

FLORIDA STATEWIDE REGIONAL EVACUATION STUDY PROGRAM





DIRECTIONAL ATLAS

MONROE GOUNTY

VOLUME 10-11 BOOK 3A

N-NE DIRECTIONAL STORMS

FLORIDA DIVISION OF **EMERGENCY MANAGEMENT**

> SOUTH FLORIDA REGIONAL COUNCIL

SOUTH FLORIDA REGION









SOUTH FLORIDA STORM TIDE DIRECTIONAL ATLAS

Volume 10-11 Book 3A – Monroe County N-NE Direction

This Atlas is part of Volume 10 of the *Statewide Regional Evacuation Study Program* (SRESP), and one of three sets of county books in the *South Florida Storm Tide Directional Atlas* series. Book 1 covers Broward County; Book 2 covers Miami-Dade County; and Book 3 covers Monroe County. In each county, the primary volume presents an overview of the study and the methodology, while the Appendices, numbered from A to E, include the surge inundation maps for each of five directional storm clusters. The Atlas maps identify those areas subject to potential storm tide flooding from the five categories of hurricane on the Saffir-Simpson Hurricane Wind Scale, as determined by the National Oceanic and Atmospheric Administration (NOAA) numerical storm surge model, Sea, Lake and Overland Surges from Hurricanes (SLOSH). Volume 10 is unique in that it is based on the direction the storm is heading and depicts the resulting surge of storms approaching from that specific directional angle.

The *Storm Tide Directional Atlas* series supplements the original hazards analysis for storm tides (Volume 7-11) and depth (Volume 9-11), and enhances a key component of the SRESP. The *Technical Data Report* (Volume 1-11) was built upon the original storm tide analysis and includes the evacuation zones and population estimates, results of the evacuation behavioral data, shelter analysis and evacuation transportation analysis. The study, which provides vital information to state and local emergency management, forms the basis for county evacuation plans. The final study documents are available on the Internet at http://www.sfregionalcouncil.org/sresp.htm.

This Atlas series was produced by the South Florida Regional Council with funding from the Federal Emergency Management Agency, through the Florida Division of Emergency Management.



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CREDITS AND ACKNOWLEDGEMENTS



Funding was provided by the Florida Legislature with funds from the Federal Emergency Management Agency (FEMA), through the Florida Division of Emergency Management (FDEM), 2555 Shumard Oak Boulevard, Tallahassee, 32399, www.floridadisaster.org. Local match was provided by the counties of Broward, Miami-Dade and Monroe.

The Council acknowledges and extends its appreciation to the following agencies and people for their cooperation and assistance in the development of this Atlas:

National Oceanic and Atmospheric Administration (NOAA/TPC-NHC) for the SLOSH numerical storm surge model developed by the late Chester L. Jelesnianski, the development of the 2009 Biscayne Bay and Florida Bay Basins under the management of Jamie Rhome, and for the storm tide computation and interpretation provided by the NOAA Storm Surge Modeling team.

Florida Division of Emergency Management

Bryan Koon, Director Andrew Sussman, Hurricane Program Manager Richard Butgereit, GIS Manager

Northeast Florida Regional Council

Elizabeth Payne, Project Manager

Florida Emergency Preparedness Association

For their support in this statewide effort

County Emergency Management Agencies

Miguel Ascarrunz, Director, Broward County Emergency Management Division

Curtis Sommerhoff, Director, Miami-Dade County Department of Emergency Management and Homeland Security

Irene Toner, Director, Monroe County Emergency Management Department





















A. Storm Tide Directional Atlas

The surge inundation limits (directional maximum surge heights minus the ground elevations) are provided as GIS shape files and graphically displayed on maps in the *Directional Storm Tide Atlas* for the South Florida Region. The Atlas was prepared by the South Florida Regional Council under contract to the State of Florida, Division of Emergency Management, as part of this study effort. The maps prepared for the Atlas consist of base maps (1:24000) including topographic, hydrographic and highway files (updated using 2008 county and state highway data). Detailed shoreline and storm tide limits for each category of storm were determined using the region's geographic information system (GIS).

The purpose of the maps contained in this Atlas is to reflect a worst probable scenario of the hurricane storm tide inundation for a given cluster of compass directions that a storm would be heading and to provide a basis for the hurricane evacuation zones and study analyses. While the storm tide delineations include the addition of an astronomical mean high tide and tidal anomaly, it should be noted that the data reflects only stillwater saltwater flooding. Local processes such as waves, rainfall and flooding from overflowing rivers, are usually included in observations of storm tide height, but are not surge and are not calculated by the SLOSH model. It is incumbent upon local emergency management officials and planners to estimate the degree and extent of freshwater flooding as well as to determine the magnitude of the waves that will accompany the surge.

Although the methodology used for surge determination in this Atlas does the most to reduce inconsistencies and human subjectivity, factors remain in the data itself that could show variations from previous efforts and results. Whenever a SLOSH basin is changed in any way, results can vary. Using MEOW (Maximum Envelope of Water) data as we do in this directional atlas, instead of the MOM (Maximum of Maximums) data, and choosing directional subsets of the maximums (MOMs) will indeed produce different results than other atlases – and this was expected. Other factors can include different elevation model data, as well as number and scope of selected SLOSH basin grid cells. Also, any data that is beyond the original extent or boundary of the basin is interpolation influenced by the modeling trend up to that location, and hand adaptation of basin extensions.

Figure 1 shows the projected surge inundation for each category of storm for storms moving in a N-NE direction. Figure 2 provides an index of the N-NE directional map series for Monroe County.

B. Points of Reference

County emergency management agencies selected reference points, which include key facilities or locations critical for emergency operations. The Table 1 includes the map identification number, descriptions of the selected points, and the elevation of the site. The elevation is based on the digital elevation data provided by LiDAR. It should be noted that if the site is large, elevations may vary significantly. Table 1 also provides the storm tide value from the SLOSH value and the depth of inundation (storm tide value minus the ground elevation) at the site.

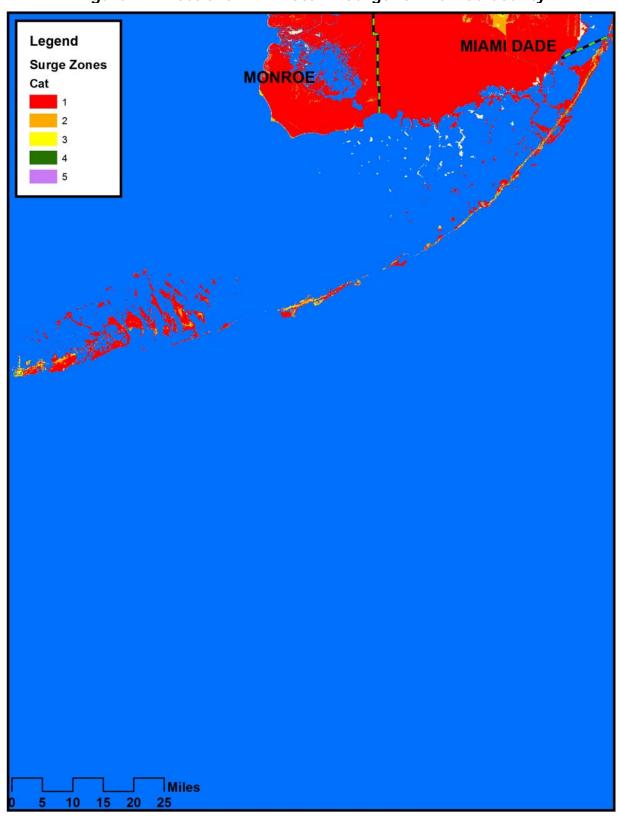


Figure 1 Directional N-NE Storm Surge for Monroe County

Table 1 Selected Points of Reference, N-NE Direction – Monroe County

Marker		C1	C2	C3	C4	C5	C1 2	C2	C3	C4	C5
ID#	Elevation	Depth ¹	Depth	Depth	Depth	Depth	Surge ²	Surge	Surge	Surge	Surge
0	10.059	0.00	0.00	0.00	0.00	0.00	2.49	3.80	5.80	7.70	8.70
1	4.741	0.00	0.00	1.19	3.09	4.12	2.49	3.80	5.80	7.70	8.70
2	2.607	0.12	1.07	3.38	6.33	7.20	2.60	3.20	6.00	9.50	10.30
3	2.691	0.04	1.02	3.21	6.10	6.92	2.60	3.20	6.00	9.50	10.30
4	3.393	0.00	1.13	2.96	5.47	6.24	2.64	4.10	5.93	8.70	9.20
5	5.975	0.00	0.00	0.00	1.99	4.95	2.00	2.90	6.40	8.20	12.40
6	13.506	0.00	0.00	0.00	0.00	0.00	2.70	4.40	5.80	7.20	8.80
7	2.655	0.00	2.44	4.09	5.95	6.98	2.69	5.30	7.00	8.90	9.90
8	12.702	0.00	0.00	0.00	0.00	0.00	2.80	4.70	6.20	7.70	9.10
9	3.638	0.00	0.84	3.27	6.92	7.81	2.72	5.00	7.40	11.00	11.90
10	2.980	0.03	1.37	4.69	8.85	9.32	2.10	3.00	6.80	11.20	11.50
11	5.285	0.00	0.00	1.15	4.50	5.00	2.10	3.00	6.80	11.20	11.50
12	6.036	0.00	0.00	0.14	2.38	3.20	2.80	4.70	6.40	8.60	9.40
13	5.086	0.00	0.00	1.90	3.35	3.82	2.90	4.80	6.80	7.90	8.50
14	2.966	0.00	2.22	4.81	6.01	6.44	3.10	5.50	8.20	9.40	9.80
15	8.073	0.00	0.00	0.73	3.11	3.76	2.80	5.50	7.50	10.80	11.40
16	6.064	0.00	0.00	1.15	3.15	4.42	3.10	5.10	7.30	8.20	10.00
17	4.566	0.00	0.94	2.95	4.65	5.68	3.40	6.00	7.80	10.20	10.50
18	3.041	0.00	2.08	4.09	5.35	6.67	3.20	5.30	7.40	8.60	10.10
19	4.073	0.00	1.51	3.12	4.27	5.01	2.70	6.10	7.80	8.80	9.50
20	4.288	0.00	1.41	2.67	4.09	4.76	2.60	5.90	7.10	8.50	9.20
21	3.867	0.35	3.01	4.68	5.84	6.72	2.60	5.90	7.10	8.50	9.20
22	4.332	1.90	4.00	5.76	6.86	7.88	3.20	5.00	7.10	8.10	9.10
23	1.573	0.97	2.81	4.38	5.60	7.00	3.20	4.90	6.60	7.80	9.20
24	6.646	0.00	0.00	0.00	0.59	2.21	3.10	4.70	6.70	7.80	9.40
25	1.752	0.75	2.11	3.98	5.35	6.95	3.20	4.70	6.50	8.00	9.50
26	0.000	0.00	0.00	0.00	0.00	0.00	2.00	5.40	6.90	9.20	9.40
27	4.061	0.00	0.75	2.26	3.86	5.11	3.00	4.50	6.20	7.50	9.20
28	0.000	0.00	0.00	0.00	0.00	0.00	3.00	4.50	6.20	7.50	9.20

Depth refers to the depth of inundation at the site (storm surge value minus the ground elevation)
 Surge refers to the storm surge value from the SLOSH Model

Marker ID#	Elevation	C1 Depth ¹	C2 Depth	C3 Depth	C4 Depth	C5 Depth	C1 Surge ²	C2 Surge	C3 Surge	C4 Surge	C5 Surge
29	6.994	0.00	0.00	0.00	0.04	3.02	3.00	4.40	5.80	7.20	10.30
30	4.007	0.00	0.24	1.50	2.90	6.19	2.80	4.40	5.60	7.00	10.30
31	6.036	0.00	0.00	0.00	0.74	3.38	2.70	4.10	5.50	7.00	9.60
32	4.613	0.00	0.00	0.21	1.82	4.09	2.50	4.00	5.30	7.20	9.20
33	0.000	0.00	0.00	0.00	0.00	0.00	2.90	4.50	6.50	7.70	10.20
34	6.963	0.00	0.00	0.00	0.50	2.61	2.90	4.60	6.40	7.80	9.80
35	12.071	0.00	0.00	0.00	0.00	0.00	2.50	3.90	5.30	6.70	9.60
36	0.000	0.00	0.00	0.00	0.00	0.00	2.80	4.40	6.10	7.60	11.40
37	5.020	0.00	0.00	0.65	2.10	4.58	2.80	4.40	6.10	7.60	11.40
38	4.760	0.00	0.00	1.57	2.74	3.92	2.80	4.50	6.30	7.50	8.70
39	0.000	0.00	0.00	0.00	0.00	0.00	2.40	3.70	5.10	7.00	8.40
40	14.615	0.00	0.00	0.00	0.00	0.00	2.60	4.20	5.90	7.30	8.70
41	0.000	0.00	0.00	0.00	0.00	0.00	2.50	4.00	5.70	7.00	8.50
42	0.000	0.00	0.00	0.00	0.00	0.00	2.50	4.00	5.70	7.00	8.50
43	0.000	0.00	0.00	0.00	0.00	0.00	2.50	3.90	5.60	7.00	8.50
44	0.000	0.00	0.00	0.00	0.00	0.00	2.40	3.70	5.30	6.80	8.40
45	0.000	0.00	0.00	0.00	0.00	0.00	2.40	3.60	5.40	6.70	8.30
46	0.000	0.00	0.00	0.00	0.00	0.00	2.30	3.70	5.40	6.80	8.20
47	8.060	0.00	0.00	0.00	0.00	0.00	1.80	3.10	4.70	6.20	7.70
48	3.277	0.00	0.19	1.84	3.30	4.19	2.13	3.95	5.60	7.10	7.70
49	4.370	0.00	0.00	1.66	3.03	3.88	2.13	3.95	5.60	7.10	7.70
50	3.905	0.00	0.32	3.08	3.91	4.95	2.33	4.50	7.00	8.10	9.40
51	4.269	0.00	0.00	2.76	3.47	3.88	2.42	4.10	7.20	8.00	8.40
52	4.092	0.00	0.77	2.73	4.19	4.50	2.42	4.90	6.80	8.10	8.50
53	5.112	0.00	0.00	1.15	3.38	3.58	1.90	4.30	6.50	8.90	8.90
54	4.713	0.00	0.58	2.62	4.28	4.88	2.50	4.40	6.50	8.00	8.70
55	5.707	0.00	0.00	2.29	4.28	5.04	2.40	4.40	6.90	9.20	9.80
56	2.932	0.00	1.12	3.48	4.89	6.21	3.60	4.60	7.00	8.30	10.10
57	3.096	0.00	1.34	3.57	4.84	6.27	2.80	4.60	6.60	7.90	9.10
58	2.645	0.11	1.75	3.72	4.99	6.21	2.50	4.30	6.70	7.90	9.00
59	3.660	0.00	0.62	2.18	3.52	4.93	3.30	4.50	6.10	7.40	8.80
60	5.364	0.00	0.00	0.00	1.18	2.57	2.10	3.70	5.30	6.70	7.90
61	3.563	0.00	0.00	0.69	2.49	4.68	2.10	3.20	4.70	6.50	8.70
62	7.959	0.00	0.00	0.00	0.00	0.14	2.50	4.00	5.50	7.20	8.70

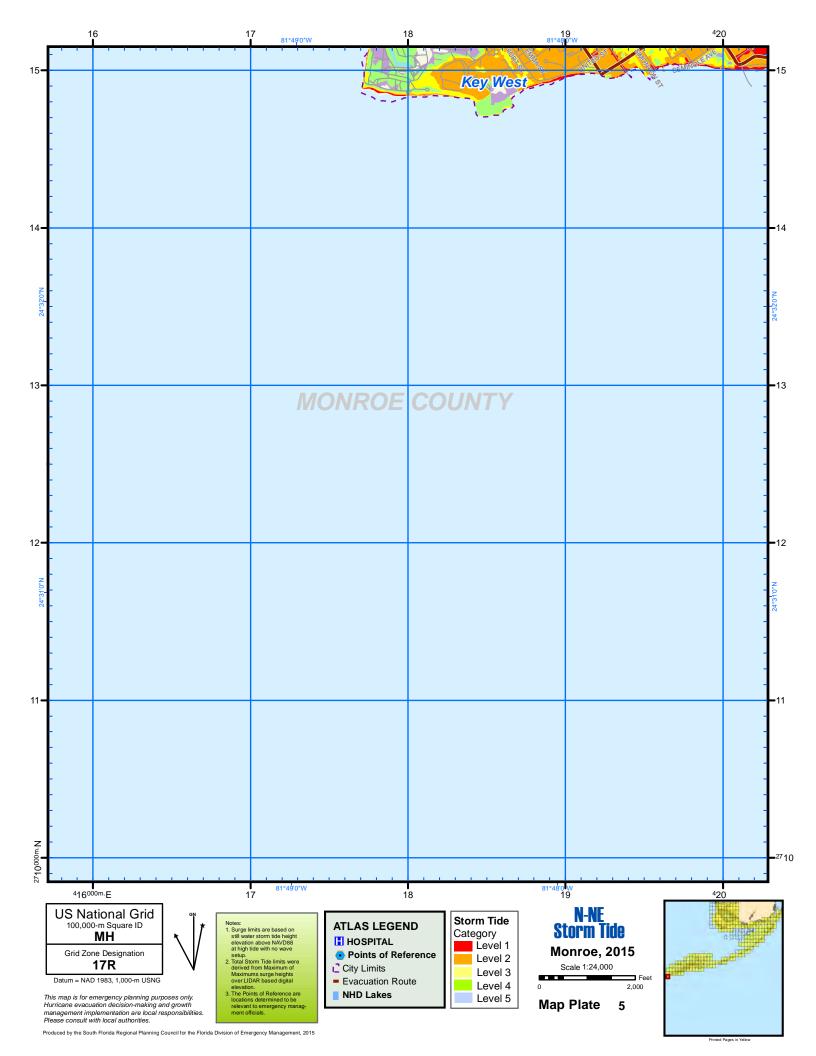
Marker ID#	Elevation	C1 Depth ¹	C2 Depth	C3 Depth	C4 Depth	C5 Depth	C1 Surge ²	C2 Surge	C3 Surge	C4 Surge	C5 Surge
63	9.015	0.00	0.00	0.00	0.00	0.00	2.10	3.40	4.80	6.40	8.00
64	0.000	0.00	0.00	0.00	0.00	0.00	2.20	3.60	5.00	6.60	8.10
65	0.000	0.00	0.00	0.00	0.00	0.00	2.30	3.70	5.20	6.70	8.20
66	2.525	0.30	1.50	3.11	4.83	6.30	1.80	2.90	4.60	6.50	8.00
67	2.574	0.52	1.82	3.35	4.78	6.28	2.80	4.30	5.60	6.60	8.10
68	3.456	0.00	0.72	2.53	3.80	5.25	1.60	2.70	4.80	6.30	7.80
69	2.297	0.16	1.54	2.89	4.18	5.41	2.80	4.30	5.60	6.70	7.80
70	5.317	0.00	0.00	1.44	2.75	4.53	1.70	2.70	4.20	5.50	7.40
71	0.000	0.00	0.00	0.00	0.00	0.00	1.70	2.60	3.90	5.60	7.20
72	8.367	0.00	0.00	0.00	0.00	0.00	2.60	4.20	5.50	6.90	8.30
73	0.000	0.00	0.00	0.00	0.00	0.00	2.60	4.20	5.30	6.70	7.90
74	2.194	0.28	1.88	3.24	4.45	5.47	2.70	4.40	5.50	6.70	7.90
75	2.451	0.16	1.98	3.29	4.41	5.40	2.70	4.60	5.80	6.90	8.10
76	2.876	0.00	1.35	2.73	3.98	5.95	2.70	4.50	5.60	7.00	9.10
77	3.667	0.00	0.10	1.90	2.95	5.67	2.60	4.20	5.50	6.80	9.10
78	0.000	0.00	0.00	0.00	0.00	0.00	2.60	4.20	5.50	6.80	9.10
79	3.546	0.00	0.00	0.75	1.91	3.12	1.90	3.00	4.20	5.30	6.70
80	4.008	0.00	0.00	0.73	2.08	3.32	1.90	3.00	4.10	5.30	6.70
81	7.454	0.00	0.00	0.00	0.00	0.35	2.10	3.40	4.70	6.10	7.20
82	8.102	0.00	0.00	0.00	0.00	0.07	2.37	3.80	7.00	7.50	8.40
83	6.194	0.00	0.00	0.00	0.70	1.86	2.35	3.77	5.00	6.80	7.90
84	0.000	0.00	0.00	0.00	0.00	0.00	2.60	4.00	5.50	7.00	8.40
85	4.906	0.00	0.00	0.00	1.27	2.54	2.40	3.80	4.90	6.30	7.60
86	8.167	0.00	0.00	0.00	0.00	0.31	1.90	3.80	5.10	6.50	8.50
87	8.171	0.00	0.00	0.00	0.00	1.08	2.80	4.50	6.00	7.70	8.90
88	7.211	0.00	0.00	0.00	1.30	2.41	2.72	4.47	5.89	8.30	9.40
89	6.315	0.00	0.00	0.00	1.38	2.86	2.82	4.80	6.10	7.40	8.90
90	4.857	0.00	0.06	1.37	3.01	4.55	2.92	4.90	6.40	7.50	9.10
91	5.902	0.00	0.00	0.32	2.52	5.24	3.00	5.00	6.40	8.70	11.80
92	7.074	0.00	0.00	0.00	1.57	4.09	3.20	5.00	6.50	8.60	10.60
93	2.251	0.91	3.37	4.57	6.50	8.61	3.08	5.70	6.70	8.70	11.20
94	7.940	0.00	0.00	0.00	1.10	2.50	3.10	5.40	7.00	8.70	10.10
95	4.314	0.00	1.09	3.34	4.13	5.78	3.13	5.50	7.90	8.70	10.30
96	8.715	0.00	0.00	0.00	0.28	2.10	3.20	5.42	7.90	9.00	10.80

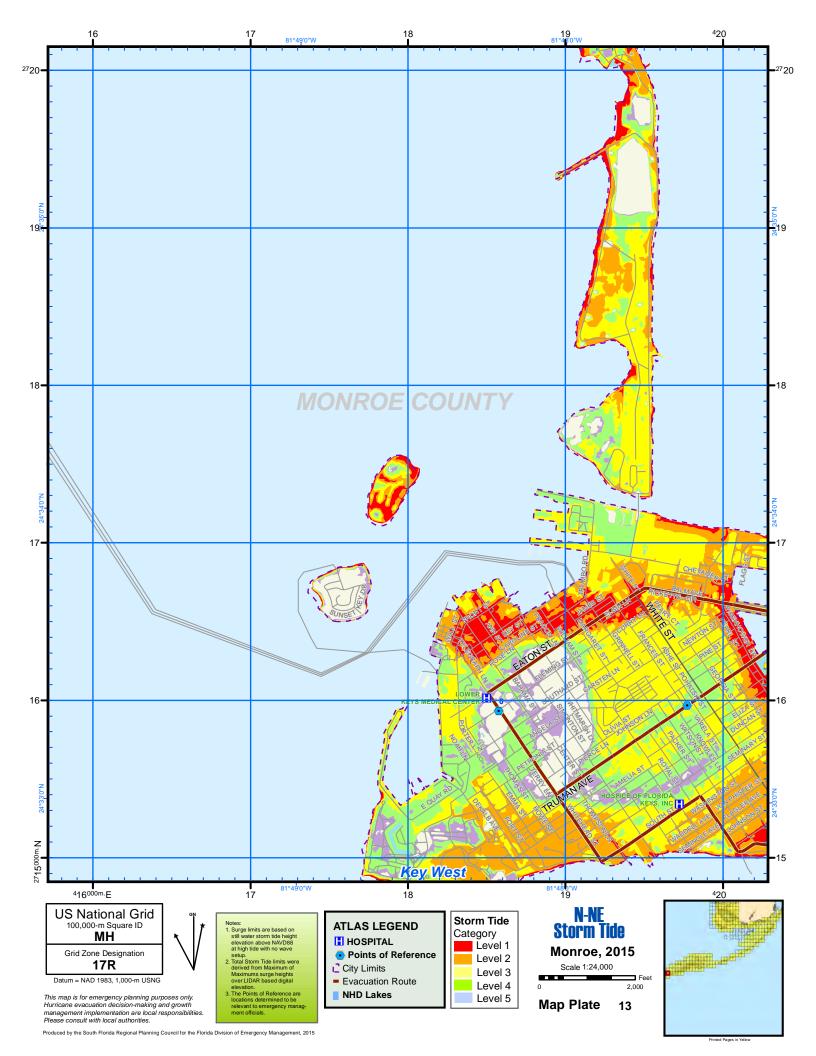
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97	9.549	0.00	0.00	0.00	0.00	1.58	3.27	5.58	7.60	8.60	11.10
98	9.138	0.00	0.00	0.00	0.00	2.52	3.27	5.55	7.70	9.00	11.60
99	9.345	0.00	0.00	0.00	0.16	3.49	3.36	6.00	7.90	9.50	12.50
100	8.373	0.00	0.00	0.00	1.45	5.53	3.34	6.00	8.20	9.70	14.20
101	10.942	0.00	0.00	0.00	0.00	2.75	3.43	6.10	8.20	10.10	14.20
102	11.087	0.00	0.00	0.00	0.00	2.28	3.60	6.30	8.40	10.30	14.00
103	11.512	0.00	0.00	0.00	0.00	0.77	3.40	5.70	7.70	9.60	12.10
104	11.428	0.00	0.00	0.00	0.02	2.15	3.40	5.88	7.95	11.30	13.20
105	9.875	0.00	0.00	0.00	0.00	1.66	3.38	6.30	8.40	10.50	12.10
106	10.171	0.00	0.00	0.00	0.00	2.76	3.34	5.92	7.80	9.40	13.20
107	0.000	0.00	0.00	0.00	0.00	0.00	3.28	6.40	8.60	10.20	12.60
108	0.000	2.46	5.21	7.50	9.07	10.35	3.30	6.10	8.40	10.10	11.40
109	-1.343	4.88	7.24	9.44	10.78	11.96	3.80	6.00	8.20	9.60	10.80
110	0.000	3.69	6.19	8.38	9.73	10.57	3.40	5.80	8.00	9.40	10.00
111	0.000	2.45	4.77	6.99	8.30	8.94	3.50	5.80	8.00	9.30	9.90
112	0.000	1.41	3.63	5.86	7.09	7.76	3.60	5.80	8.00	9.20	9.90

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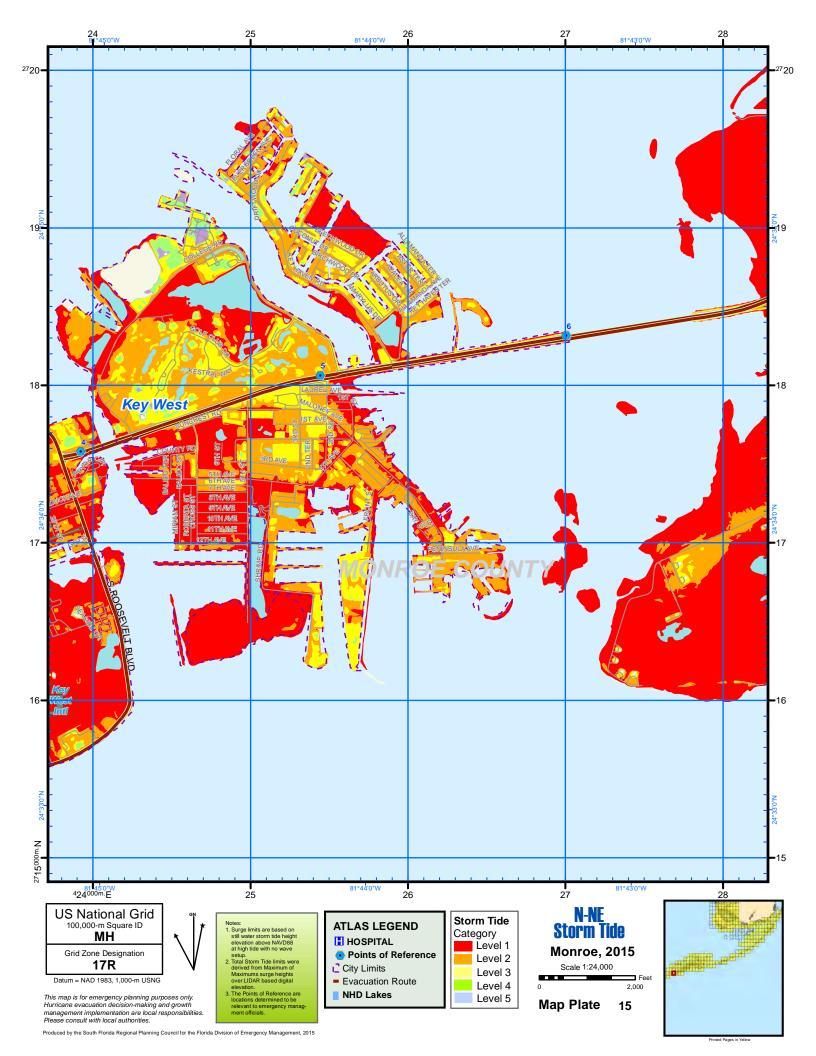
Figure 2 N-NE Atlas Map Index

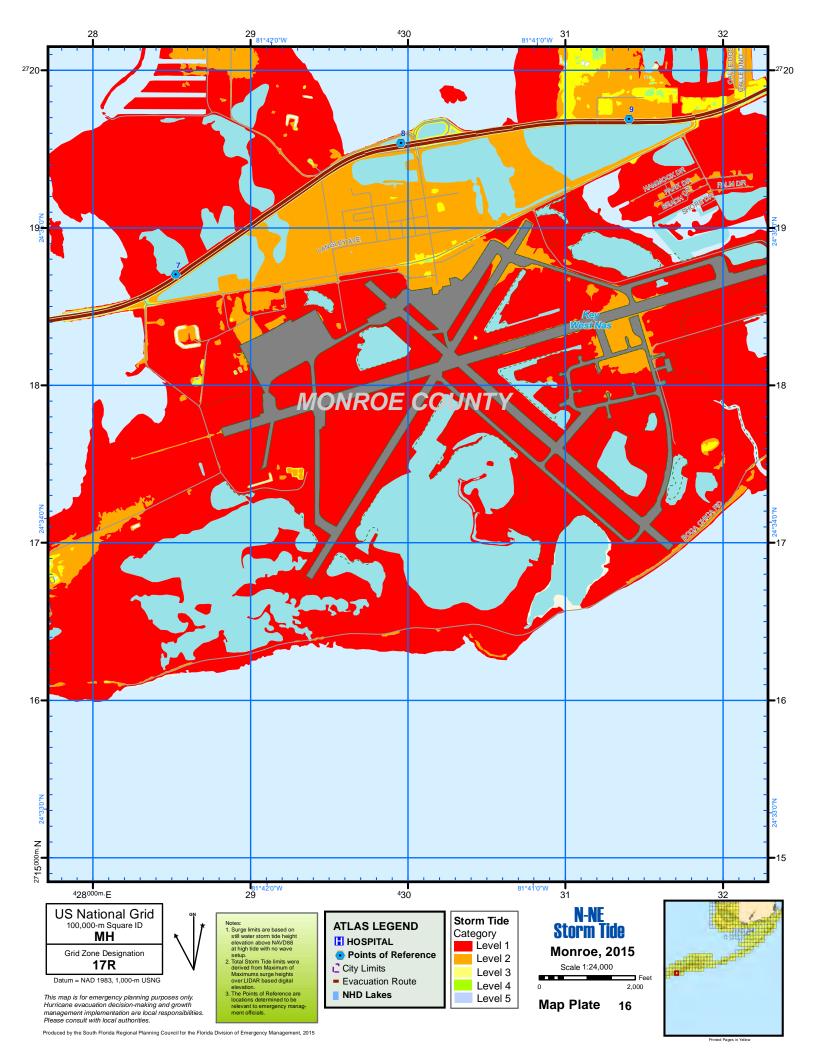
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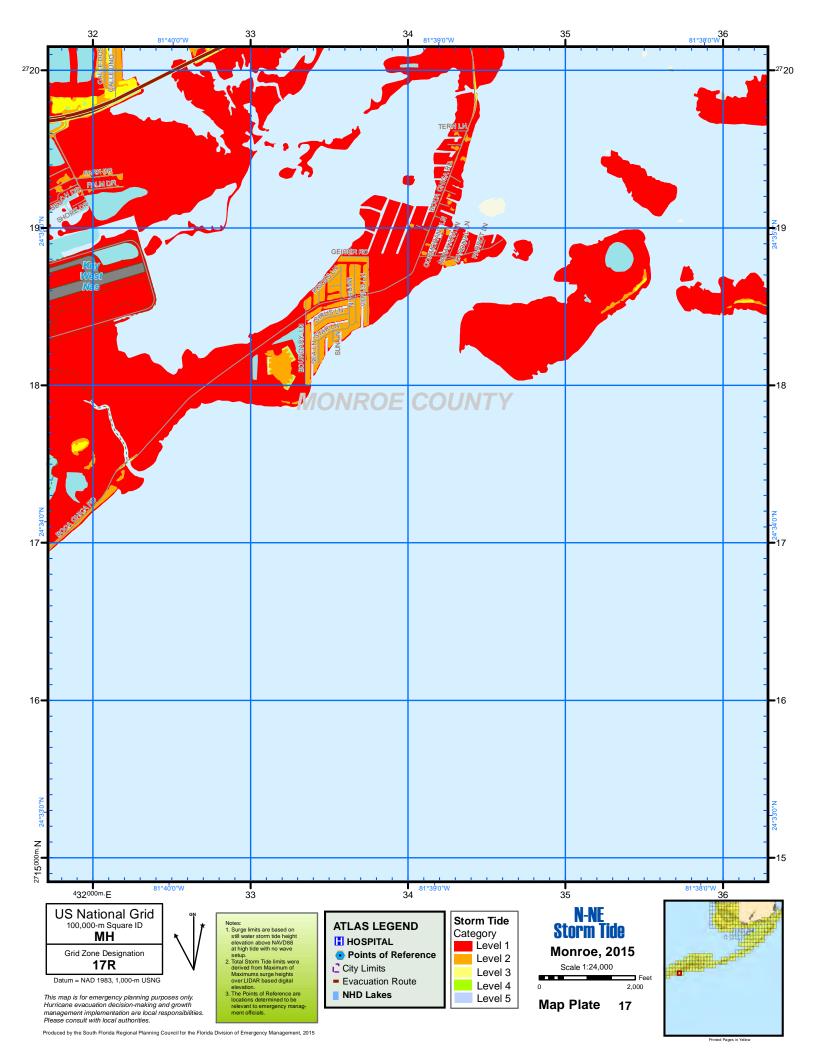


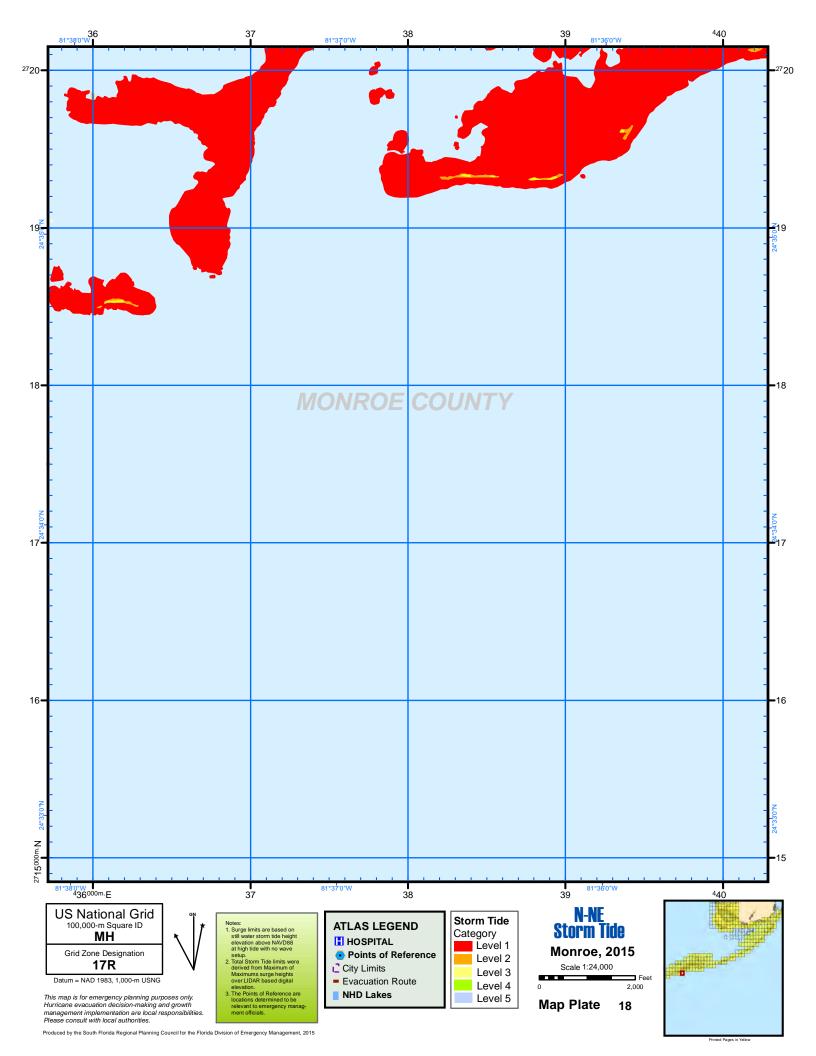


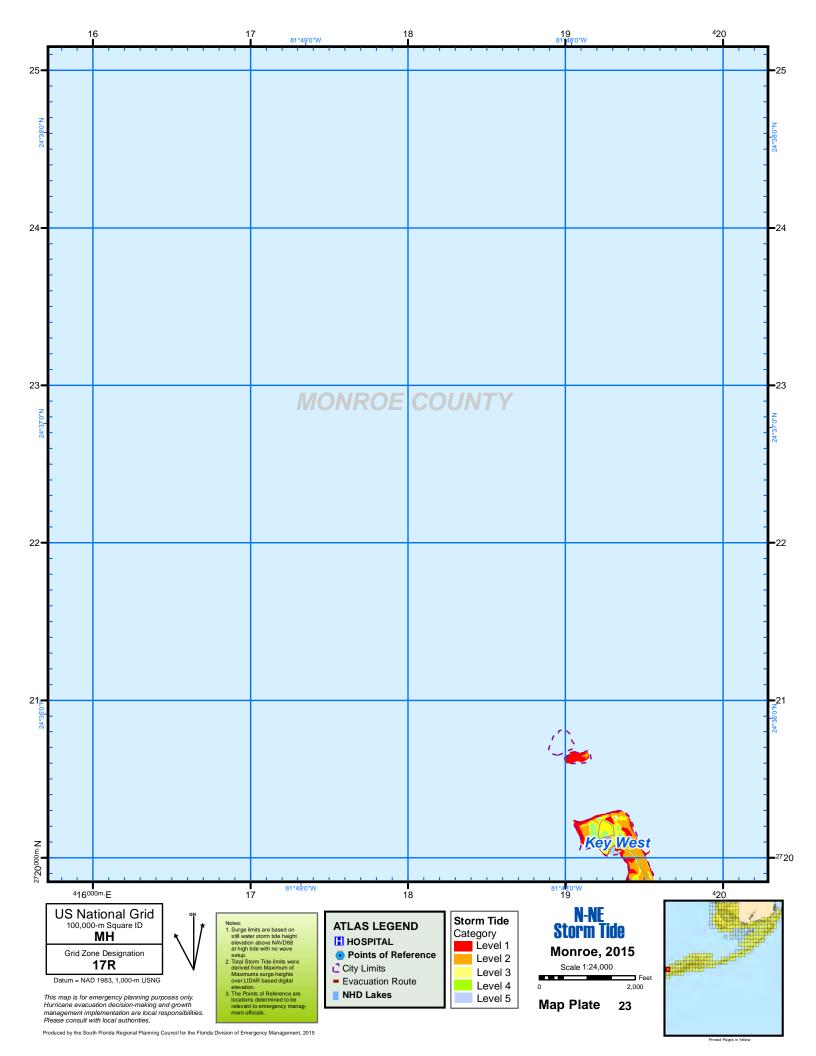


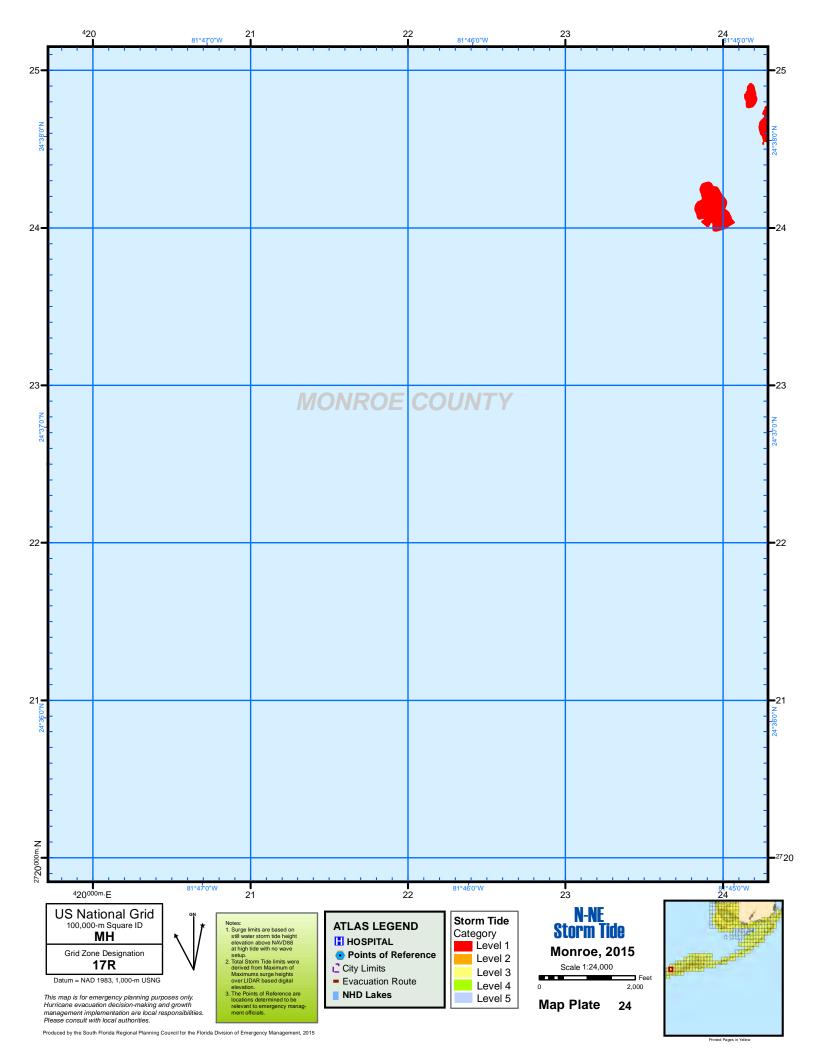


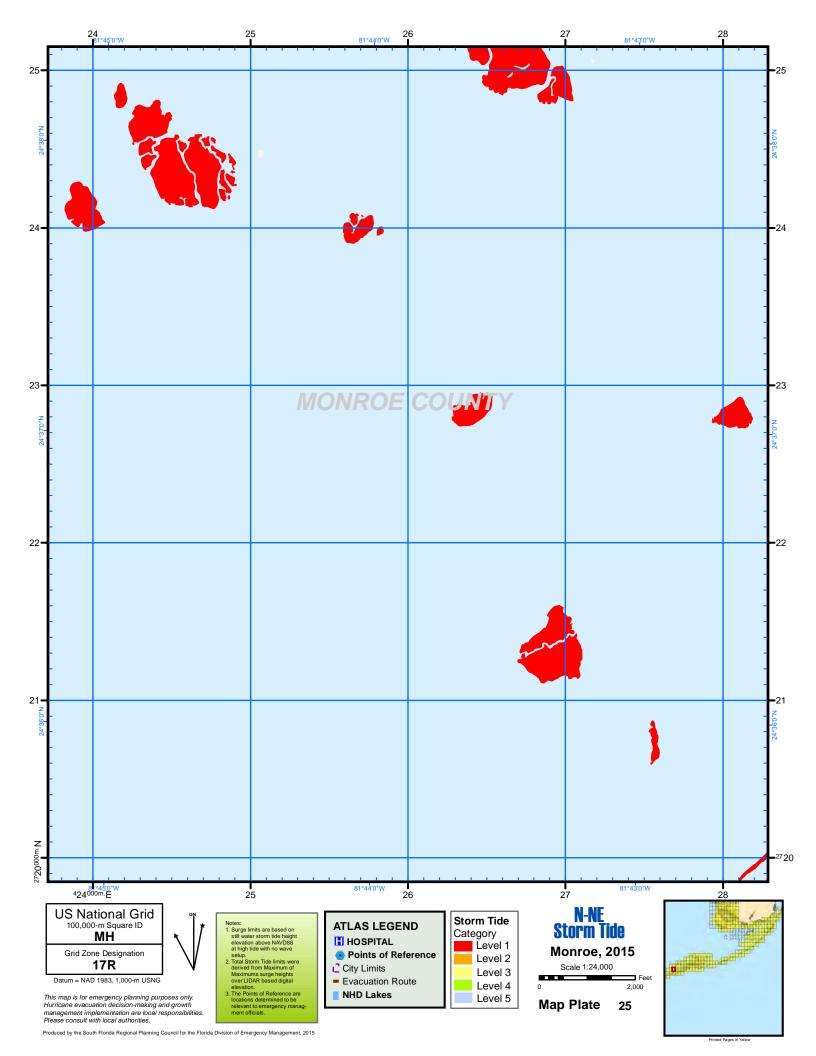


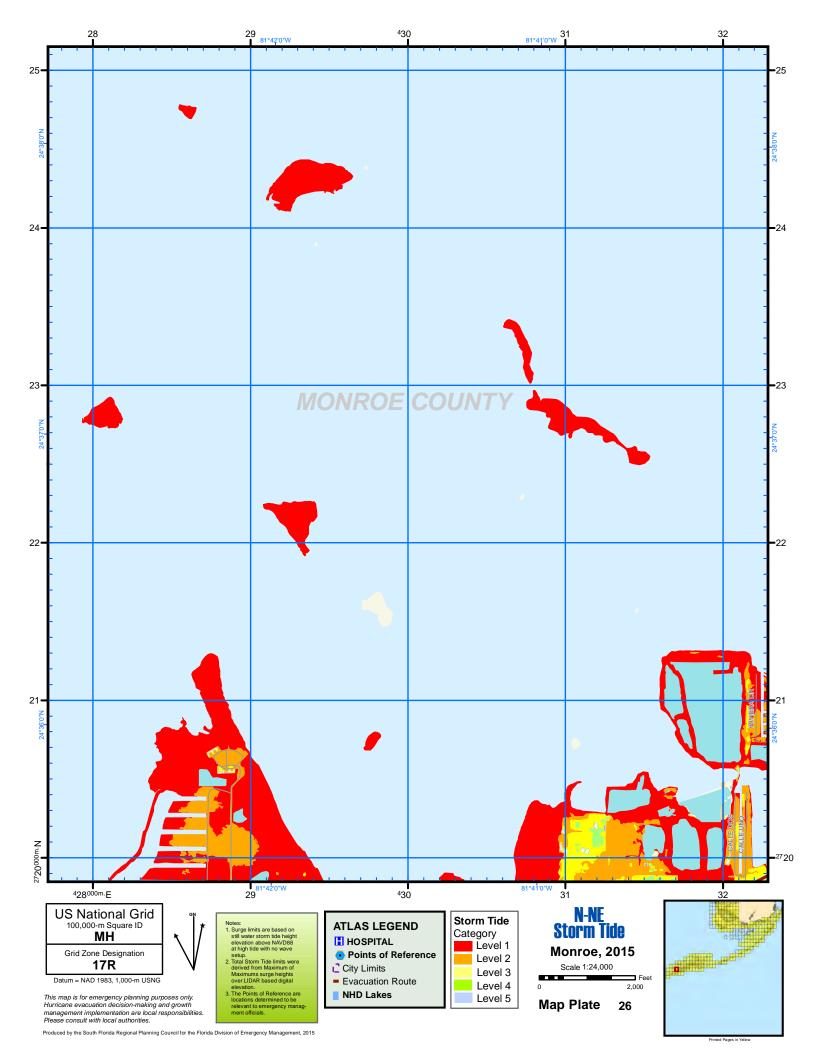


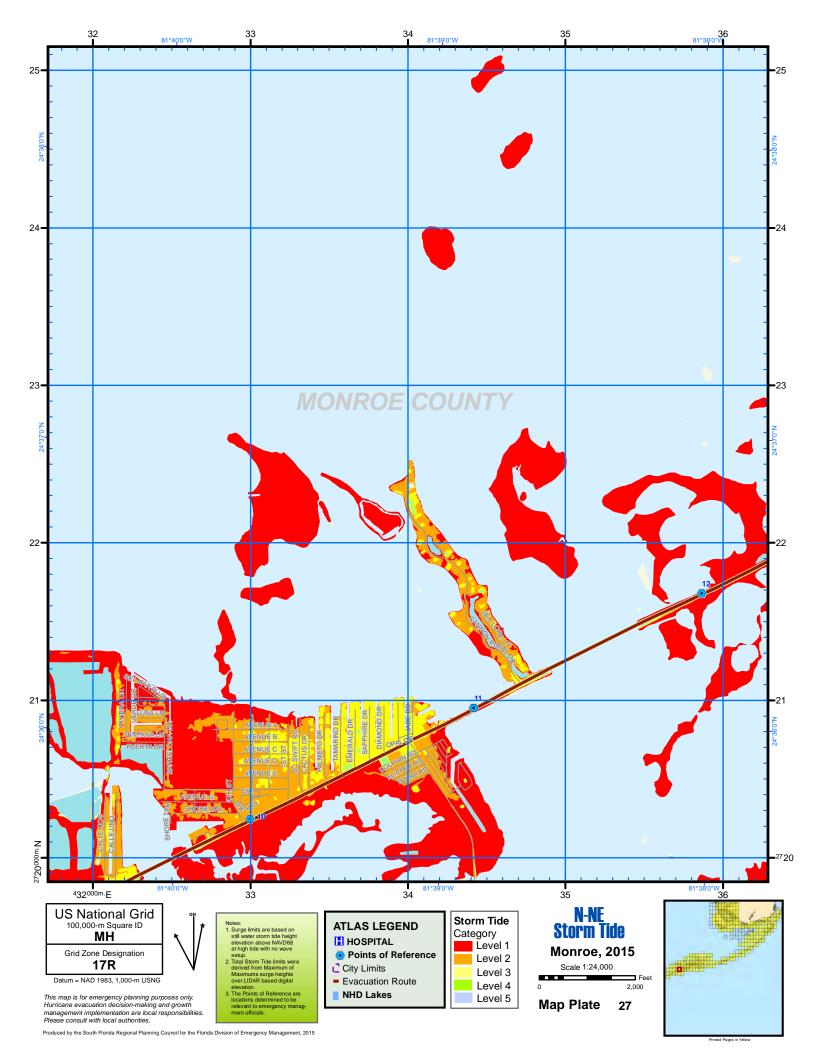


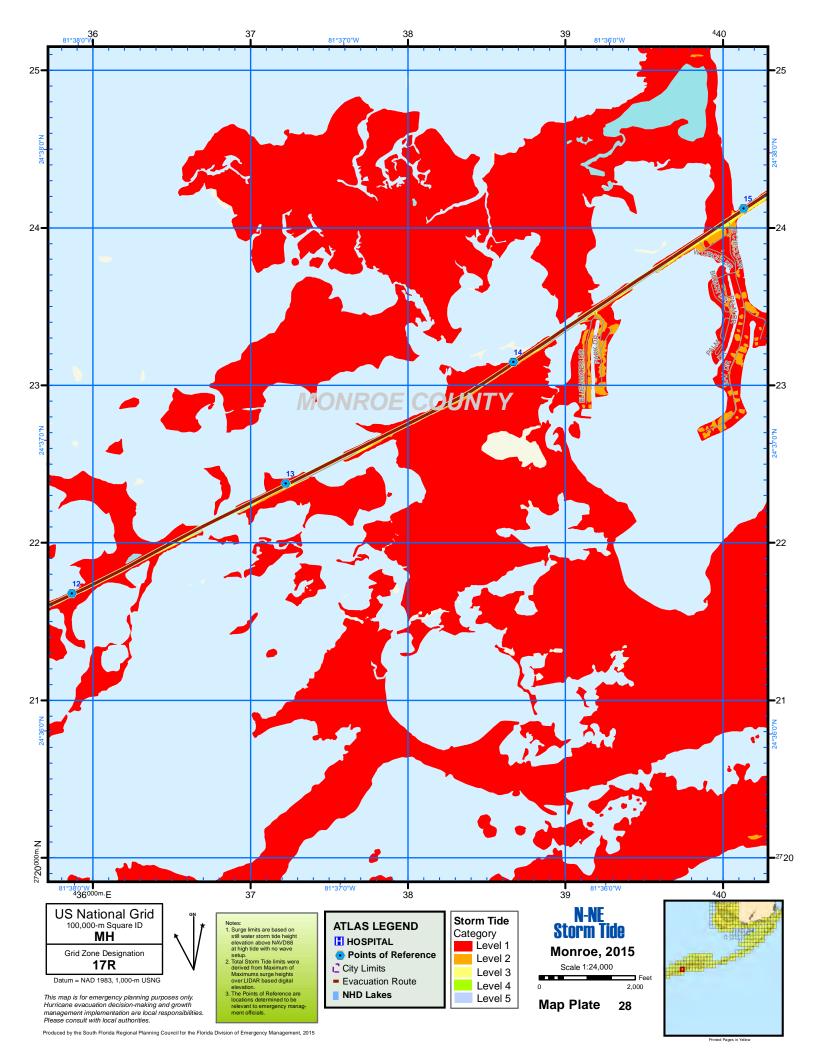


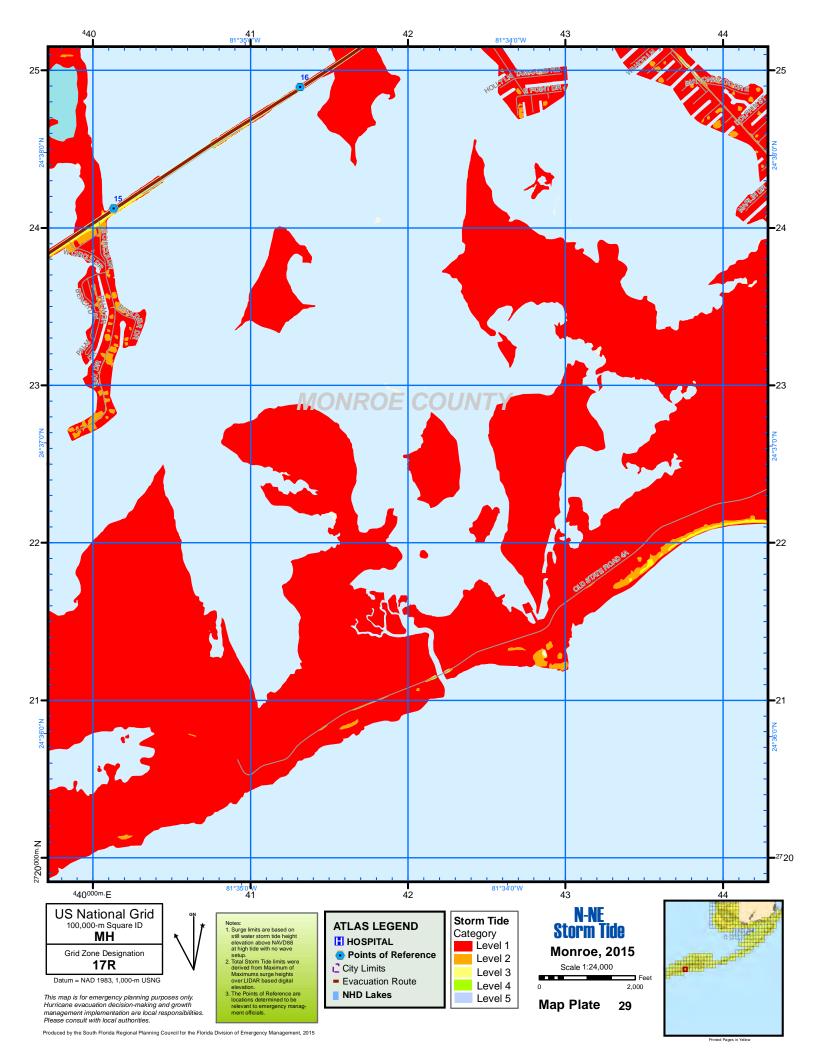


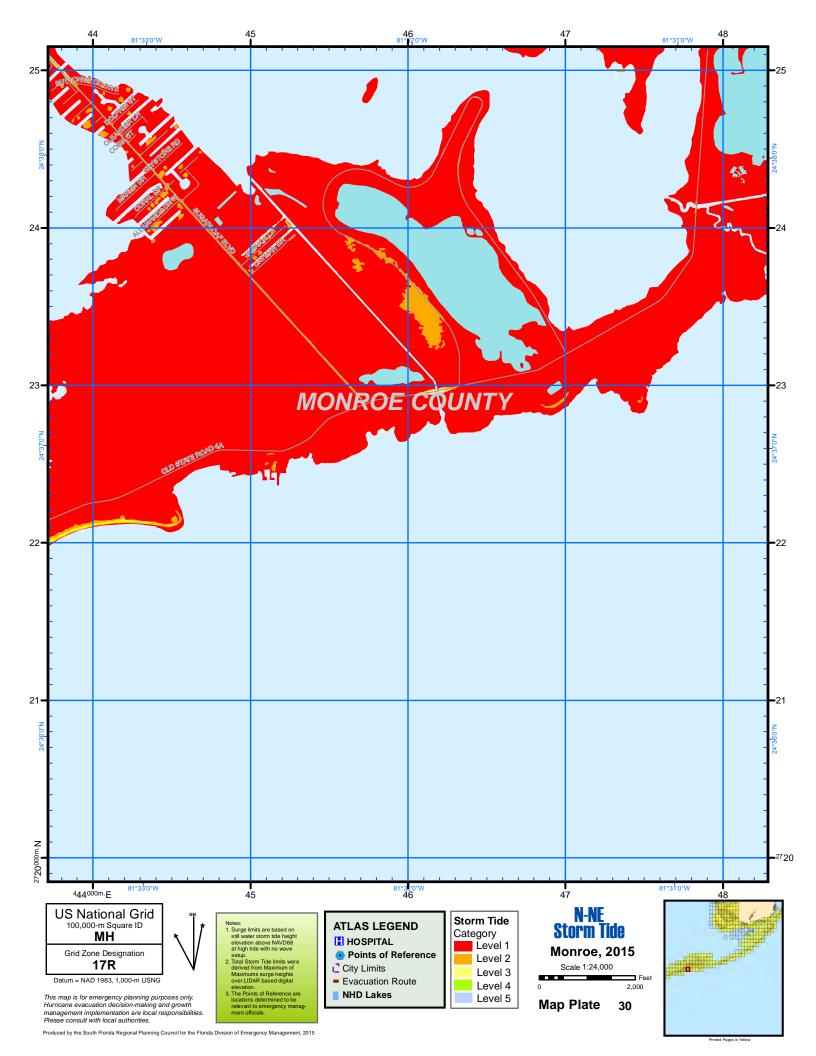


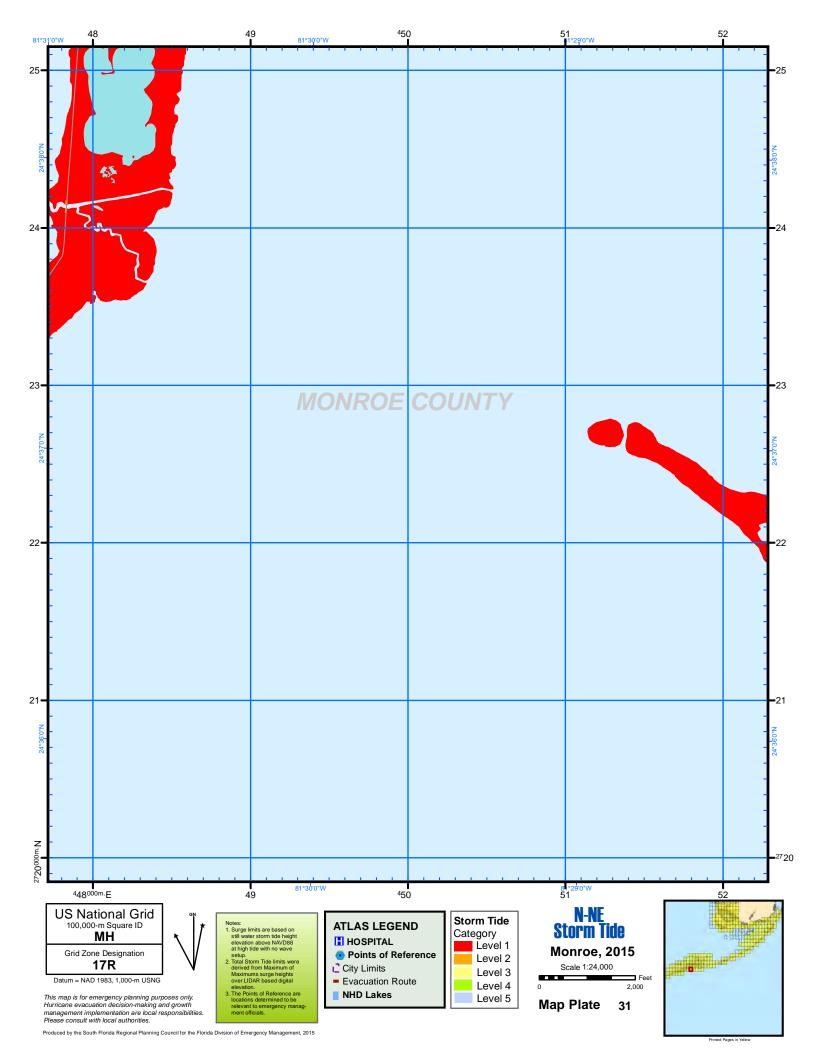


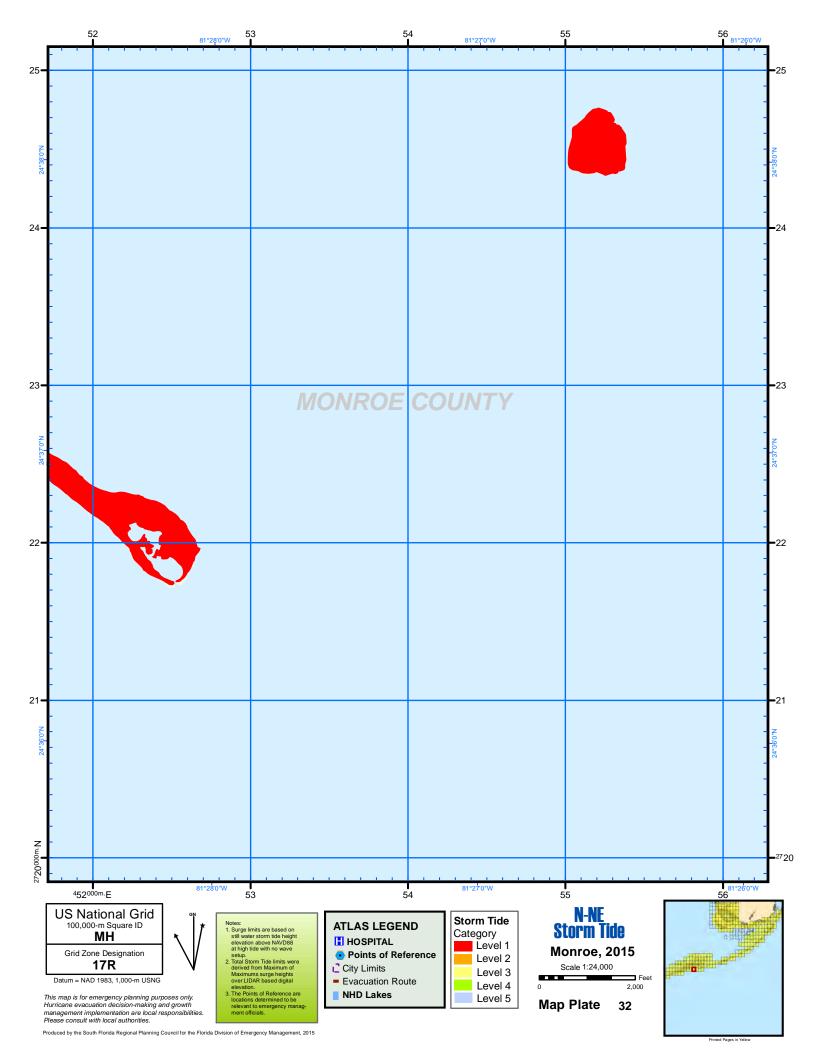


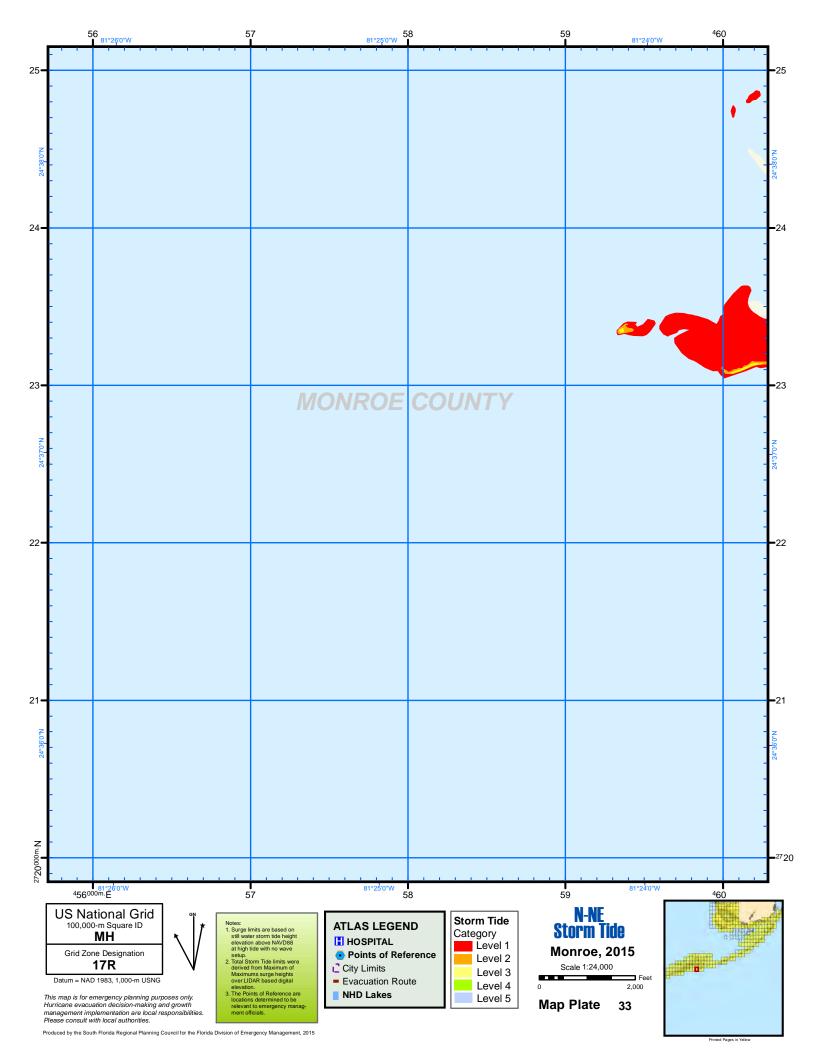


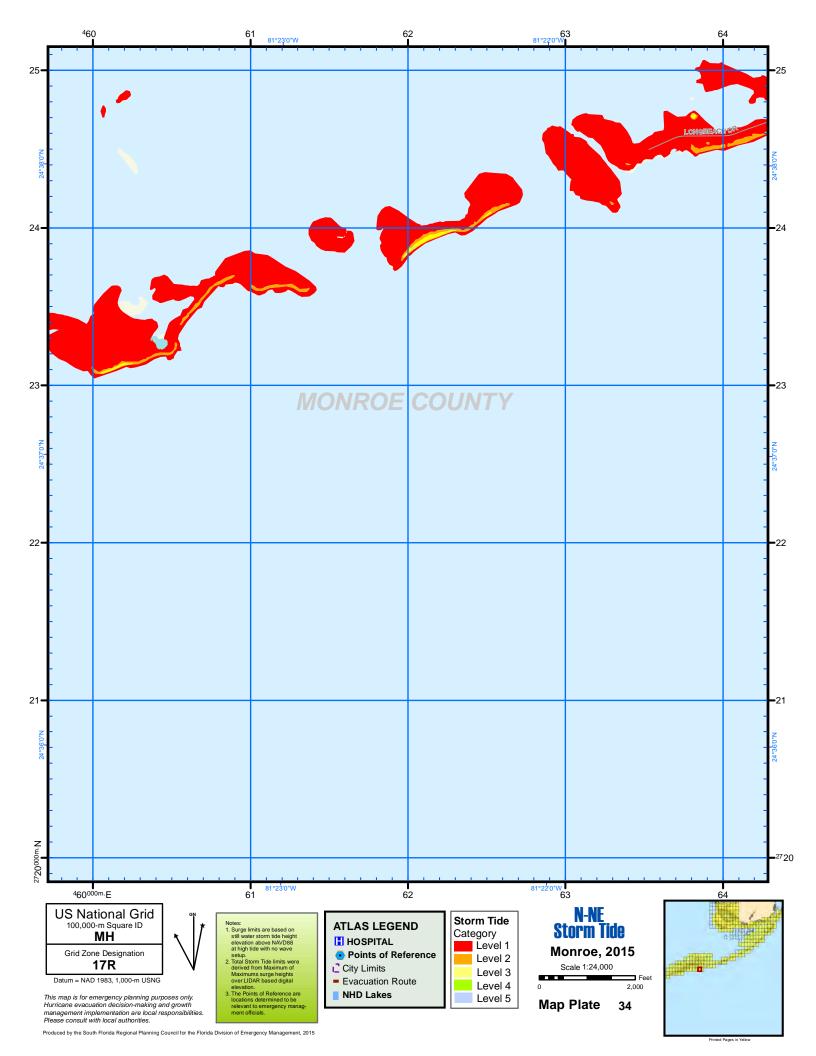


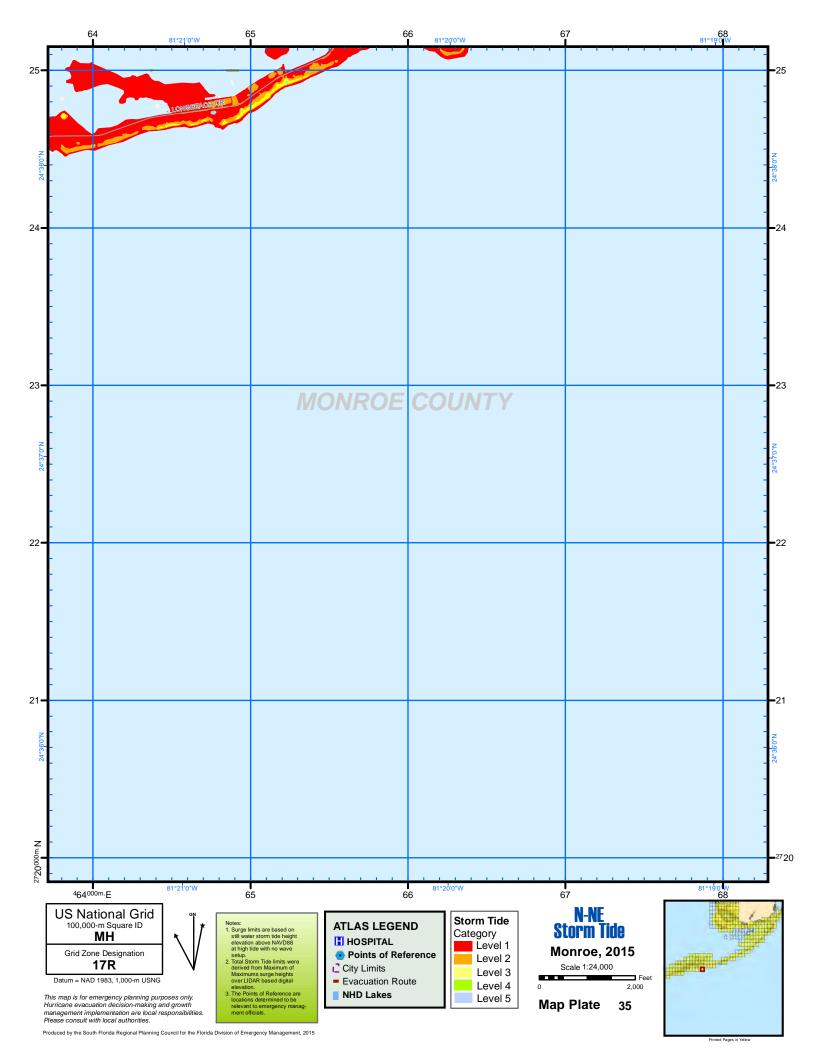


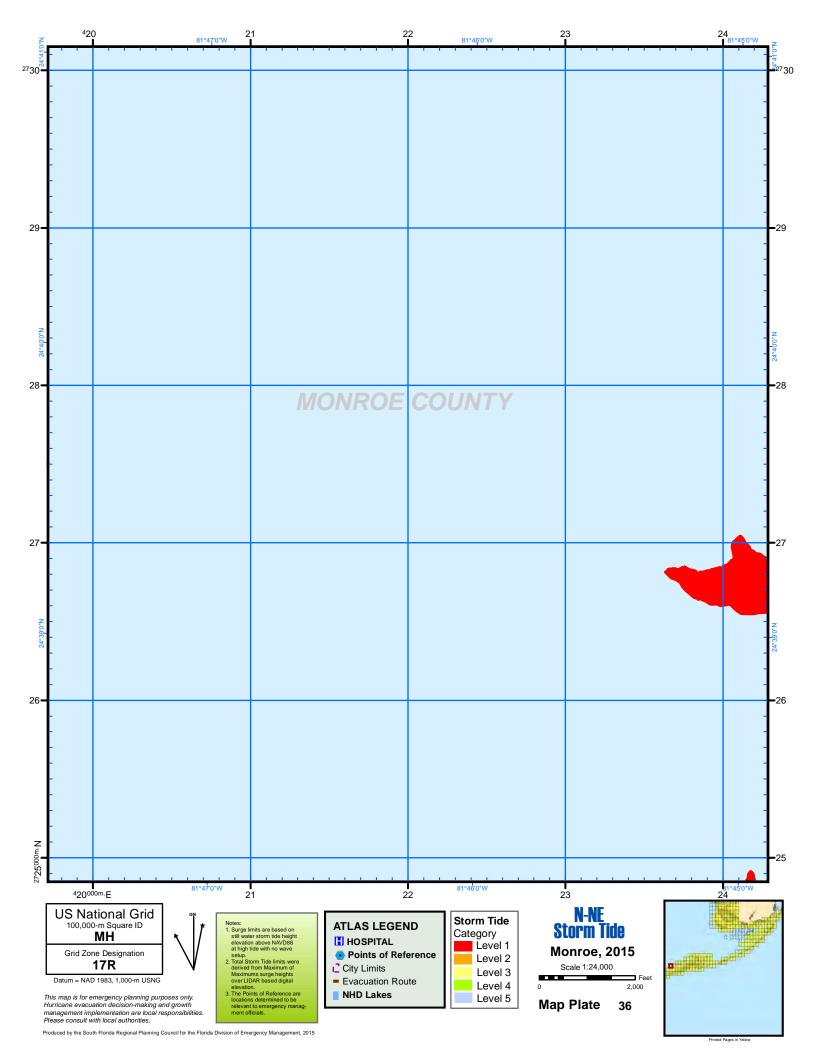


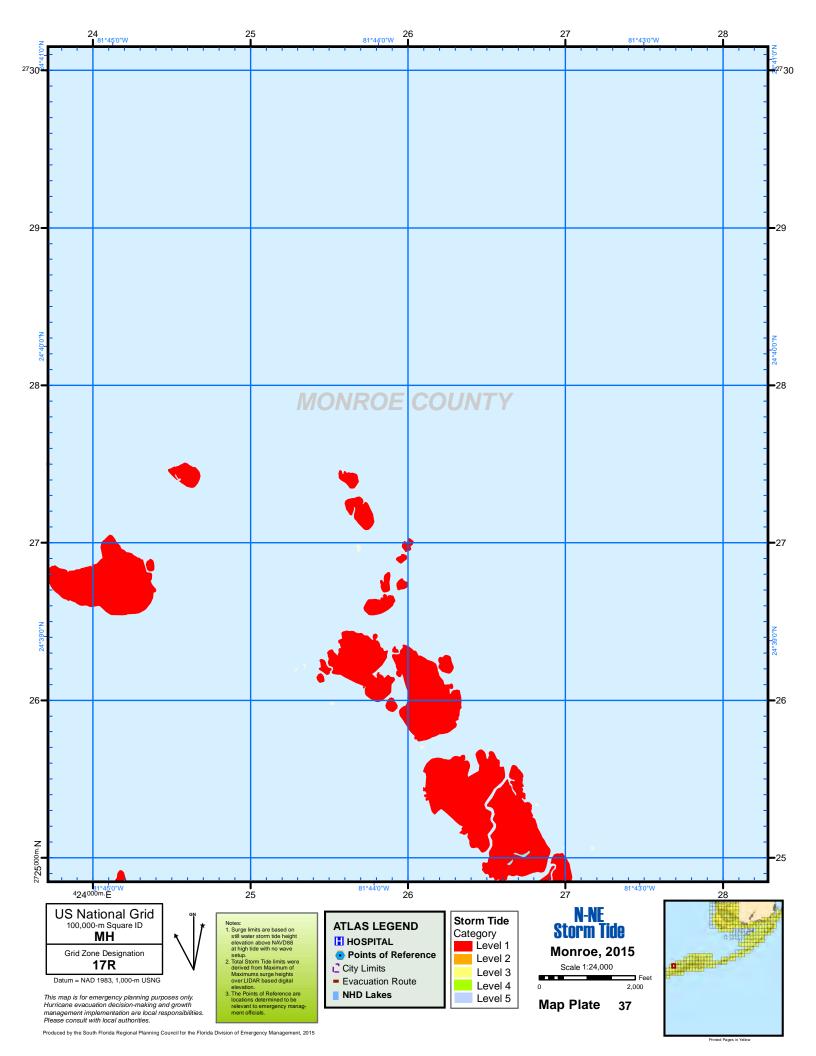


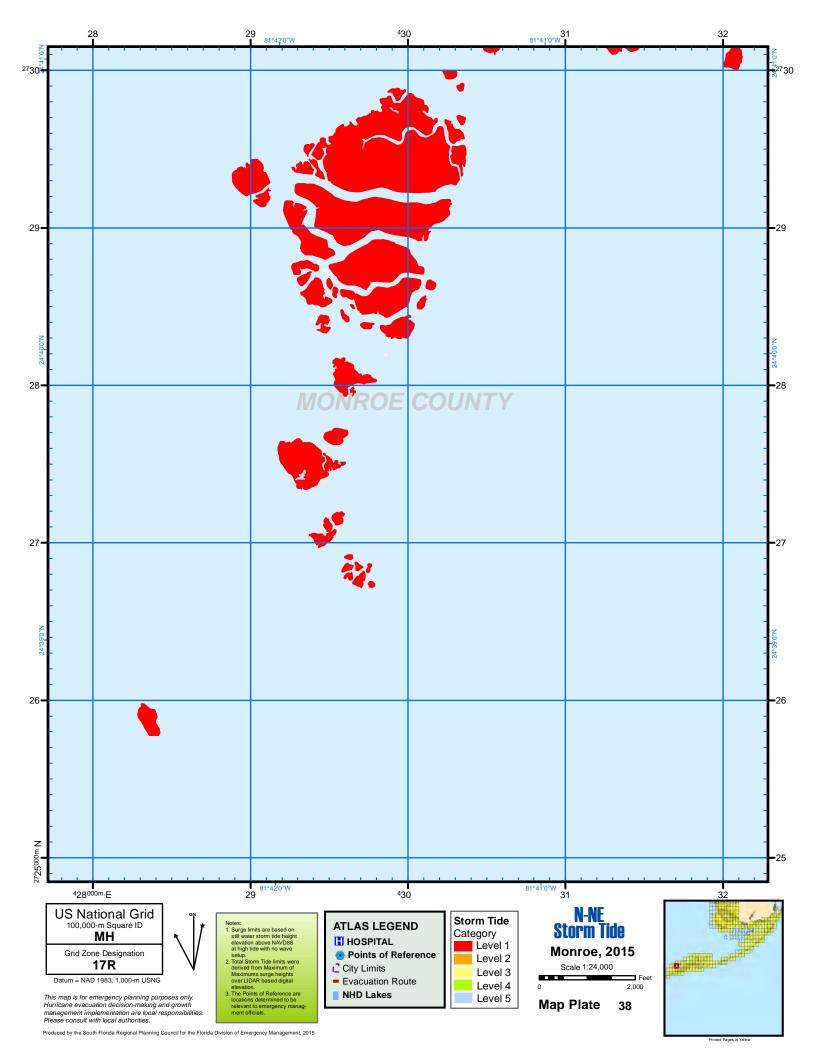


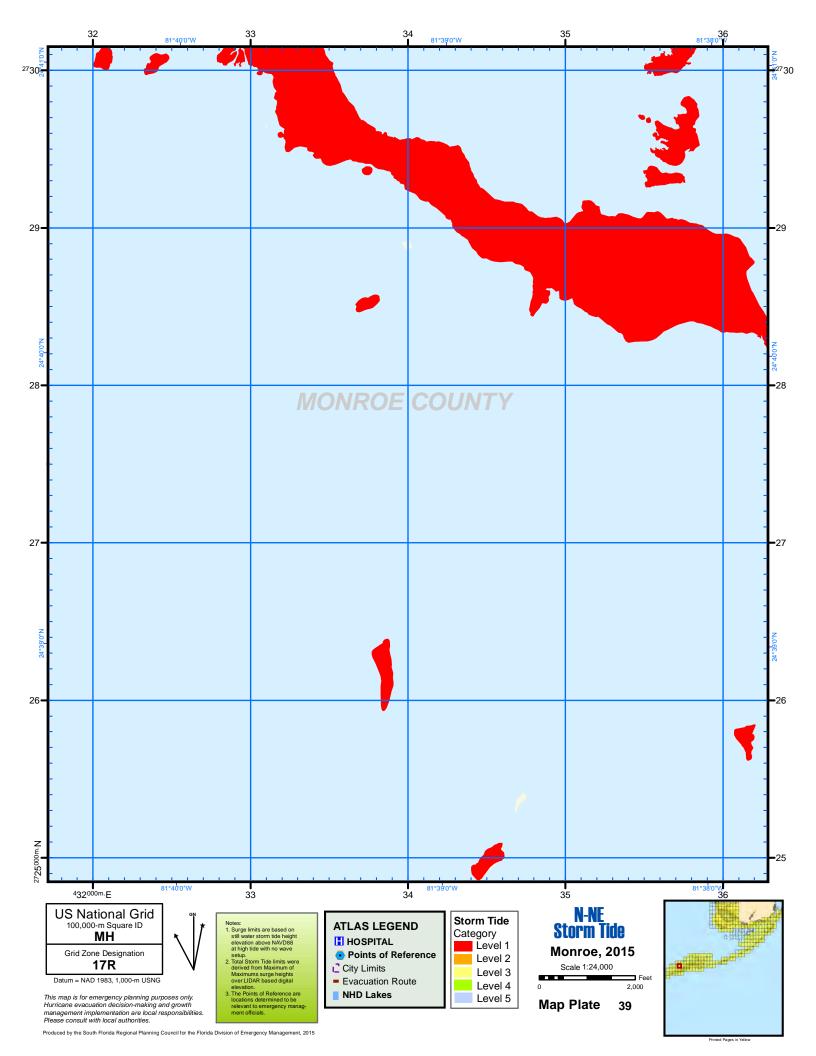


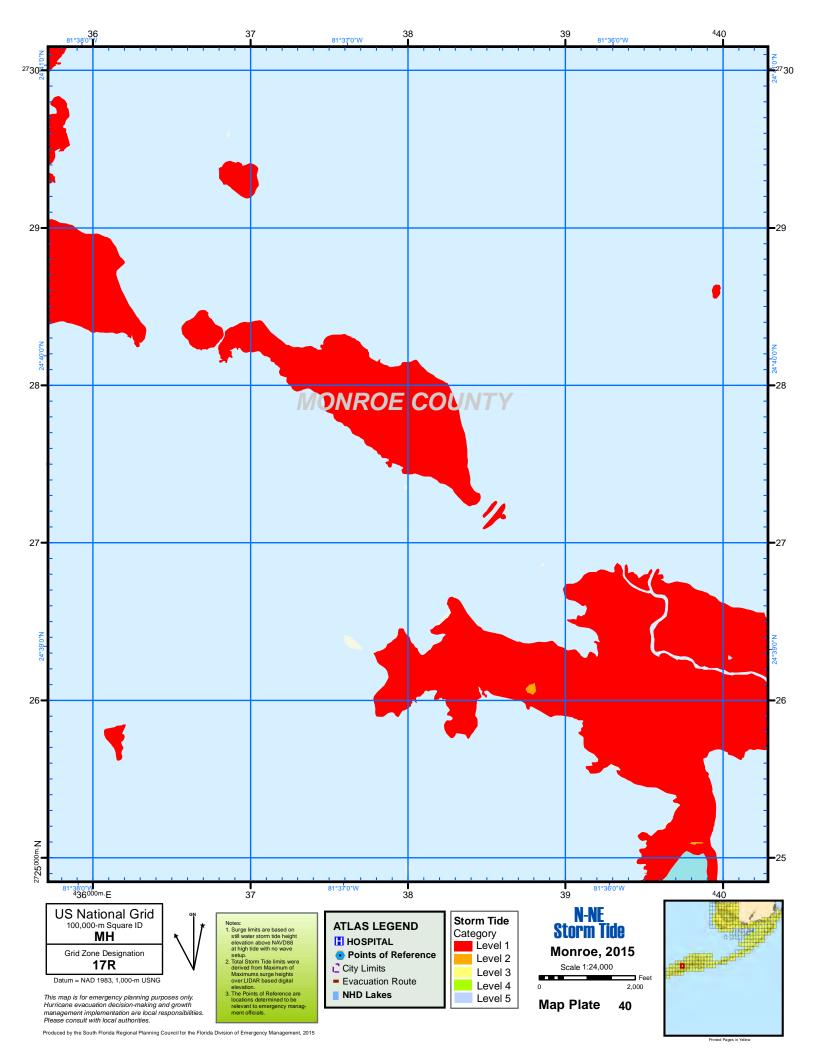


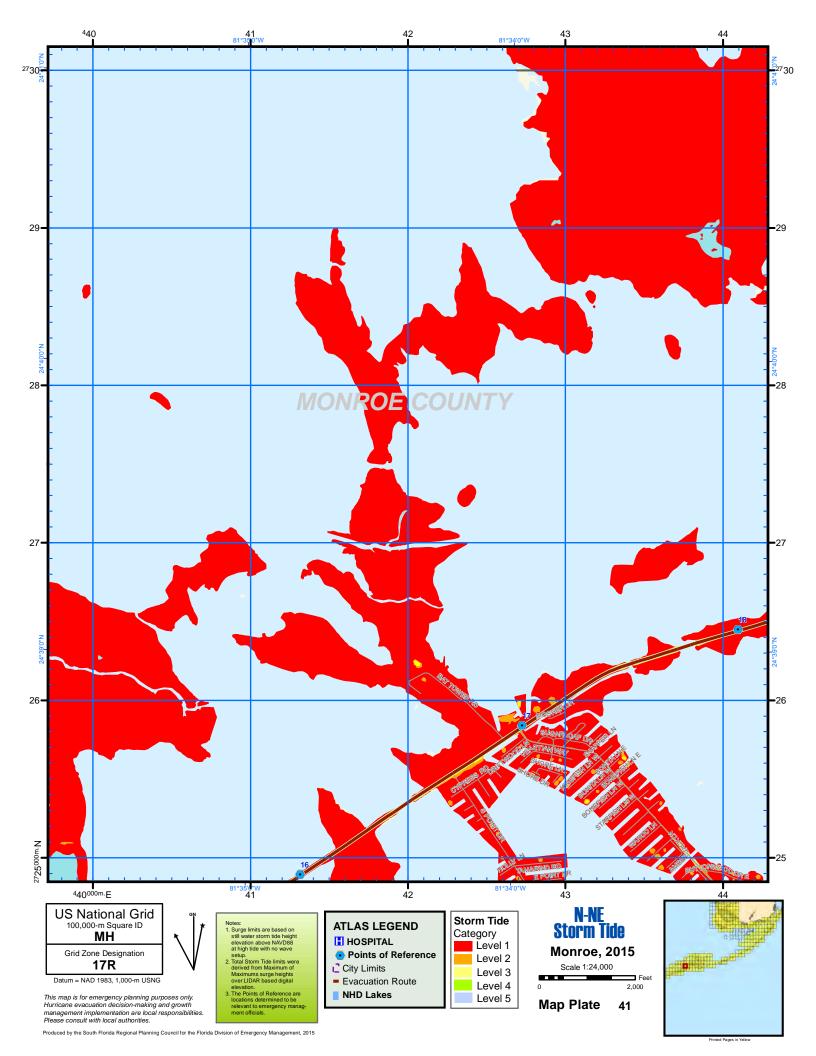


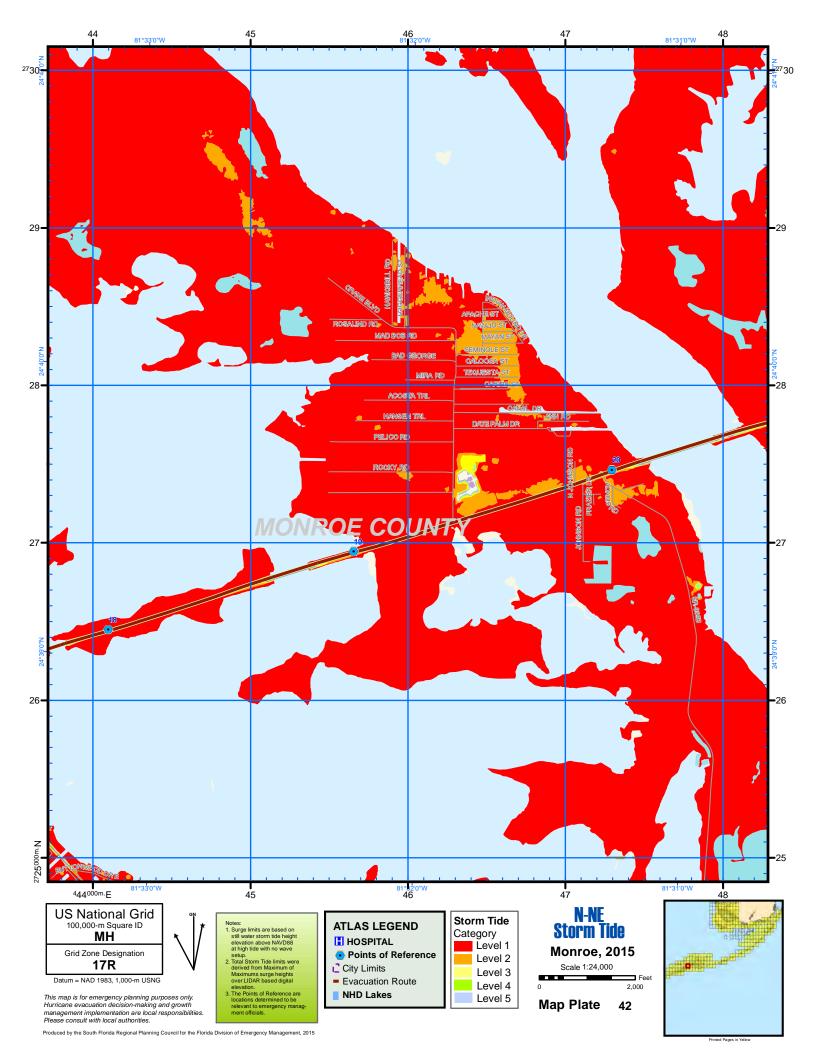


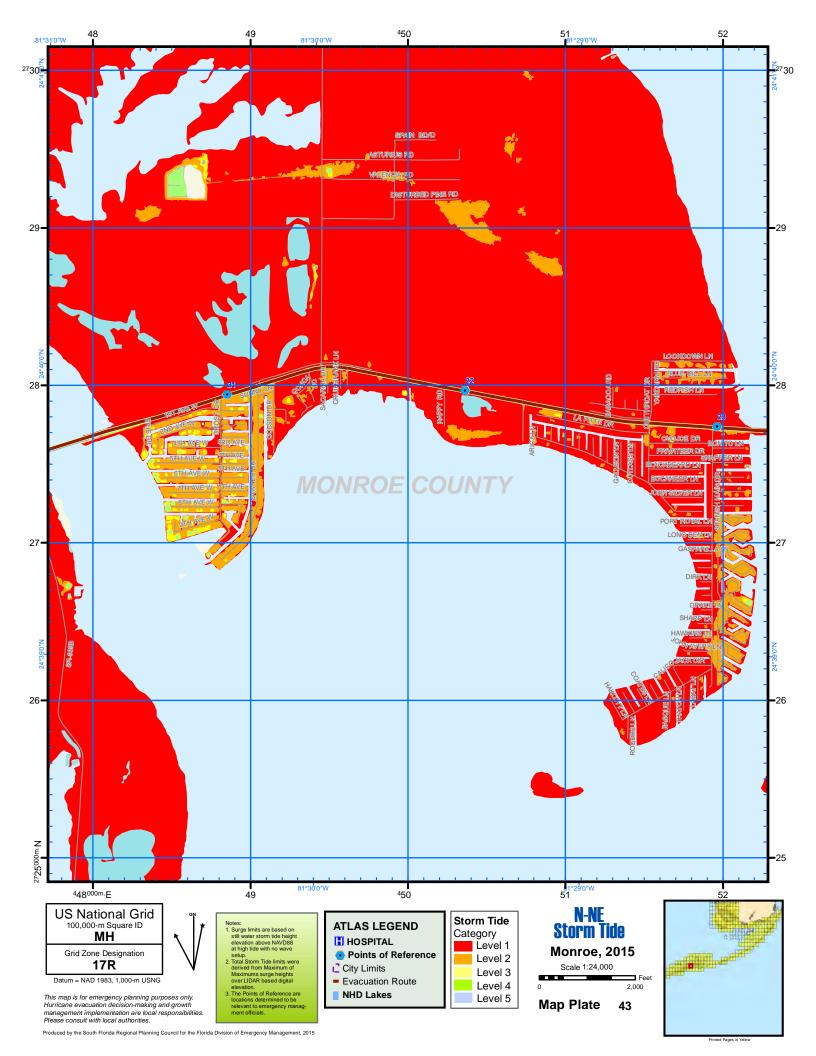


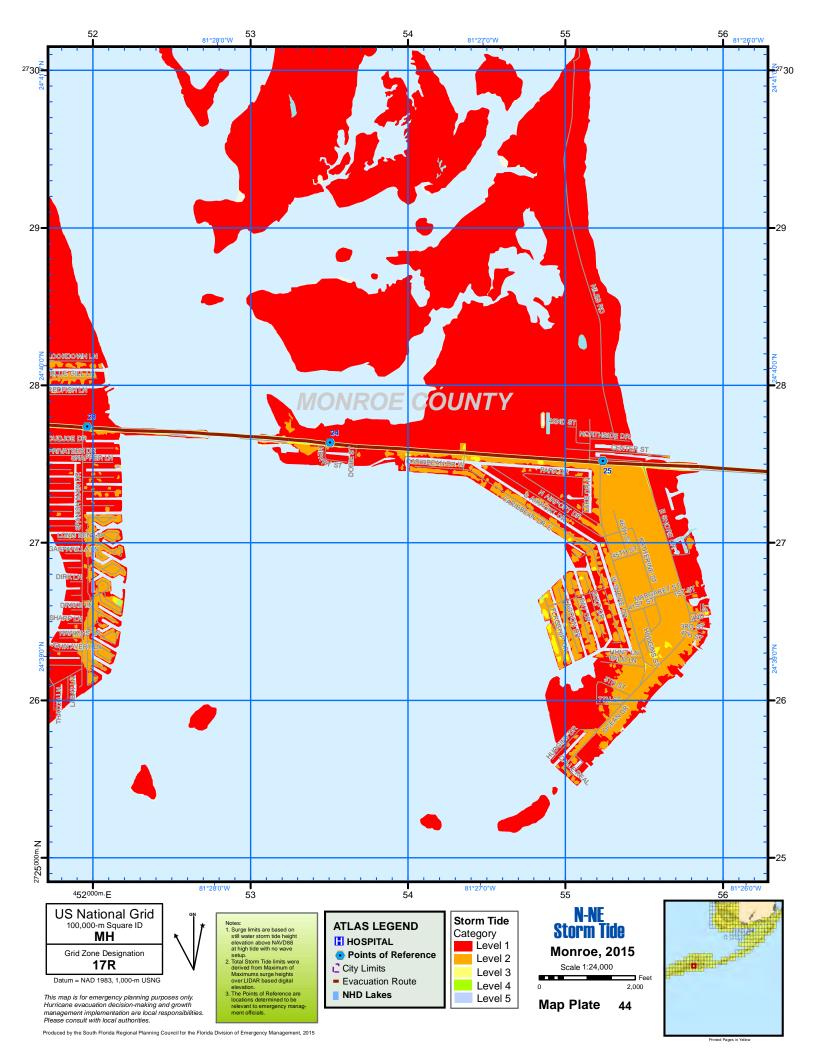


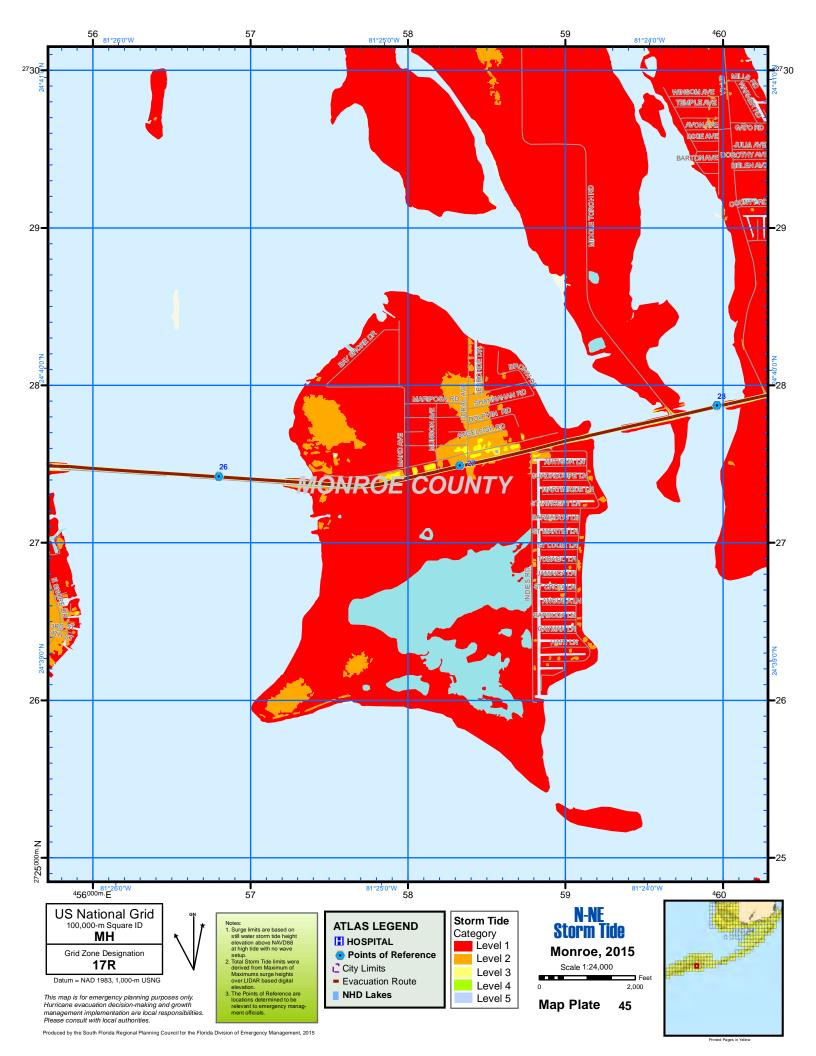


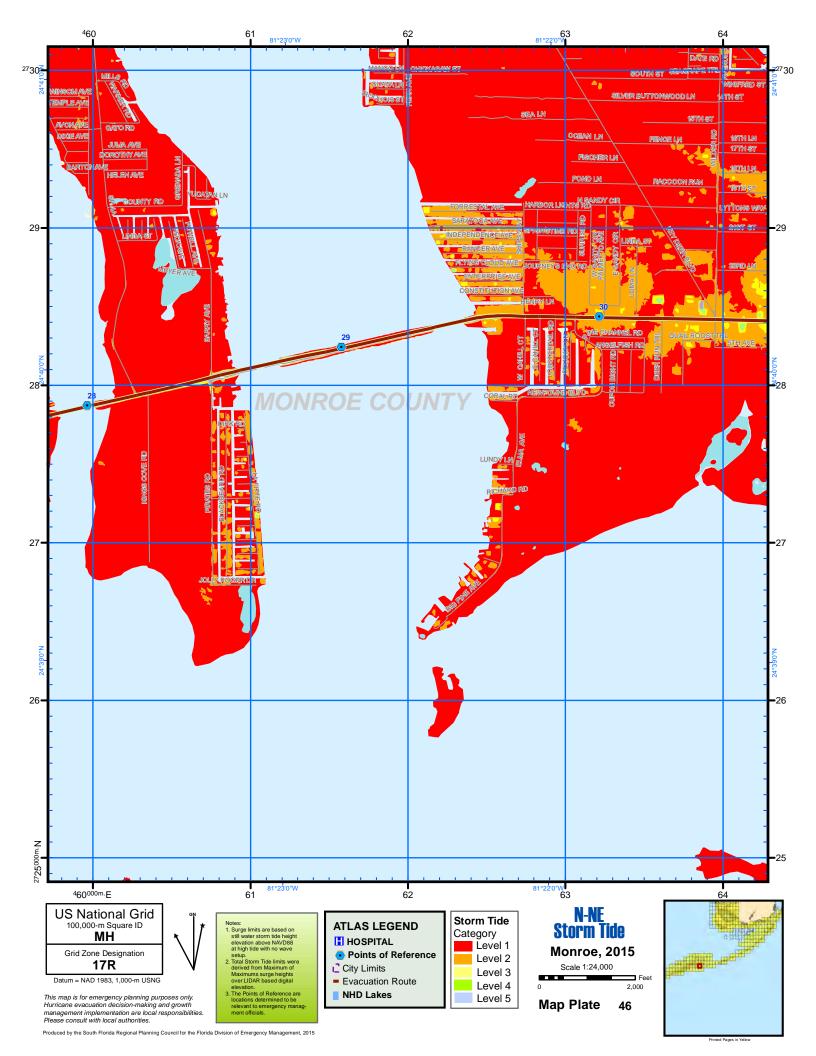


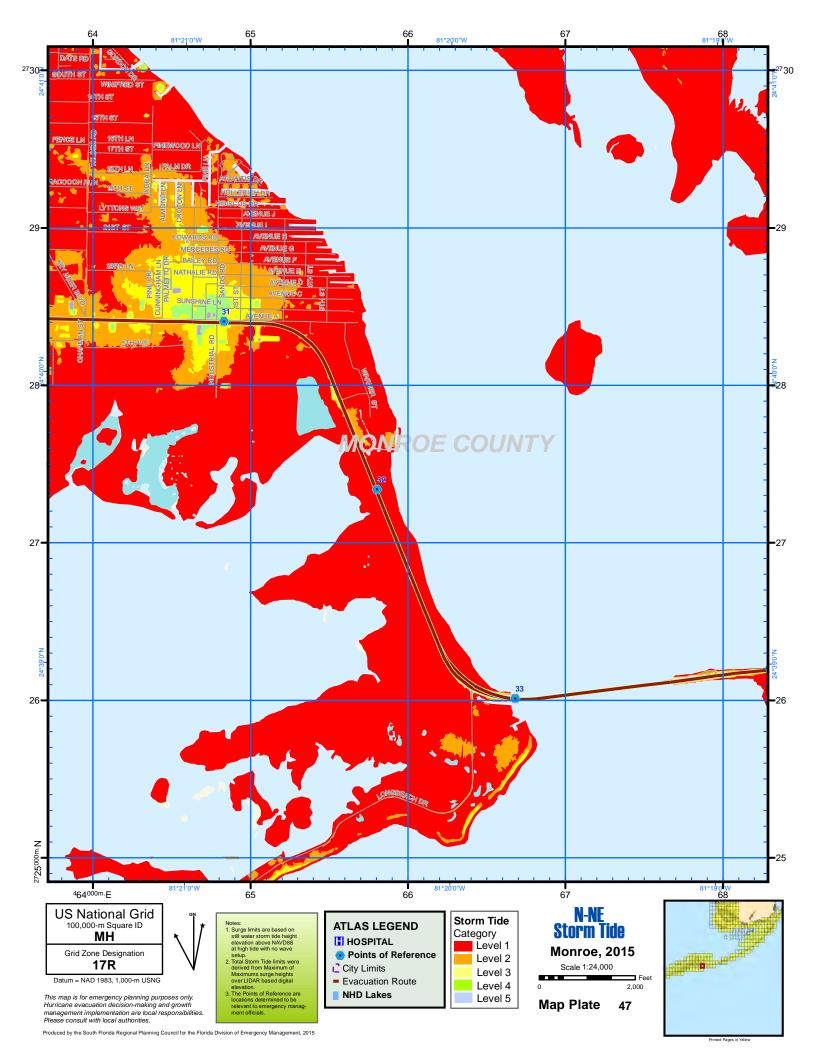


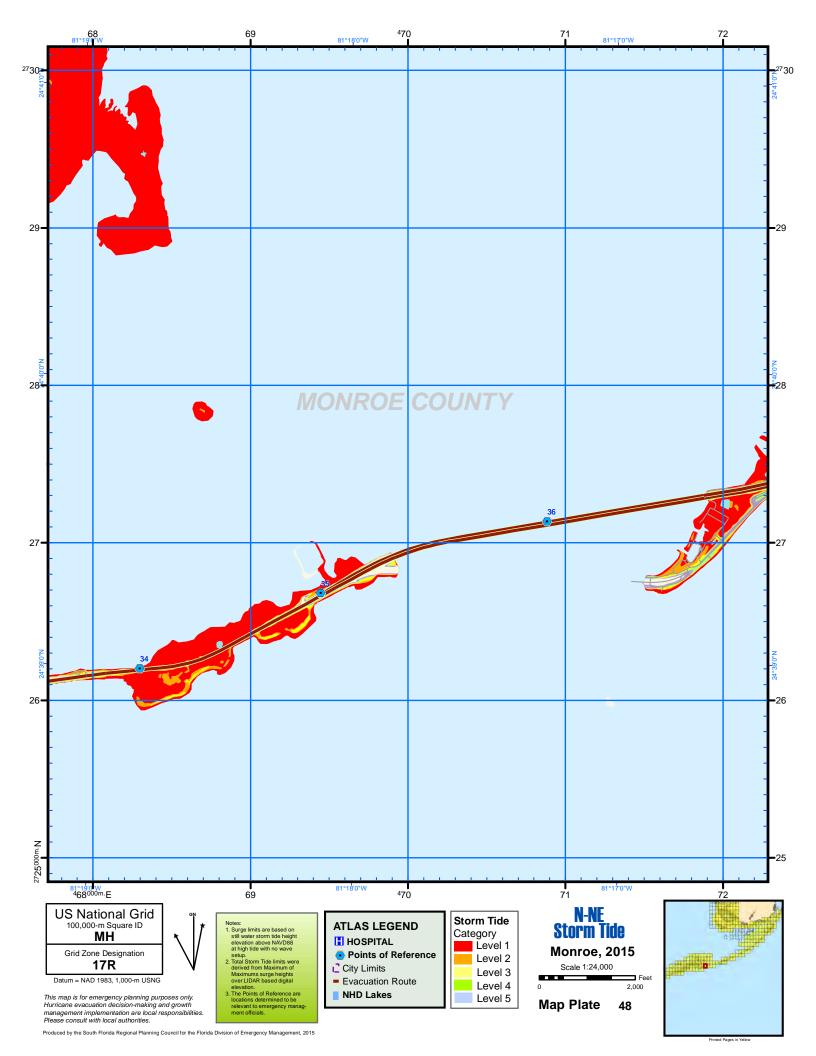


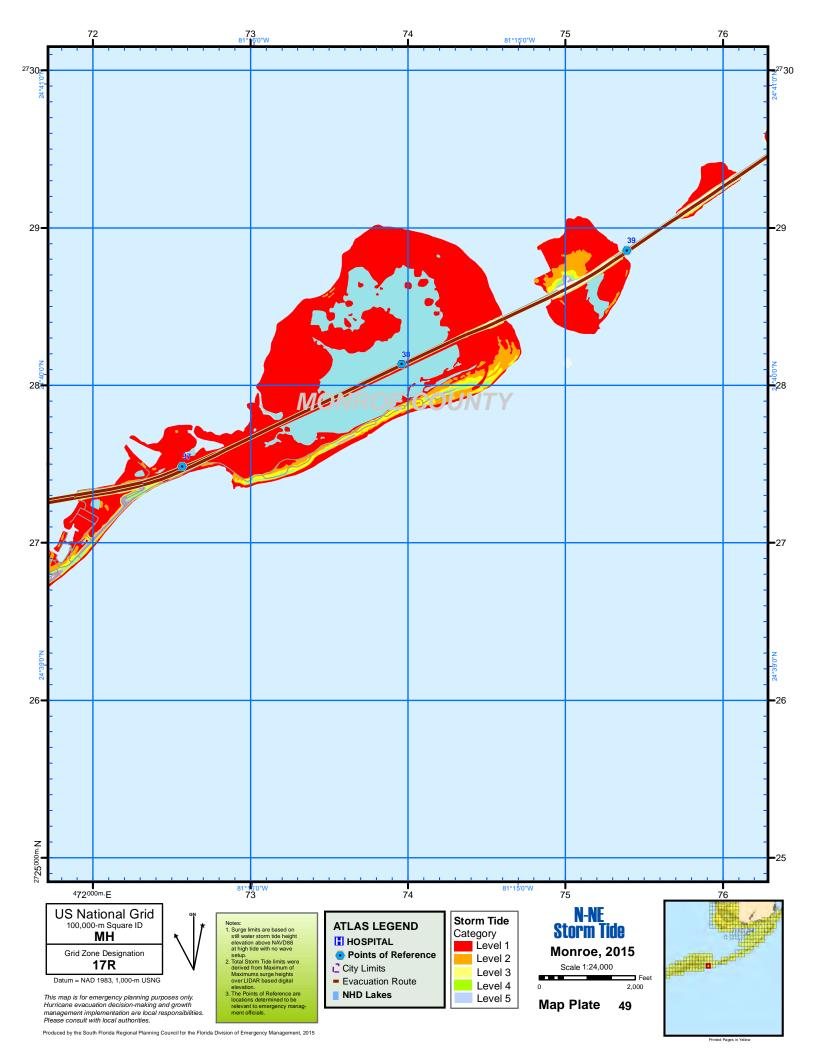


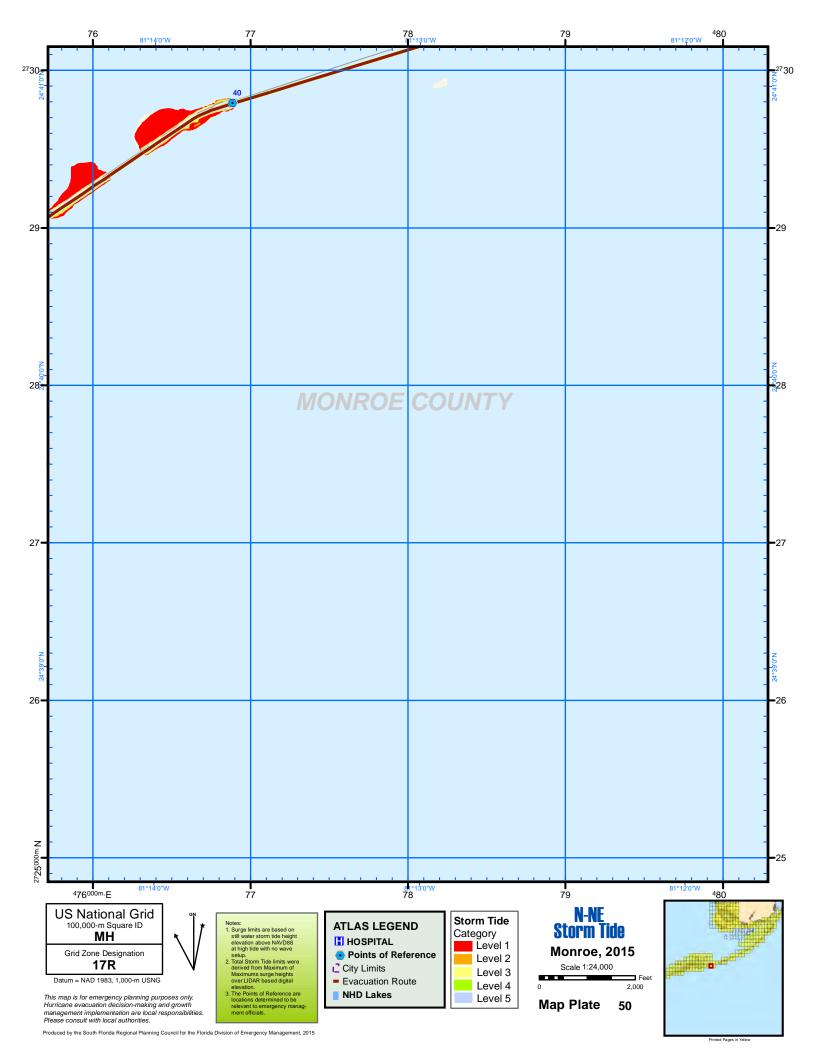


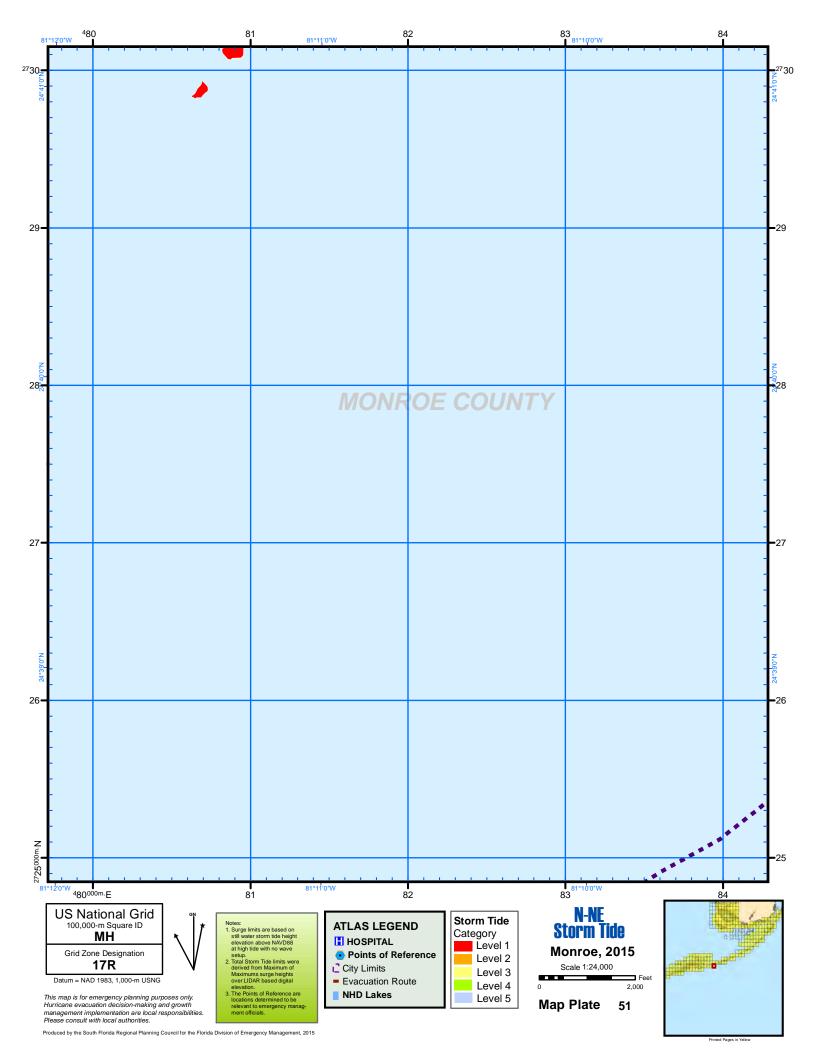


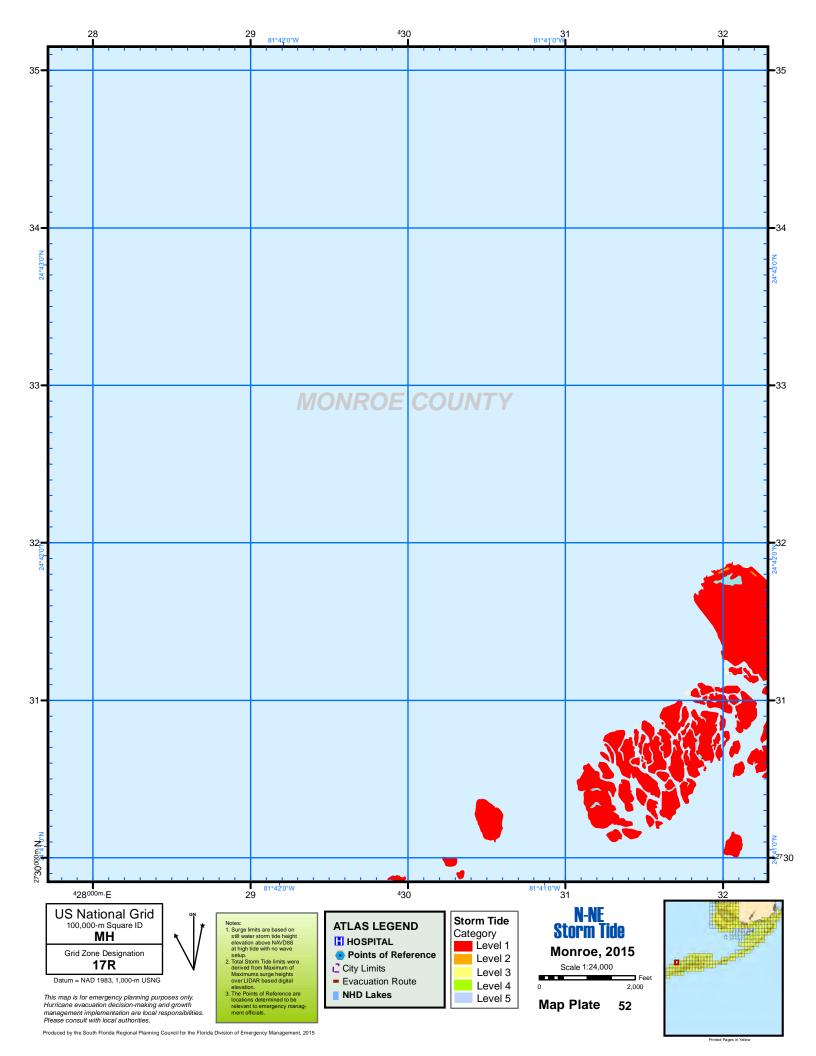


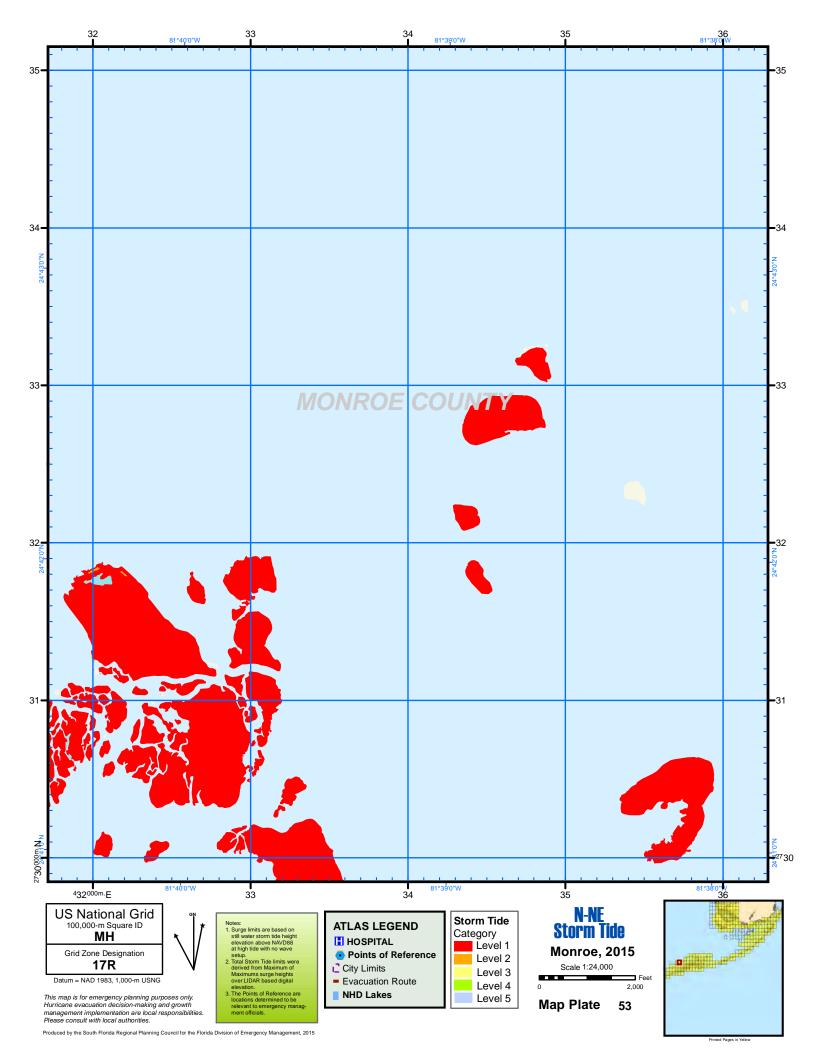


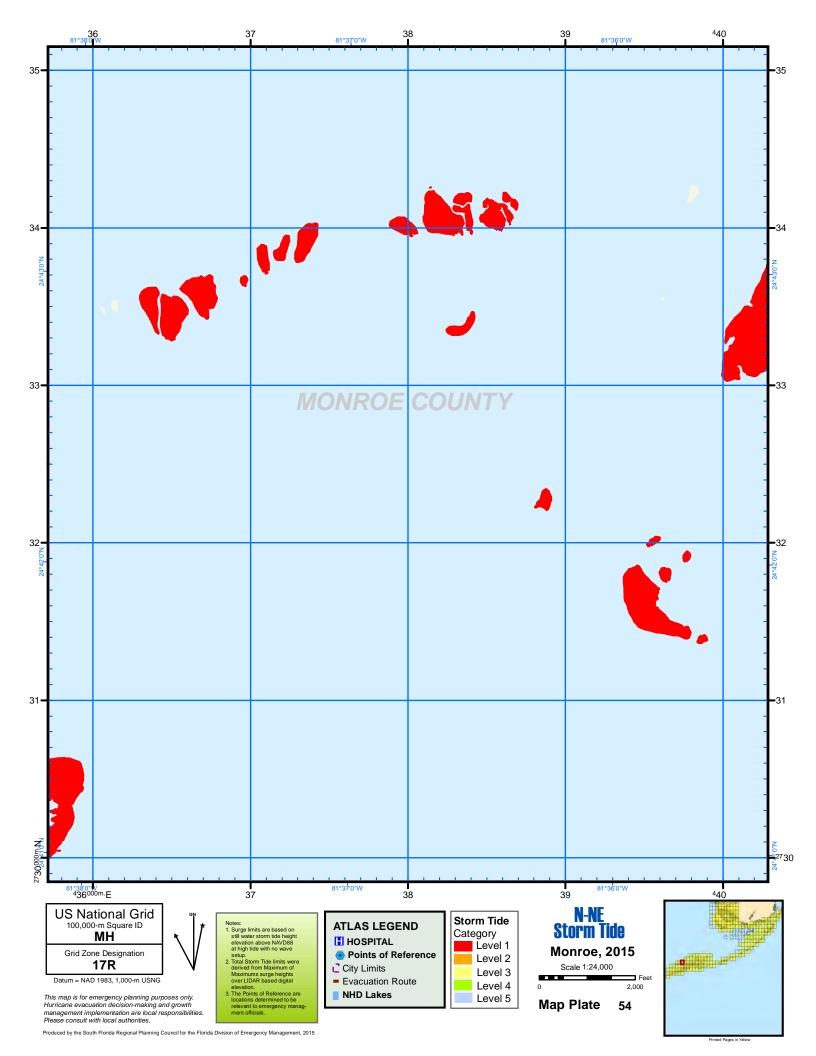


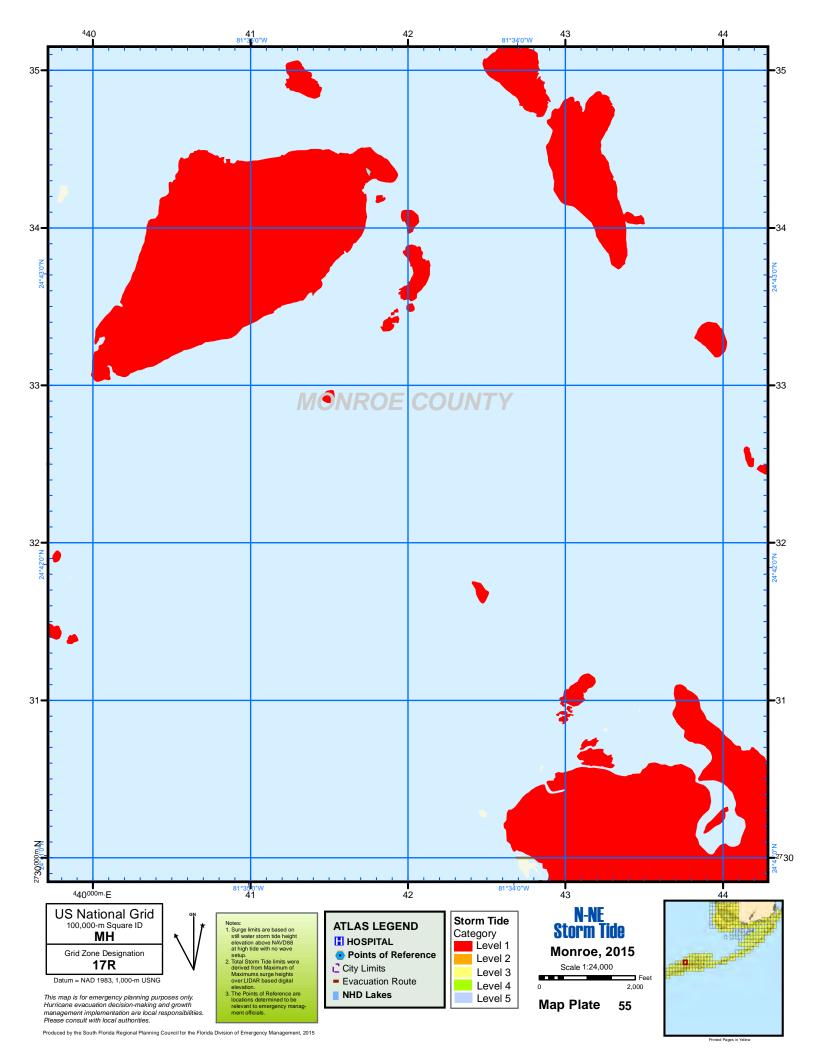


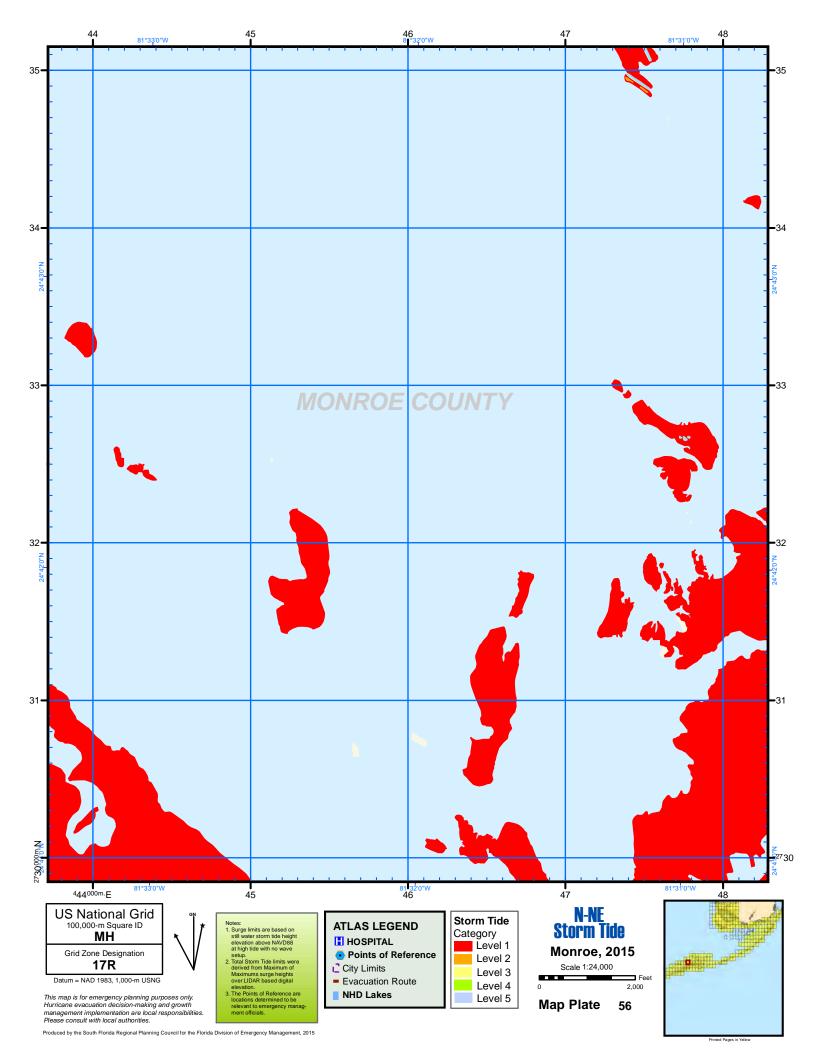


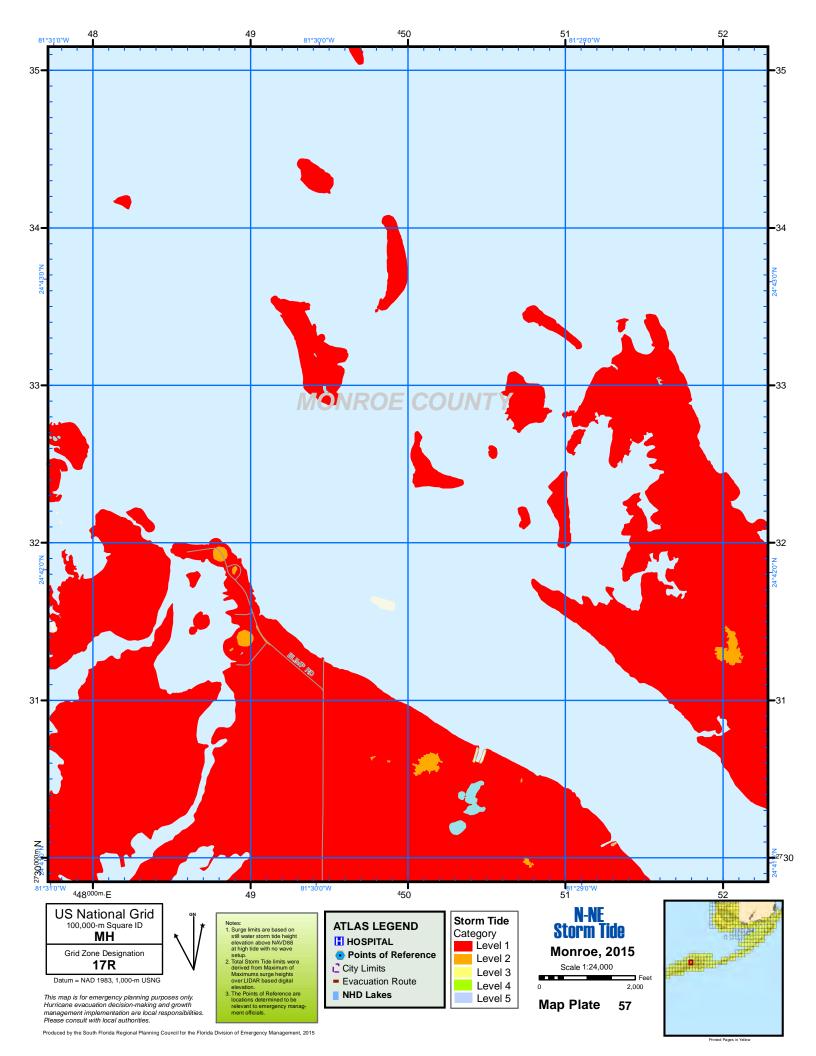


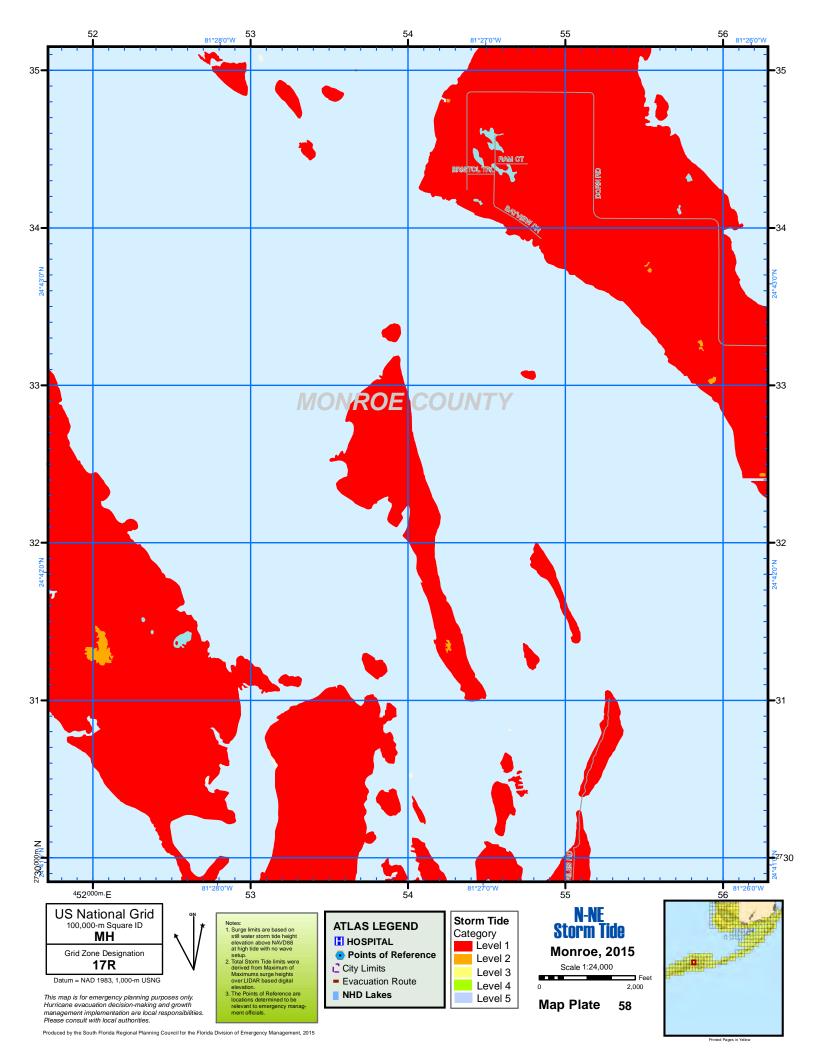


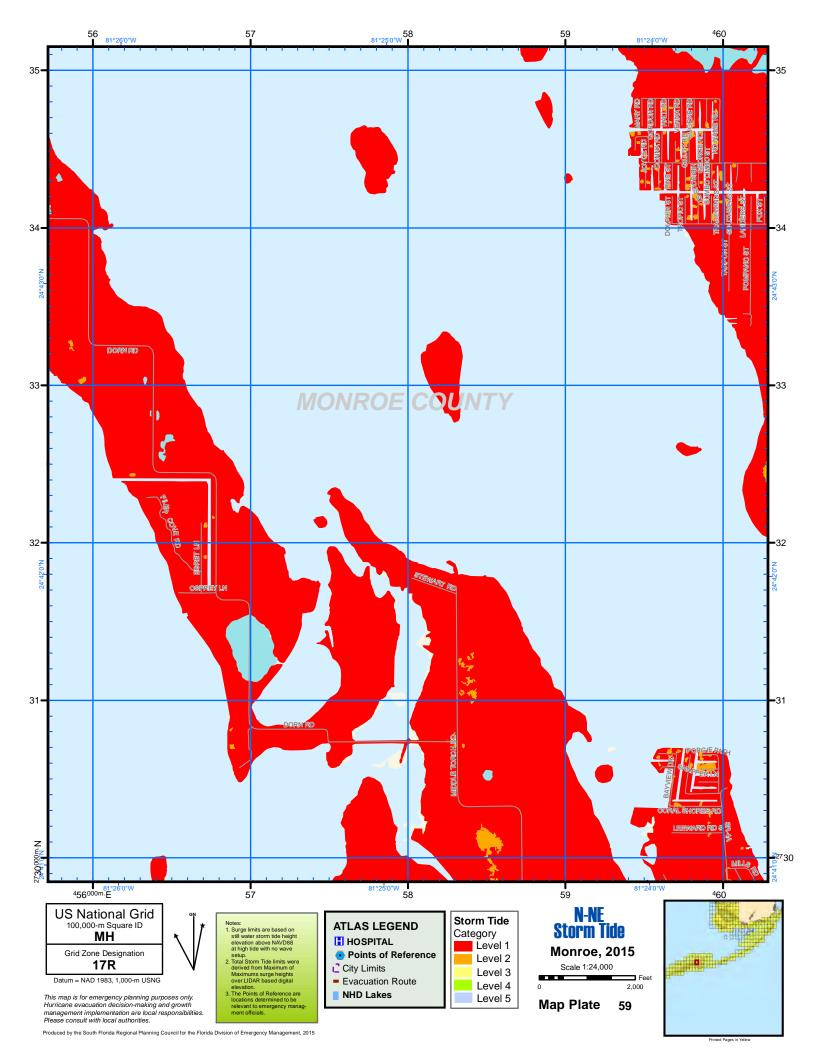


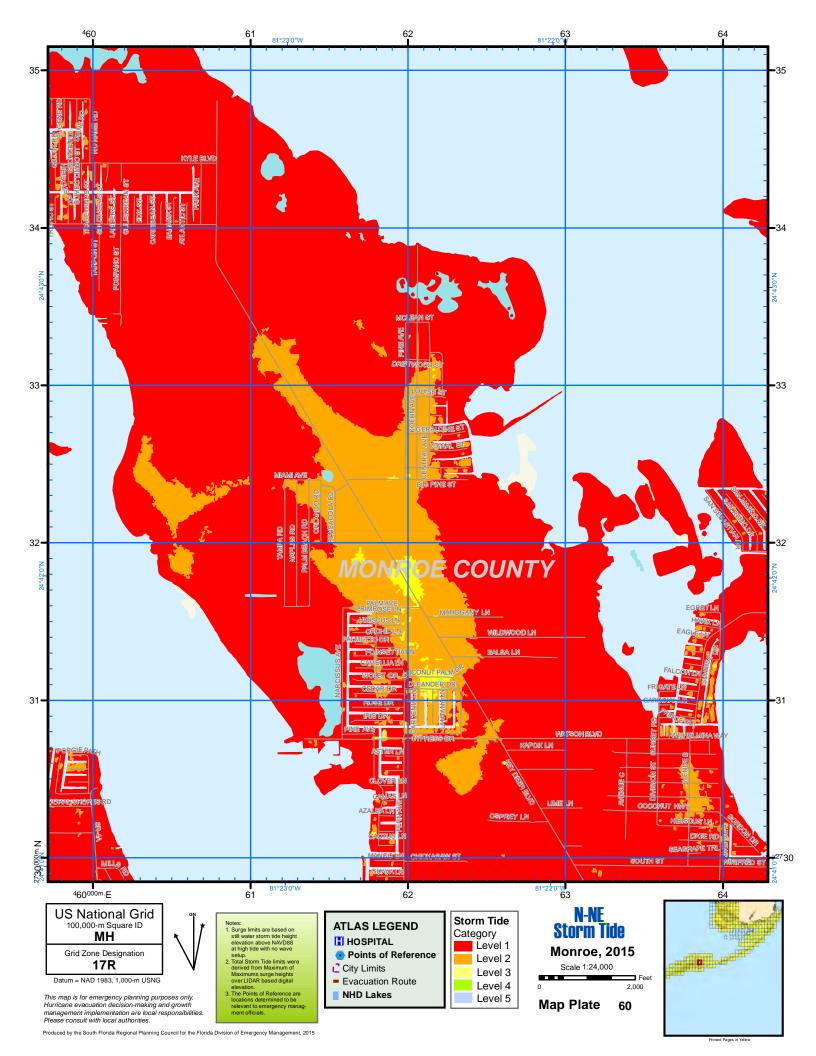


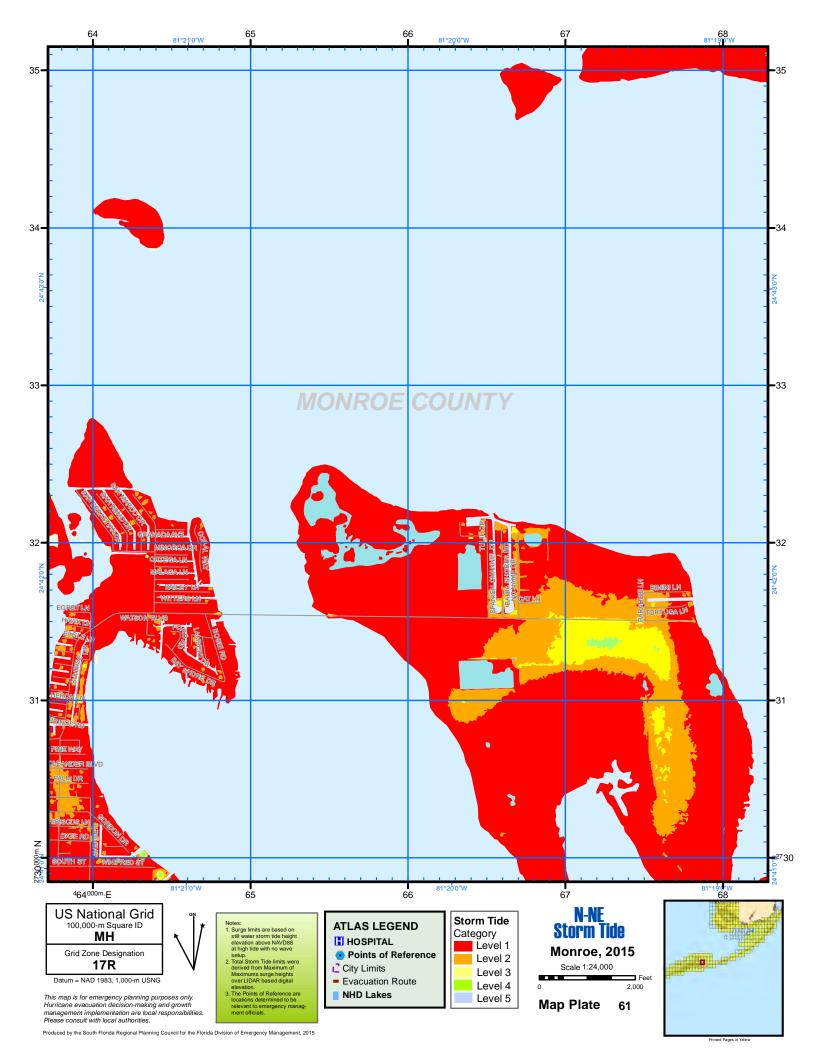


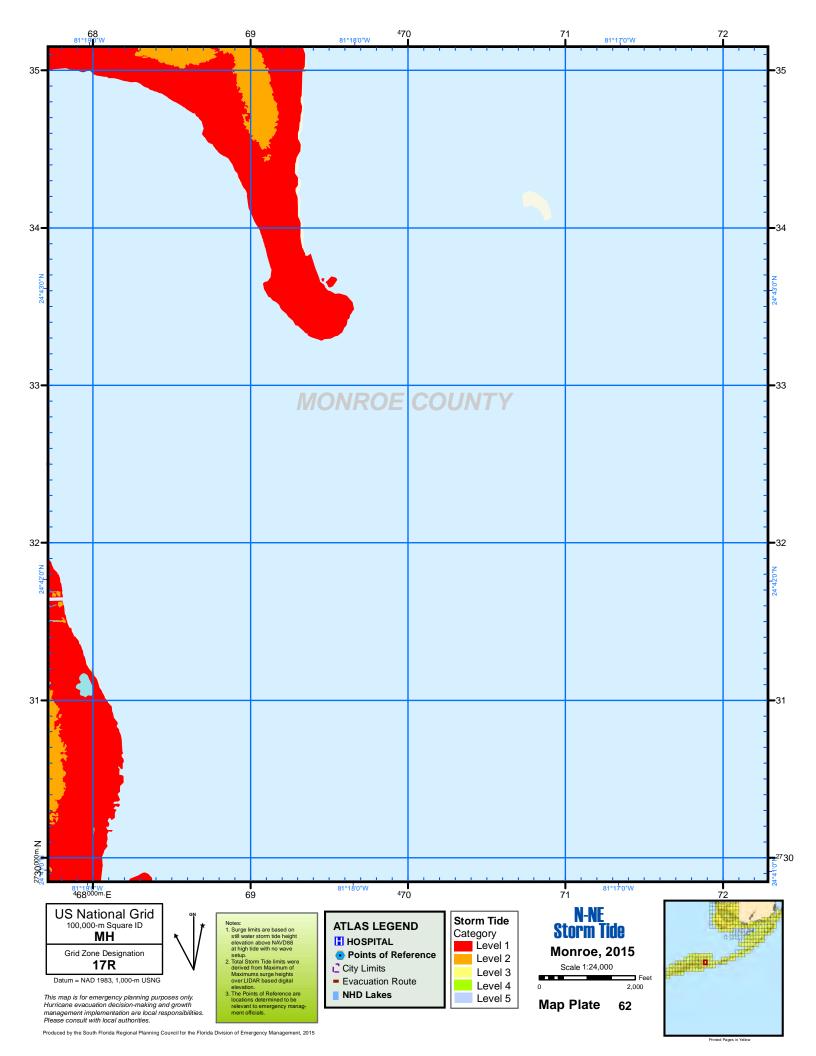


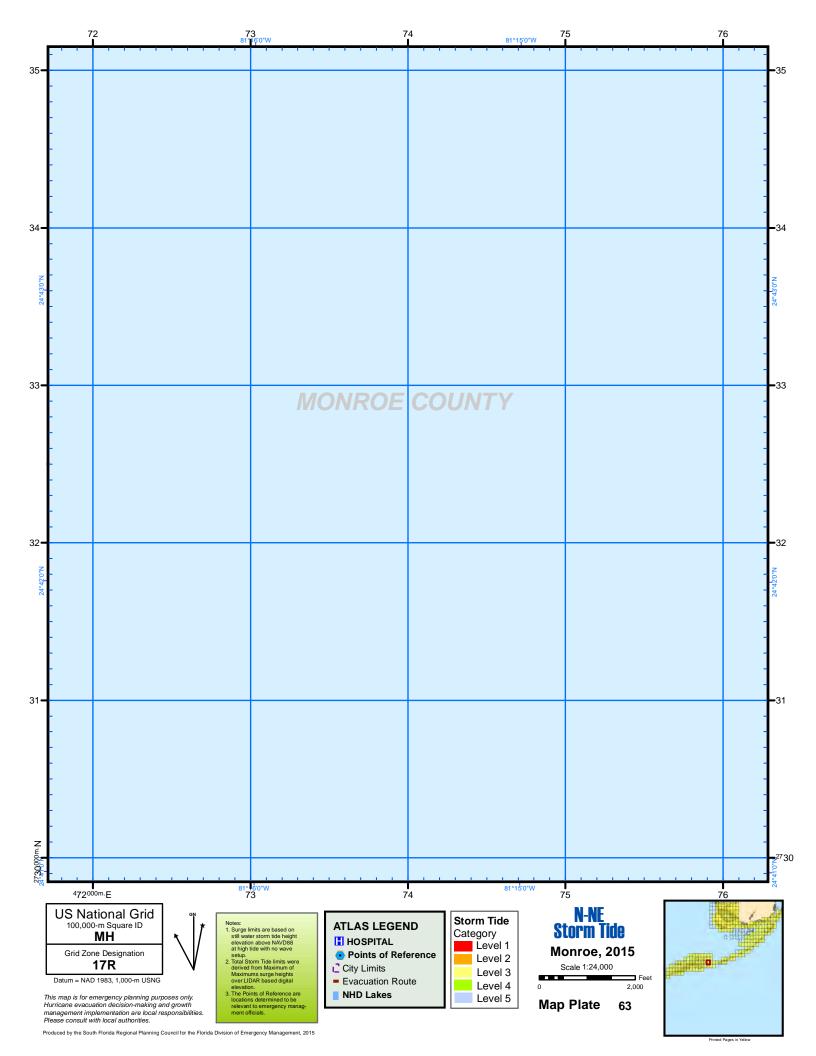


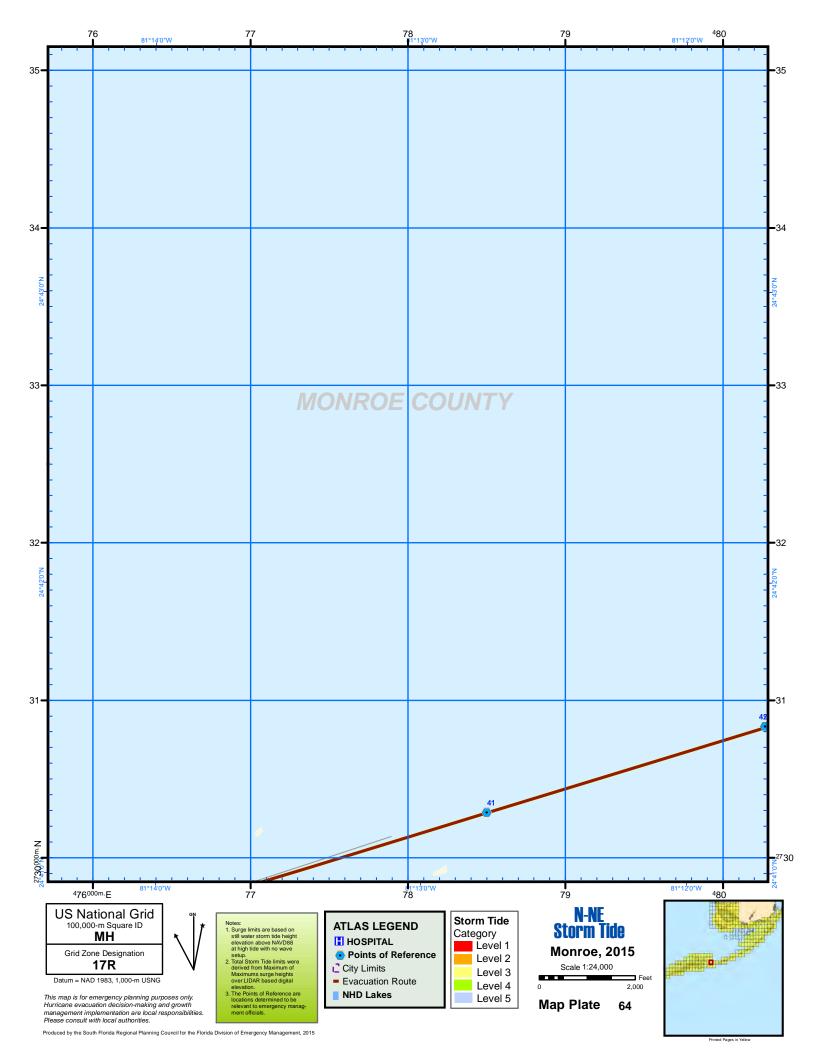


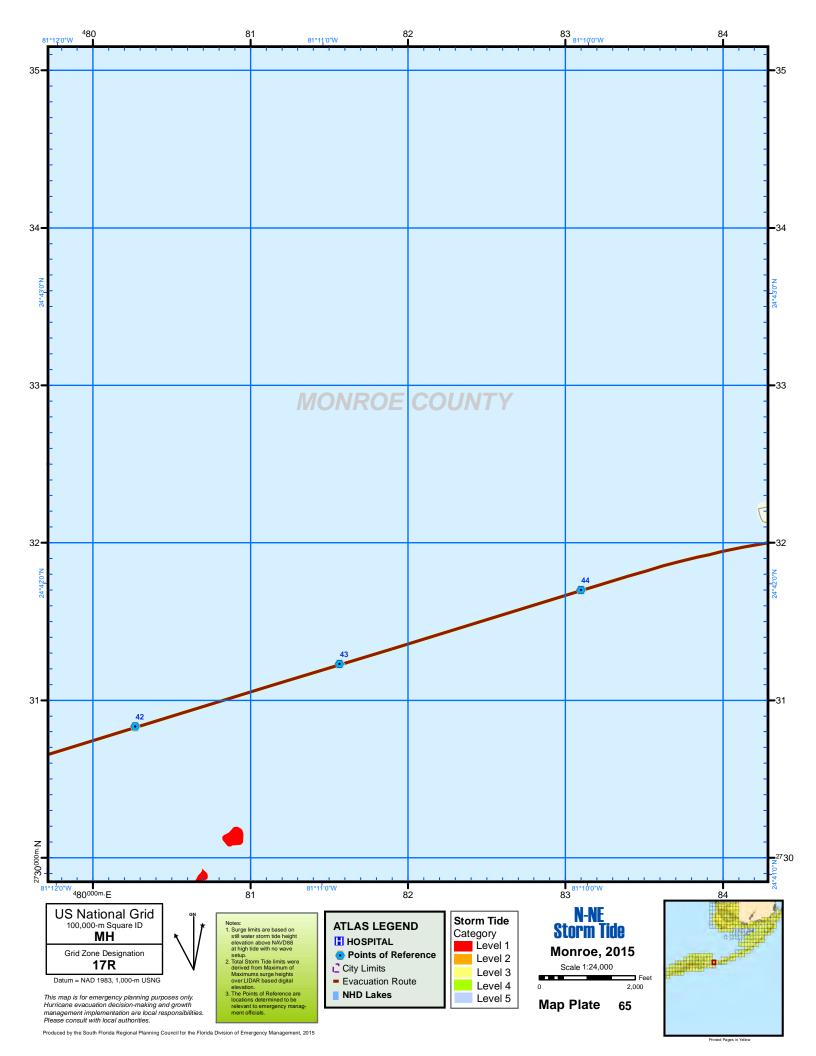


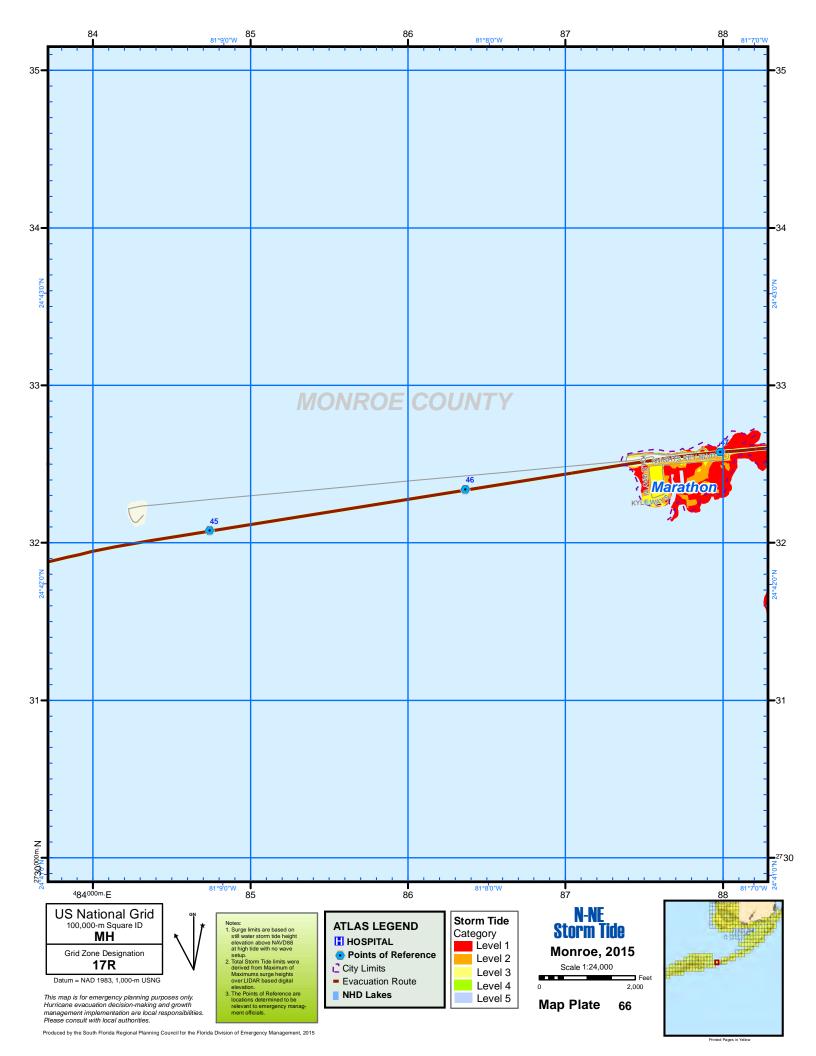


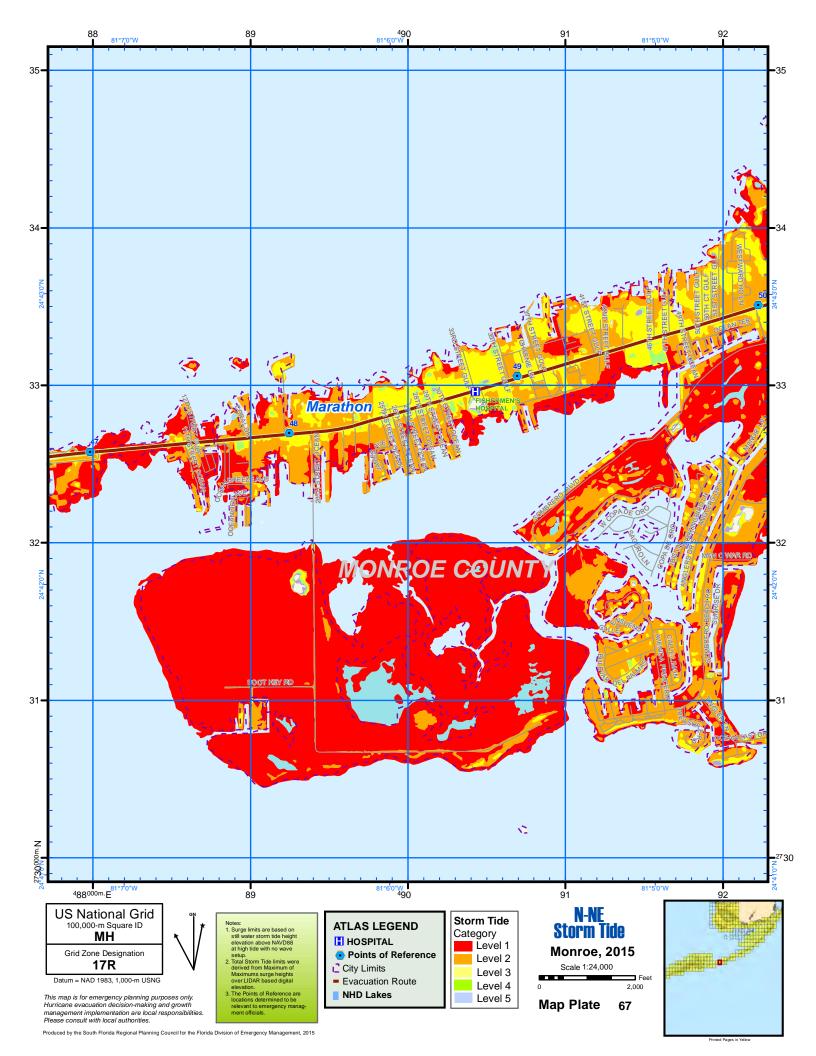


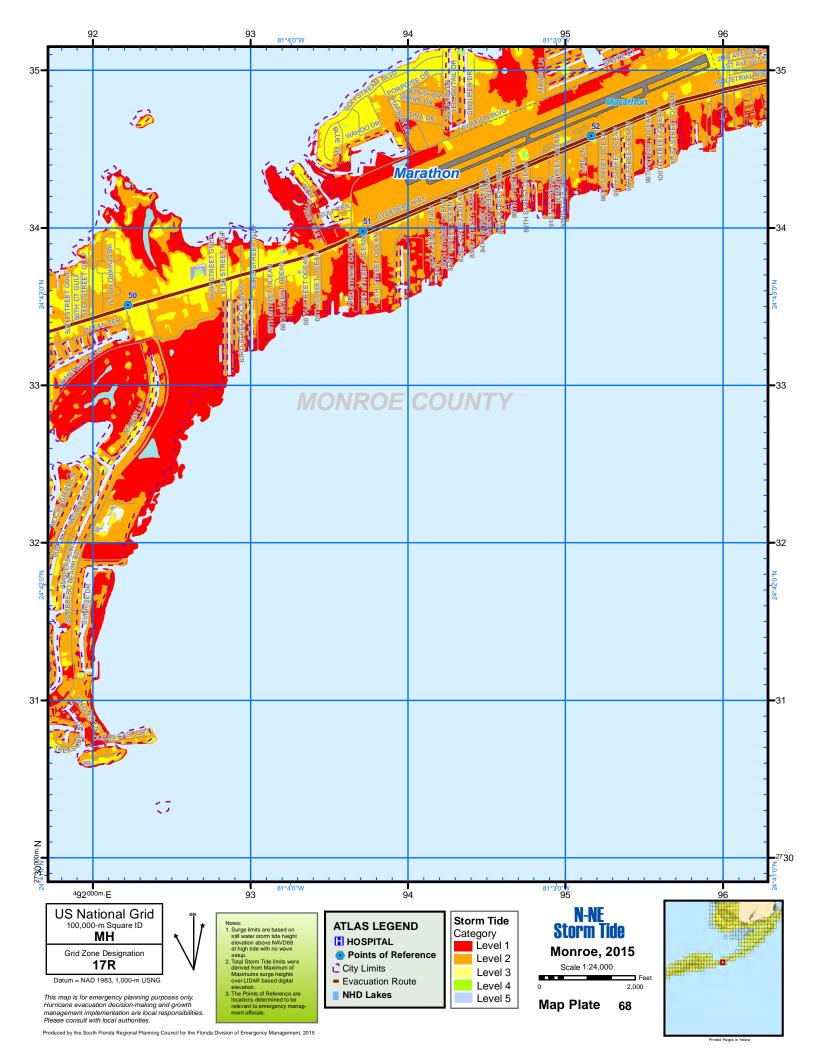


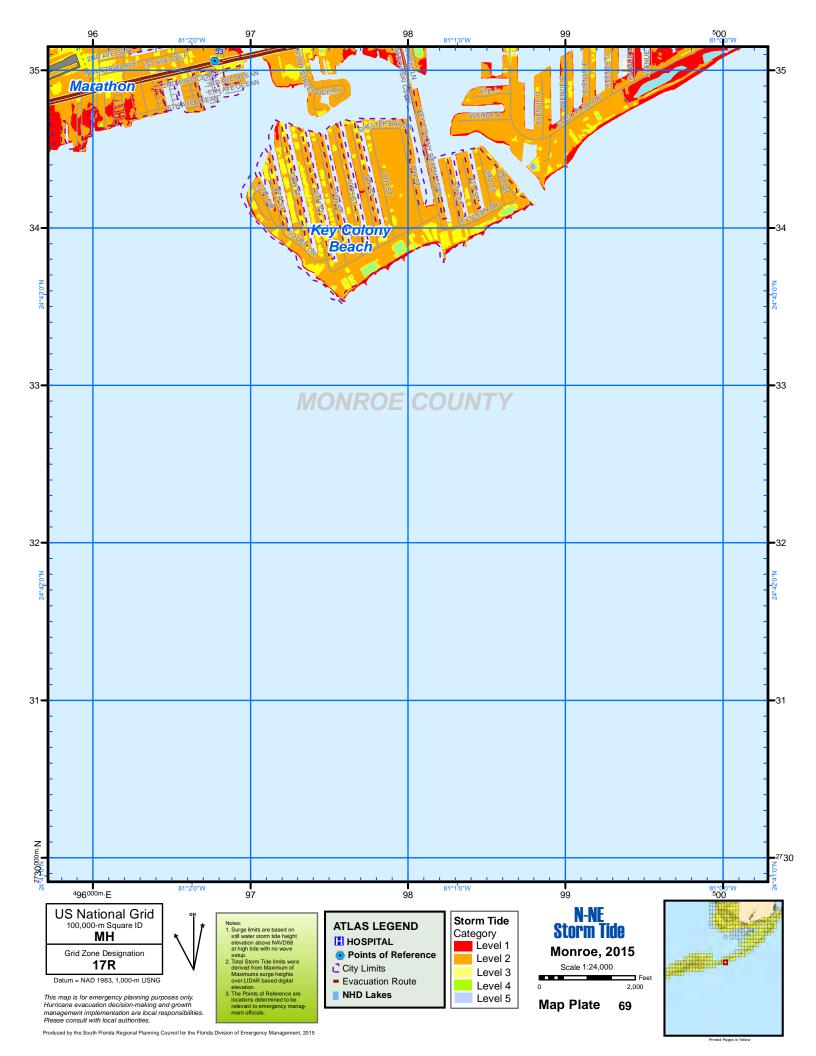


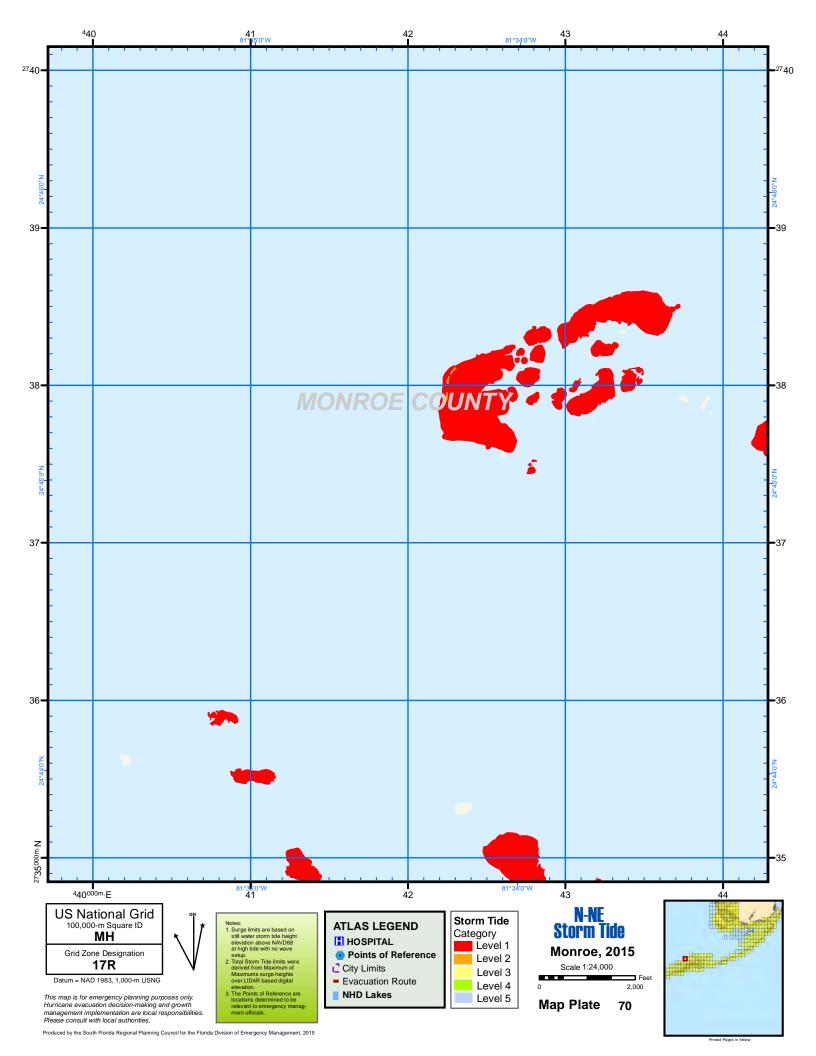


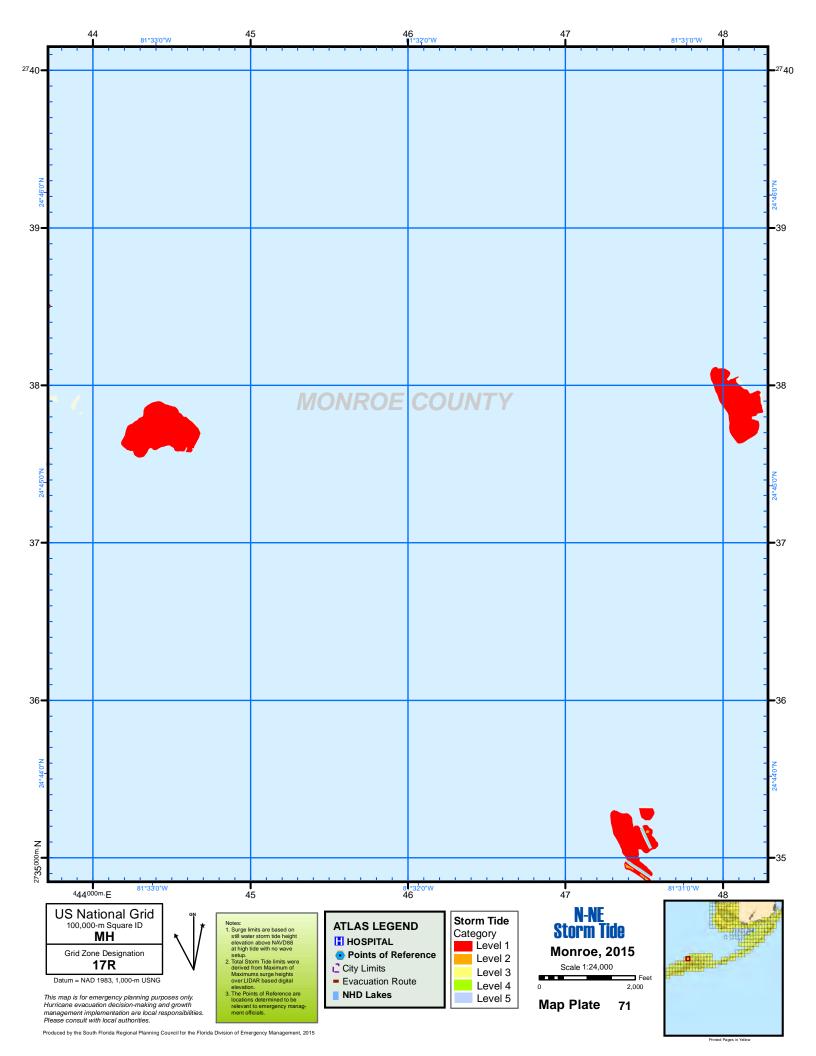


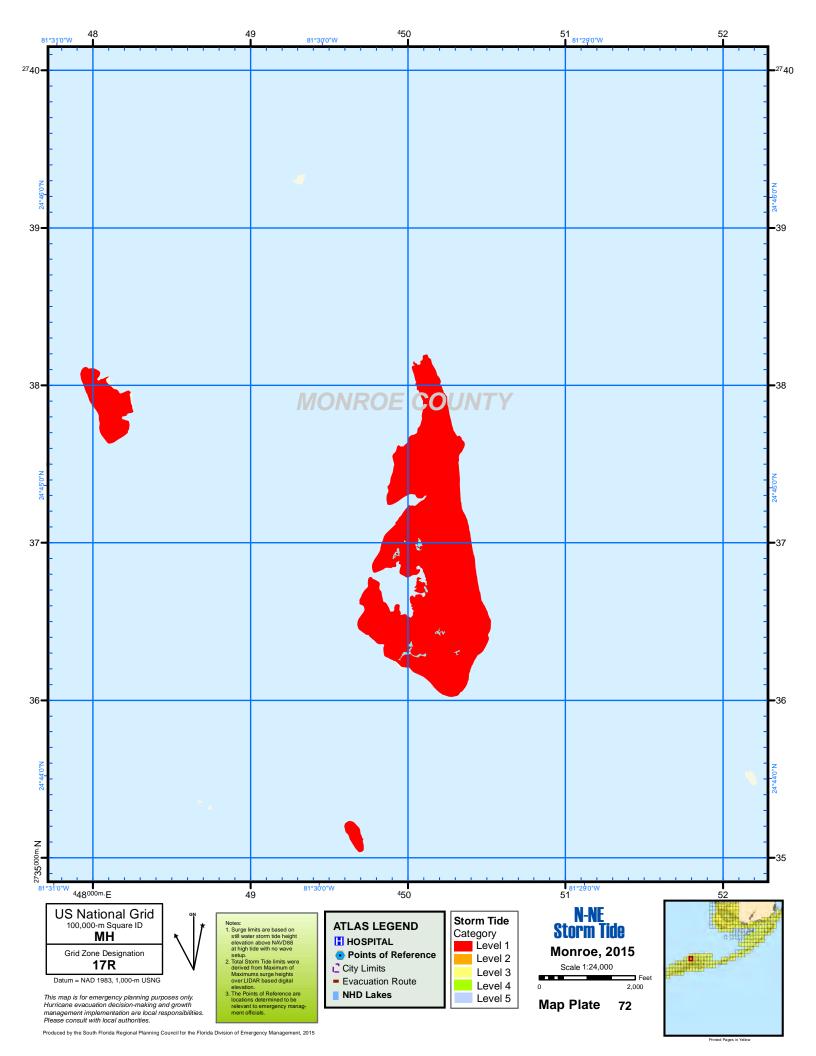


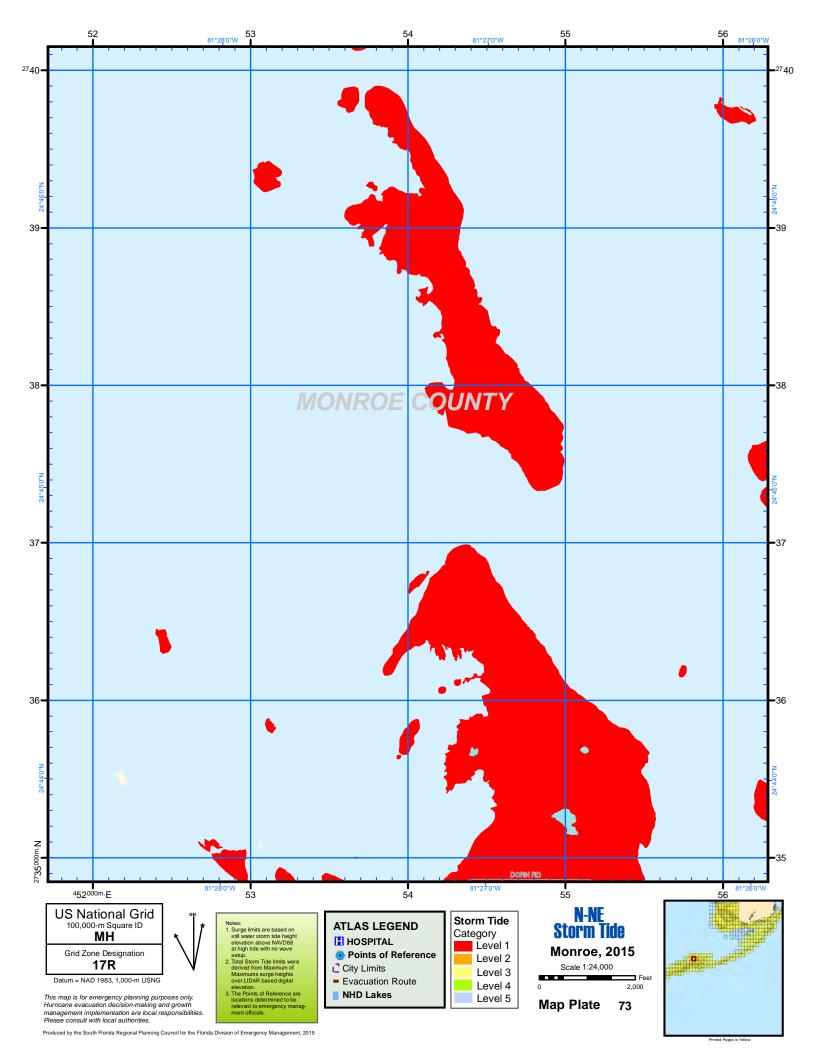


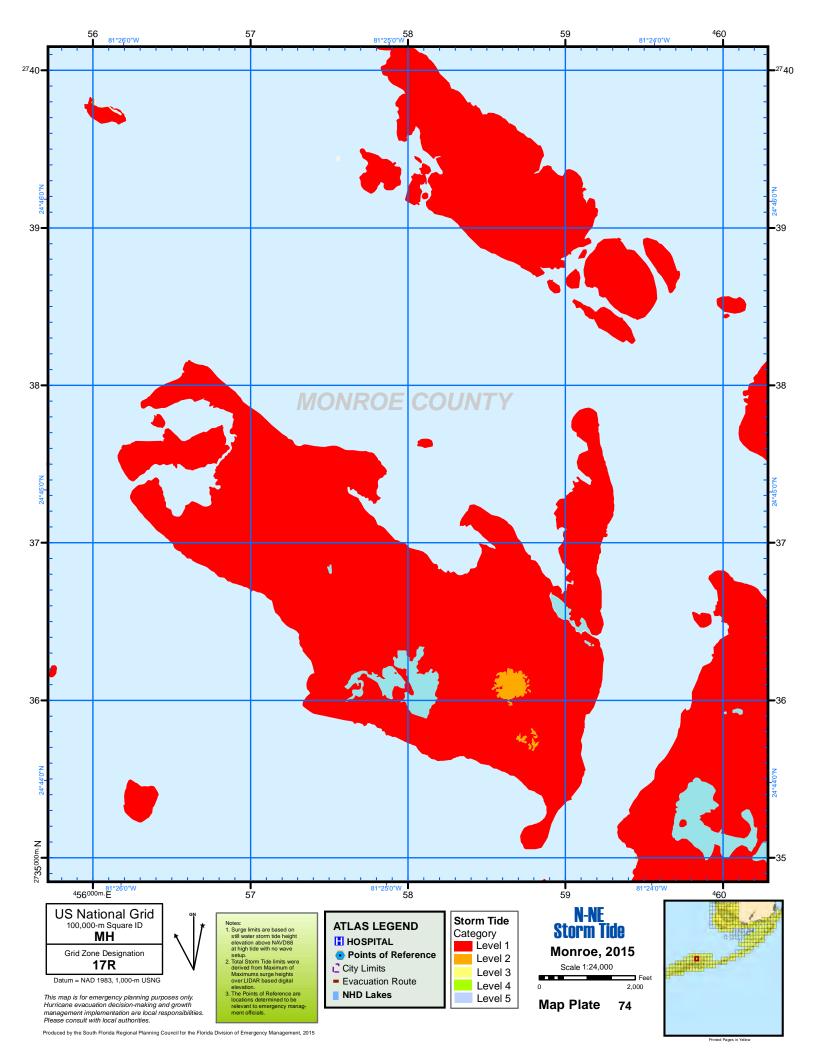


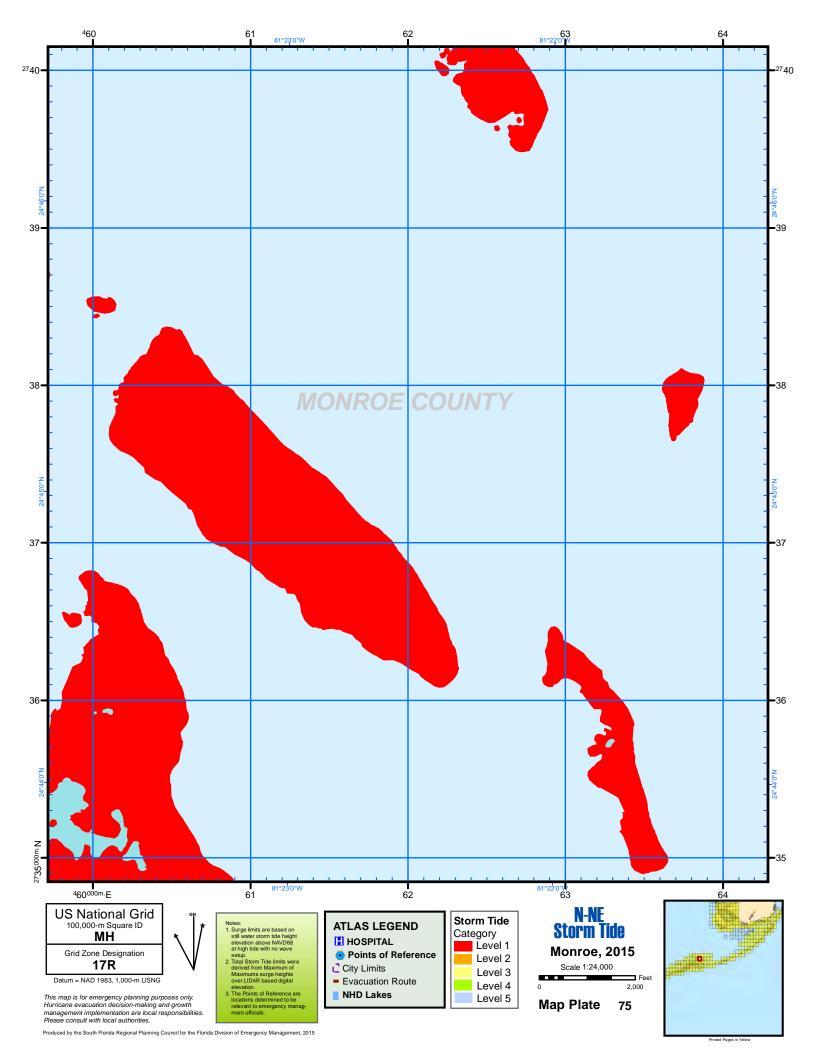


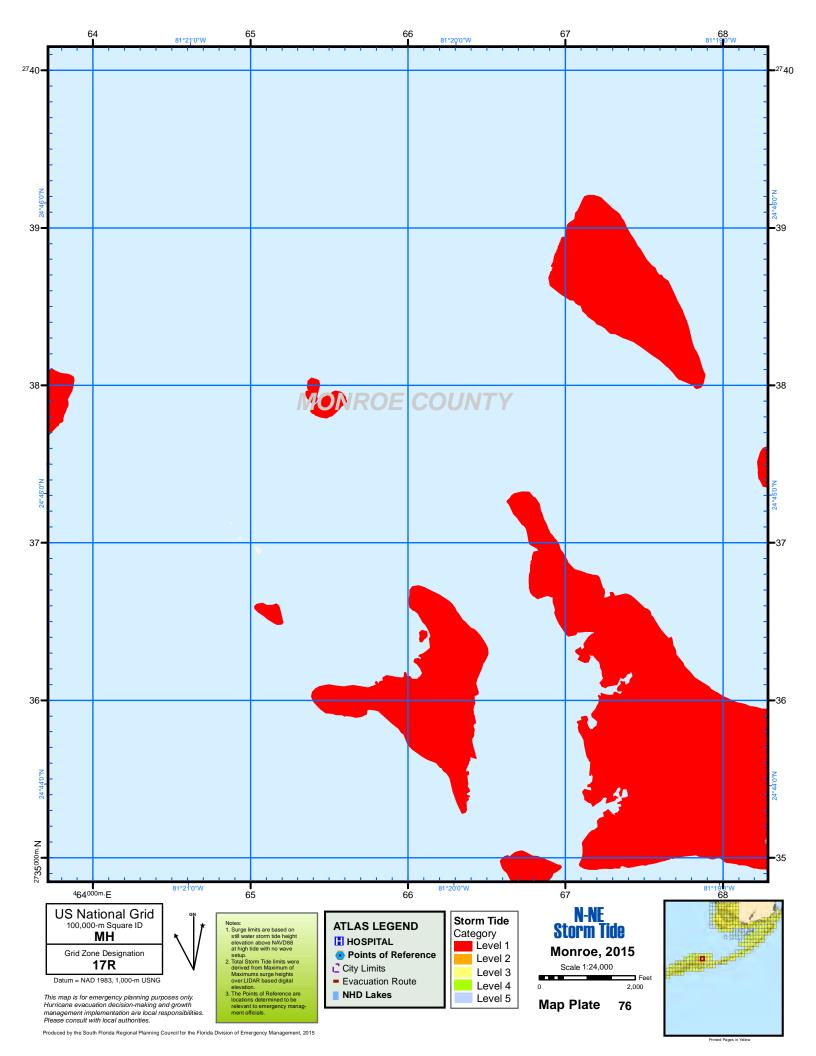


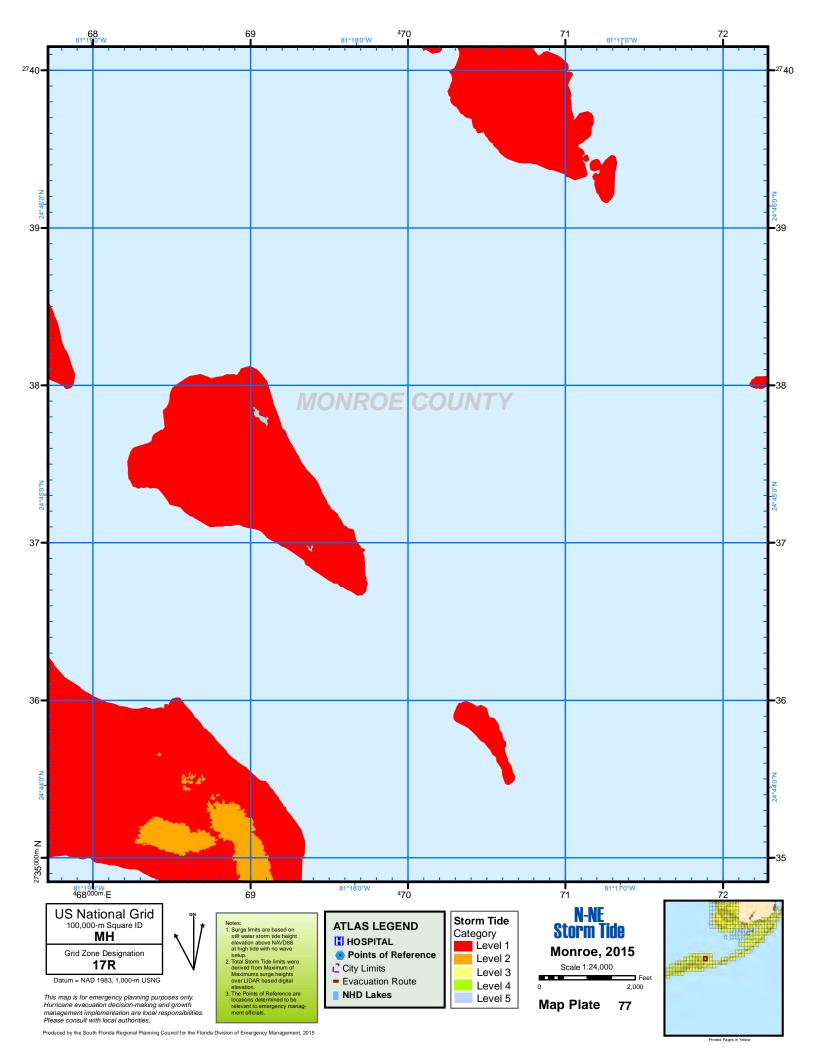


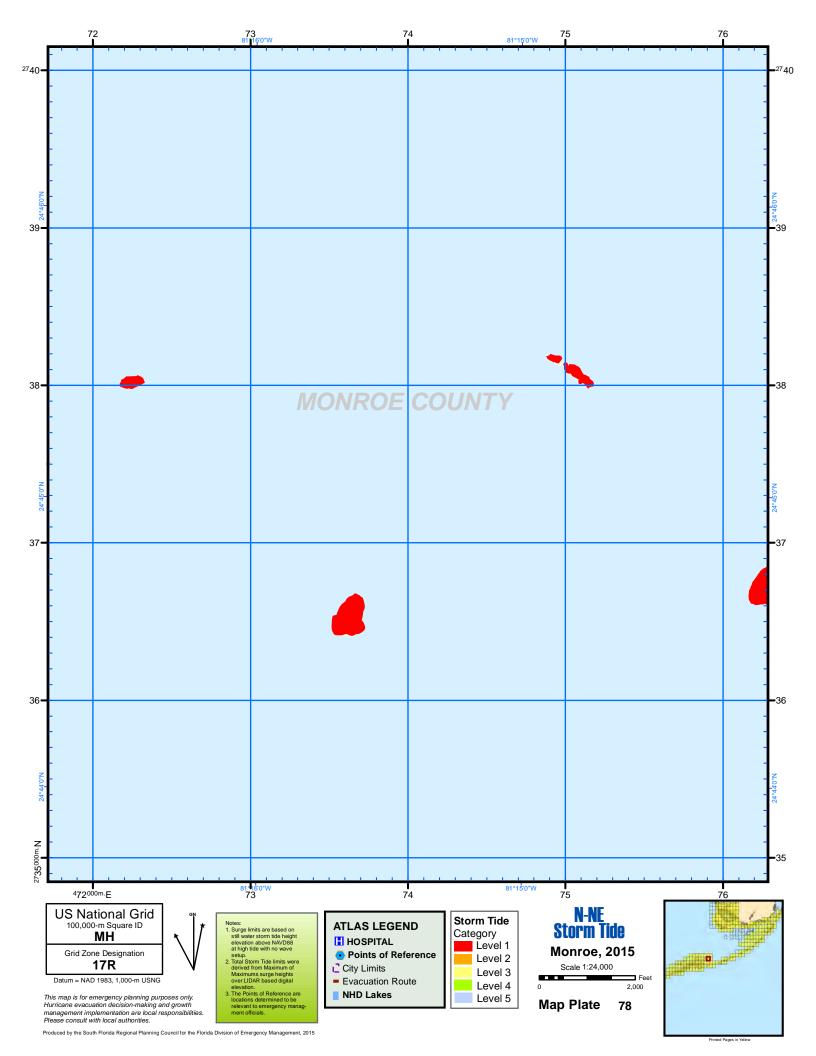


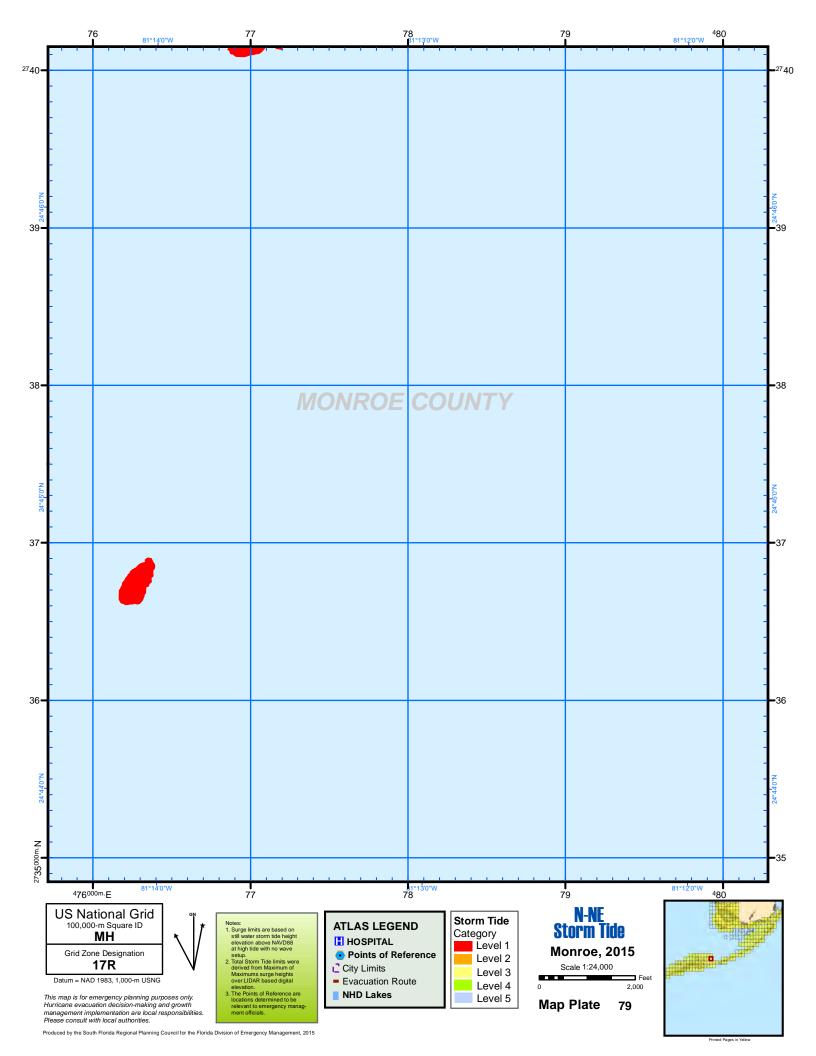


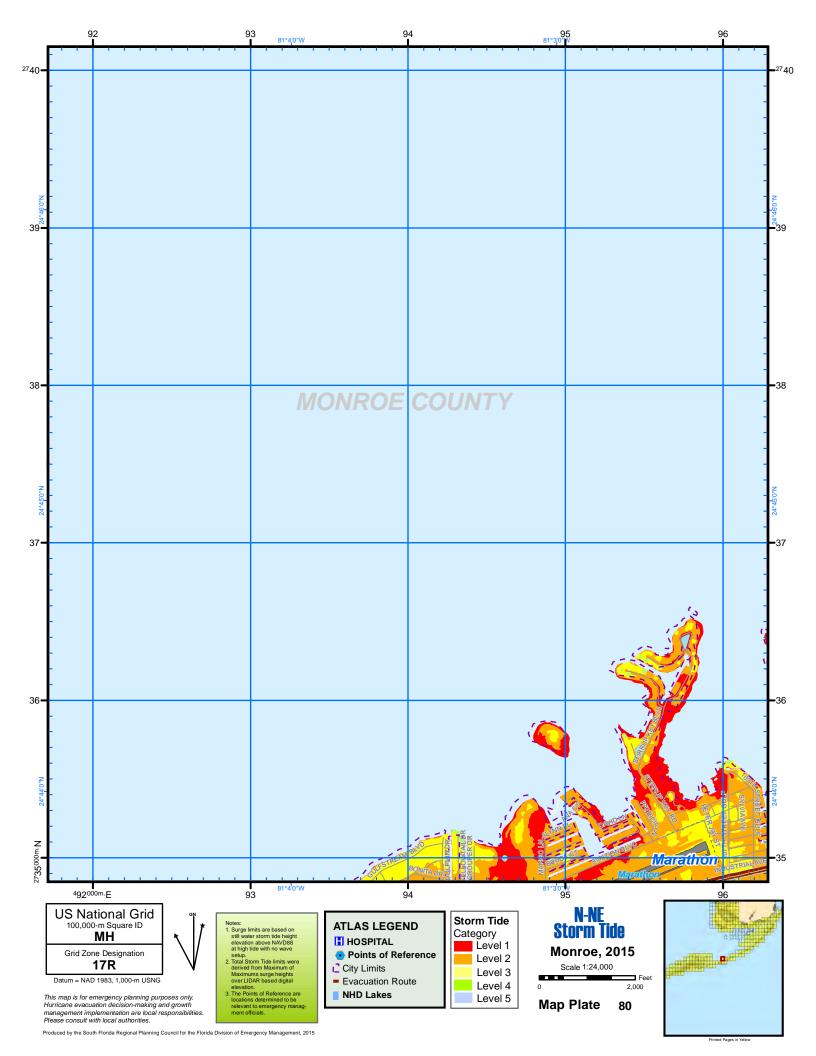


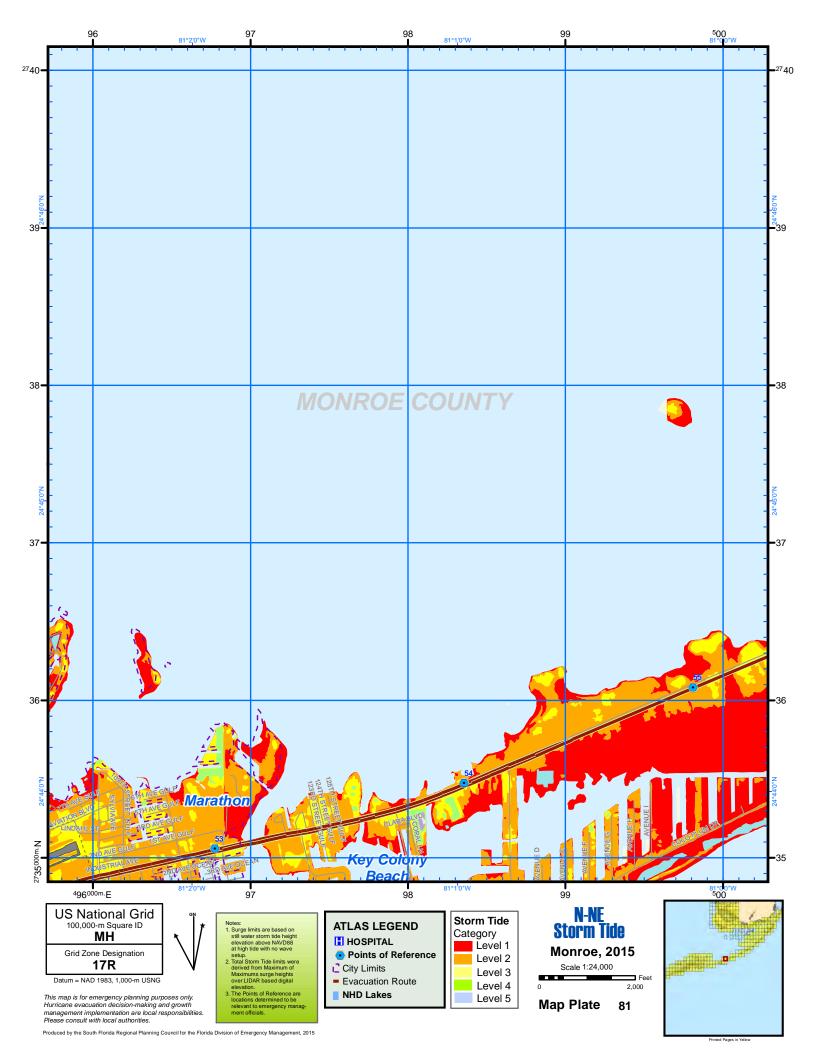


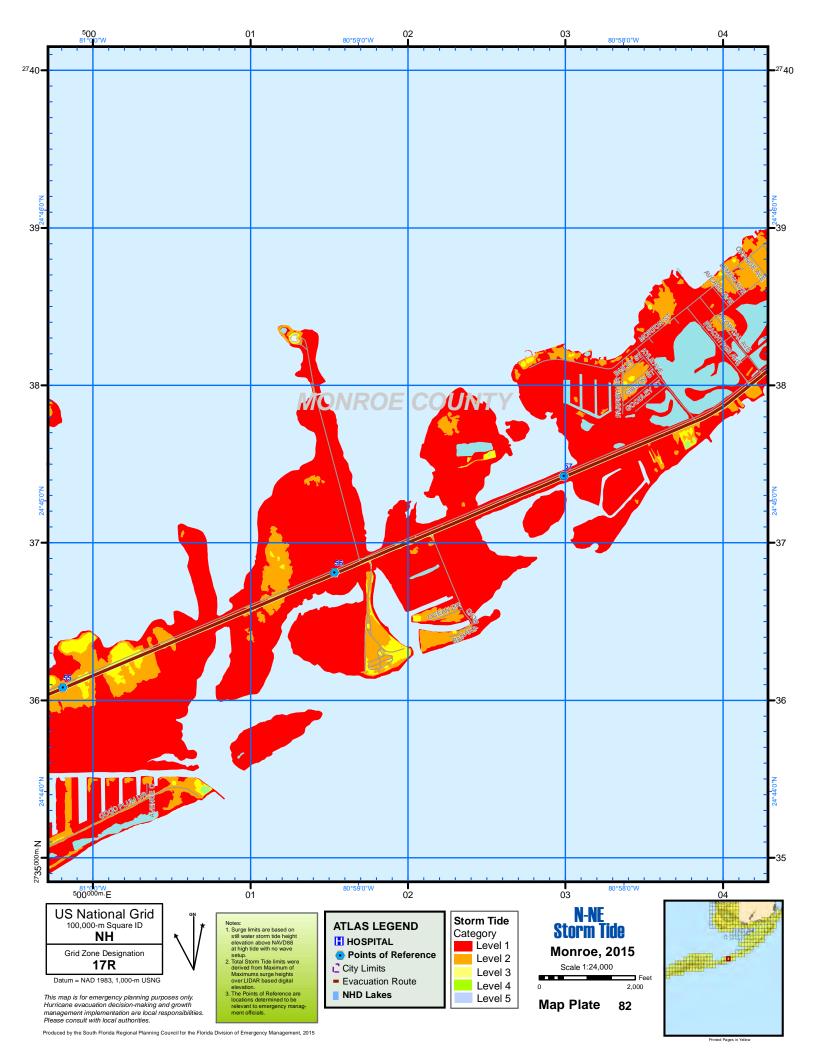


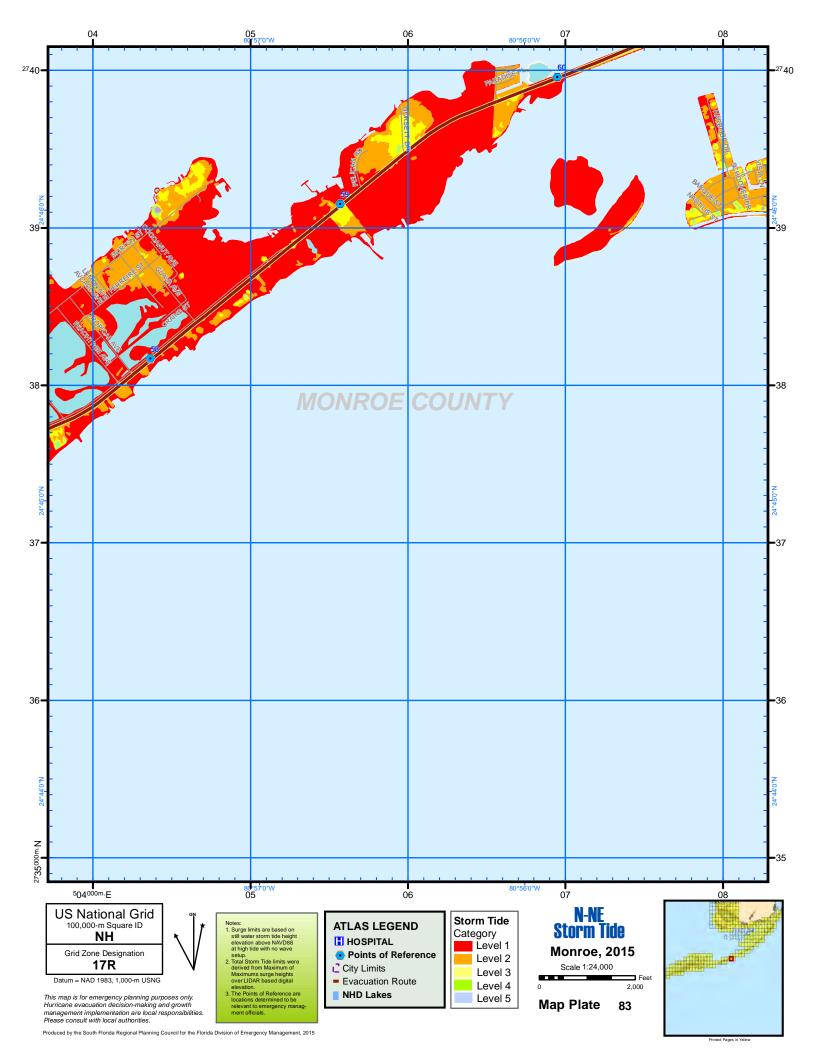


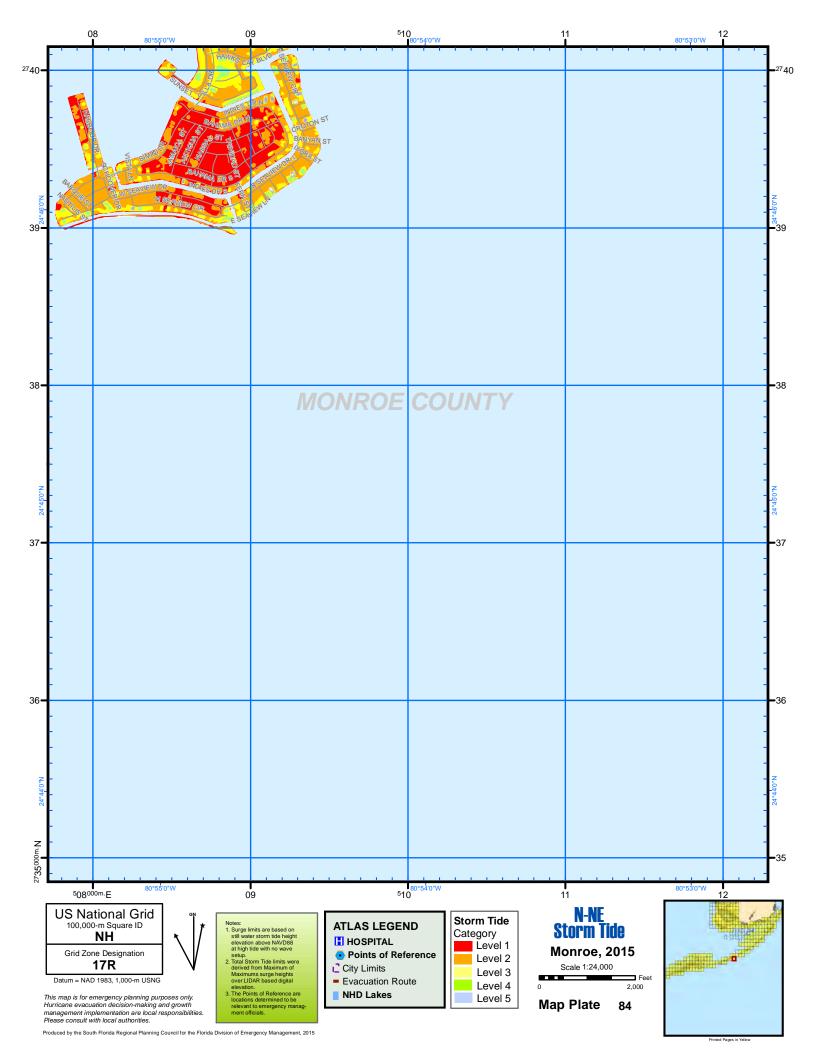


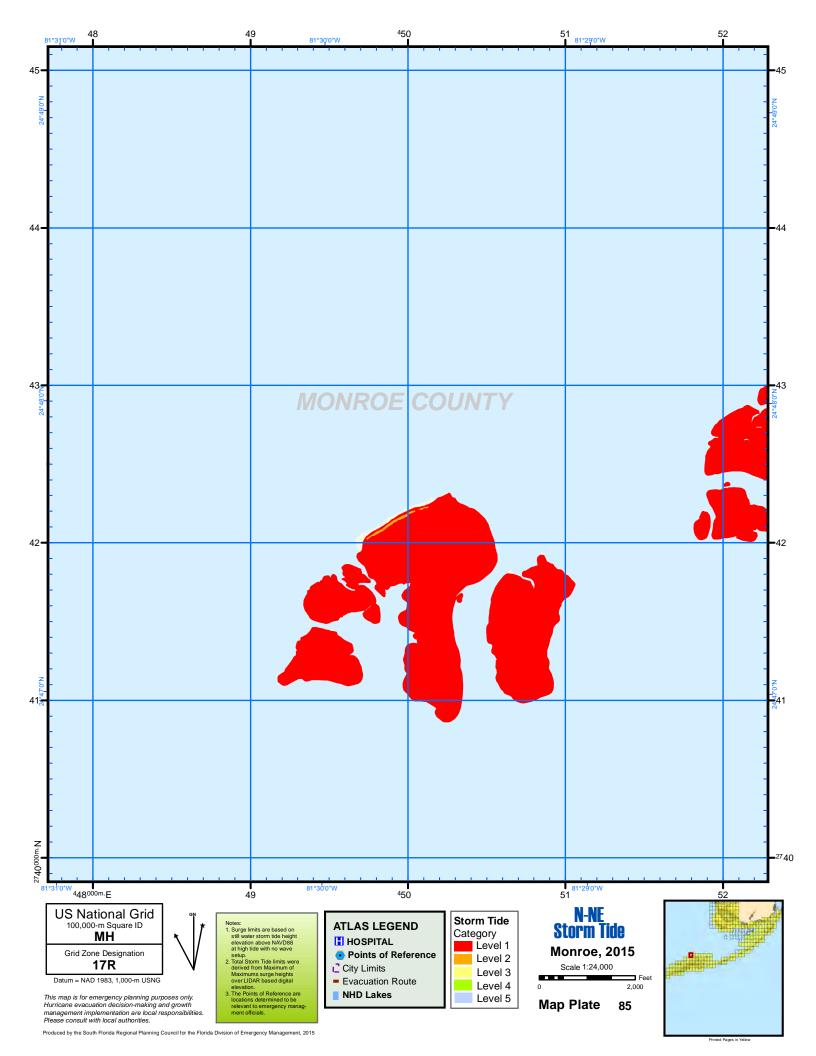


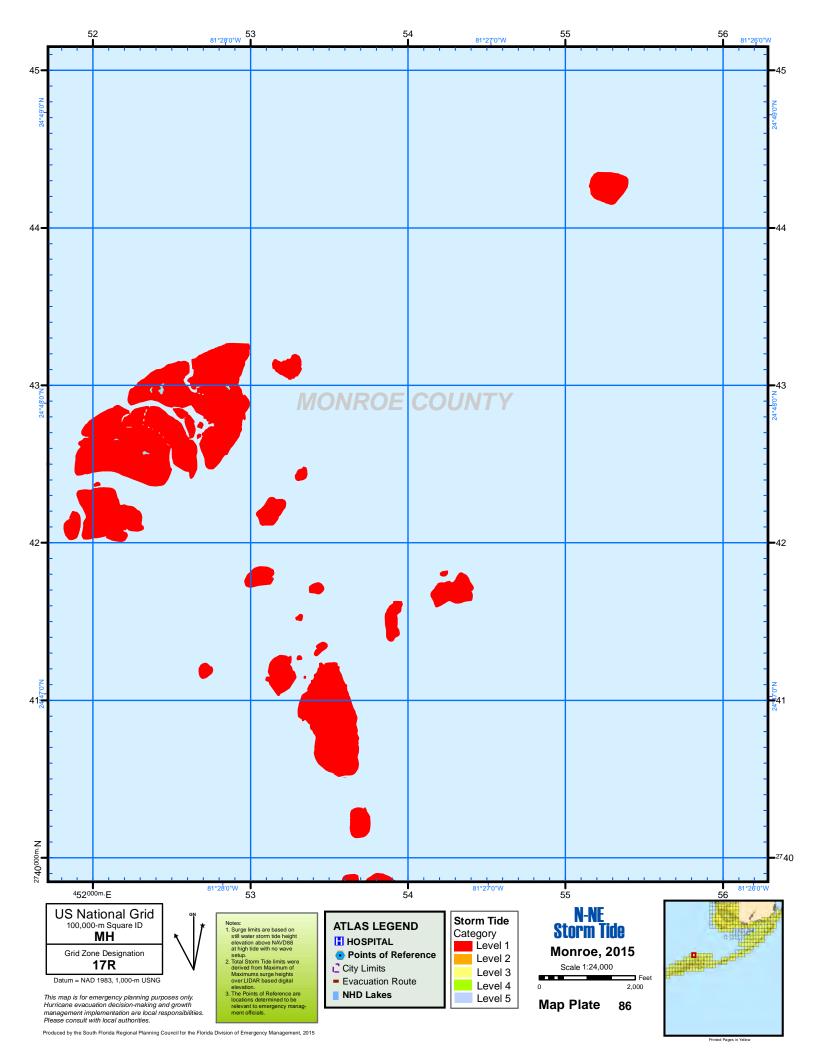


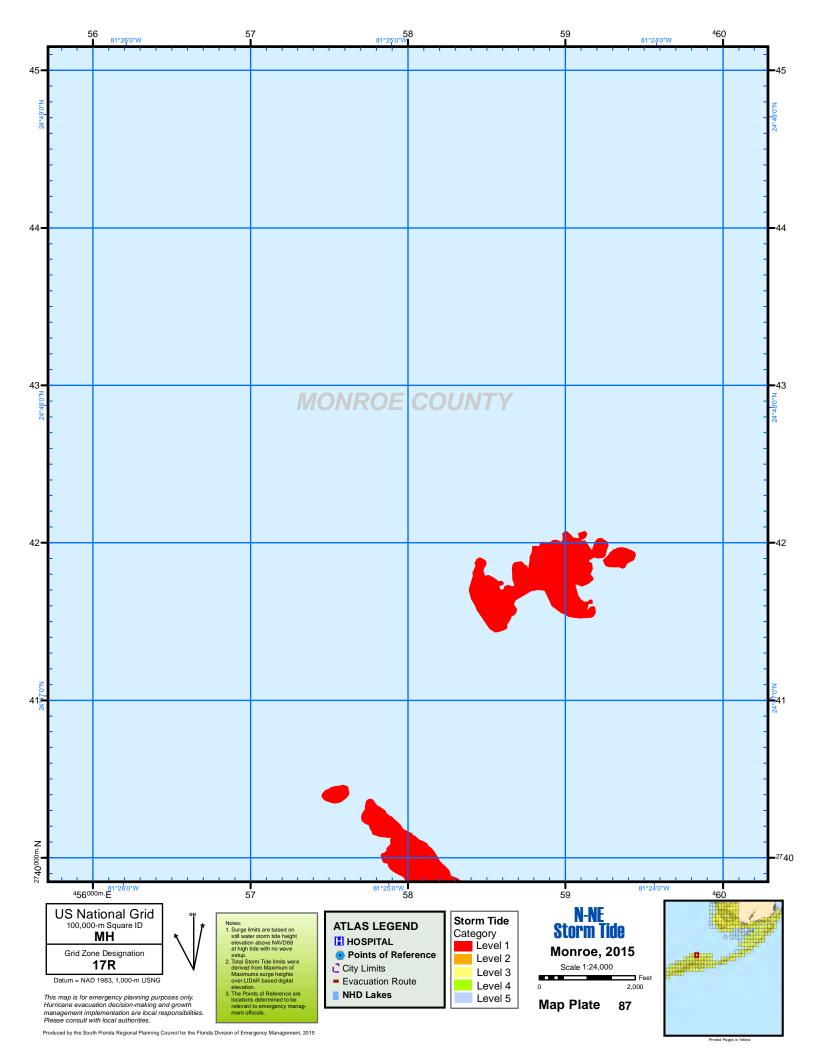


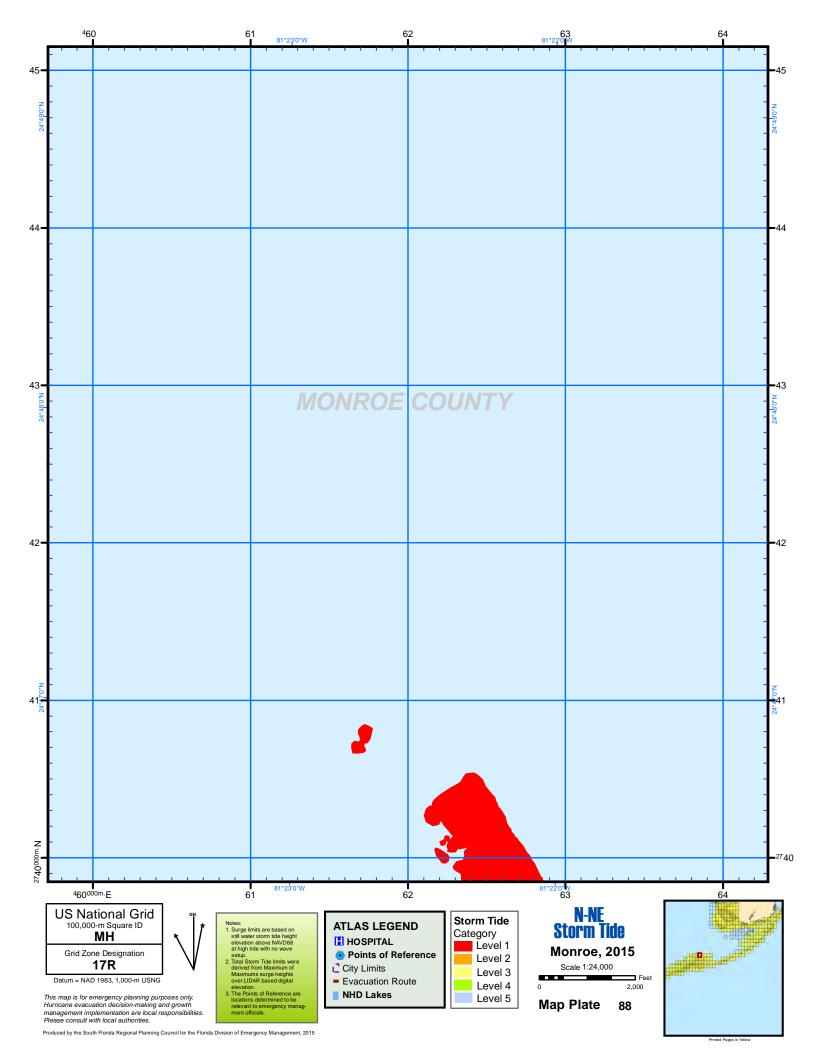


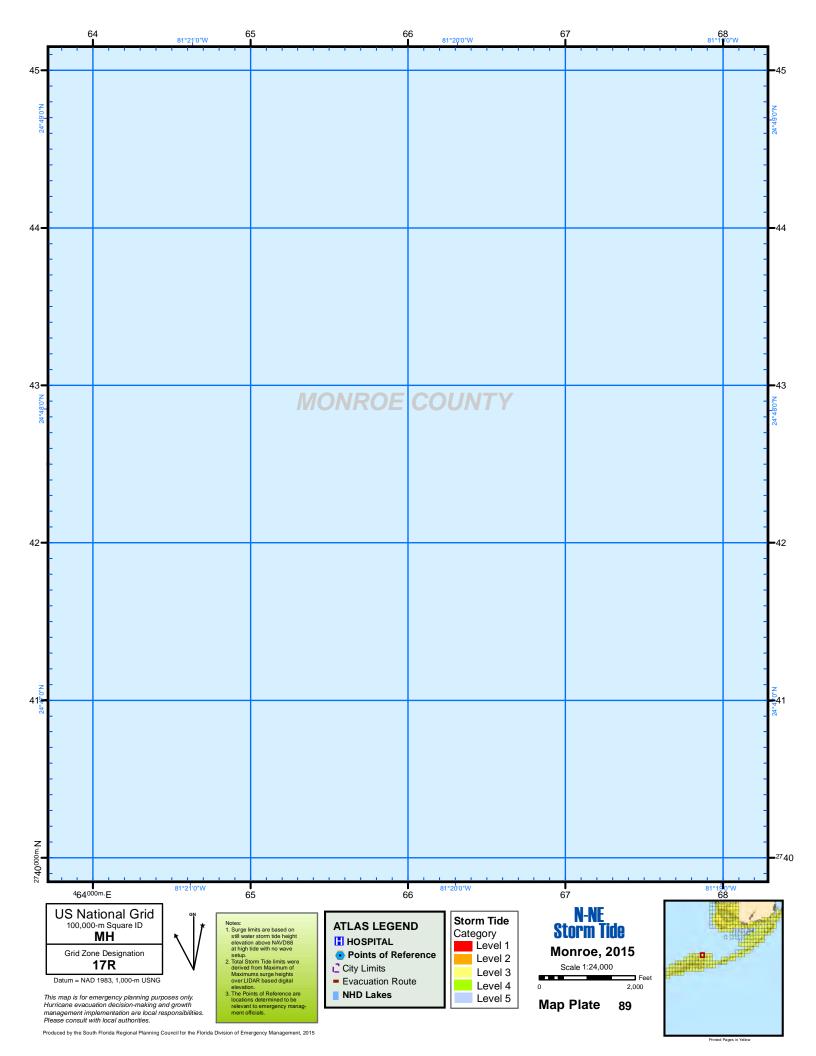


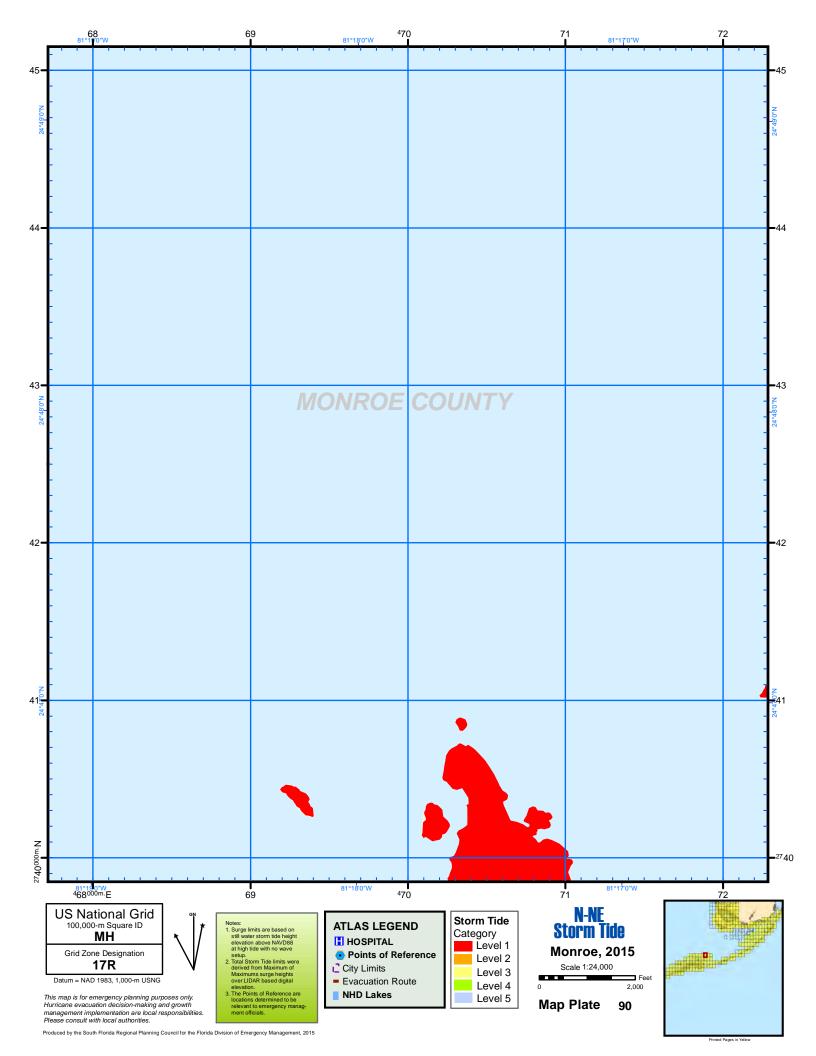


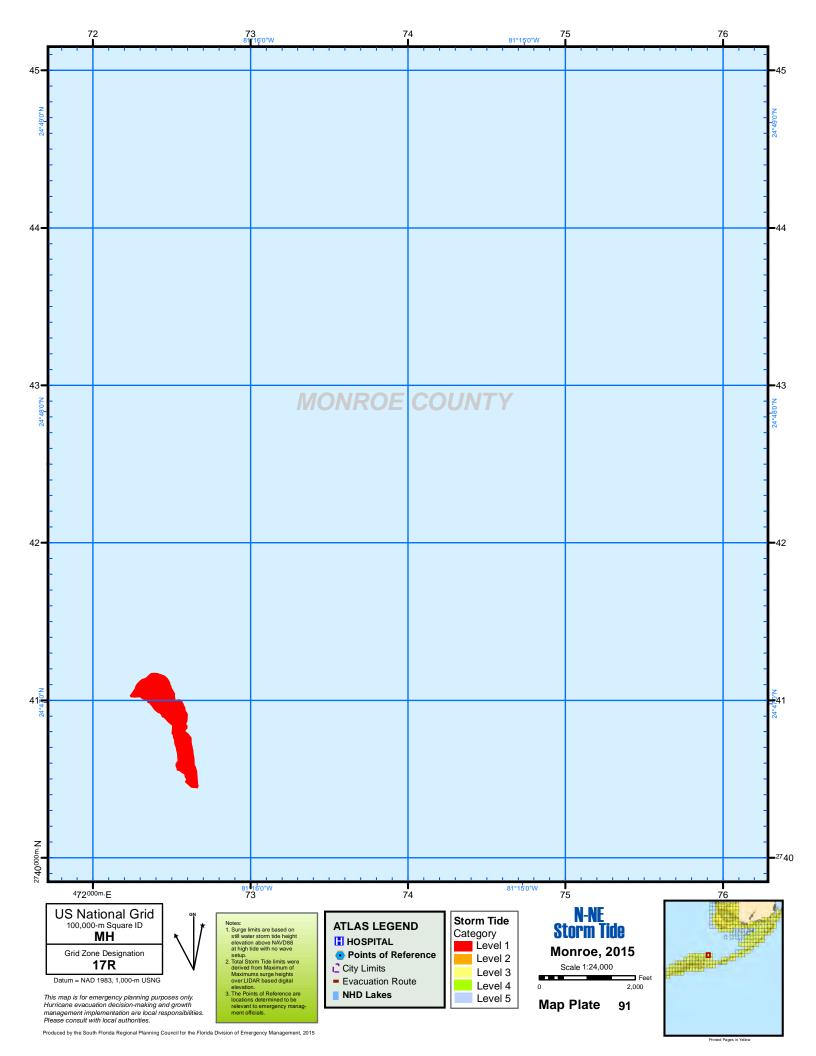


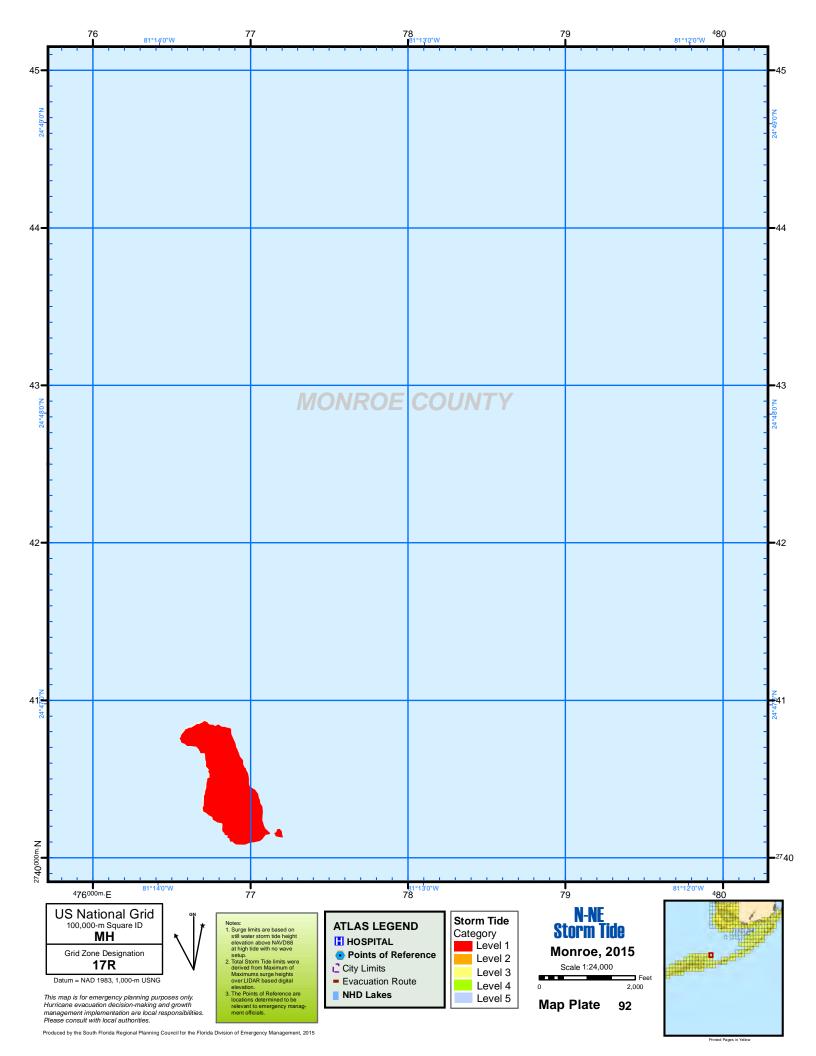


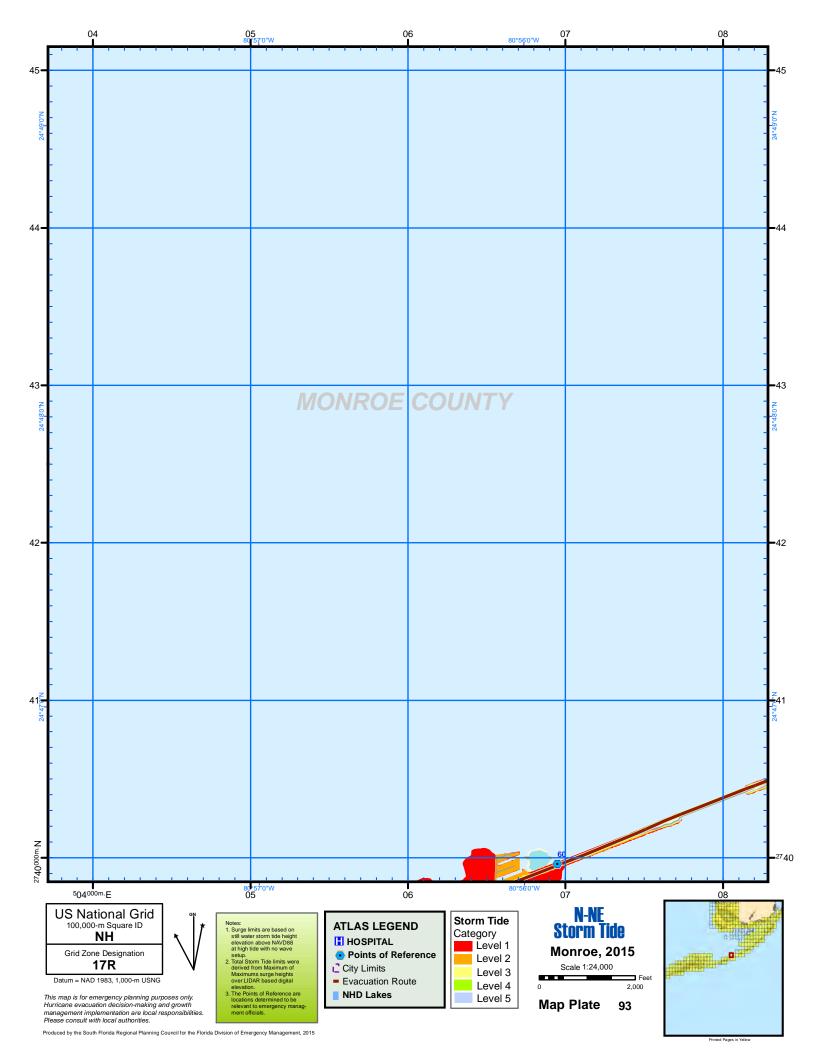


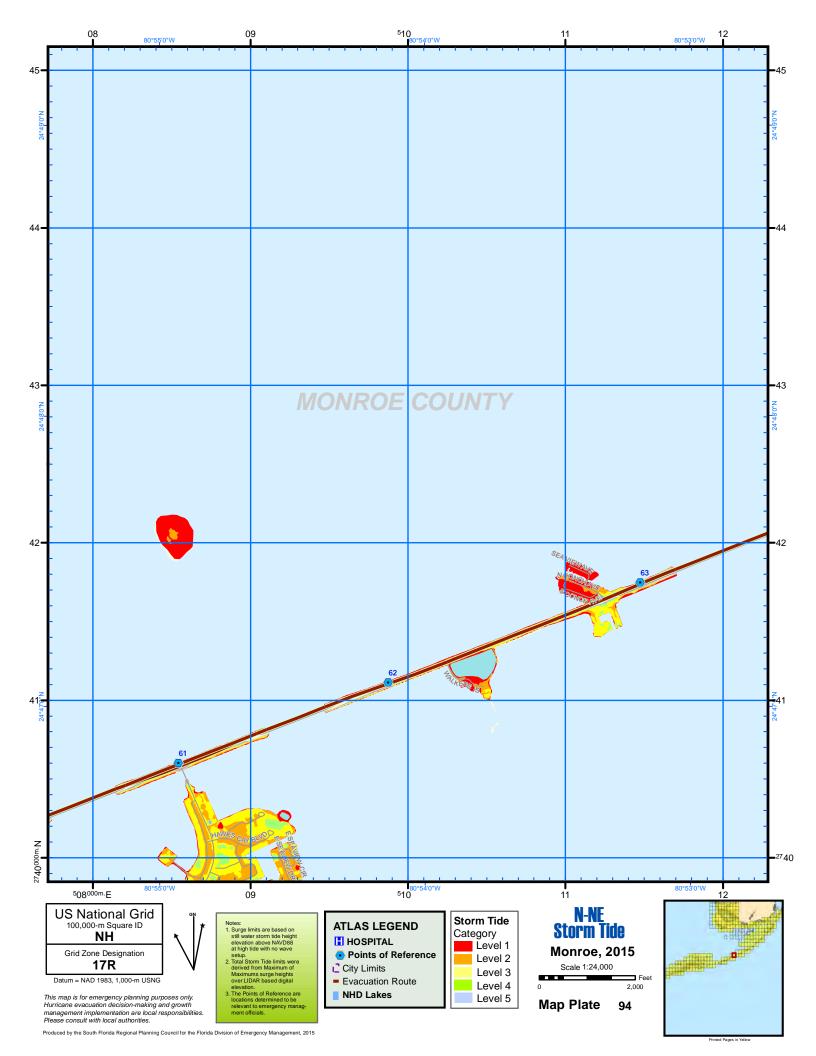


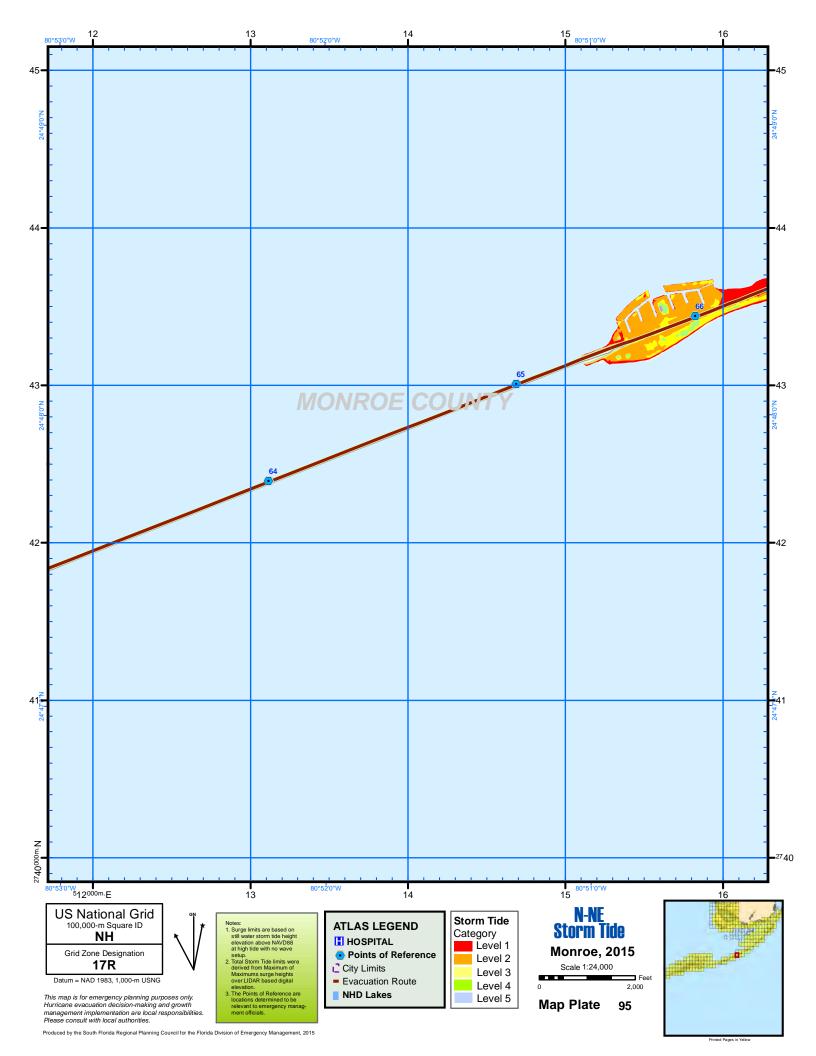


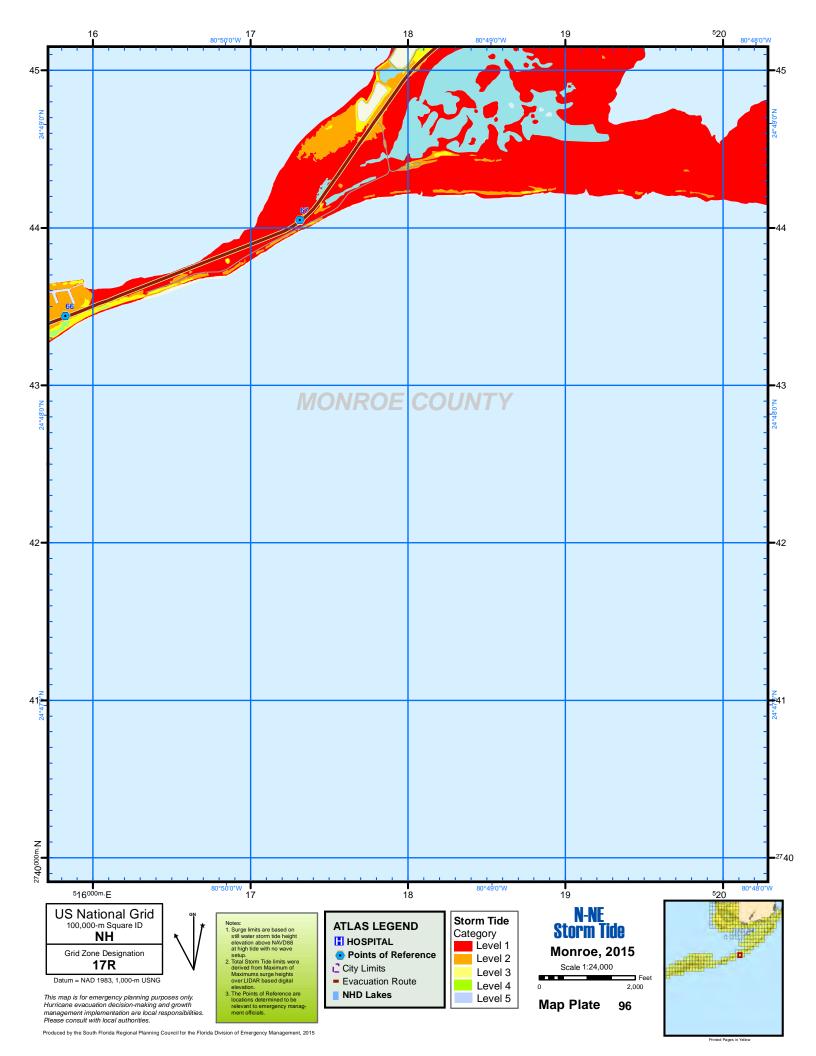


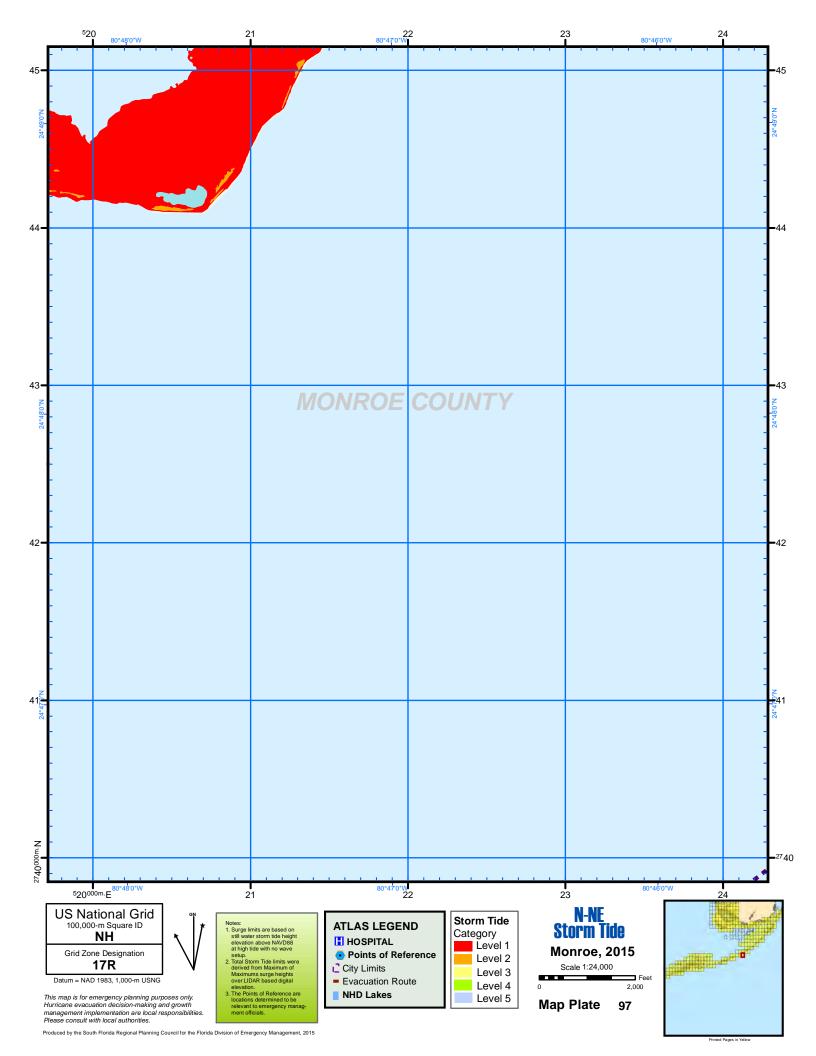


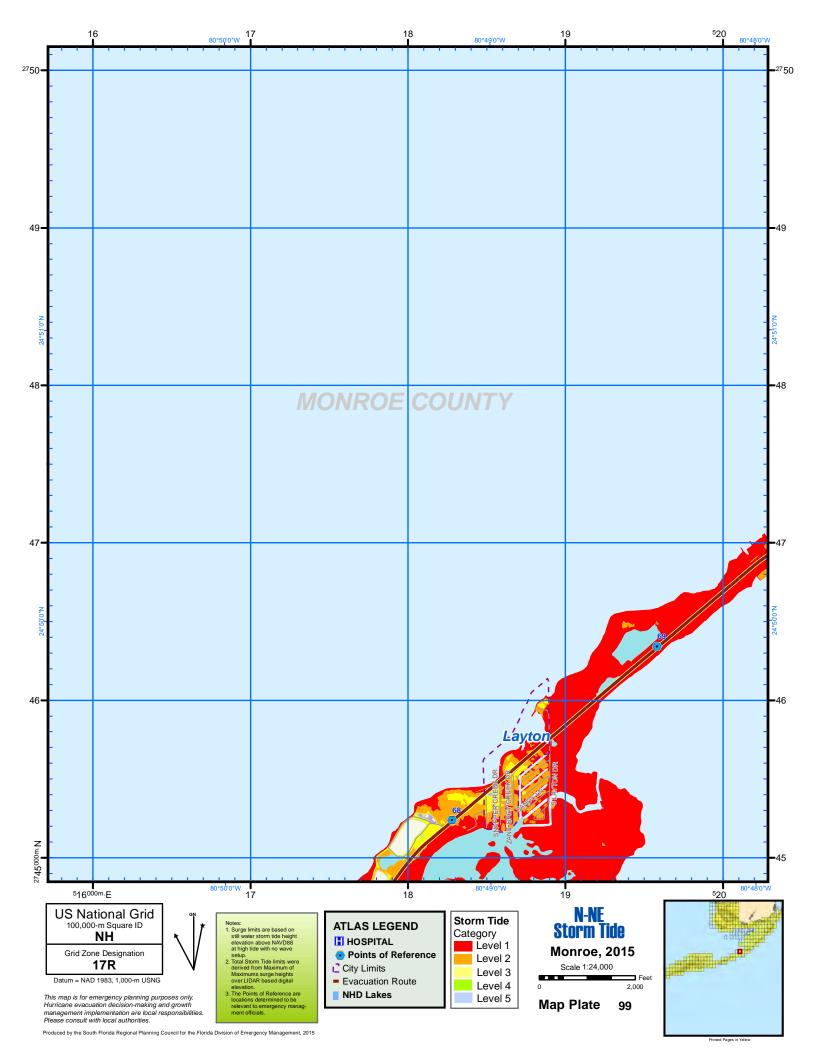


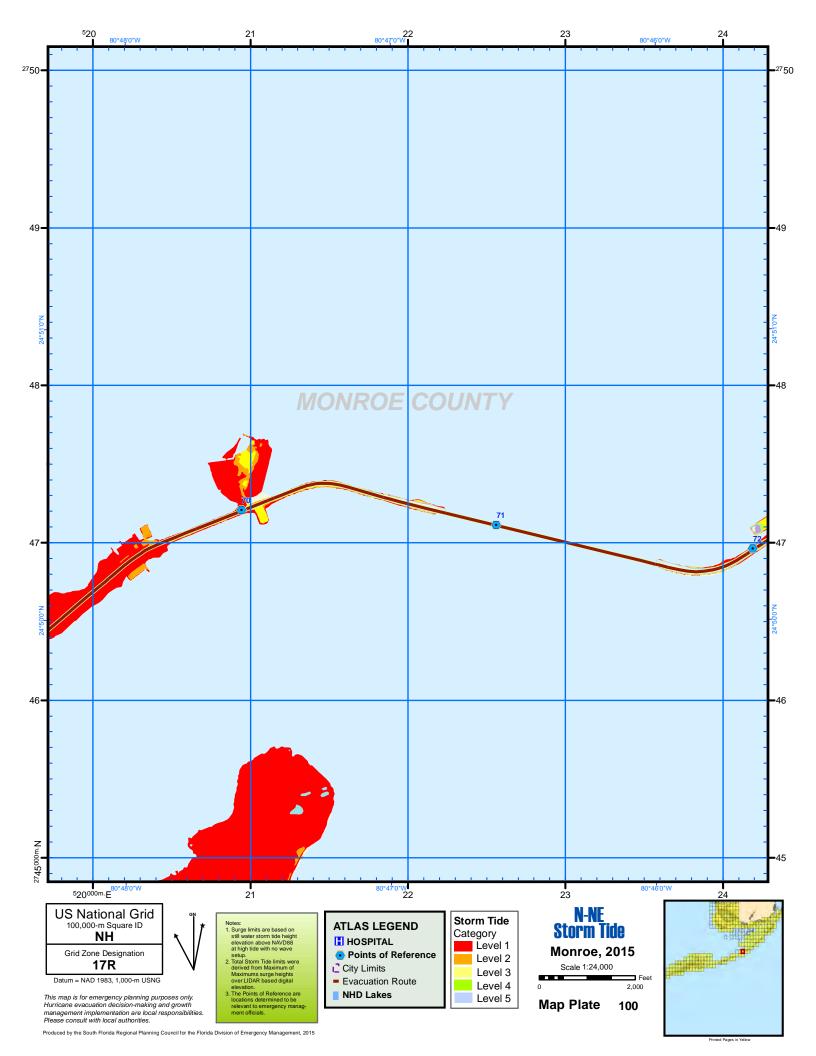


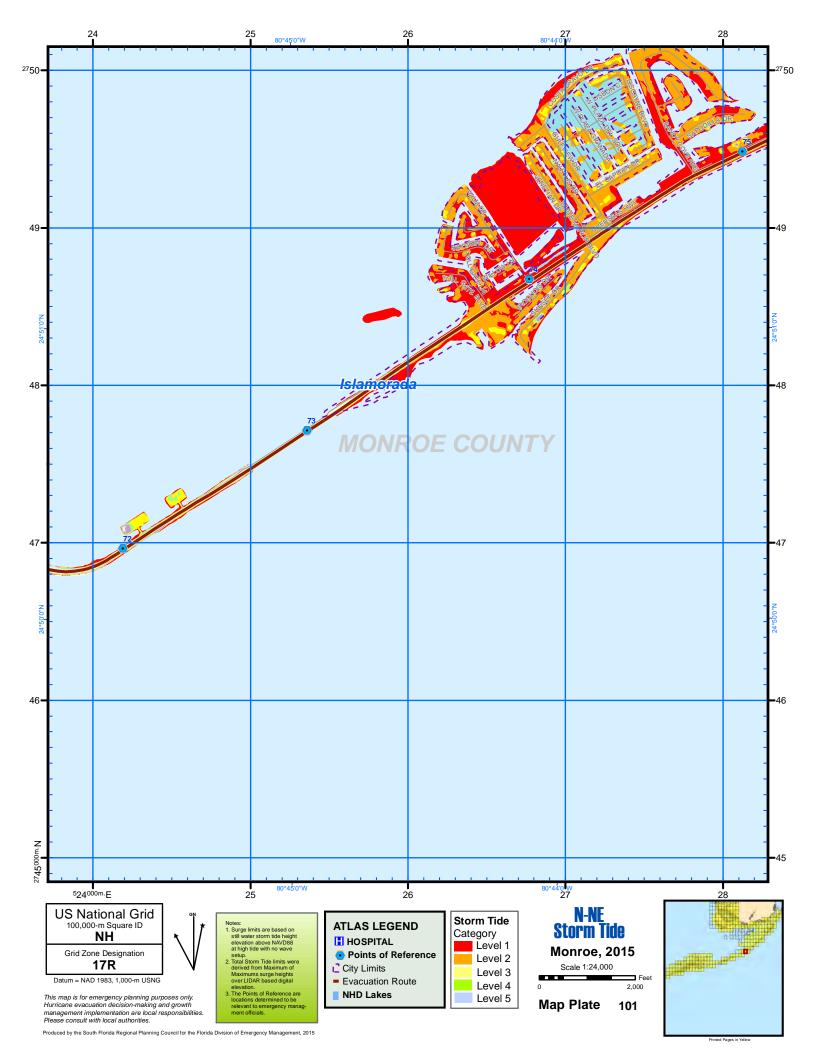


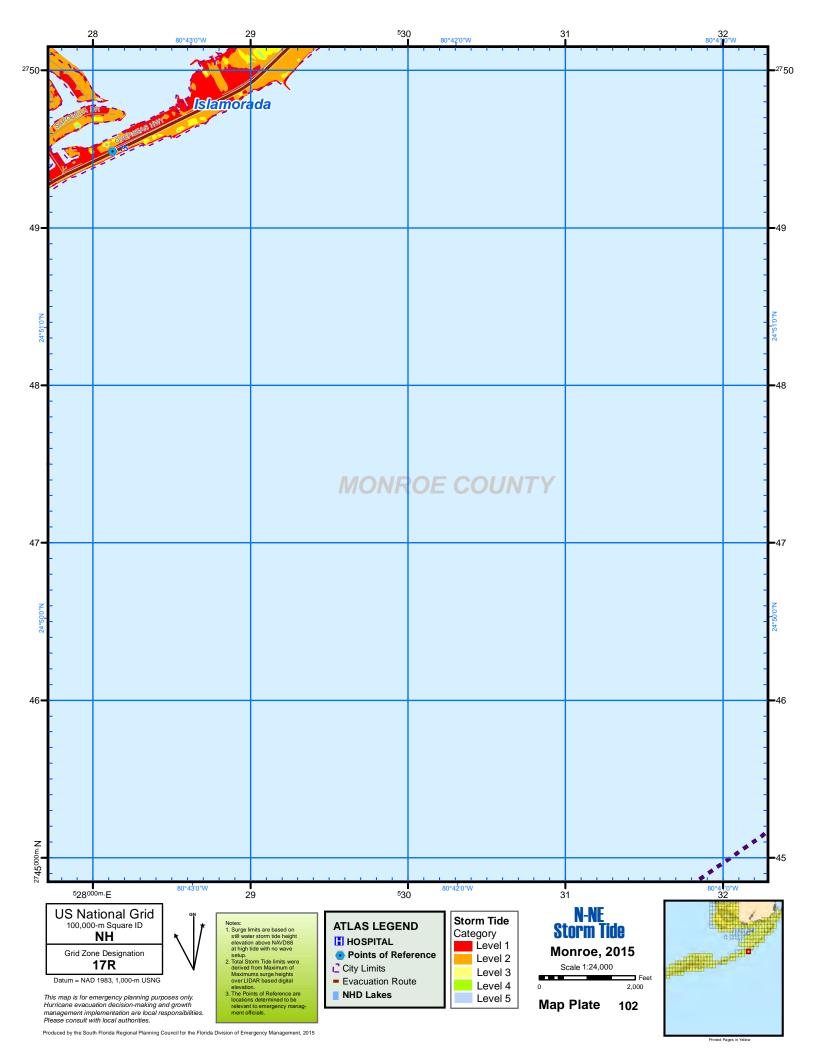


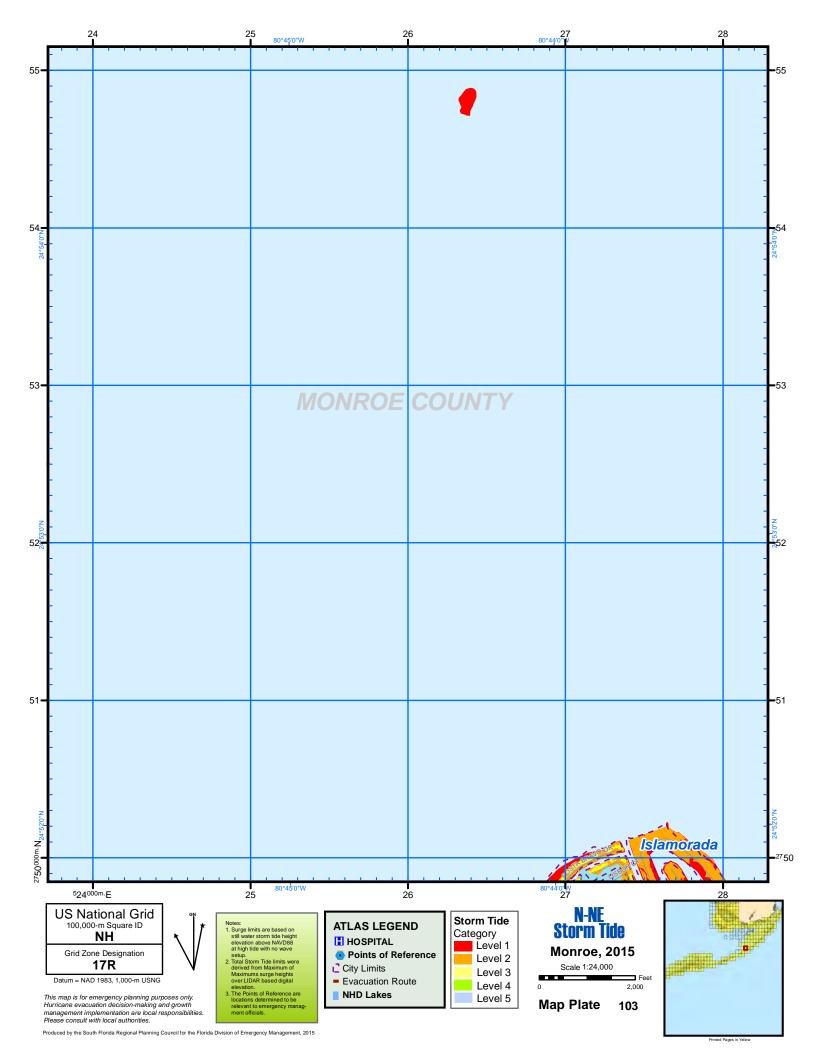


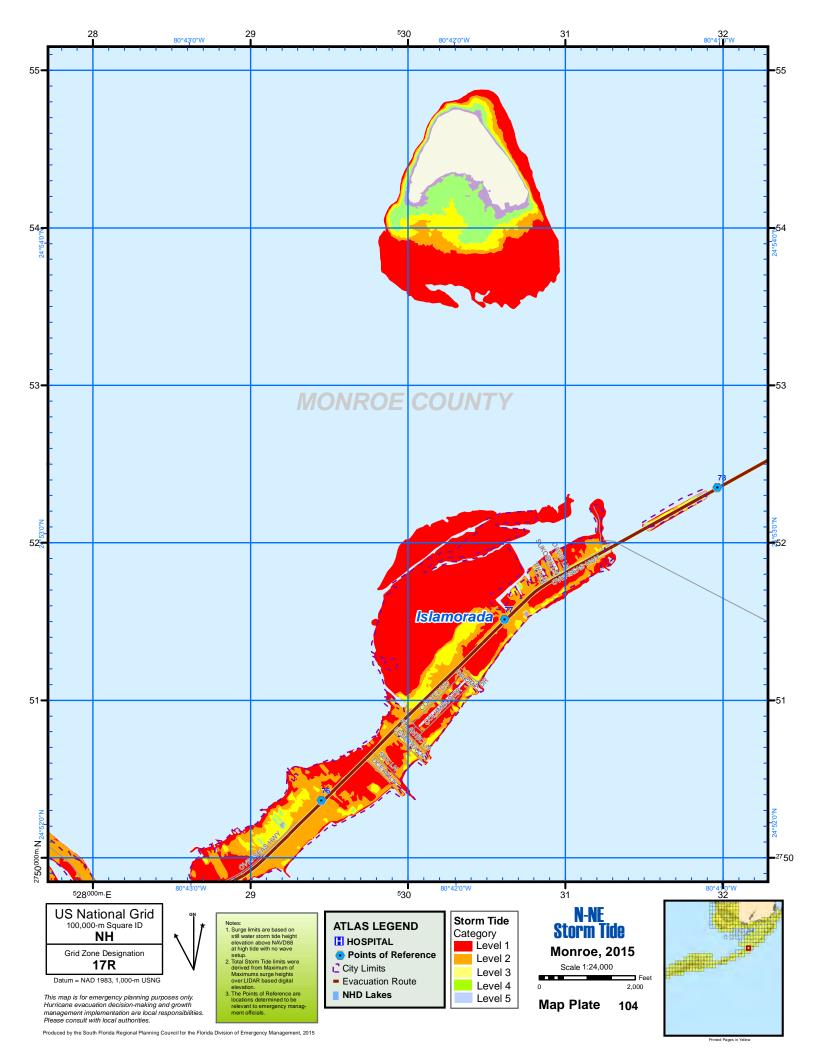


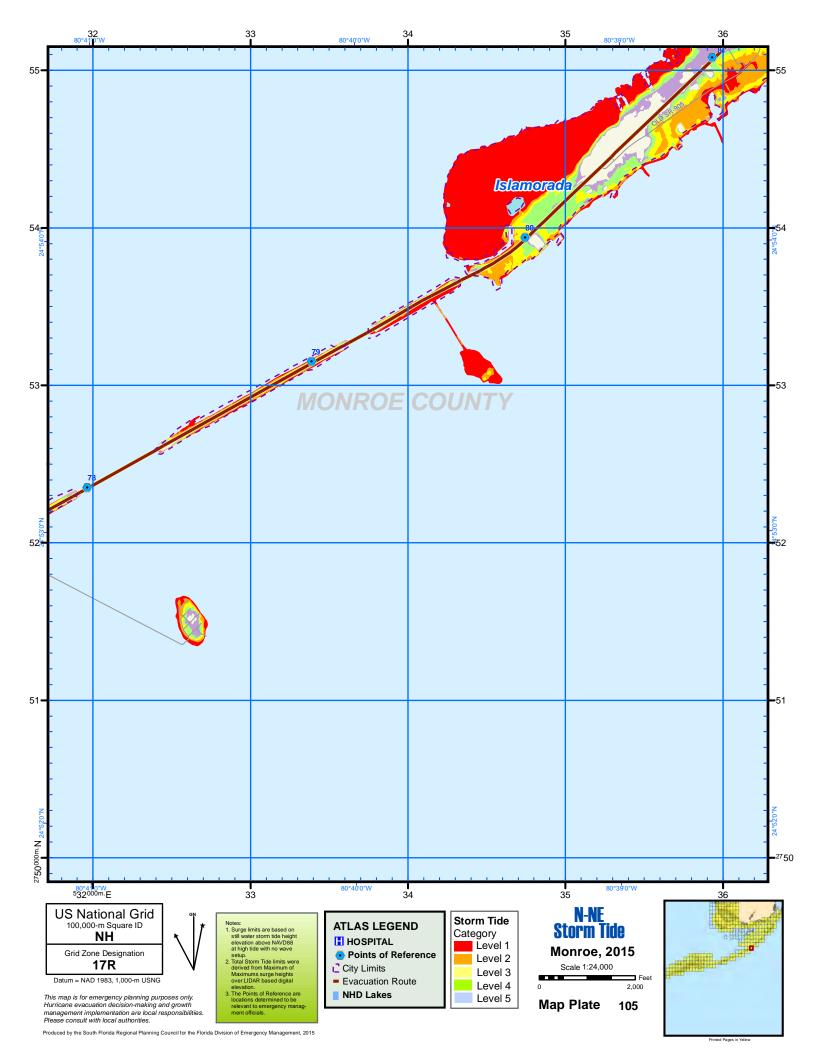


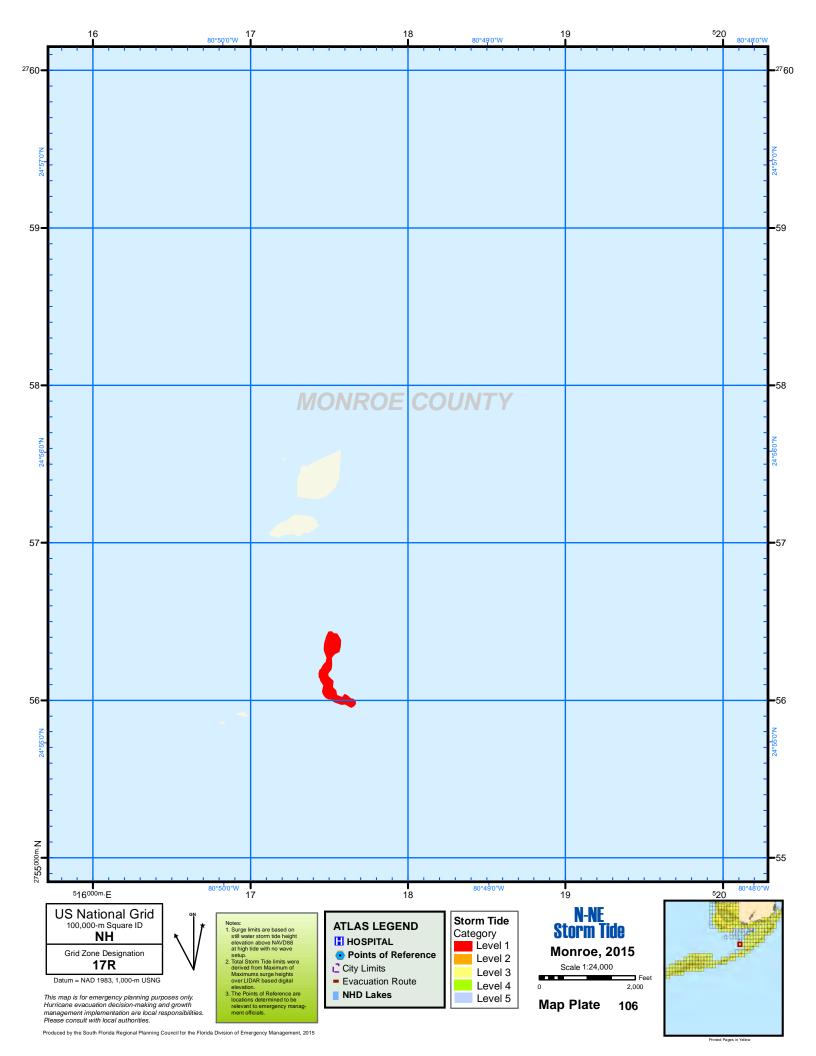


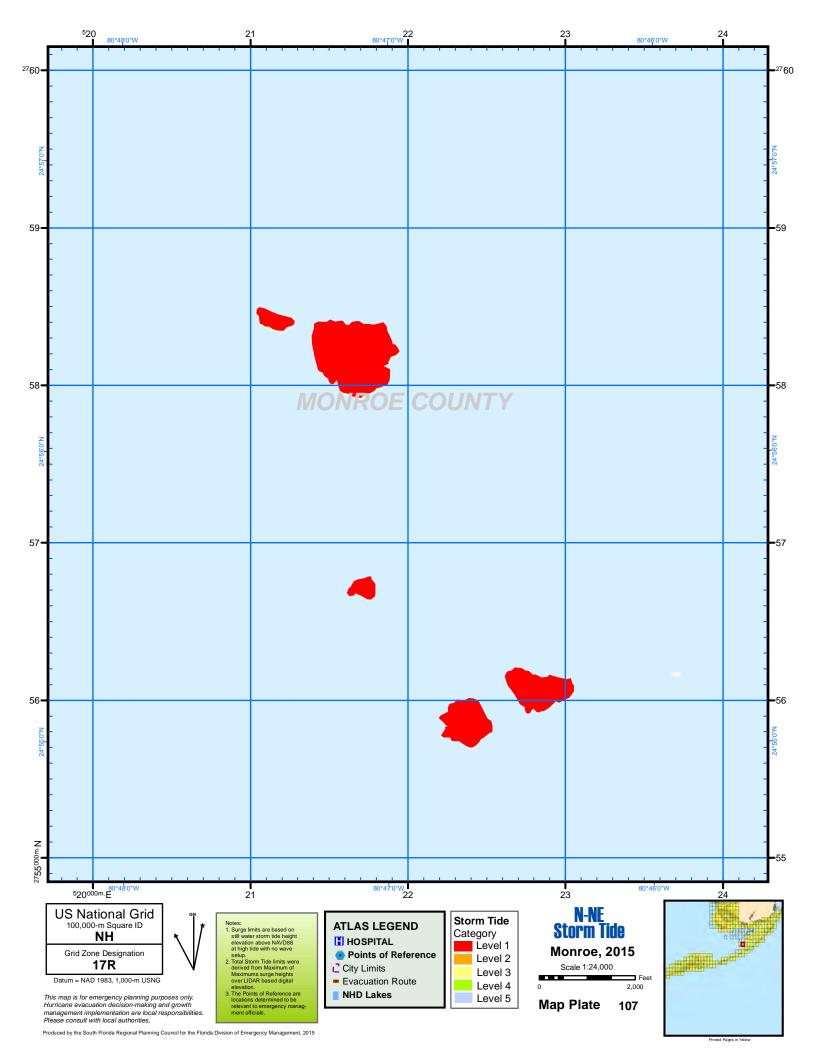


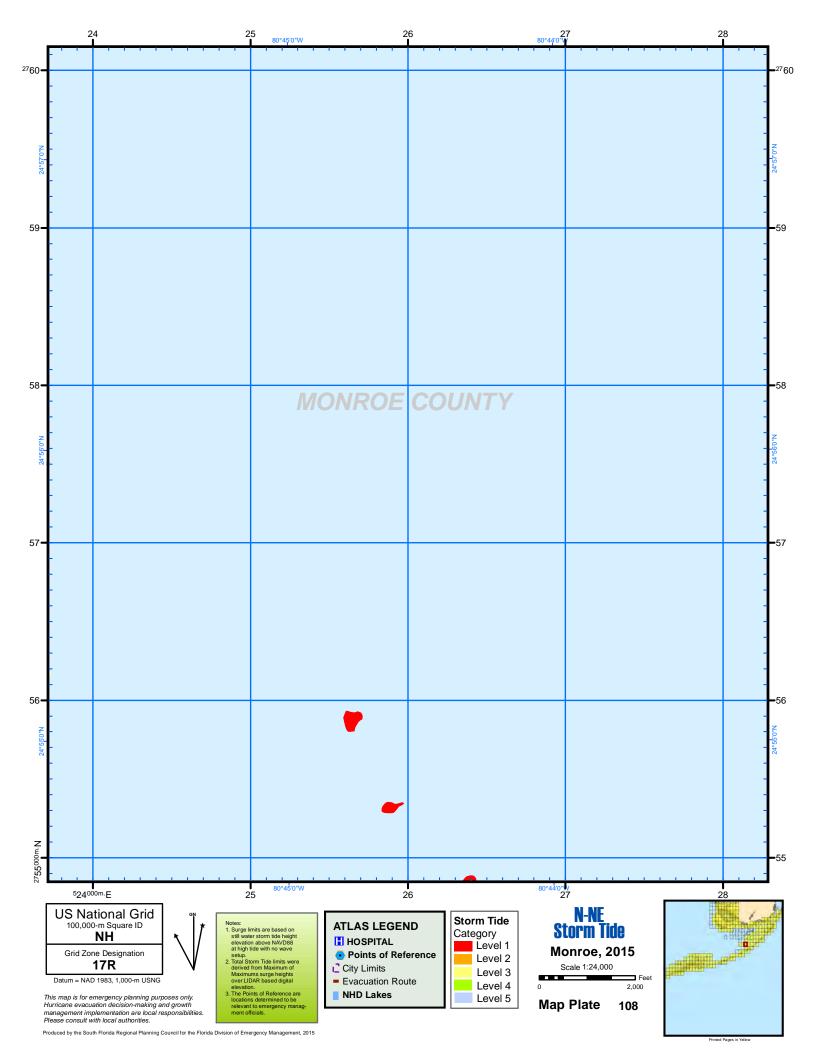


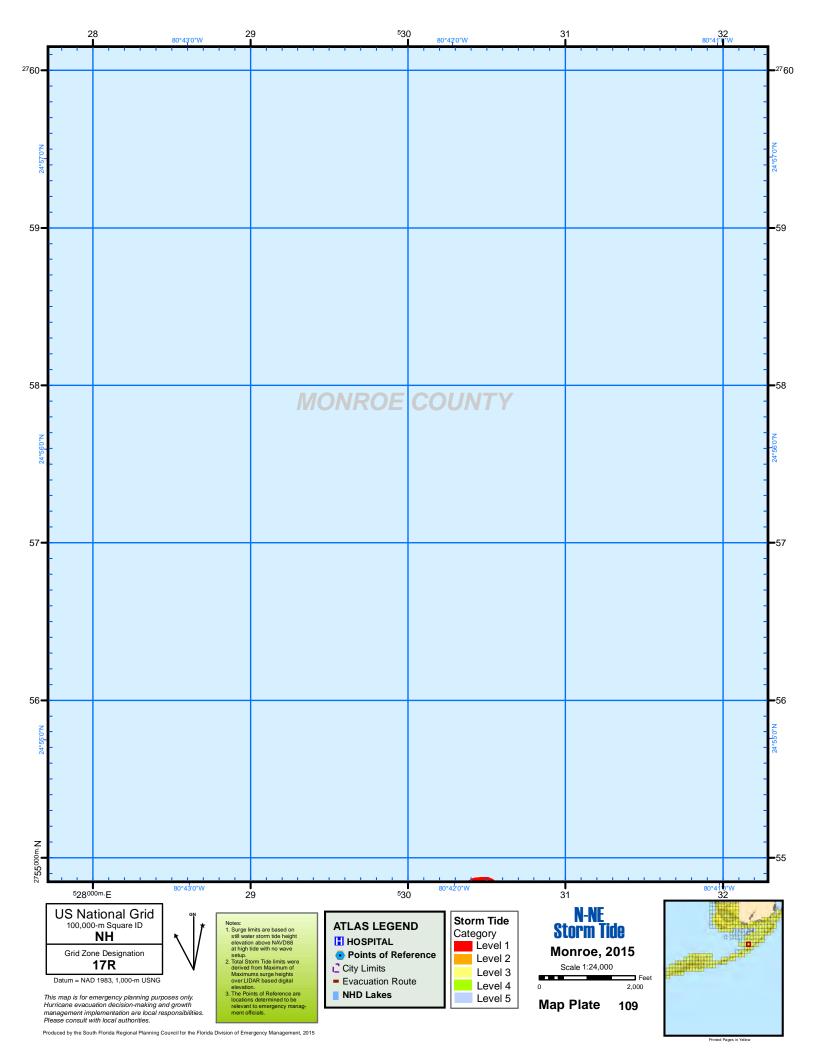


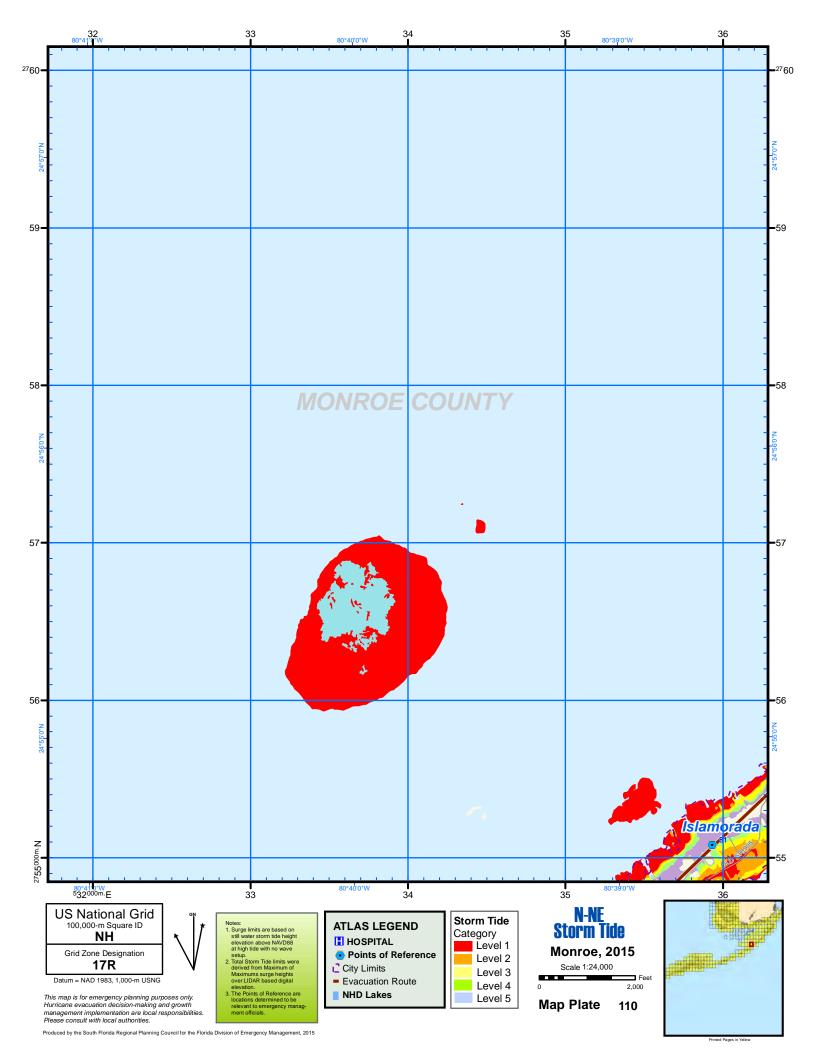


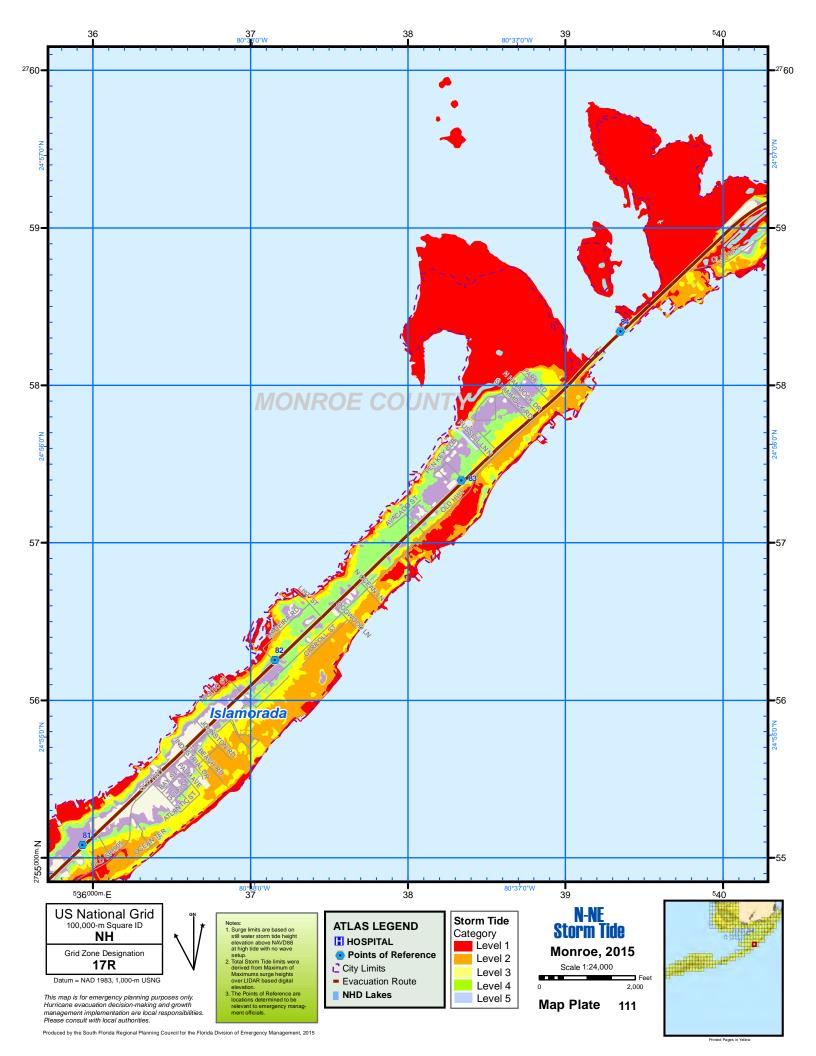


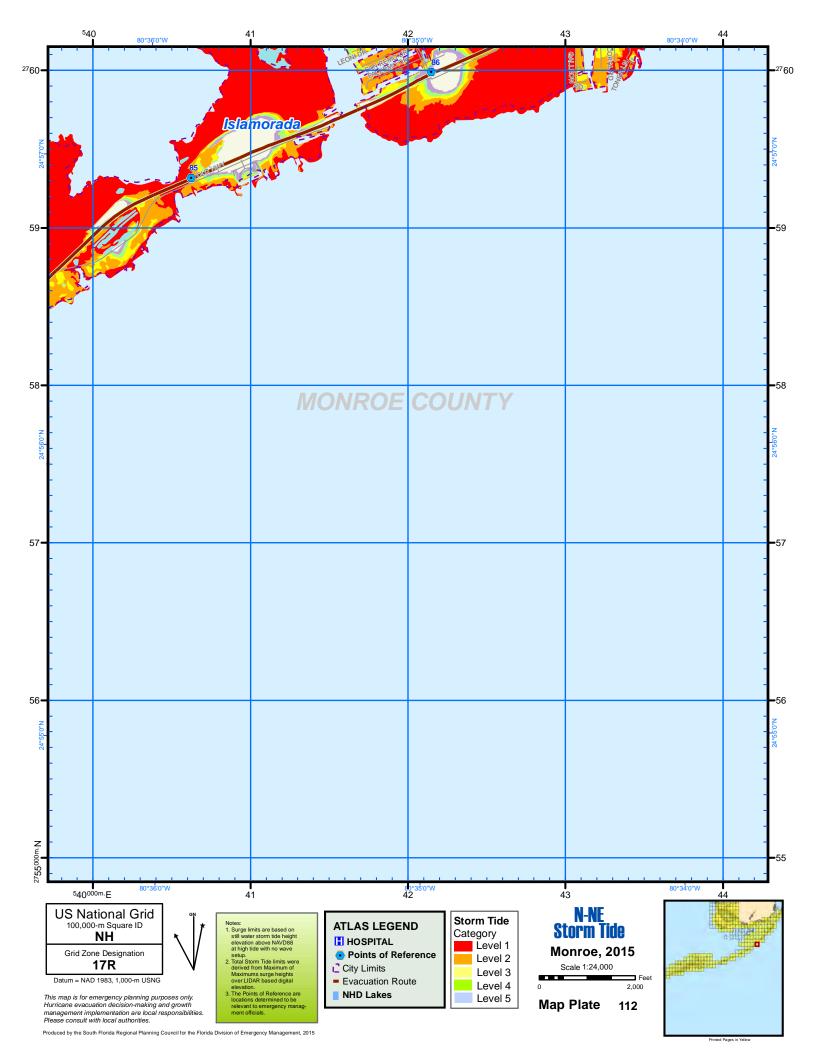


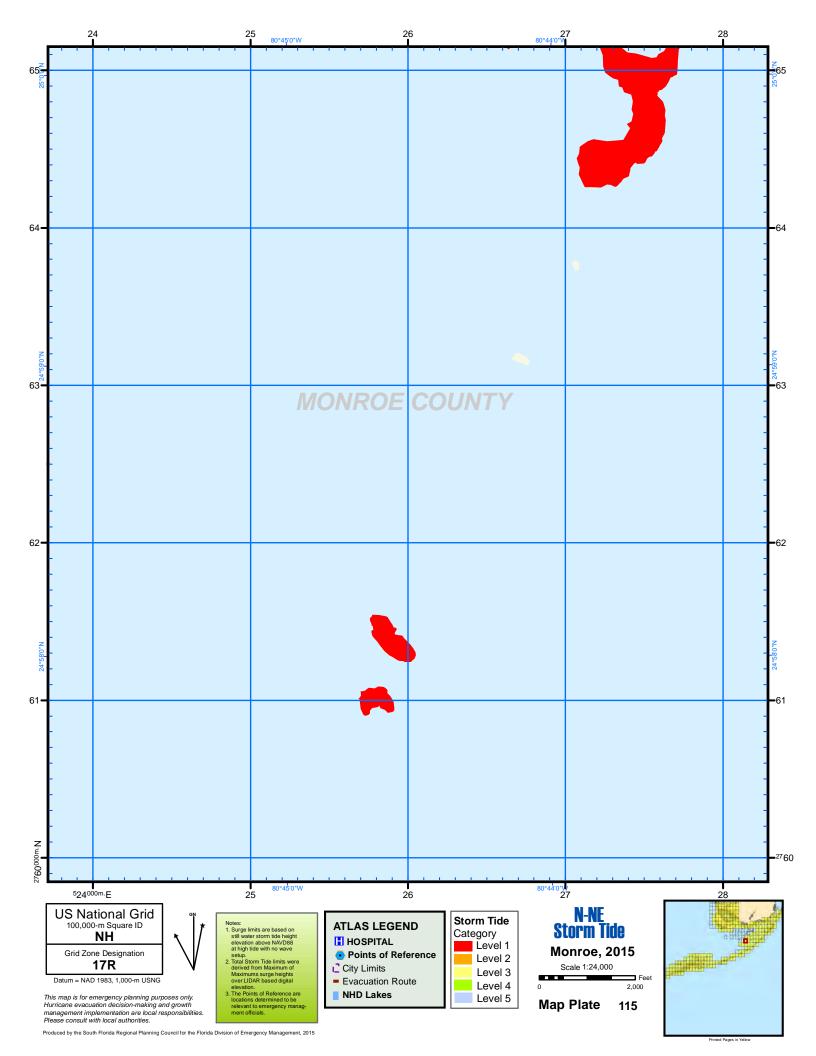


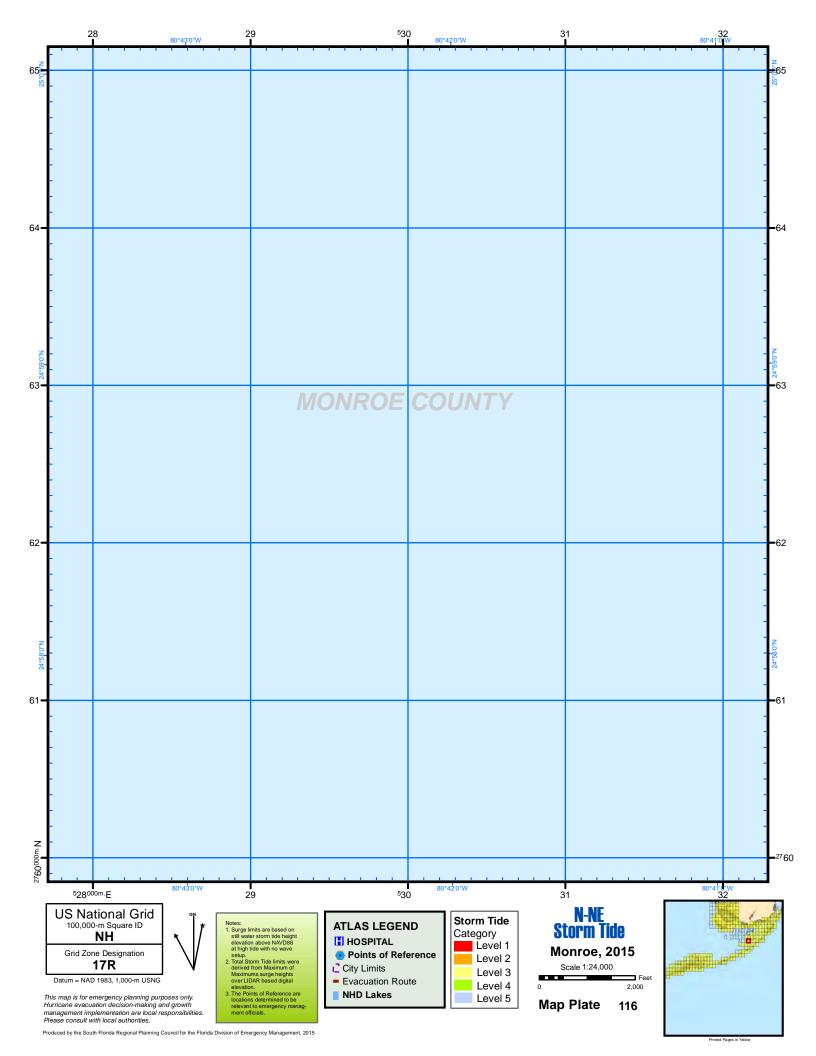


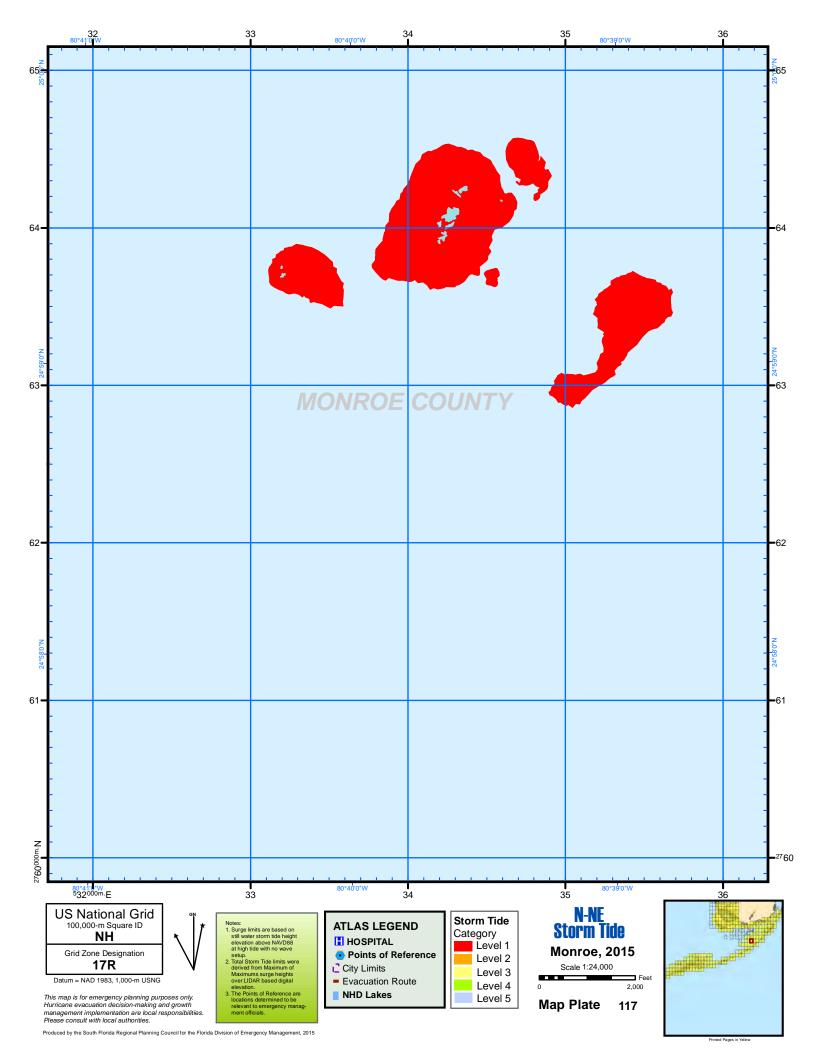


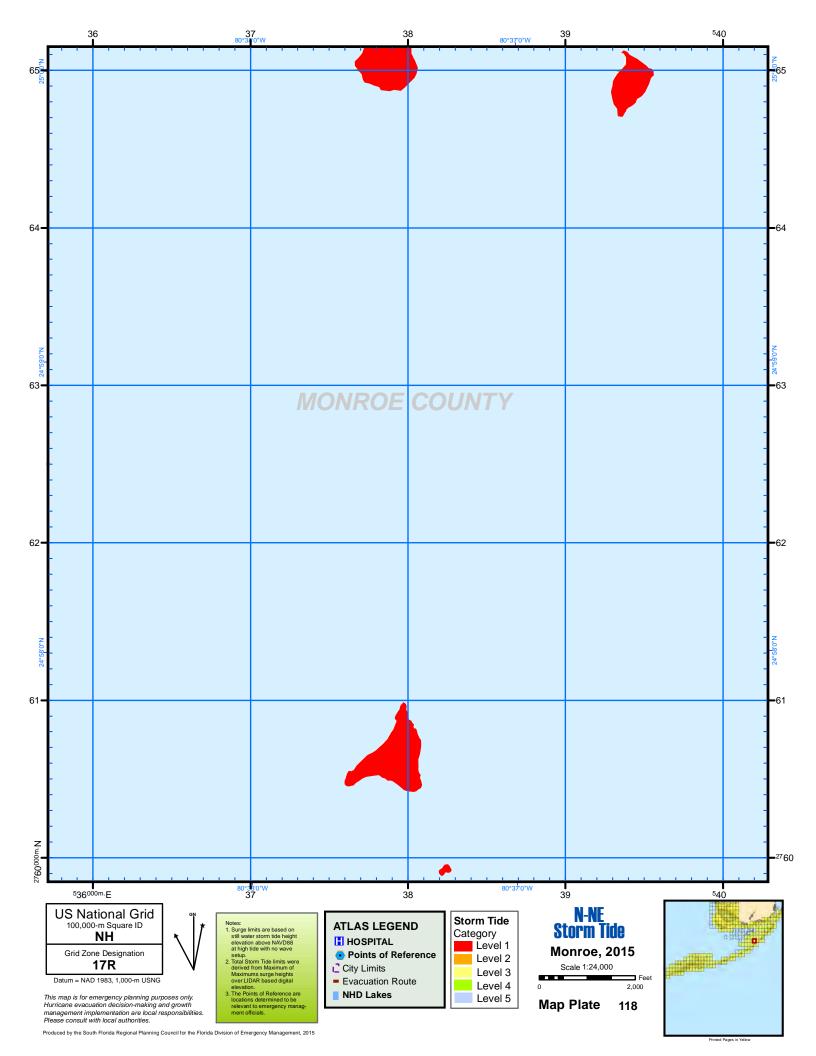


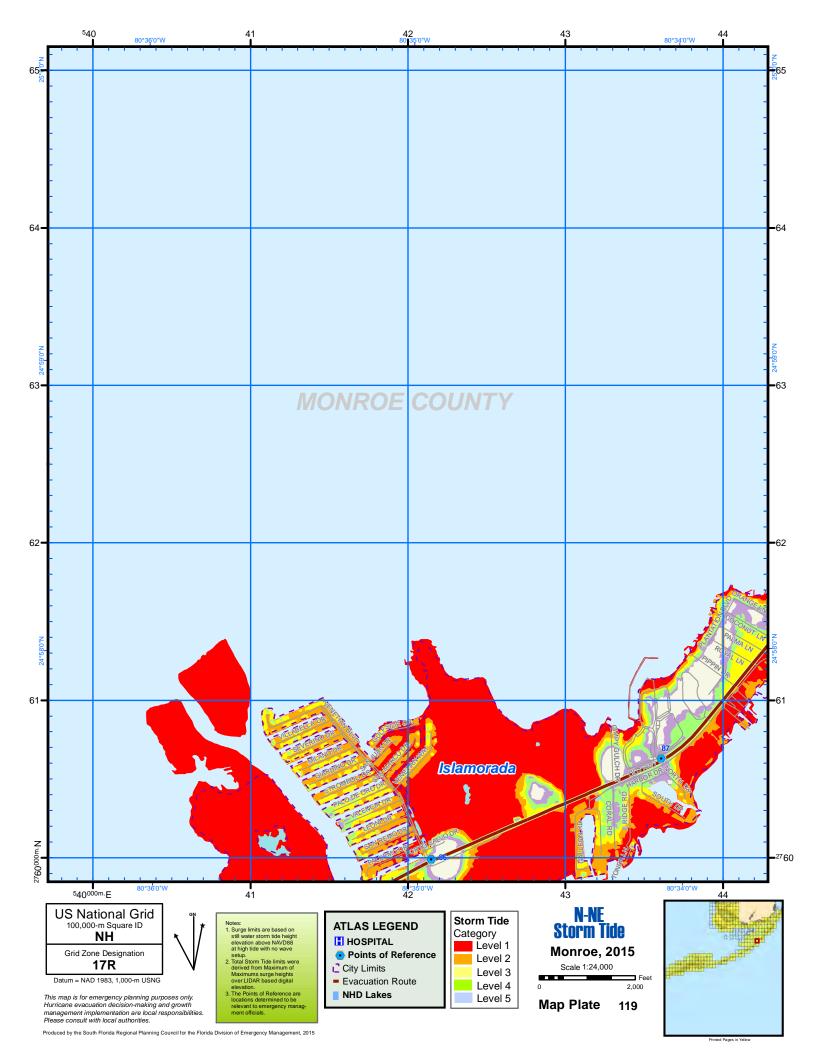


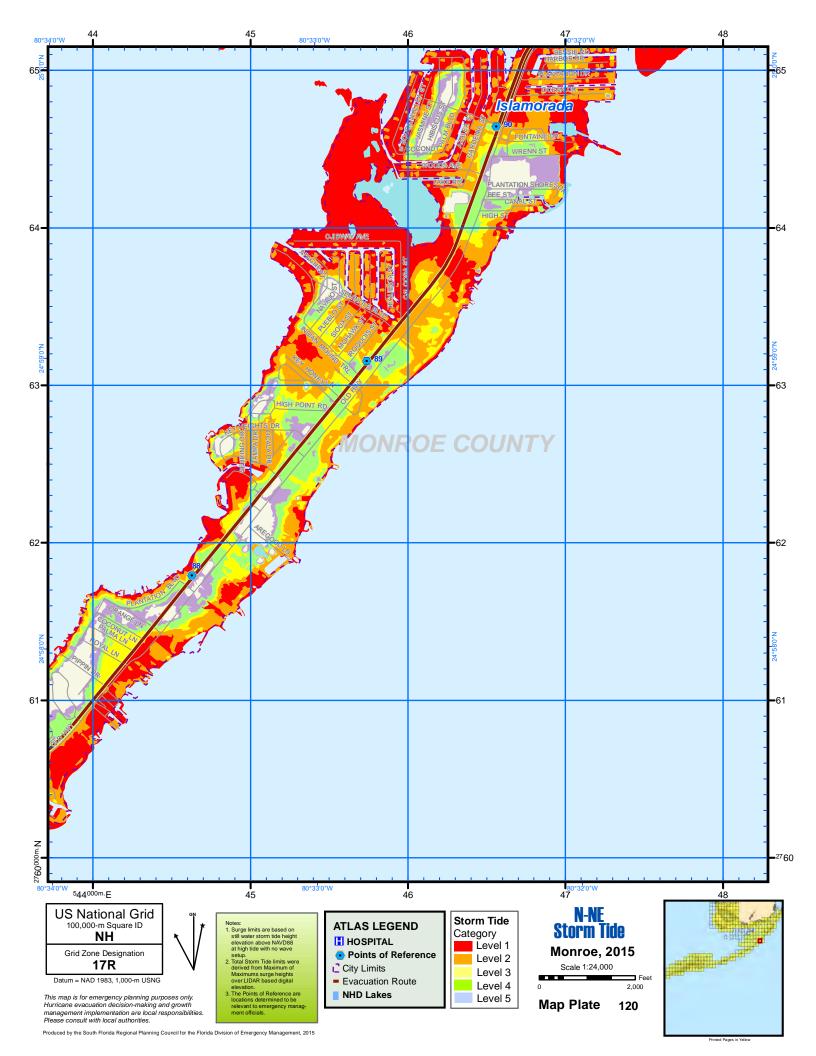


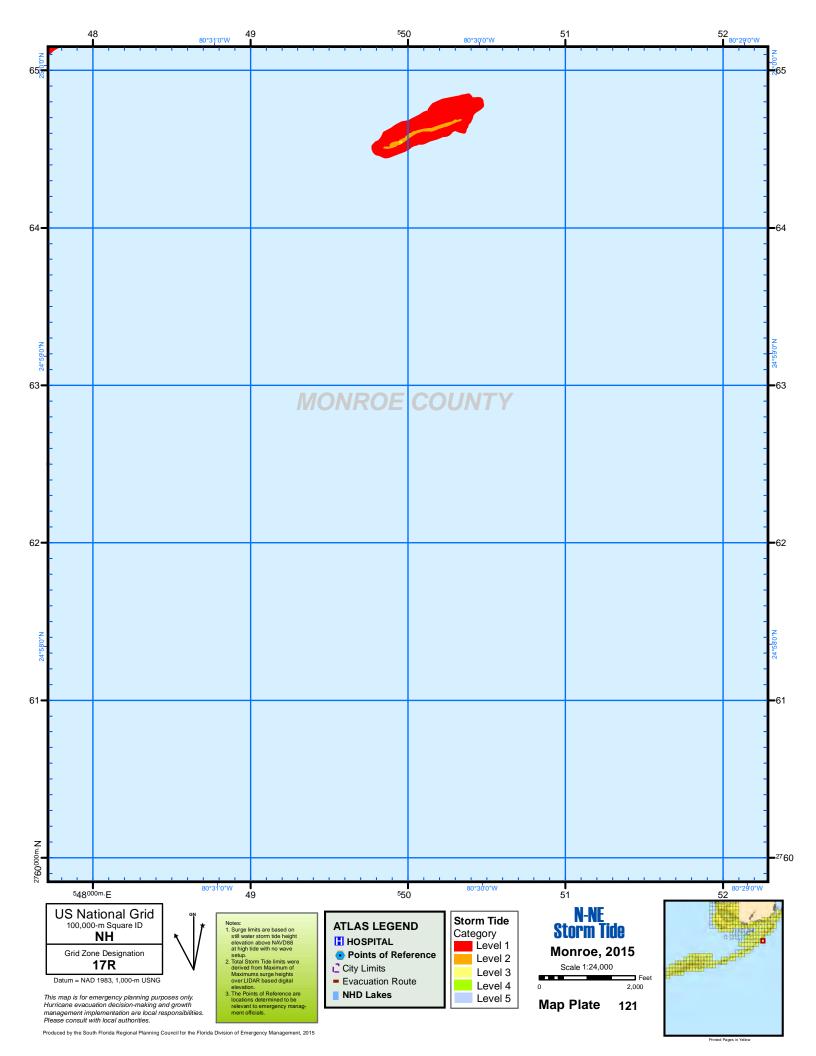


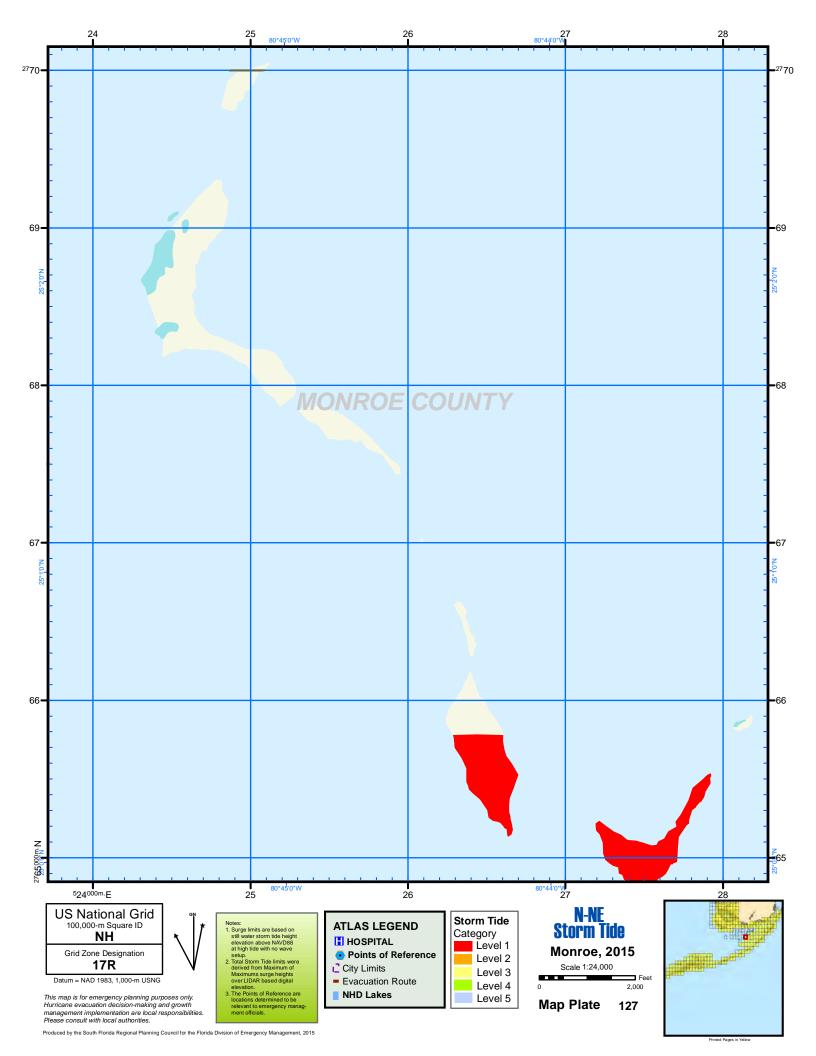


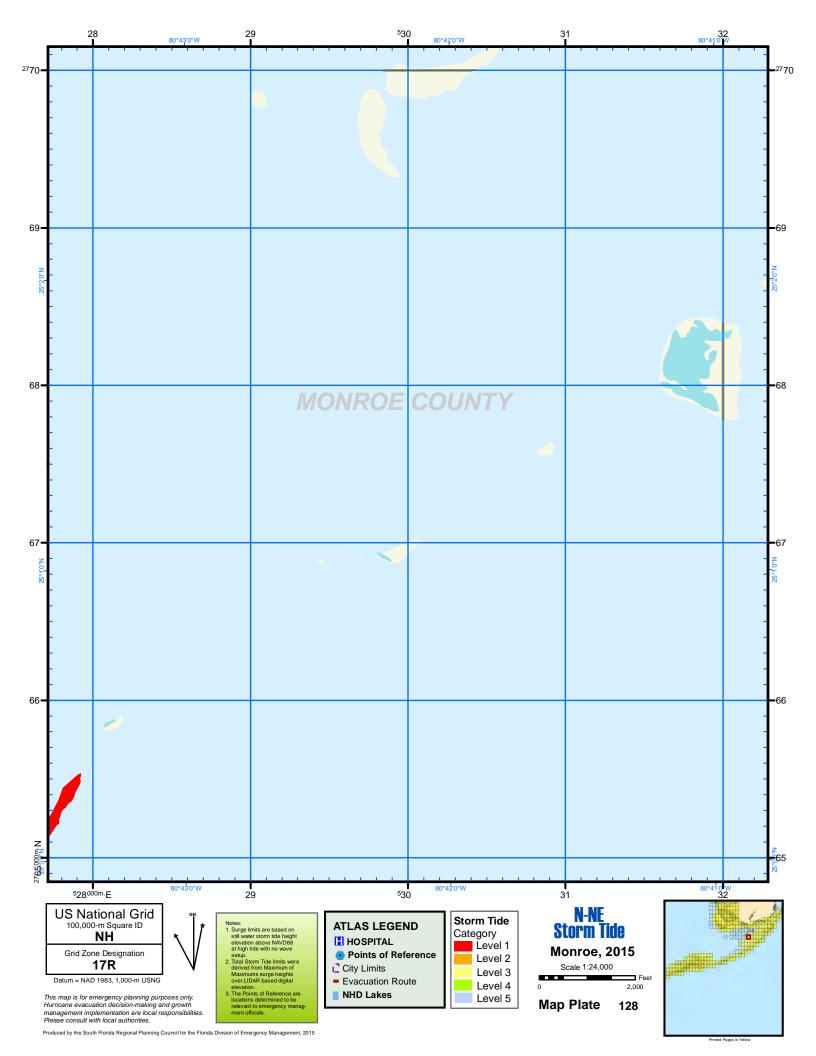


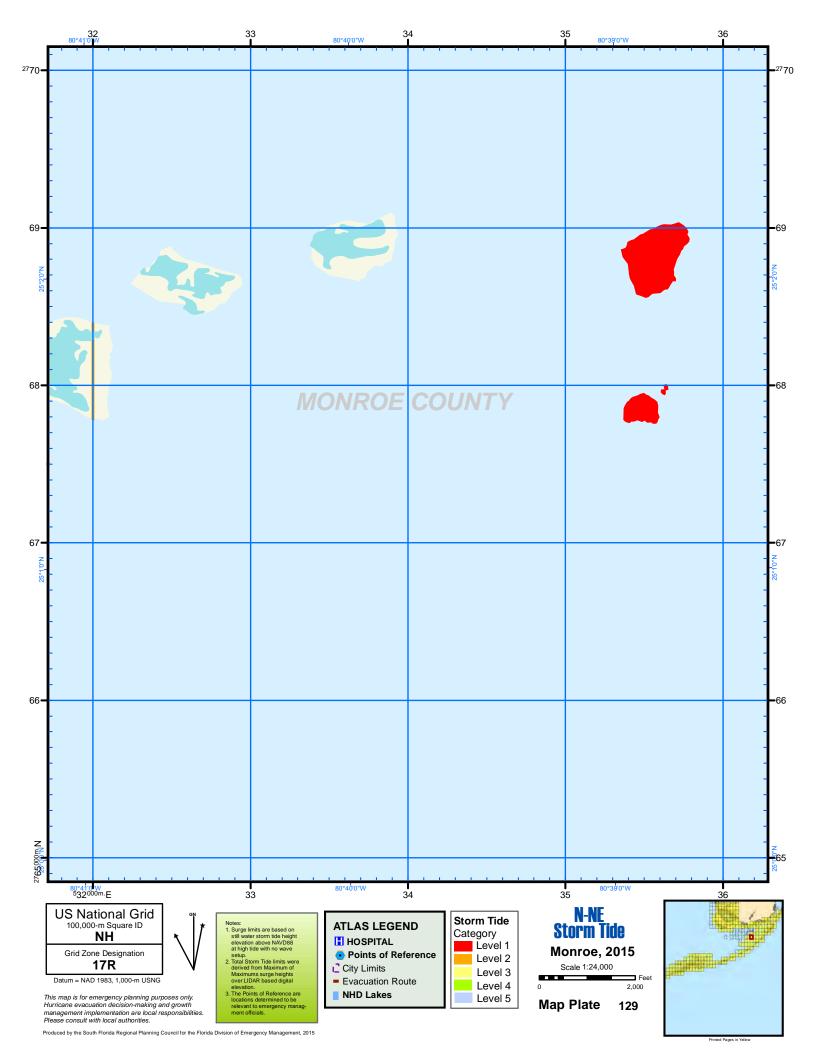


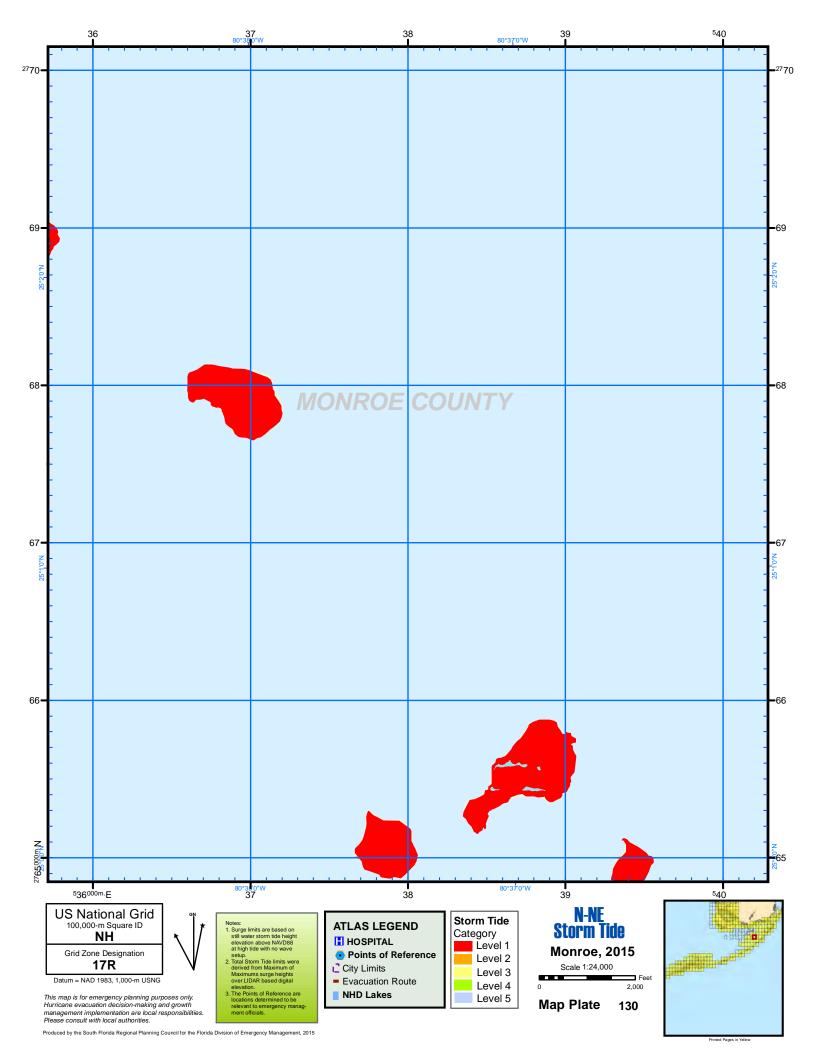


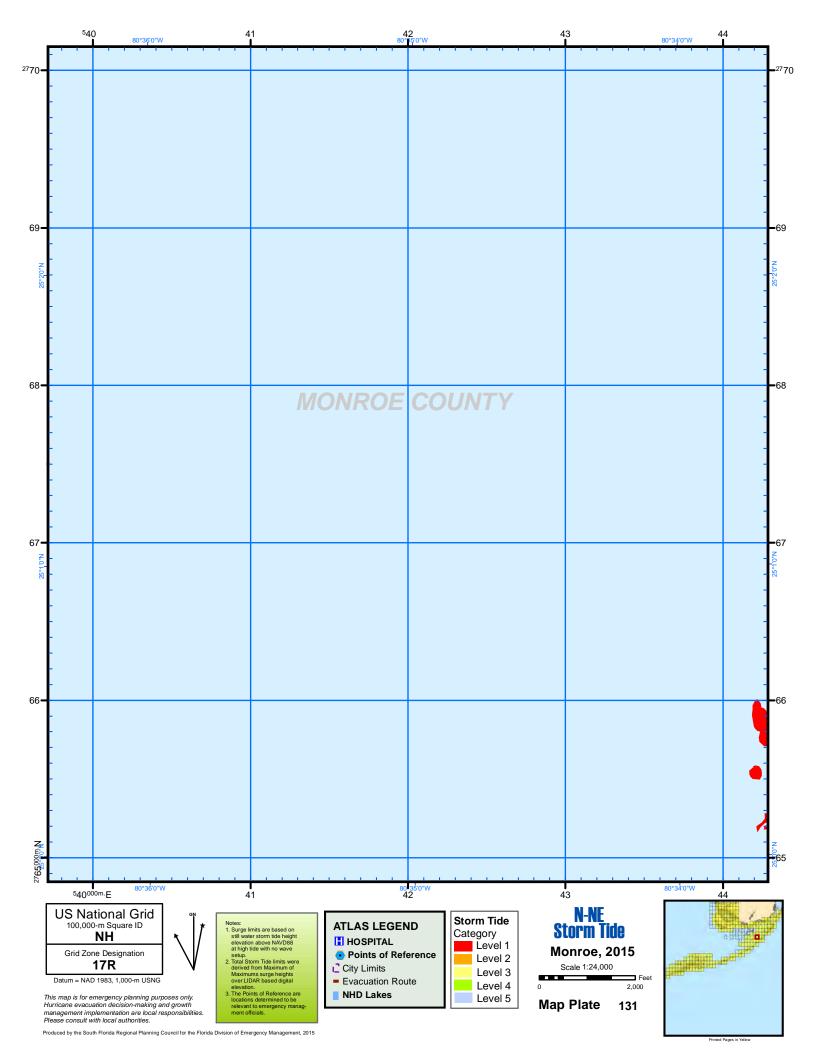


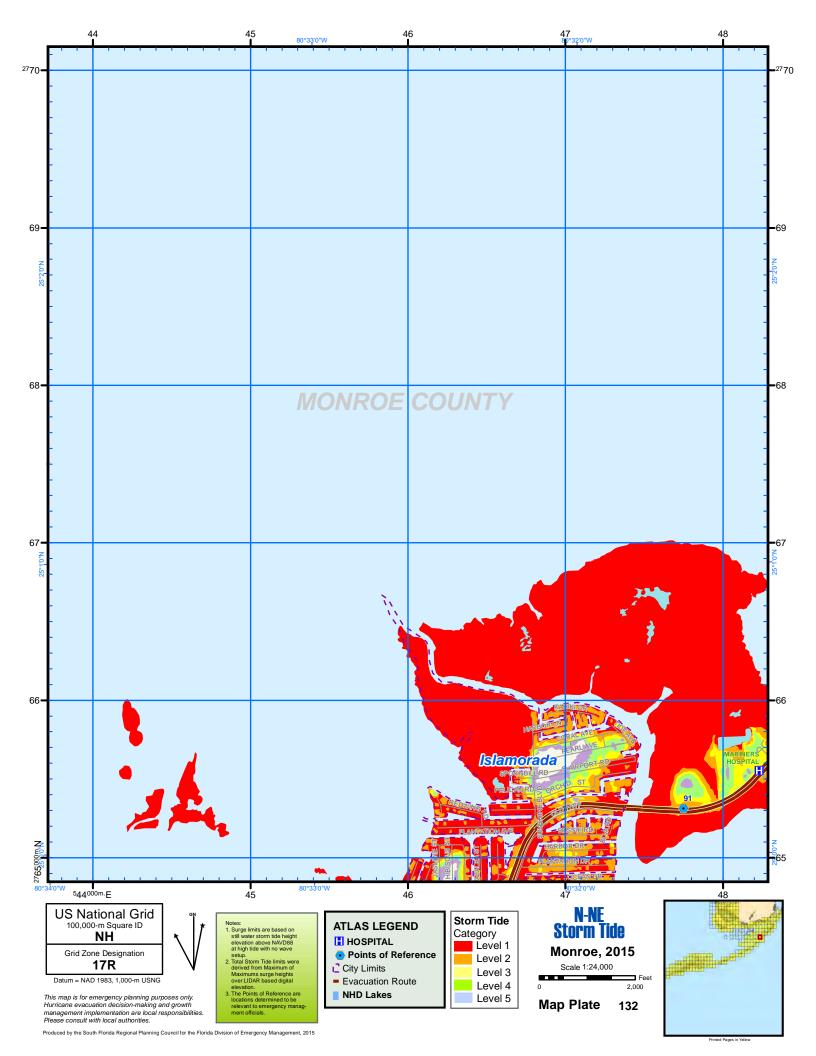


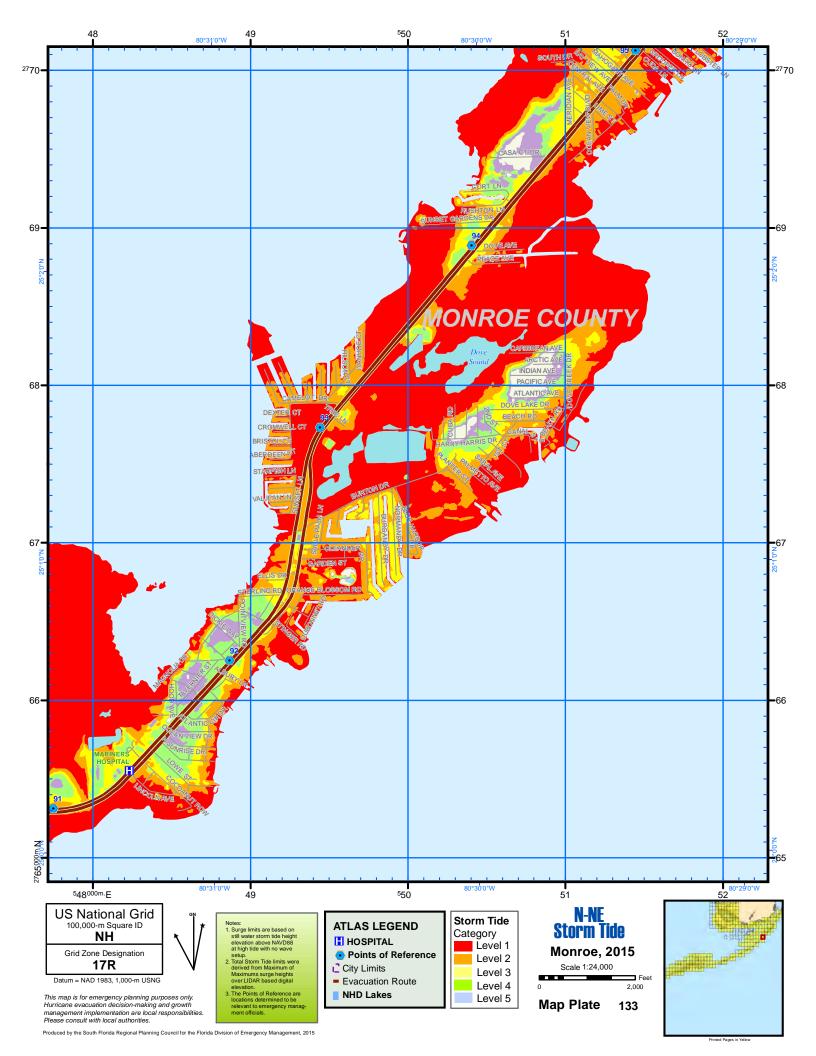


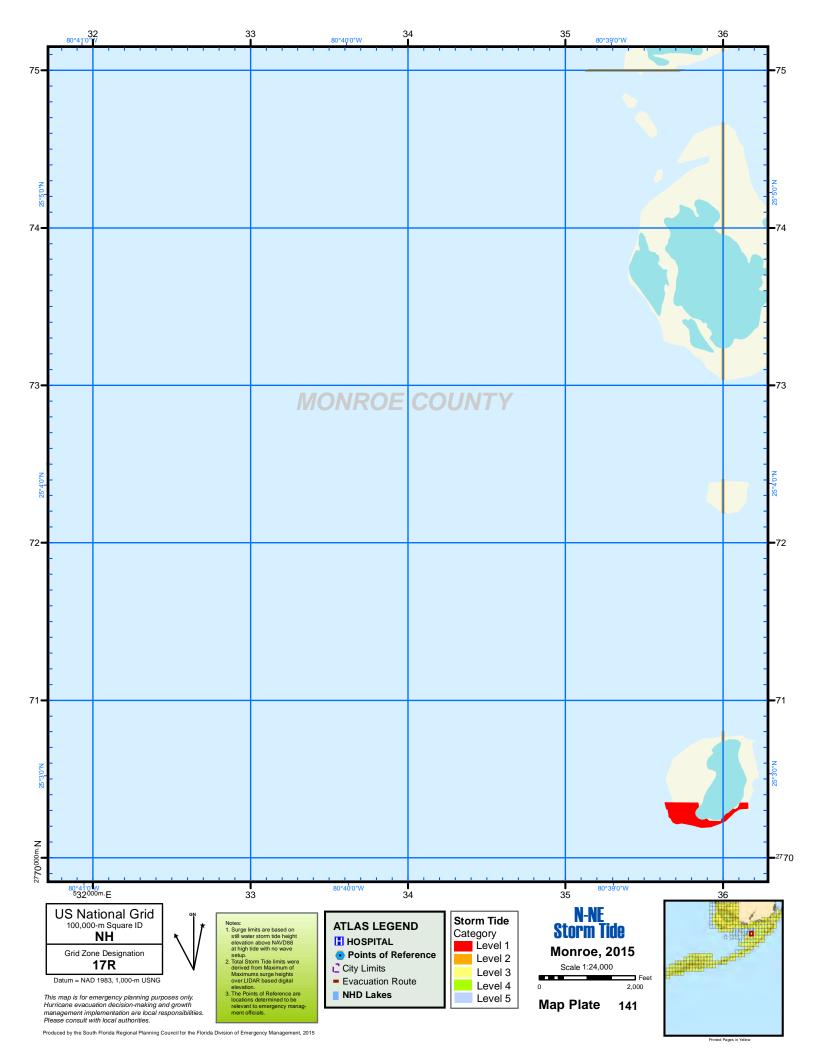


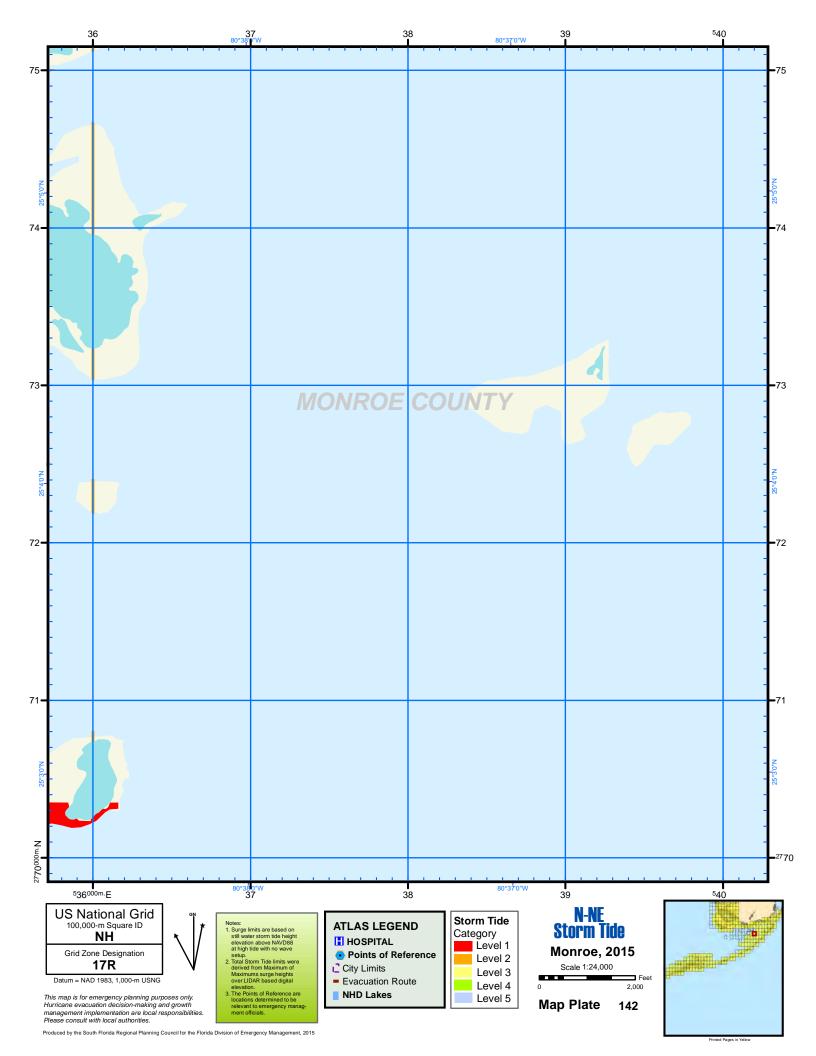


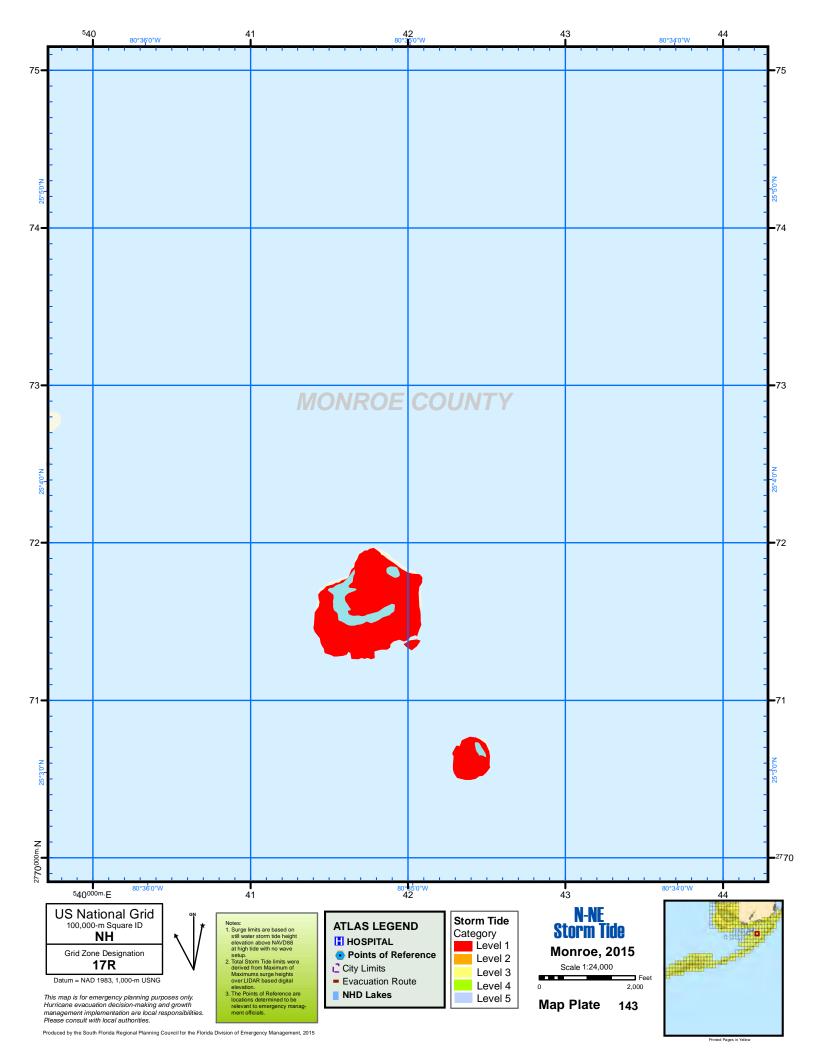


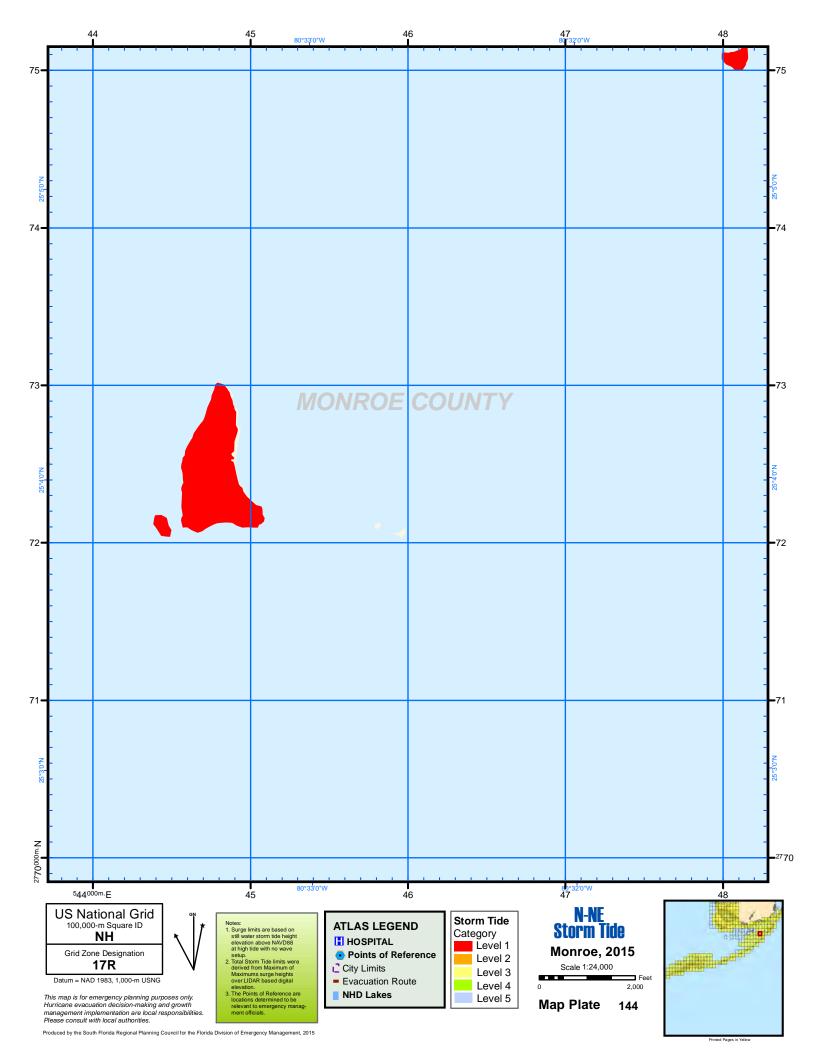


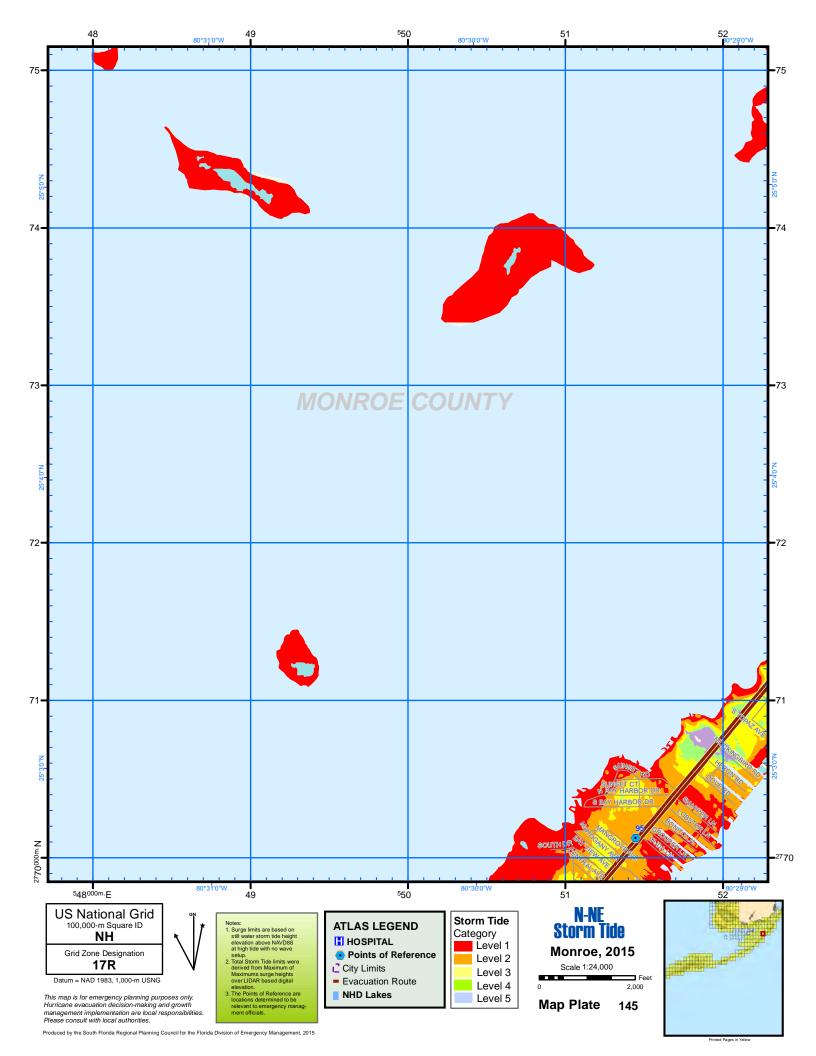


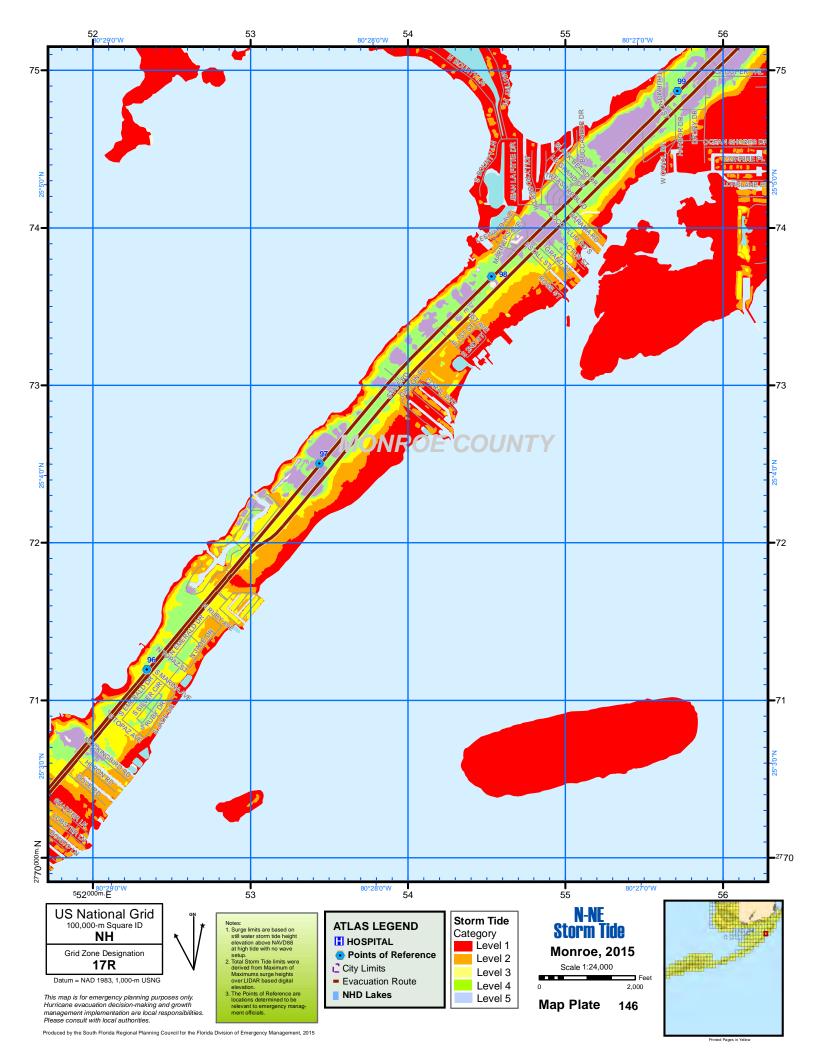


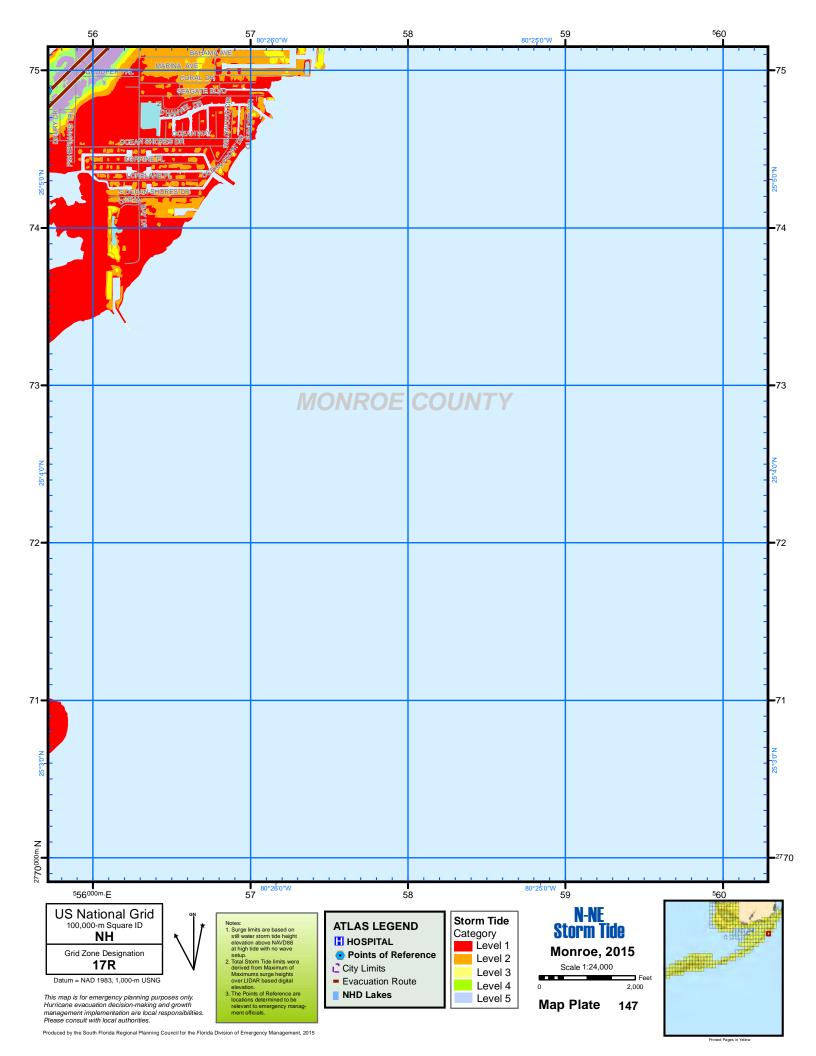


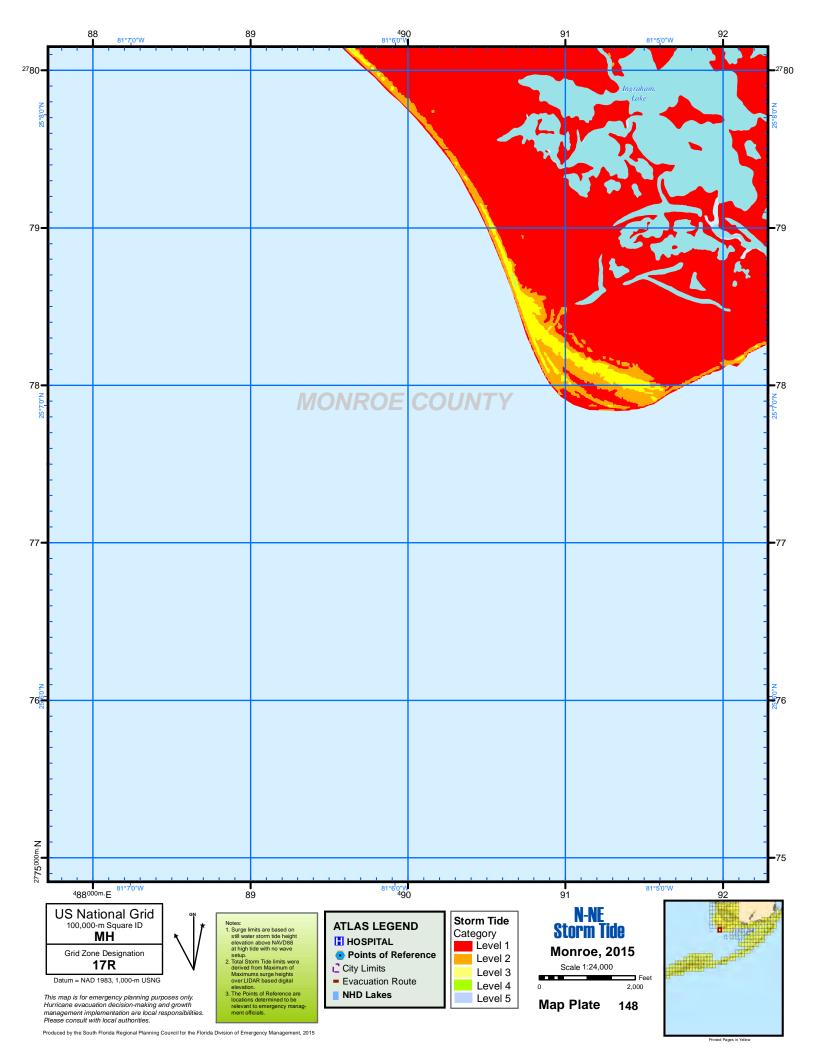


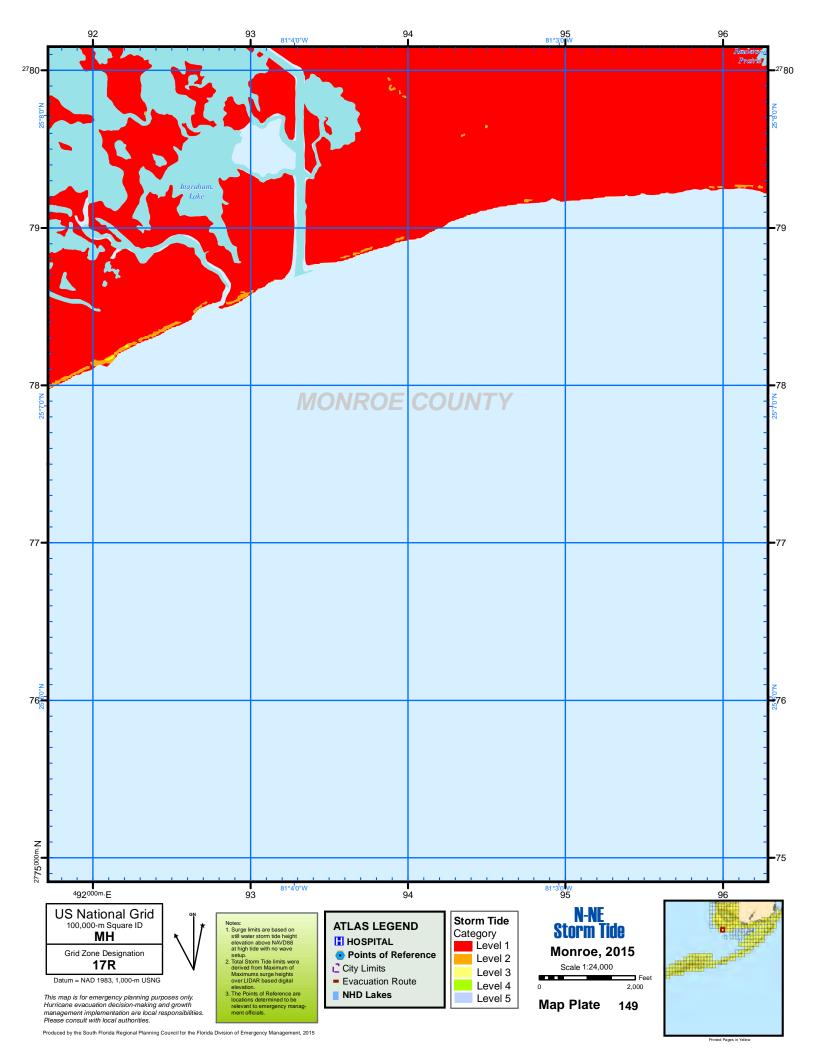


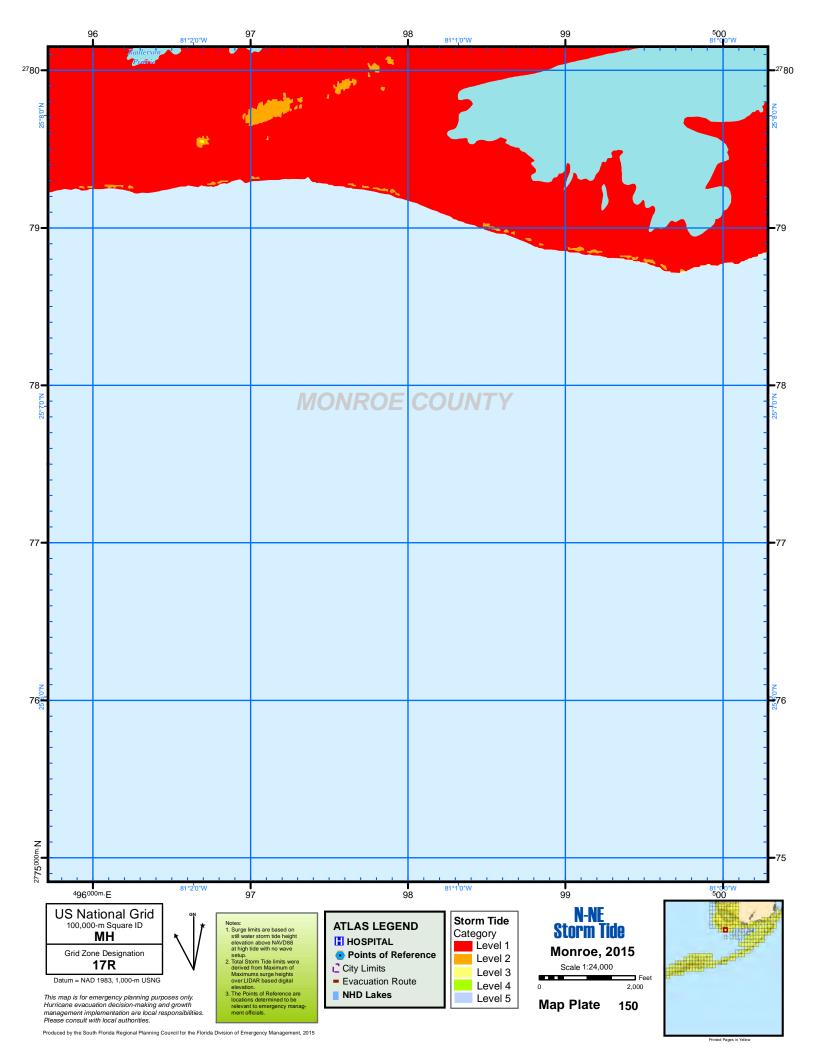


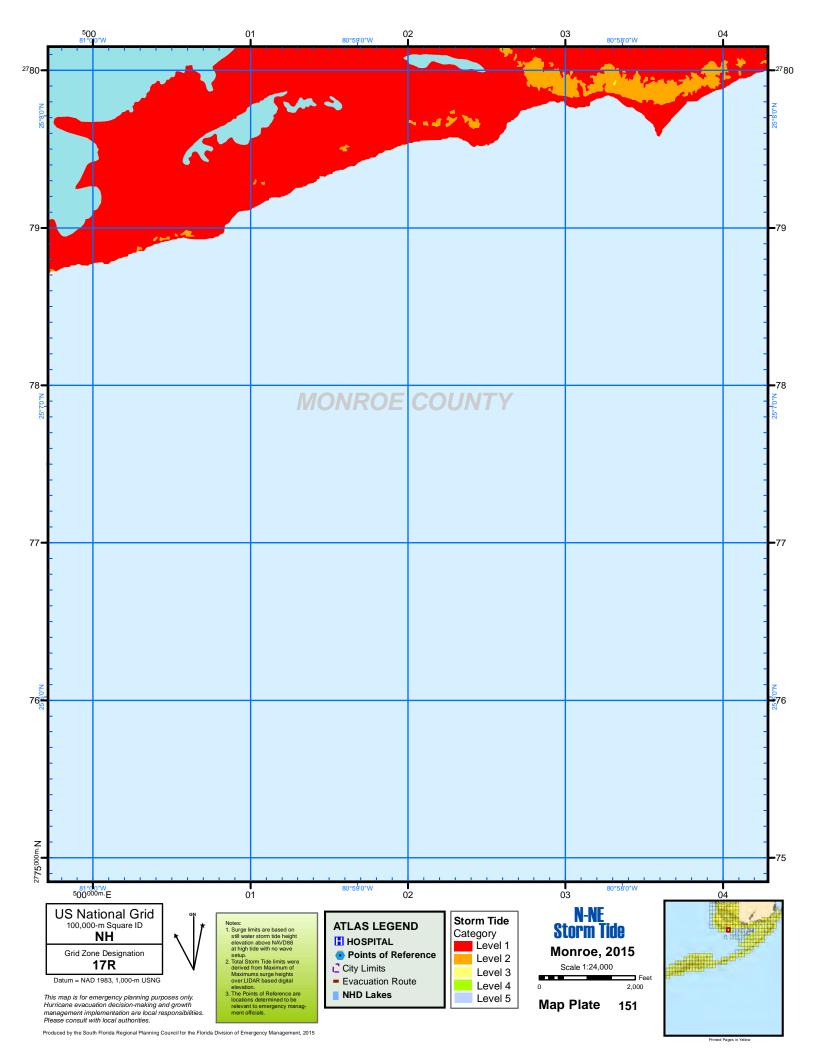


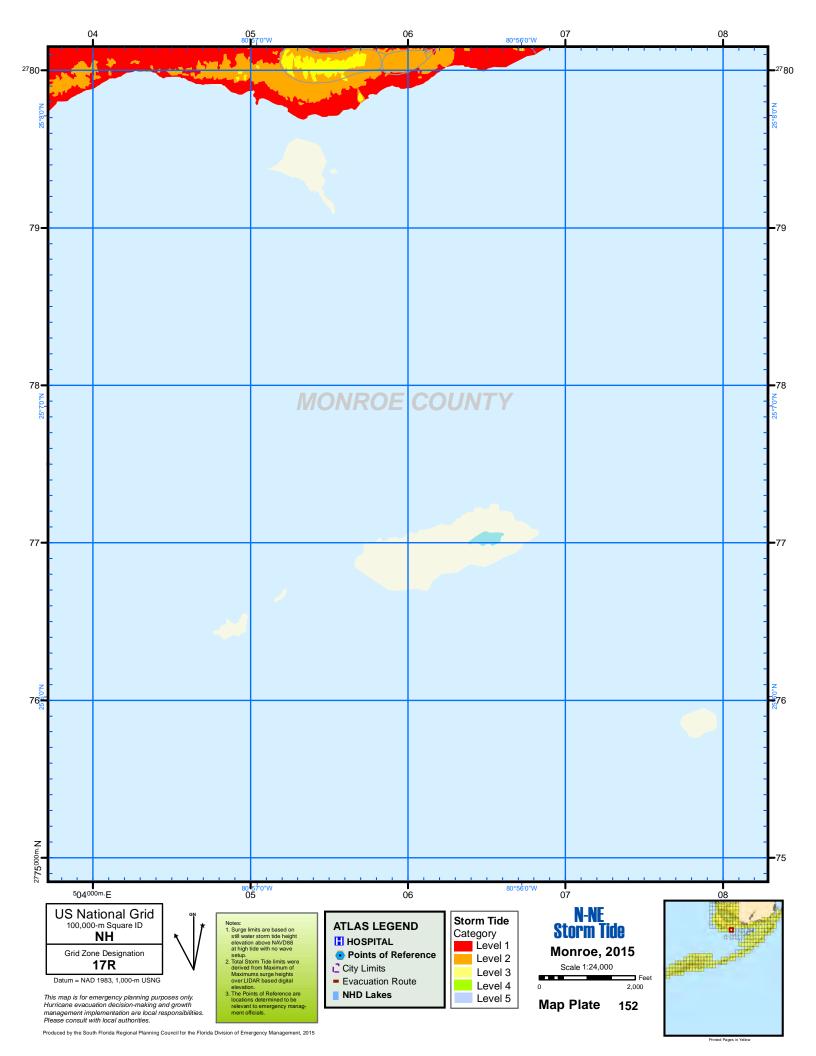


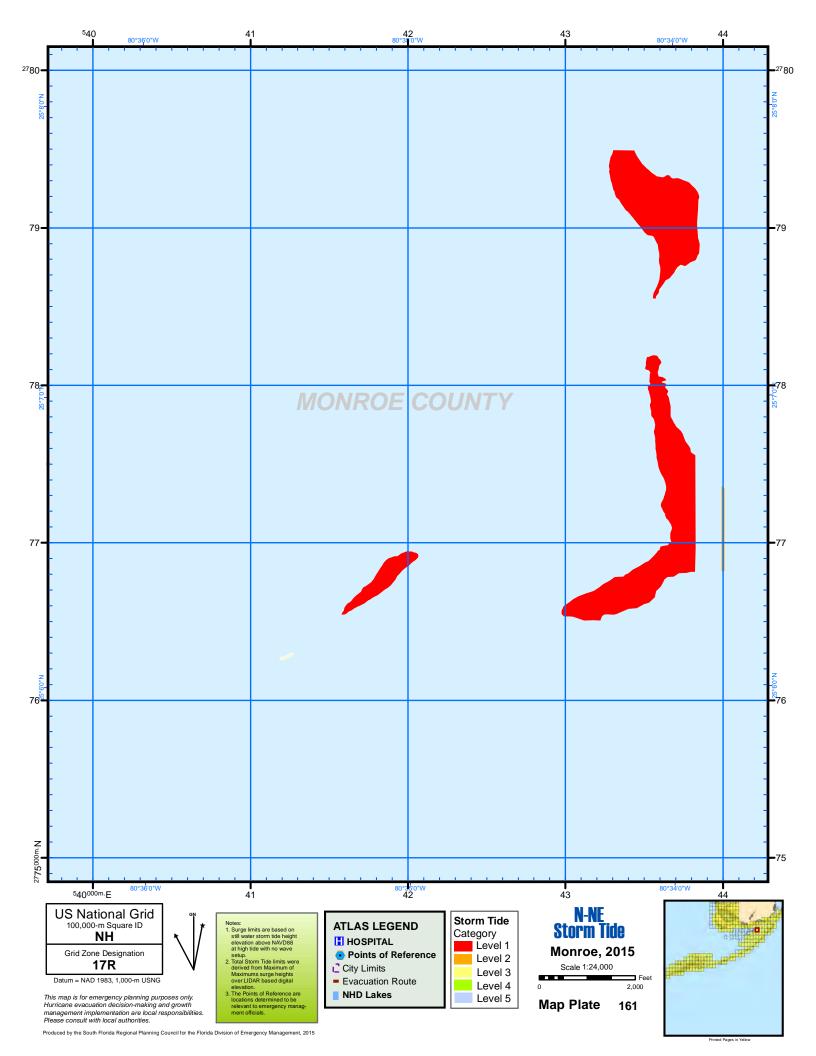


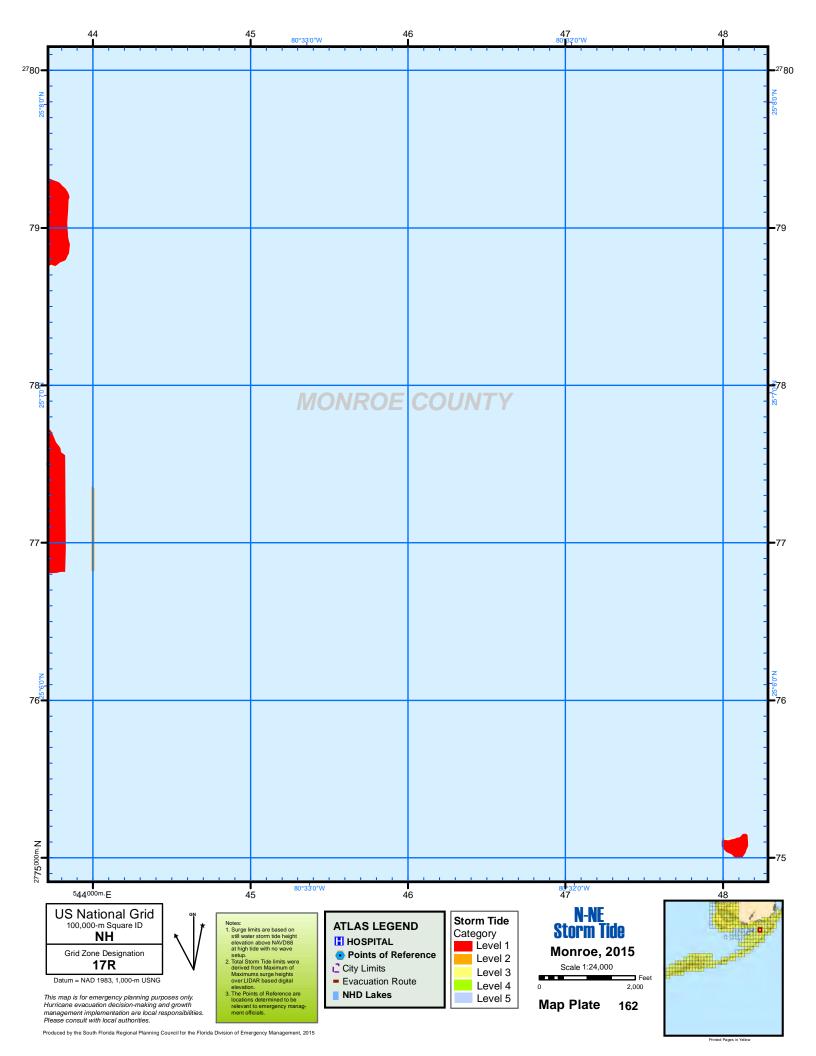


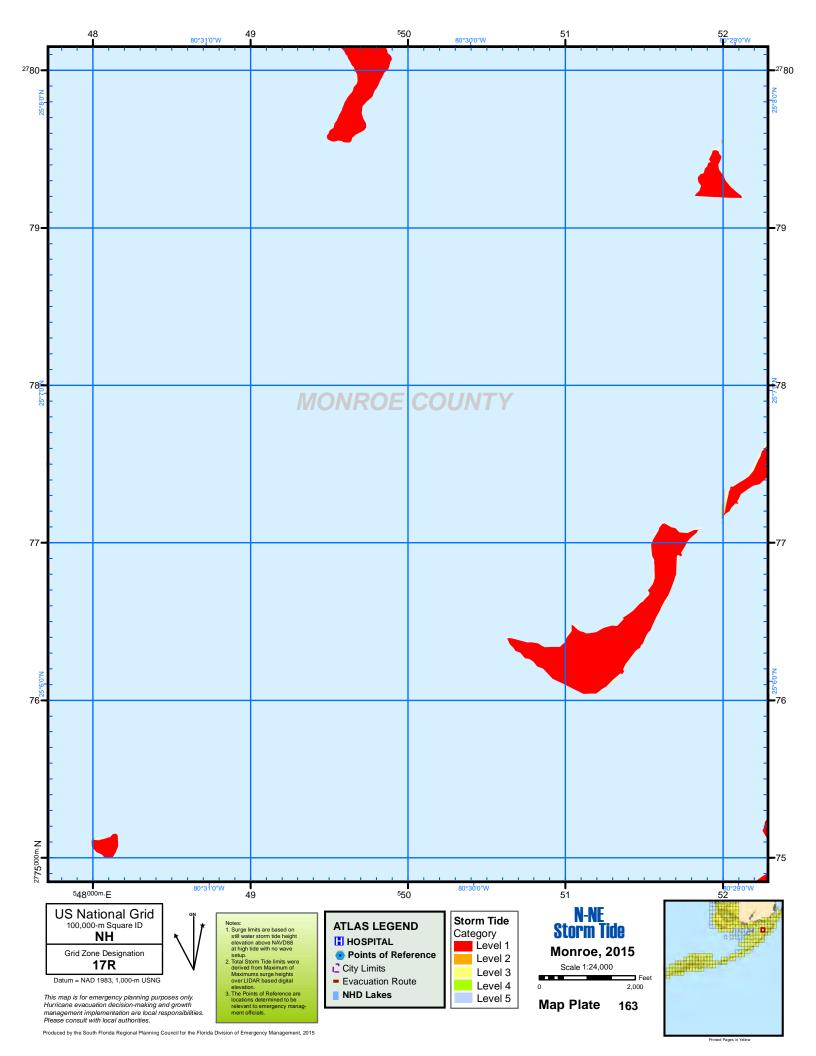


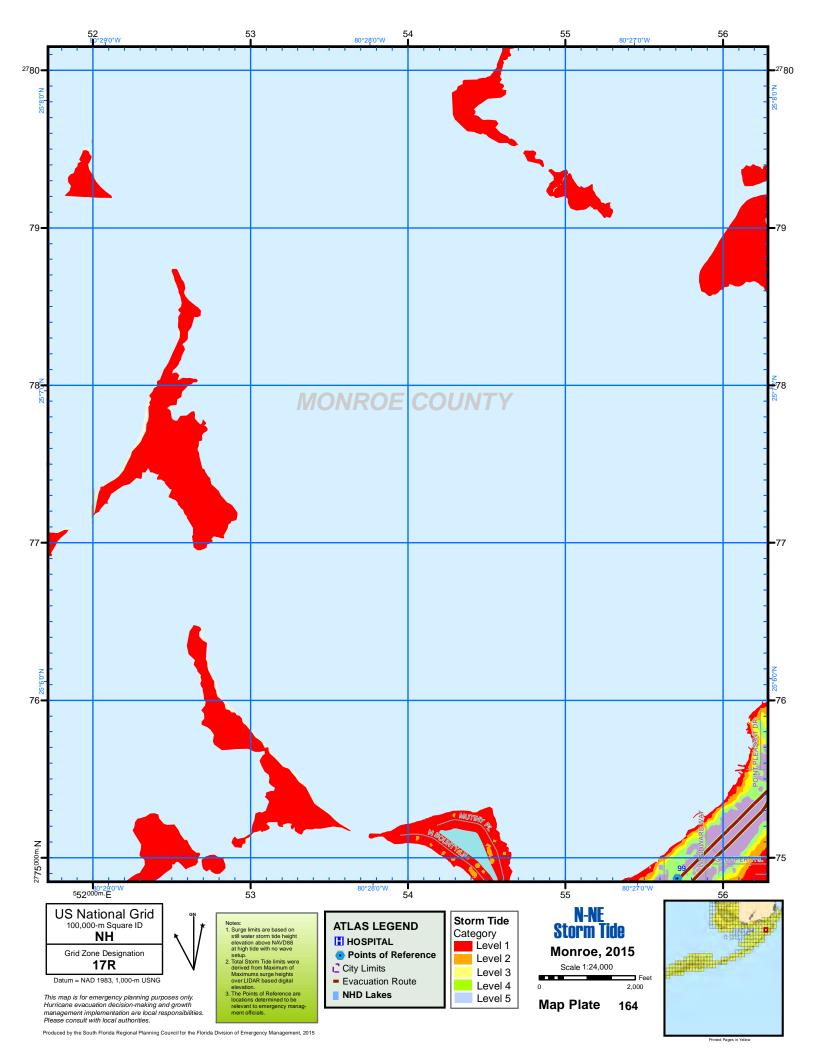


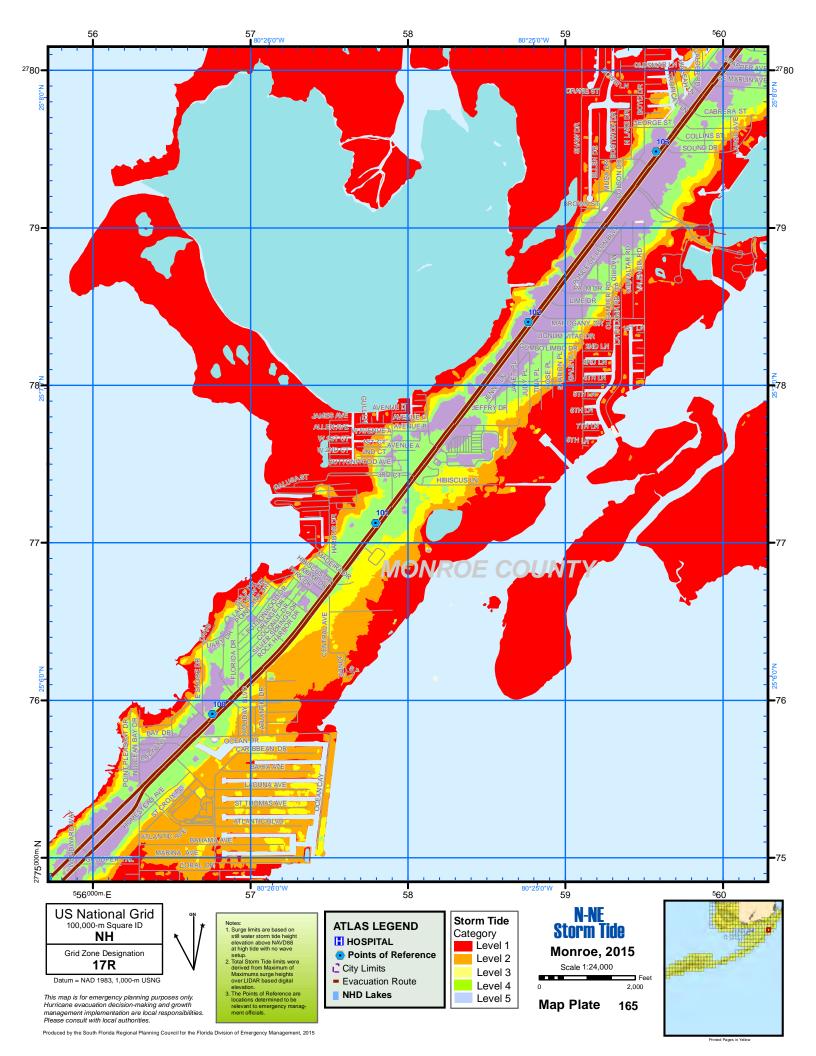


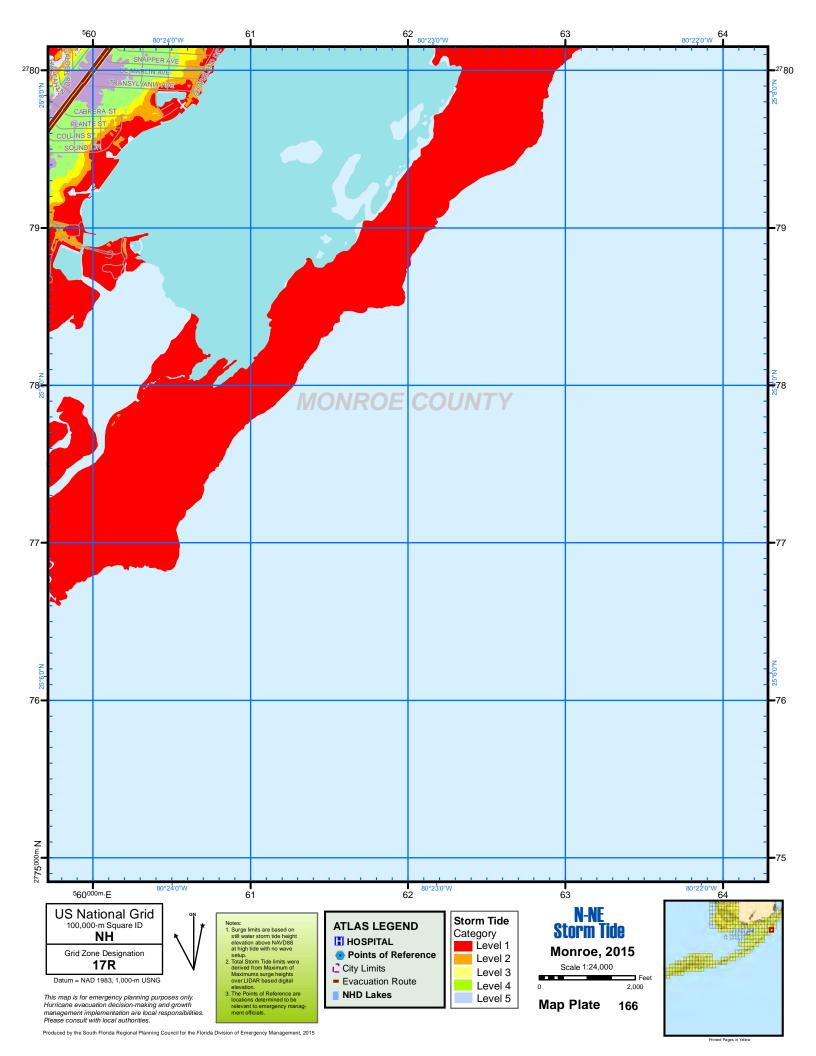


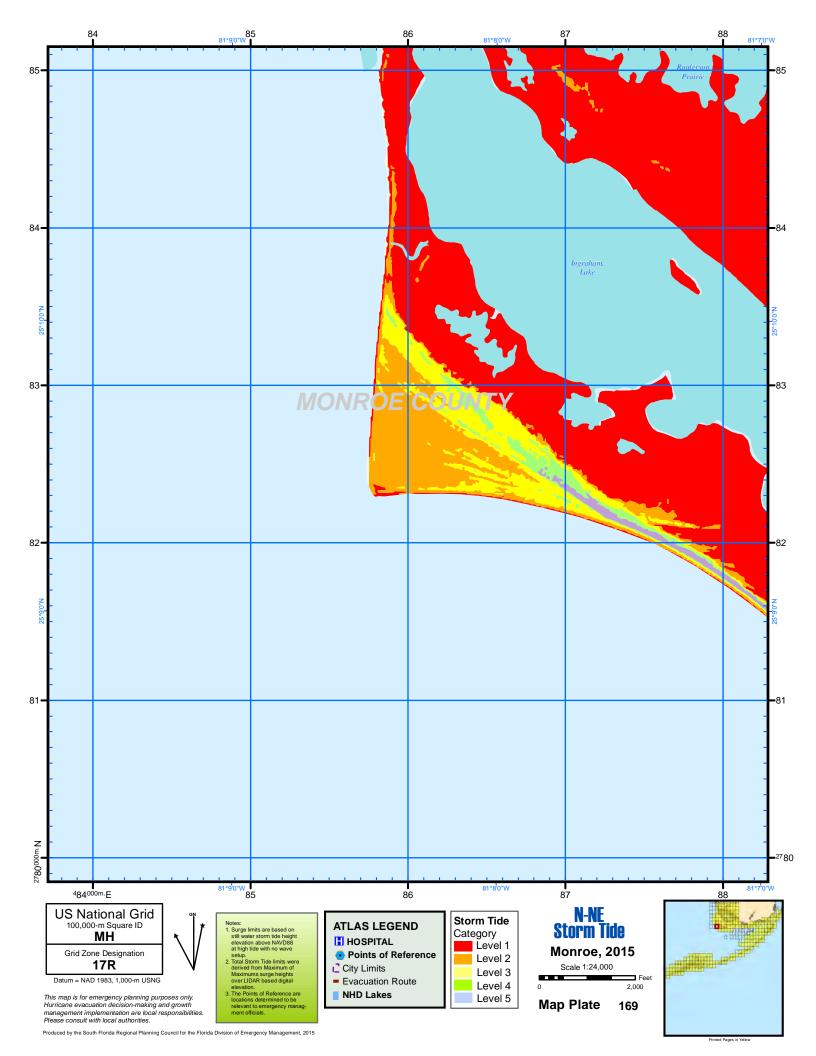


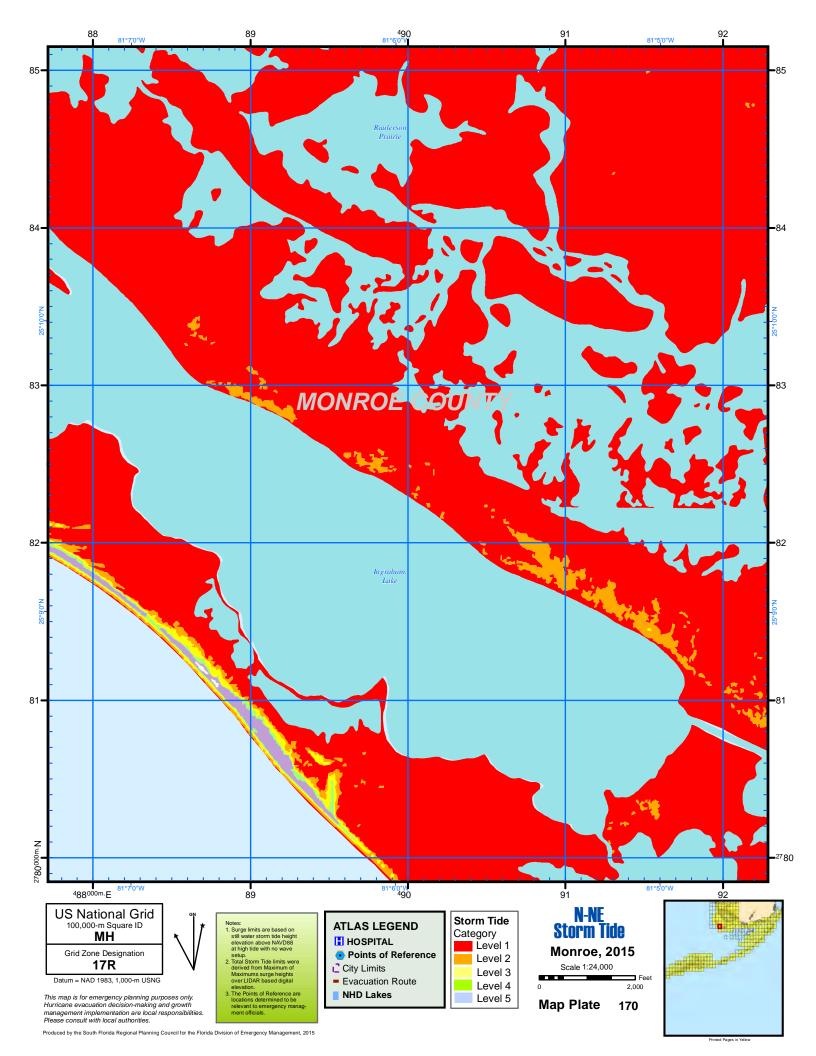


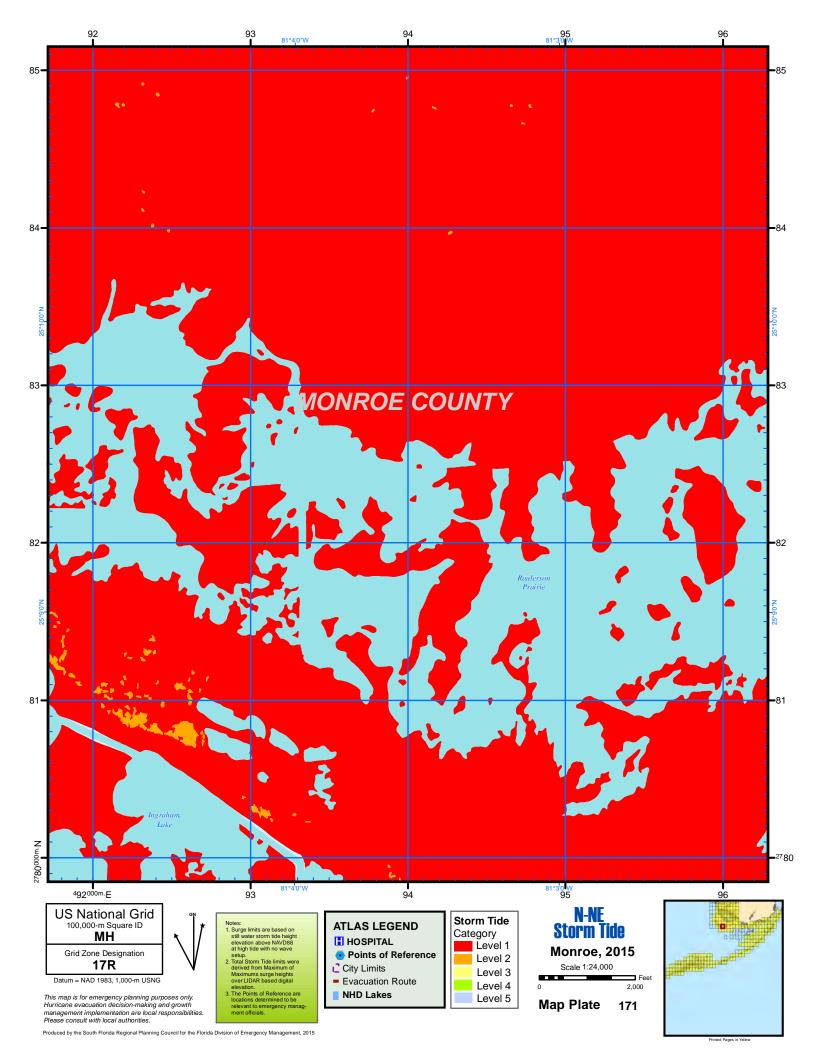


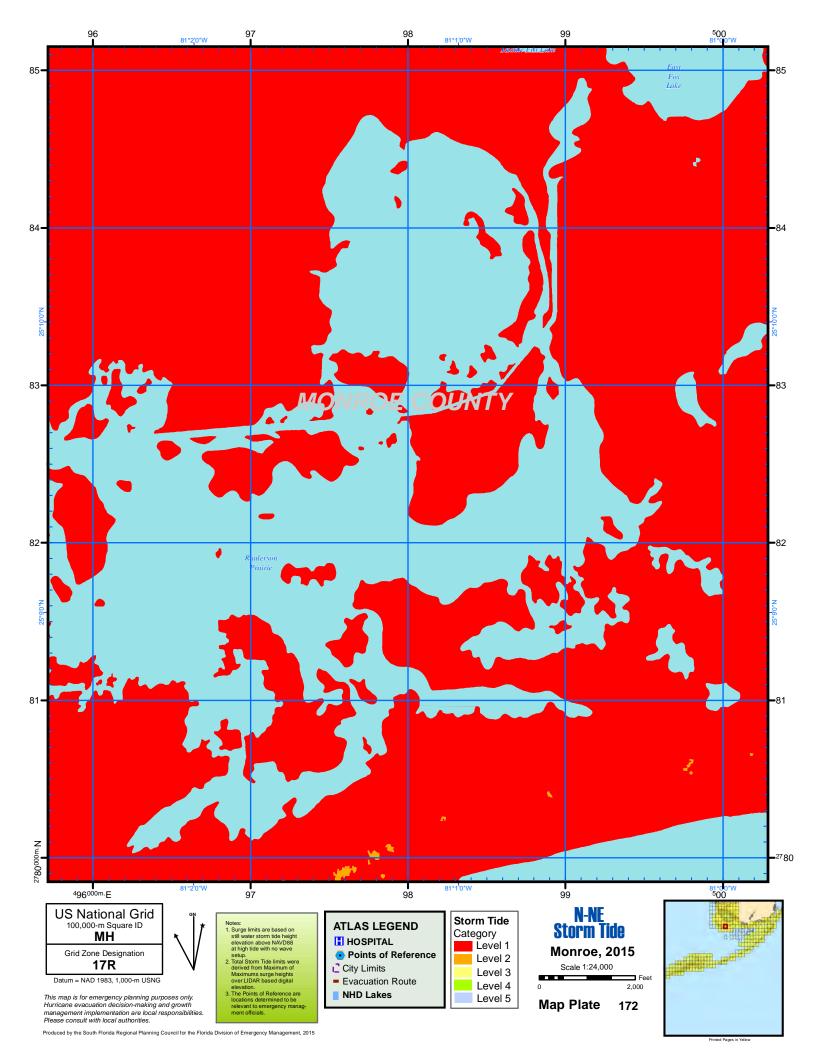


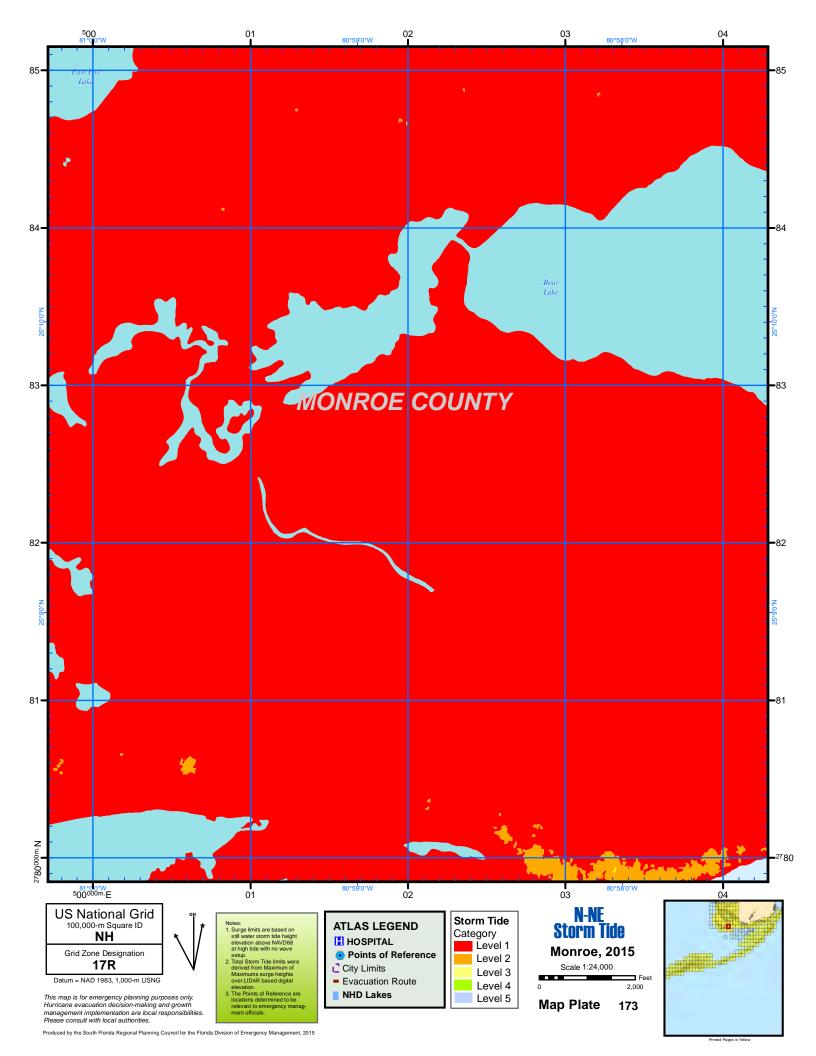


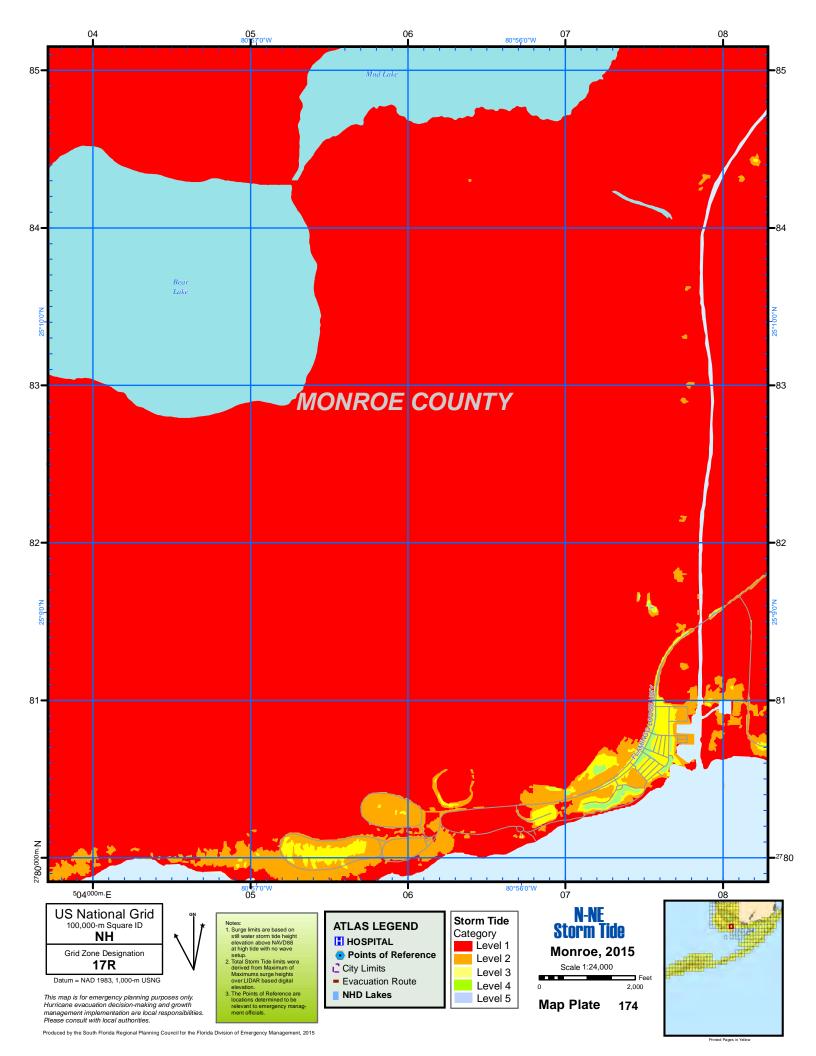


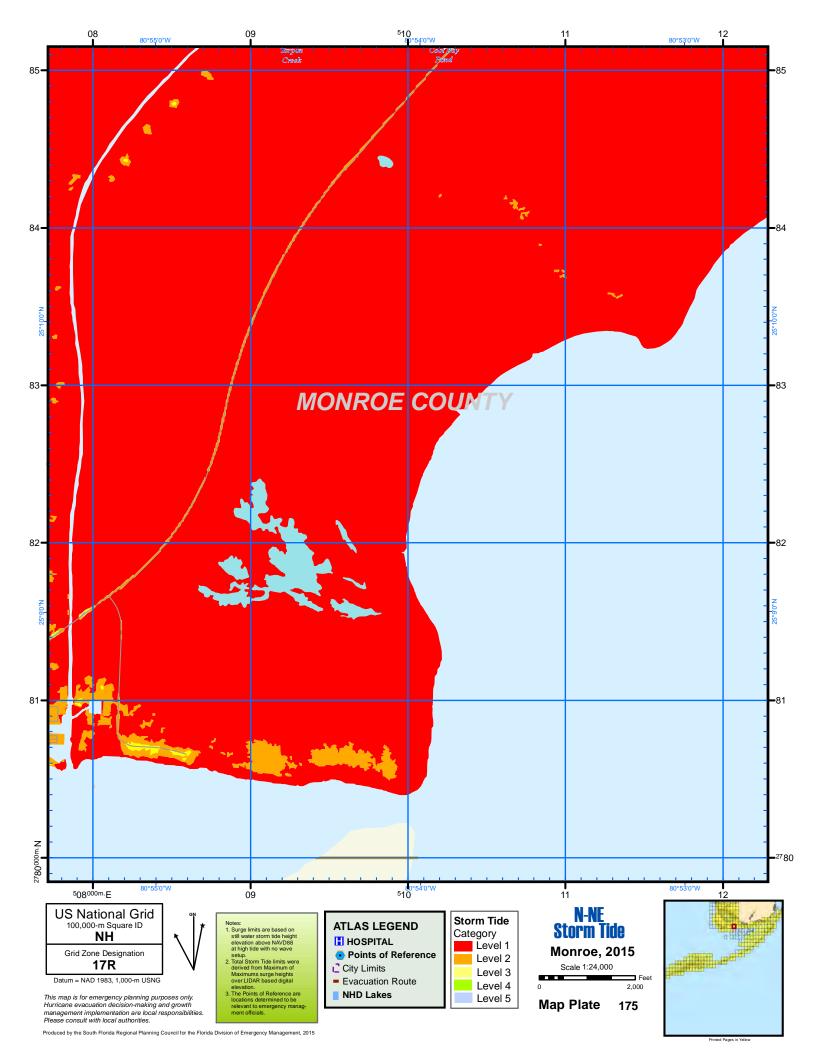


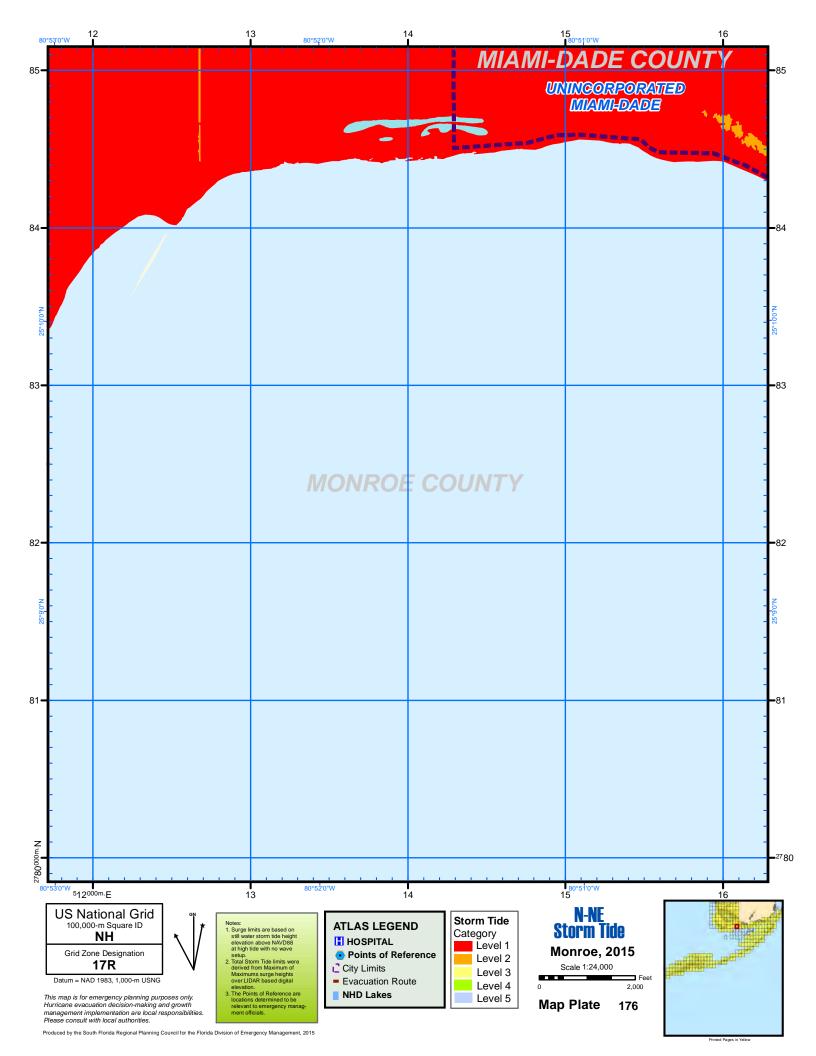


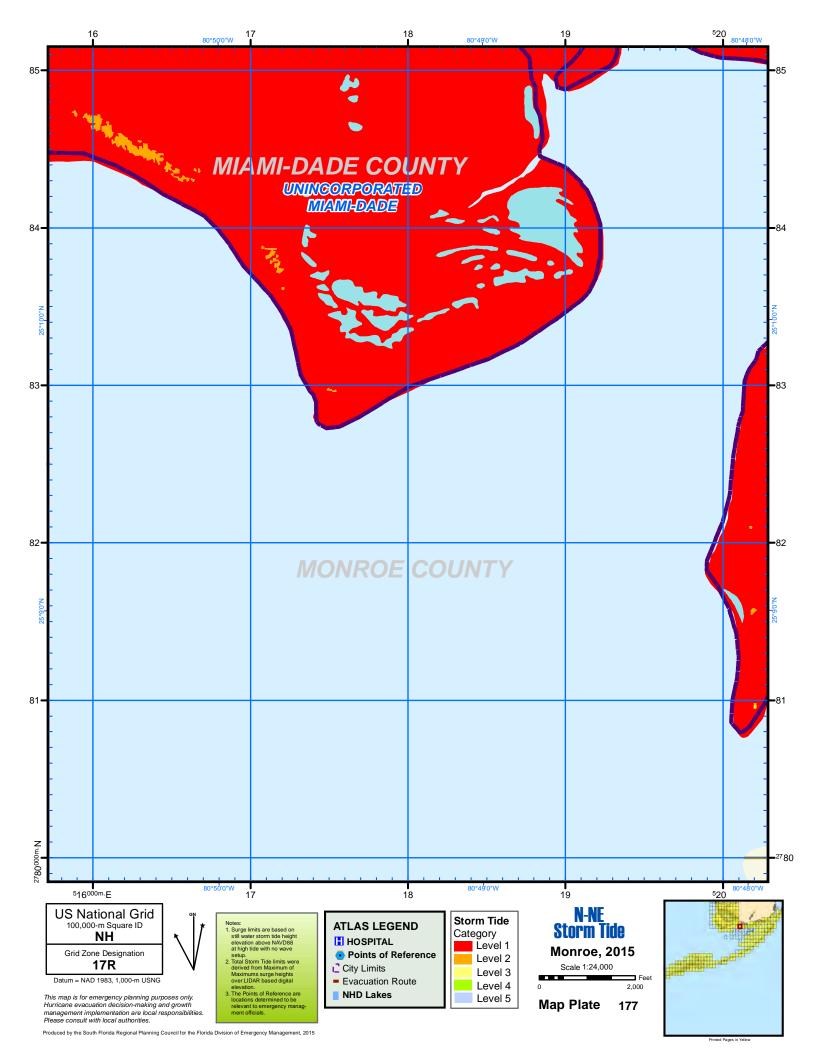


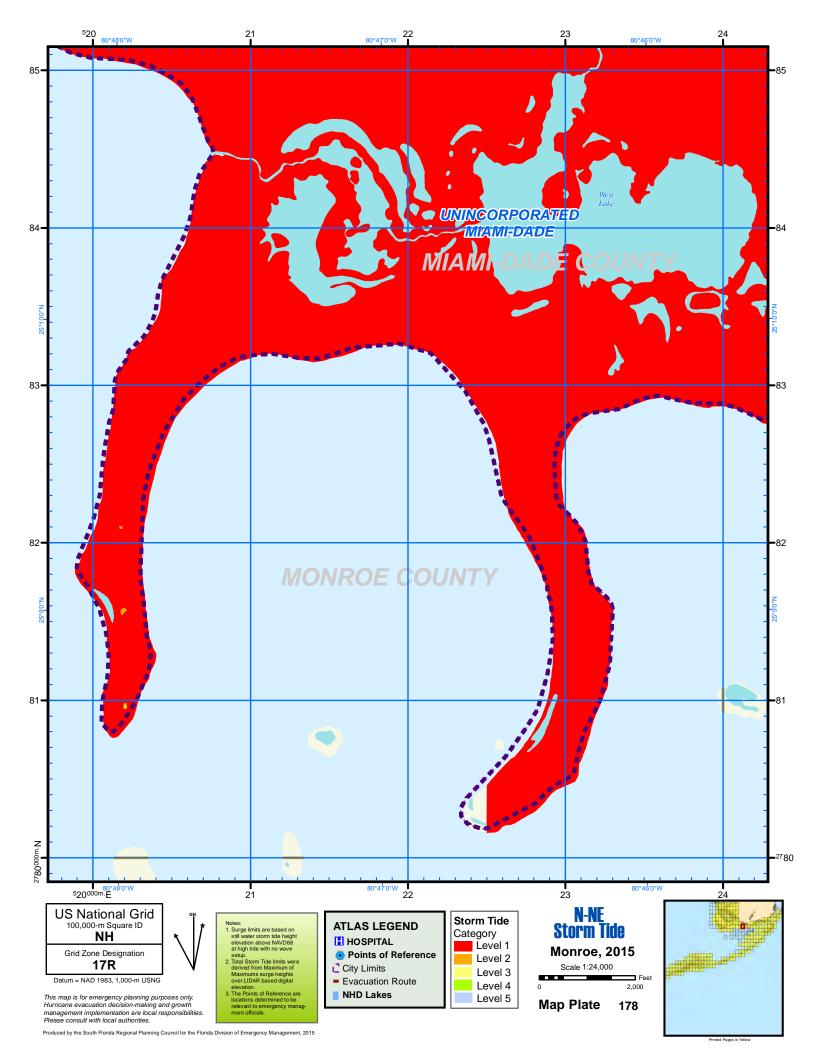


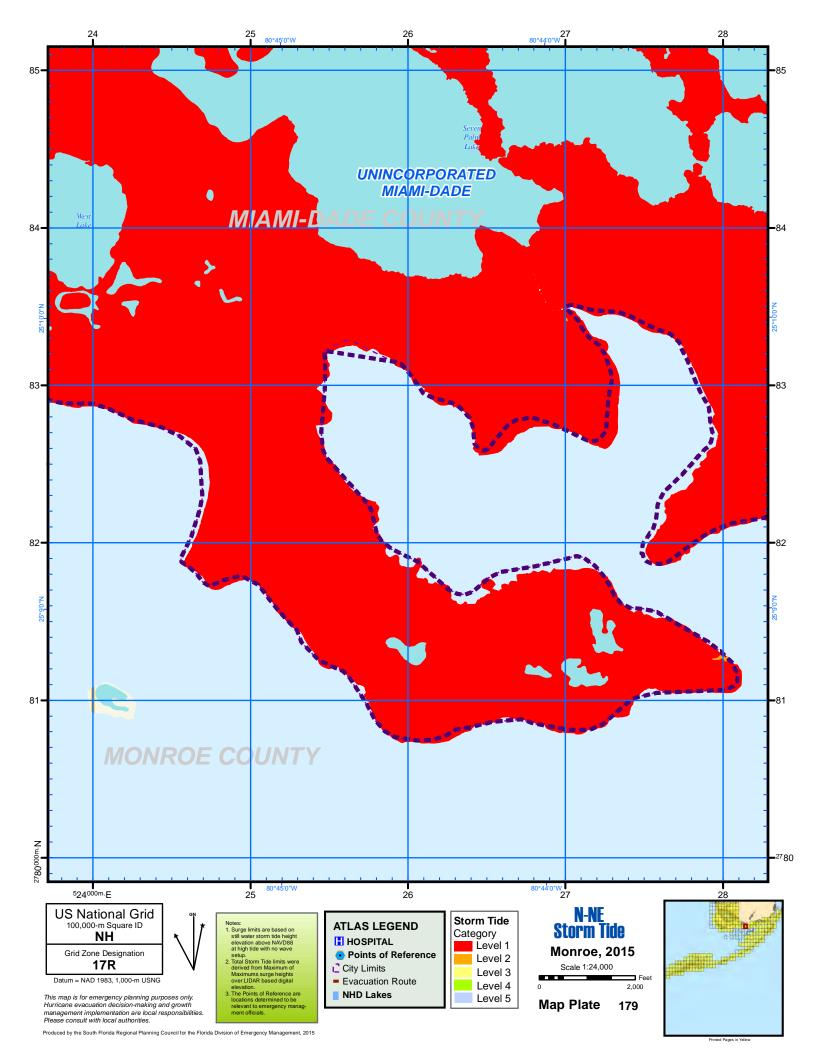


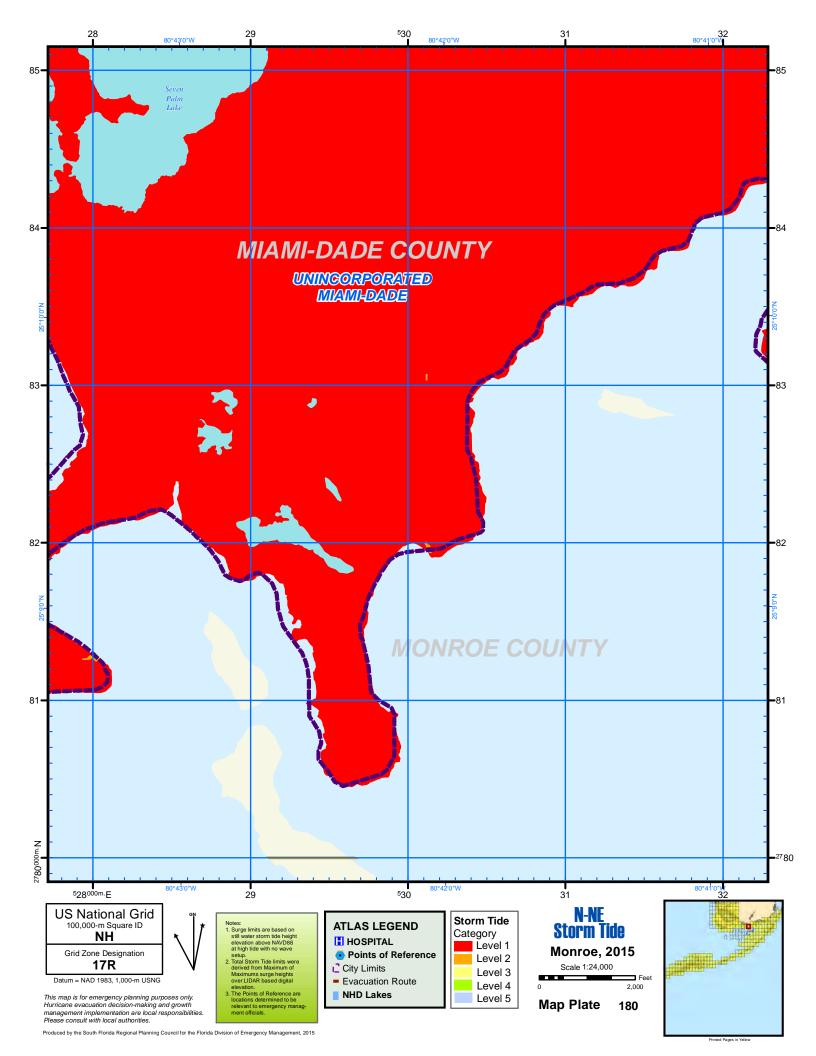


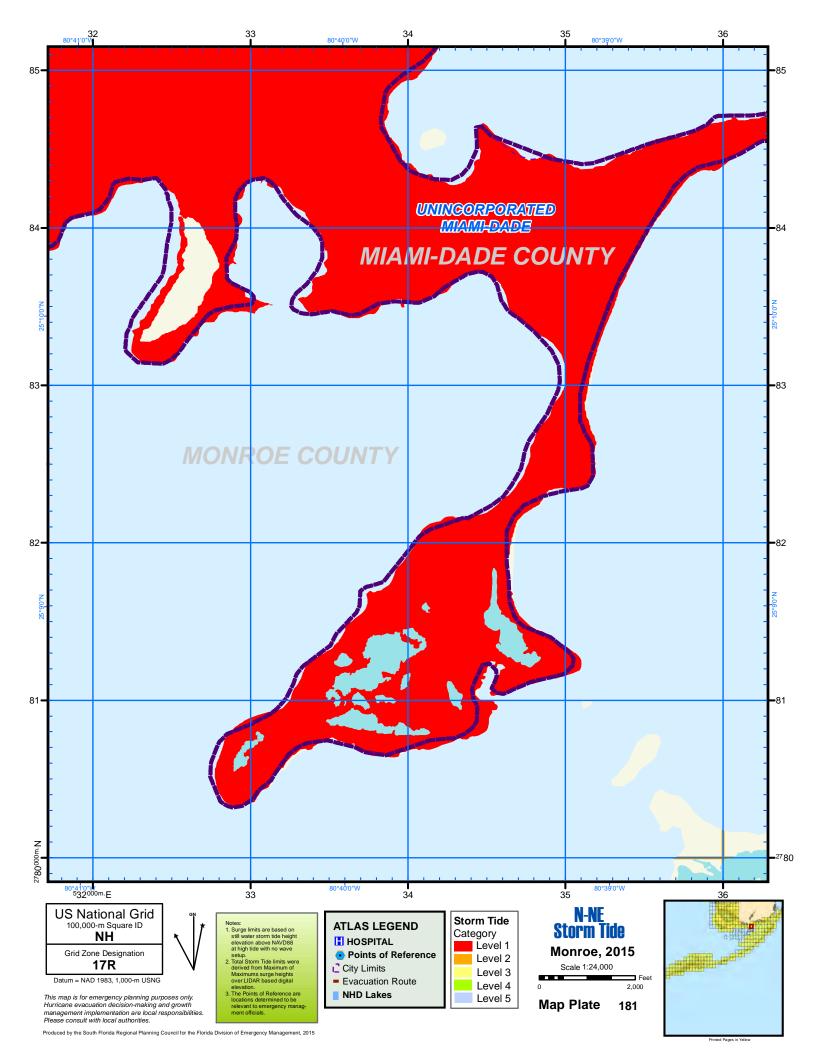


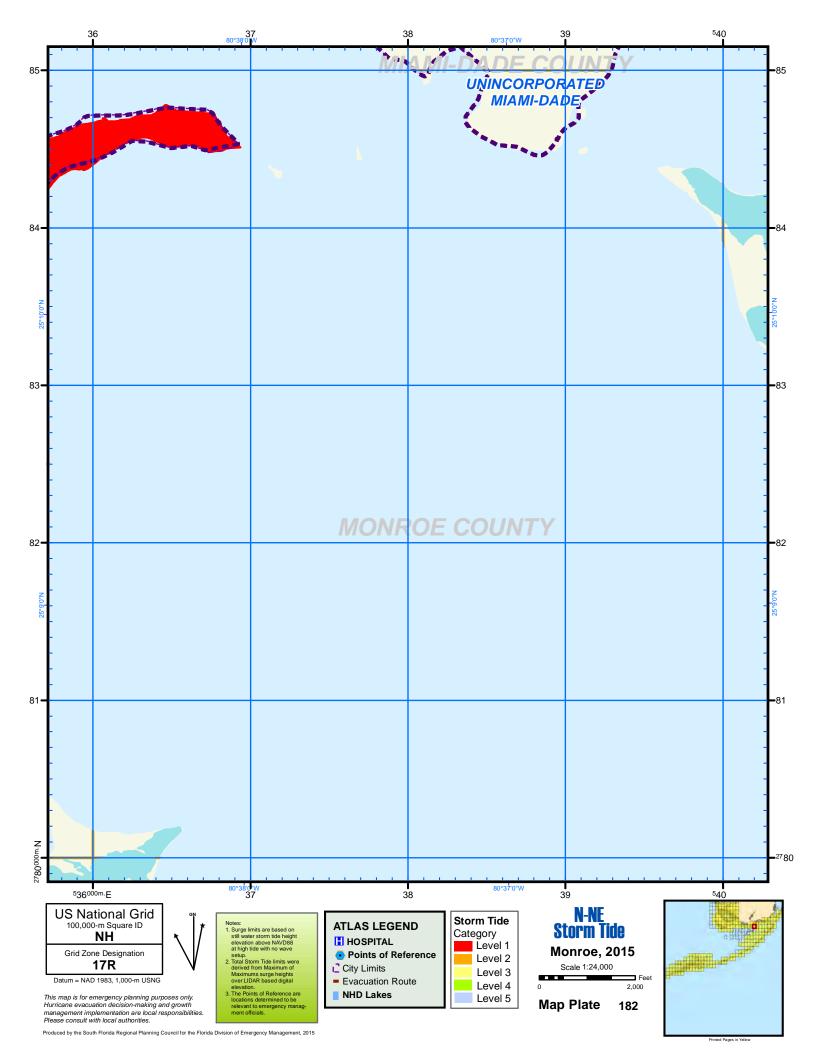


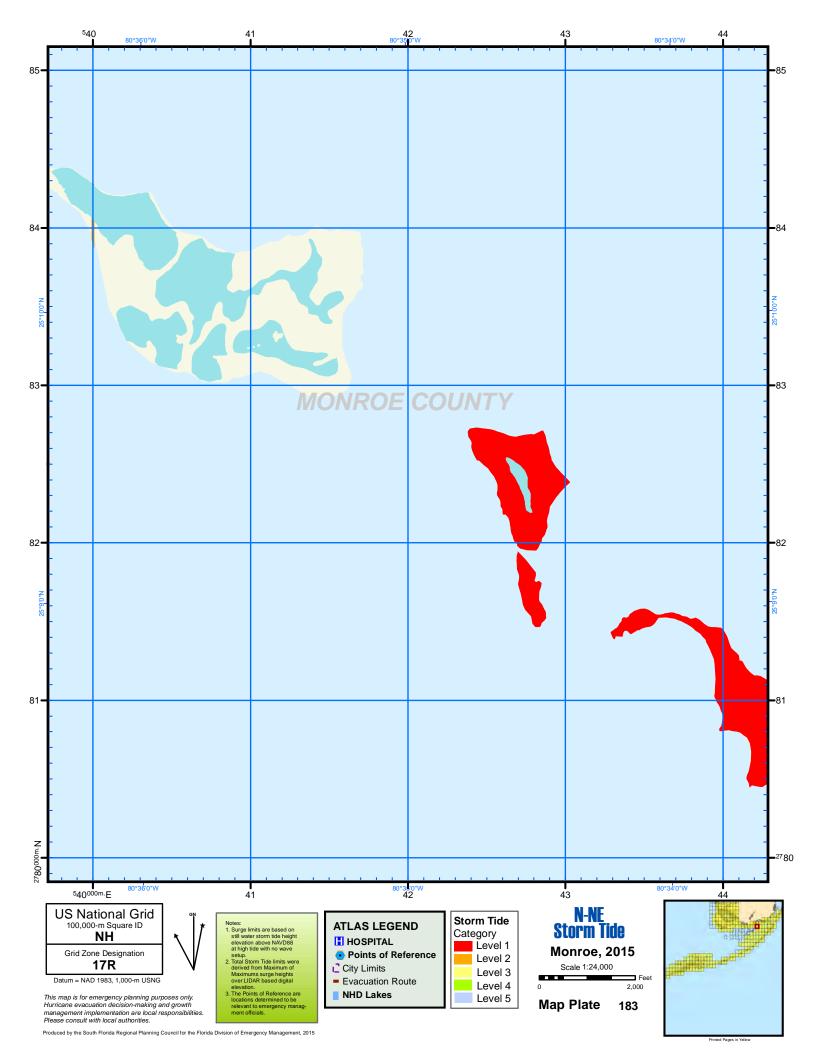


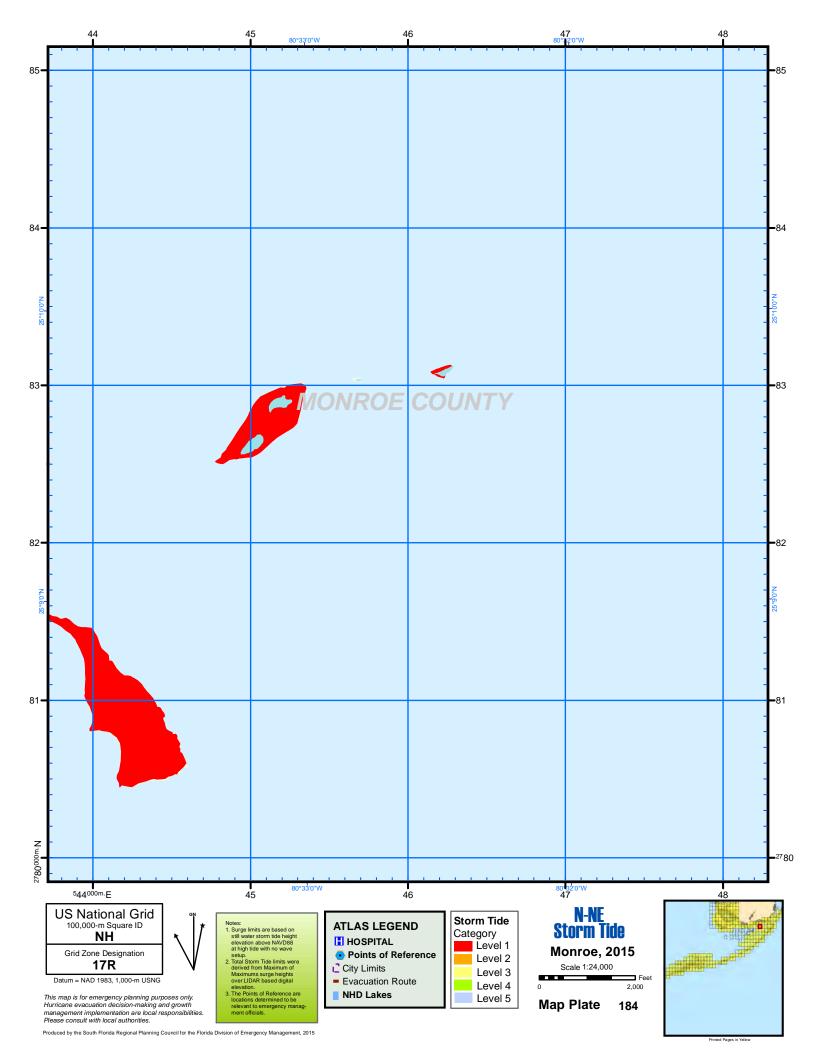


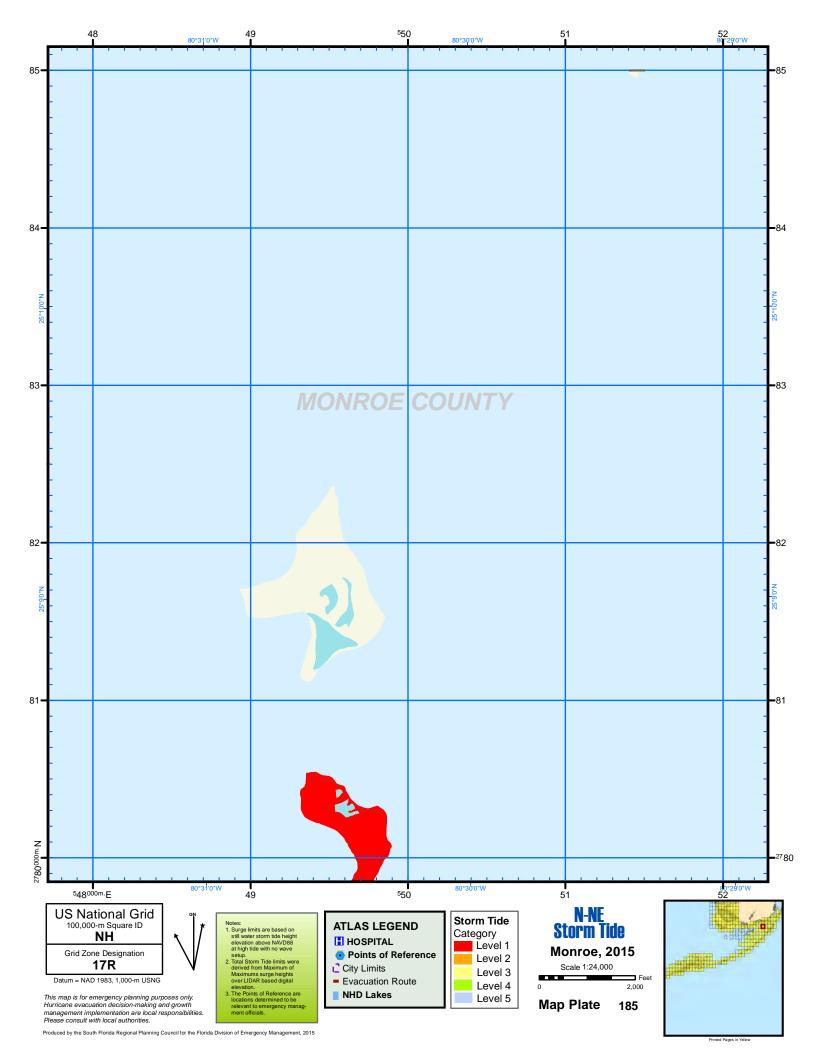


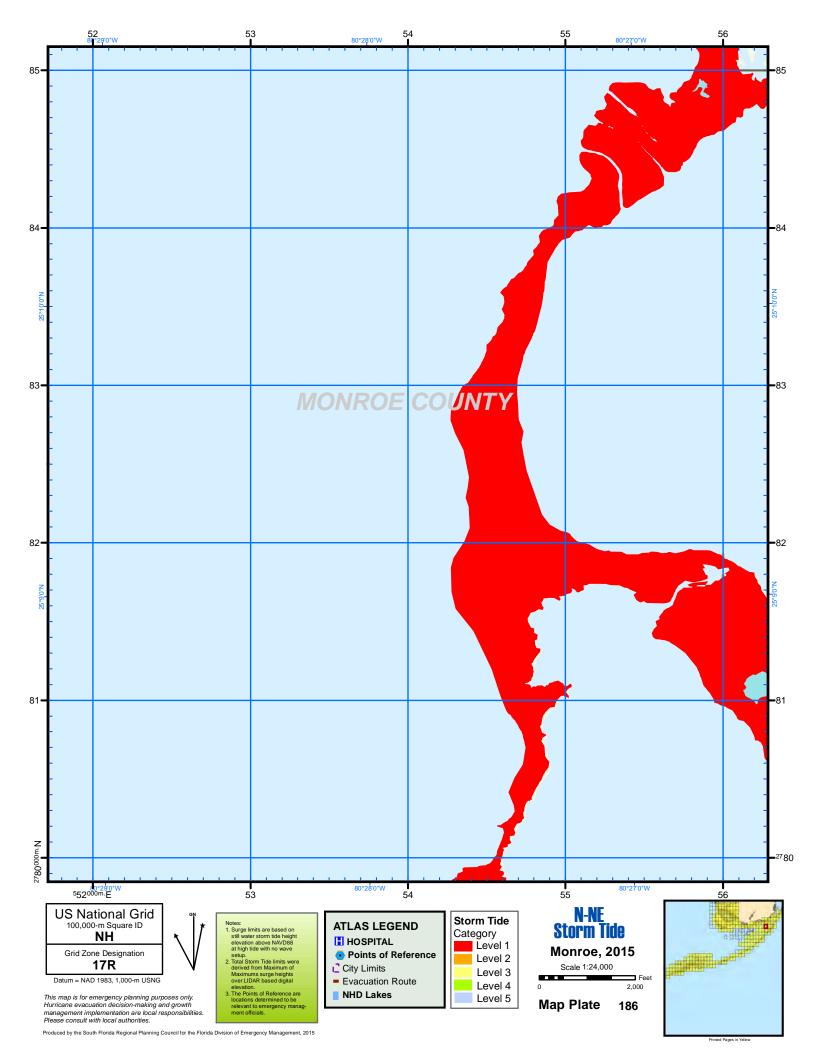


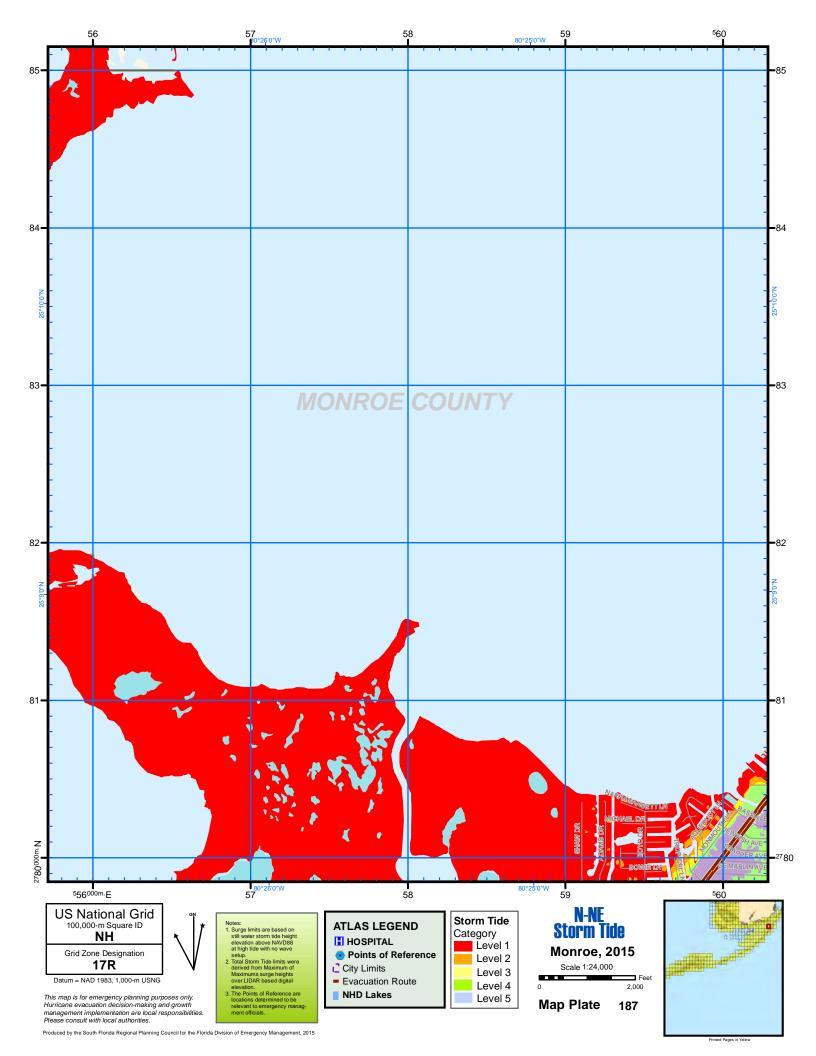


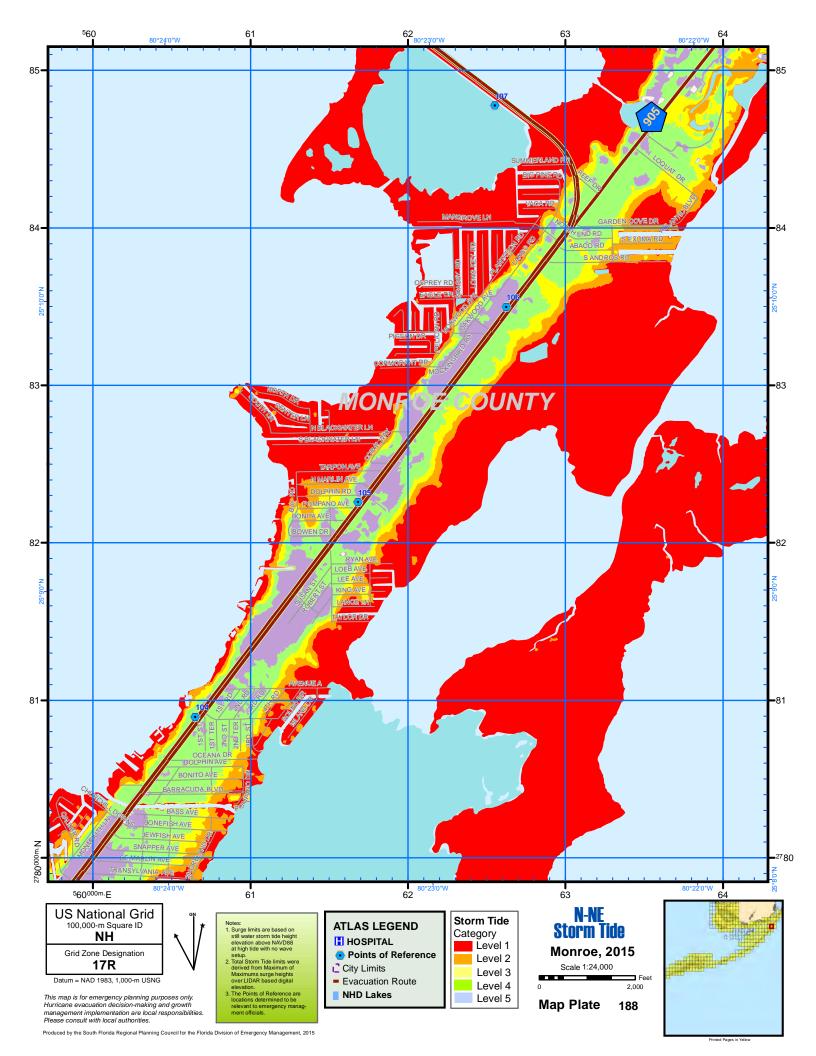


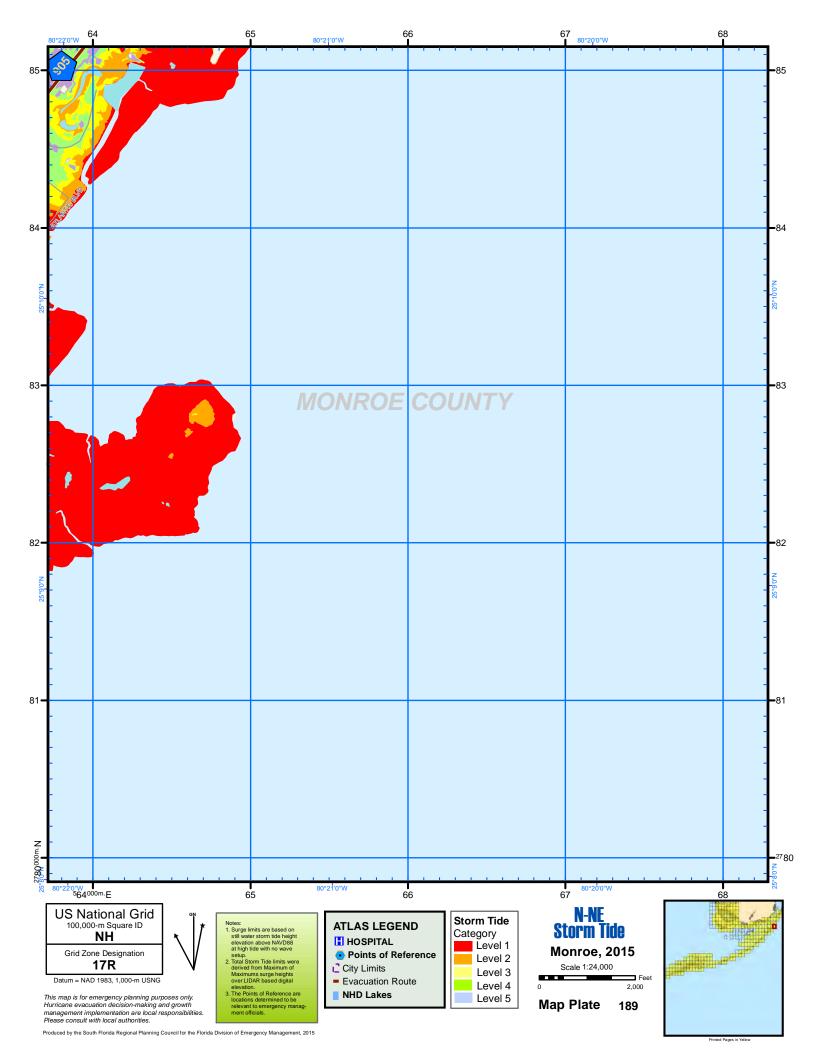


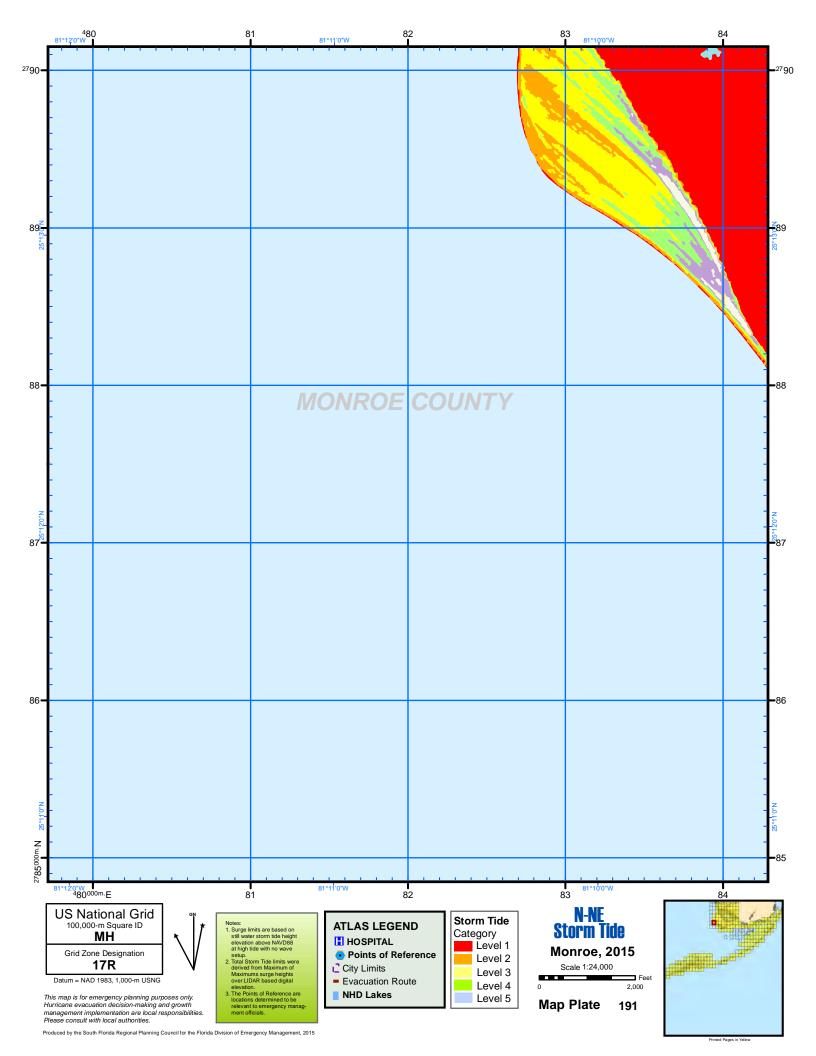


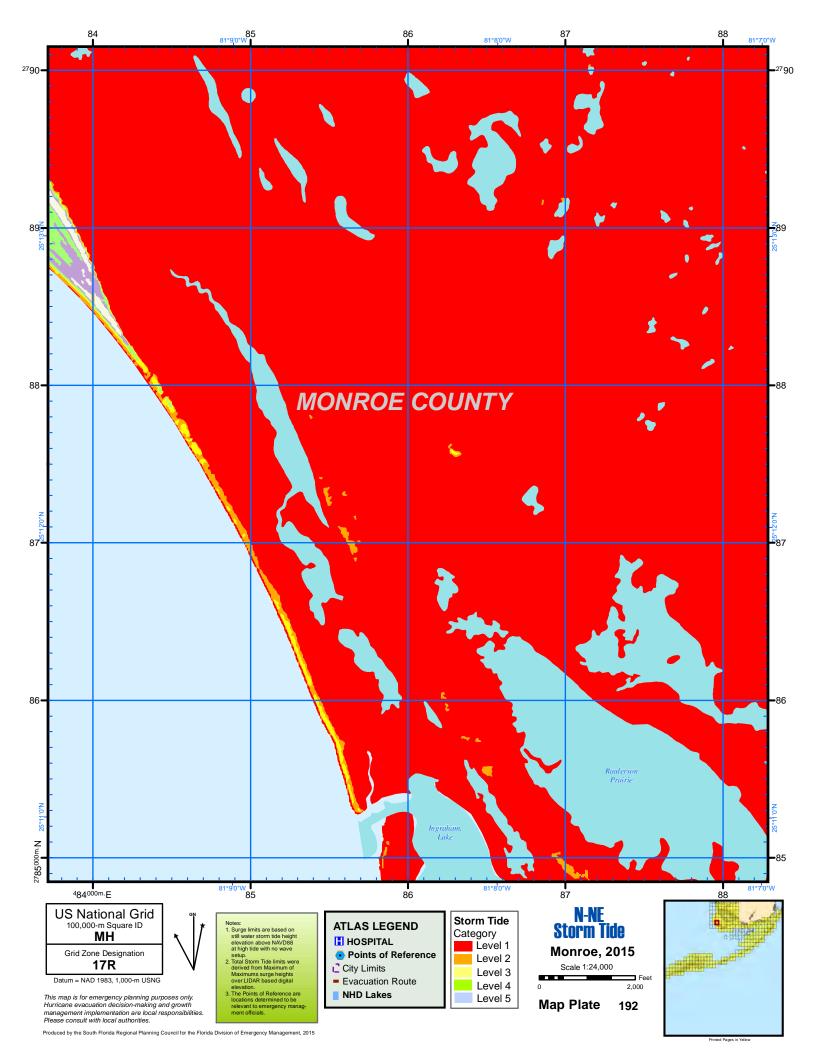


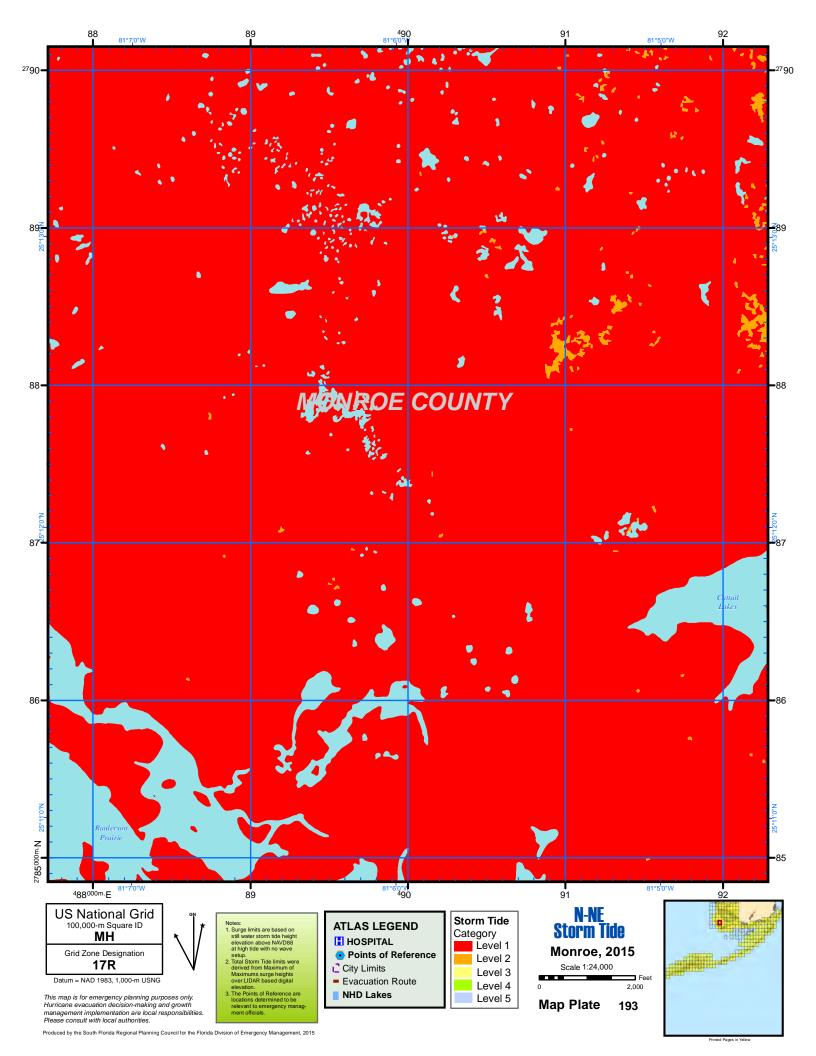


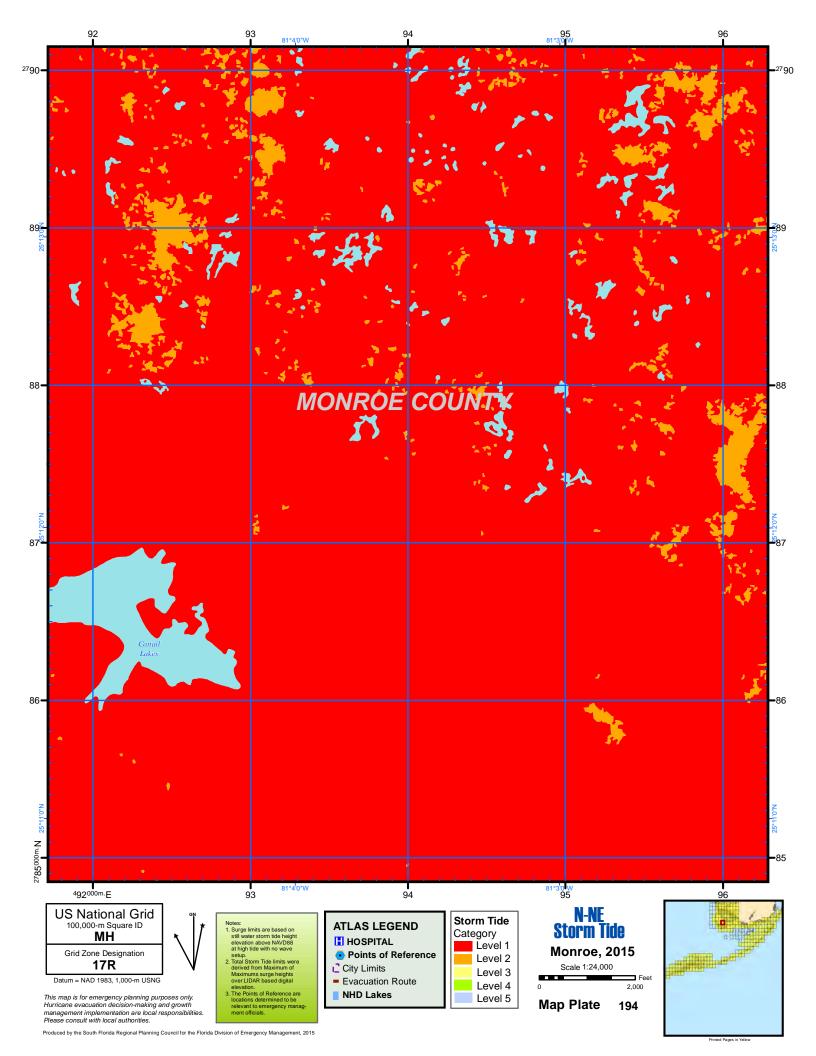


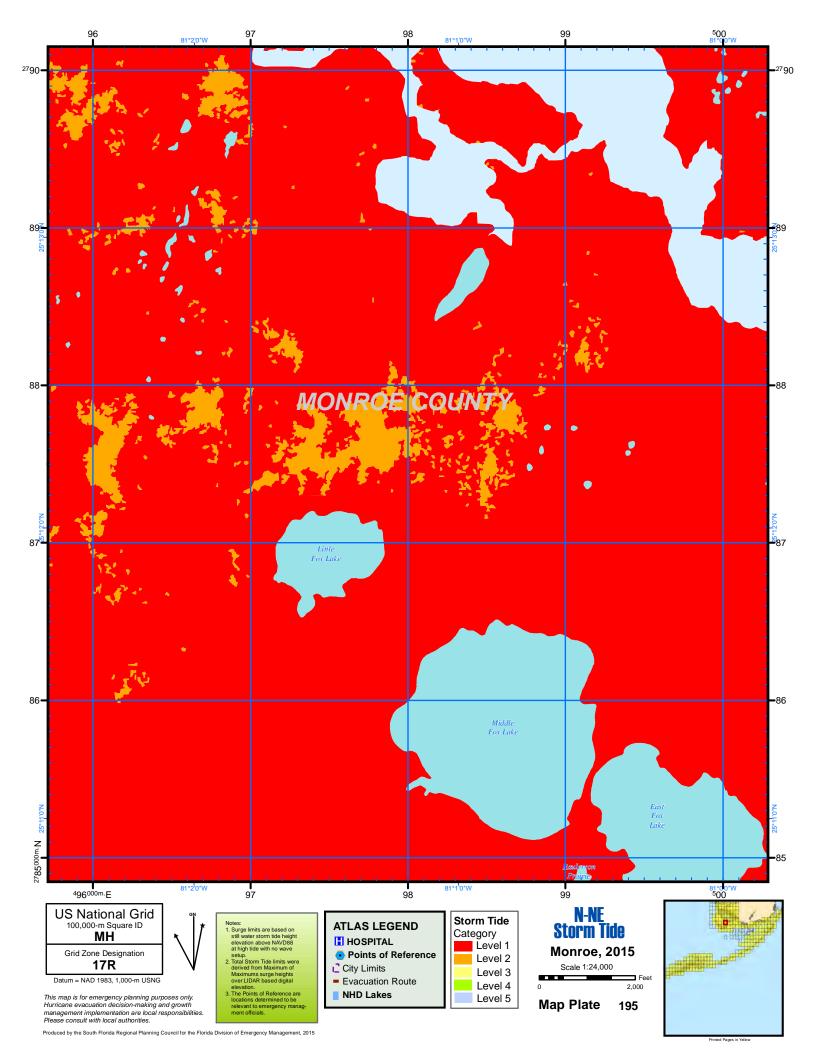


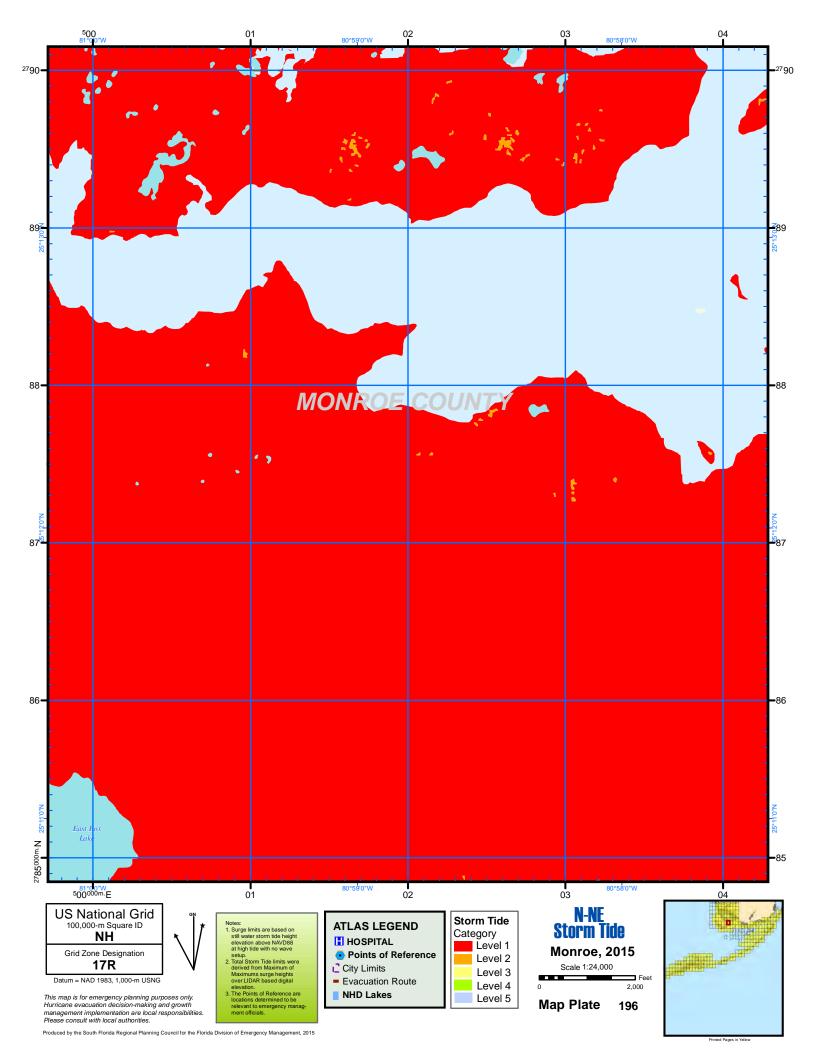


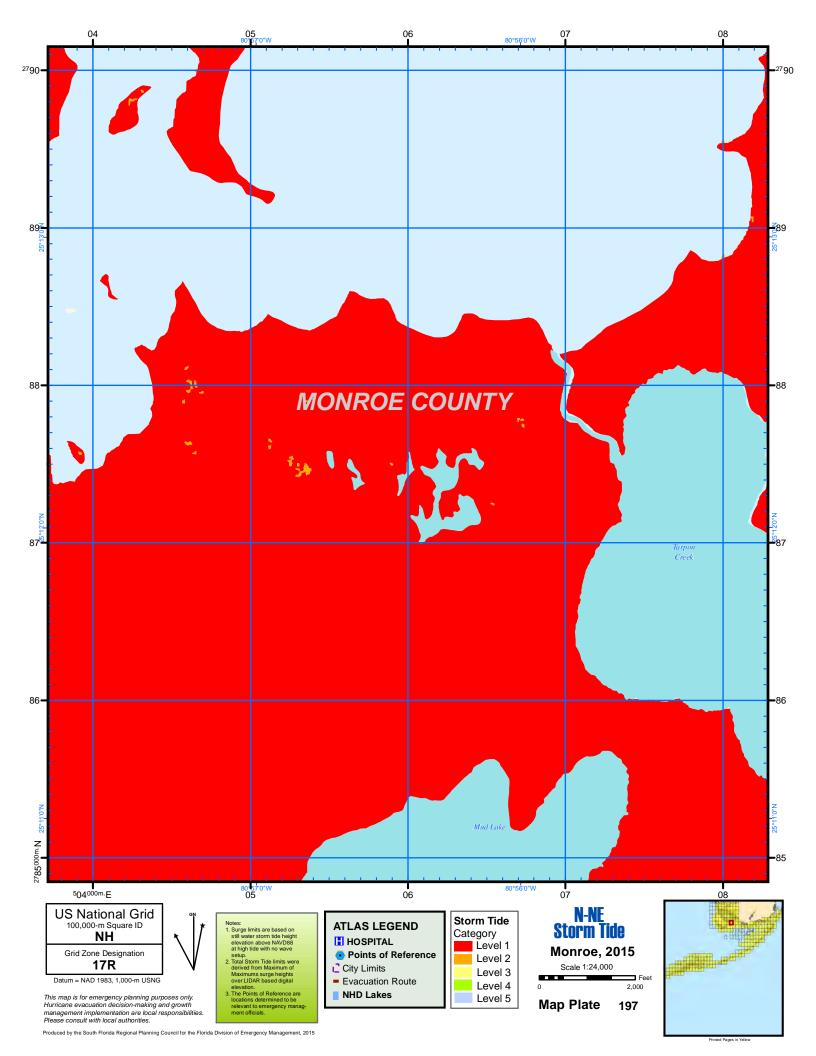


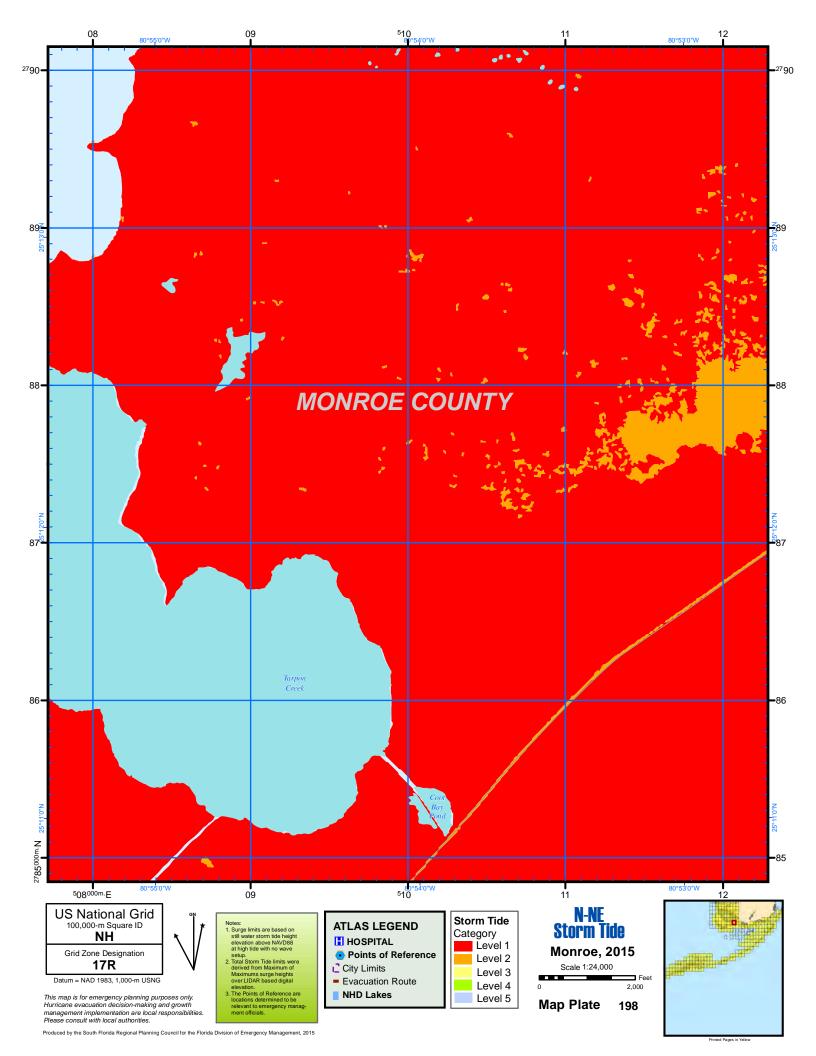


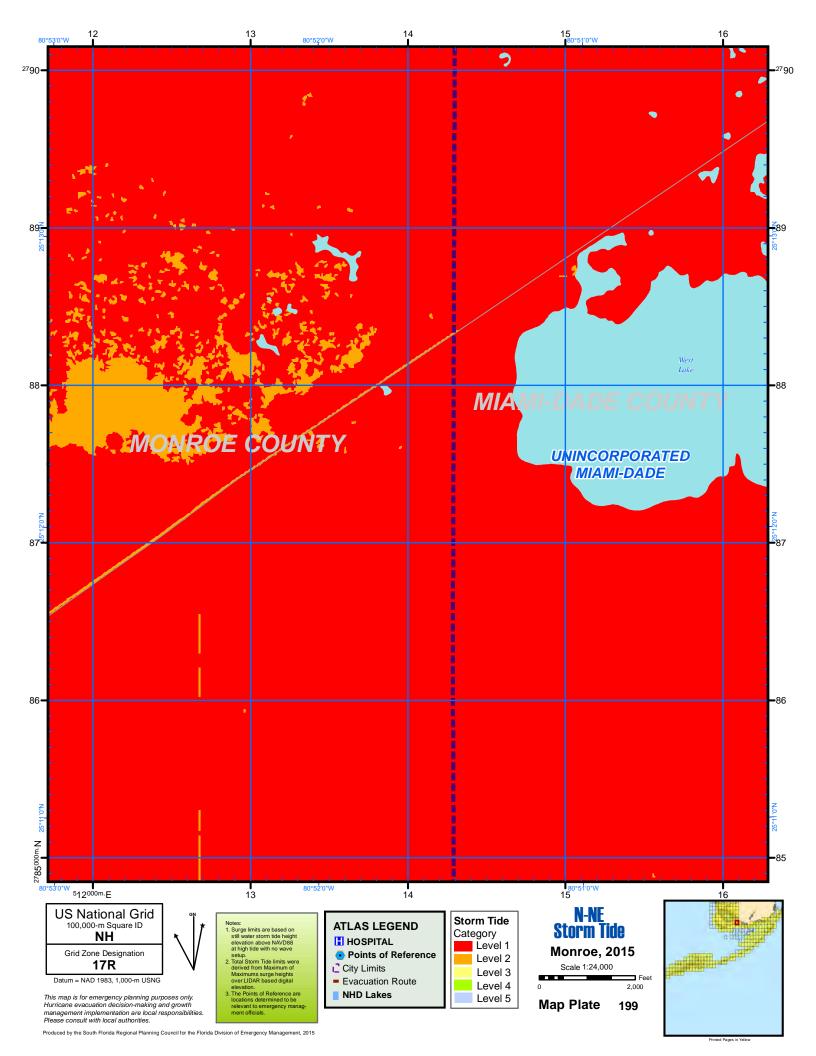


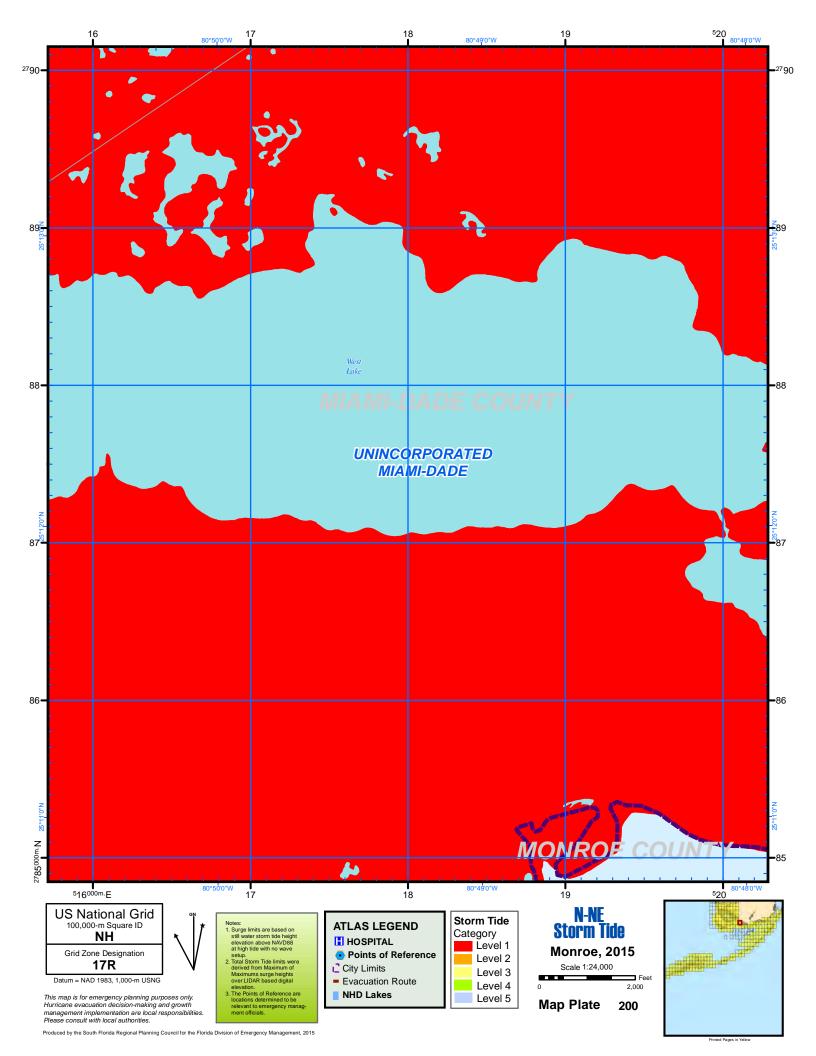


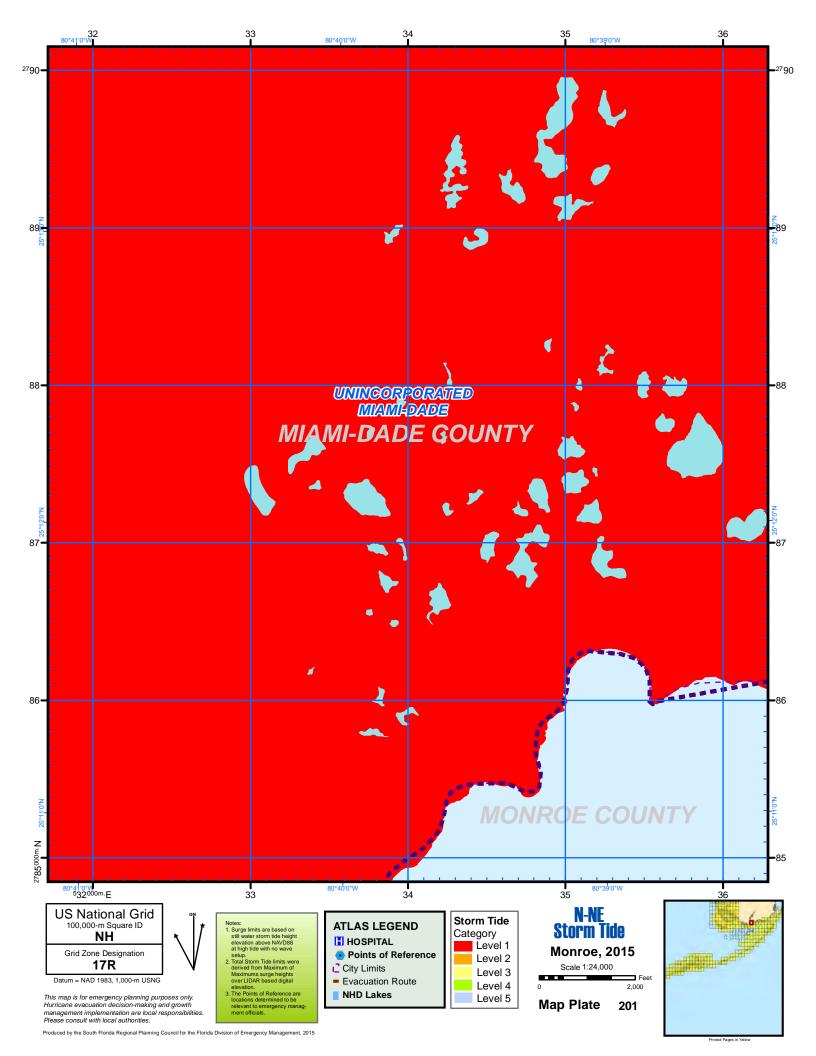


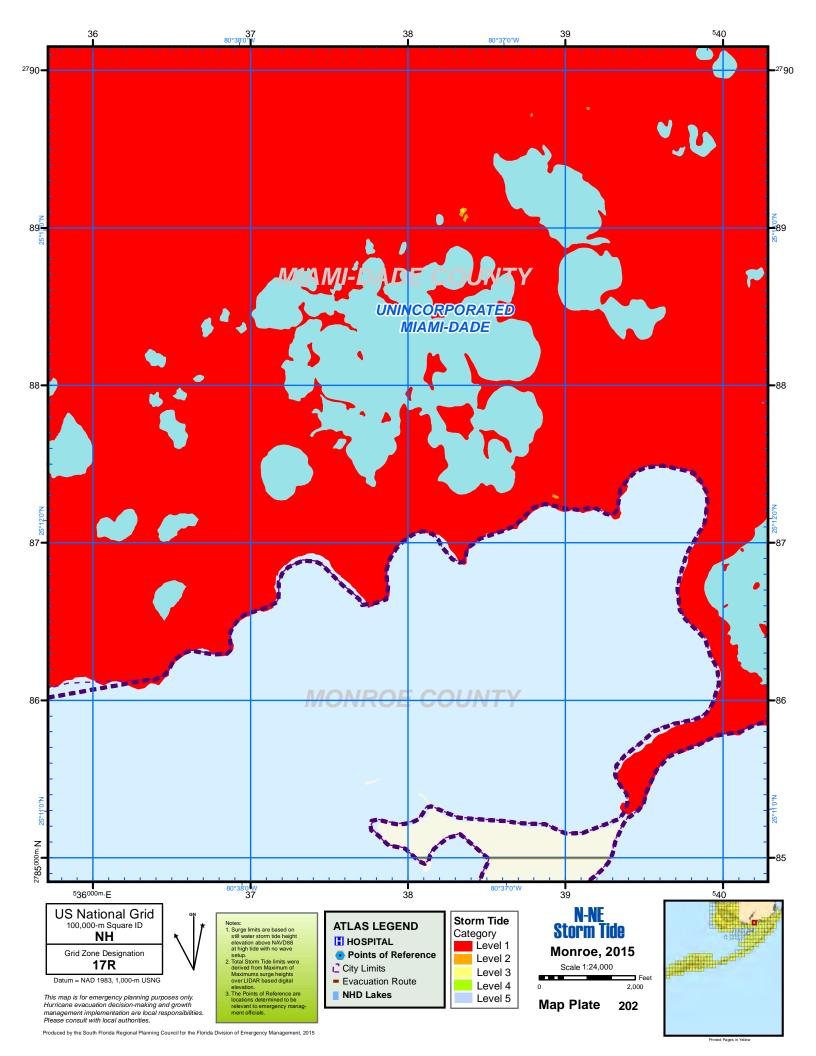


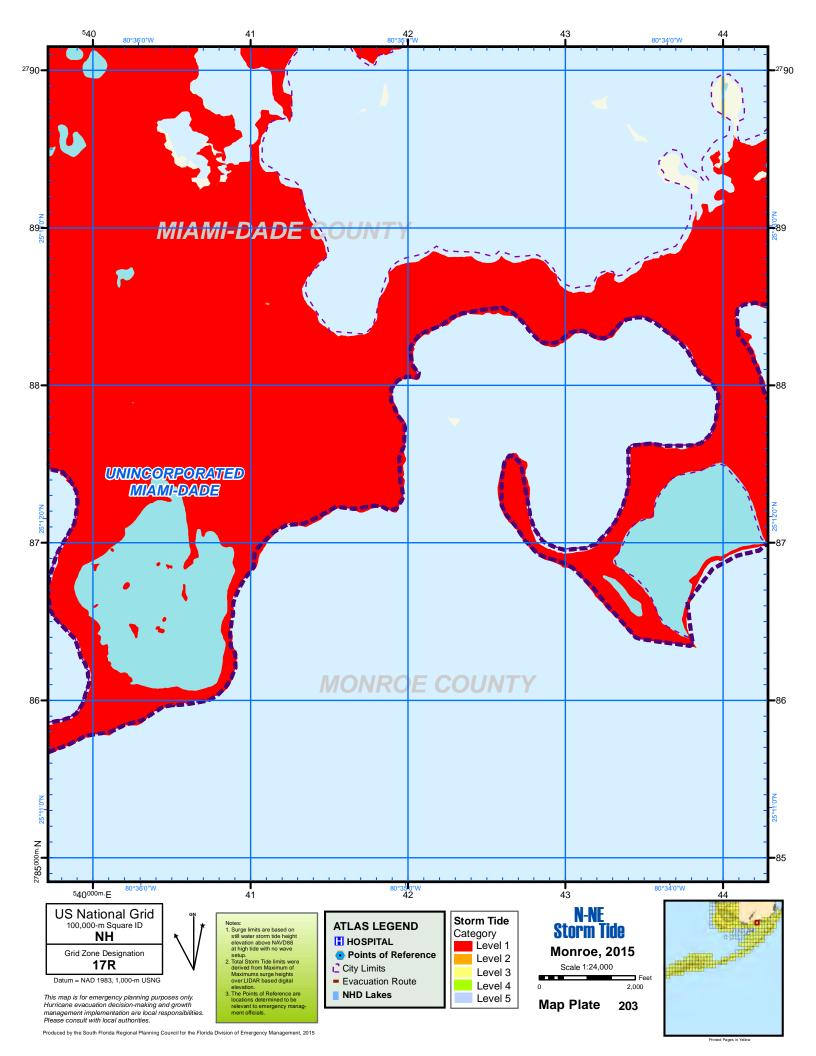


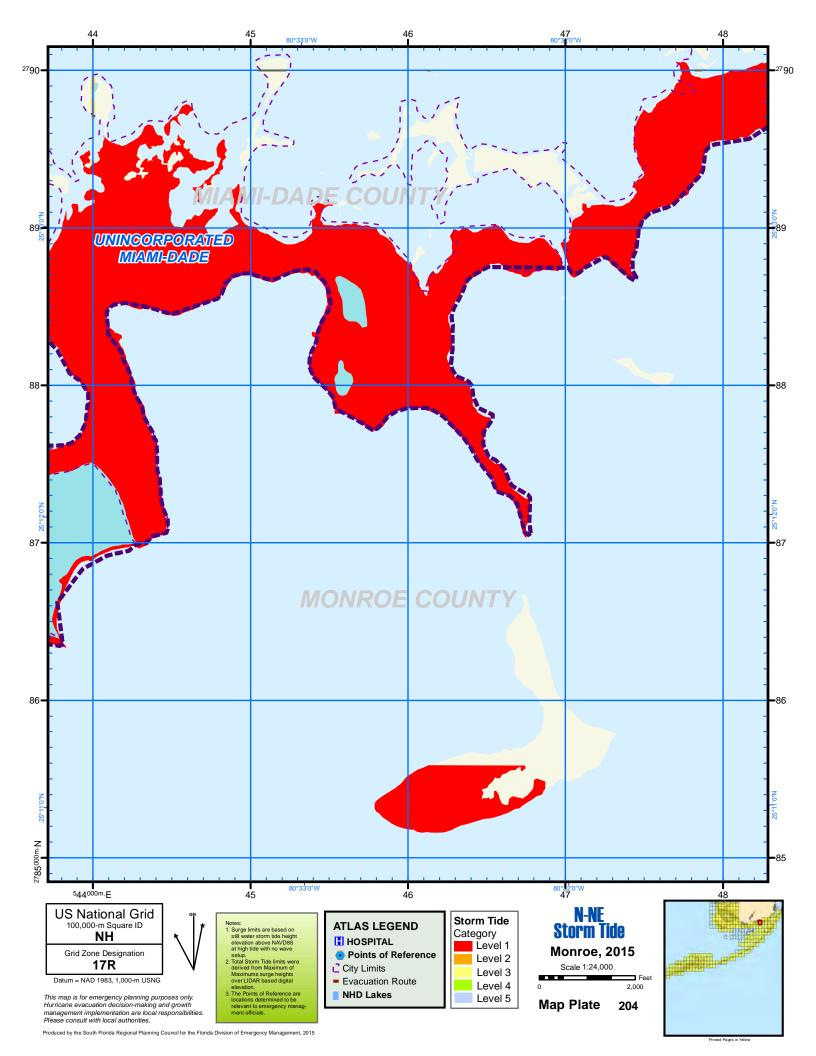


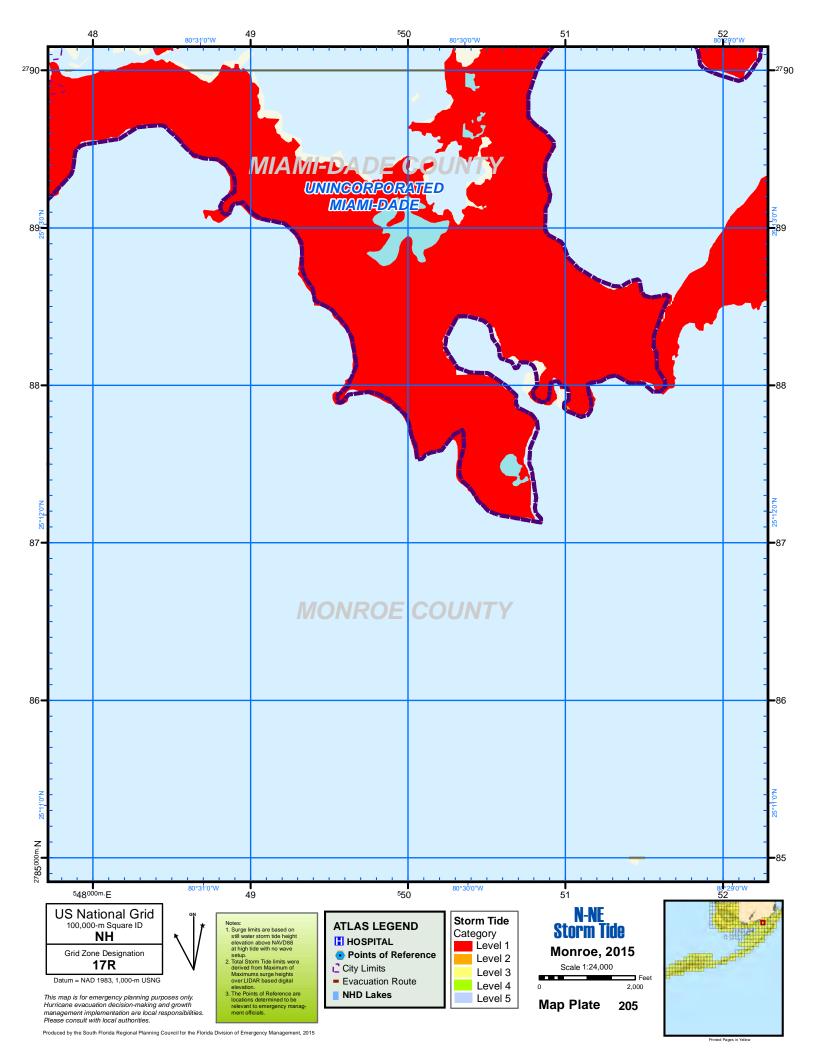


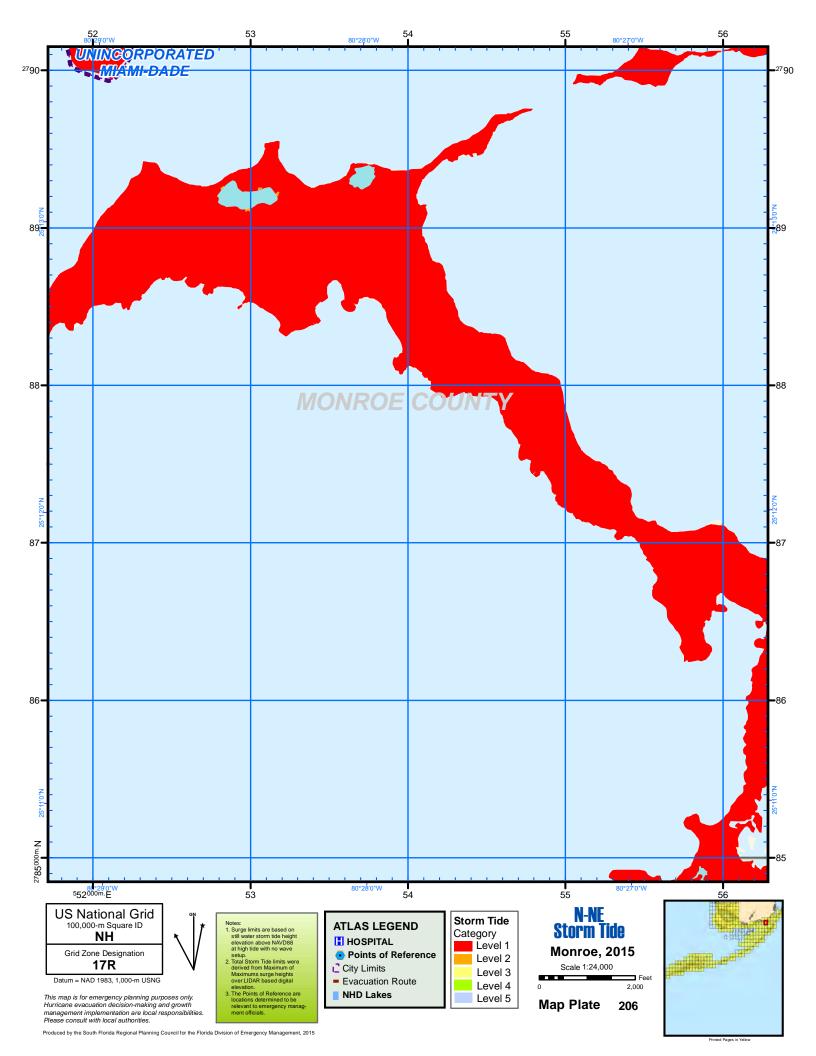


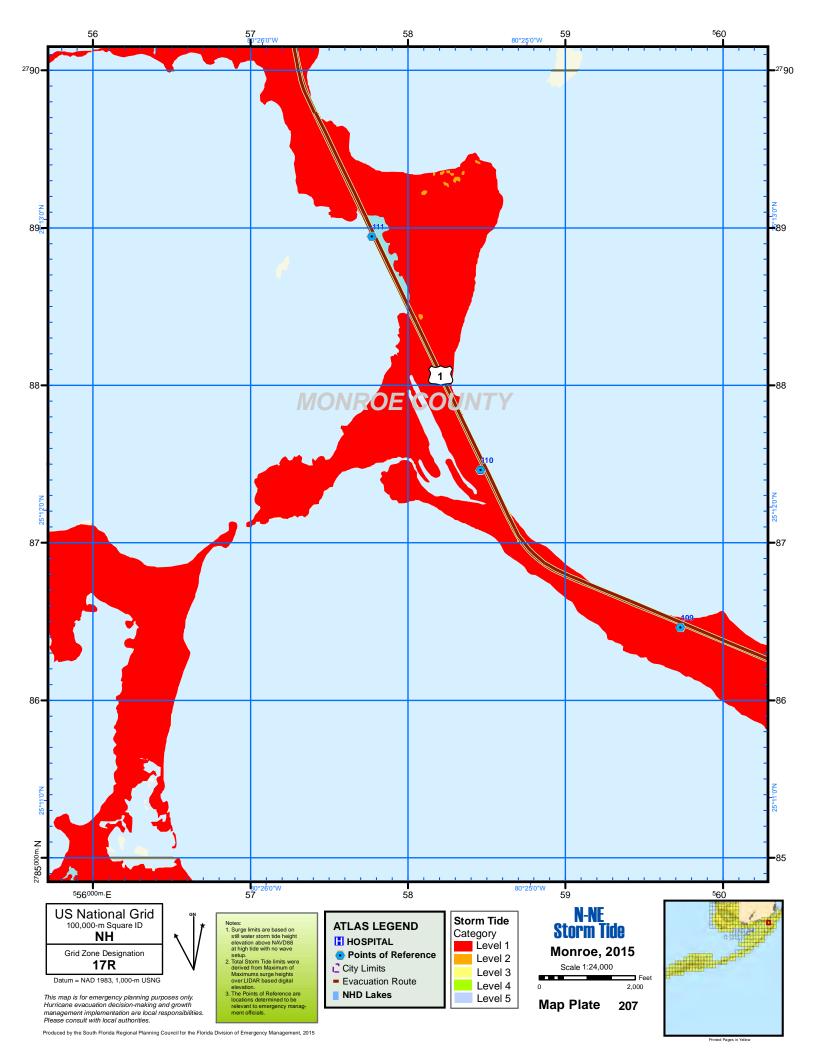


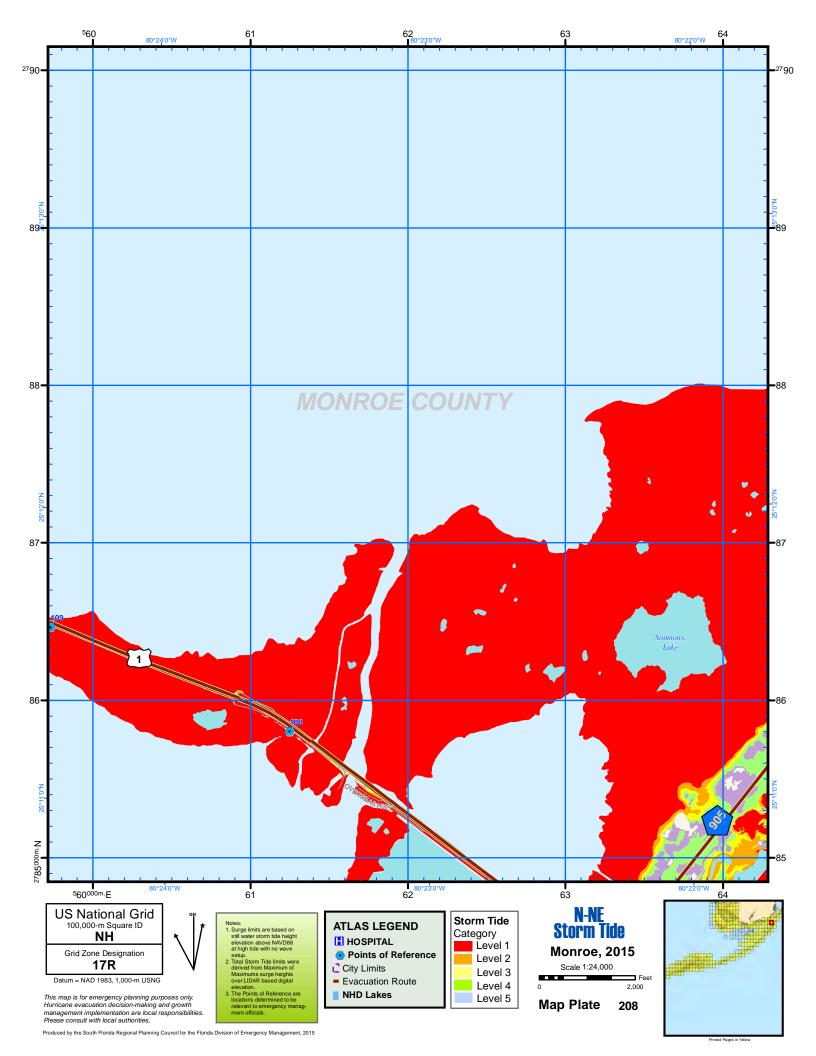


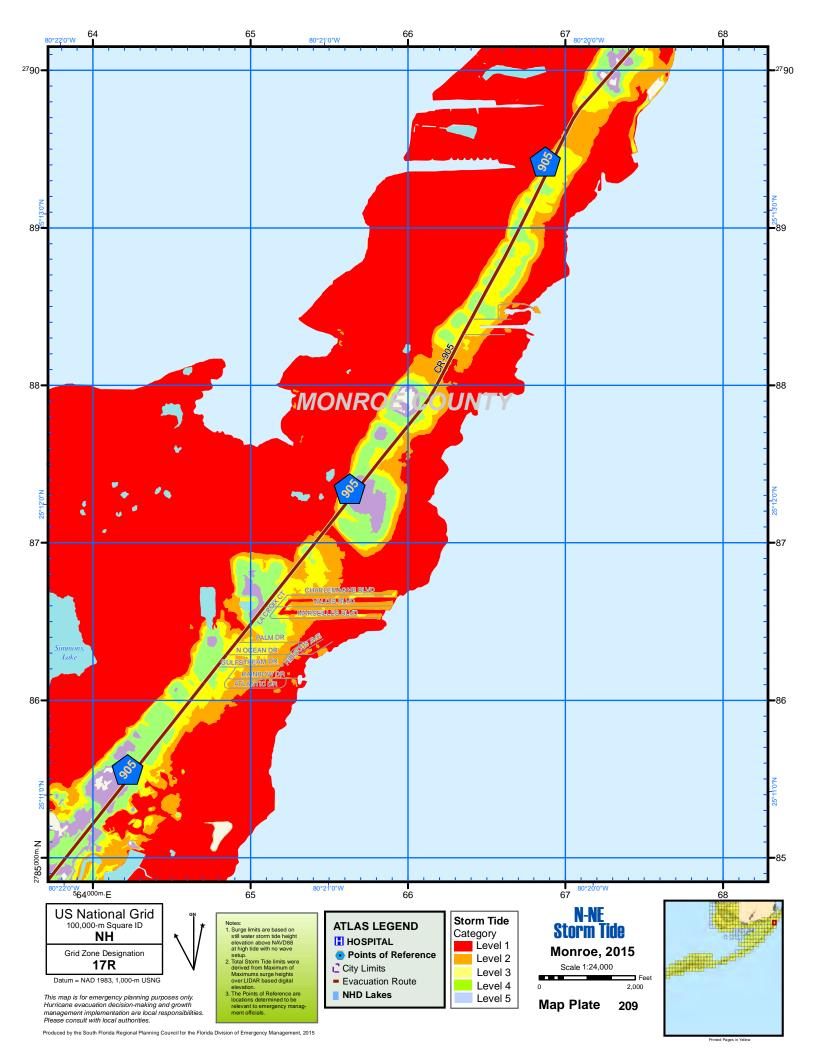


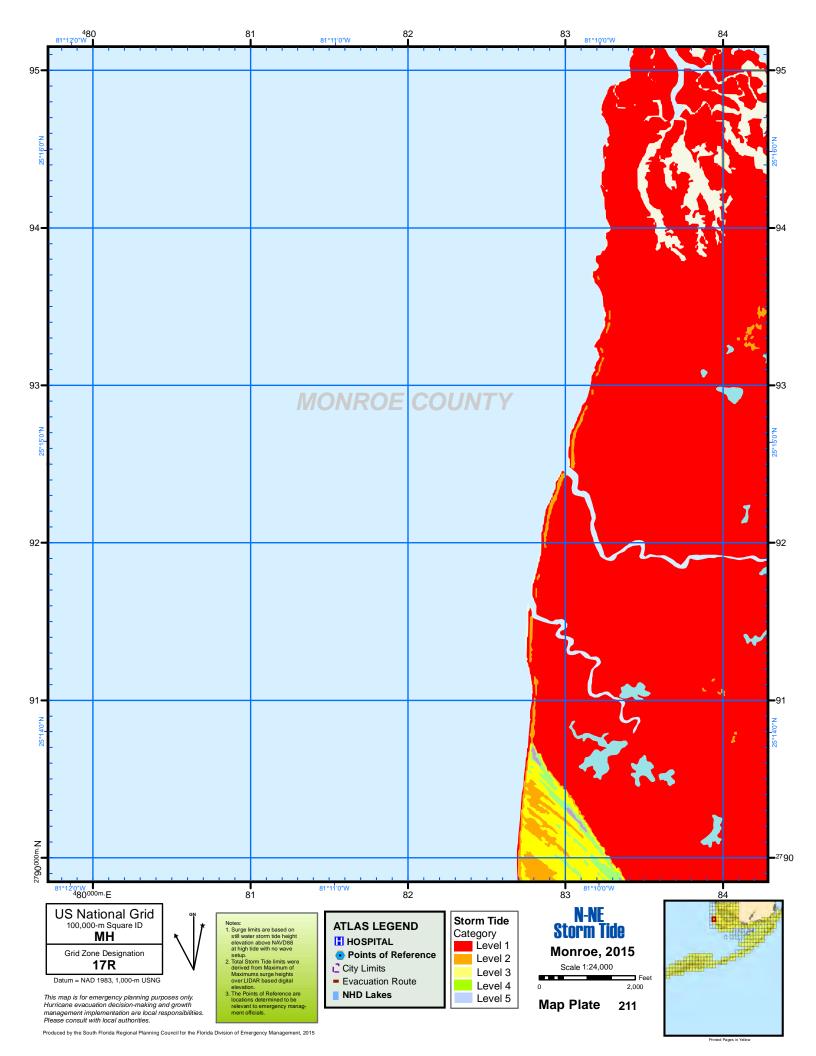


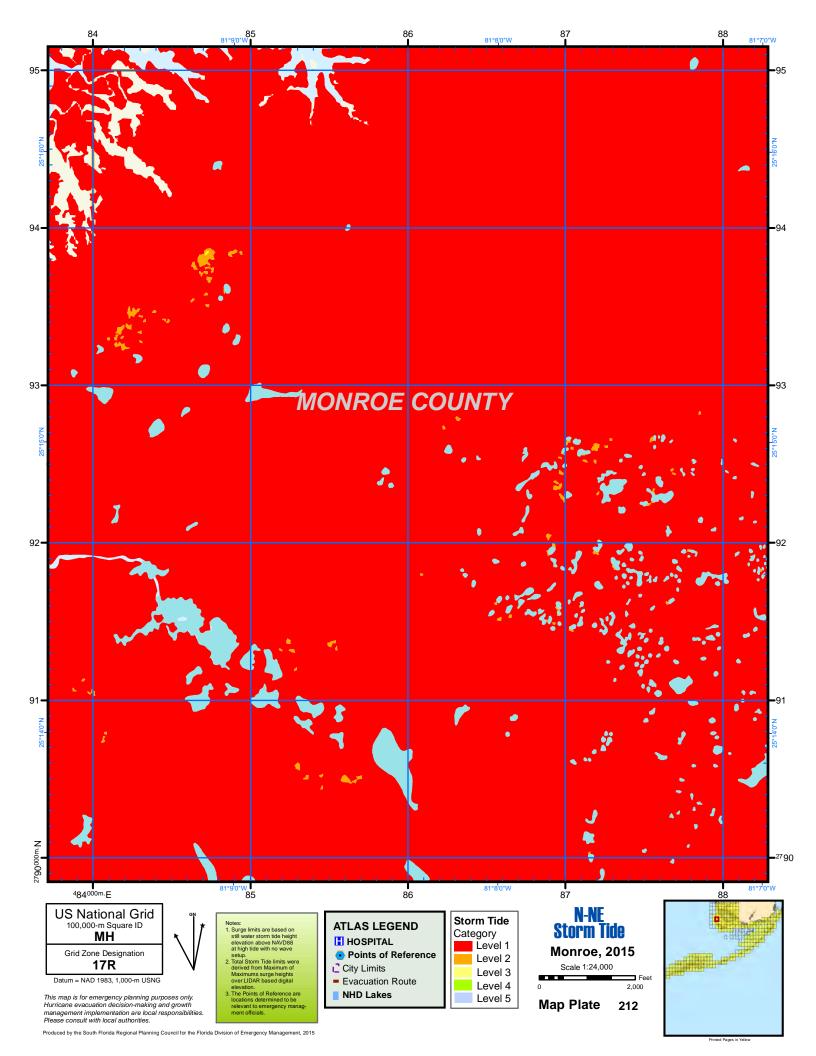


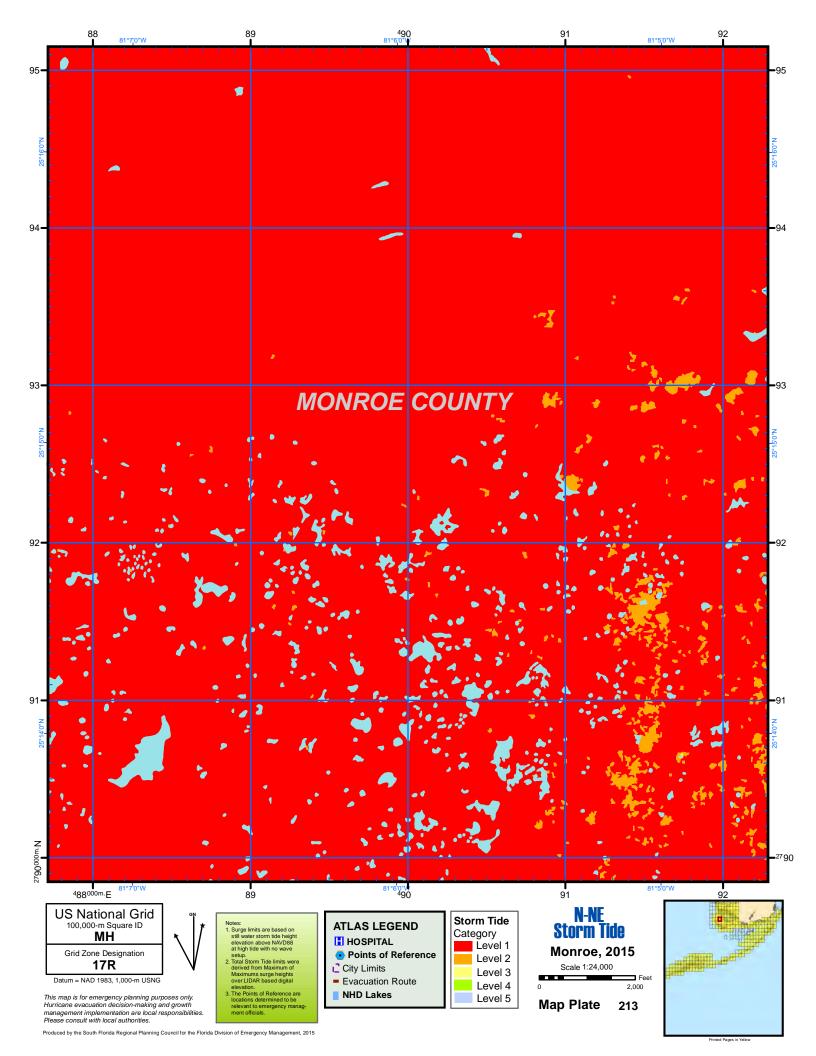


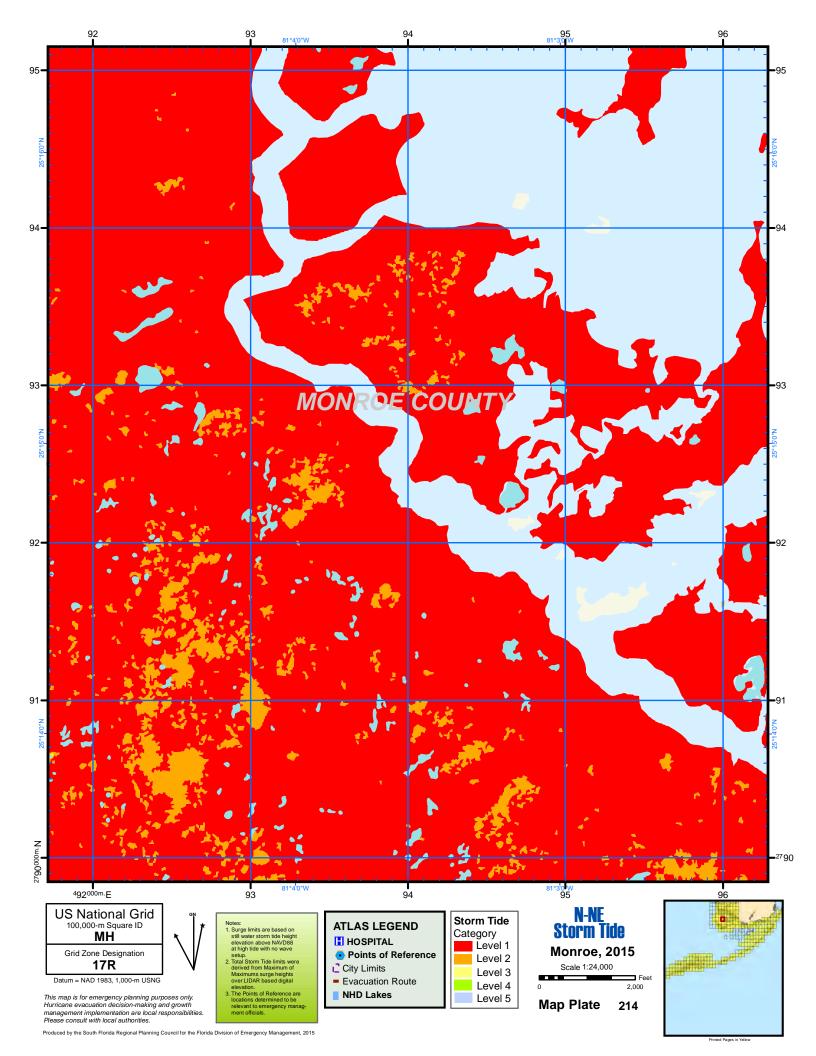


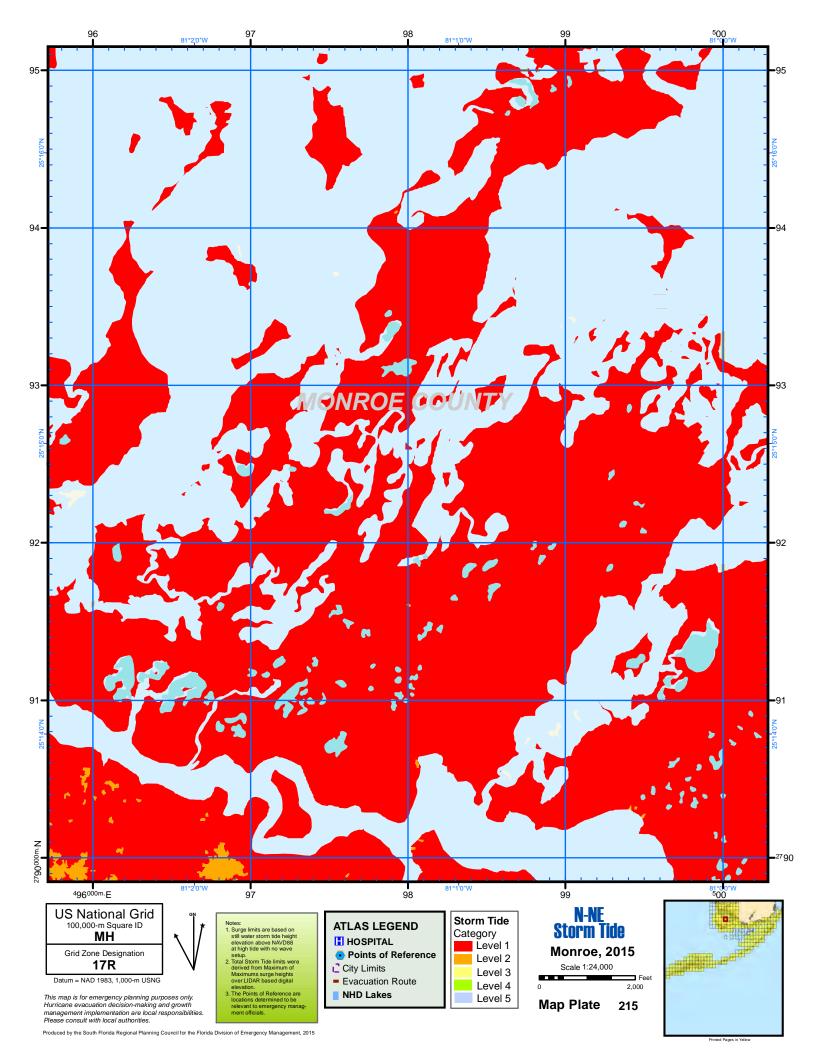


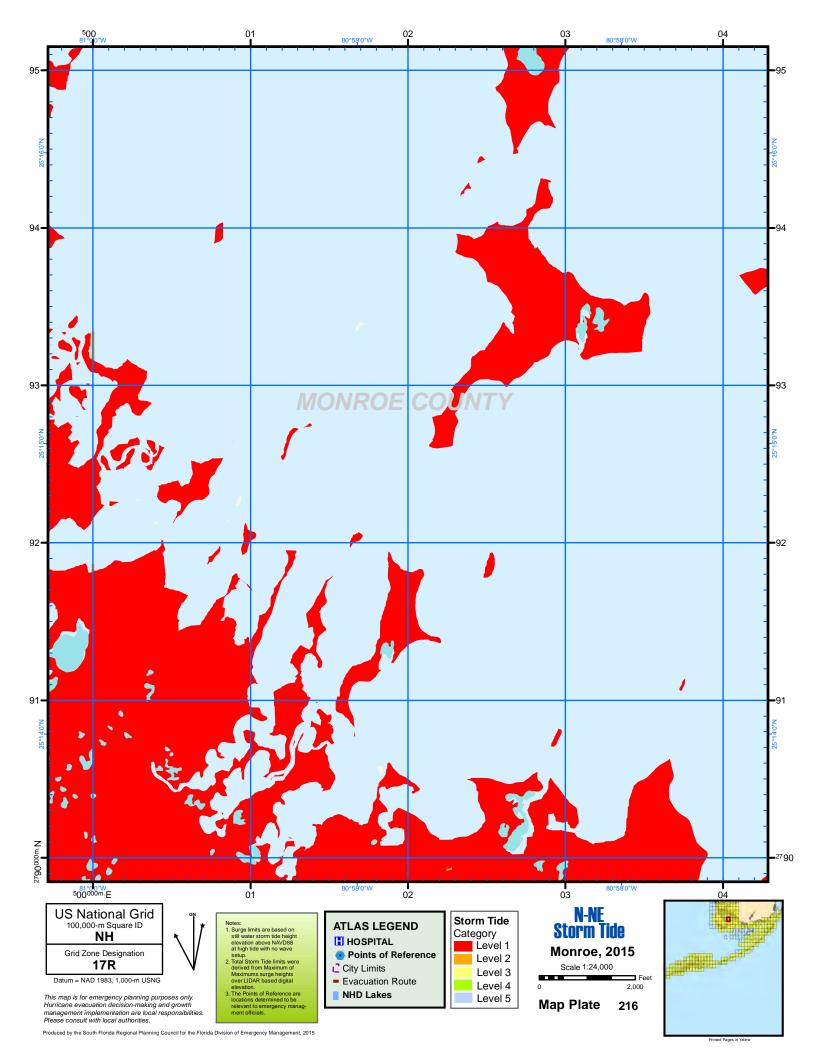


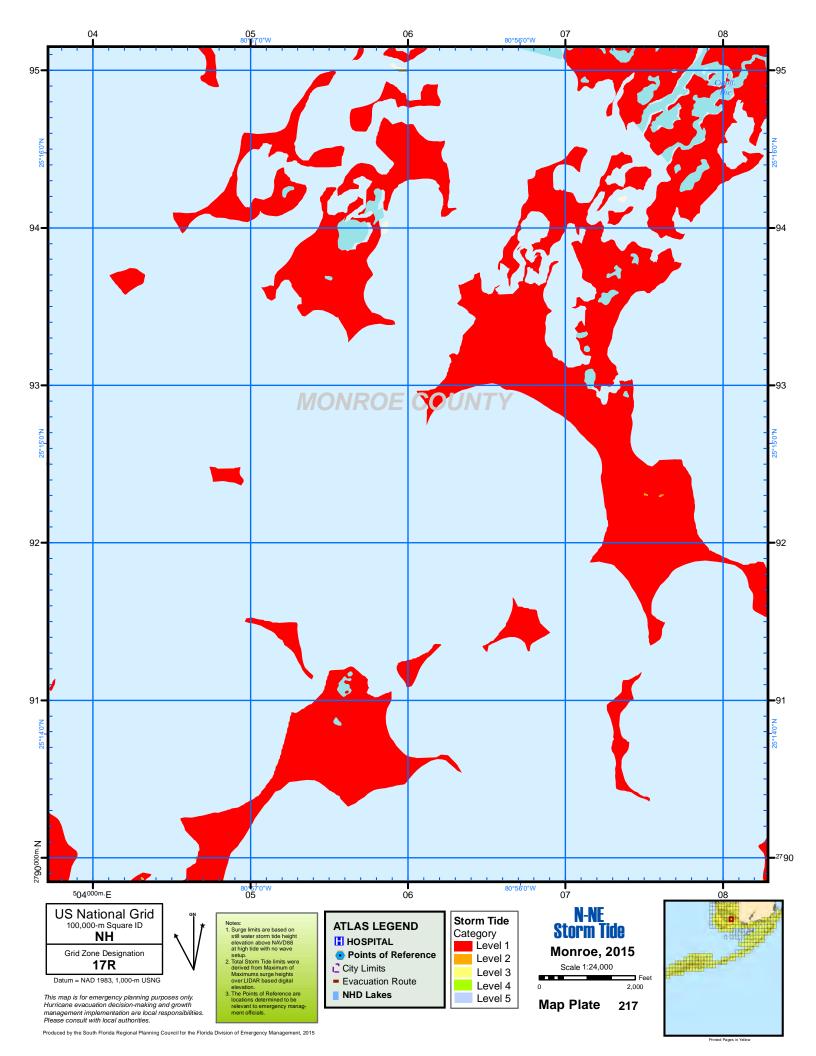


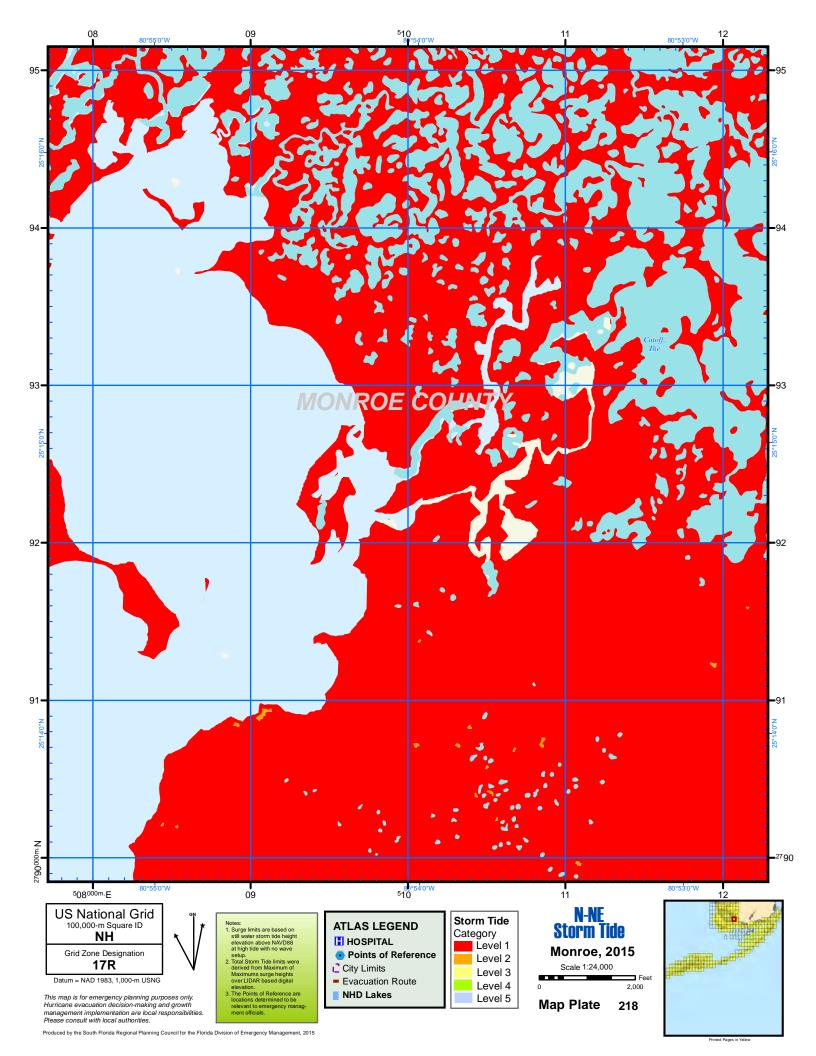


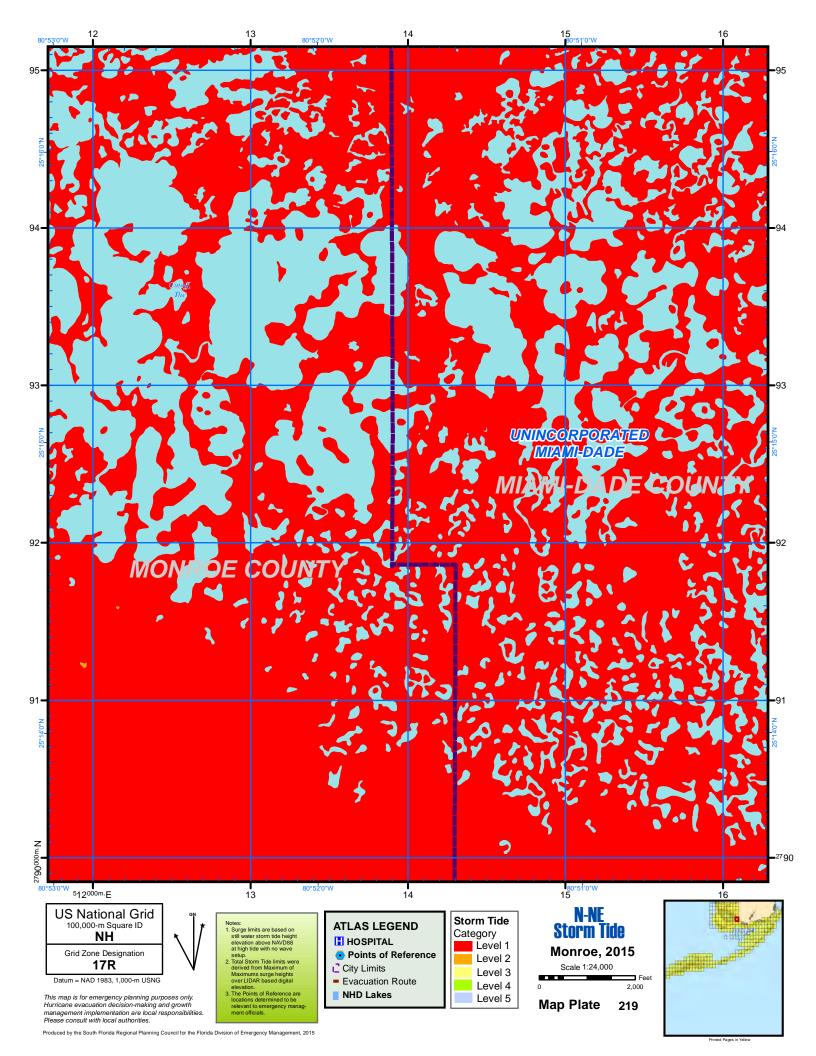


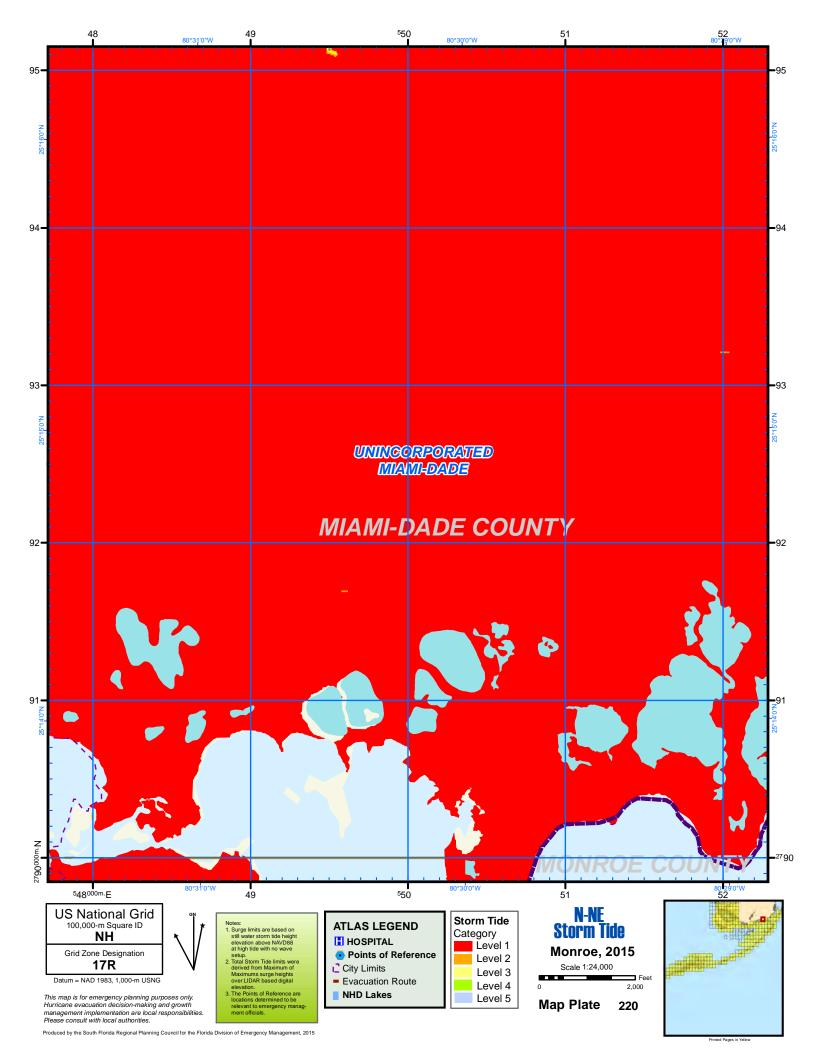


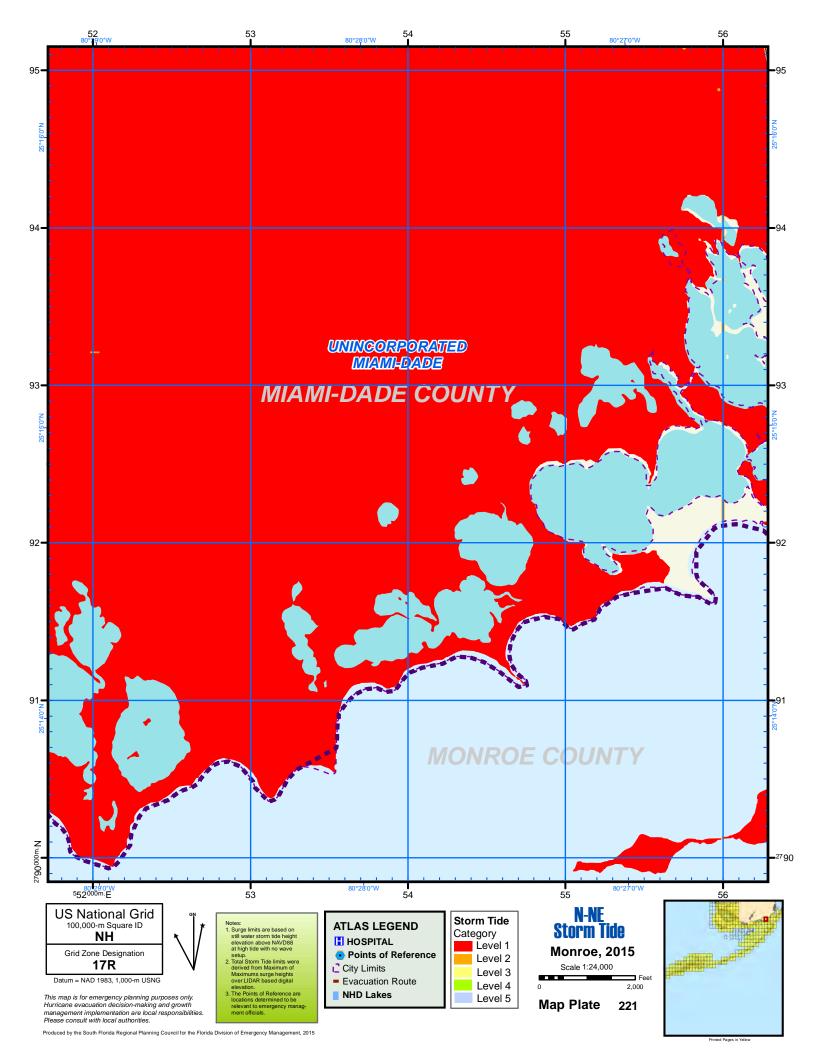


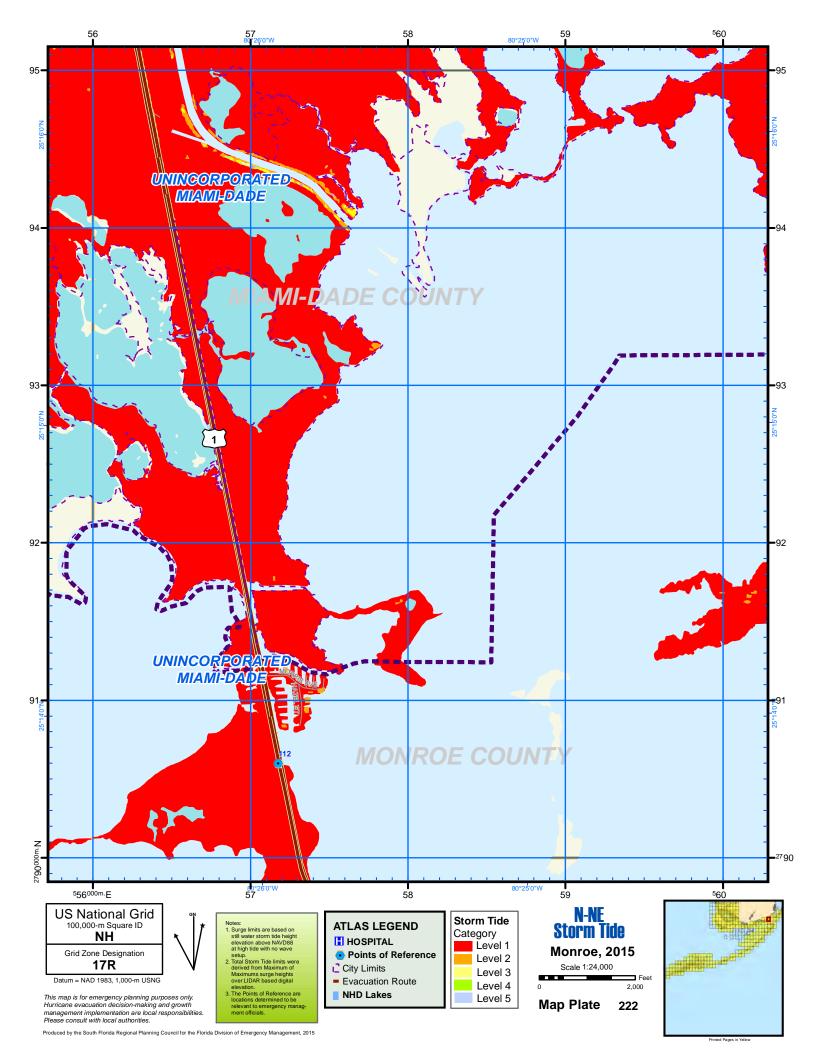


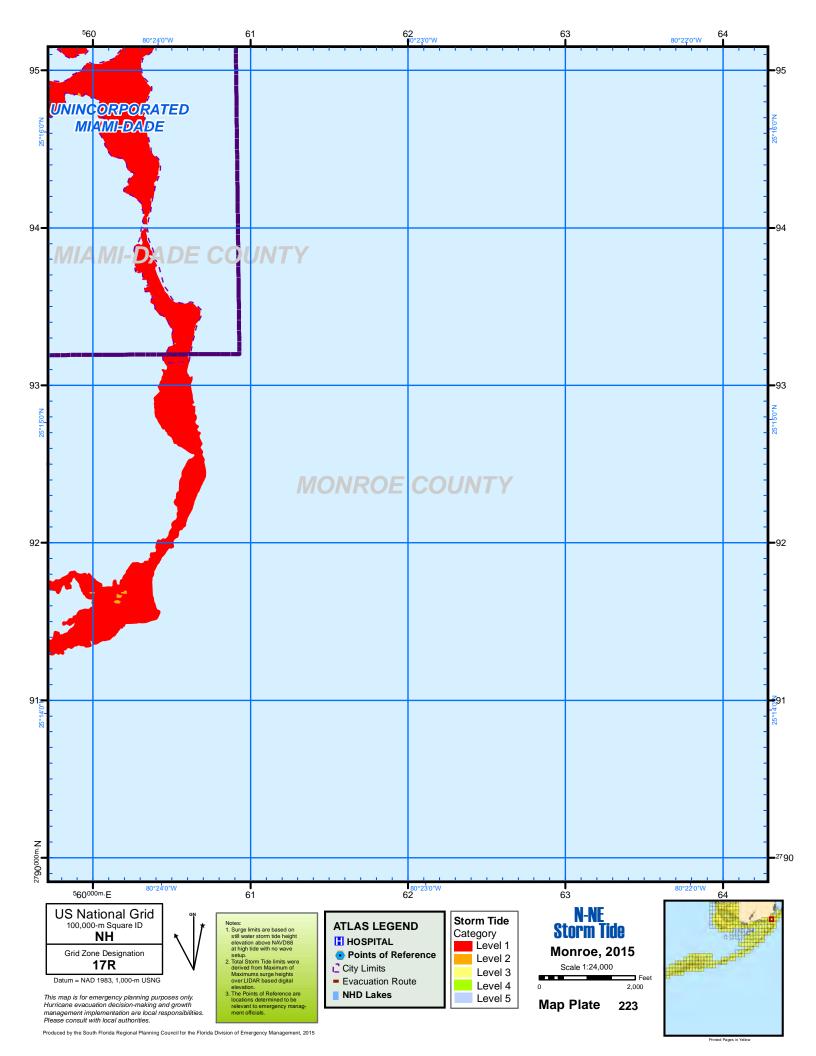


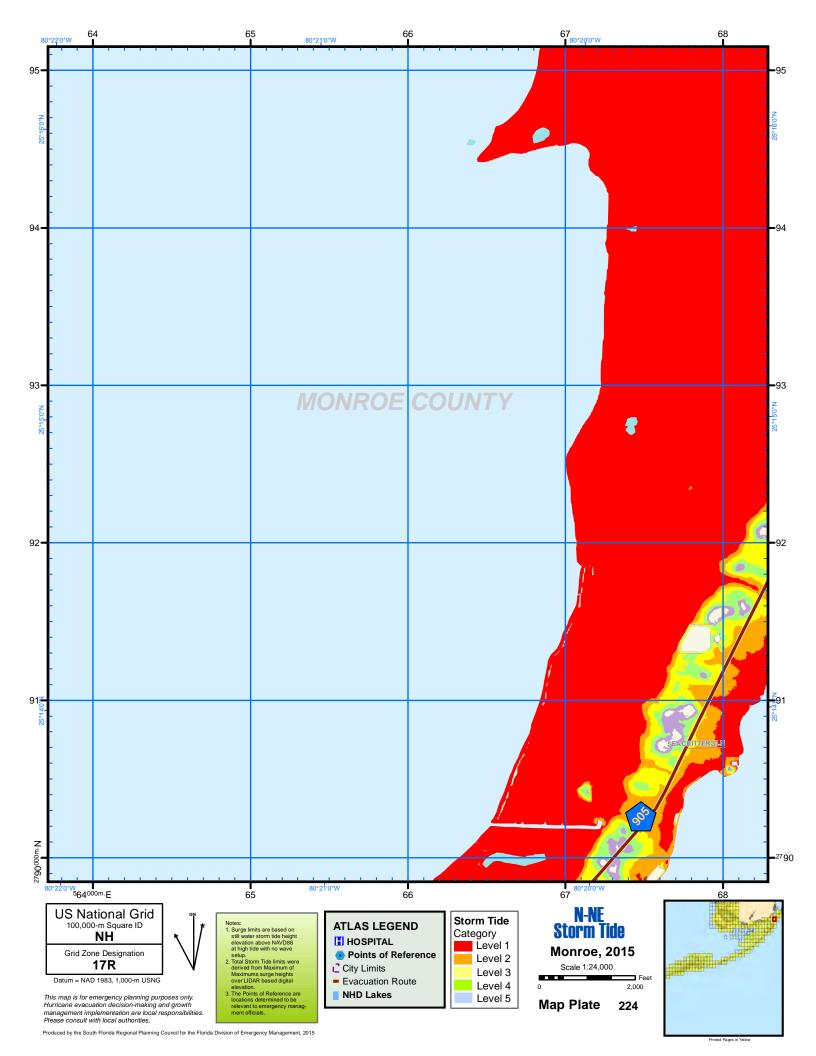


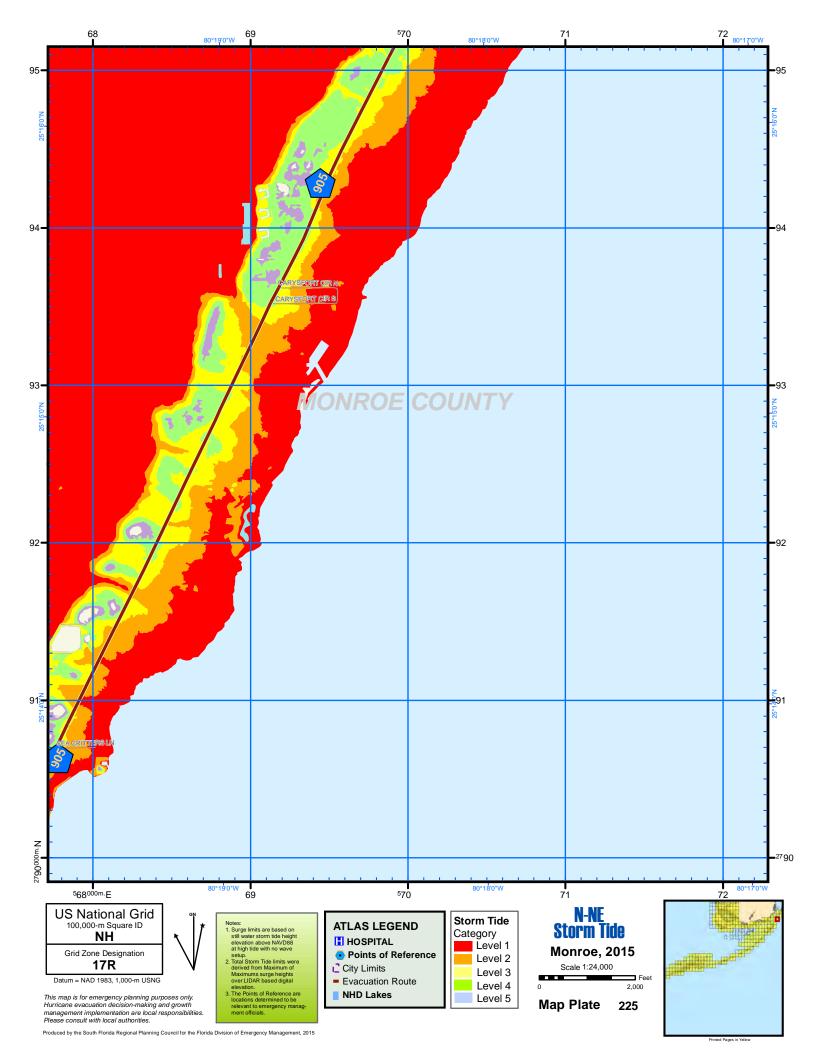


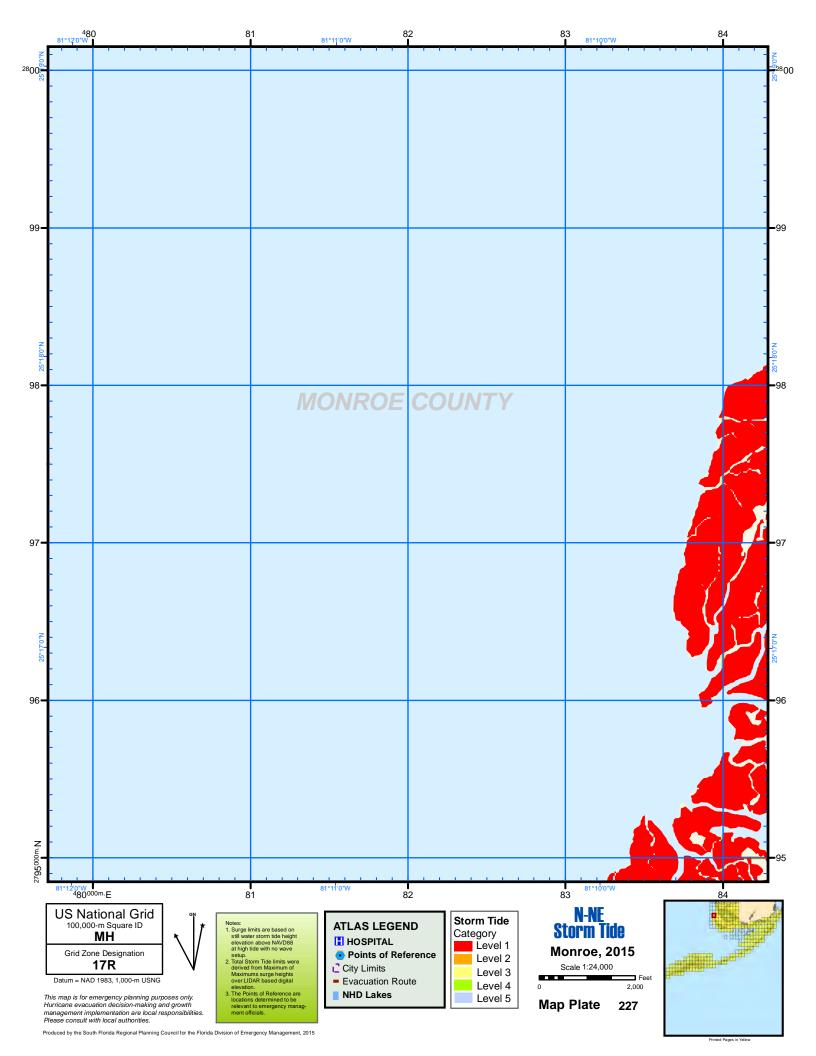


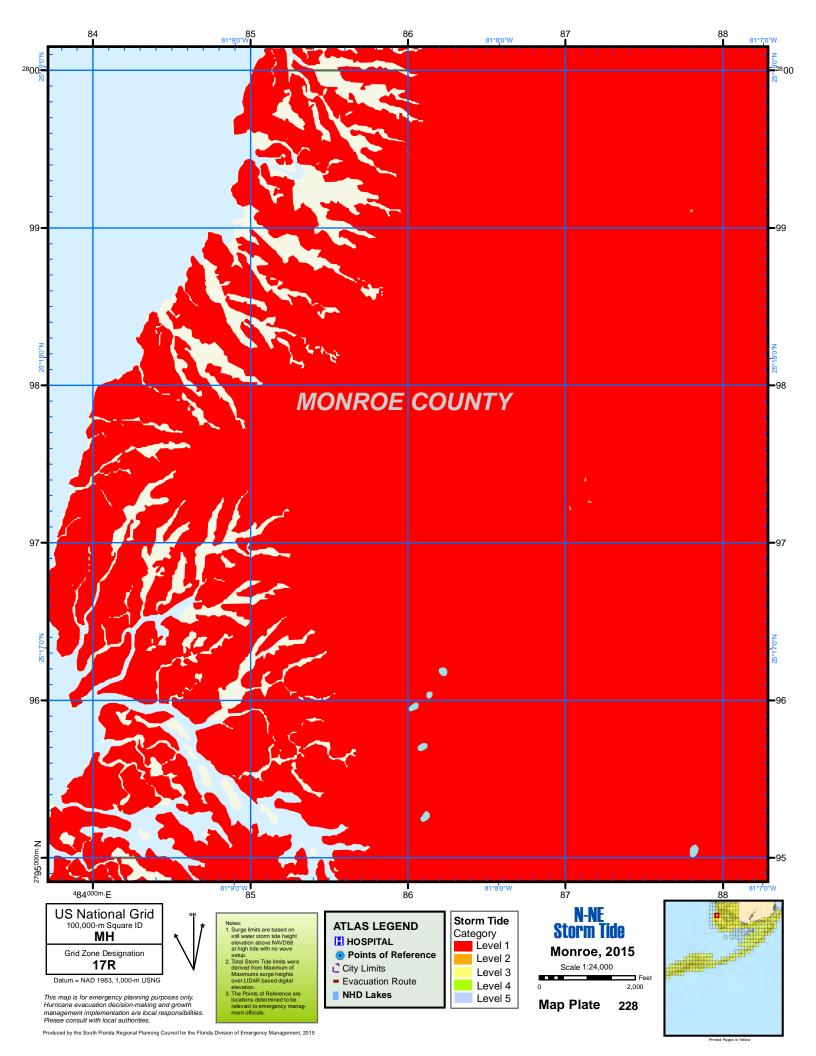


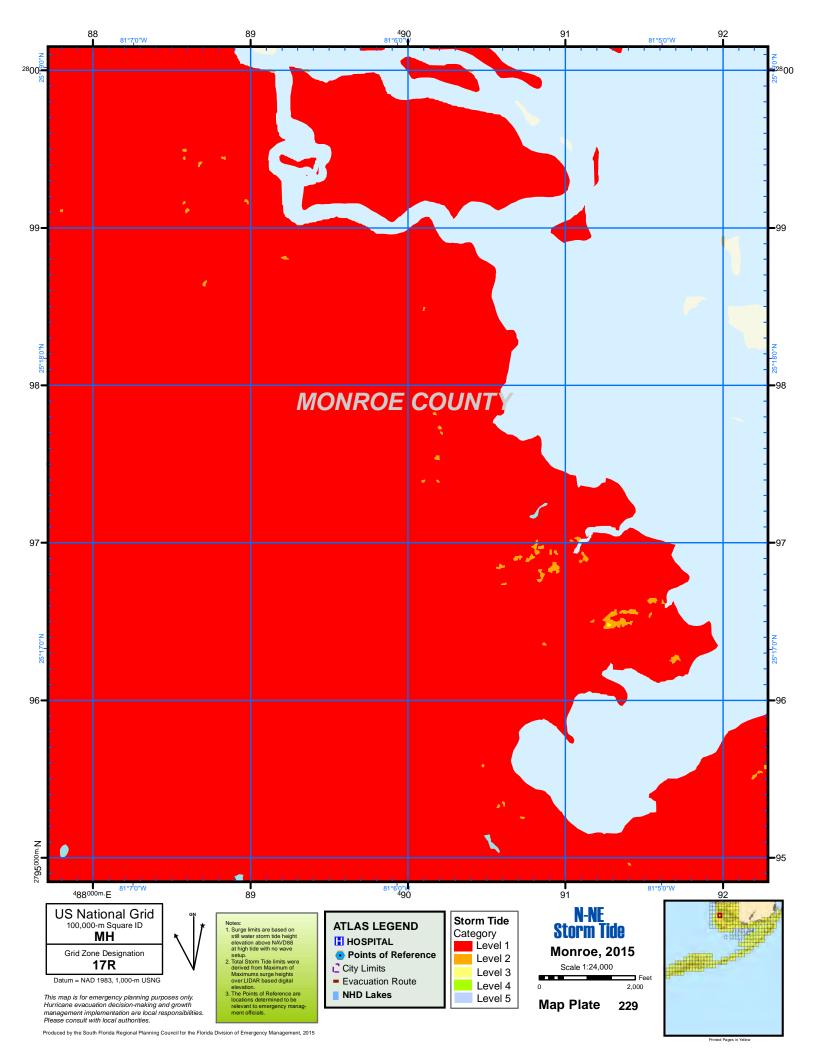


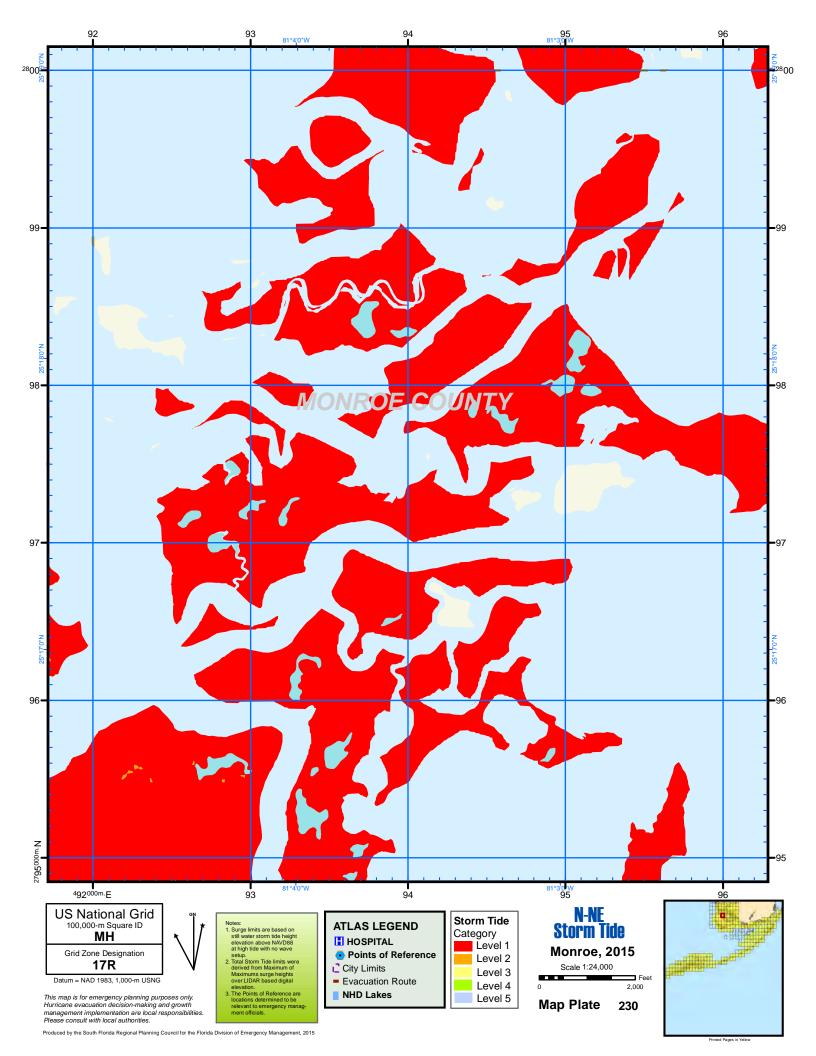


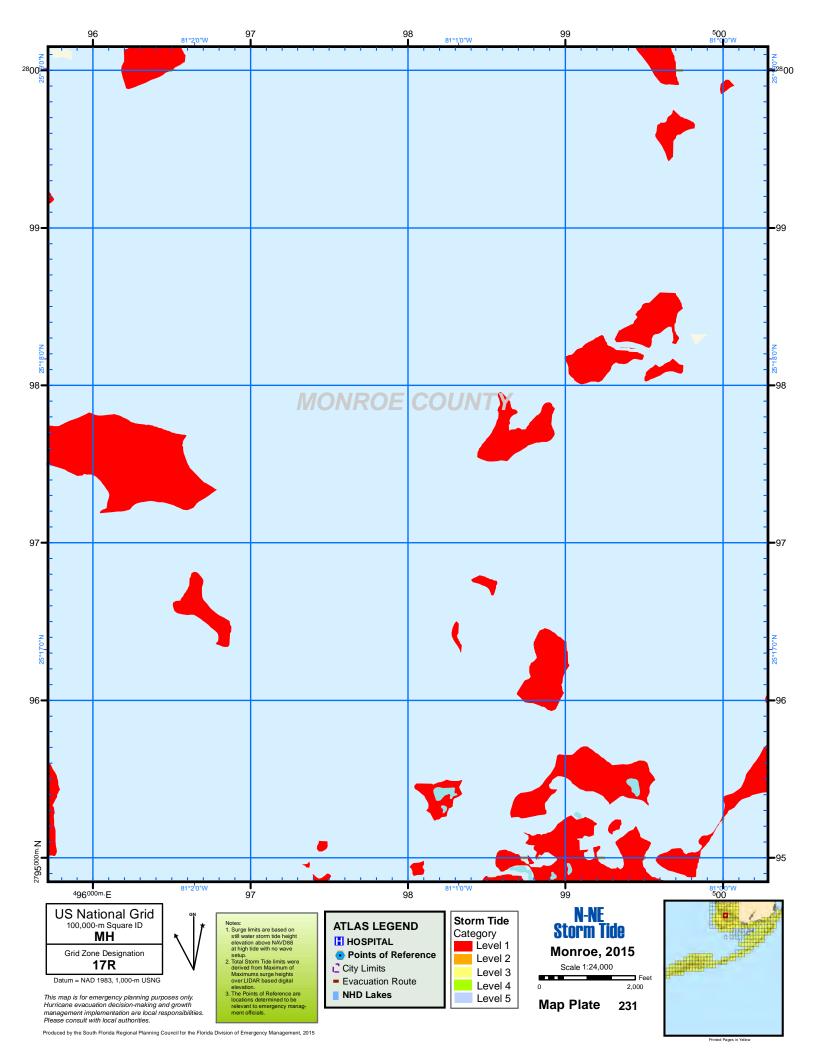


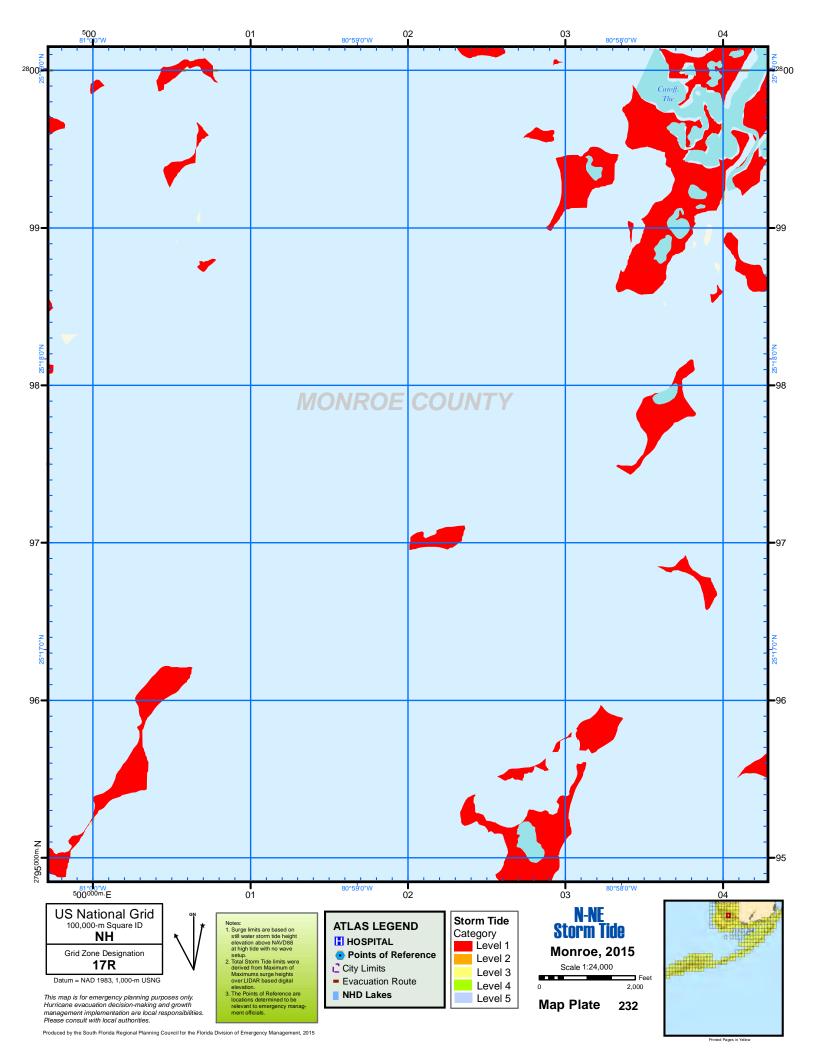


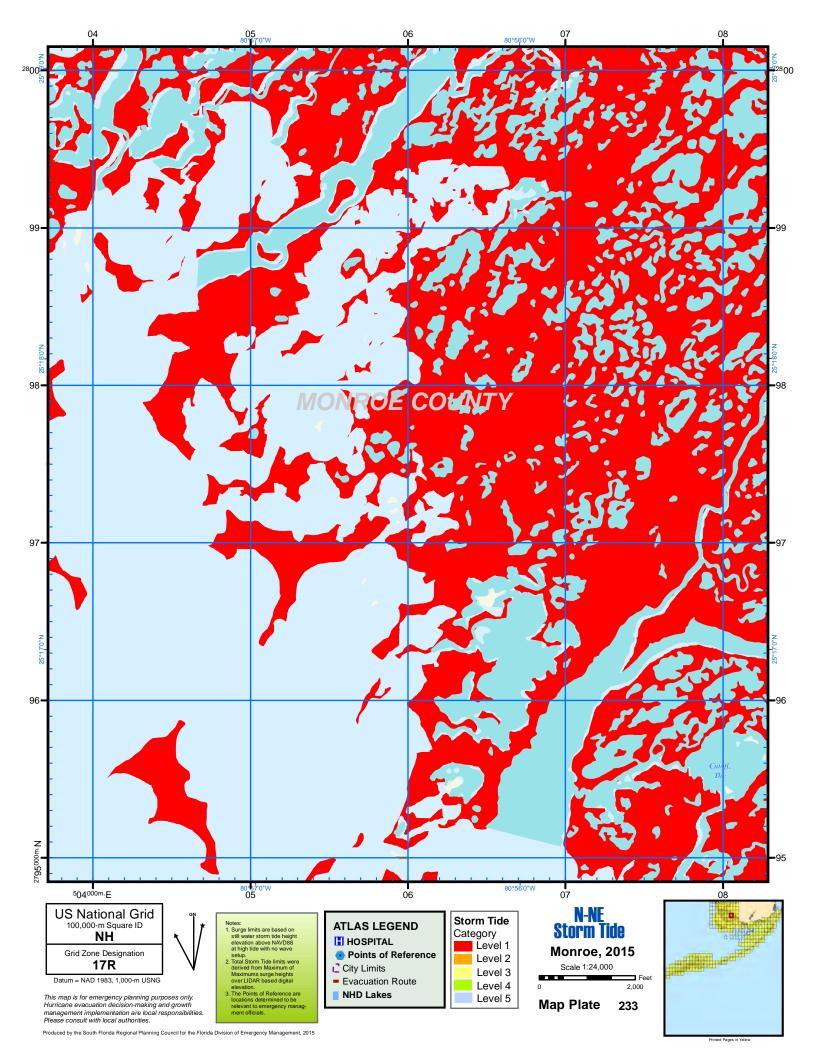


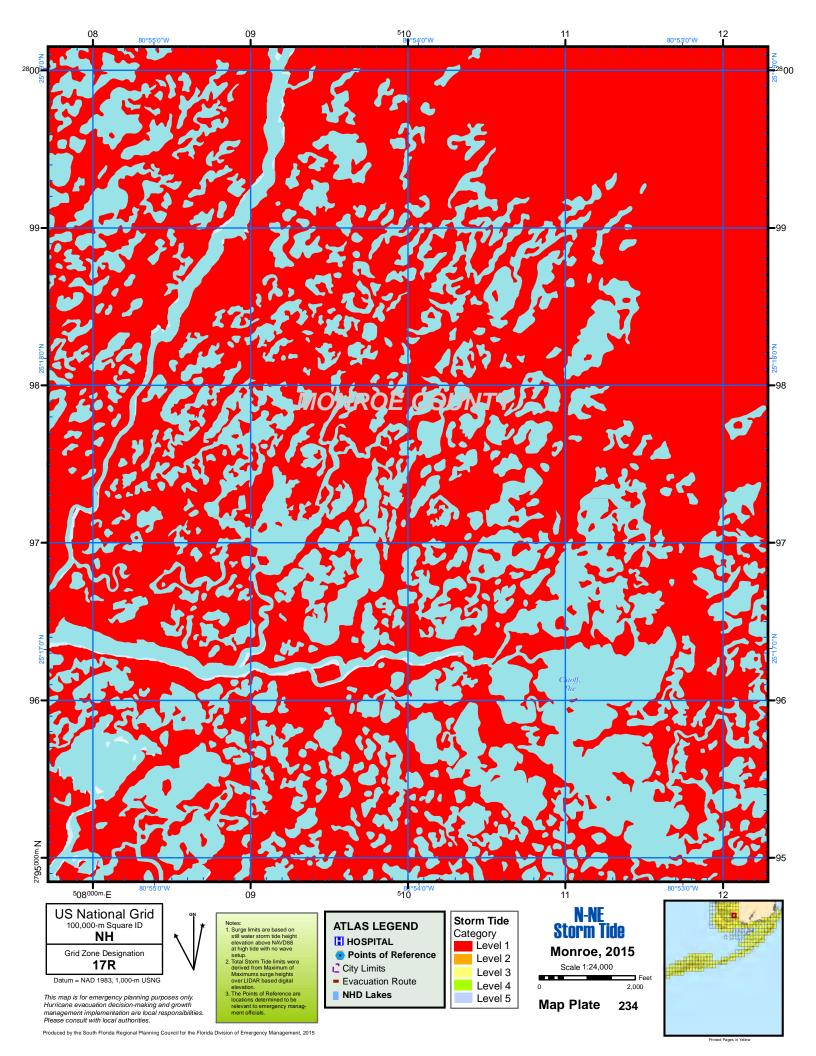


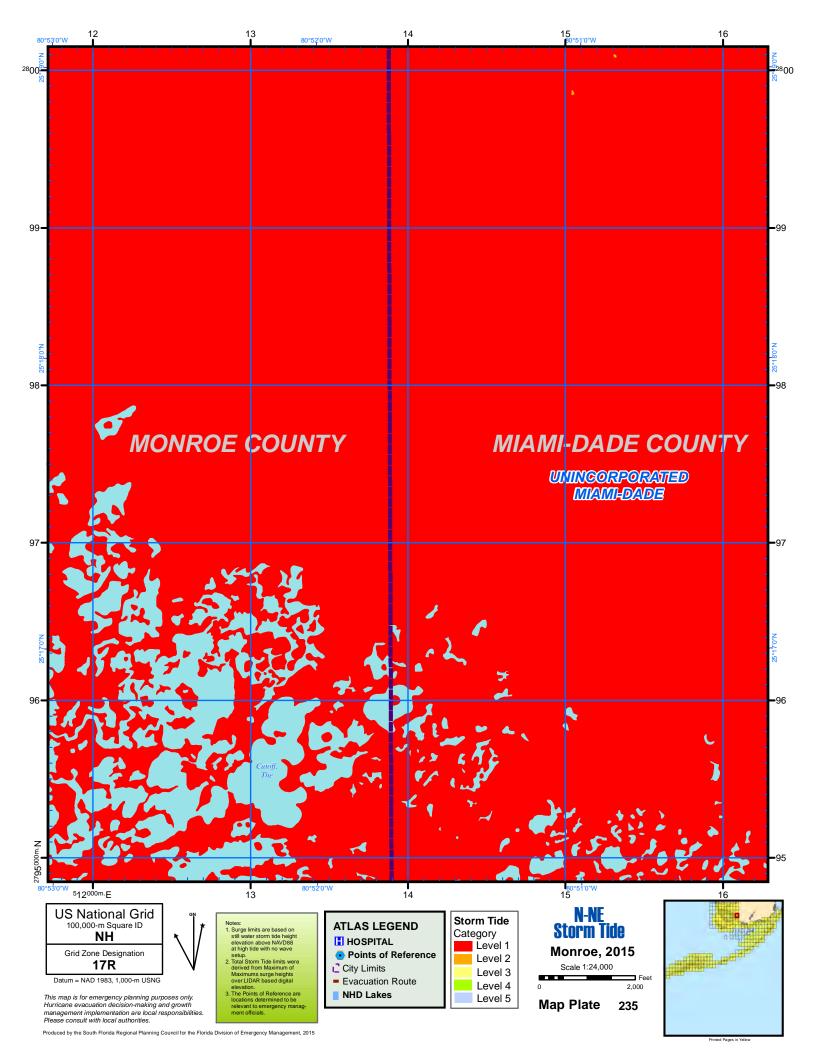


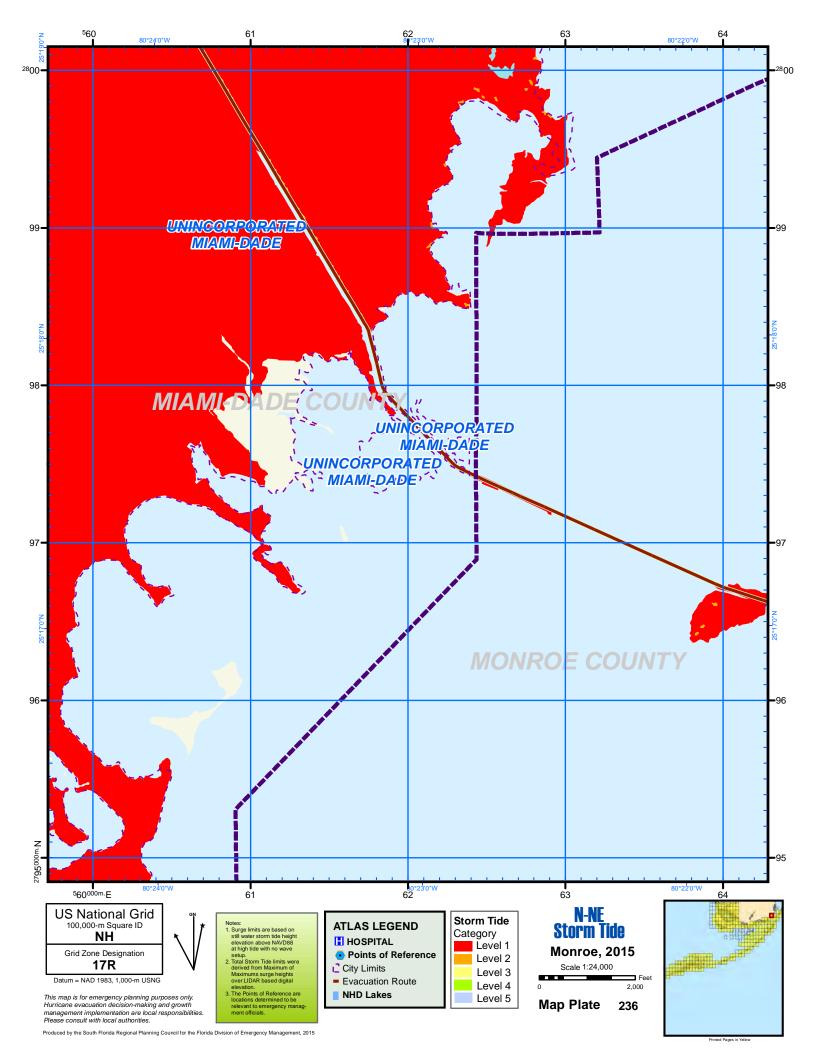


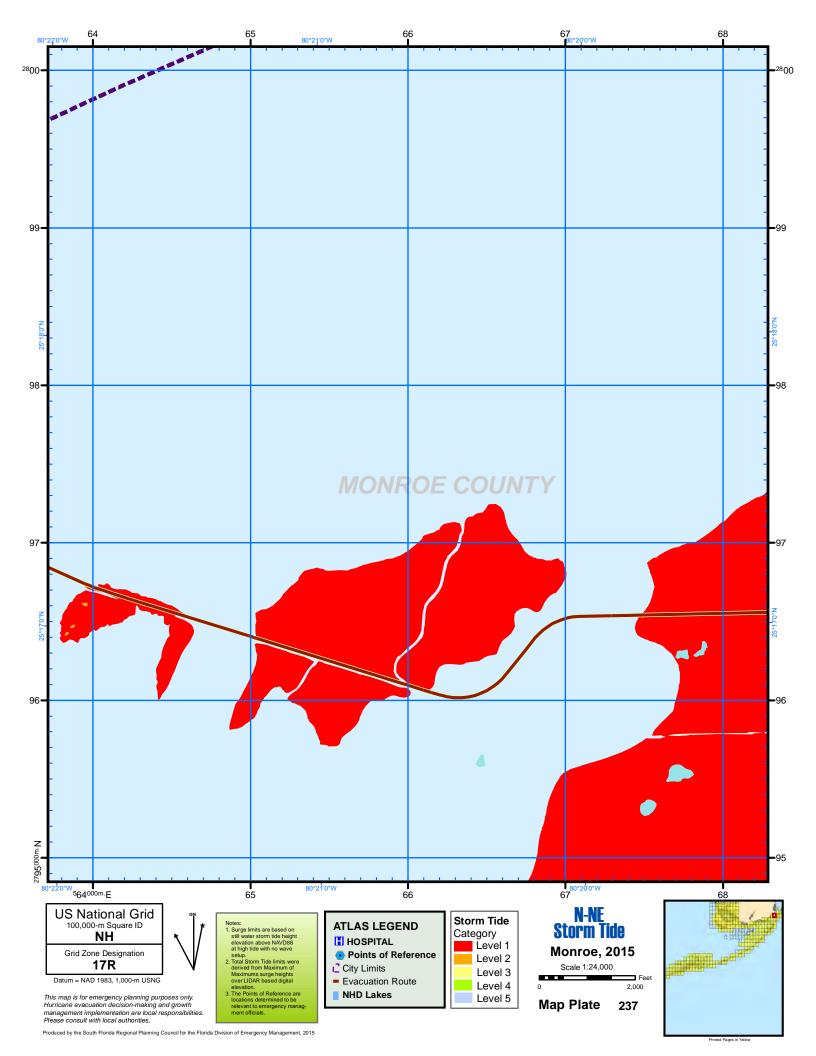


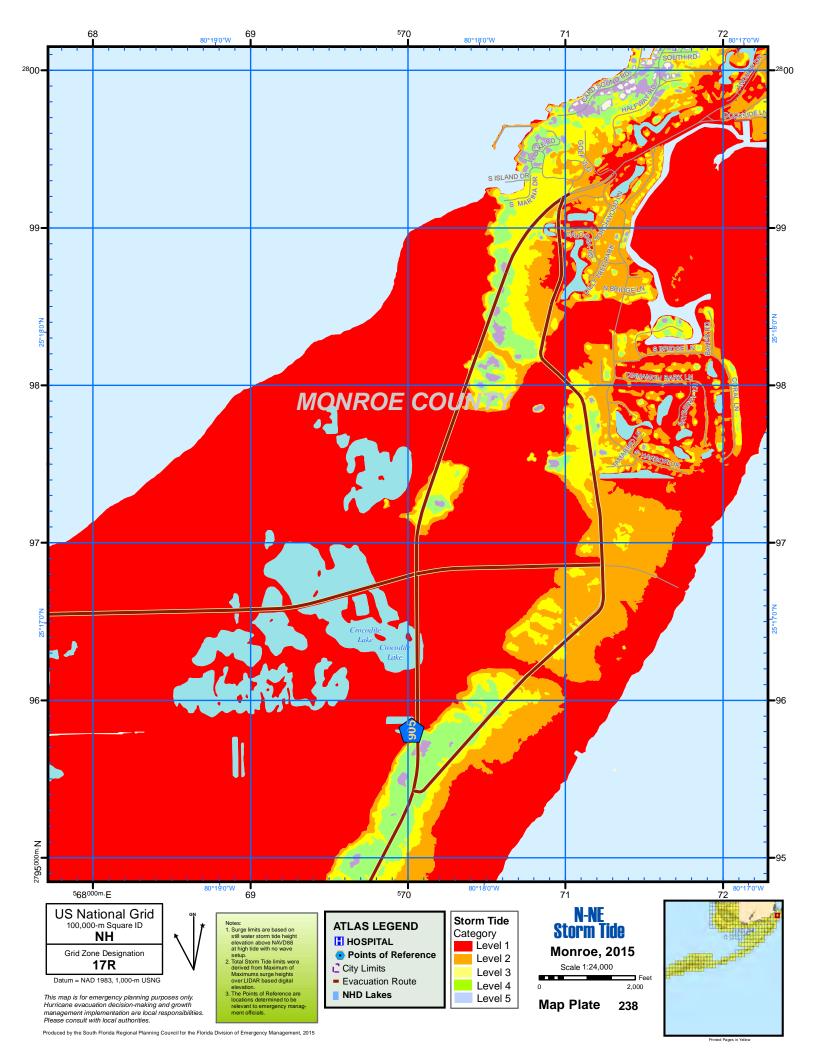


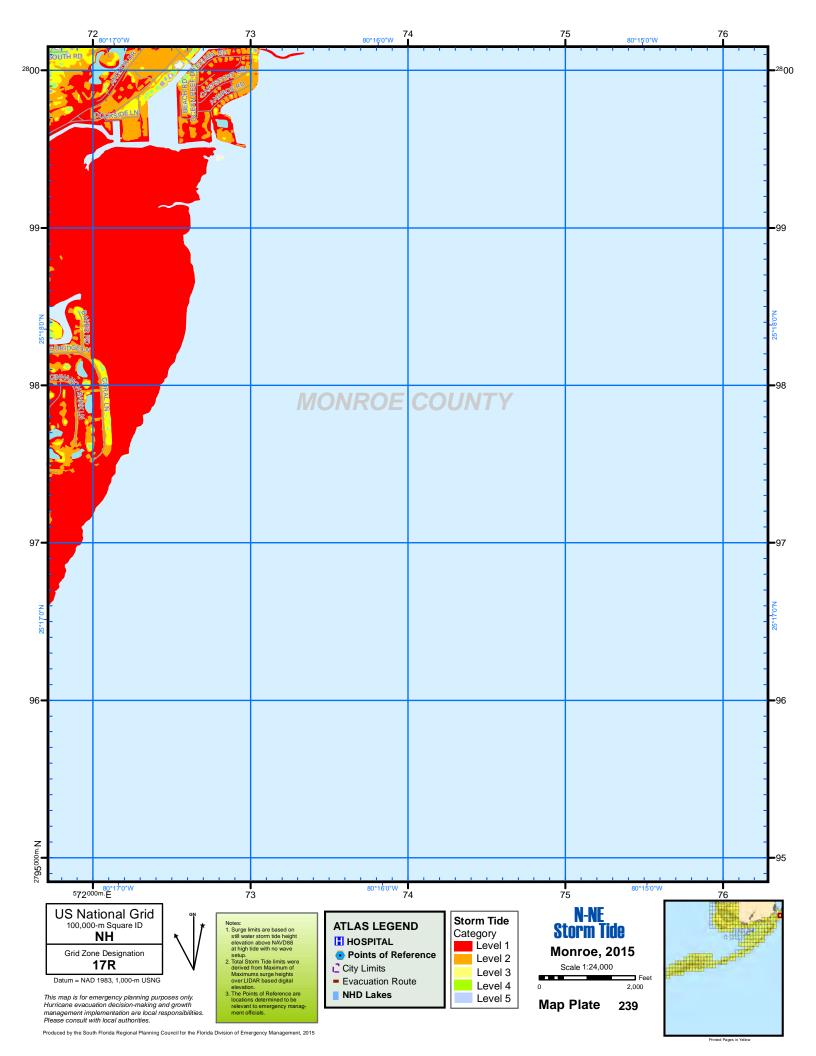


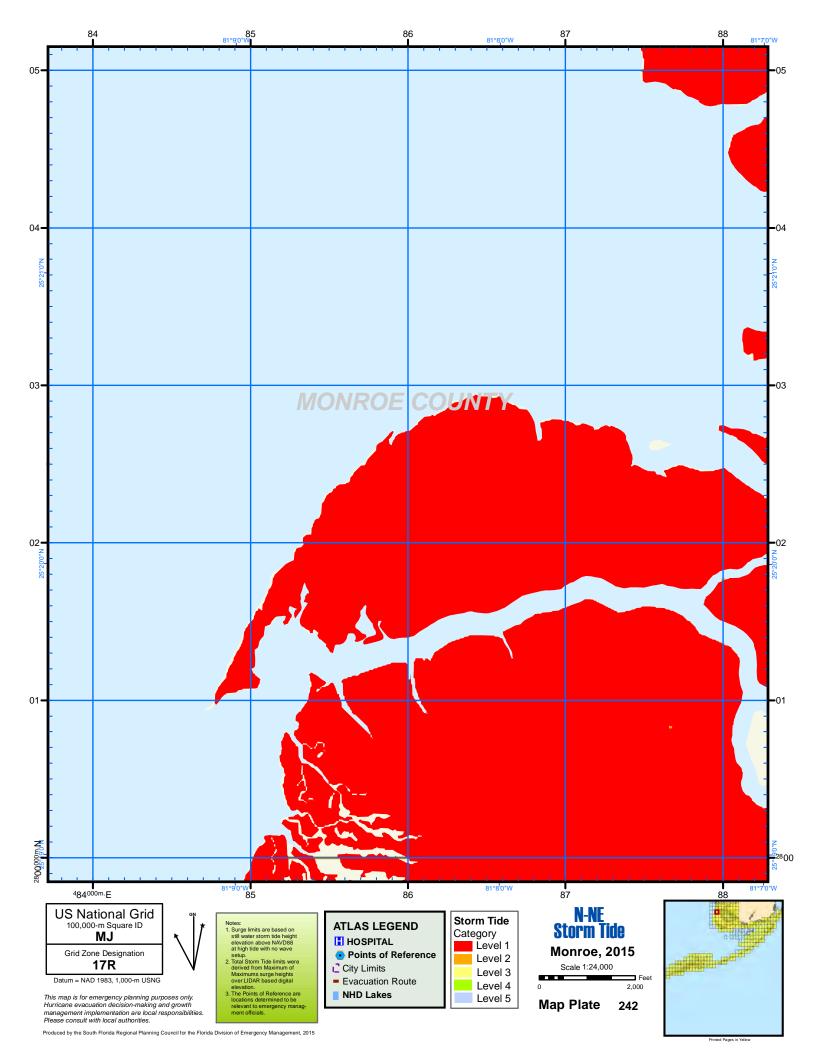


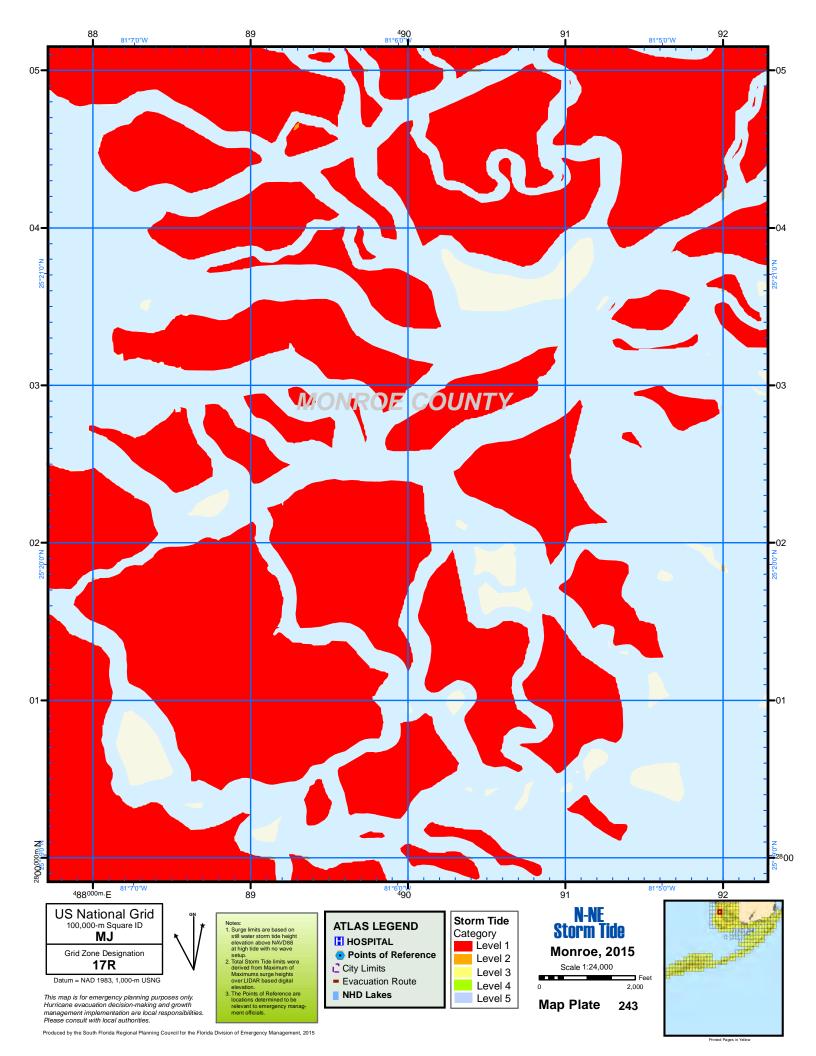


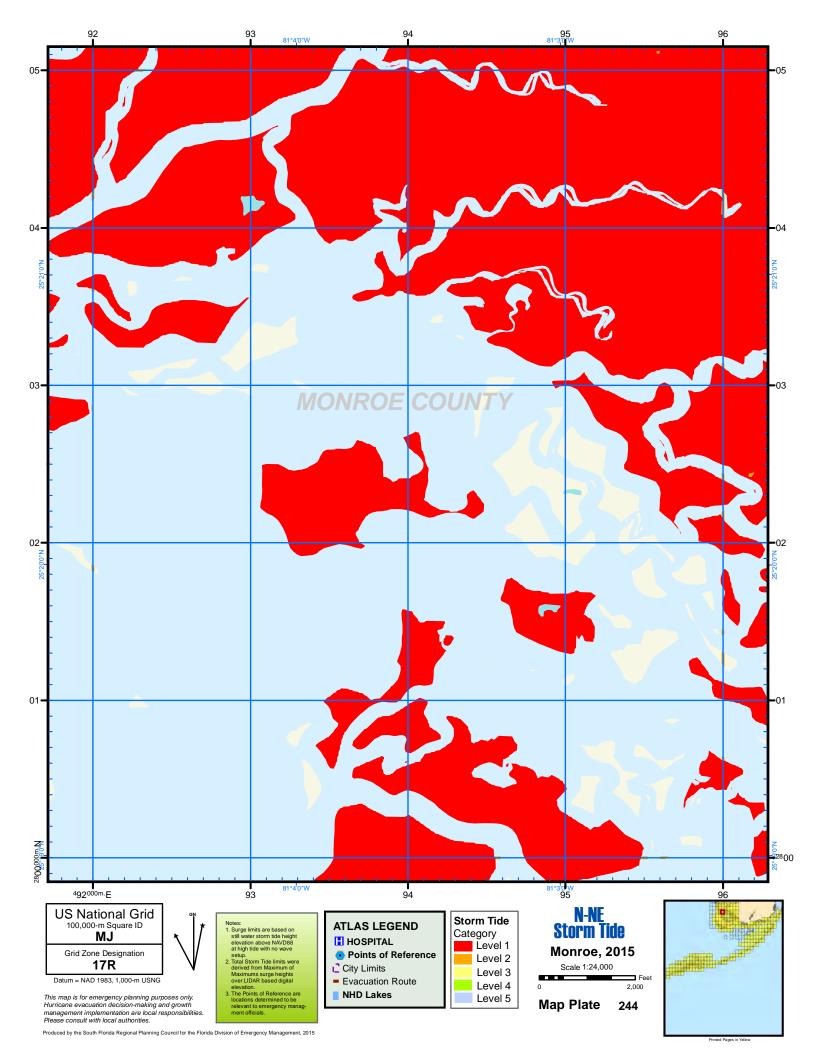


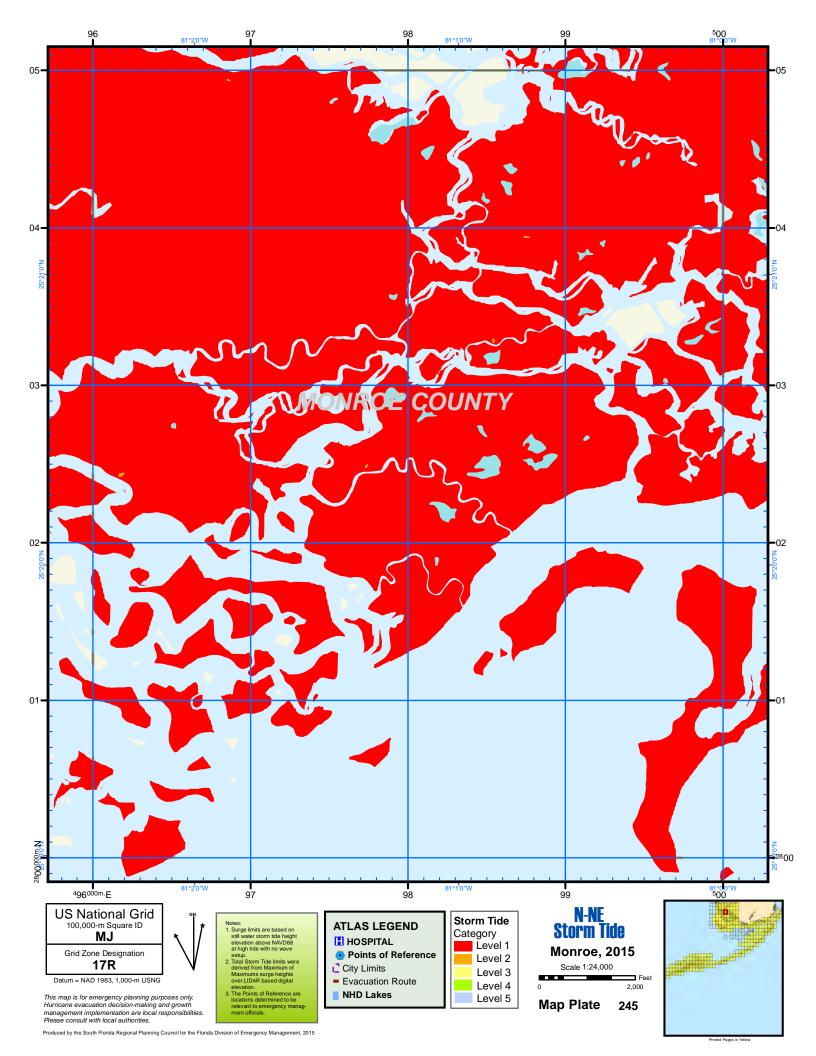


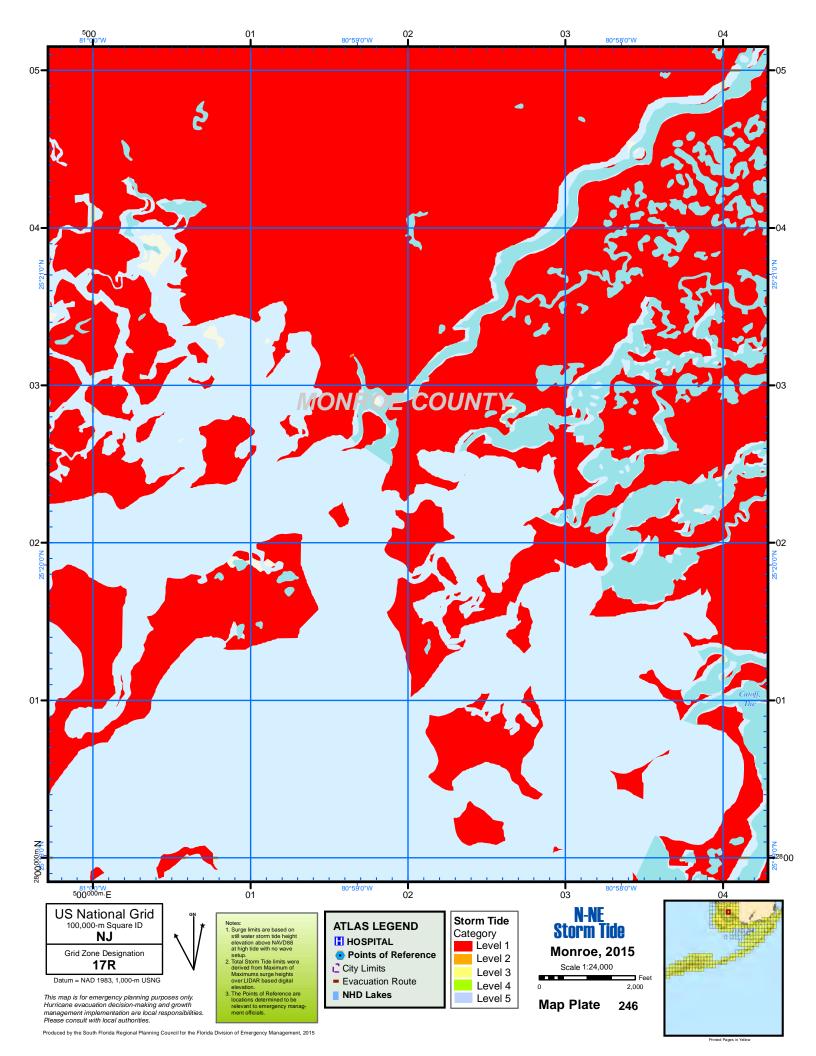


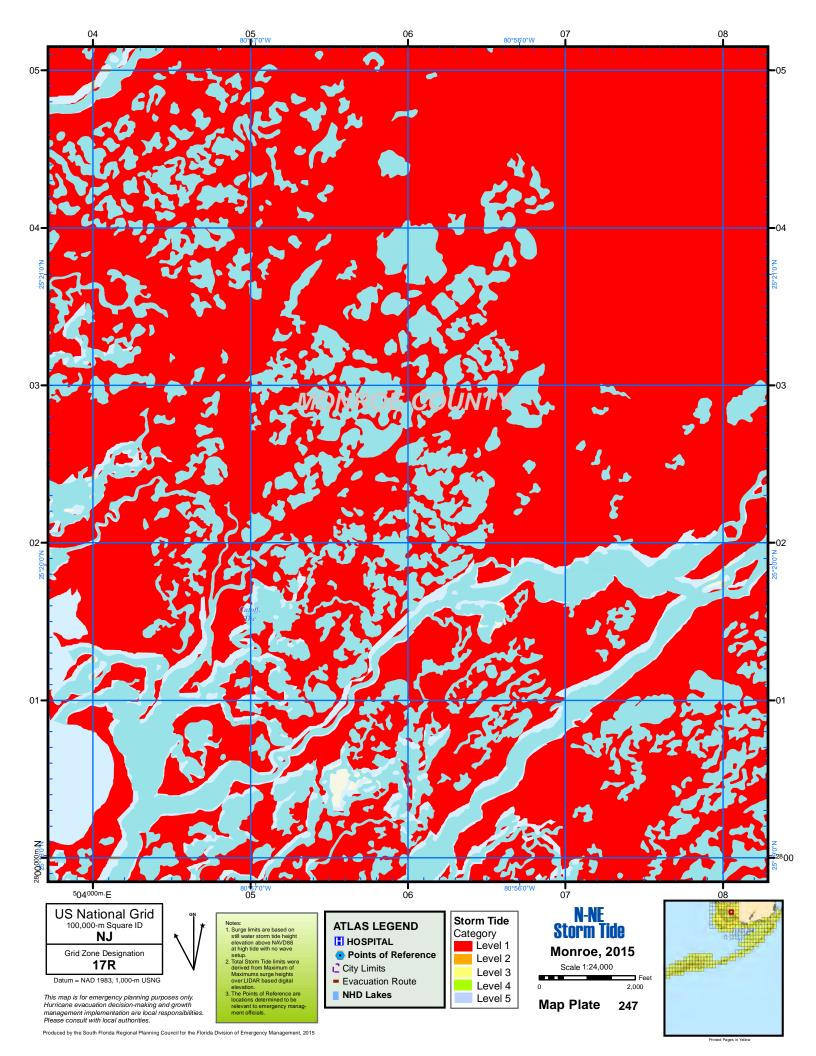


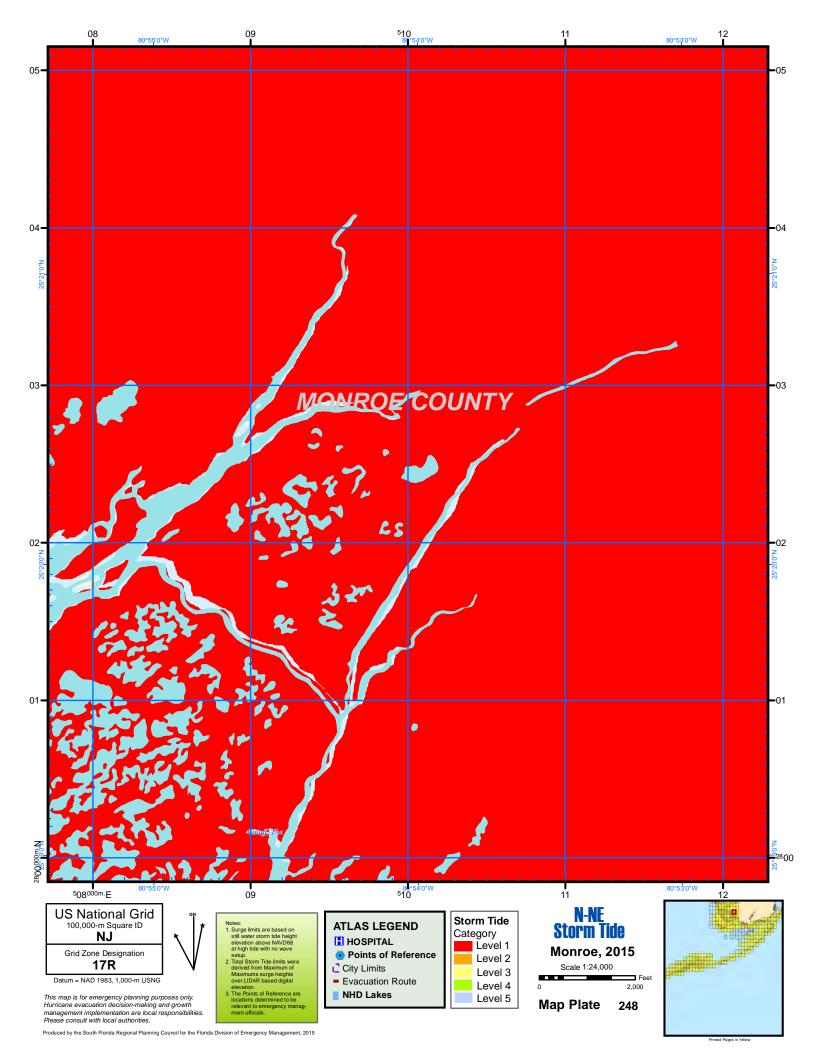


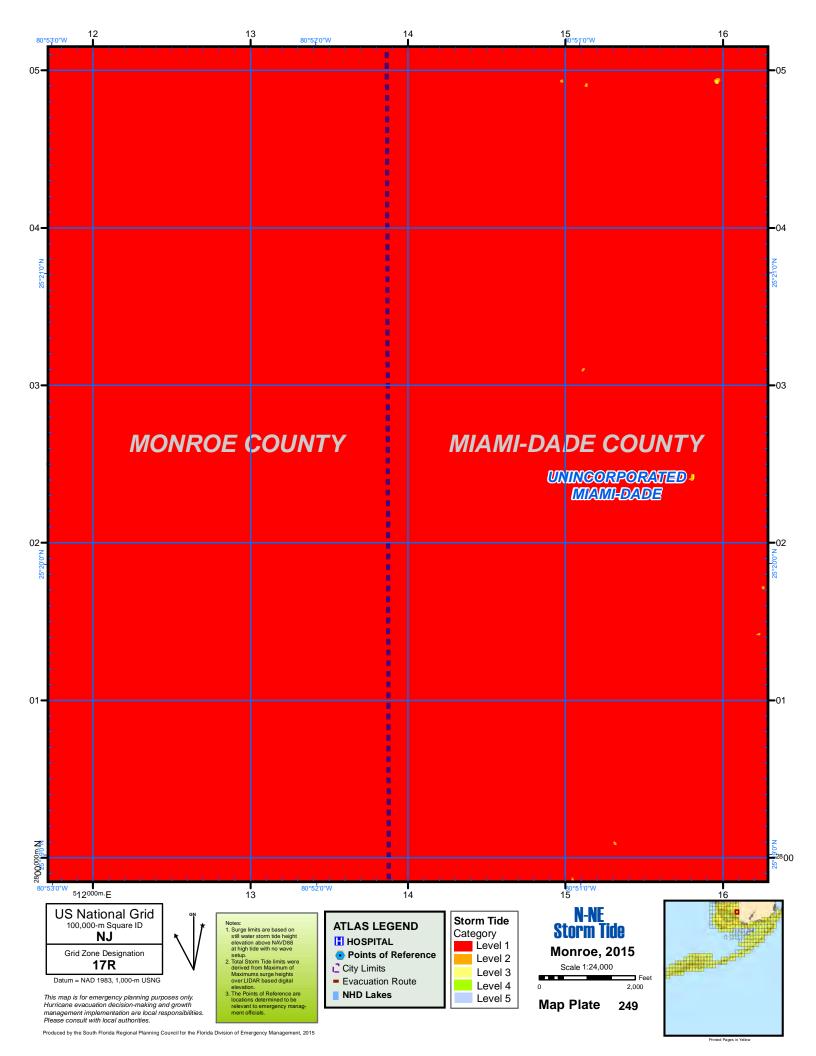


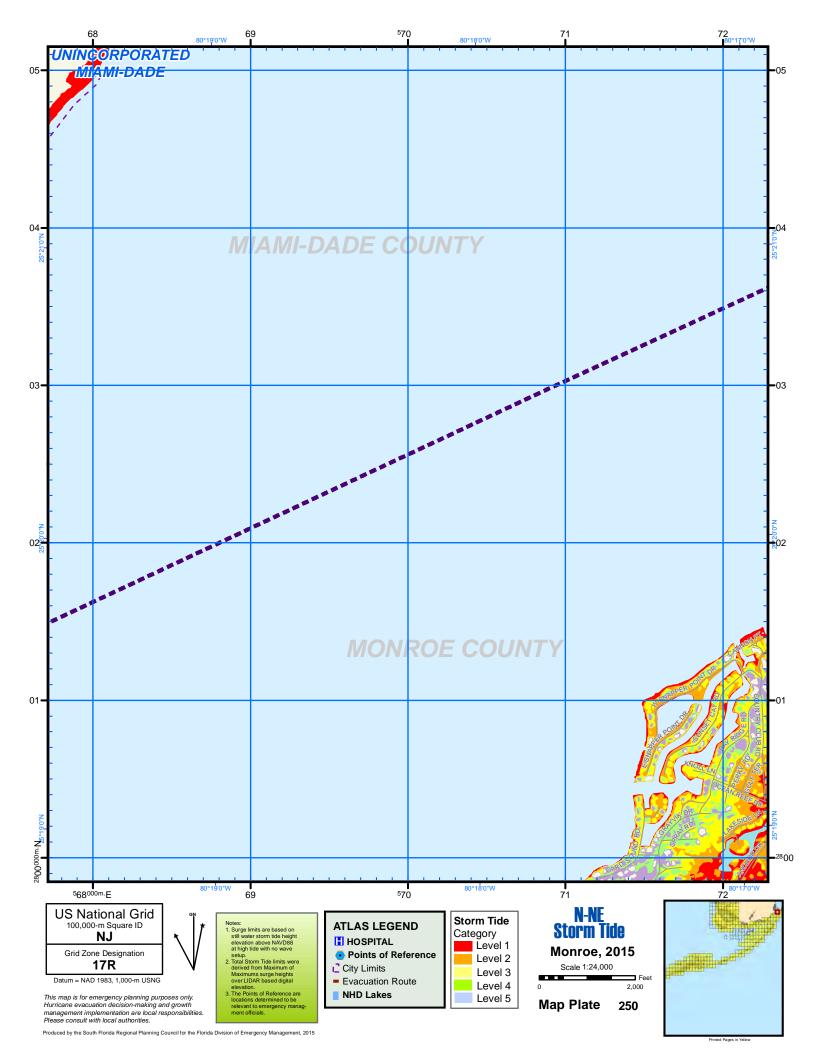


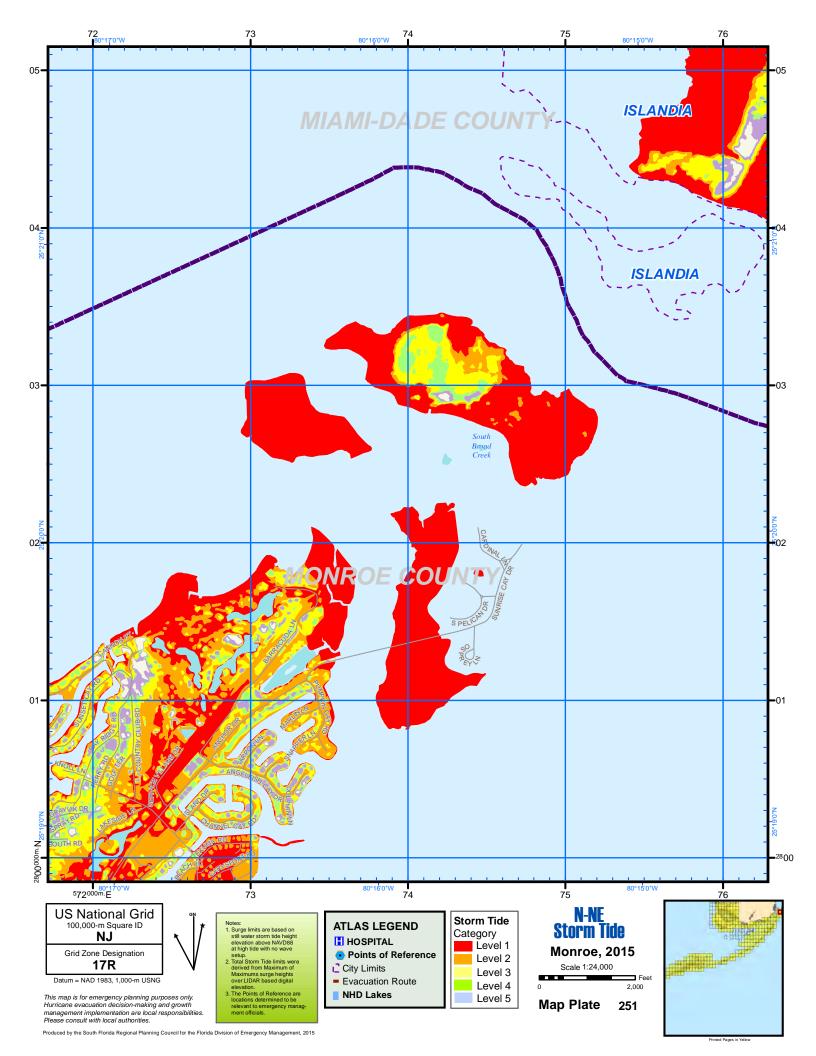


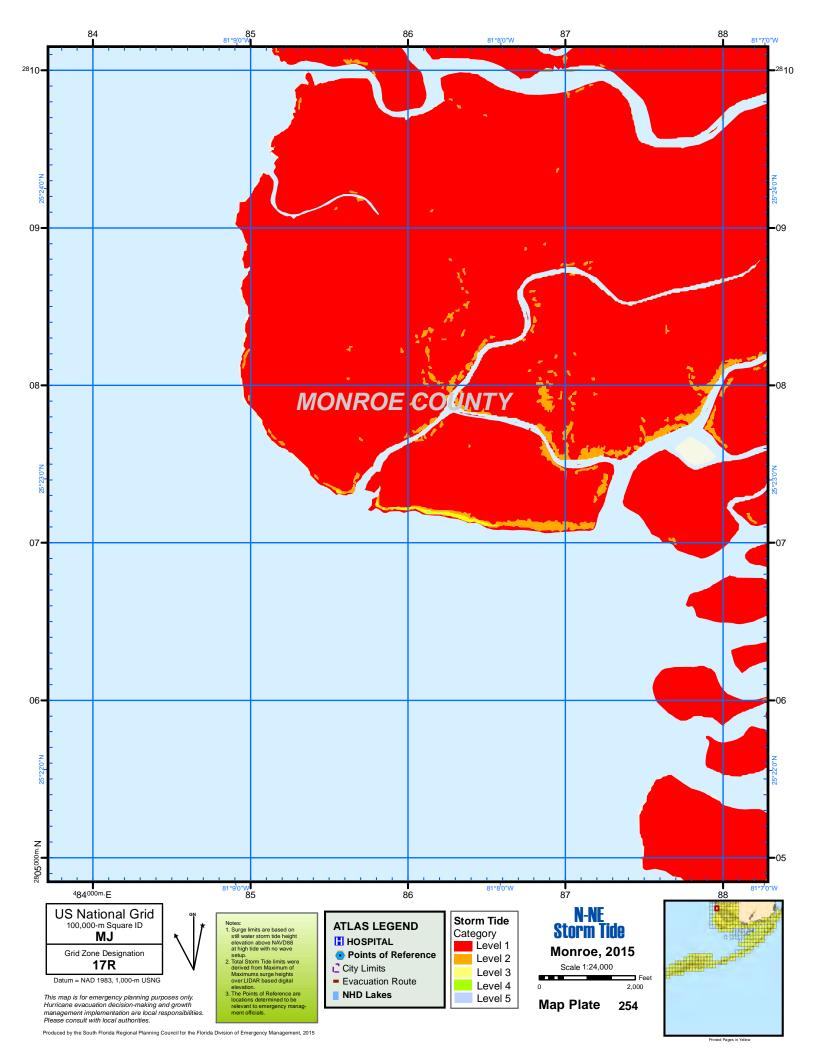


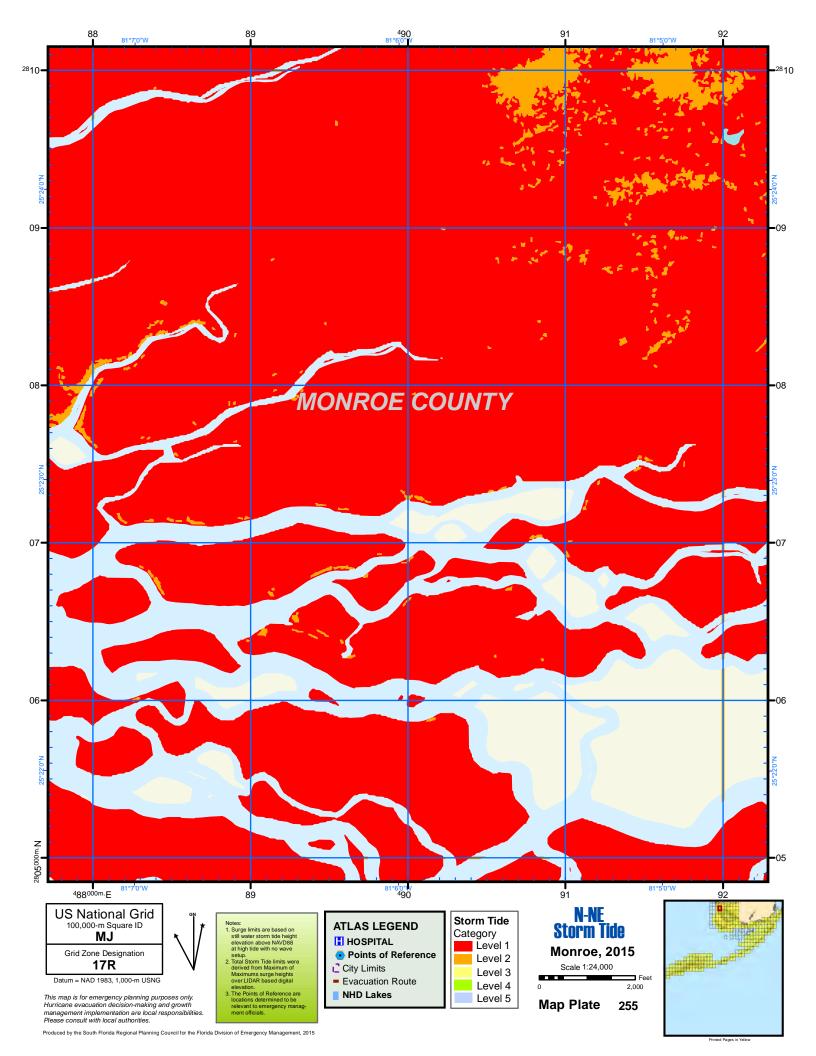


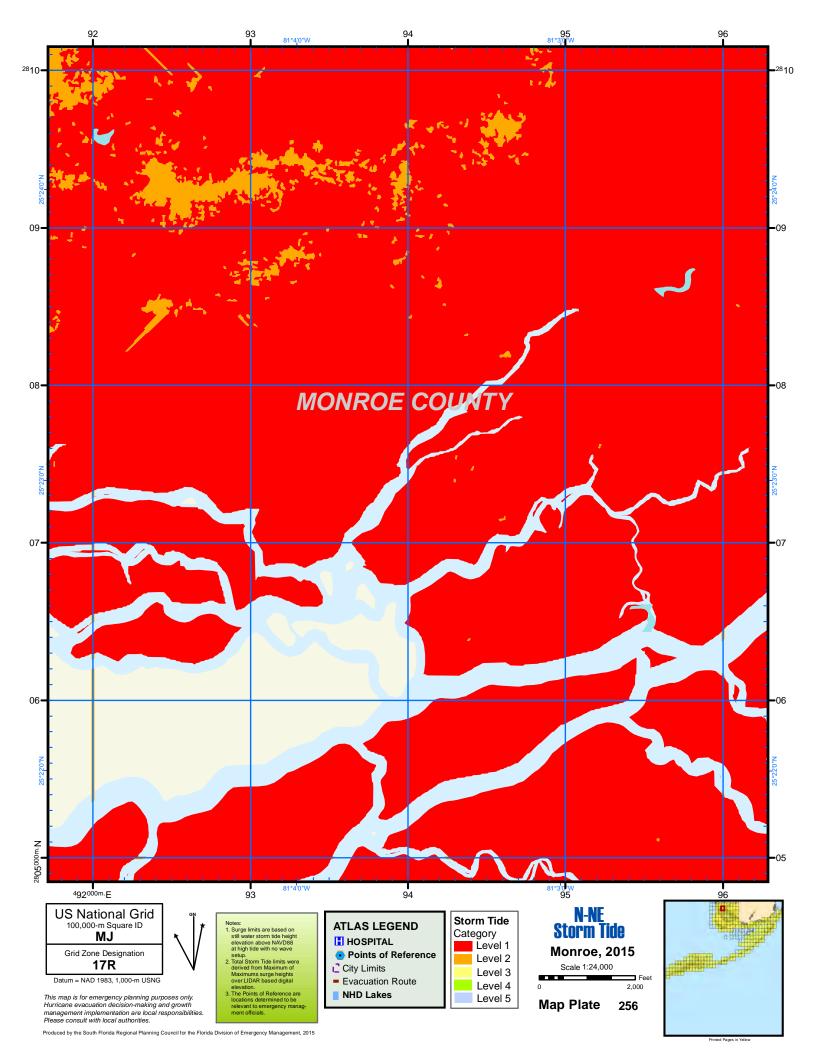


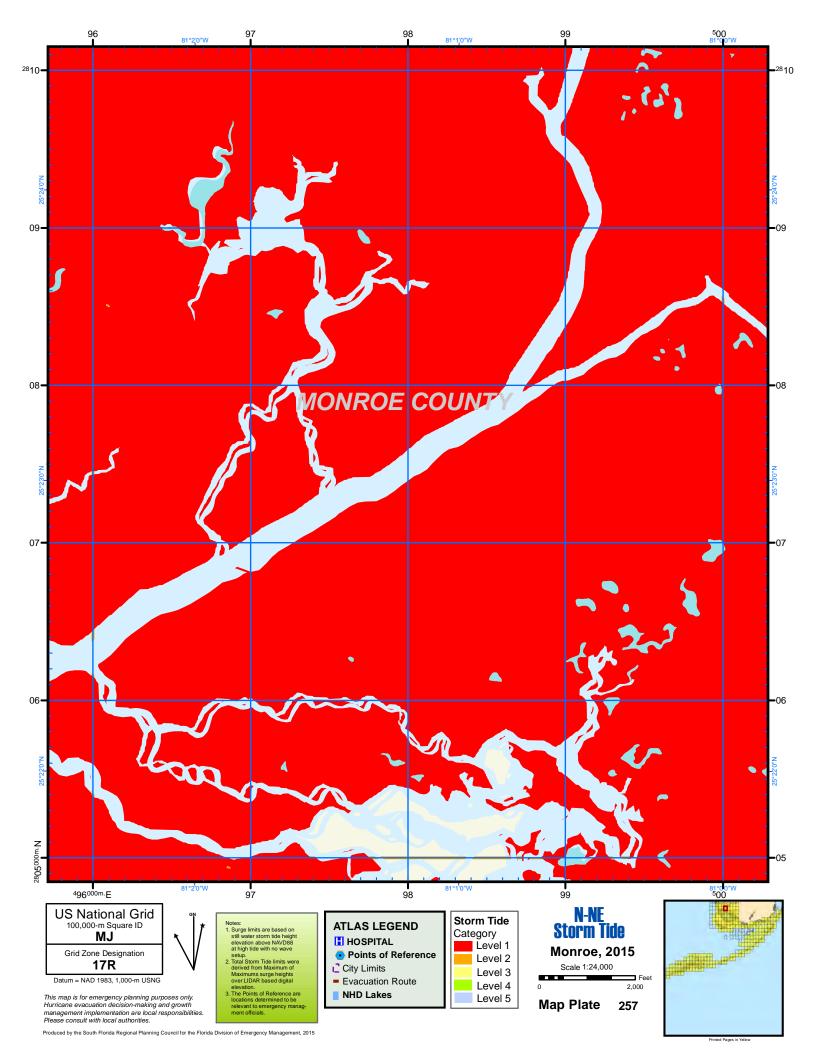


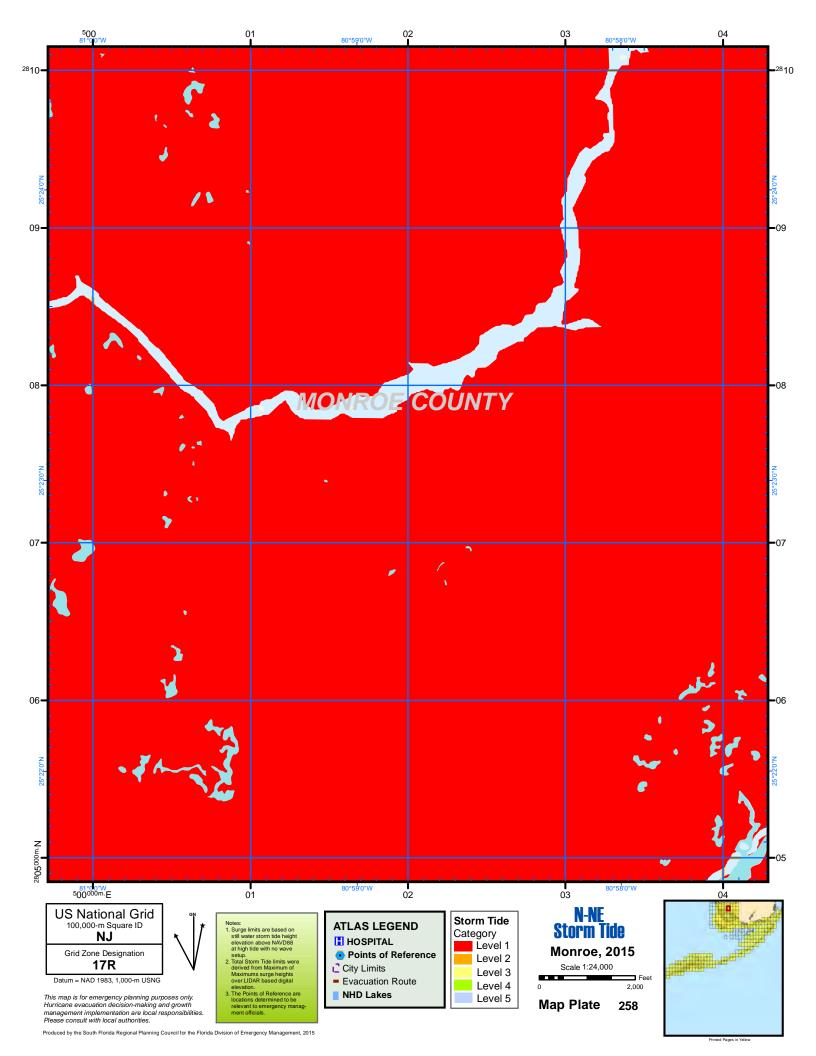


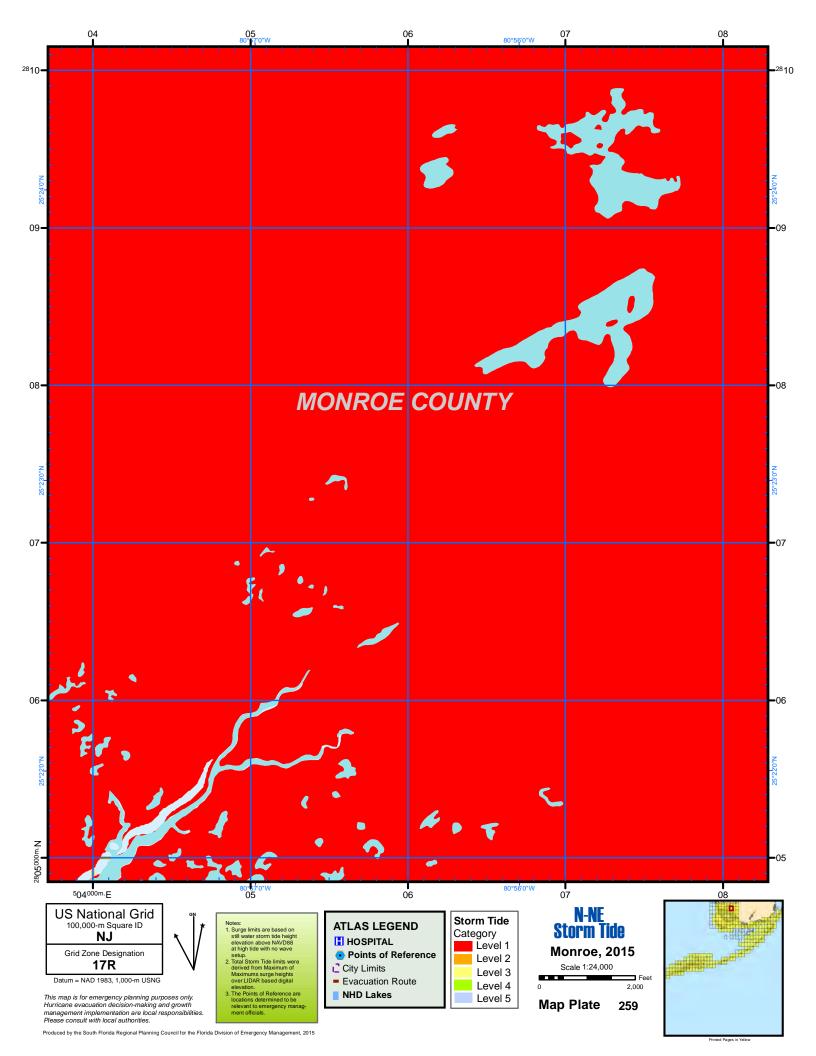


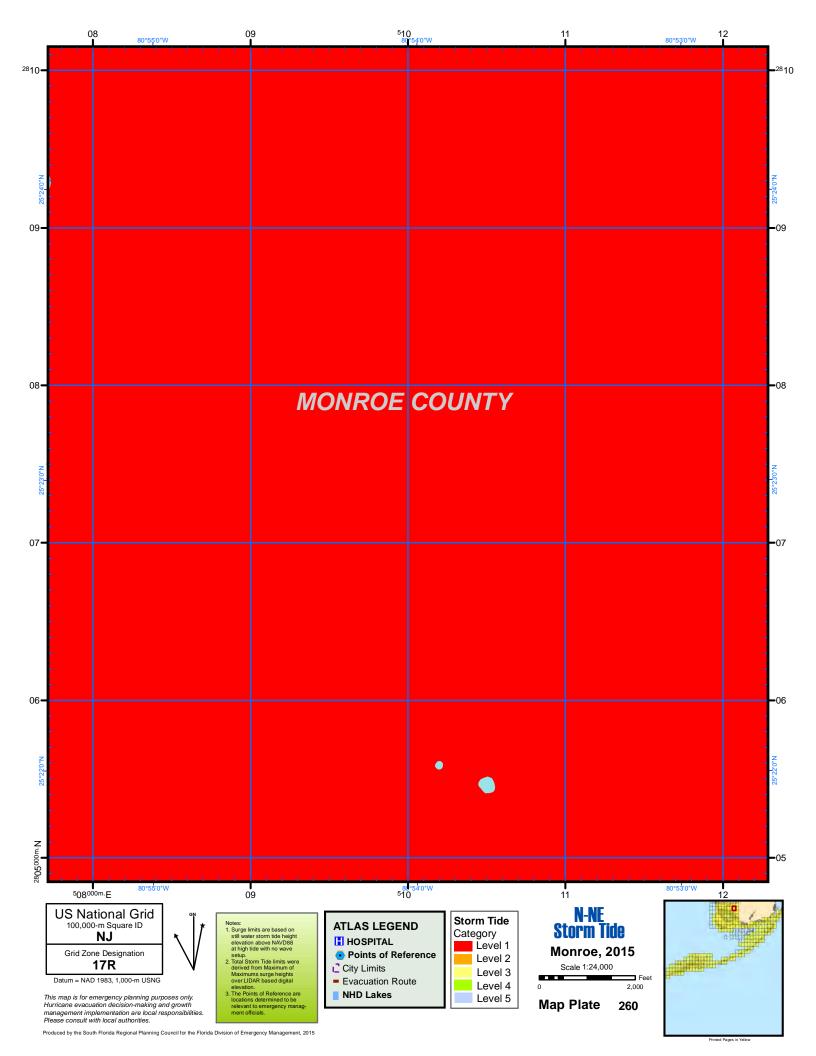


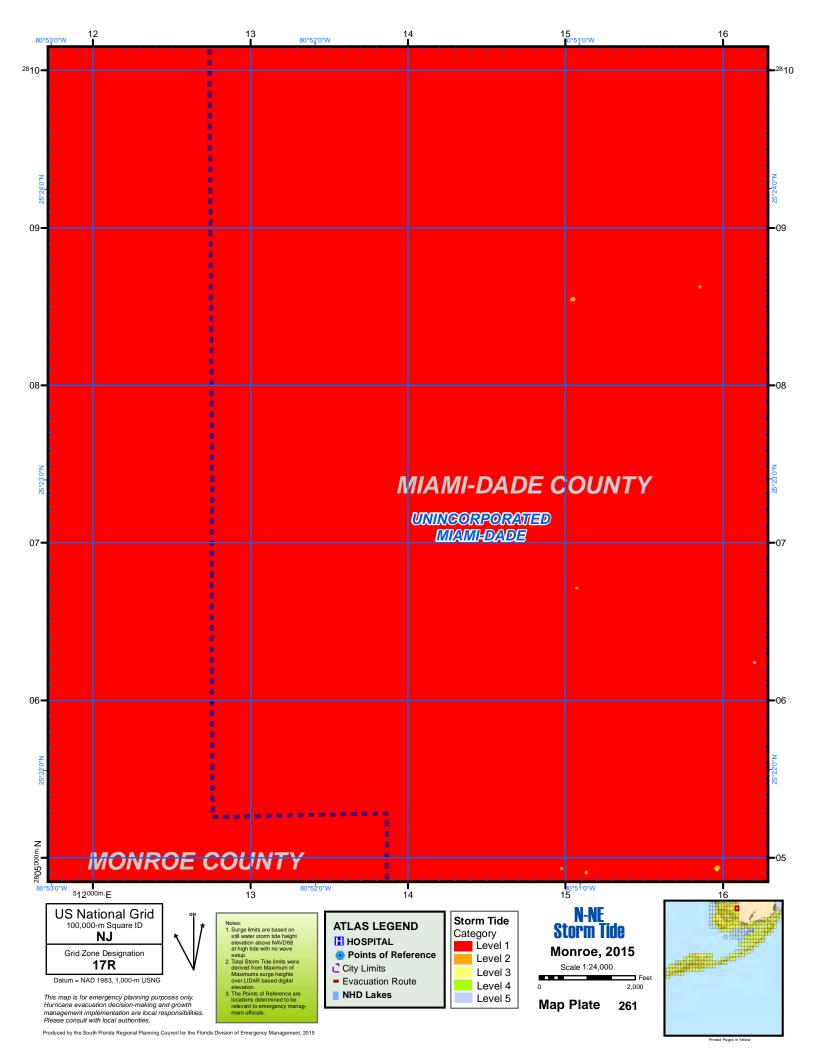


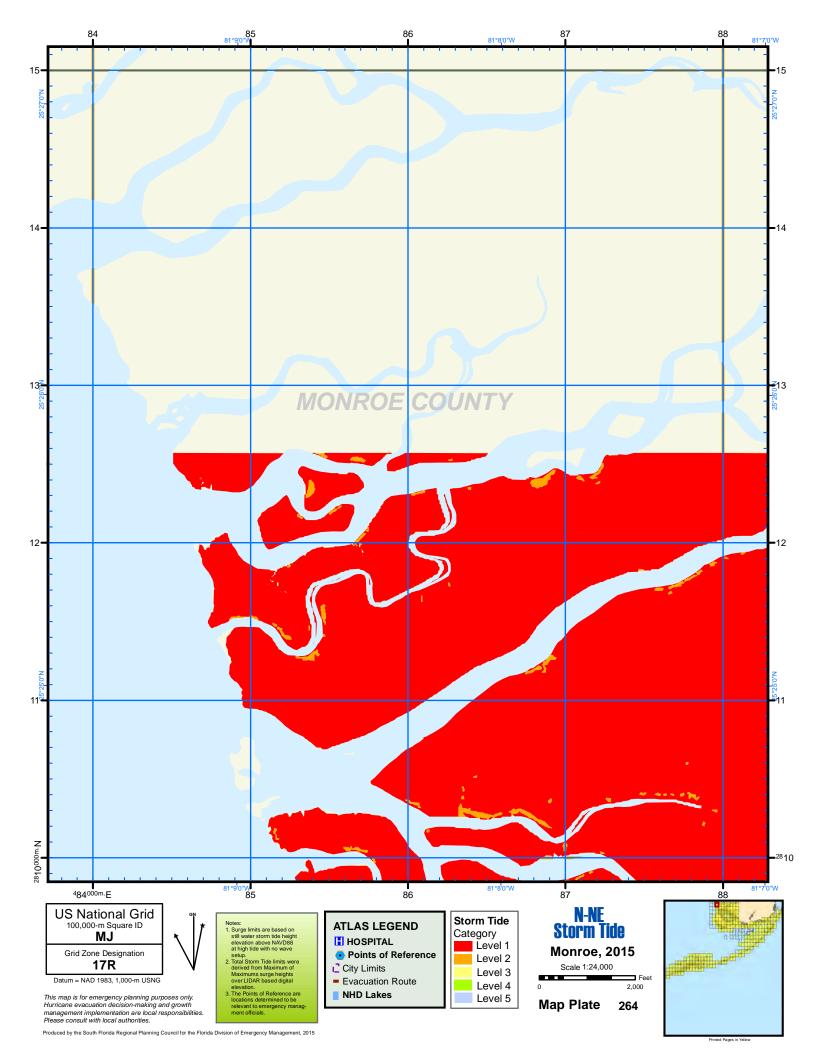


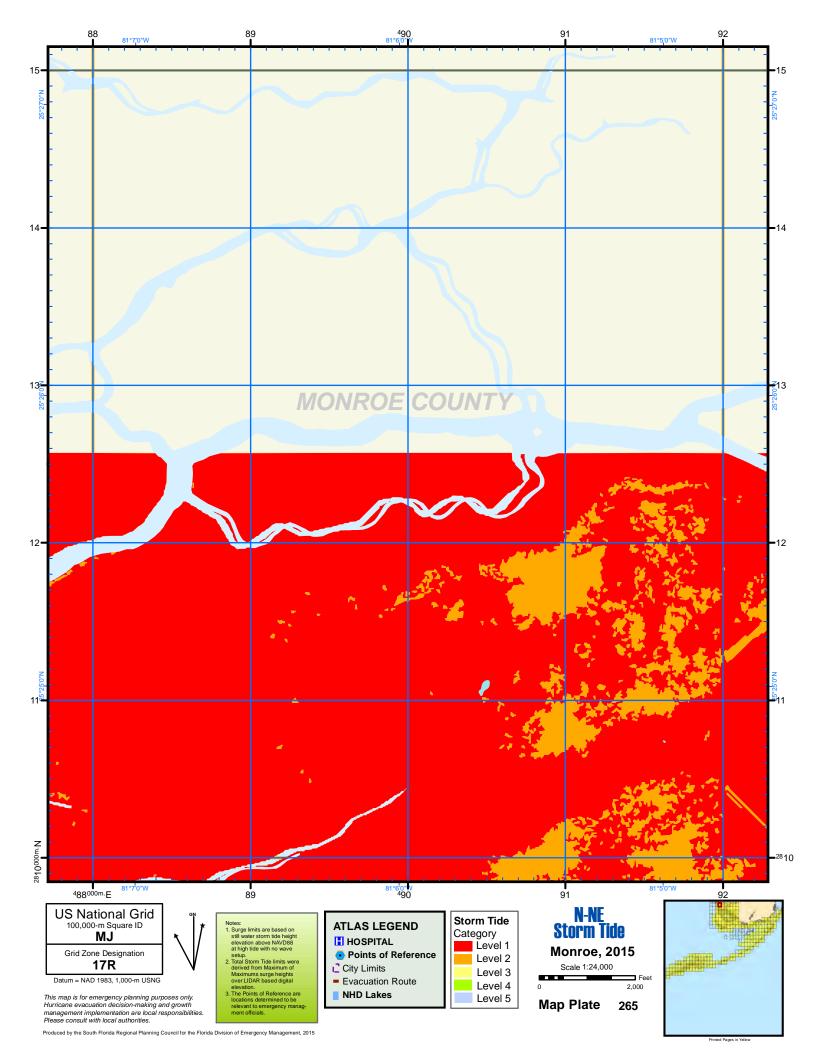


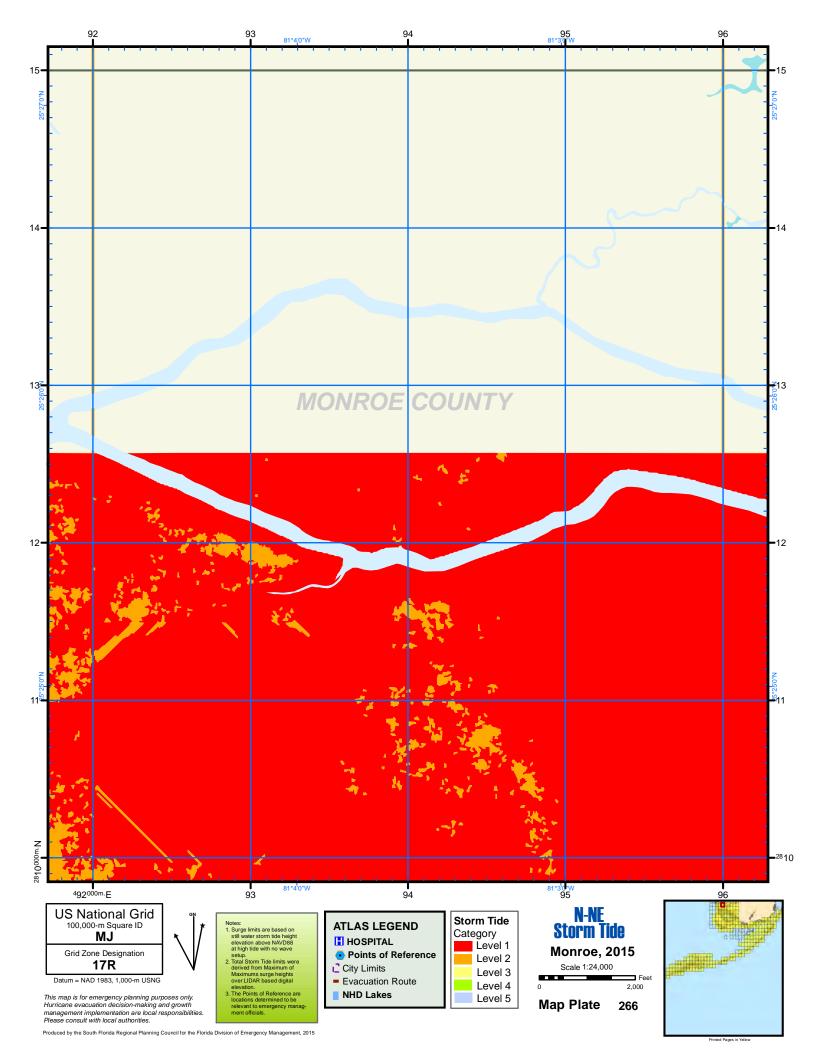


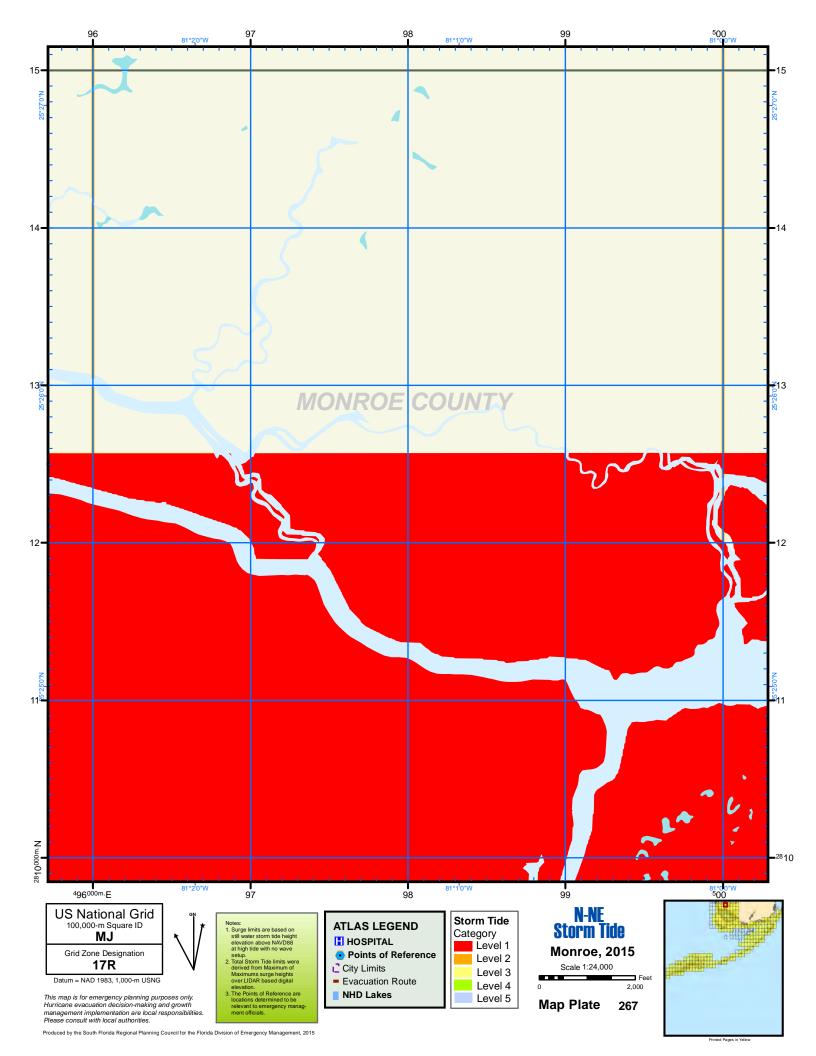


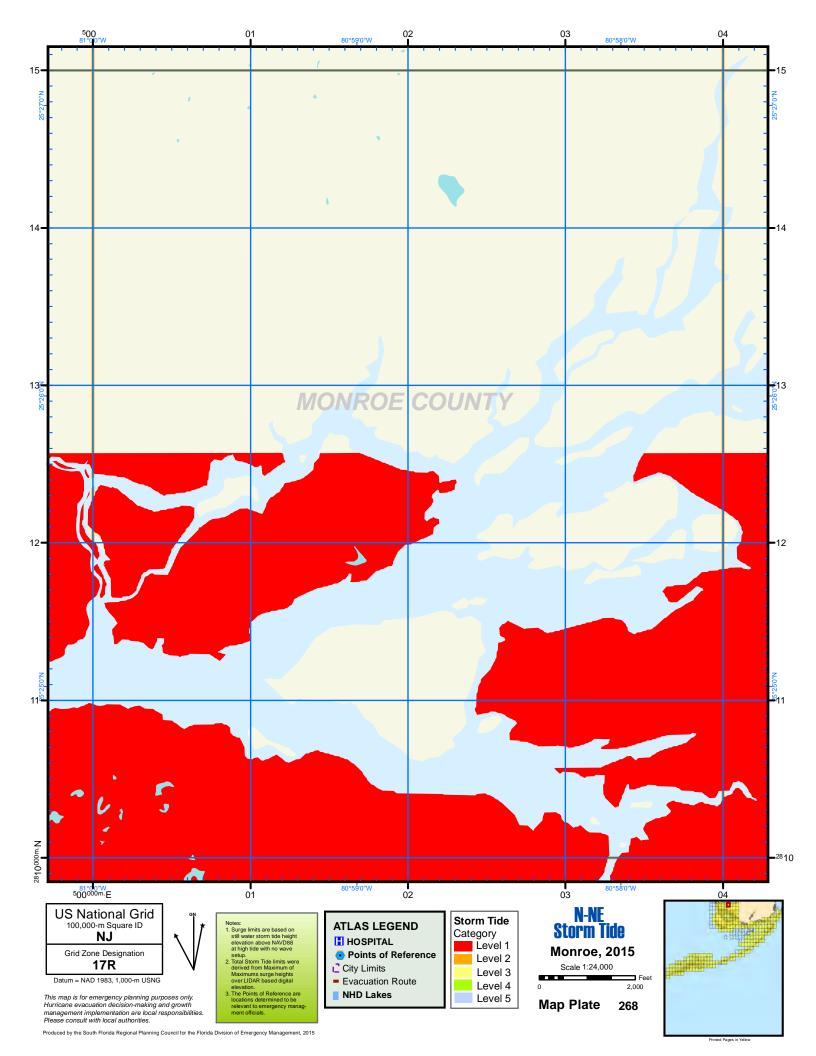


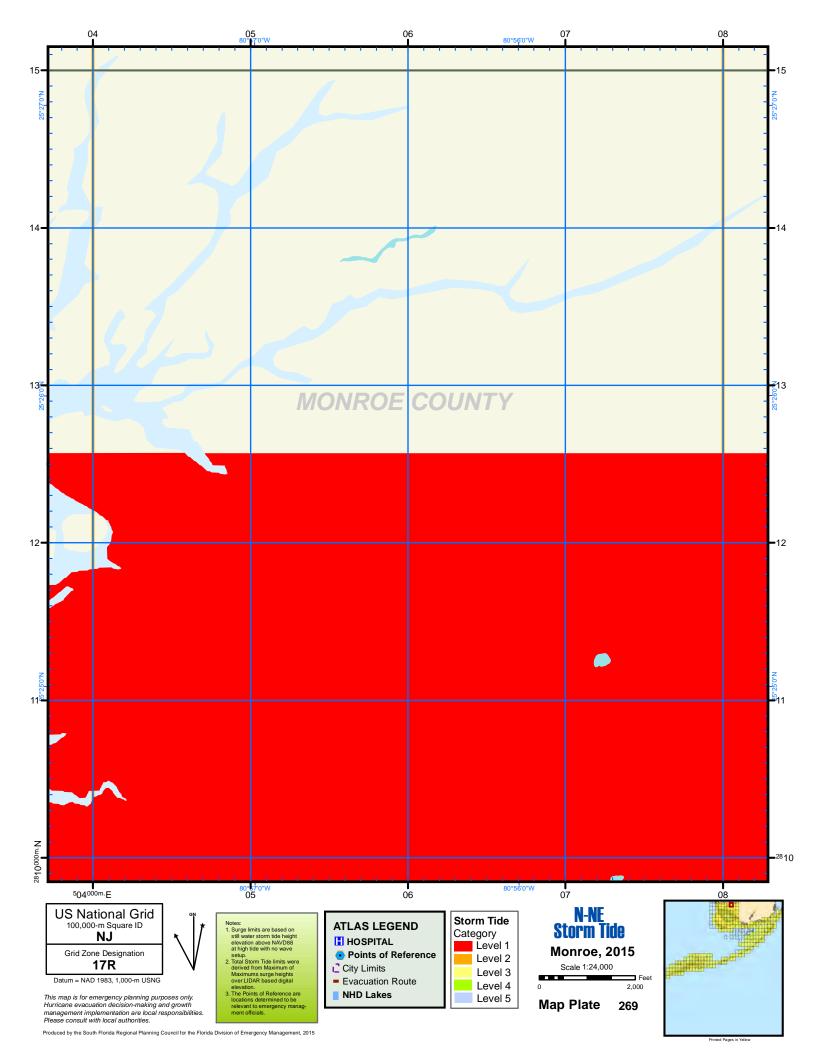


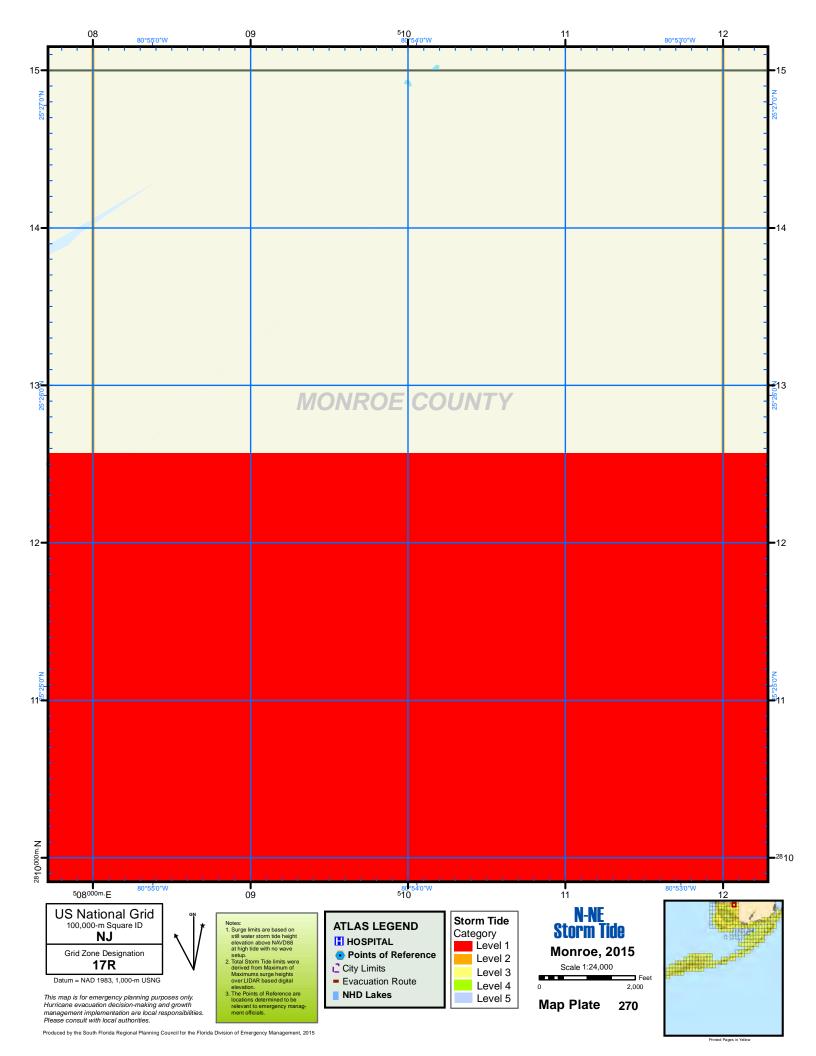


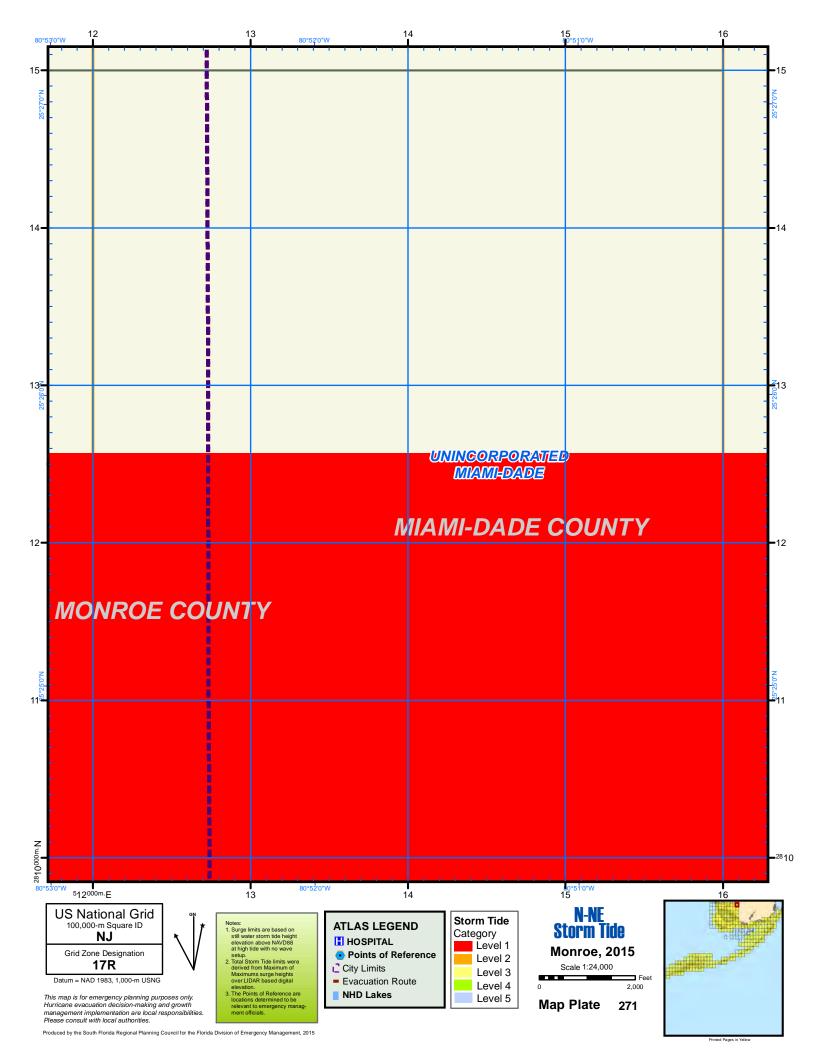
















Funding was provided by the Florida Legislature with funding from the Federal Emergency Management Agency (FEMA) through the Florida Division of Emergency Management. Local match was provided by the South Florida Regional Council and the counties of Broward, Miami-Dade and Monroe.

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Prepared and published by the South Florida Regional Council, 3440 Hollywood Boulevard, Suite 140 Hollywood, Florida 33021

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