

# Safe Shelter: A Regionwide Vulnerability Assessment of Hurricane Shelters and Critical Community and Emergency Facilities

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**Daniel Dourte**  
Senior Scientist  
The Balmoral Group



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# Project Overview

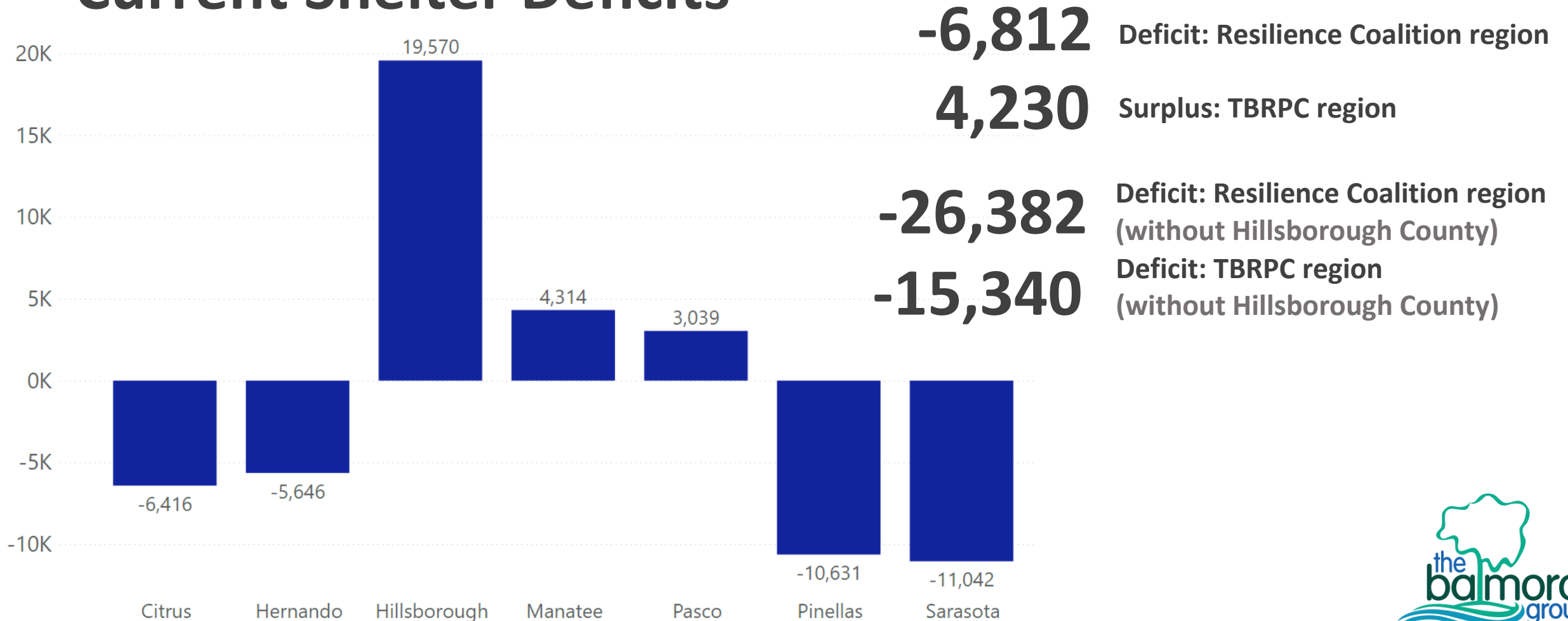
Florida Resilient Coastlines Program -- Regional Resilience Entity Category  
Awardee: **City of Tampa, led by TBRPC**

- Conduct a region-wide vulnerability assessment of current shelters from sea level rise and combined storm surge (NOAA 2017 Intermediate Low and Intermediate High in 2040 and 2070).
- 2 workshops with local emergency management staff to review risks and identify prospective buildings in low-risk areas which can serve as potential future shelters.
- Produce maps, GIS data for local users and FDEP
- Produce a report regional and by county-level risks and recommendations



# Why look for more shelter options:

## Current Shelter Deficits



# Why look for more shelter options:

## FUTURE - What changes?

- Population increase... shelter demand

about 40k more spaces needed (850k more people across region: 2040)



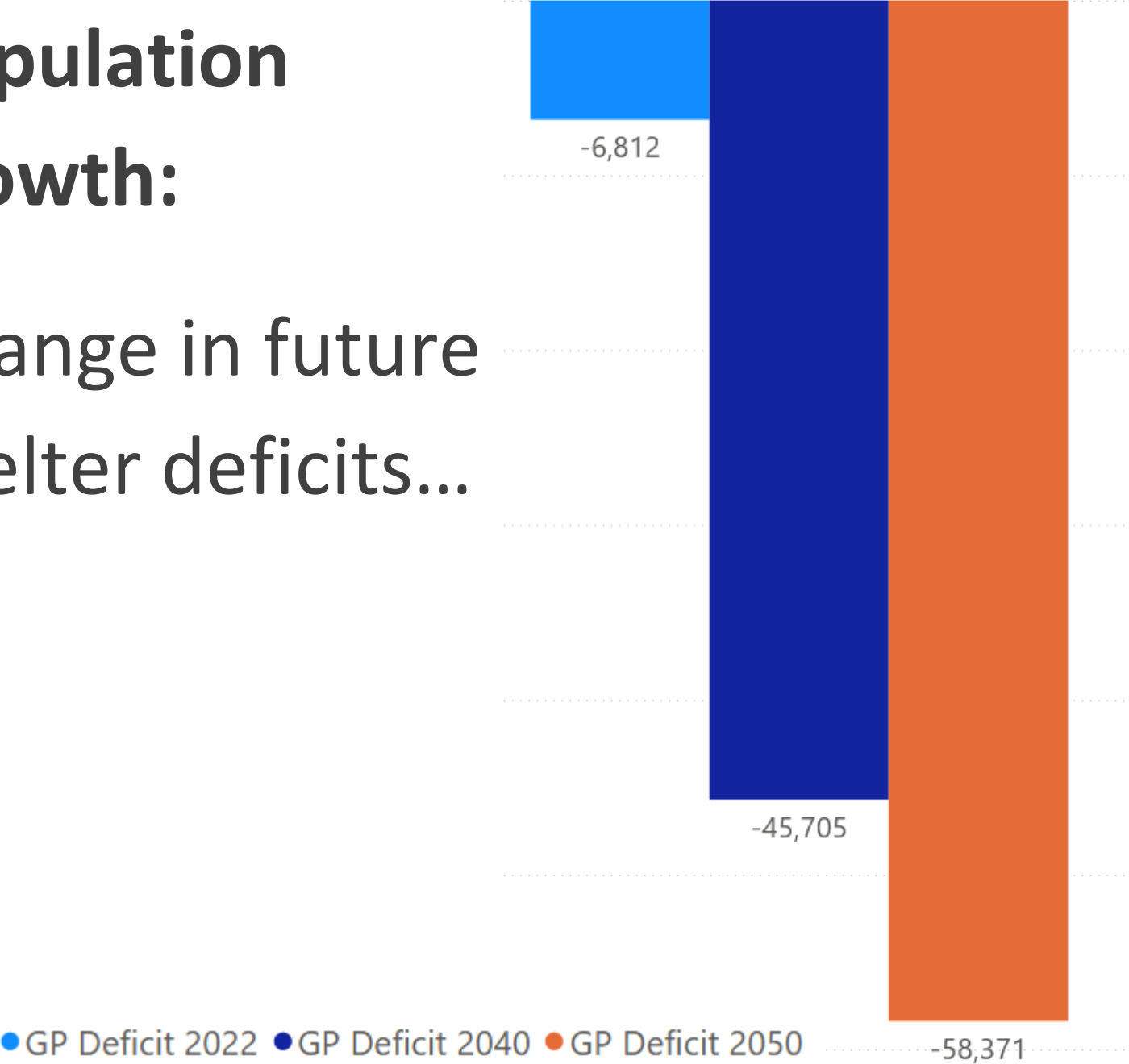
- Inundation (shelter locations likely inundated)... shelter space

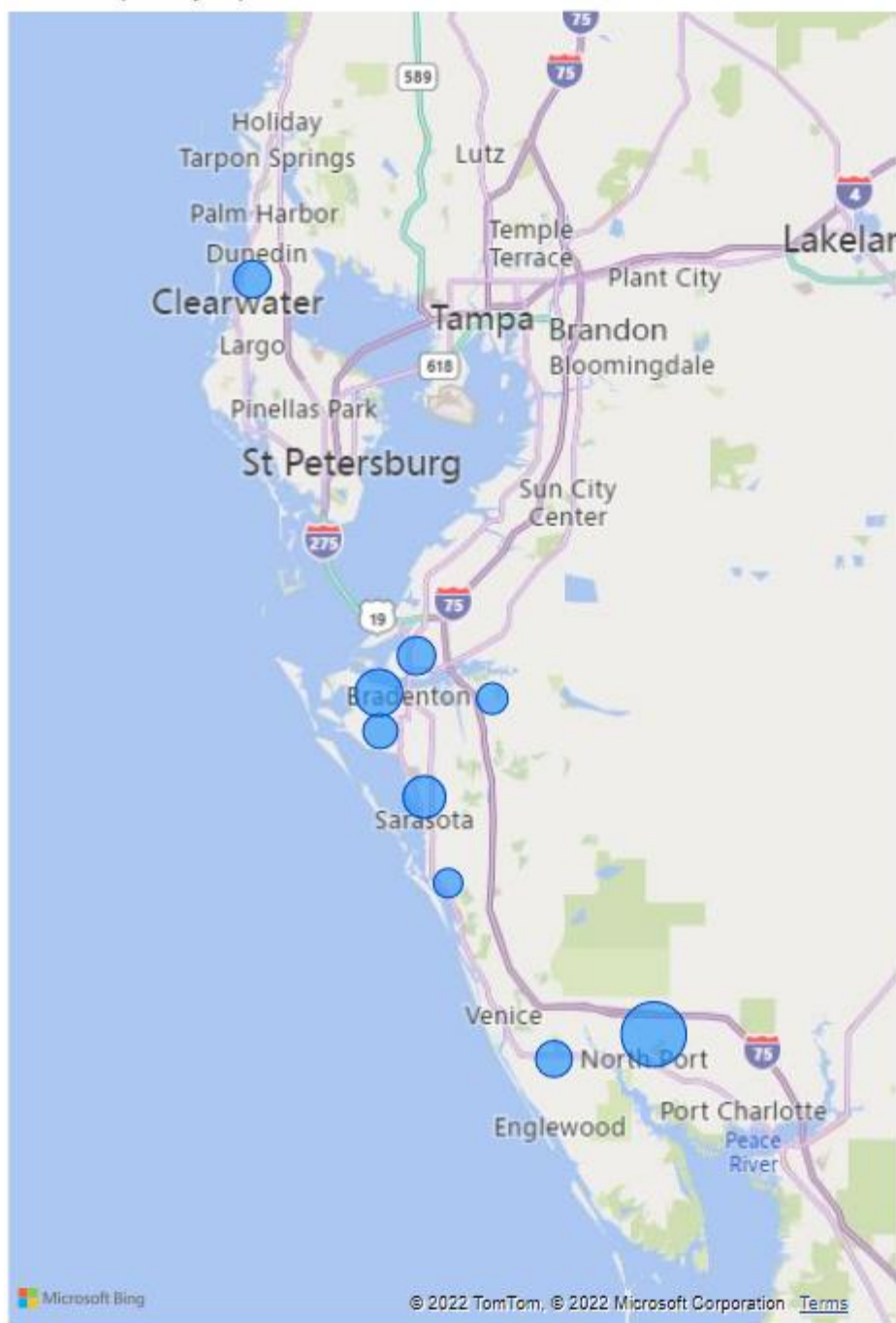
Potentially 14k shelter spaces at risk from likely inundated shelter locations:  
2040 NOAA Int-High SLR with Cat 4 storm



# Population growth:

Change in future shelter deficits...





# Safe Shelter Data Viewer: TBRPC

## storm surge and shelter impacts

### County Risk Capacity Spaces

|              |               |
|--------------|---------------|
| Manatee      | 5,531         |
| Pinellas     | 1,370         |
| Sarasota     | 7,131         |
| <b>Total</b> | <b>14,032</b> |

### NOAA 2017 Intermediate High SLR scenario: with combined Cat 4 or Cat 5 surge

2040 Cat 4 inundation

N

Y

2040 Cat 5 inundation

Y

2070 Cat 4 inundation

Y

2070 Cat 5 inundation

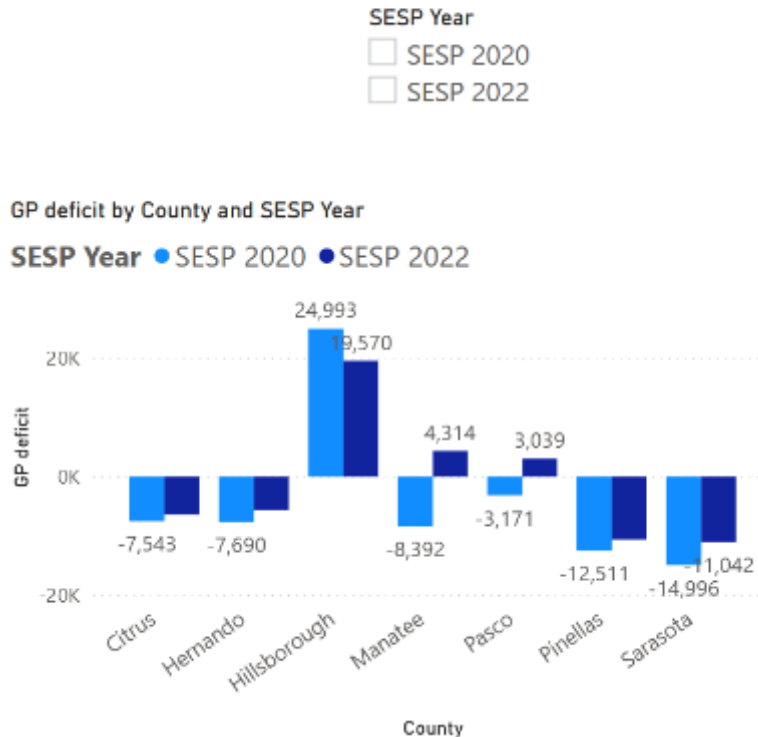
Y

<https://datavisual.balmoralgroup.us/TBRPCsafeshelter>

# Shelter Space Dashboard

<https://datavisual.balmoralgroup.us/TBRPCsafeshelter>

## Safe Shelter Data Viewer: TBRPC Current Shelter Space and Demand



| County       | SESP Year | GP available, spaces | GP demand, spaces | GP deficit     |
|--------------|-----------|----------------------|-------------------|----------------|
| Citrus       | SESP 2020 | 5,771                | 13,314            | -7,543         |
| Citrus       | SESP 2022 | 3,561                | 9,977             | -6,416         |
| Hernando     | SESP 2020 | 3,875                | 11,565            | -7,690         |
| Hernando     | SESP 2022 | 3,875                | 9,521             | -5,646         |
| Hillsborough | SESP 2020 | 77,309               | 52,316            | 24,993         |
| Hillsborough | SESP 2022 | 80,094               | 60,524            | 19,570         |
| Manatee      | SESP 2020 | 15,808               | 24,200            | -8,392         |
| Manatee      | SESP 2022 | 24,092               | 19,778            | -4,314         |
| <b>Total</b> |           | <b>357,130</b>       | <b>393,252</b>    | <b>-36,122</b> |

GP demand, spaces and GP available, spaces by County



# potential shelters list

**Output:** candidate shelters list developed based on spatial and building attribute info; version 1 available on Safe Shelter data dashboard.

**Purpose:** To have another resource to use to find potential shelters to improve long-term shelter planning and diversify shelter types

**Use:** As a starting point for reviewing new shelter options - if potential shelter parcels can be ranked as mostly likely to be a suitable shelter – those near the top of list can be explored as needed for more detailed assessments of wind-readiness, backup power, and other information requiring site visits or building manager contact





# Findings

- Across the 7-county region: about **54,000 more shelter spaces may be needed** by 2040 (40,000 due to population growth and 14,000 due to future storm surge)
- Use conflicts with emergency shelters are consistently a concern; there are on-going efforts in Hillsborough and other counties to identify more step-down/ recovery shelter locations for post-storm use



# Recommendations

- Utilizing a candidate shelters (properties) list can contribute to more county-led shelter planning: more proactive identification of non-school shelter option
- Exploring state funding options to redirect retrofit funding to be used for new shelter construction could support more multi-use, county-owned, large capacity shelter buildings (example: Fasano Regional Shelter in Pasco County)



# Recommendations

- Ensure FDEM's shelter accounting aligns with county shelter accounting (locations, capacity, etc)
- Improve information sharing among County EM's: example – getting Sarasota County's pet-friendly shelter process to be easily replicated (if needed)



# Questions?

[ddourte@balmoralgroup.us](mailto:ddourte@balmoralgroup.us)

# Thank you!

