The Cost of Doing Nothing

Sea Level Rise and Submerged Land in the Tampa Bay Area

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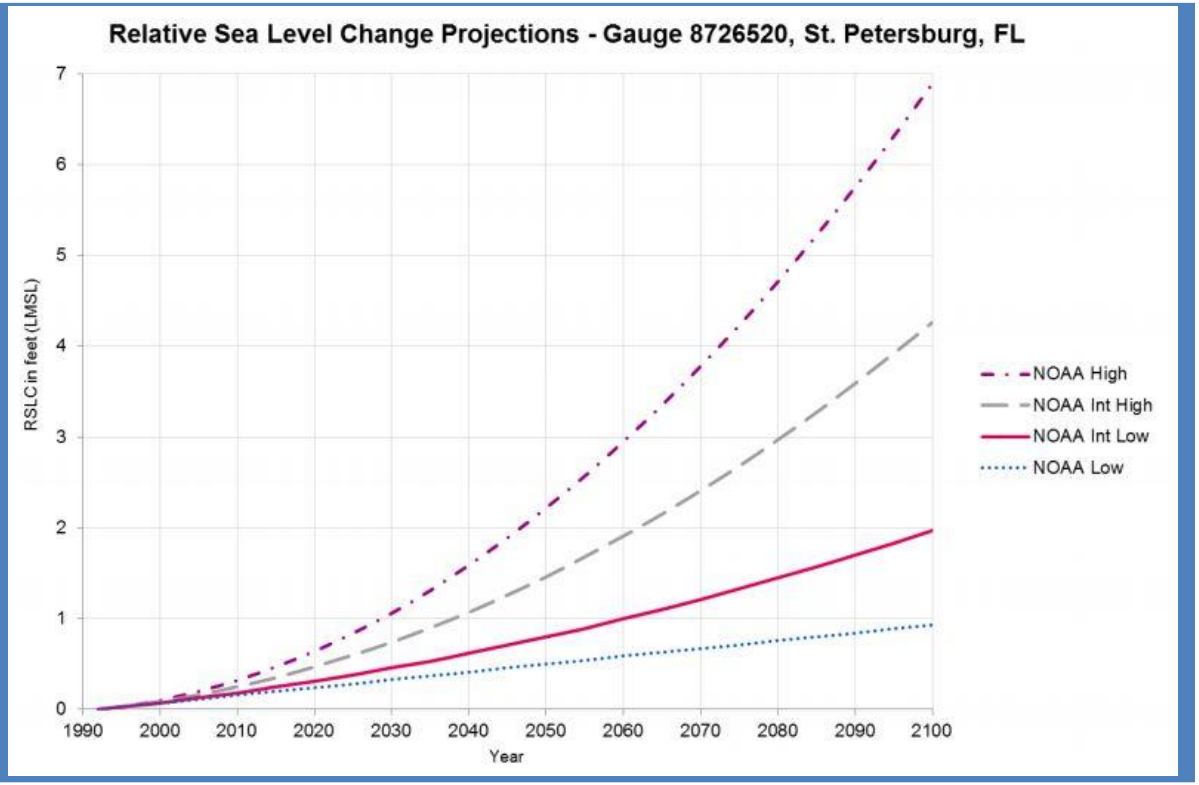
One Bay Working Group, Friday, November 4, 2016

What If: What Sea Level Change?

Illustration 1: Relative Sea Level Change in Feet



Assessing the Potential Impact

Sea Level Rise

Property Data

REMI

Econ Model

When Mean Sea Level Increases by 2.0 Feet	Estimate
Value of Submerged Residential Property in 2015	$14.9 Billion*
Value of Submerged Commercial Property in 2015	$1.3 Billion*
Cumulative loss of Property Taxes (2020-2060)	5.4 Billion*
Job Losses in submerged areas	17,184

Impacts

- Methodical but selective process
- Meshing GIS with economic data
- Comparing simulations

Tampa Bay and Florida in 2060

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Property Loss

Land Use	Acres	Parcels	Value	Est. 2015 Taxes
Residential	72,048	29,297	$14.9 Bil	$241.8 Mil
Commercial	4,226	2,316	$1.2 Bil	$20.3 Mil
Industrial	296	186	$94.5 Mil	$2.1 Mil
Total	76,570	31,799	$16.2 Bil	$264.2 Mil

Submerged Jobs

Industry	Jobs
Accommodation/Food	5,568
Health Care	4,344
Financial Services	2,221
Professional Services	1,674
Retail	1,479
Construction	548
Wholesale/Transportation	539
Education	82
Manufacturing	51
Other	678
Total	17,184

Tourism Losses

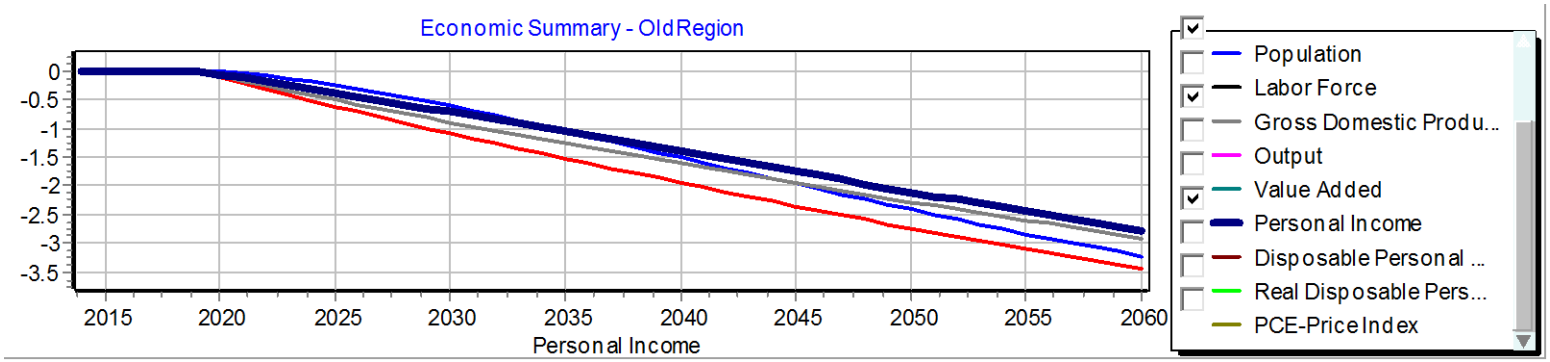
- Loss of beaches
- Loss of hotels and restaurants
- Loss of direct and indirect jobs
- In terms of lost tourism spending, $2.5 billion in 2060 (in 2015 Dollars).

Many Perspectives

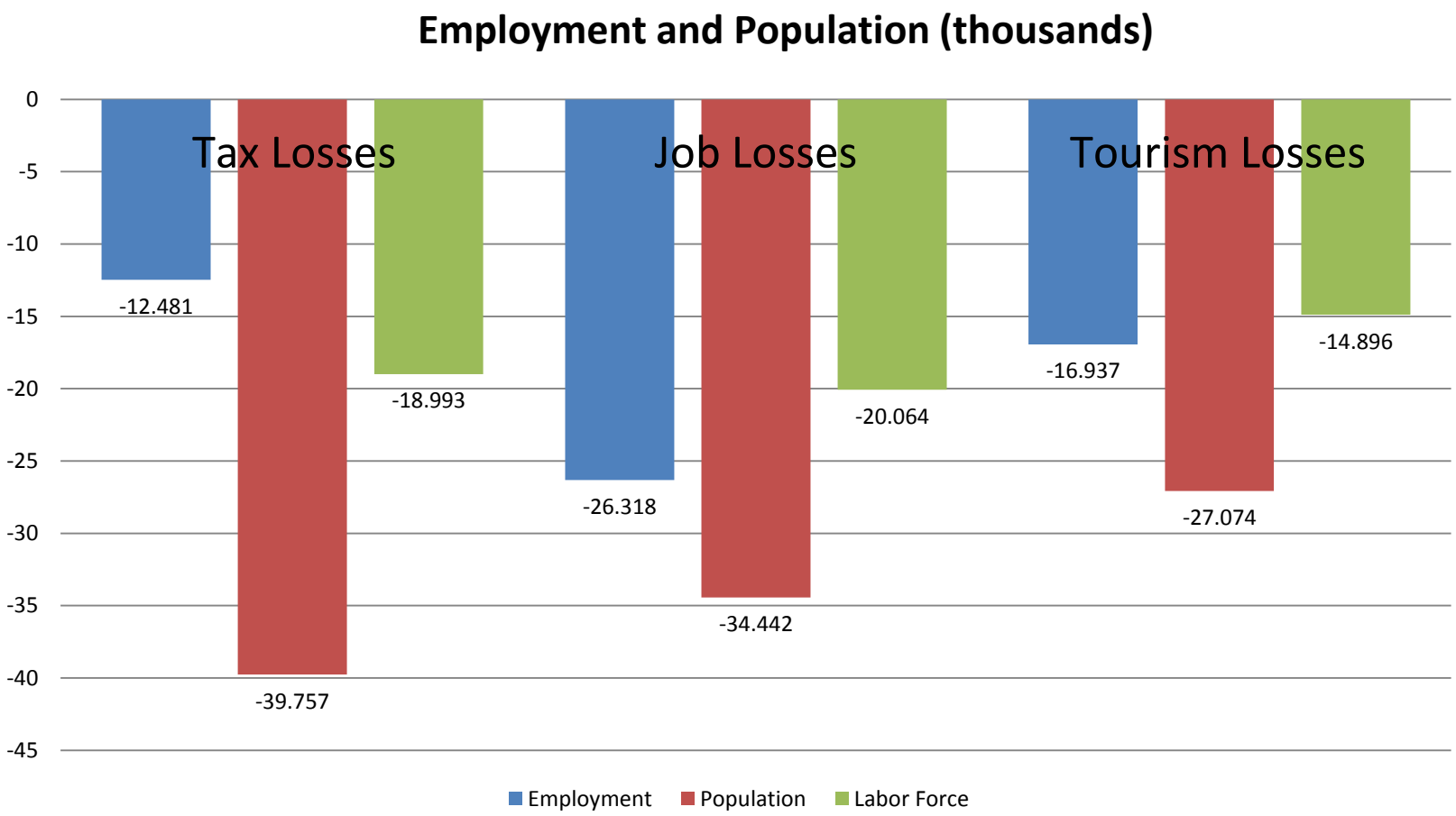
Property Value and Taxes		Hills	Manatee	Pasco	Pinellas	Tampa Bay
Category	Units	In 2060 for all counties				
Total Employment	Thousands (Jobs)	-1.292	-2.240	-0.545	-8.404	-12.481
Population	Thousands	-2.400	-9.634	-3.262	-24.461	-39.757
Labor Force	Thousands	-0.787	-4.120	-1.564	-12.522	-18.993
Gross Regional Product	Billions of Fixed (2009) Dollars	-0.302	-0.304	-0.070	-1.355	-2.031
Personal Income	Billions of Current Dollars	0.300	-1.436	-0.386	-3.996	-5.518
PCE-Price Index	2009=100 (Nation)	0.180	0.352	0.136	0.587	0.323

Simulations

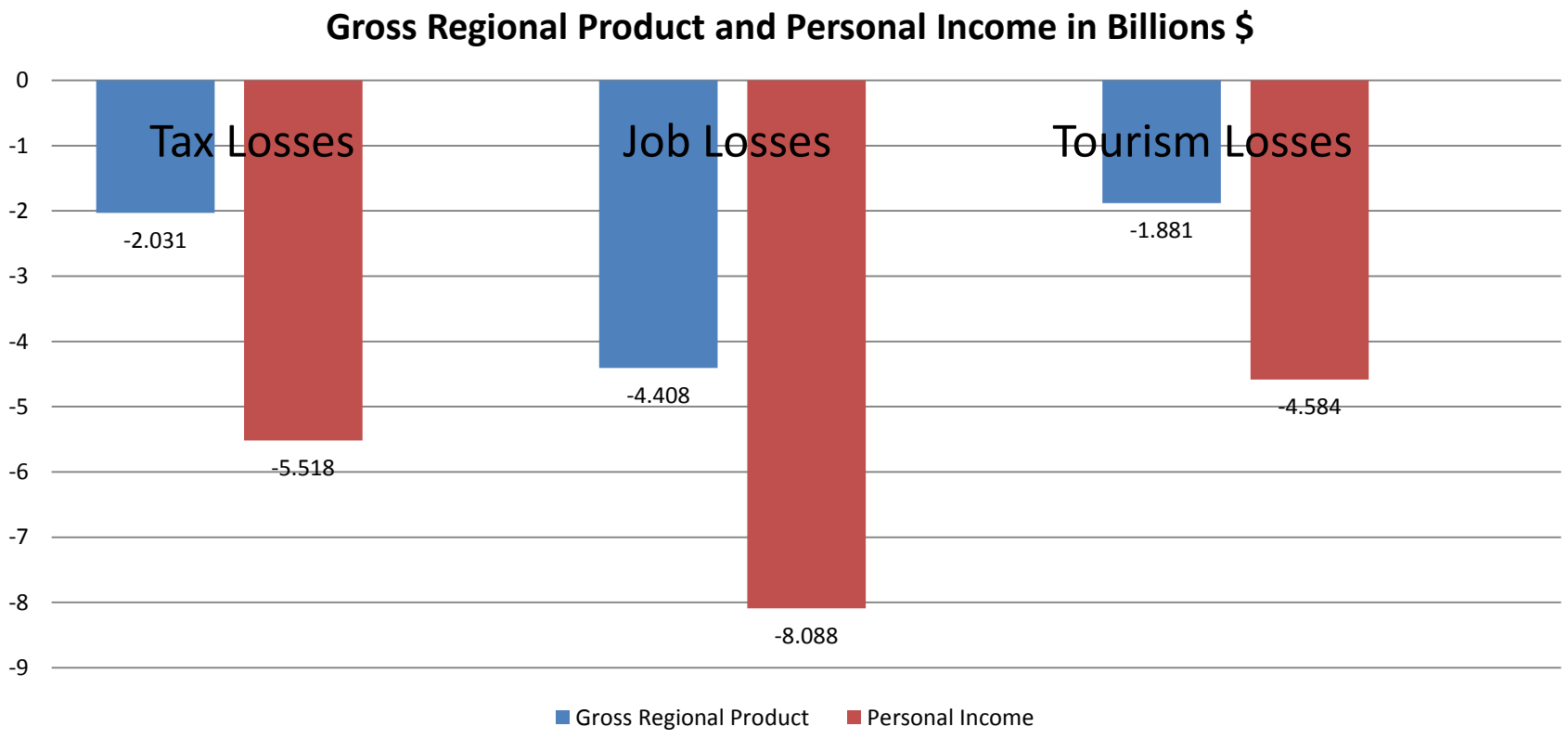
- Compare some what-if set of conditions to a dynamic baseline.



Comparing Simulations



Comparing Simulations II



Putting it all into perspective I

Category	Units	Baseline 2060 Data	Percent Impact of Composite Simulation on Baseline
Total Employment	Thousands (Jobs)	2319.710	-2.55%
Population	Thousands	4400.228	-2.50%
Labor Force	Thousands	2140.869	-3.16%
Gross Regional Product	Billions of Fixed (2009) Dollars	371.508	-2.32%
Personal Income	Billions of Current Dollars	893.669	-2.17%
PCE-Price Index	2009=100 (Nation)	247.628	-0.09%

Putting it all into perspective

- By 2060, SLR is costly and but not catastrophic (for everyone).
- That alone carries risk bc of the additional cost of complacency
- There are many unaccounted factors—higher insurance rates, SLR in the rest of Florida and the country

The End

- Questions?
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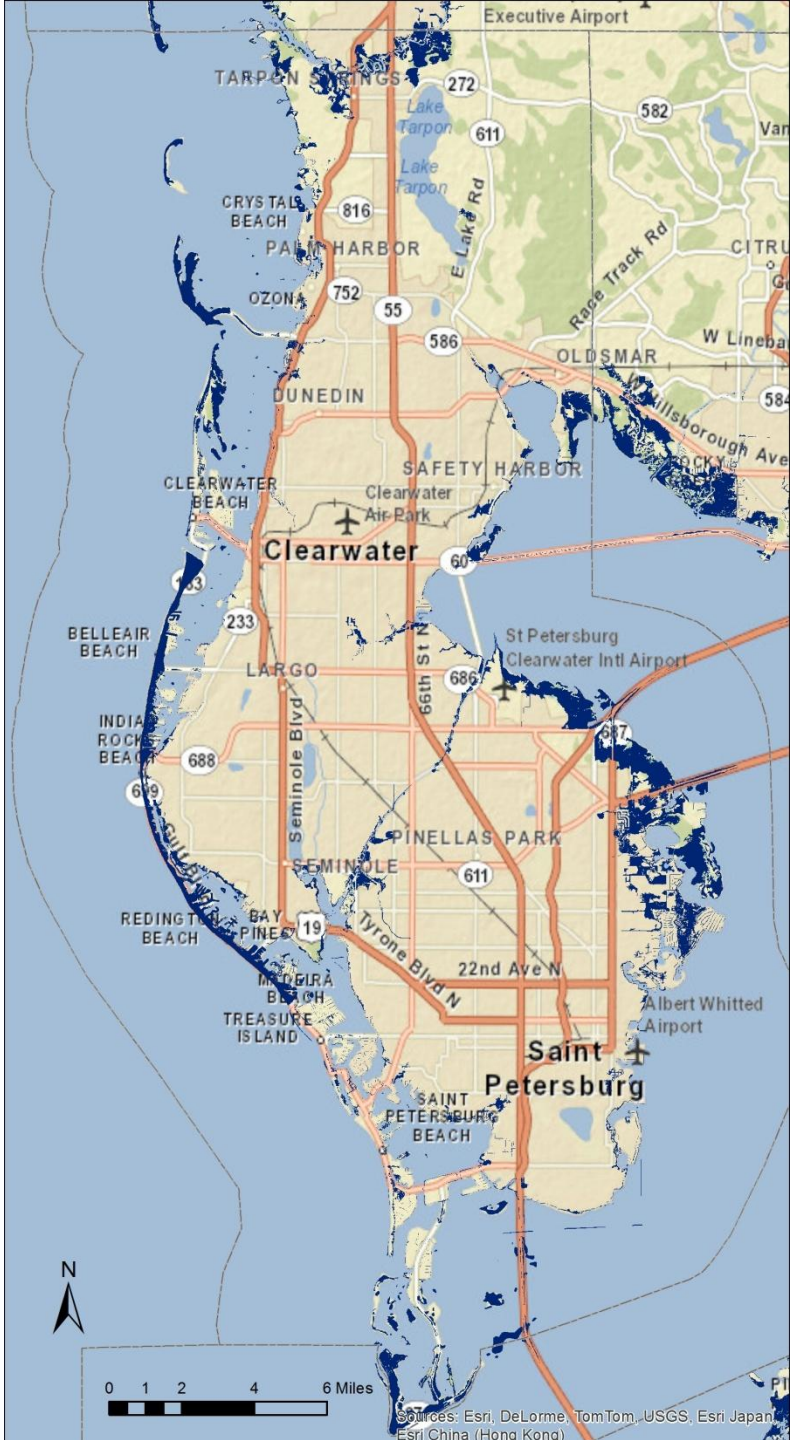
Executive Airport
TARPON SPRINGS
Lake Tarpon
Lake Tarpon
CRYSTAL BEACH
PALM HARBOR
OZONA
E Lake Rd
Race Track Rd
OLDSMAR
DUNEDIN
SAFETY HARBOR
CLEARWATER BEACH
Clearwater Air Park
Clearwater
BELLEAIR BEACH
LARGO
St Petersburg Clearwater Intl Airport
66th St N
Seminole Blvd
INDIAN ROCKS BEACH
PINELLAS PARK
SEMINOLE
REDINGTON BEACH
BAY PINES
Tyrone Blvd N
22nd Ave N
MADEIRA BEACH
TREASURE ISLAND
Albert Whitted Airport
Saint Petersburg
SAINT PETERSBURG BEACH
N
0 1 2 4 6 Miles
Sources: Esri, DeLorme, TomTom, USGS, Esri Japan, Esri China (Hong Kong)

Clearwater Air Park
Clearwater Harbor
Belleair
Largo
Harbor Bluffs
Ridgecrest
Walsingham Rd
Seminole
Boca Ciega Bay
Bay Pines
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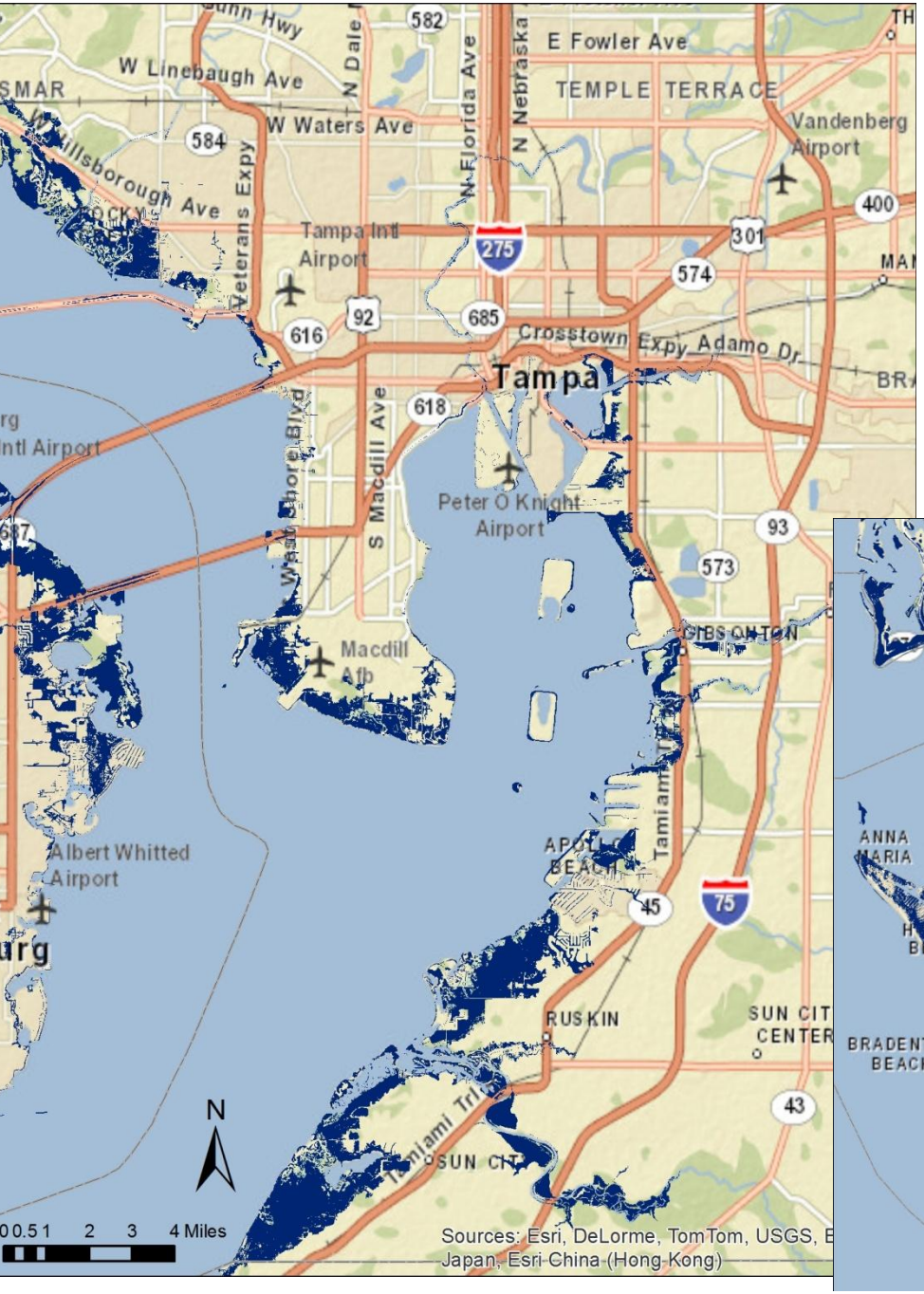
E Fowler Ave
TEMPLE TERRACE
W Linebaugh Ave
W Waters Ave
Vandenberg Airport
Tampa Intl Airport
Veterans Expy
N Florida Ave
N Nebraska
Crosstown Expy
Adamo Dr
Tampa
S Macdill Ave
Peter O Knight Airport
Macdill Afb
Albert Whitted Airport
Tamiami Trl
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SUN CITY CENTER
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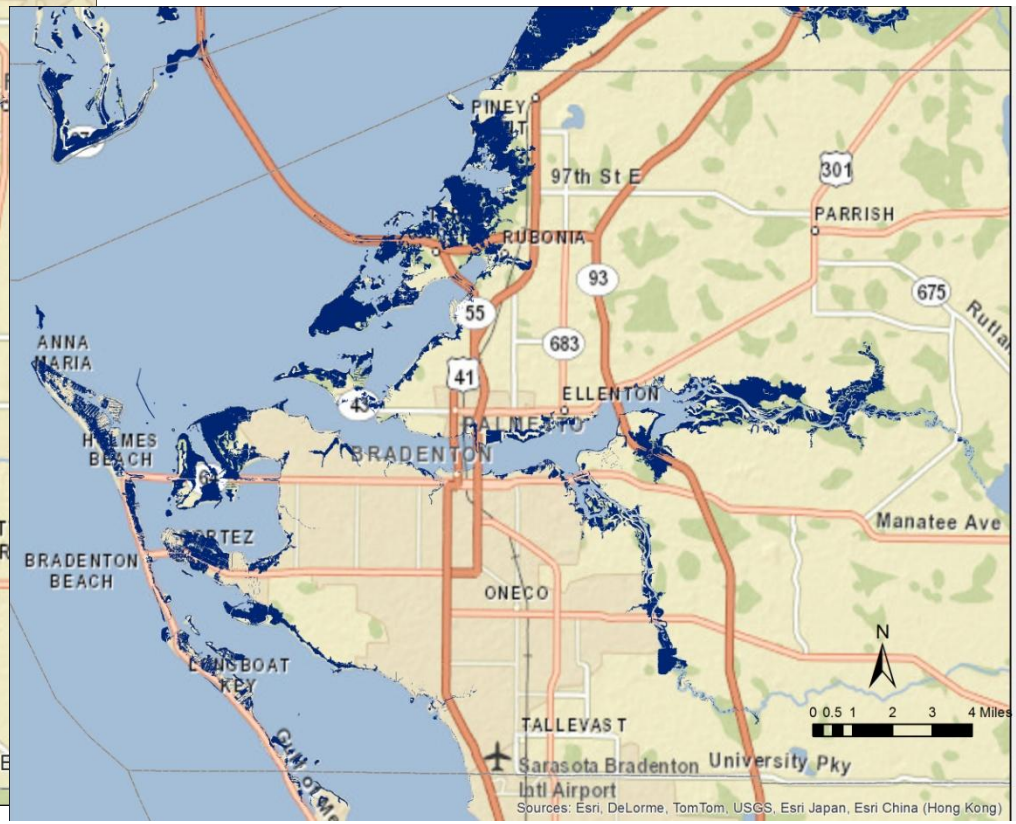
Sources: Esri, DeLorme, TomTom, USGS, E
Japan, Esri China (Hong Kong)


PINEY
97th St E
PARRISH
RUBONIA
ANNA MARIA
ELLENTON
BRADENTON
Manatee Ave
BRADENTON BEACH
ONECO
TALLEVAST
Sarasota Bradenton Intl Airport
University Pky
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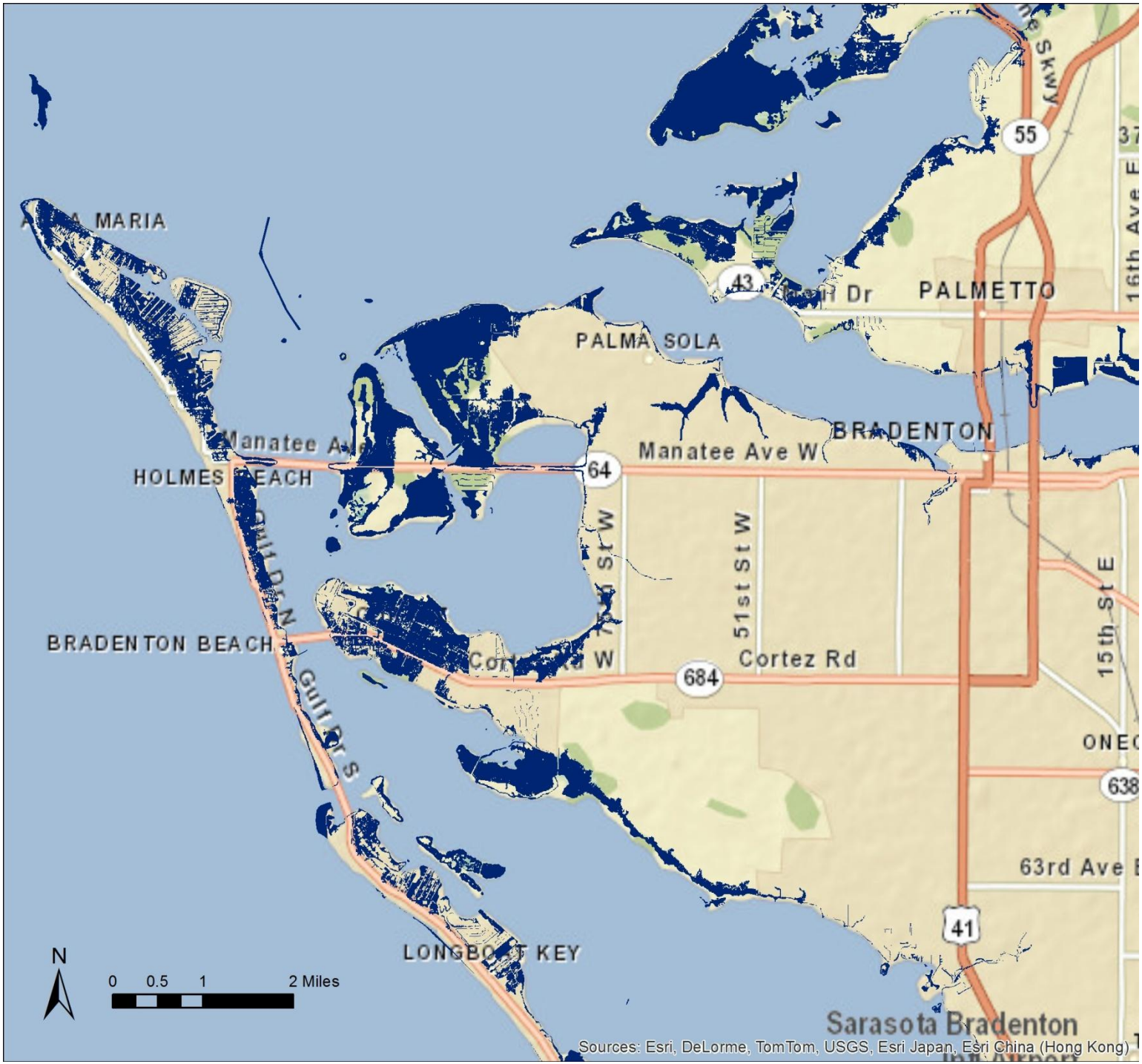
0 0.5 1 2 3 4 Miles
Sources: Esri, DeLorme, TomTom, USGS, Esri Japan, Esri China (Hong Kong)


MARIA
PALMETTO
PALMA SOLA
BRADENTON
Manatee Ave W
HOLMES BEACH
BRADENTON BEACH
Cortez Rd
51st St W
15th St E
LONGBOAT KEY
63rd Ave
Sarasota Bradenton
55
43
64
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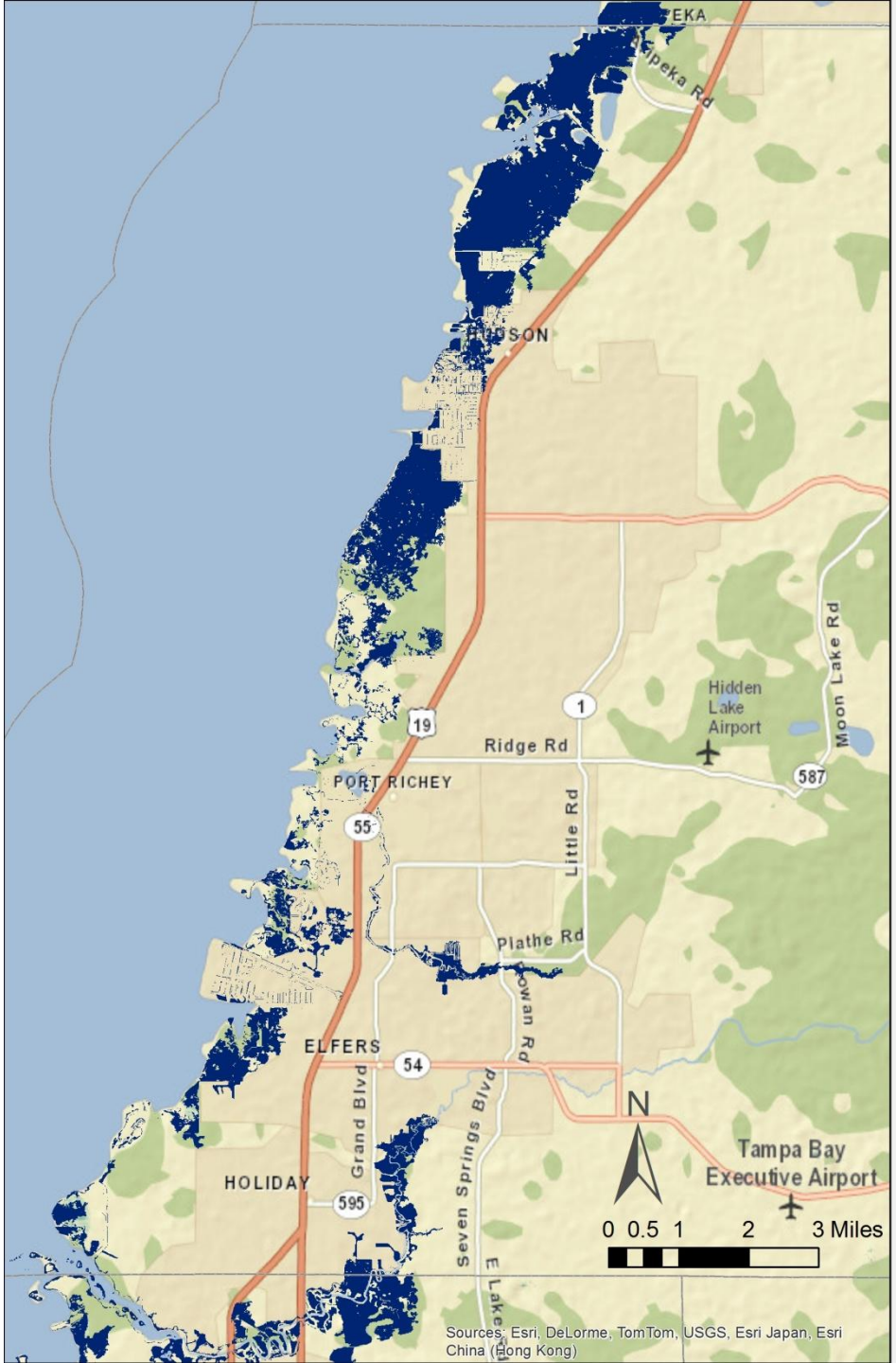
0 0.5 1 2 Miles
Sources: Esri, DeLorme, TomTom, USGS, Esri Japan, Esri China (Hong Kong)



Ridge Rd
PORT RICHEY
Little Rd
Plathe Rd
Hidden Lake Airport
Moon Lake Rd
ELFERS
Grand Blvd
Seven Springs Blvd
HOLIDAY
Tampa Bay Executive Airport
N
0 0.5 1 2 3 Miles
Sources: Esri, DeLorme, TomTom, USGS, Esri Japan, Esri China (Hong Kong)