



# *Planning for Increased Heat, Energy and Community Resilience*

National Association of State  
Energy Officers  
Annual Conference 2022

Sean Sullivan,  
Executive Director



# Tampa Bay Regional Planning Council

**Established in 1962** -- Support Economic Development, Emergency Preparedness, Environmental Planning, Resiliency, GIS & Visioning

A forum for coordination, sharing expertise, and building consensus among elected officials around regional issues.

- 6 counties, 21 municipalities
- 5,000 square miles – urban and rural, coastal
- 3.8 million people
- 17<sup>th</sup> largest metro economy in the U.S. (\$200 Billion)



Formed in 2018, 32 Local Governments and 90+ Partner Organizations



# Hurricane Ian

- Sept. 24** *Tropical depression named Ian.*
- Sept. 27** *First tropical winds reach Key West.*
- Sept. 28** *10:37 a.m. Utility outages begin to spike.*
- Sept. 28** *First landfall at Caya Costa, Lee County as a Cat 4.*
- Sept. 28** *Ian weakens to a Cat 3, tracking the state.*
- Oct. 1** *Storm reaches South Carolina where tidal gauge tops 10 feet at Myrtle Beach.*

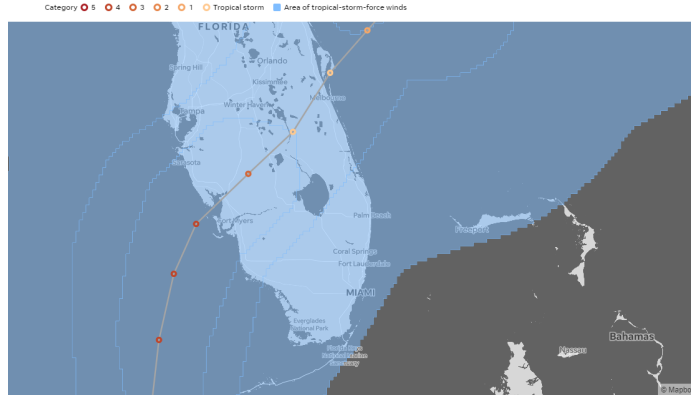


Illustration (NOAA)

- Record breaking surges 6.2' and up to 12'.
- 103 dead in Florida, 10,000 missing (10/4/2022)
- Early property damage estimate is \$47-\$50 billion.
- Sheltered population about 11,000 in Tampa Bay.





# 6<sup>th</sup> National Climate Risk Assessment/First Street Foundation

- First Street report defines extreme heat risks, costs by state to increase supports awareness.
- The planet is warming.
- National Weather Services, defines Dangerously Hot Days as heat index temps over 100°F.
- Projections for 2023 and 2053 substantial increases: dark red 131 days projected to exceed 100°F heat index temp
- <https://firststreet.org/>

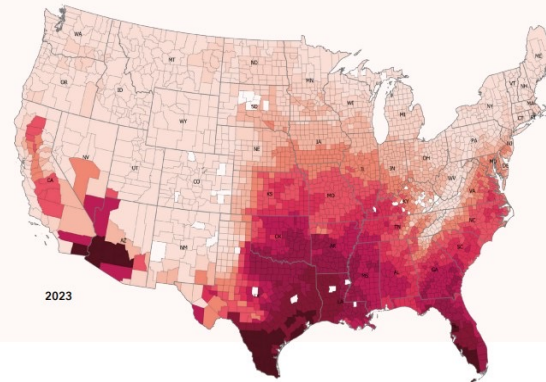
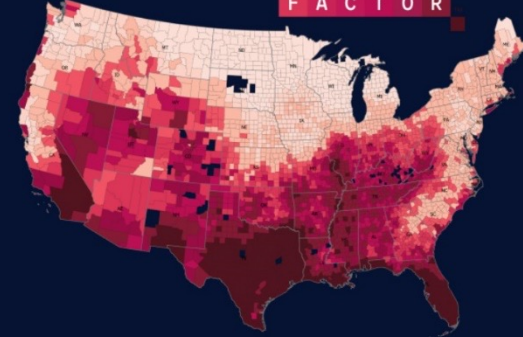
## Defining America's Climate Risk

LATEST

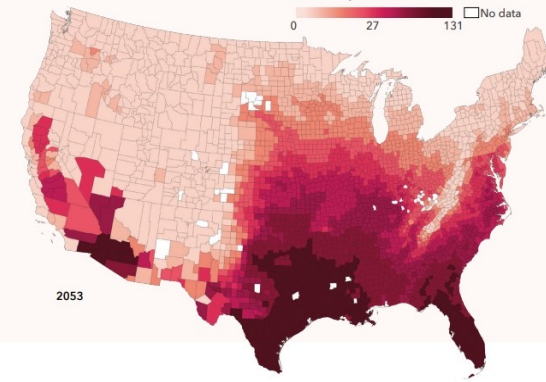
Property-level heat risk information now available on Risk Factor™

SEARCH A PROPERTY

HEAT  
FACTOR



2023



2053

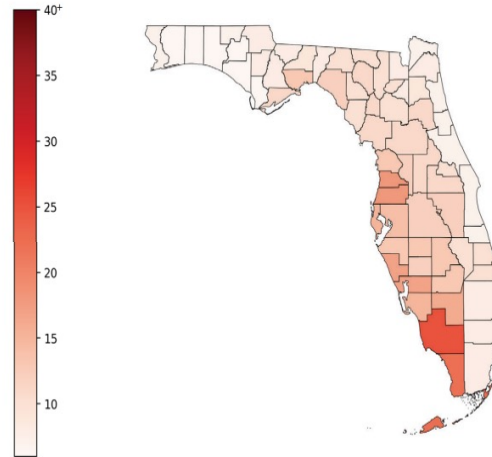
Figure 8. Number of days exceeding the heat index temperature of 100°F 2023, 2053

0 27 131 No data

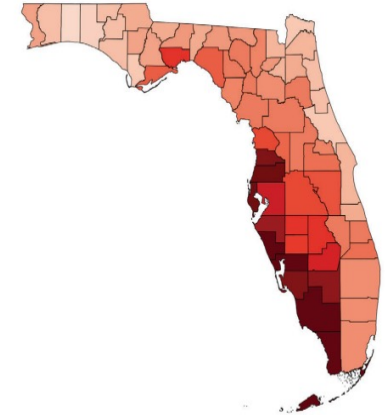
# 6<sup>th</sup> National Climate Risk Assessment: Florida

- In 30 years, many Gulf coast counties from Collier to Hernando will experience 35% to 45% more Extreme Heat Days (Heat Index over 100°F)
  - Example: Sarasota County: in 2023, 79 days over 100°F grows to 112 days above 100°F by 2053.
- Maps shows projected increase in # of consecutive Dangerous Heat Days for 2023 and 2053
  - TB Regional Resilience Coalition counties and municipalities will need to plan for a substantial increase in consecutive Dangerous Days.
  - Increased number of extreme heat days in Tampa Bay.

Consecutive Days above 100°F today for Florida



Consecutive Days above 100°F in 30 years for Florida



# Increase in Heat Drives Increased Energy Use and Costs

- California, Texas, Florida, New York, and Georgia projected to have the largest increases in costs associated with increased cooling.
- Texas and Florida -- largest consumers of energy for cooling purposes in the US.
  - demand is driven by # of properties and # of days requiring cooling.

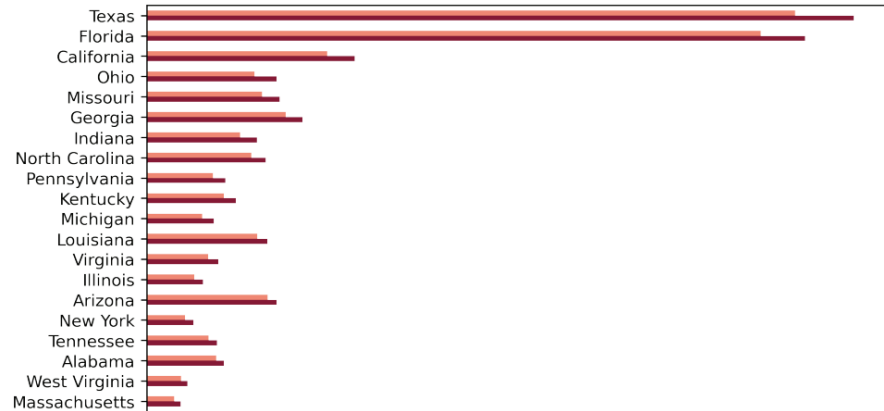
Table 4. Greatest change in state cooling costs

State	Cooling cost (\$ millions), 2023	Cooling cost (\$ millions), 2053	Change in cooling cost (\$ millions)
California	3,812.1	4,386.1	574.0
Texas	4,048.2	4,416.0	367.9
Florida	4,302.8	4,615.5	312.7
New York	820.2	1,001.2	181.0
Georgia	1,237.3	1,389.9	152.6
Pennsylvania	681.3	811.6	130.3
North Carolina	894.2	1,017.6	123.4
Ohio	571.3	686.7	115.5
Illinois	509.0	604.7	95.7
Virginia	569.3	660.3	91.0
Michigan	423.2	511.7	88.6
New Jersey	488.9	577.3	88.4
Arizona	1,086.9	1,165.9	79.0

# Increasing Energy, Increasing Emissions

- Texas and Florida are currently and projected to be largest producers of emissions, due to AC use.
- Construction/development is a core industry sector in Florida.
- State energy programs, local government policies and private sector implementation need to align to create resilient communities and economies and not make it worse.

Figure 14. CO<sub>2</sub> Emissions by state due to AC usage 2023 and 2053



# Increased Regional Attention: Energy and Heat

Counties and municipalities scaling up transportation electrification, facility/operations EE, LEED/green buildings, sustainability plans etc.

2019-2022, TBRPC led development of several initiatives

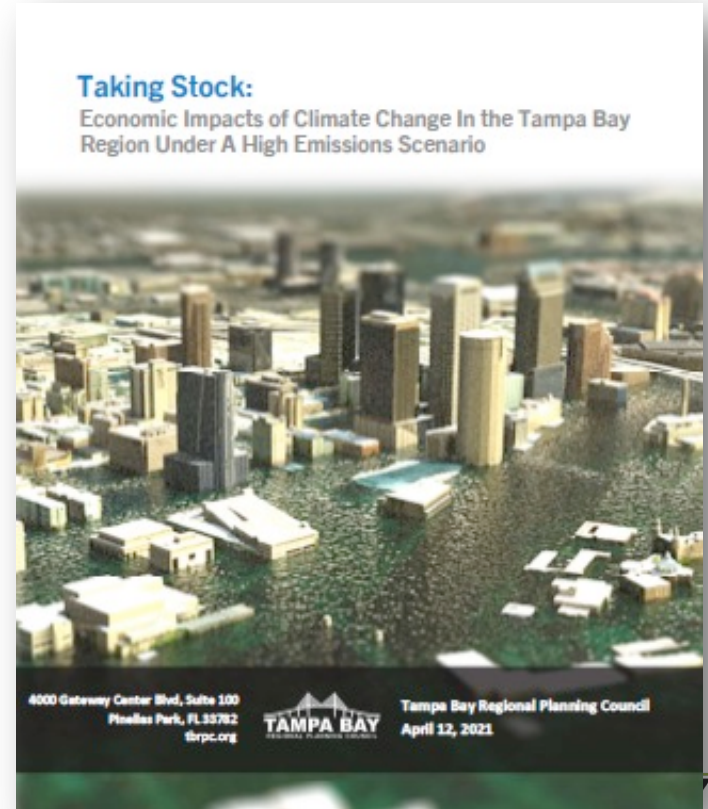
- **TAKING STOCK Report** – define climate risks/impacts by sectors.
- **Clear Sky Tampa Bay** – a project to create resources to assess solar + storage for critical facilities resilience.
- **Resilience and Energy Assessment of Communities and Housing (REACH)** – Assessing affordable housing issues and energy burden.
- **Regional Resilience Action Plan** – Goals supporting electrification.



# Taking Stock Report: Looks at Impacts from Heat

Produced in 2021, in partnership with US EPA, compares heat impacts to sea level rise (SLR) -- interdependent impacts

- County level projections
- Delineates risks to critical assets
- Stress tests the resilience of the economy
  - Mortality
  - Farm
  - Labor
  - Energy
  - Sea Level Rise
  - Public Sector
  - Fiscal
  - Economic



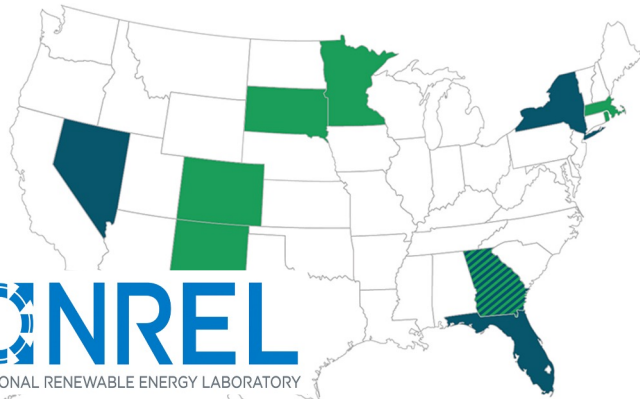
# Taking Stock Key Findings

- Heat adds to cost of living and business costs.
- Heat wears down the economy.
- Heat impacts lower wage jobs more than higher wage jobs
- Property taxes are most impacted, but sales tax impacts are significant.
- Shorter work schedules for outside work.
- Manufacturing impacts to Labor Force.

# Clear Sky Tampa Bay

Tampa Bay Regional Planning Council & US Department of Energy

Developed new tools to assess feasibility and value/ROI for commercial-scale solar+storage projects that support public safety, disaster preparedness and post-disaster recovery objectives.



Commercial-Scale Solar

Solar in Rural Communities



## FEMA LIFELINES



# Next Steps for the Tampa Bay Regional Resiliency Coalition

- Define regional collaboration goals for pursuing state and federal climate/energy funds to kick start projects to reduce GHG
- Convene economic development districts to define strategies to stimulate increased EE and energy resilience
- Implement goals to support EV infrastructure and Cool Communities
- 2023 Regional Resilience Leadership Summit will address heat and energy

*We will*  
**REBUILD**

**#SWFLStrong**



**Sean T. Sullivan**  
Executive Director  
*sean@tbrpc.org*

4000 Gateway Centre Blvd. STE 1000  
Pinellas Park, Florida 33782  
(727) 570-5151

**[www.tbrpc.org](http://www.tbrpc.org)**

