Baldwin County

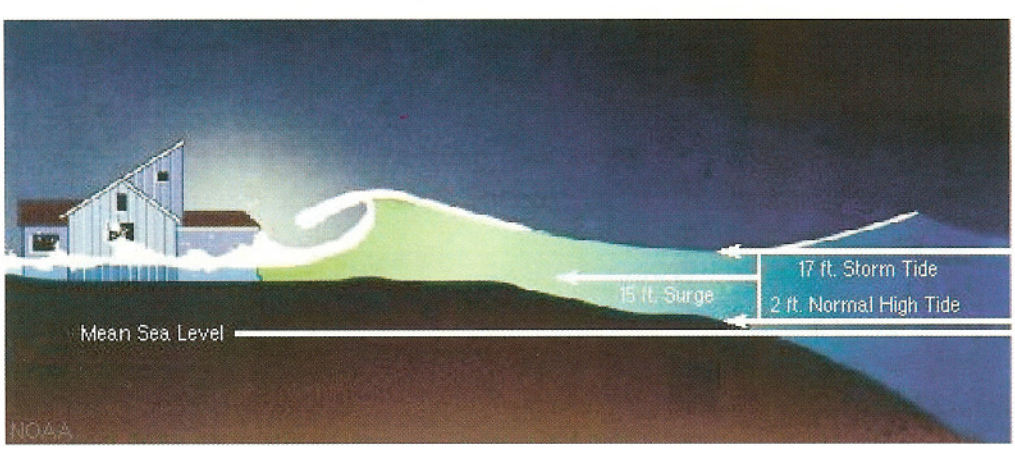
Hurricane Surge Atlas

Baldwin County Emergency Management Agency
23100 McAuliffe Drive
Robertsdale, Alabama 36567
251-972-6807

INTRODUCTION

Storm Surge

Storm surge is simply water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level 15 feet or more. In addition, wind driven waves are superimposed on the storm tide. This rise in water level can cause severe flooding in coastal areas, particularly when the storm tide coincides with the normal high tides. Because much of the United States' densely populated Atlantic and Gulf Coast coastlines lie less than 10 feet above mean sea level, the danger from storm tides is tremendous.



The level of surge in a particular area is also determined by the slope of the continental shelf. A shallow slope off the coast will allow a greater surge to inundate coastal communities. Communities with a steeper continental shelf bottom will not see as much surge inundation, although large breaking waves can still present major problems. Storm tides, waves, and currents in confined harbors severely damage ships, marinas, and pleasure boats.

In general, the more intense the storm, and the closer a community is to the right-front quadrant, the larger the area that must be evacuated. The problem is always the uncertainty about how intense the storm will be when if finally makes landfall. Emergency managers and local officials balance that uncertainty with the human and economic risks to their community. This is why a rule of thumb for emergency managers is to plan for a storm one category higher than what is forecast. This is a reasonable precaution to help minimize the loss of life from hurricanes.

Wave and current action associated with the tide also causes extensive damage. Water weighs approximately 1,700 pounds per cubic yard; extended pounding by frequent waves can demolish any structure not specifically designed to withstand such forces

The currents created by the tide combine with the action of the waves to severely erode beaches and coastal highways. Many buildings withstand hurricane force winds until their foundations, undermined by erosion, are weakened and fail.

In estuaries and bayous, intrusions of salt water endanger the public health and send animals, such as snakes, to flee from flooded areas and take refuge in urban areas.

Storm Surge Maps

Storm surge is the abnormal rise in water level caused by the wind and pressure forces of a hurricane or tropical storm. Storm surge produces most of the coastal flood damage and drowning associated with hurricanes. The purpose of this Atlas is to provide hurricane surge maps showing the surge vulnerable areas for the five hurricane categories. The maps reflect a "worst-case" scenario of hurricane storm surge inundation for each storm category and are used to determine the limits of hurricane evacuation zones. The maps summarize surge height estimates made using the SLOSH (Sea, Lake and Overland Surges from Hurricanes) Model. The model was supplied with data from hypothetical storms and the resulting surge calculations were composited to produce the maps. The late Chester Jeslesnianski of the National Oceanic and Atmospheric Administration, National Weather Service developed the model. The Storm Surge Division of the National Hurricane Center, headed by Brian Jarvinen conducted the storm surge computations and analysis.

The SLOSH Model

The proficiency of the SLOSH Model has been evaluated by a comparative analysis of modeled and observed surges at 523 sites during 10 hurricanes. The mean absolute error in surge height calculations by SLOSH was 1.4 ft. Although the error range was from –7.1ft. to +8.8 ft., the standard deviation was only 2.0 ft. and 79 percent of the errors lay within one standard deviation of the mean error, -0.3 ft.

Hypothetical Storm Simulations

The SLOSH Model was used to develop data for various combinations of hurricane strength, wind speed, and direction of movement. Storm strength was modeled by use of the central pressure, the storm eye size and the radius of maximum winds (RMW) using the five categories of hurricane intensity as depicted in the Saffir-Simpson Hurricane Scale shown in Table 1. The modeling for each hurricane category was conducted using the midrange pressure difference (AP, millibars) for that category.

Table 1. Saffir/Simpson Hurricane Scale.

Storm	Central Pressure		Wind Speed		
Category	Millibars	Inches (Hg)	Miles per Hour	Knots	Damage
1	> 980	> 28.9	74 - 95	64 - 83	Minimal
2	965 - 979	28.5 - 28.9	96 - 110	84 - 96	Moderate
3	945 - 964	27.9 - 28.5	111 - 130	97 - 113	Extensive
4	920 - 944	27.2 - 27.9	131 - 155	114 - 135	Extreme
5	< 920	< 27.2	>155	> 135	Catastrophic

Storm Scenarios

Once surge heights have been determined for the individual tracks, the maximum surge heights are plotted by storm track and hurricane category. These plots of maximum surge heights for a given storm category and track are referred to as Maximum Envelopes of Water (MEOWs). The surge inundation limits displayed on the maps in this Atlas reflect a further compositing of the MEOWs into Maximums of the Maximum (MOMs). The MOMs represent the maximum surge expected to occur at any given location, regardless of the storm track or direction of the hurricane. The only variable is the intensity of the hurricane represented by category strength. The MOM surge heights which were furnished by the National Hurricane Center, as displayed in this Atlas, include an upward adjustment to reflect observed tidal anomalies before arrival of a hurricane and arrival of surge at a mean high astronomical tide (Total +2.0 ft. adjustment).

In order to determine the ultimate depth of surge flooding at a particular location, for a given hurricane, the ground elevation at that location must be subtracted from the respective hurricane category surge elevation. The surge elevations are show on each map panel at pre-selected locations called time history points. All time history points are also shown inTable 2. All hurricane surge elevations are referenced to the National Geodetic Vertical Datum (NGVD). United States Geological Survey (USGS) quadrangle sheets, or other appropriate topographic reference maps which are based on the same datum can also be used to determine approximate ground elevations at other specific locations. However, the accuracy of these elevation data will be limited to the precision and tolerance associated with that map. For the Baldwin County Surge Atlas, topographic data furnished by Baldwin County was used to determine the ultimate storm tide limits for each storm category.

Surge and Wave Heights

It is important to understand that the configuration and depth (bathymetry) of the ocean (Gulf) bottom will have a bearing on surge and wave heights. A narrow shelf, or one that drops steeply from the shoreline and subsequently produces deep water in close proximity to the shoreline, tends to produce a lower surge but a higher and more powerful wave. The reason this occurs is because a surge in deeper water can be dispersed down and out away from the hurricane. However, once that surge reaches a shallow gently sloping shelf it can no longer "escape", consequently, water "piles-up" as it is driven ashore by the wind stresses of the hurricane. The surge data included in this Atlas reflects only still water flooding. Local processes, such as waves, rainfall and flooding from overflowing rivers, are usually included in "observations" of storm surge height, but are not shown in this atlas and are not calculated by the SLOSH Model. It is incumbent upon local emergency management officials and planners to prepare for potential inland flooding along rivers and streams from heavy rainfall, and anticipate additional damage and higher water levels along shorelines and beachfronts due to waves that will accompany the surge.

How The Maps Were Made

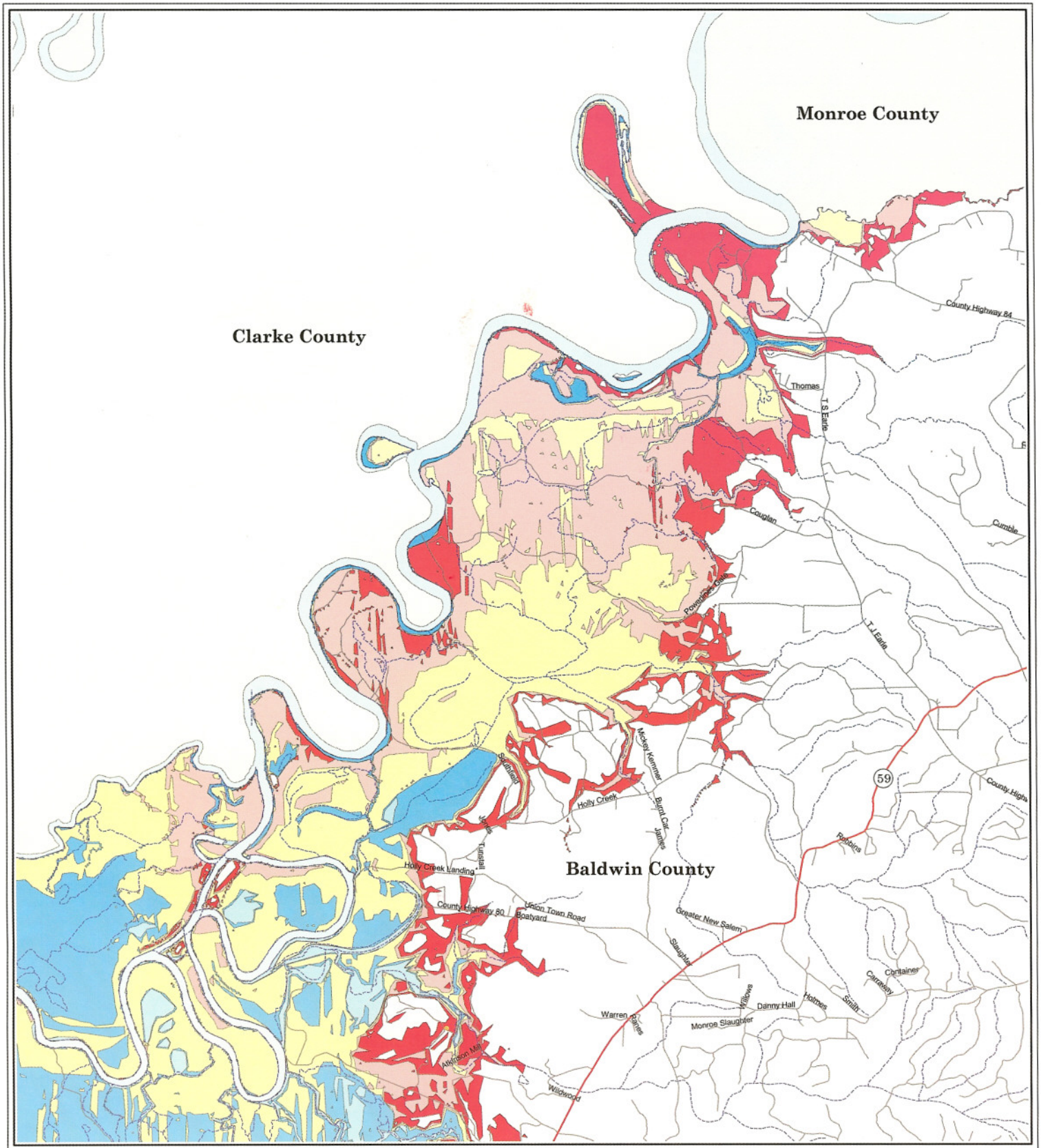
The base map data prepared for this Atlas was created from digital USGS base maps at a scale of 1:100,000. Hurricane surge limits for each category of storm were determined by a grid-based analysis using Arcview Spatial Analyst software. The ground elevations were determined from topographic data provided by Baldwin County. The water surface elevations were obtained from the SLOSH model.

Prepared by:

This information provided to you by the Baldwin County Emergency Management Agency, 23100 McAuliffe Drive, Robertsdale, Alabama 36567. Information for this document was provided by the National Hurricane Center. The Atlas was prepared by the U.S. Army Corps of Engineers, Mobile District, Plan Development and Floodplain Management Team, Post Office Box 2288, Mobile, Alabama 36628-0001 in cooperation with the Federal Emergency Management Agency.

TABLE 2 – Baldwin County Time History Points

SURGE HEIGHTS IN FEET ABOVE M.S.L. BY HURRICANE STORM CATEGORY						
POINT #	POINT NAME	CAT1	CAT2	CAT3	CAT4	CAT5
46	HURRICANE LANDING	6.5	9.6	14.5	18.8	24.9
47	GRAVINE ISLAND	6.6	9.9	14.5	18.7	23.3
48	BAY MINETTE	7.1	11.1	14.9	18.1	21.9
49	BRIDGEHEAD	7.3	11.4	14.6	17.9	21.6
50	DAPHNE	6.9	10.1	13.5	16.9	20.4
51	MONTROSE	6.6	9.8	12.9	16.2	19.9
52	FAIR HOPE	6.5	9.8	12.7	16.0	19.8
53	MAGNOLIA BEACH	6.2	9.4	12.3	15.4	19.4
54	POINT CLEAR	5.9	8.7	11.7	14.8	18.5
55	MULLET POINT	5.7	8.1	10.8	14.3	18.1
56	FISH RIVER POINT	6.2	8.9	12.3	15.1	19.1
57	WEEKS BAY	5.6	9.5	13.2	17.2	21.8
58	RIVER PARK	5.9	7.5	9.8	12.2	14.2
59	MARLOW	6.2	7.9	10.5	12.9	14.9
60	CYPRESS POINT	6.4	9.6	12.8	15.0	18.1
61	BON SECOUR BAY @ I.C.W.	6.7	10.2	12.8	14.6	16.2
62	BON SECOUR	6.1	7.7	11.6	14.1	16.0
63	OYSTER BAY	6.4	8.2	12.3	14.1	15.8
64	FORT MORGAN	4.7	7.0	9.5	12.2	14.1
65	BEACH CLUB, BAY SIDE	4.3	6.5	9.5	12.4	14.4
66	BEACH CLUB, GULF SIDE	5.7	7.7	9.6	12.5	14.2
67	PILOT TOWN	4.6	6.5	9.4	12.3	14.5
68	GULF PLANTATION, BAY SIDE	5.6	8.0	10.1	12.1	14.5
69	GULF PLANTATION, GULF SIDE	5.8	8.5	10.5	12.6	14.9
70	GASQUE	6.4	9.4	12.2	14.1	15.4
71	PINE BEACH, GULF SIDE	5.7	8.5	11.1	13.1	15.7
72	PINE BEACH/LITTLE LAGOON	2.5	8.8	11.0	13.1	15.8
73	LITTLE LAGOON PASS	5.7	8.4	11.5	13.6	16.2
74	LITTLE LAGOON	3.1	8.8	12.0	14.0	16.4
75	GULF SHORES	5.8	8.5	11.7	14.0	16.6
76	ROMAR BEACH	5.7	8.5	11.4	14.0	16.8
77	PERDIDO PASS	5.7	8.3	11.2	14.0	16.9
78	ORANGE BEACH	5.3	8.5	11.9	14.5	17.3
79	JOSEPHINE	4.3	7.2	11.6	14.4	17.2
80	WOLF BAY @ I.C.W.	4.7	8.0	11.5	15.7	18.6
81	MIFLIN	5.3	8.1	12.2	17.9	22.0
82	WOLF BAY @ HWY 20 BRIDGE	5.0	8.1	11.6	14.7	17.5
83	PERDIDO BEACH	4.7	6.9	11.5	14.7	17.1
84	ONO ISLAND	4.4	7.9	11.3	14.1	17.1
85	TARKLIN BAY	4.9	6.9	11.5	13.8	16.4
86	PARADISE BEACH	5.2	7.4	10.8	14.1	17.5
87	MILLVIEW	5.5	7.7	10.9	13.8	17.1
88	PERDIDO RIVER ENTRANCE	5.5	7.8	11.1	14.2	17.5
89	SEMINOLE	5.6	8.1	11.1	13.6	15.8
90	I-10 @ PERDIDO RIVER (STATE LINE)	5.6	7.7	9.0	10.6	12.0



LEGEND

- Highways
- Interstates
- Roads
- Railroads
- Streams
- Cat. 1 Surge
- Cat. 2 Surge
- Cat. 3 Surge
- Cat. 4 Surge
- Cat. 5 Surge

Scale: 1 Inch = 4,000 feet

NOTES:

1. Surge limits are based on still water storm tide elevations above National Geodetic Vertical Datum (NGVD) from a 1999 SLOSH model at mean high tide with no wave setup included.
2. Source of base mapping is U.S.G.S. 1:100,000 scale maps and Tiger data.
3. Hurricane surge limits were determined by overlaying SLOSH model water surface elevations on Baldwin County ground surface data using a grid based analysis.

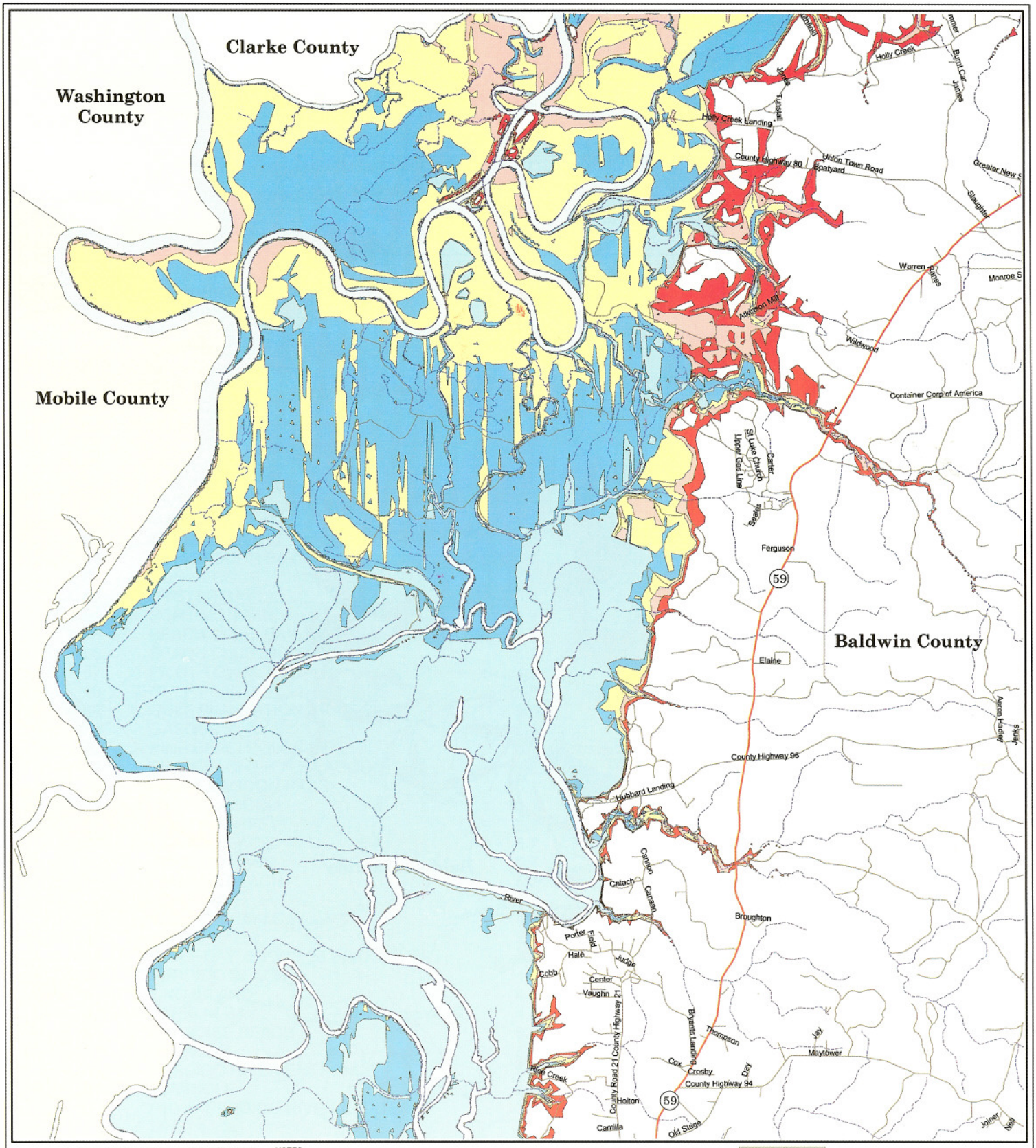
Time History Point Surge Elevations (ft. NGVD)

There are no Time History Points on this Plate.

Time history points were selected by the County and show the still water elevations at designated points for the Category 1-5 Maximum storm surges.

BALDWIN COUNTY ALABAMA Hurricane Surge Atlas

Plate - 1



LEGEND

- Highways
- Interstates
- Roads
- Railroads
- Streams
- Cat. 1 Surge
- Cat. 2 Surge
- Cat. 3 Surge
- Cat. 4 Surge
- Cat. 5 Surge

Scale: 1 Inch = 4,000 feet

NOTES:

1. Surge limits are based on still water storm tide elevations above National Geodetic Vertical Datum (NGVD) from a 1999 SLOSH model at mean high tide with no wave setup included.
2. Source of base mapping is U.S.G.S. 1:100,000 scale maps and Tiger data.
3. Hurricane surge limits were determined by overlaying SLOSH model water surface elevations on Baldwin County ground surface data using a grid based analysis.

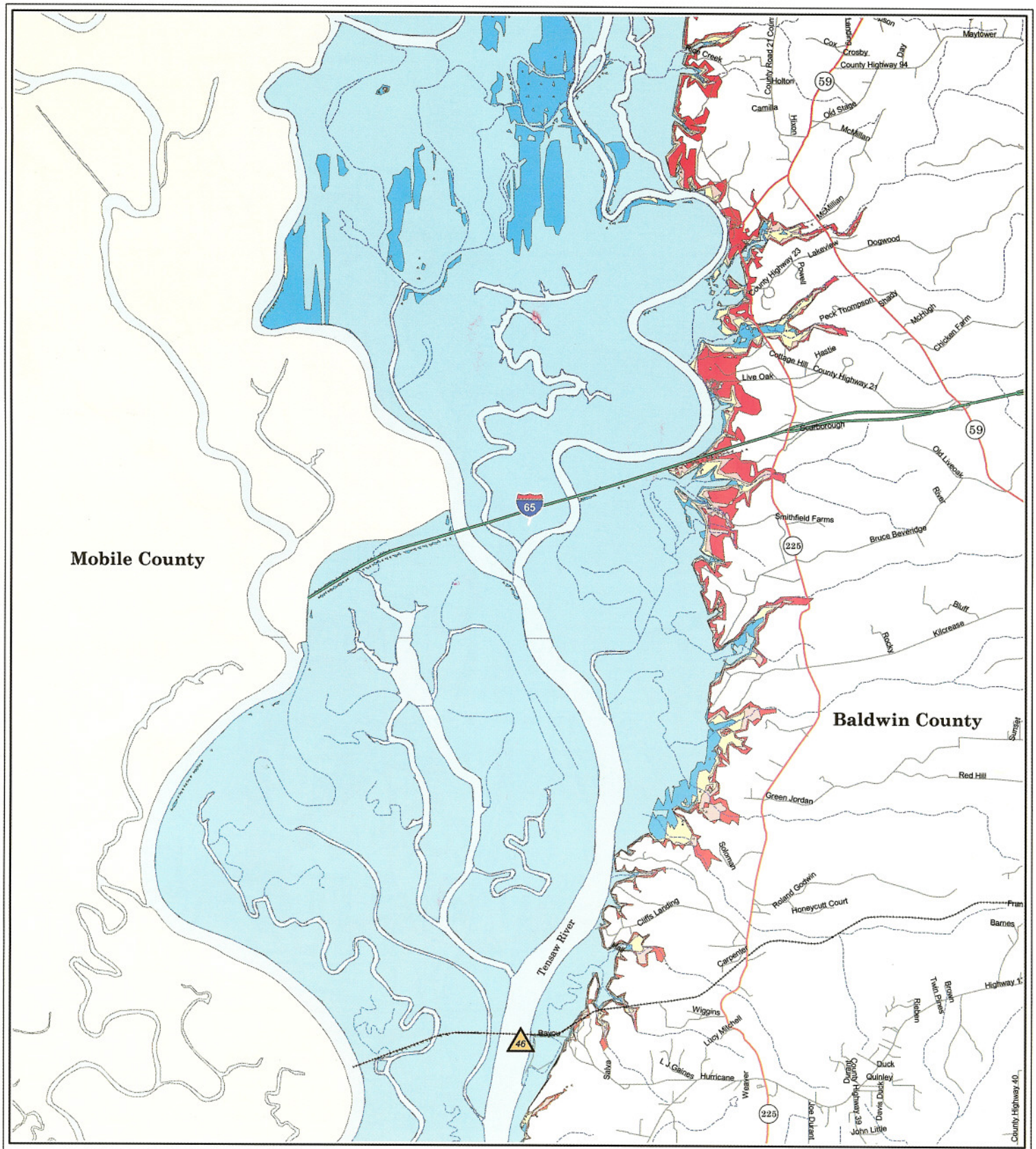
Time History Point Surge Elevations (ft. NGVD)

There are no Time History Points on this Plate.

Time history points were selected by the County and show the still water elevations at designated points for the Category 1-5 Maximum storm surges.

BALDWIN COUNTY ALABAMA Hurricane Surge Atlas

Plate - 2



LEGEND

- Highways
- Interstates
- Roads
- Railroads
- Streams
- Cat. 1 Surge
- Cat. 2 Surge
- Cat. 3 Surge
- Cat. 4 Surge
- Cat. 5 Surge

Scale: 1 Inch = 4,000 feet

NOTES:

1. Surge limits are based on still water storm tide elevations above National Geodetic Vertical Datum (NGVD) from a 1999 SLOSH model at mean high tide with no wave setup included.

2. Source of base mapping is U.S.G.S. 1:100,000 scale maps and Tiger data.

3. Hurricane surge limits were determined by overlaying SLOSH model water surface elevations on Baldwin County ground surface data using a grid based analysis.

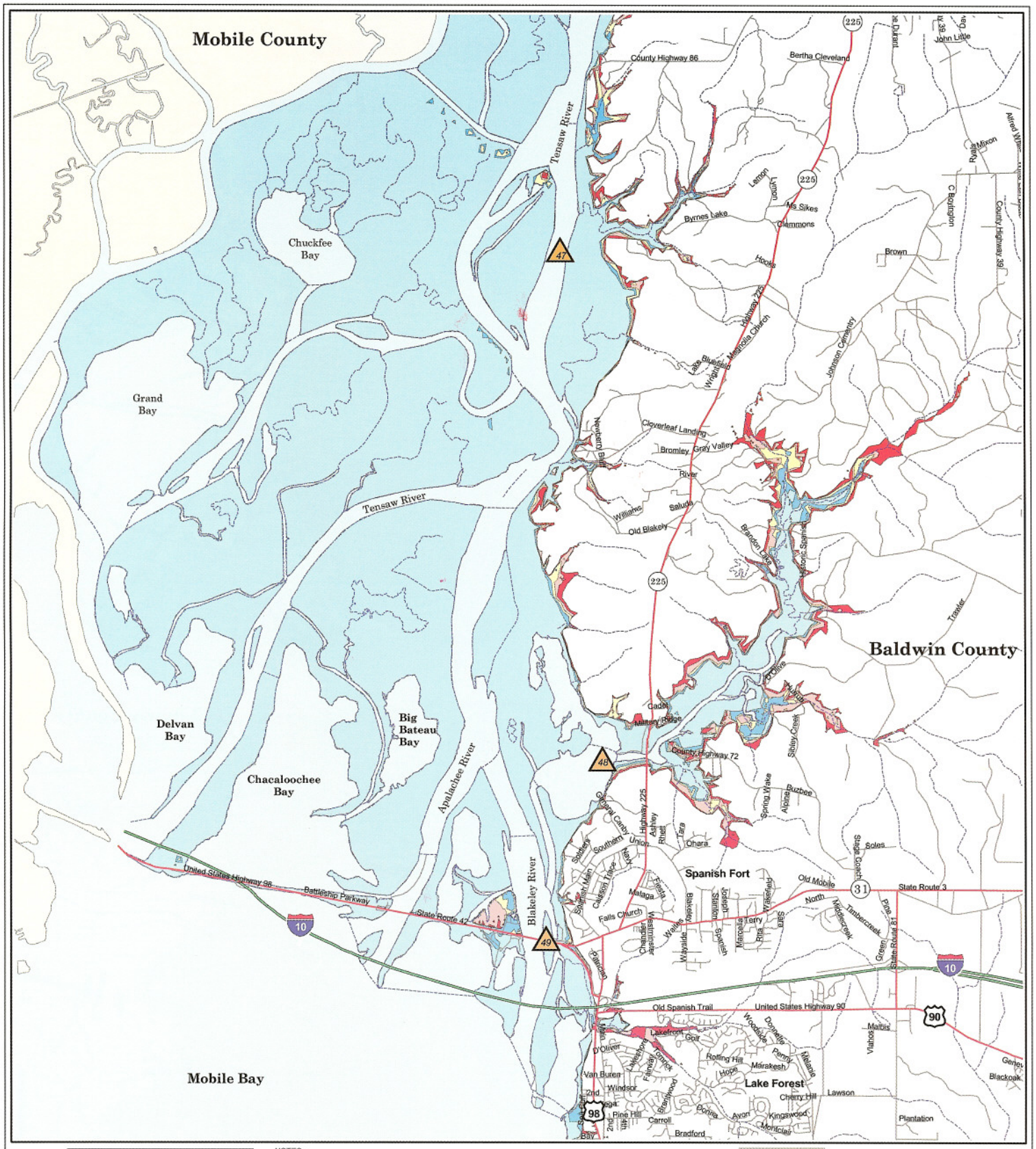
Time History Point Surge Elevations (ft. NGVD)

Point#	Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5
46	6.5	9.6	14.5	18.8	24.9

Time history points were selected by the County and show the still water elevations at designated points for the Category 1-5 Maximum storm surges.

BALDWIN COUNTY ALABAMA Hurricane Surge Atlas

Plate - 3



Scale: 1 Inch = 4,000 feet

NOTES:

1. Surge limits are based on still water storm tide elevations above National Geodetic Vertical Datum (NGVD) from a 1999 SLOSH model at mean high tide with no wave setup included.

2. Source of base mapping is U.S.G.S. 1:100,000 scale maps and Tiger data.

3. Hurricane surge limits were determined by overlaying SLOSH model water surface elevations on Baldwin County ground surface data using a grid based analysis.

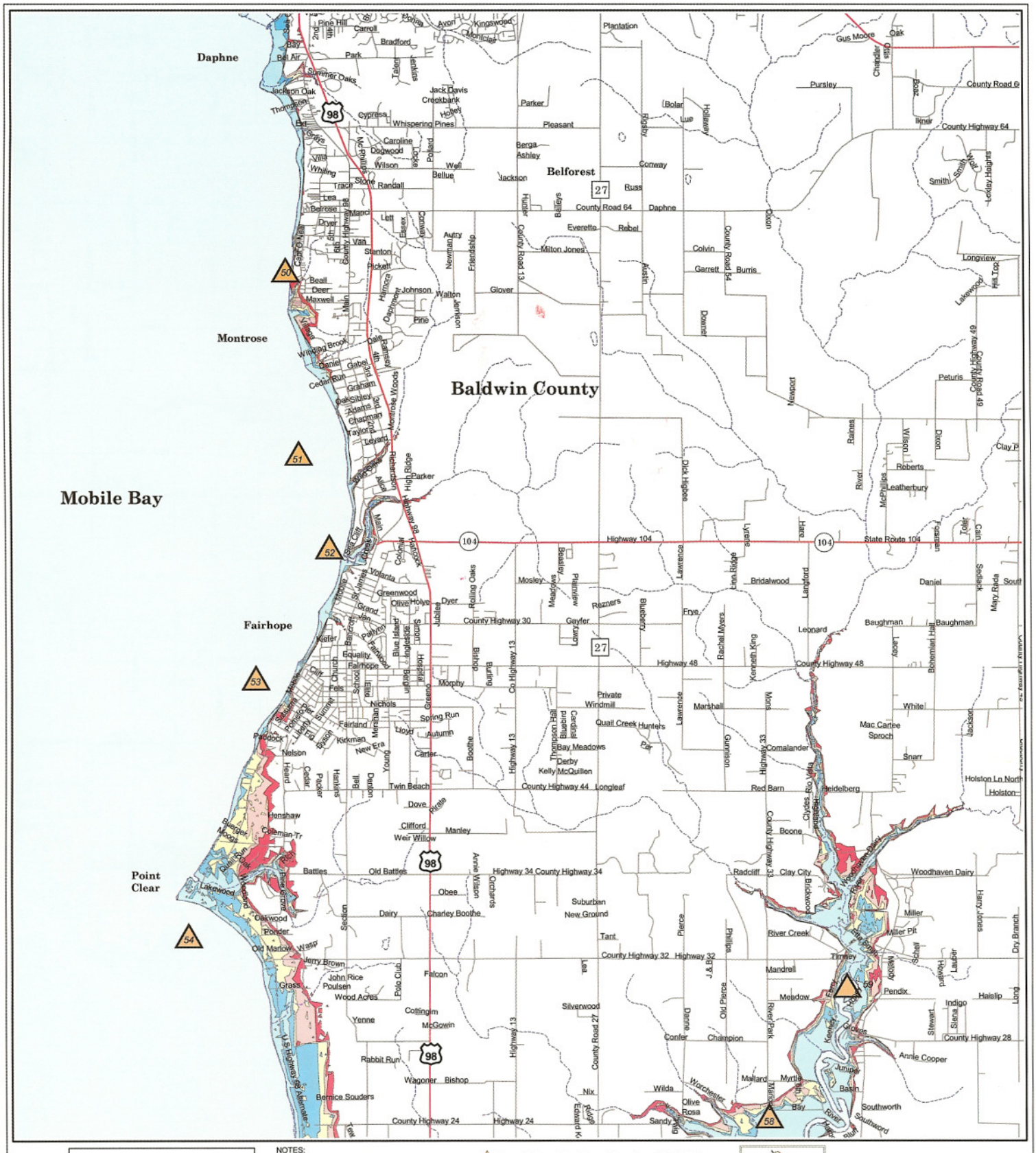
Time History Point Surge Elevations (ft. NGVD)

Point#	Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5
47	6.5	9.9	14.5	18.7	23.3
48	7.1	11.1	14.9	18.1	21.9
49	7.3	11.4	14.6	17.9	21.6

Time history points were selected by the County and show the still water elevations at designated points for the Category 1-5 Maximum storm surges.

BALDWIN COUNTY ALABAMA Hurricane Surge Atlas

Plate - 4



LEGEND

- Highways
- Interstates
- Roads
- Railroads
- Streams
- Cat. 1 Surge
- Cat. 2 Surge
- Cat. 3 Surge
- Cat. 4 Surge
- Cat. 5 Surge

Scale: 1 Inch = 4,000 feet

NOTES:

1. Surge limits are based on still water storm tide elevations above National Geodetic Vertical Datum (NGVD) from a 1999 SLOSH model at mean high tide with no wave setup included.

2. Source of base mapping is U.S.G.S. 1:100,000 scale maps and Tiger data.

3. Hurricane surge limits were determined by overlaying SLOSH model water surface elevations on Baldwin County ground surface data using a grid based analysis.

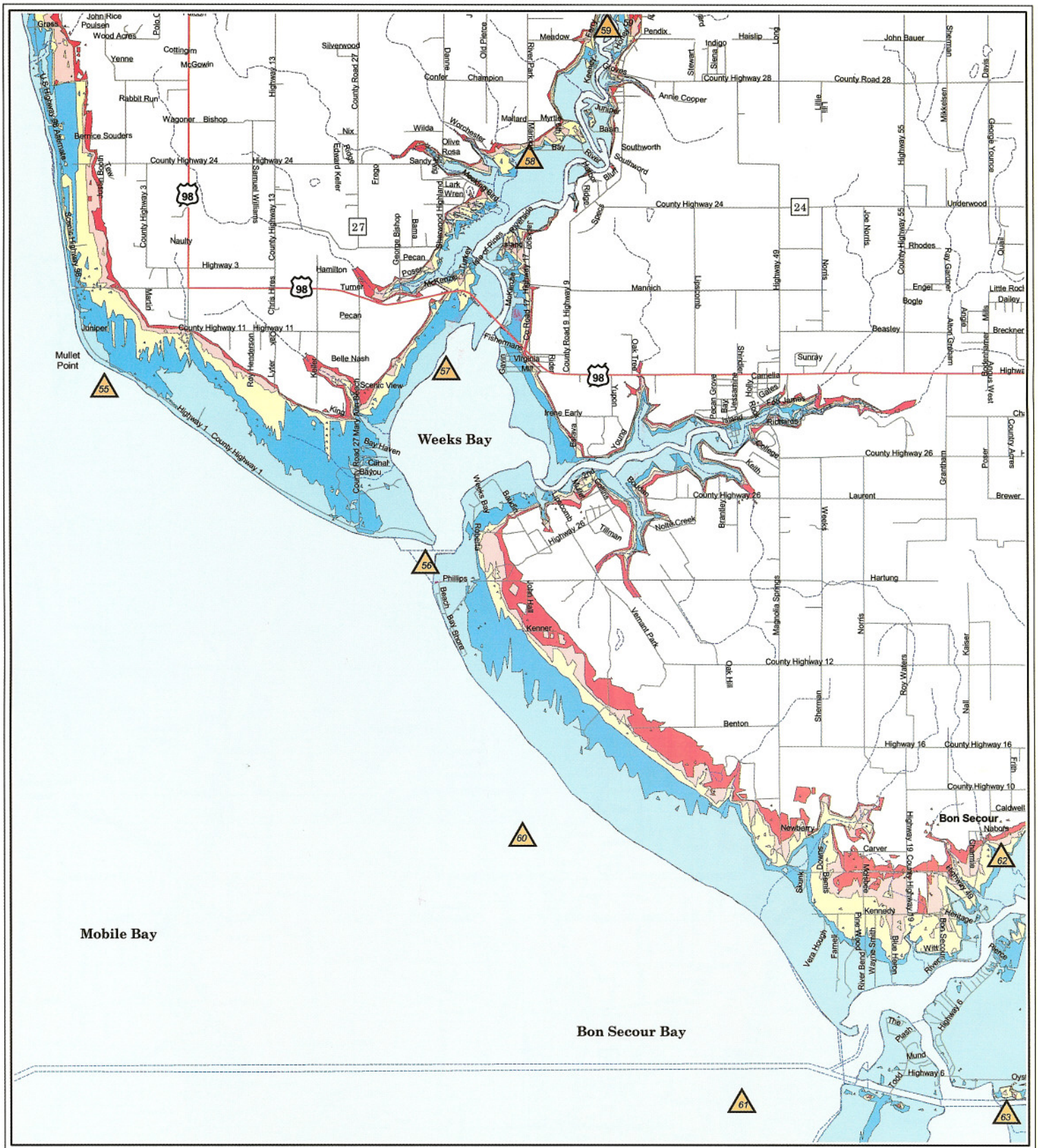
Time History Point Surge Elevations (ft. NGVD)

Point#	Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5
50	6.9	10.1	13.5	16.9	20.4
51	6.6	9.8	12.9	16.2	19.9
52	6.5	9.8	12.7	16.0	19.8
53	6.2	9.4	12.3	15.4	19.4
54	5.9	8.7	11.7	14.8	18.5
58	5.9	7.5	9.8	12.2	14.2
59	6.2	7.9	10.5	12.9	14.9

Time history points were selected by the County and show the still water elevations at designated points for the Category 1-5 Maximum storm surges.

BALDWIN COUNTY ALABAMA Hurricane Surge Atlas

Plate - 5



LEGEND

- Highways
- Interstates
- Roads
- Railroads
- Streams
- Cat. 1 Surge
- Cat. 2 Surge
- Cat. 3 Surge
- Cat. 4 Surge
- Cat. 5 Surge

Scale: 1 Inch = 4,000 feet

NOTES:

1. Surge limits are based on still water storm tide elevations above National Geodetic Vertical Datum (NGVD) from a 1999 SLOSH model at mean high tide with no wave setup included.

2. Source of base mapping is U.S.G.S. 1:100,000 scale maps and Tiger data.

3. Hurricane surge limits were determined by overlaying SLOSH model water surface elevations on Baldwin County ground surface data using a grid based analysis.

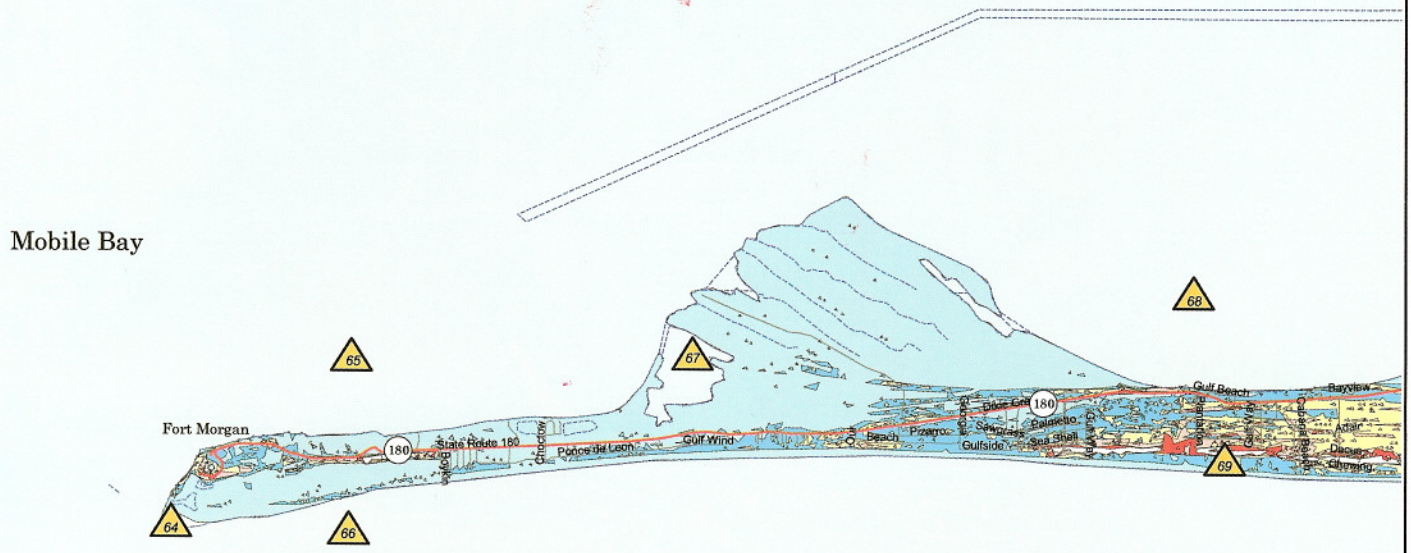
Time History Point Surge Elevations (ft. NGVD)

Point#	Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5
55	5.7	8.1	10.8	14.3	18.1
56	6.2	8.9	12.3	15.1	19.1
57	5.6	9.5	13.2	17.2	21.8
58	5.9	7.5	9.8	12.2	14.2
59	6.2	7.9	10.5	12.9	14.9
60	6.4	9.6	12.8	15.0	18.1
61	6.7	10.2	12.8	14.6	16.2
62	6.1	7.7	11.6	14.1	16.0
63	6.4	8.2	12.3	14.1	15.8

Time history points were selected by the County and show the still water elevations at designated points for the Category 1-5 Maximum storm surges.

BALDWIN COUNTY ALABAMA
Hurricane Surge Atlas

Plate - 6



Gulf of Mexico

LEGEND

- Highways
- Interstates
- Roads
- Railroads
- Streams
- Cat. 1 Surge
- Cat. 2 Surge
- Cat. 3 Surge
- Cat. 4 Surge
- Cat. 5 Surge

Scale: 1 Inch = 4,000 feet

NOTES:

1. Surge limits are based on still water storm tide elevations above National Geodetic Vertical Datum (NGVD) from a 1999 SLOSH model at mean high tide with no wave setup included.

2. Source of base mapping is U.S.G.S. 1:100,000 scale maps and Tiger data.

3. Hurricane surge limits were determined by overlaying SLOSH model water surface elevations on Baldwin County ground surface data using a grid based analysis.

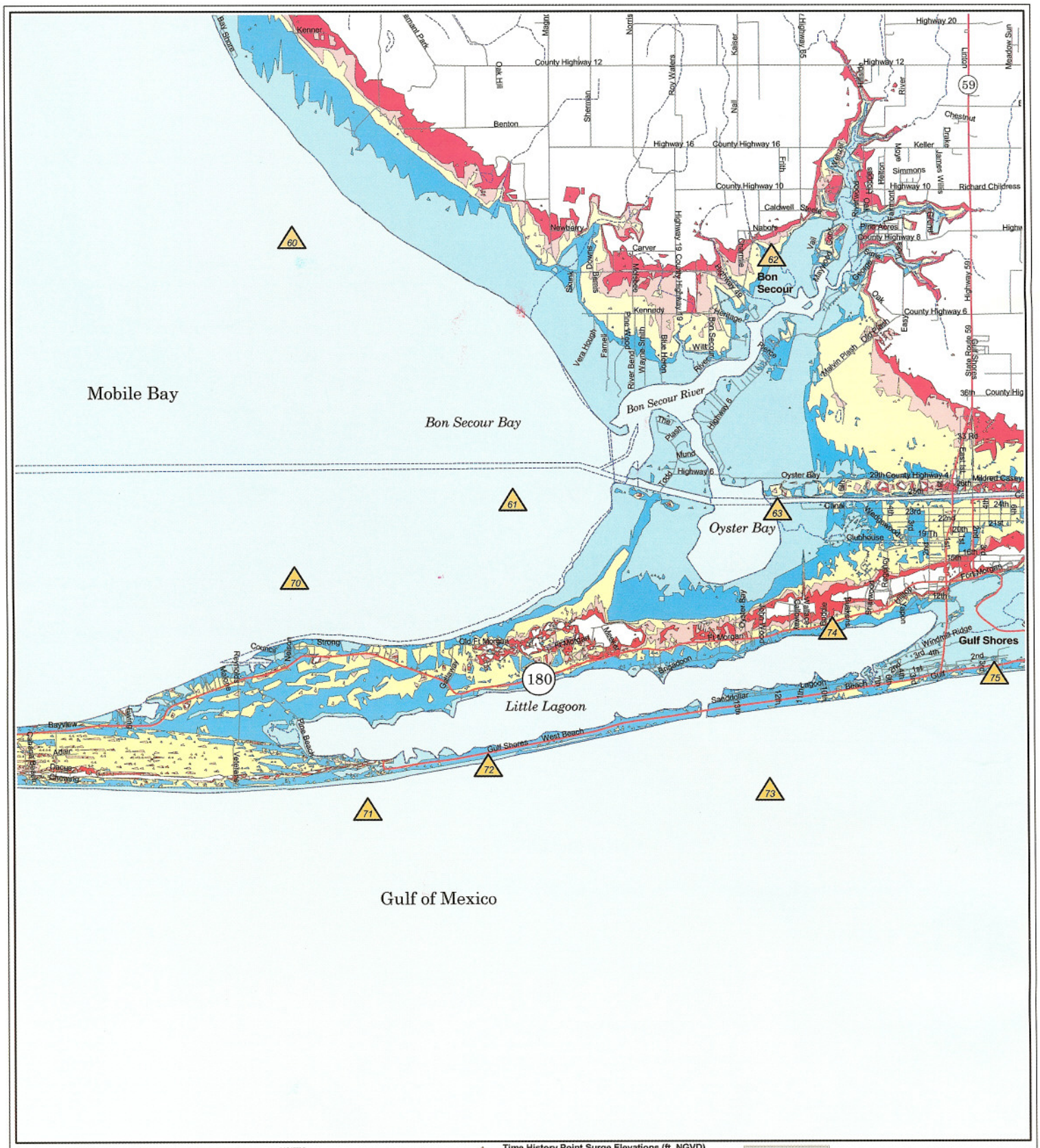
Time History Point Surge Elevations (ft. NGVD)

Point#	Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5
64	4.7	7.0	9.5	12.2	14.1
65	4.3	6.5	9.5	12.4	14.4
66	5.7	7.7	9.6	12.5	14.2
67	4.6	6.5	9.4	12.3	14.5
68	5.6	8.0	10.1	12.1	14.5
69	5.8	8.5	10.5	12.6	14.9

Time history points were selected by the County and show the still water elevations at designated points for the Category 1-5 Maximum storm surges.

BALDWIN COUNTY
ALABAMA
Hurricane Surge Atlas

Plate - 7



LEGEND

- Highways
- Interstates
- Roads
- Railroads
- Streams
- Cat. 1 Surge
- Cat. 2 Surge
- Cat. 3 Surge
- Cat. 4 Surge
- Cat. 5 Surge

Scale: 1 Inch = 4,000 feet

NOTES:

1. Surge limits are based on still water storm tide elevations above National Geodetic Vertical Datum (NGVD) from a 1999 SLOSH model at mean high tide with no wave setup included.

2. Source of base mapping is U.S.G.S. 1:100,000 scale maps and Tiger data.

3. Hurricane surge limits were determined by overlaying SLOSH model water surface elevations on Baldwin County ground surface data using a grid based analysis.

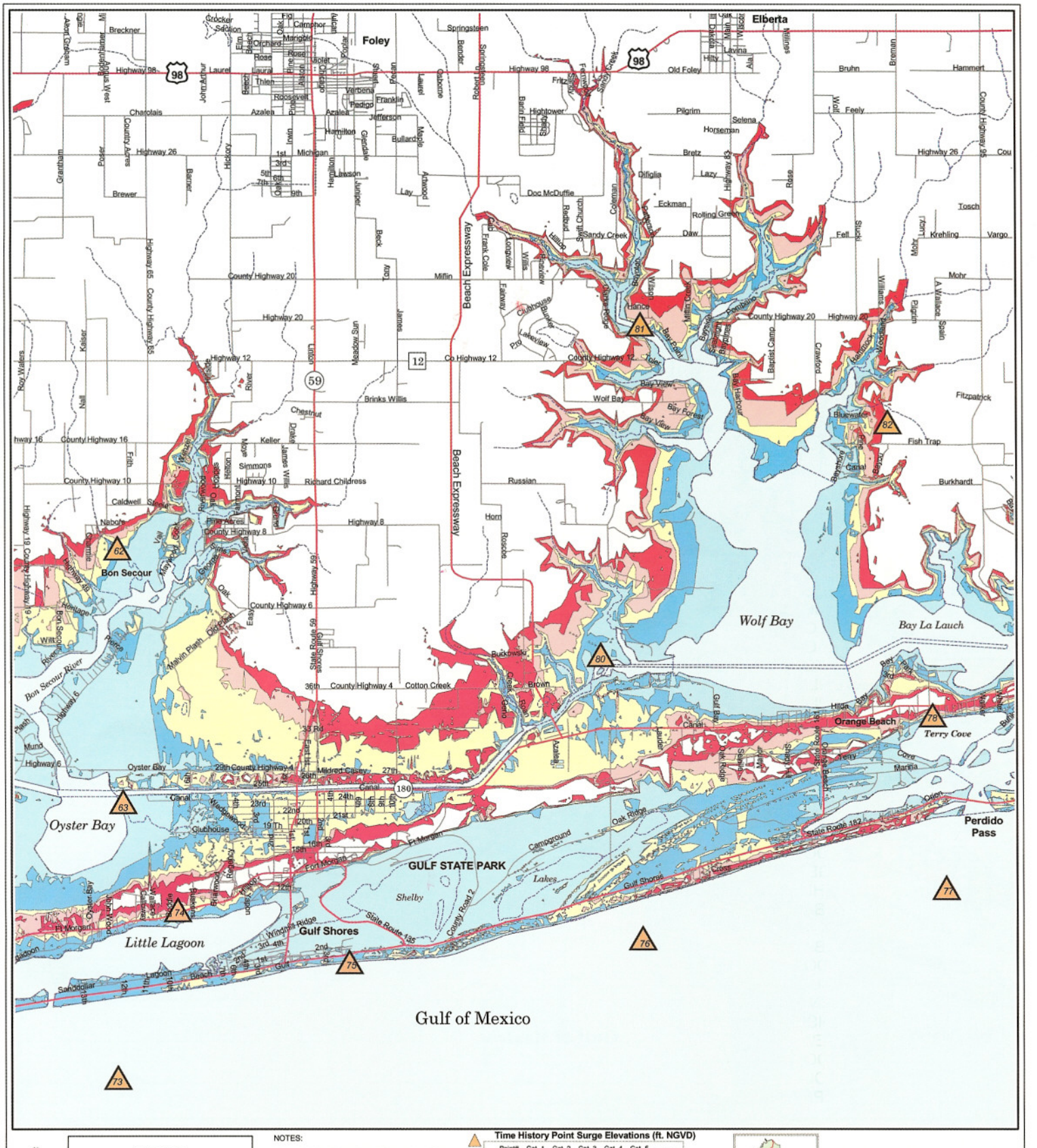
Time History Point Surge Elevations (ft. NGVD)

Point#	Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5
60	6.4	9.6	12.8	15.0	18.1
61	6.7	10.2	12.8	14.6	16.2
62	6.1	7.7	11.6	14.1	16.0
63	6.4	8.2	12.3	14.1	15.8
70	6.4	9.4	12.2	14.1	15.4
71	5.7	8.5	11.1	13.1	15.7
72	2.5	8.8	11.0	13.1	15.8
73	5.7	8.4	11.5	13.6	16.2
74	3.1	8.8	12.0	14.0	16.4
75	5.8	8.5	11.7	14.0	16.6

Time history points were selected by the County and show the still water elevations at designated points for the Category 1-5 Maximum storm surges.

BALDWIN COUNTY ALABAMA
Hurricane Surge Atlas

Plate - 8



LEGEND

- Highways
- Interstates
- Roads
- Railroads
- Streams
- Cat. 1 Surge
- Cat. 2 Surge
- Cat. 3 Surge
- Cat. 4 Surge
- Cat. 5 Surge

Scale: 1 Inch = 4,000 feet

NOTES:

1. Surge limits are based on still water storm tide elevations above National Geodetic Vertical Datum (NGVD) from a 1999 SLOSH model at mean high tide with no wave setup included.

2. Source of base mapping is U.S.G.S. 1:100,000 scale maps and Tiger data.

3. Hurricane surge limits were determined by overlaying SLOSH model water surface elevations on Baldwin County ground surface data using a grid based analysis.

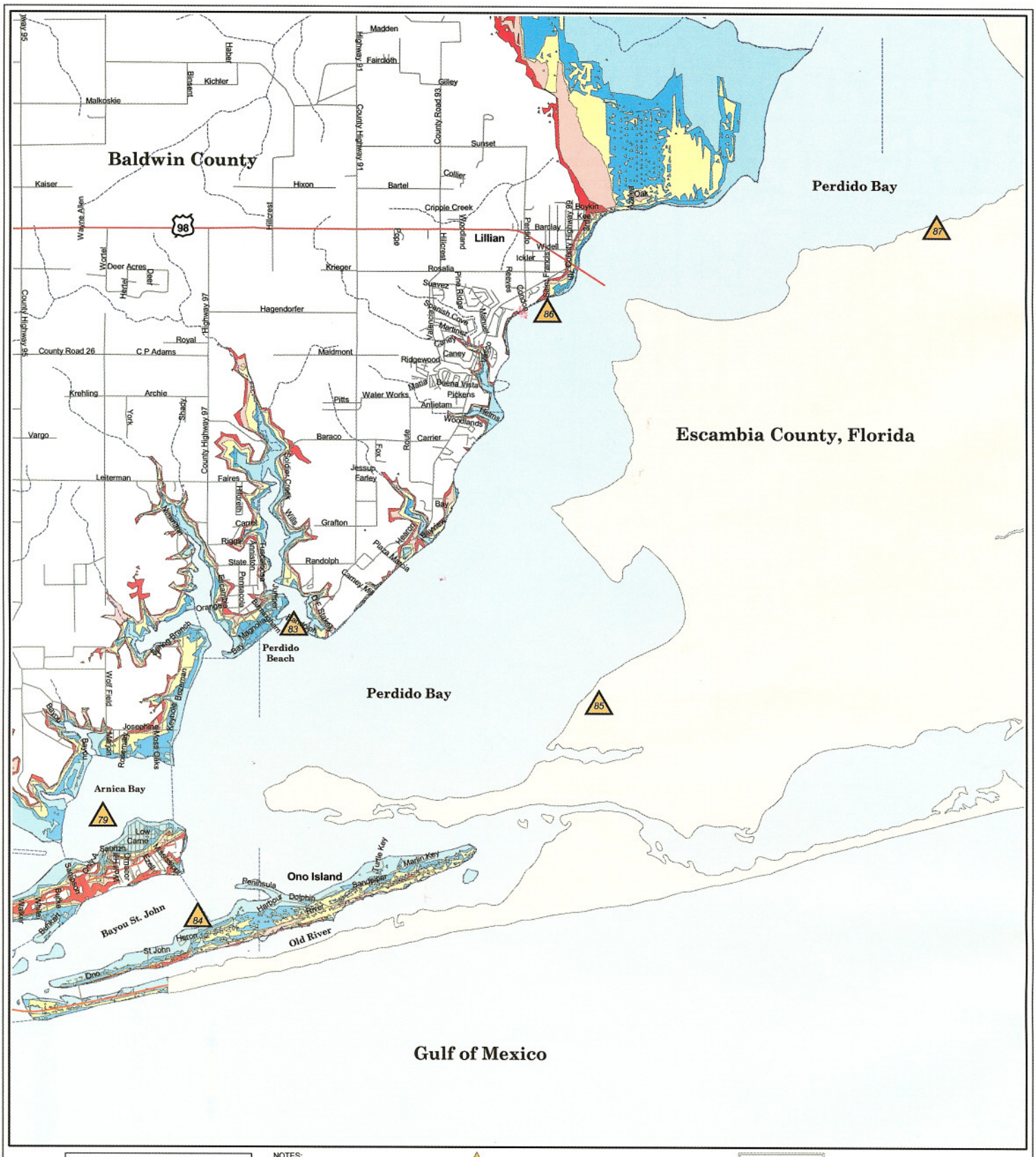
Time History Point Surge Elevations (ft. NGVD)

Point#	Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5
62	6.1	7.7	11.6	14.1	16.0
63	6.4	8.2	12.3	14.1	15.8
73	5.7	8.4	11.5	13.6	16.2
74	3.1	8.8	12.0	14.0	16.4
75	5.8	8.5	11.7	14.0	16.6
76	5.7	8.5	11.4	14.0	16.8
77	5.7	8.3	11.2	14.0	16.9
78	5.3	8.5	11.9	14.5	17.3
80	4.7	8.0	11.5	15.7	18.6
81	5.3	8.1	12.2	17.9	22.0
82	5.0	8.1	11.6	14.7	17.5

Time history points were selected by the County and show the still water elevations at designated points for the Category 1-5 Maximum storm surges.

BALDWIN COUNTY ALABAMA
Hurricane Surge Atlas

Plate - 9



LEGEND

- Highways
- Interstates
- Roads
- Railroads
- Streams
- Cat. 1 Surge
- Cat. 2 Surge
- Cat. 3 Surge
- Cat. 4 Surge
- Cat. 5 Surge

Scale: 1 Inch = 4,000 feet

NOTES:

1. Surge limits are based on still water storm tide elevations above National Geodetic Vertical Datum (NGVD) from a 1999 SLOSH model at mean high tide with no wave setup included.

2. Source of base mapping is U.S.G.S. 1:100,000 scale maps and Tiger data.

3. Hurricane surge limits were determined by overlaying SLOSH model water surface elevations on Baldwin County ground surface data using a grid based analysis.

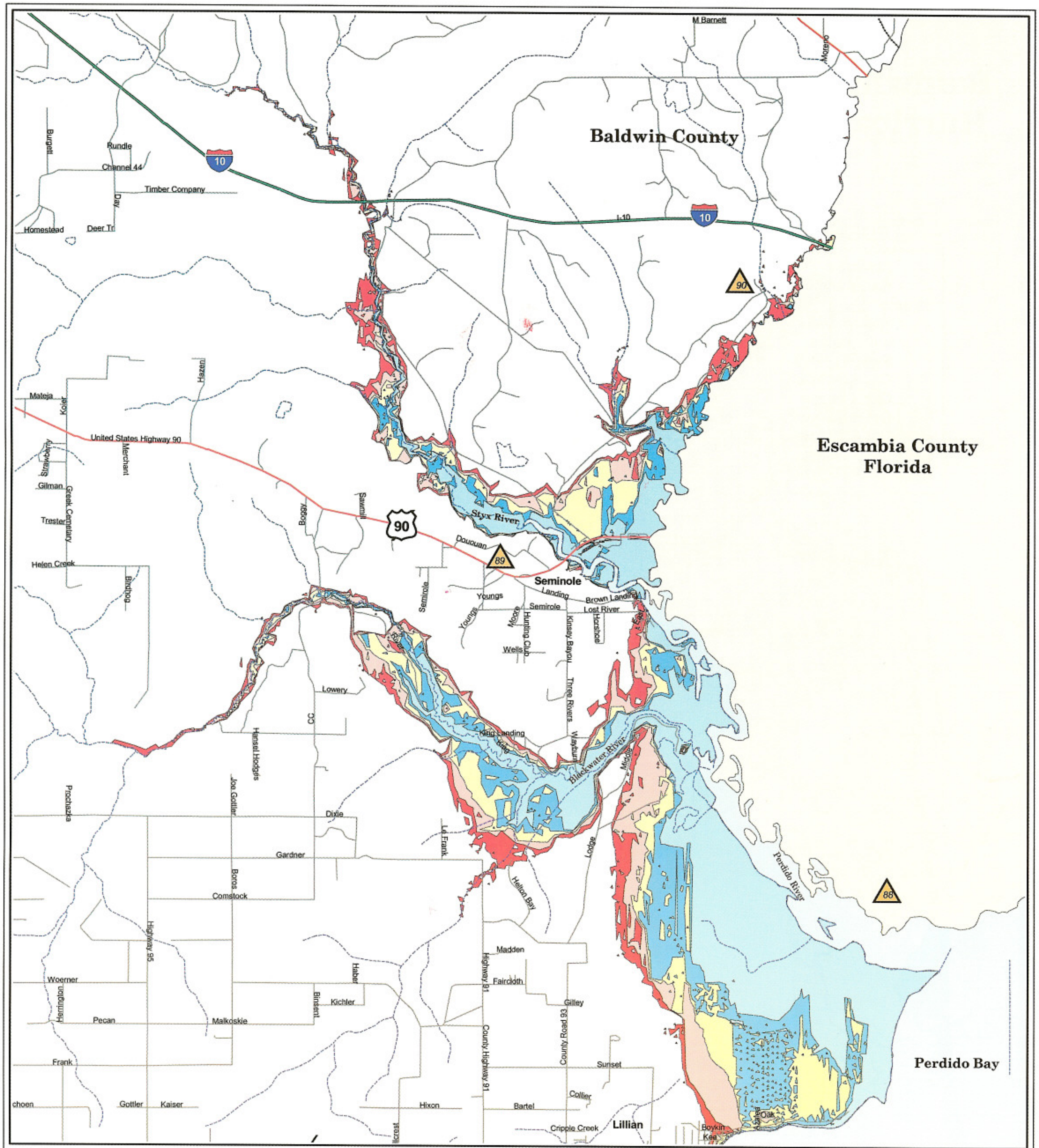
Time History Point Surge Elevations (ft. NGVD)

Point#	Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5
79	4.3	7.2	11.6	14.4	17.2
83	4.7	6.9	11.5	14.7	17.1
84	4.4	7.9	11.3	14.1	17.1
85	4.9	6.9	11.5	13.8	16.4
86	5.2	7.4	10.8	14.1	17.5
87	5.5	7.7	10.9	13.8	17.1

Time history points were selected by the County and show the still water elevations at designated points for the Category 1-5 Maximum storm surges.

BALDWIN COUNTY ALABAMA Hurricane Surge Atlas

Plate - 10


Baldwin County
Escambia County
Florida
Perdido Bay
Styx River
Blackwater River
Perdido River
Seminole
Lillian
I-10
10
90
United States Highway 90
Highway 95
Highway 91
County Highway 91
County Road 93
Rundle
Channel 44
Timber Company
Homestead
Deer Tr
Burgett
Day
Mateja
Koler
Hazen
Merchant
Strawberry
Gilman
Greek Cemetary
Trester
Helen Creek
Birdhog
Boggy
Sawmill
Douquan
Youngs
Semirole
Landing
Brown Landing
Lost River
Moore
Hunting Club
Kinsey Bayou
Horshoe
Wells
Three Rivers
Lowery
CC
Hansel Hodges
Joe Gottler
Prochazka
King Landing
Wayburn
Middle
Dixie
Le Frank
Gardner
Boros
Comstock
Lodge
Hellon Bay
Madden
Faircloth
Woerner
Herrington
Haber
Birnsent
Kichler
Gilley
Pecan
Malkoskie
Frank
Sunset
Collier
choen
Gottler
Kaiser
Hixon
Bartel
Cripple Creek
Boykin
Kee
Oak
M Barnett
Moreno

LEGEND

- Highways
- Interstates
- Roads
- Railroads
- Streams

- Cat. 1 Surge
- Cat. 2 Surge
- Cat. 3 Surge
- Cat. 4 Surge
- Cat. 5 Surge

Scale: 1 Inch = 4,000 feet

NOTES:

1. Surge limits are based on still water storm tide elevations above National Geodetic Vertical Datum (NGVD) from a 1999 SLOSH model at mean high tide with no wave setup included.

2. Source of base mapping is U.S.G.S. 1:100,000 scale maps and Tiger data.

3. Hurricane surge limits were determined by overlaying SLOSH model water surface elevations on Baldwin County ground surface data using a grid based analysis.

Time History Point Surge Elevations (ft. NGVD)

Point#	Cat. 1	Cat. 2	Cat. 3	Cat. 4	Cat. 5
88	5.5	7.8	11.1	14.2	17.5
89	5.6	8.1	11.1	13.6	15.8
90	5.5	7.7	9.0	10.6	12.0

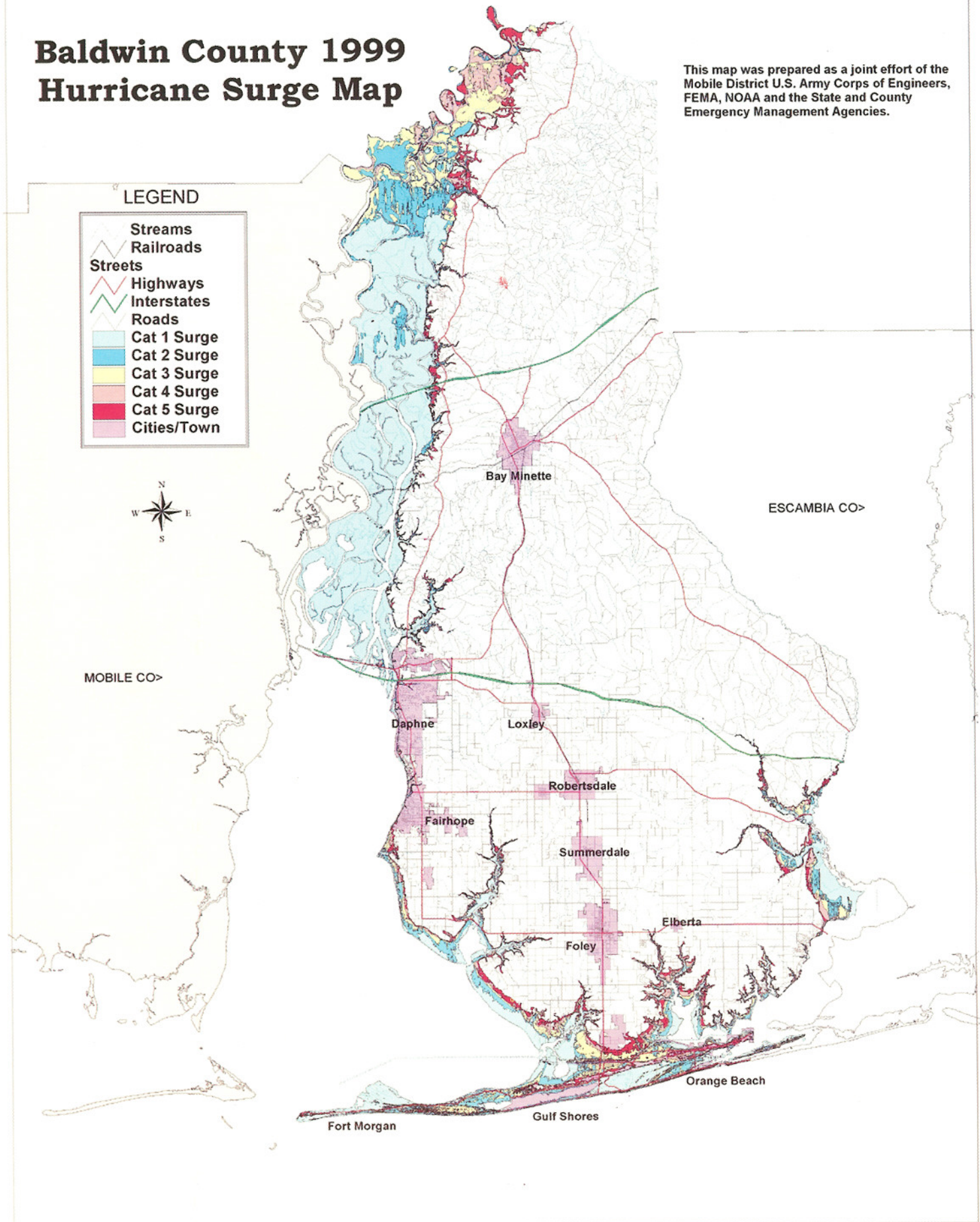
Time history points were selected by the County and show the still water elevations at designated points for the Category 1-5 Maximum storm surges.

BALDWIN COUNTY
ALABAMA
Hurricane Surge Atlas

Plate - 11

Baldwin County 1999 Hurricane Surge Map

This map was prepared as a joint effort of the Mobile District U.S. Army Corps of Engineers, FEMA, NOAA and the State and County Emergency Management Agencies.



Baldwin County Hurricane Evacuation Zones