

UF

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Florida's Public Libraries

- ▷ **Economic Impact Study**
FY 2018-2019 and FY 2019-2020
- ▷ **Major Events Longitudinal Study**

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Florida's Public Libraries

Outline



1. Overview of Florida's public libraries

- ❖ Aggregate trends over the period 2000 – 2020.

2. Economic impact study

- ❖ How much Florida's economy is supported by the annual spending of its public libraries.

3. Longitudinal major event study

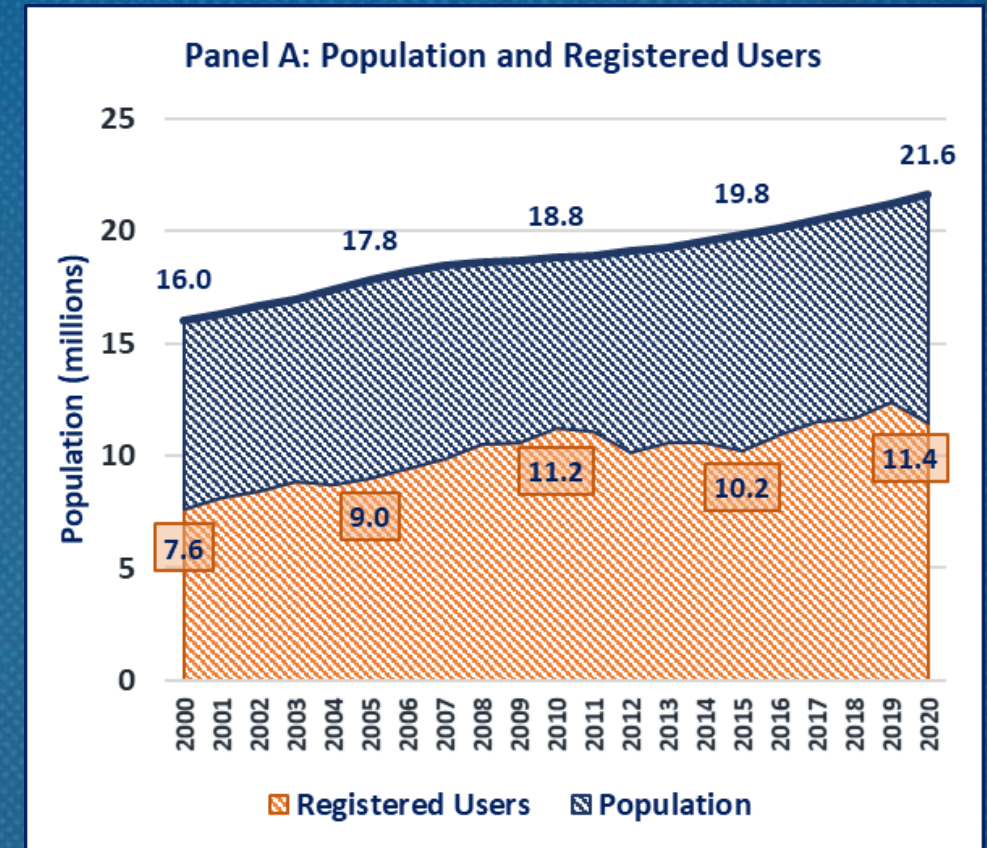
- ❖ How major events, such as hurricanes, wildfires and economic downturns, are related to the use of public library services in Florida.

Overview of Florida's Public Libraries, 2000-2020

Florida's public libraries over the last 20 years

Population and registered users

- Florida's population has increased 35% over the past 20 years.
 - 16.0 million (2000)
 - 21.6 million (2020)
- Library registered users went up from 7.6 million to 11.4 million.
 - 47.5% of the population (2000)
 - 52.8% (2020)

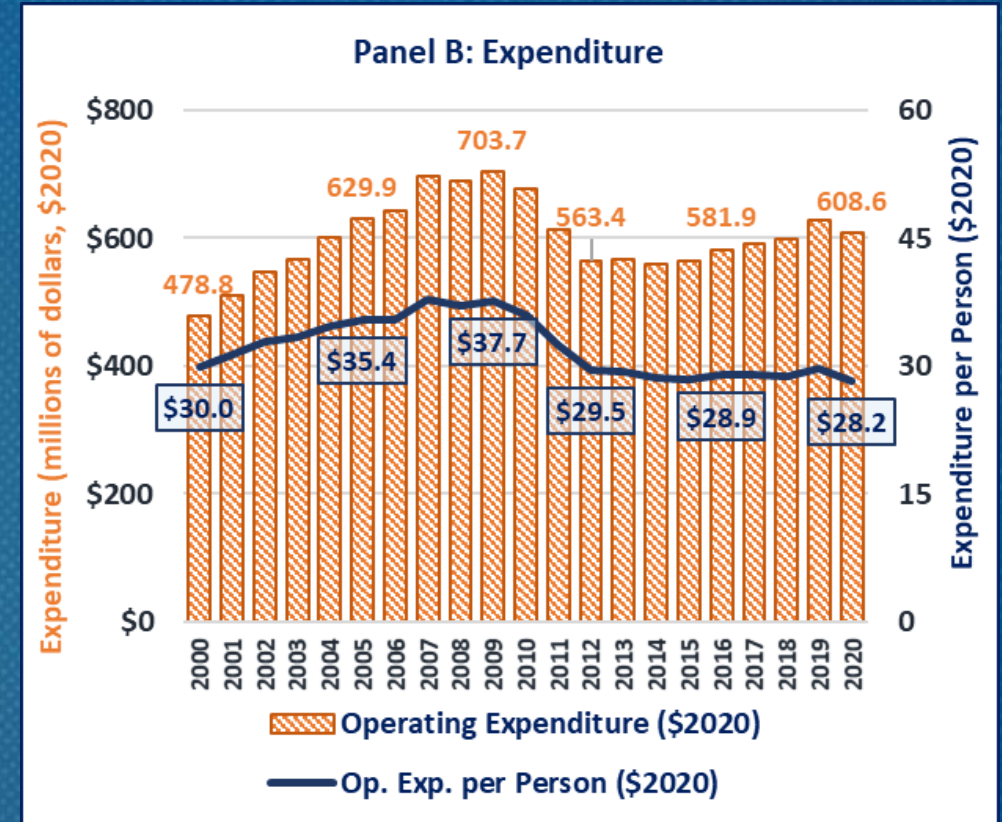


Florida's public libraries over the last 20 years

Operating expenditures

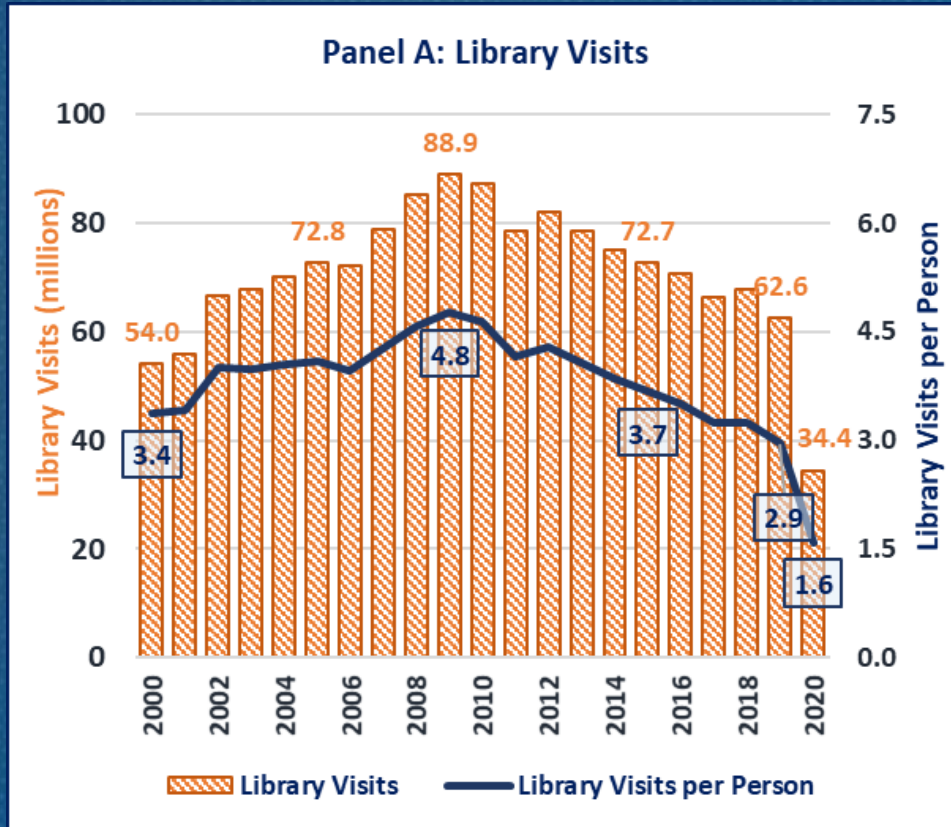
- **Libraries operating expenditures** (2020 inflation-adjusted dollars)
 - \$478.8 million in 2000
 - Peak of \$703.7 million in 2009
 - Trending upward since 2012

- **Operating expenditures per person** have remained stable since 2012.



Florida's public libraries over the last 20 years

Library visits



➤ Persons entering the libraries annually

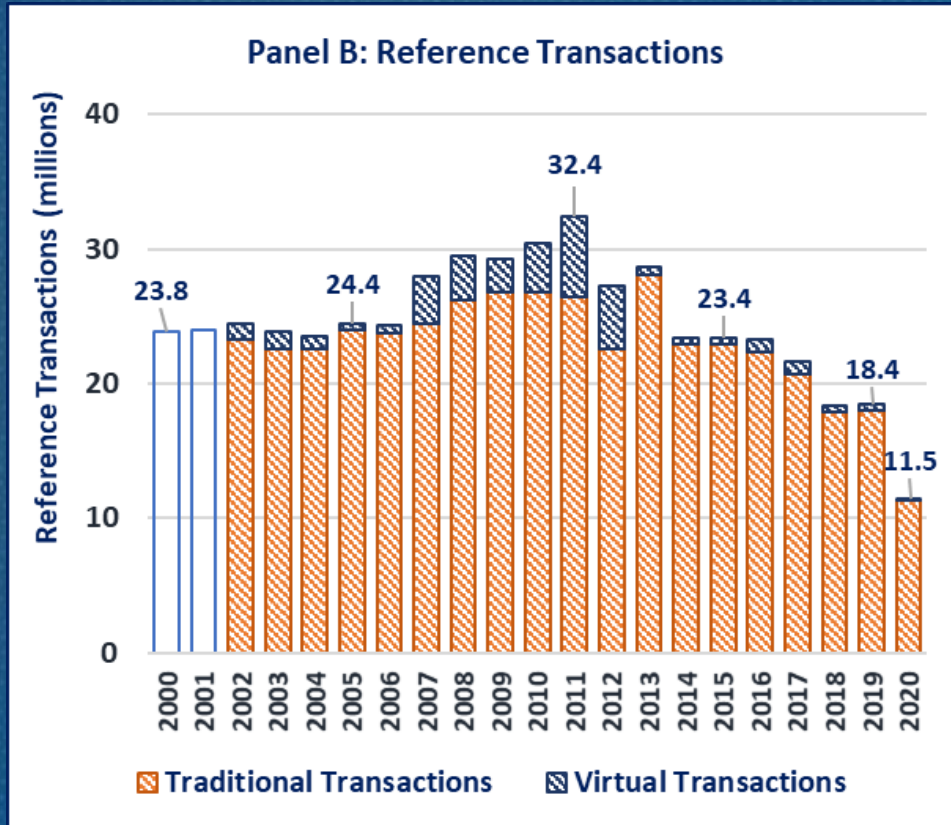
- Peak of 88.9 million visits (2009)
4.8 visits per person
- 62.6 million (2019)
2.9 visits per person

➤ Visits plummeted in 2020.

- 34.4 million visits
1.6 visits per person
- 45% decline with respect to 2019

Florida's public libraries over the last 20 years

Reference transactions



➤ Total reference transactions

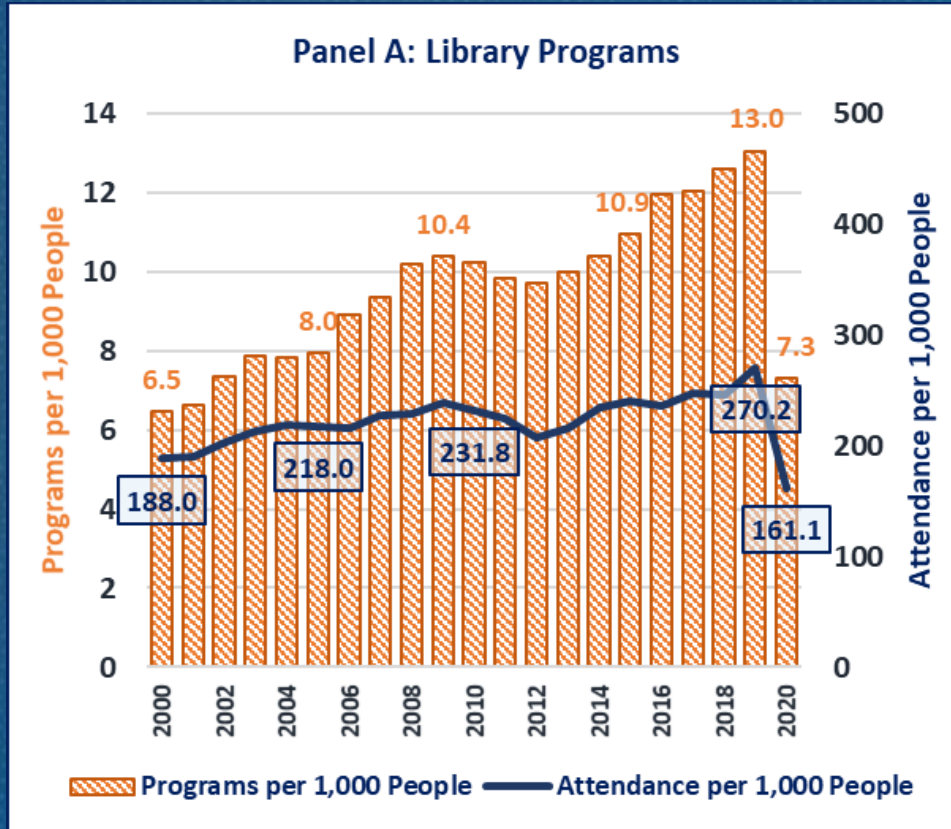
- Peak of 32.4 million transactions (2011)
- 18.4 million (2019)
- 11.5 million (2020)

➤ Most transactions are traditional.

- 93% are traditional
- 7% are using the internet

Florida's public libraries over the last 20 years

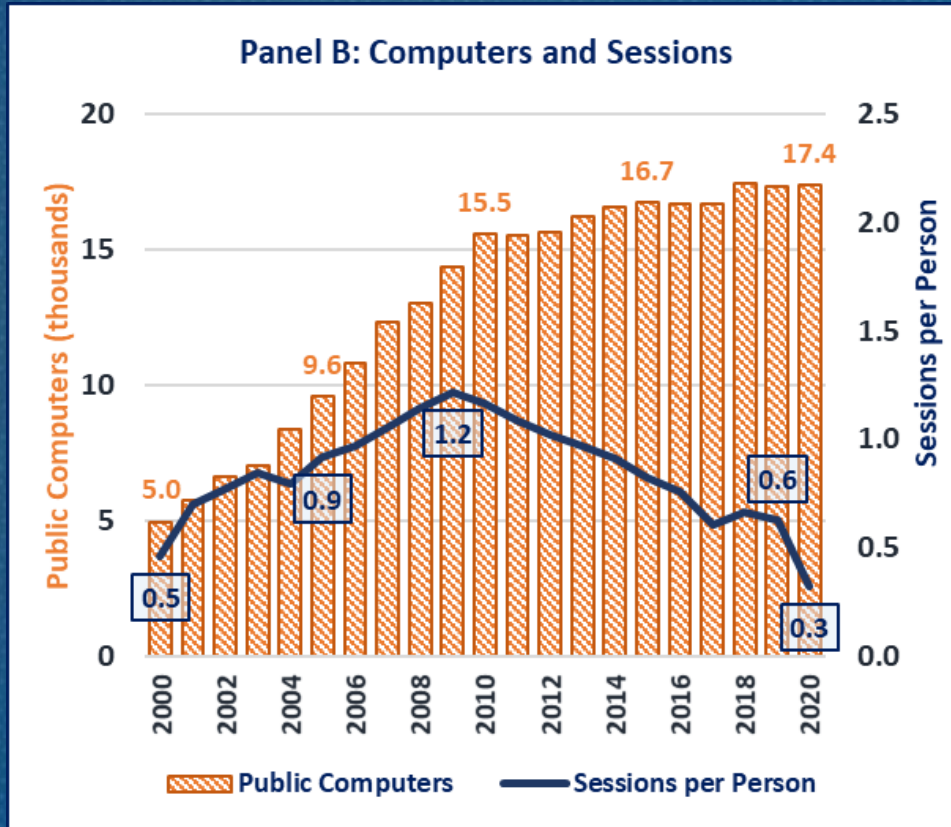
Library programs



- Programs offered have increased strongly over the years.
 - 6.5 programs per 1,000 people (2000)
 - 13.0 programs (2019)
 - 7.3 programs (2020)
- Persons attending the programs increased.
 - 188.0 per 1,000 people (2000)
 - 270.2 (2019)
 - 161.1 (2020)

Florida's public libraries over the last 20 years

Computers and sessions



- Internet computers available to the public increased strongly.
 - 5,000 (2000)
 - 17,400 (2020)
- Computer sessions
 - Peak of 1.2 sessions per person (2009)
 - 0.6 (2019)
 - 0.3 (2020)

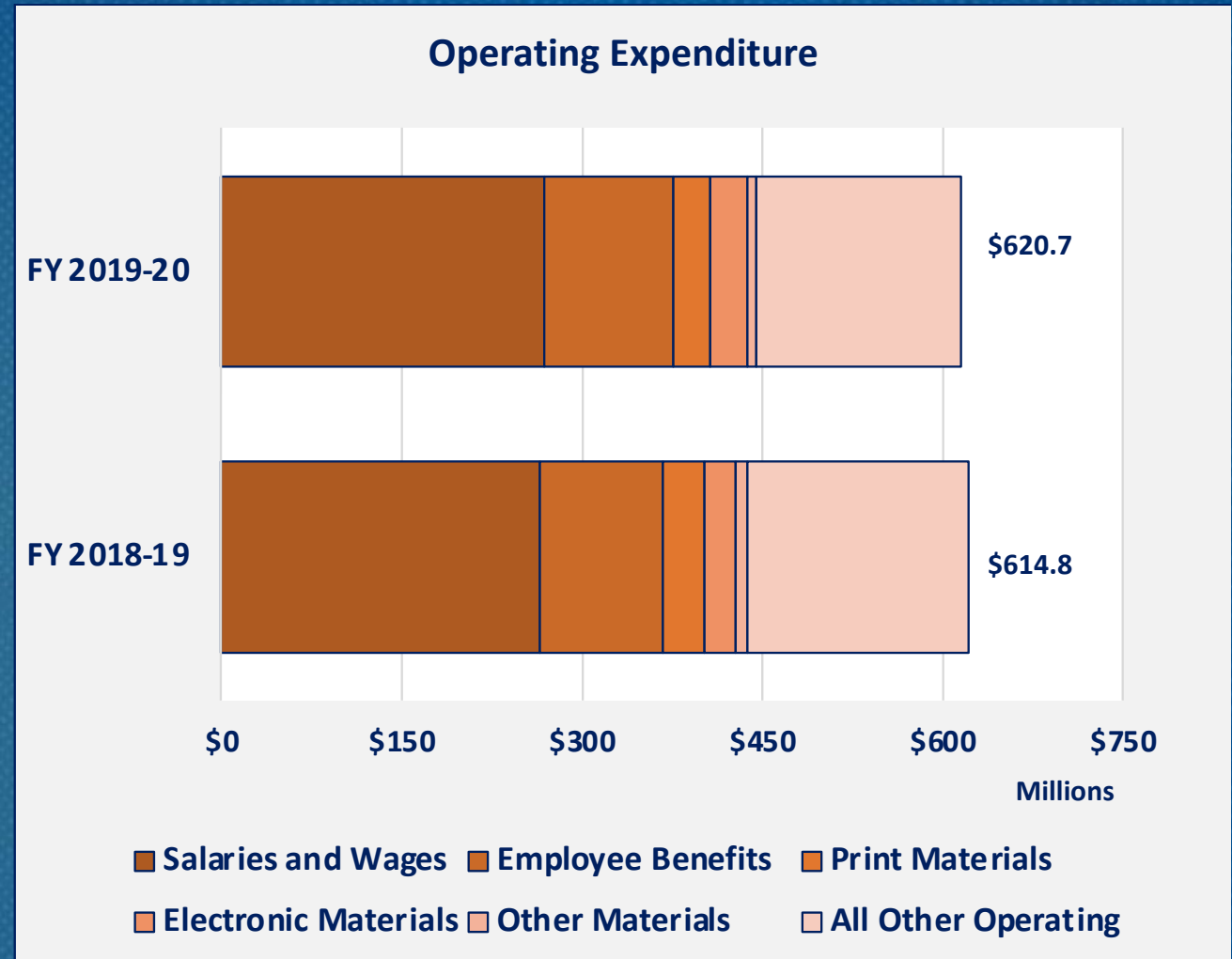
Economic Impact Study

How much Florida's economy is supported by the annual spending of its public libraries

Florida's public libraries

Economic impacts

- Florida's public libraries contribute to the state economy in several ways.
 - Purchase of inputs (goods and services) from other industries in Florida. **(direct and indirect impacts)**
 - Workers in those industries convert their paychecks into household spending. **(induced impacts)**
 - Library staff spend part of their earnings in Florida.

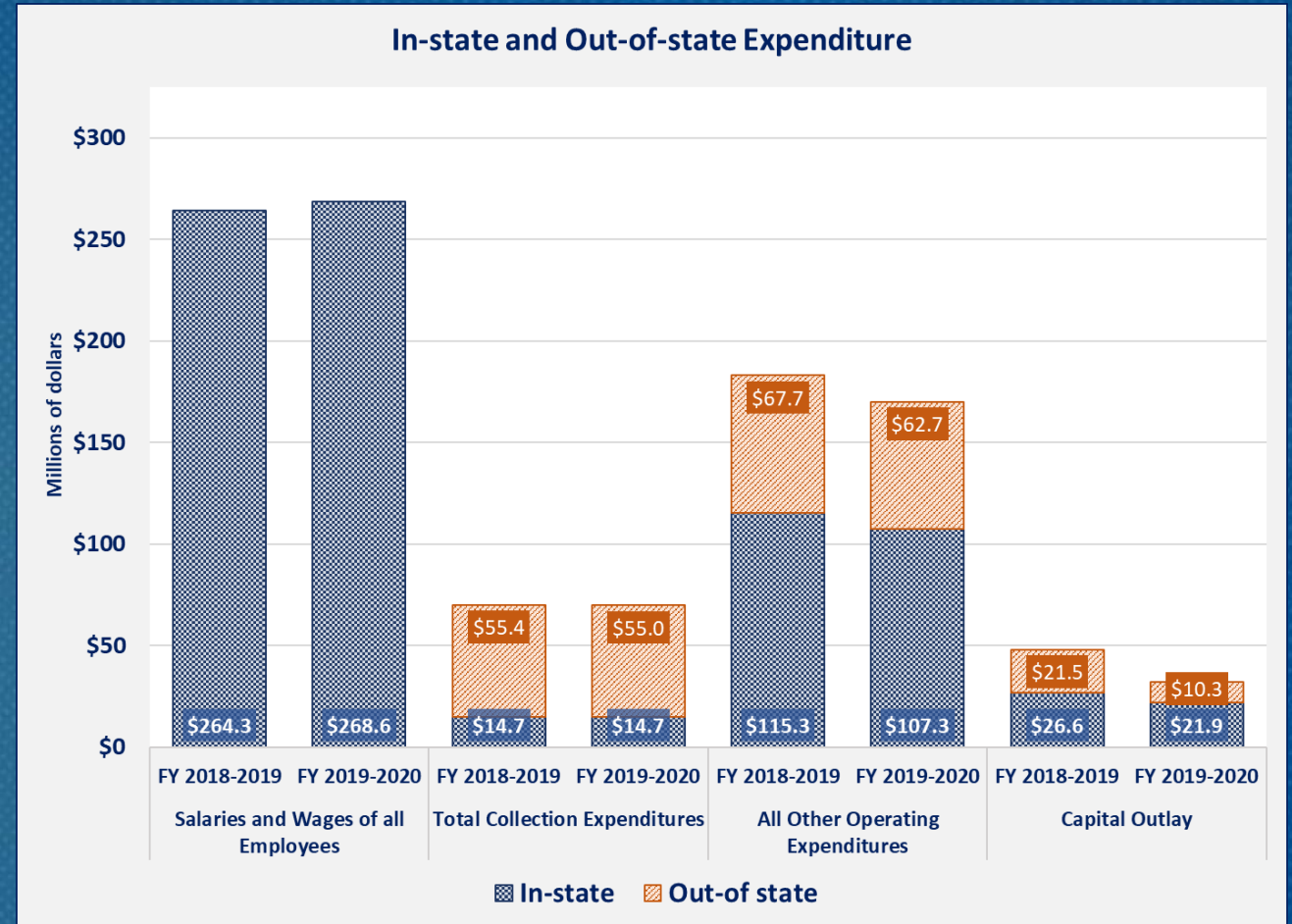


Economic impact study

Expenditures

- Not all the expenditures are realized within the state of Florida.
 - Industries in Florida do not supply all the inputs needed.
 - Money that no longer circulates in the local economy.

	FY 2019-2019		FY 2019-2020	
	In-state	Out-of-state	In-state	Out-of-state
Operating Expenditure	80.2%	19.8%	80.9%	19.1%
Capital Outlays	55.3%	44.7%	68.1%	31.9%



Economic impact study

Methodology

Regional Input-Output Modeling System (RIMS-II)

- Model allows us to assess the economic impacts of government purchases, such as those from Florida public libraries.
- For each industry, the model traces the path of spending throughout the local economy.
 - Account for local suppliers not providing all the intermediate inputs needed (leakages).
 - Expenditures that do not take place within the region.
- Economic impact of the public libraries is calculated by tracing the path of spending throughout the local economy.

Gross output

- Market value of goods and services produced.
- Sum of value added and intermediate inputs.
- Double counts the value of intermediate inputs.

Value added

- What is left after subtracting the cost of intermediate inputs from output.
- Comparable to regional measures of GDP.

Earnings

- Consist of employee compensation and proprietor's income (part of value added).

Employment

- Number of full-time and part-time jobs.

Economic impact study

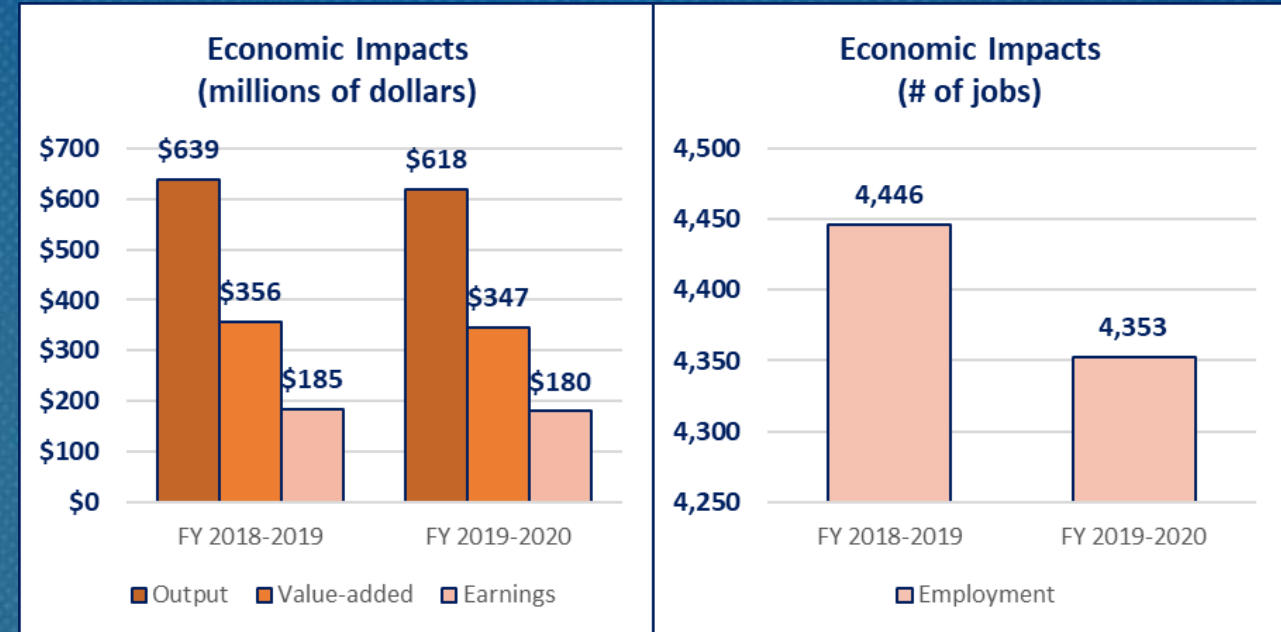
Results

➤ Fiscal year 2018-2019

- Contribution to gross output: \$639 million
- Value-added portion of this output: \$356 million
- Earnings portion of this value added: \$185 million
- Employment impact: 4,446 jobs across the state (full- and part-time jobs)

➤ Fiscal year 2019-2020

- Contribution to gross output: \$618 million
- Value-added portion of this output: \$347 million
- Earnings portion of this value added: \$180 million
- Employment impact: 4,353 jobs



Longitudinal Major Event Study

How major events, such as hurricanes, wildfires and economic downturns, are related to the use of public library services in Florida

Major event study

Public libraries and major events

➤ **Libraries provide a wide range of valuable services and resources that support educational, recreational and business needs.**

- Important resource for internet access
- Training programs
- E-Government services
- Educational materials
- Access to health information
- Assistance to unemployed individuals seeking employment
- ...

➤ **These services and resources play an increasingly important role during natural disasters.**

➤ **During natural disasters, libraries participate actively in the recovery process.**

2004 hurricane season in Florida (O'Connell, 2005)

- Libraries set up daycare programs to fill in for schools.
- Served as emergency centers to coordinate relief efforts, allowing residents to contact relatives, insurance companies and federal agencies such as FEMA.
- Dramatic increase in visitors and computer usage.

Aftermath of the 2004-2005 hurricane crisis in the Gulf Coast (Jaeger et al., 2007)

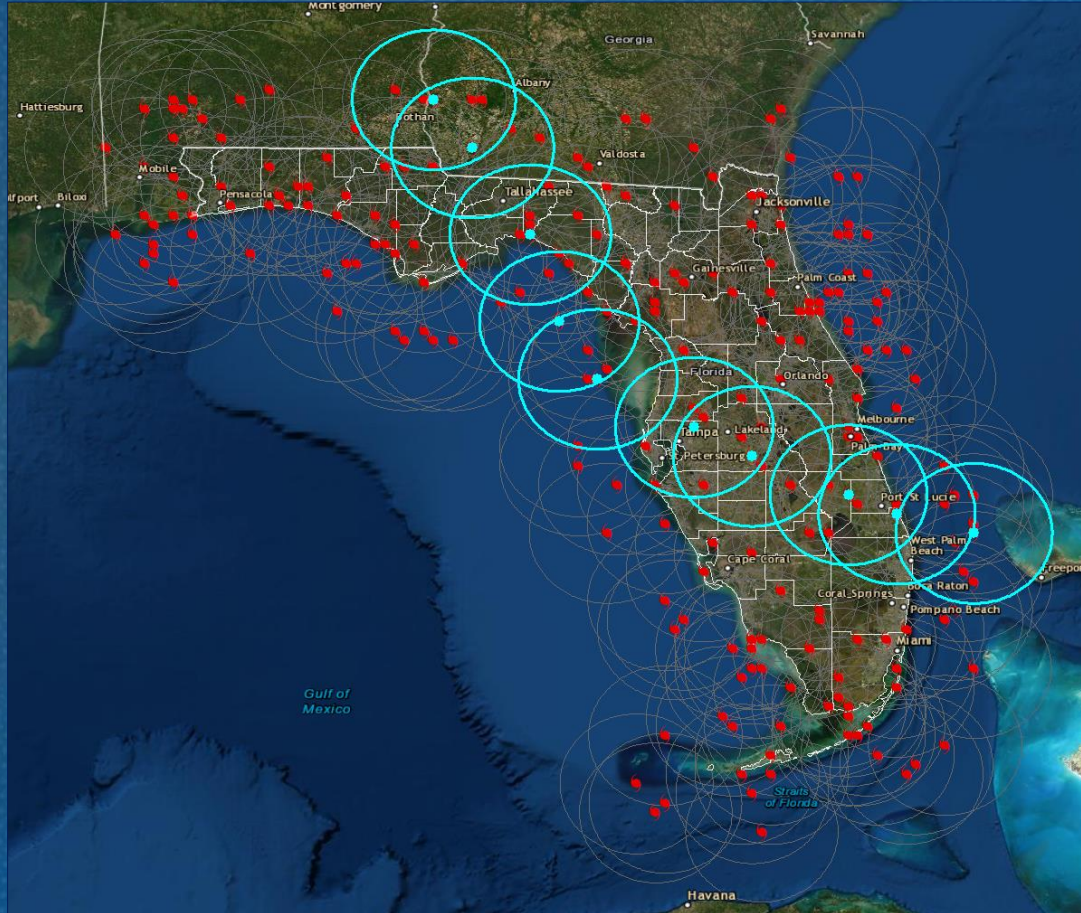
- Played several key roles, from distributing food to providing shelter, while ensuring access to information.

Hurricane Sandy (2013) in the East Coast (Flaherty, 2016)

- Public libraries were vital community centers:
 - Providing internet access, assistance with forms and with registering for relief aid.
 - Providing financial planning seminars.

Major event study

Tropical depressions, storms and hurricanes in Florida



➤ Atlantic hurricane database (HURDAT2) 1851-2020 created by NOAA

- Six-hourly information on the location and characteristics of all known tropical and subtropical cyclones in the Atlantic.
- We geocode the track of all the storms crossing Florida between 2000 and 2020.
- We construct 25- and 50-mile buffers around each geocoded point.

Major event study

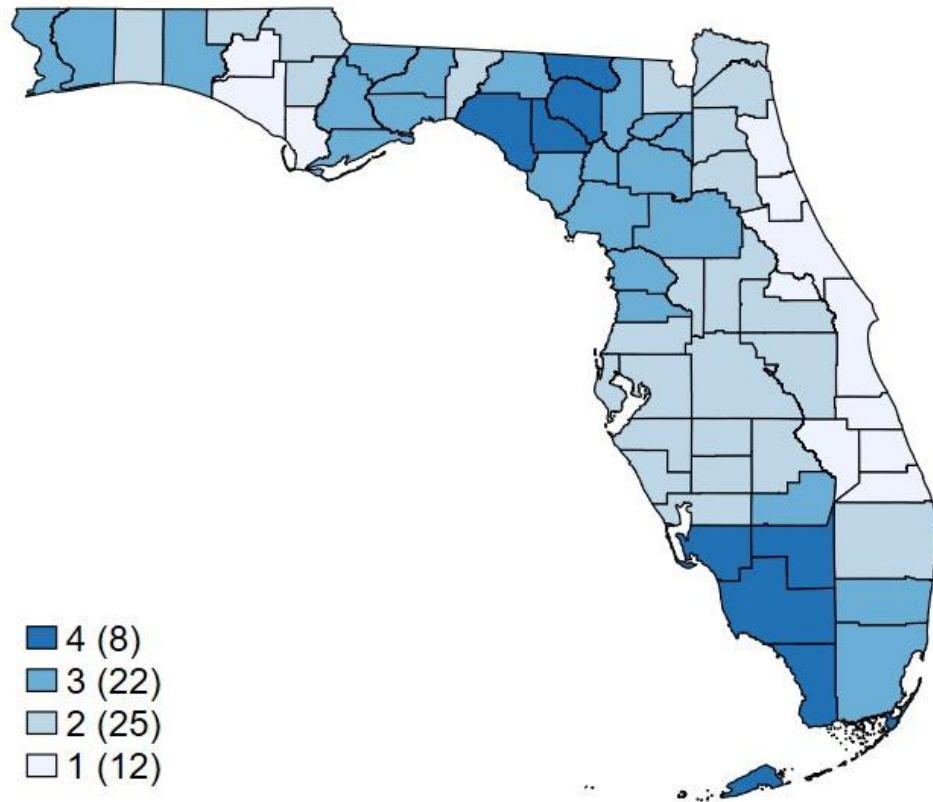
List of tropical cyclones 2000 - 2020

Year	Tropical Cyclones (category)					
2000	Gordon (1) (FL 1)	Helene (TS)	Leslie (TS)			
2001	Allison (TS)	Barry (TS)	Gabrialie (1) (FL TS)			
2002	Edouard (TS)	Hanna (TS)	Kyle (1) (FL TS)			
2003	Unnamed (TD)	Henri (TS)				
2004	Bonnie (TS)	Charlie (4) (FL 4)	Frances (4) (FL 2)	Ivan (5) (FL 3)	Jeanne (3) (FL 3)	
2005	Arlene (TS)	Dennis (4) (FL 4)	Katrina (5) (FL 2)	Rita (5) (FL 2)	Tammy (TS)	Wilma (5) (FL 3)
2006	Alberto (TS)	Ernesto (1) (FL TS)				
2007	Barry (TS)	Ten (TD)				
2008	Fay (TS)					
2009	Claudette (TS)	Ida (2) (FL TS)				
2010	Bonnie (TS)	Five (TD)				
2011						
2012	Beryl (TS)	Debby (TS)	Isaac (1) (FL TS)			
2013	Andrea (TS)	Dorian (TS)				
2014						
2015						
2016	Colin (TS)	Hermine (1) (FL 1)	Julia (TS)	Matthew (5) (FL 4)		
2017	Emily (TS)	Irma (5) (FL 4)				
2018	Alberto (TS)	Gordon (TS)	Michael (5) (FL 5)			
2019	Three (TD)	Nestor (TS)				
2020	Fay (TS)	Isaias (1) (FL TS)	Omar (TS)	Sally (2) (FL 2)	Eta (4) (FL TS)	

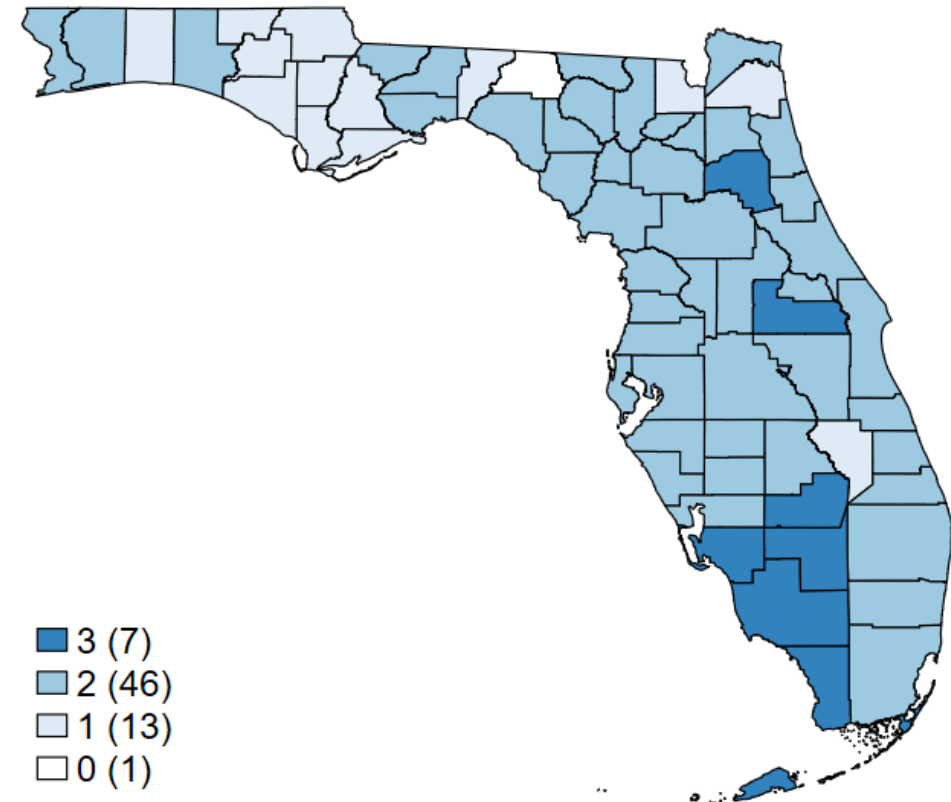
Major event study

Hurricanes and major hurricanes

Panel A: Hurricanes (categories 1 - 5)

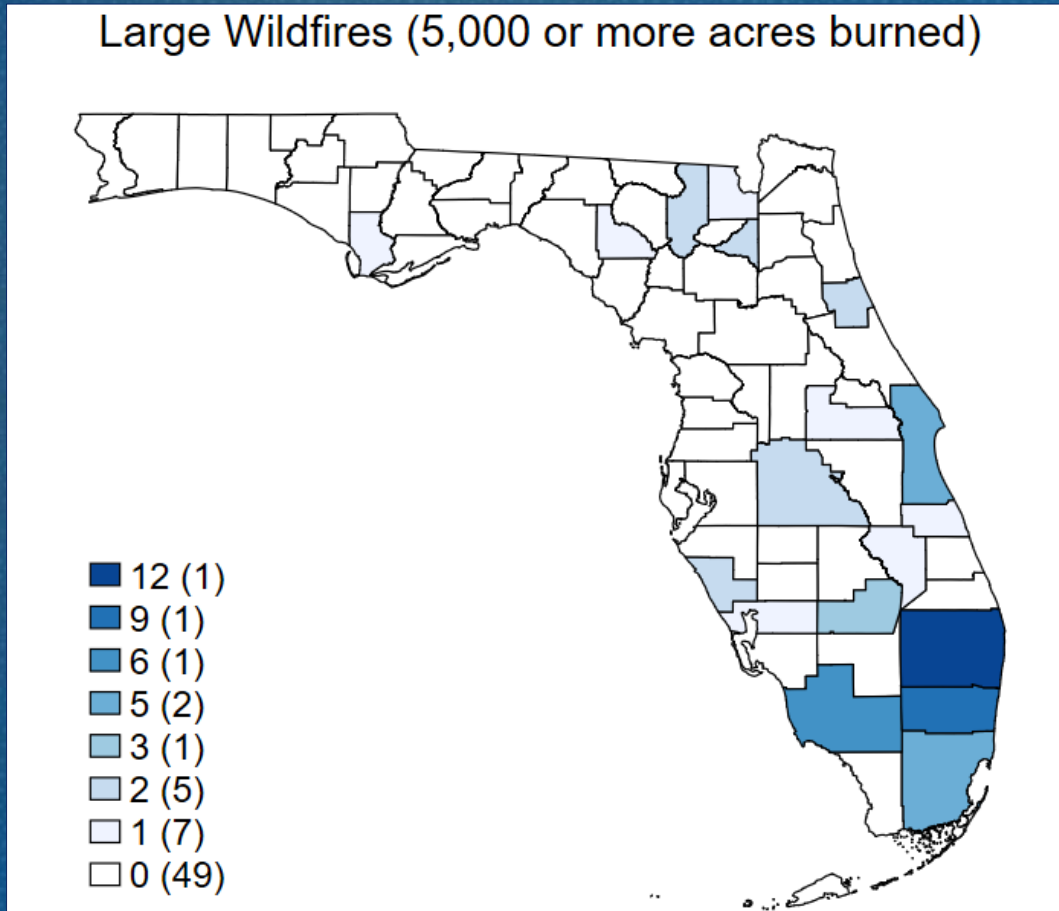


Panel B: Major Hurricanes (categories 3 - 5)



Major event study

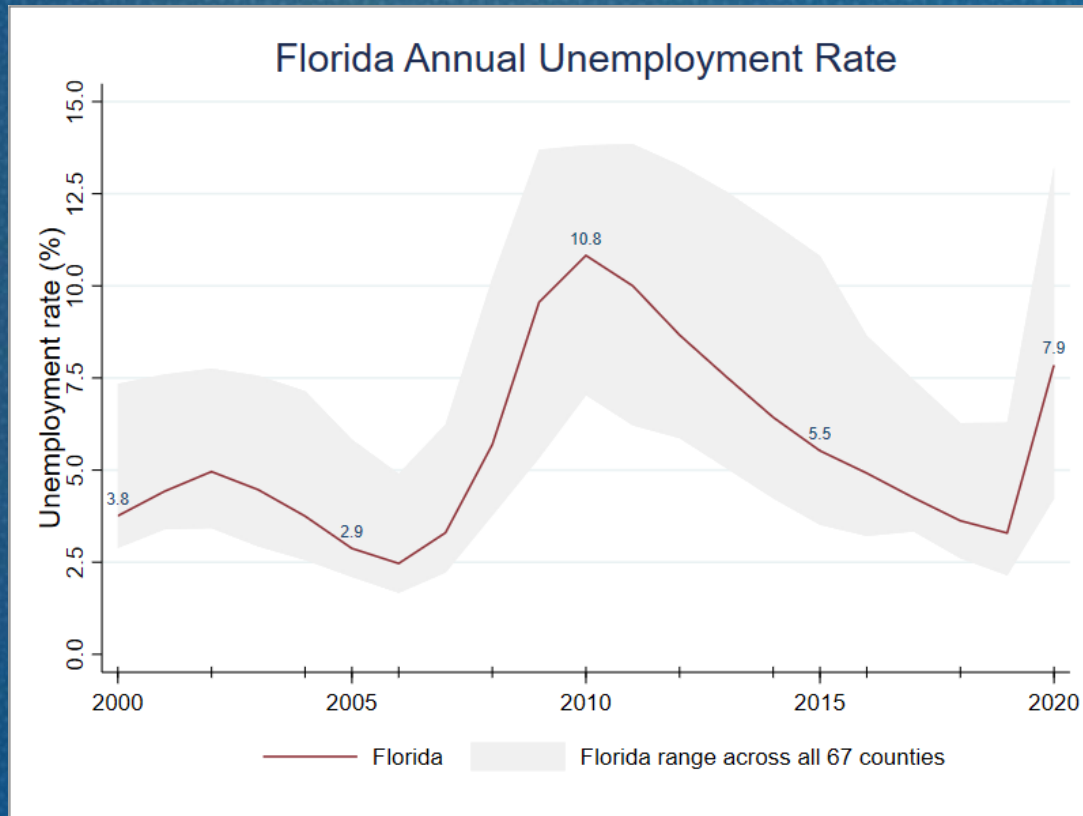
Florida wildfires



- Wildfires are unplanned and uncontrolled fires that burn in the wildland vegetation.
- Wildfire data: Florida Forest Service Reporting System (from FDACS).
 - Annual number of wildfires and acres burned by county.
 - Classified by fire size.
- Wildfires affect all Florida counties to some extent almost every year.
 - Most of these fires are very small and go mostly unnoticed.
- Large wildfires, those burning more than 5,000 acres, are less common but more dangerous.

Major event study

Economic downturn



- Unemployment data: Local Area Unemployment Statistics program (BLS)
- Like the state, counties also follow the business cycle, but experience different levels of unemployment.

Major event study

Methodology

➤ How hurricanes and large wildfires are related to library service:

- Library visits
- Programs offered
- Program attendance
- Reference transactions
- Access to electronic resources

➤ Not all 67 Florida counties see a hurricane or a large wildfire in any given year. We use this variation to:

Compare the change in library usage between years with and without a natural disaster across public libraries located in counties that experienced a natural disaster and libraries in counties that did not experience one.

➤ Method accounts for:

- Differences across the public libraries.
- Changes over time that affect all libraries.
- Control for a library's expenditures, its materials and staff, and the hours it is open each week, as well as the number of computers for public use.

Major Event Study Results

- 1. Library visits increase during natural disasters.**
 - During large wildfires, visits increase 9%.
- 2. Number of library programs increases, especially during hurricanes.**
 - Increments ranging between 8% and 18%.
 - Matched by an increase in program attendance, particularly among adults.
- 3. Reference transactions increase.**
 - During hurricanes, traditional transactions increase between 15% and 18%.
- 4. Library use remains relatively unchanged across the economic cycle.**

Results provide evidence that library use increases during natural disasters and highlight the vital role that Florida public libraries play in communities across the state, particularly in areas affected by natural disasters.

Thank you!

Questions?