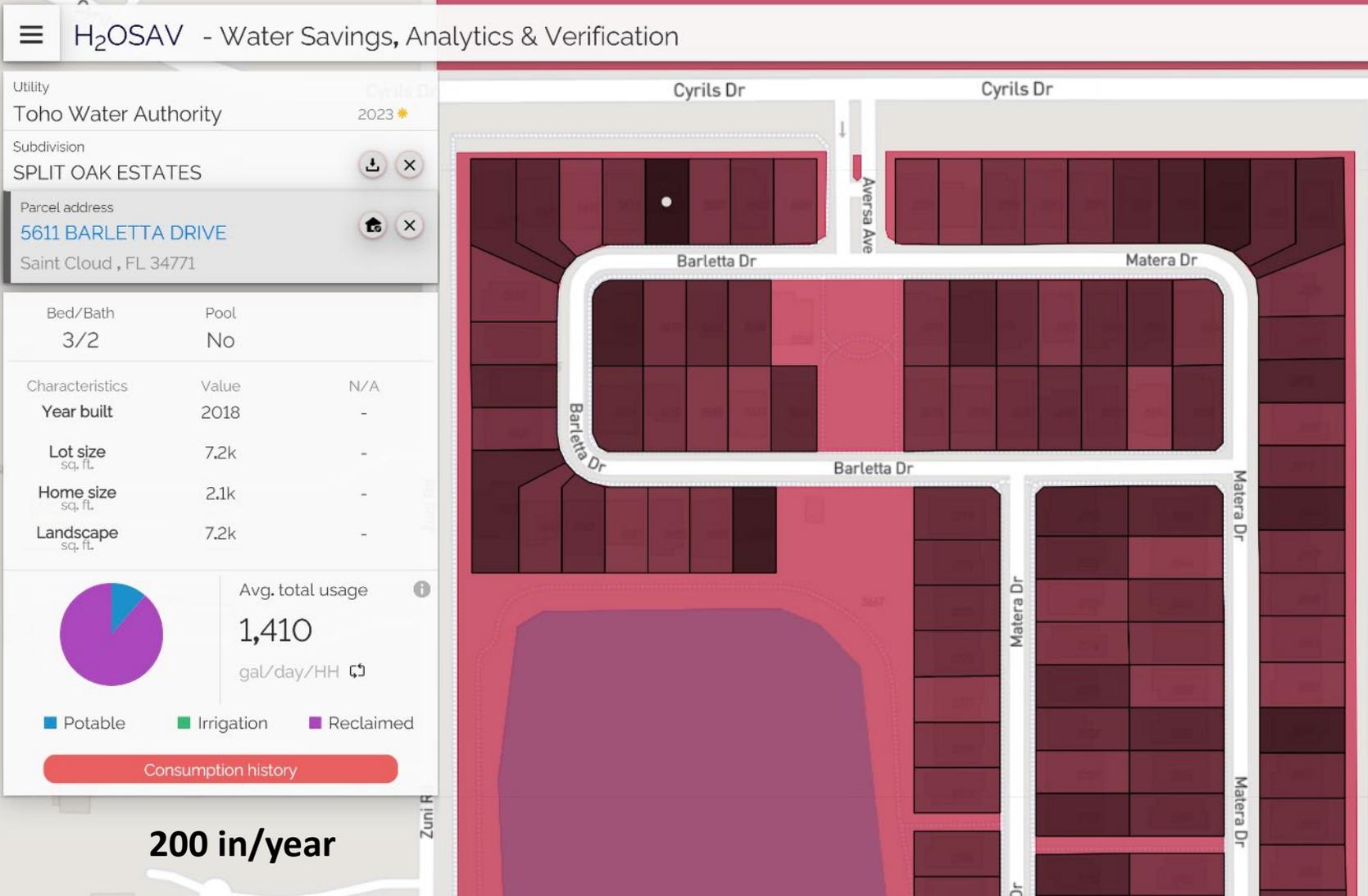
# Water Supply

## Split Oak Estates 2023



# Water Supply

## Split Oak Estates 2023



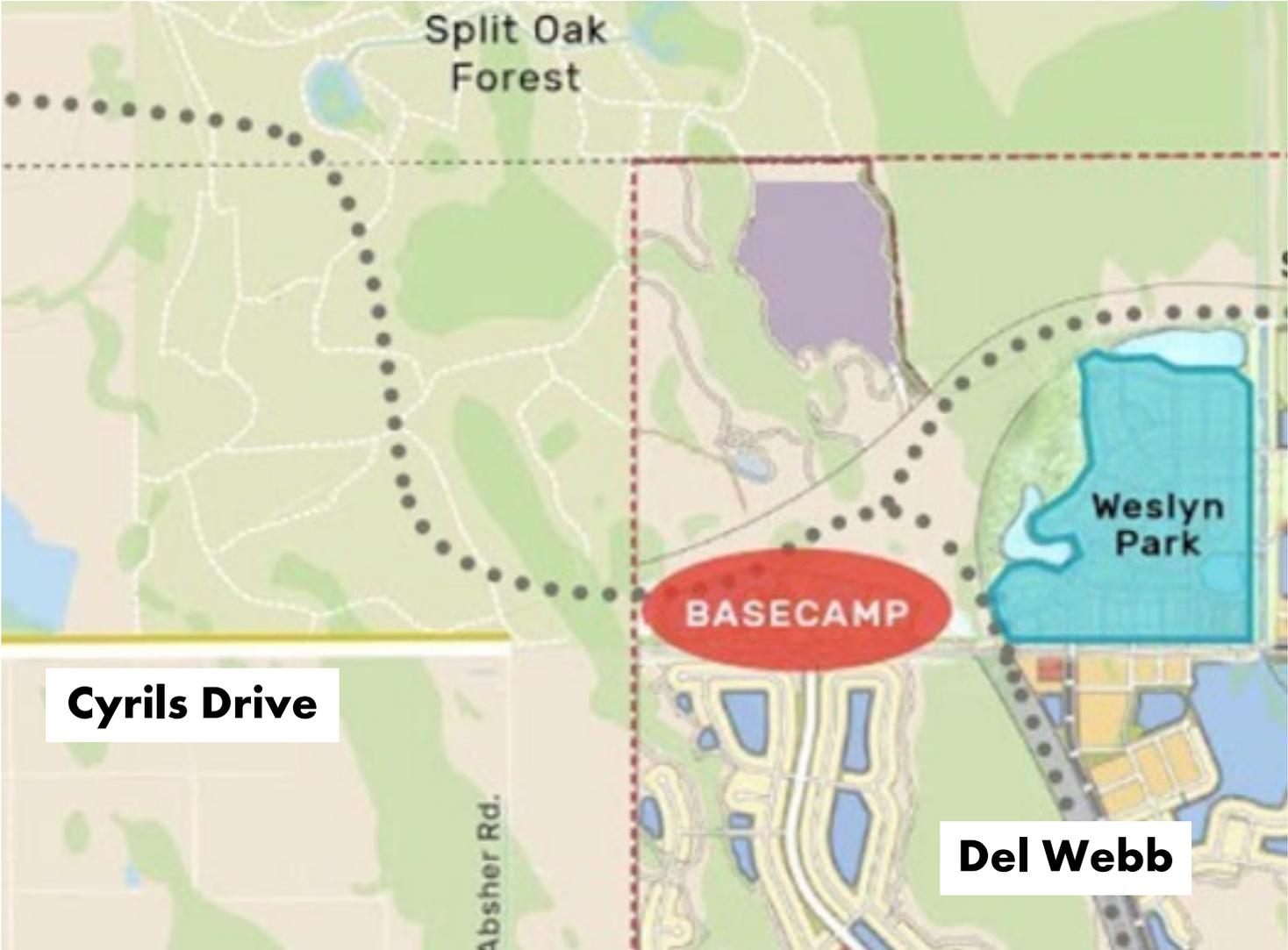
**\*Toho Efficiency Program = 28 in/year**

# Conventional Landscapes

*Del Webb @ Sunbridge*

# Florida Land Development

## Sunbridge



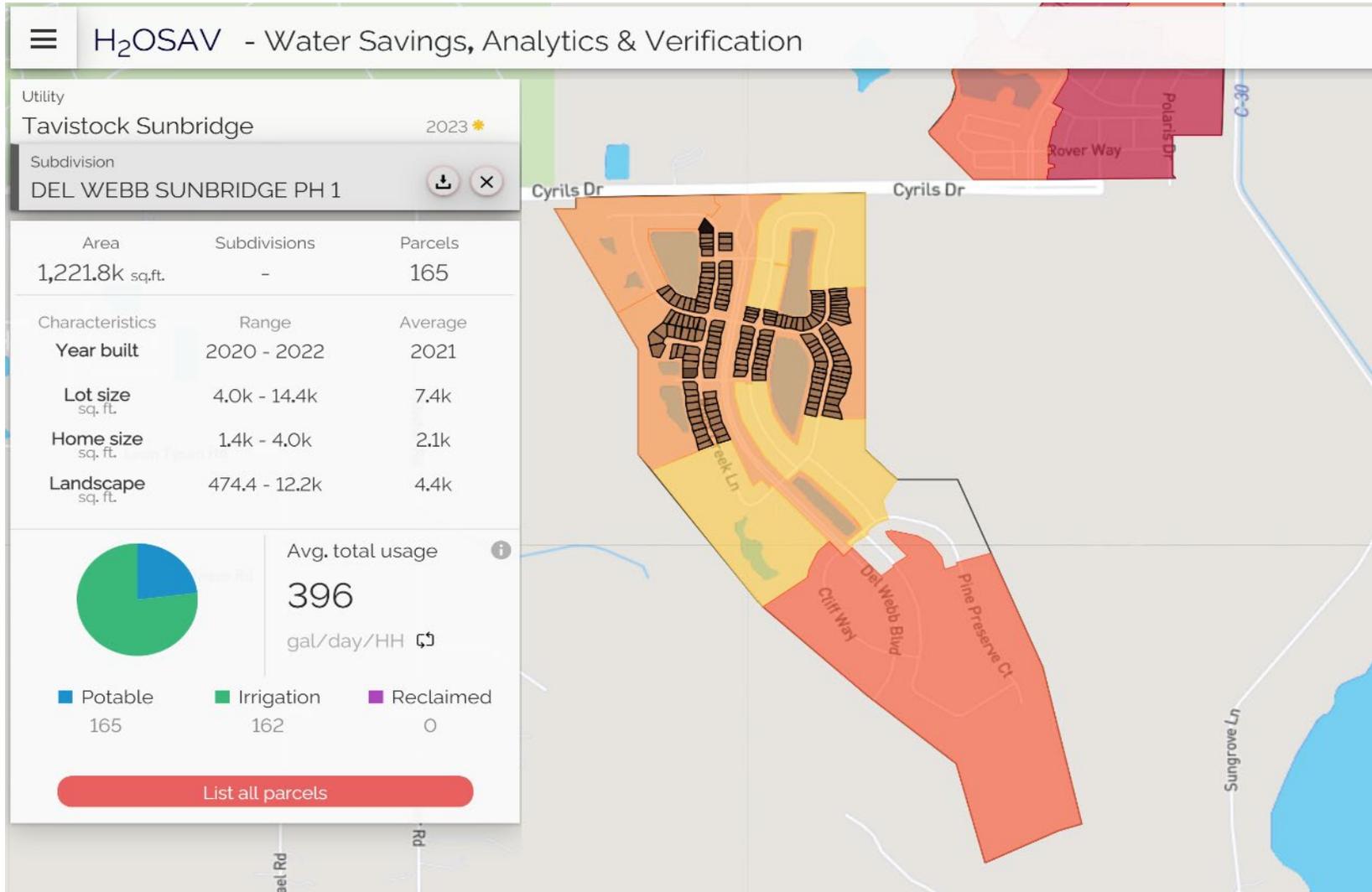
# Del Webb

## Conventional Practice



# Water Supply

## Del Webb @ Sunbridge 2023



# Del Webb @ Sunbridge

## Conventional Landscapes

Del Webb Homes							
Del Webb Managed Landscapes							
				Irrigation, in/year*			
Lot	Builder	Address	Area (ft <sup>2</sup> )	May	June	July	Aug
1	Pulte	2695 RIVER CREEK LN	2,361	89	83	33	46
2	Pulte	2791 RIVER CREEK LANE	2,590	73	50	19	57
3	Pulte	2743 RIVER CREEK LANE	3,730	50	35	26	29
4	Pulte	2750 RIVER CREEK LANE	4,488	42	29	26	33
5	Pulte	6141 CITRUS GROVE CT	2,759	30	94	42	106
6	Pulte	2781 RUBY ROSE LN	4,575	46	57	30	32
7	Pulte	2789 RUBY ROSE LN	3,434	49	44	40	32
8	Pulte	2740 NATURE VIEW RD	3,773	55	29	57	82
9	Pulte	6325 MOSSY OAK ROAD	3,991	63	54	10	64
10	Pulte	2783 RIVER CREEK LN	2,940	50	37	46	44
<b>Average Irrigation, in/year*</b>				<b>55</b>	<b>51</b>	<b>33</b>	<b>53</b>

\*Toho Efficiency Program = 28 in/year

Alternative Landscapes  
*Weslyn Park @ Sunbridge*

# OUTSIDE Collaborative

## Sustainable Landscapes Panel

October 22, 2021



# Weslyn Park @ Sunbridge

November 9, 2021

OUTSIDE Collaborative Sustainable Landscape Design Group

## Low Impact Design & Management Principles:

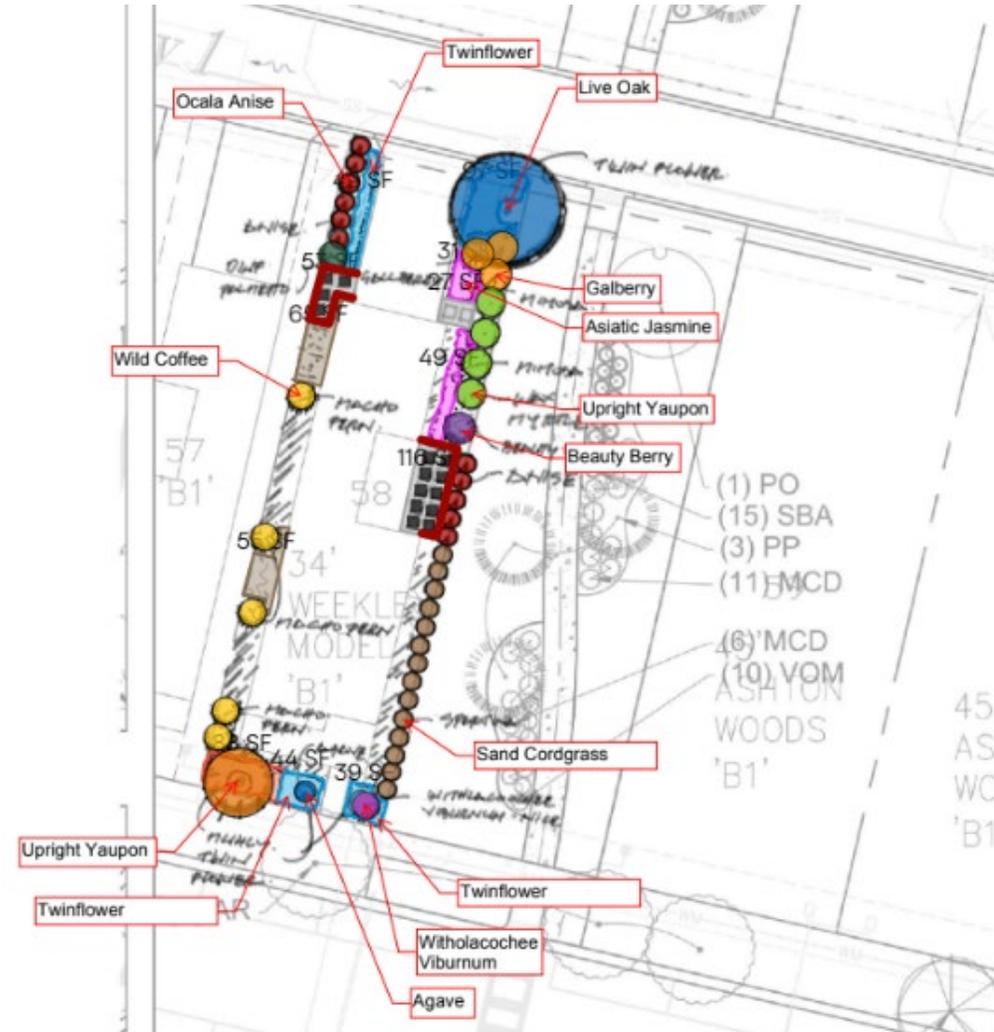
- Minimize/eliminate irrigation
- Minimize/eliminate mineralized fertilizers
- Minimize/eliminate pesticides
- Promote/maximize ecosystem services



# Weslyn Park @ Sunbridge

January 10, 2022

## David Weekley Model Home



### Lot 58 Plant List:

- Ocala Anise
- Twinflower
- Live Oak
- Galberry
- Asiatic Jasmine
- Upright Yaupon
- Beauty Berry
- Sand Cordgrass
- Withalacochee Viburnum
- Agave
- Wild Coffee

# Weslyn Park @ Sunbridge

## David Weekley Model Home

April 12, 2022



# Weslyn Park @ Sunbridge

## Community Landscape Standards

June 22, 2022



## SUNBRIDGE COMMUNITY LANDSCAPE STANDARDS

Weslyn Park

### 50' LOT EXAMPLE

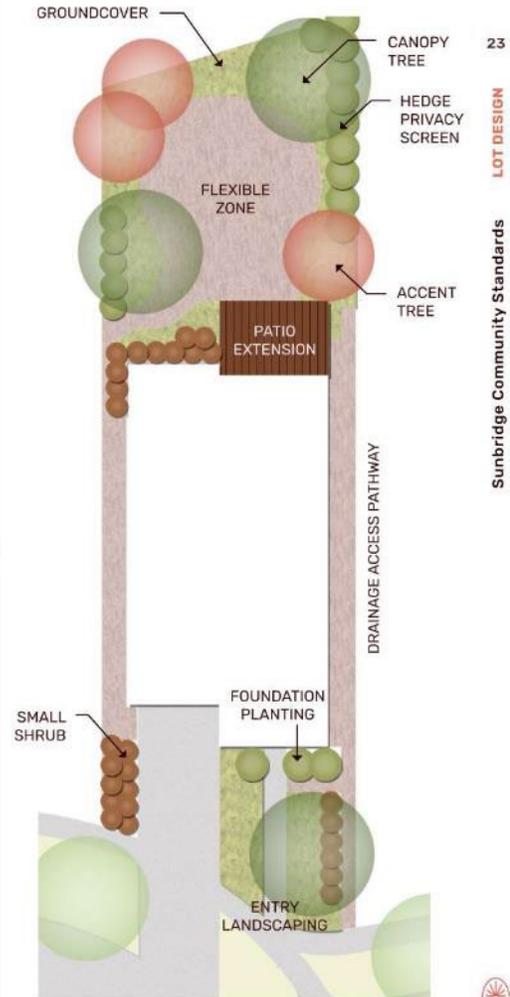
In this example, the backyard is left wide open for the maximum amount of play space. A large mulch area encompasses the majority of the space with ground cover planting to add to the character of the yard.

Shrubs are mostly used for screening views from adjacent lots. Foundation planting has also been incorporated to enhance the primary entry of the home.

### LOT REQUIREMENTS

-  **NATIVE PLANT**  
75% Minimum Native Plants
-  **PLANT DIVERSITY**  
10 Species Minimum
-  **TREE REQUIREMENT**  
2 Canopy Trees  
1 Understory Tree
-  **MAXIMUM TURF**  
25% Of Overall Landscape Area

*\*\*Two understory trees may be substituted for each canopy tree*



23  
LOT DESIGN  
Sunbridge Community Standards

FIGURE: 20 | 50' Lot Example



# Weslyn Park @ Sunbridge

## Alternative Landscapes

October 4, 2023



# Weslyn Park @ Sunbridge

Model Homes – Irrigation Demand **7/11/23 – 11/20/23**

Cherrylake Managed			Meter Readings (gal)		Irrigation Rates	
Lot	Address	Area (ft <sup>2</sup> )	7/11/2023	11/20/2023	gal/day	in/year*
23	6450 ROVER WAY	6,071	633,441	648,067	112	10.5
24	6446 ROVER WAY	2,777	331,887	344,053	93	19.1
34	6406 ROVER WAY	7,691	478,005	506,785	220	16.3
35	6402 ROVER WAY	5,852	346,588	360,899	109	10.7
38	2944 SCOUT ST	4,641	356,645	371,780	116	14.2
39	2948 SCOUT ST	6,200	414,864	438,207	178	16.4
51	6390 ROVER WAY	3,755	253,073	271,625	142	21.5
59	6358 ROVER WAY	2,524	158,287	204,402	352	79.6
					165	15.5
Weekley Managed			Meter Readings (gal)		Irrigation Rates	
Lot	Address	Area (ft <sup>2</sup> )	7/11/2023	11/20/2023	gal/day	in/year*
37	6394 ROVER WAY	10,190	559,189	735,236	1,344	75.3
58	6392 ROVER WAY	6,196	377,914	463,283	652	60.1
					249	67.7

\*Toho Efficiency Program = 28 in/year

# Weslyn Park @ Sunbridge

## Cherrylake Managed Landscapes



Jimmy Rogers



# Weslyn Park @ Sunbridge

Cherrylake Managed Landscape – 6390 Rover Way, St Cloud



	Lot	Yard	Verge	Total
Areas (ft <sup>2</sup> )	5,227	3,170	585	<b>3,755</b>



Irrigation (in/year)*								
Mar	Apr	May	Jun	Jul	Aug	Sep**	Oct	Nov
312	287	223	46	47	14	92	9	17

**\*Toho Efficiency Program = 28 in/year**

# Minimizing Landscaping Impacts Observations & Suggestions

# Weslyn Park

## Water Conservation Report Card



### Observations:

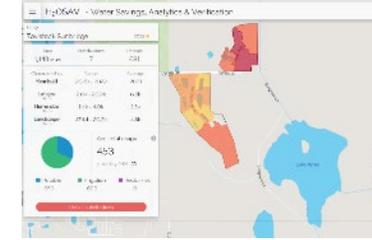
- Cherrylake managed models – steady improvement
- Conventionally managed models – no improvement

### More Observations:

- Water must be prioritized
- Landscape maintenance person is the key
- Regular access to water use data is essential

# Sunbridge Stewardship District

## Building a Functional Water Conservation Program



### Suggestions:

- Establish Sunridge HOA consumptive use guidelines
- Create a virtual H<sub>2</sub>OSAV utility district
- Hire a water use oversight professional to:
  - Provide “orientation/certification” for Landscape Maintenance (LM) companies
  - Maintain a listing of “preferred” LM providers
  - Offer/coordinate homeowner education activities
  - Provide lot level comparative irrigation water use metrics to homeowners and LMs



# Minimizing Landscape Impacts

## Biosolids Management



# Minimizing Landscape Impacts

EPA Class A EQ Unrestricted Use





*We promote the adoption of best design, construction, and management practices that measurably reduce energy and water consumption and environmental degradation in Florida's master-planned residential community developments.*



# PREC Sustainable Floridians<sup>SM</sup> Benchmarking & Monitoring Program (SF-BMP)

**Program Goal:** to provide a comprehensive, incentive-based, and dynamic sustainability performance framework for new land development projects in Florida



**PREC**  
PROGRAM FOR RESOURCE  
EFFICIENT COMMUNITIES



The Nature  
Conservancy 

**UF | IFAS**  
UNIVERSITY of FLORIDA



**CLUE** | CENTER FOR LAND  
USE EFFICIENCY

**UF | IFAS**  
UNIVERSITY of FLORIDA

# SF-BMP Extension & Research Model

- Upstream Social Marketing
- Performance-Based Path
- “Living Labs” for Research
- Fee-for-Service Educational Activity



# SF-BMP Extension & Research Model

- Upstream Social Marketing
- Performance-Based Path
- “Living Labs” for Research
- Fee-for-Activity



***We endorse best practices & principles,  
not specific projects & products!***

# SF-BMP Living Lab: Sunbridge Stewardship District

- **24,000-acre** master planned community development
- Osceola & Orange Counties
- **30-year build out**
- **36,000 new homes** (and future urban landscapes)



# Opportunity: Public-Private Partnerships for Systems Change

