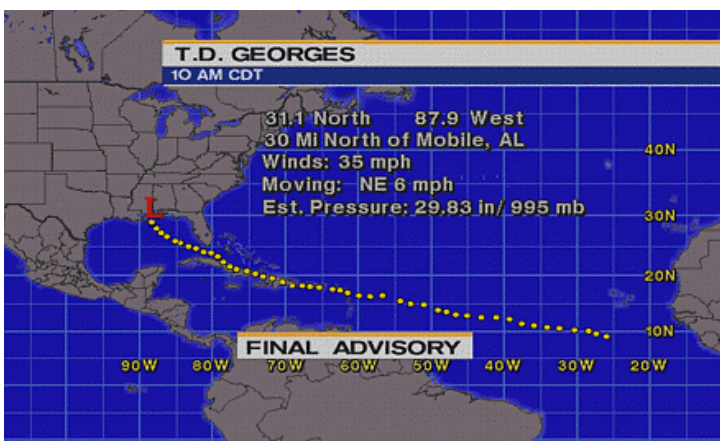


Hurricane Georges September 1998

On September 15th, a tropical depression formed in the far eastern Atlantic Ocean about 400 miles south-southwest of the Cape Verde Islands. The depression had actually evolved from a disturbance that had moved off the African coast several days prior. The depression moved west at 20 mph and was classified as tropical storm Georges the following morning. As the storm system continued westward, steady intensification continued. By late afternoon on September 17th, Georges was updated to a hurricane. Over the next two days, Georges



The classic long track of the “Cape Verde” hurricane, Georges September 1998.

continued to move on a course slightly north of due west. As the hurricane approached to within 400 miles of the Leeward Islands, sudden and rapid intensification ensued. On the afternoon of September 19th, with the storm only a couple of hundred miles east of the Caribbean, Georges was packing 150-mph winds. This made it a dangerous category 4 hurricane on the Saffir-Simpson scale. Inexplicably, the hurricane weakened to a category 2 type storm as it moved westward through the Leeward, U. S., and British Virgin Islands on September 20th and 21st. On the night of the 21st, the hurricane passed directly over the entire island of Puerto Rico with winds in excess of 100 mph. Torrential rainfall, locally up to 20 inches, swamped the island. To date, damage estimates are already over two billion dollars in Puerto Rico alone. During the next three days hurricane Georges tracked further westward across the Dominican Republic, Haiti, and



AP Photo/Daniel Morel

La Croix Catholic church which was destroyed by flooding from Hurricane Georges in Fonds Verrettes, about 50 miles (85 kms) west of the capital of Port-au-Prince, Haiti Wednesday, Sept. 30,1998. The village was almost totally wipeout by the floodwaters, and at least 86 people have died.

Cuba. Weakened only slightly by the mountainous terrain, devastating mudslides killed hundreds of people, especially in the Dominican Republic. Preliminary reports indicate that some 300 have perished and over 500 are missing.

On the afternoon of September 24th, Georges emerged off the north coast of Cuba. Moving into the warm waters of the Florida Straits, the hurricane began to re-intensify. Pursuing a west-northwest track, the eye of the storm passed directly over Key West, Florida on the afternoon of the 25th. Winds gusted up to 115 mph throughout the lower Florida Keys. September 26th found hurricane Georges over the open waters of the southeastern Gulf of Mexico. Gradually, the storm began to turn more to the northwest. By this time, Georges was a large storm with gale force winds extending nearly 200 miles to the north and east of the center. At 10 AM CDT, a hurricane warning was issued for the northern Gulf Coast extending from Morgan City, Louisiana eastward to St. Marks,



AP Photo/Dave Martin

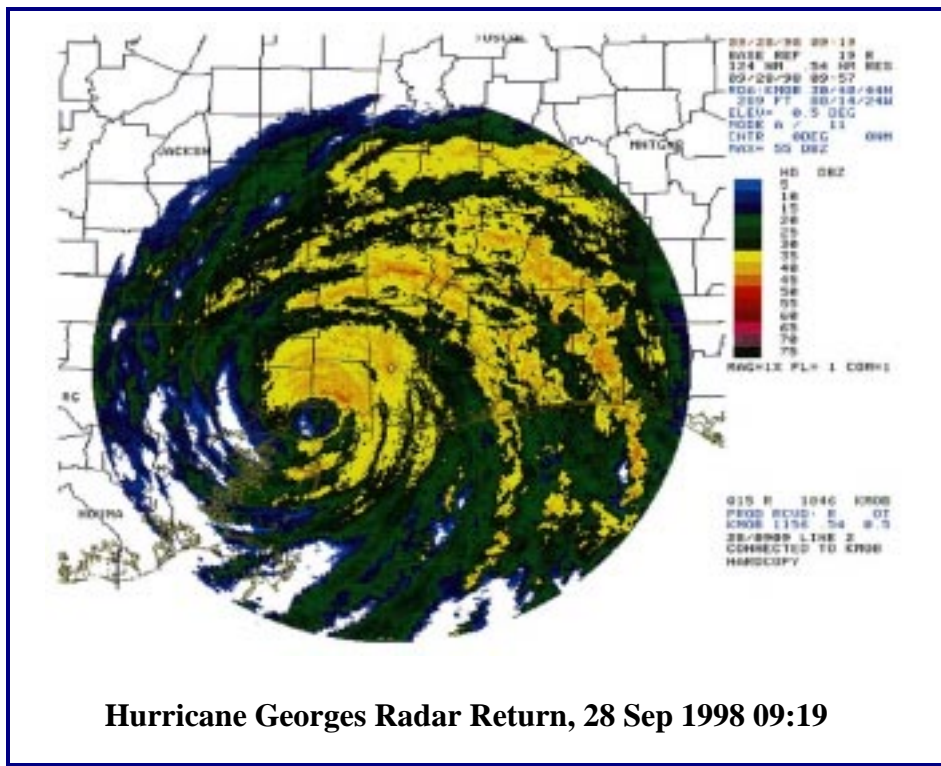
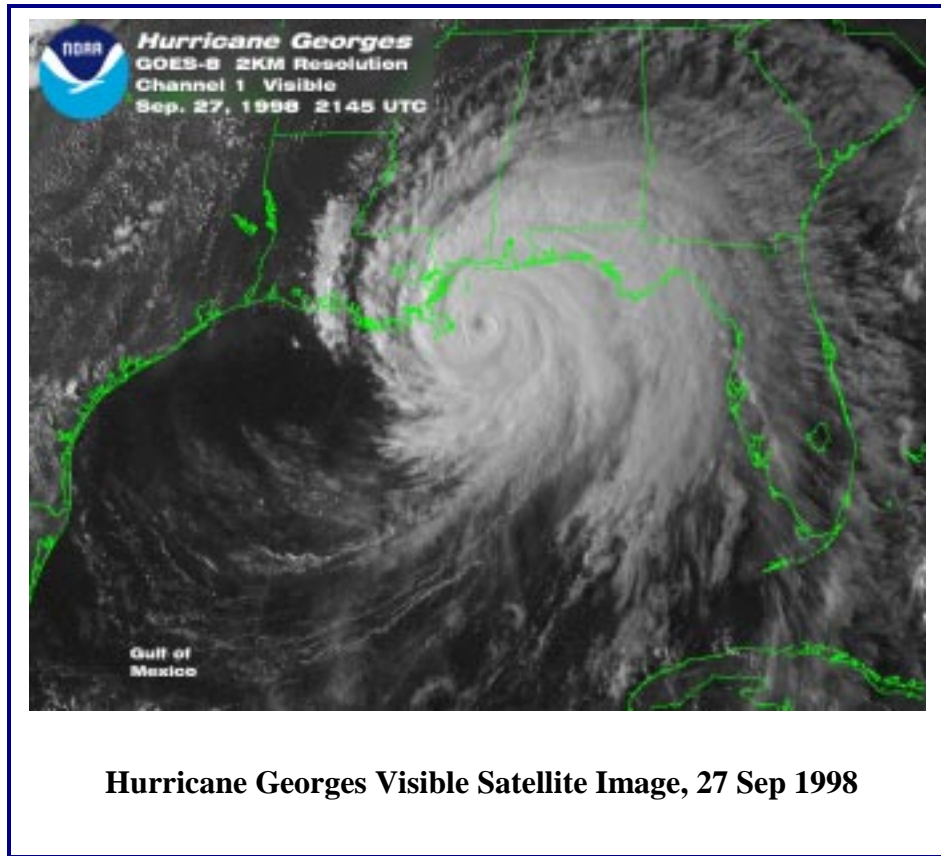
Debris from destroyed houseboats is scattered across the road near Houseboat Row in Key West, Fla., on Friday, Sept. 25, 1998 as 90 mph winds batter the island city as the eye of Hurricane Georges passes nearby. The storm destroyed several dozen houseboats and caused considerable damage from wind and flooding.



Photo/Sara Altmeyer

The state pier in Gulf Shores, Alabama on Sunday morning at 9:30 am with a huge wave crashing over the end of it. Hurricane Georges did not make landfall for many hours after this.

Florida. Georges intensified only slightly as it approached the middle Gulf Coast on the 27th. By afternoon, the hurricane was centered just east of the mouth of the Mississippi River with maximum sustained winds of 110 mph. However, its movement had slowed to a crawl, drifting to the north at only 7 to 8 mph. Gale force winds were already buffeting the coastal areas.



Hurricane Georges made landfall at 6 AM CDT Monday, September 28th in the Ocean Springs/Biloxi, Mississippi area. The large eye was partially over Ocean Springs as clear skies and stars were observed. Maximum sustained winds at landfall were 105 mph in a small area east of the center. This officially made Georges a strong category 2 hurricane. The lowest pressure measured at landfall was 28.37 inches. Keesler Air Force Base reported wind gusts of 90 to 100 mph. Over on the Alabama coast, Dauphin Island measured 80 mph winds. Other peak wind gusts included Mobile, AL with 63 mph;



AP Photo/The Mobile Register, John David Mercer

The shell of a swimming pool rests behind the burned remains of Dolphin Condominiums in Orange Beach, Ala. Tuesday Sept. 29, 1998. The complex burned to the ground late Sunday evening as Hurricane Georges made its approach along the Gulf Coast.

depression George was centered some 30 miles north-northeast of Mobile, AL. The remnants of Georges then drifted slowly eastward across extreme south Alabama and the Florida panhandle.

Dauphin Island measured 80 mph winds. Other peak wind gusts included Mobile, AL with 63 mph; Pensacola, FL with 62 mph; and Destin, FL with 57 mph. Georges stalled on the coast shortly after making landfall, and by Monday evening had drifted only slightly inland. The storm weakened rapidly after moving ashore and was downgraded to a tropical storm at 4 PM Monday. As the weakening system moved slowly east-northeast, the final advisory on the storm was issued at 10 AM Tuesday, September 29th. At this time tropical



AP Photo/Mobile Register, G.M.

Sailboats and debris clutter the lawn of a home on Dog River on the Mobile Bay tributary by the winds and storm surge of Hurricane Georges south of Mobile, Ala. Wednesday, Sept. 30, 1998.

Because of the slow movement of the storm, coastal tidal surge and torrential rainfall was prolonged. Preliminary storm surge estimates included Pascagoula, MS with 9.6 feet; Mobile, AL with 8.5 feet; and Gulf Shores, AL with 9 feet. Locally, up to 20 to 30 inches of rain inundated southwest Alabama and the Florida panhandle. Near Milton, FL an unofficial report measured 38.46 inches. Bay Minette, AL measured 29.66 inches; Andalusia, AL 26.90 inches; Pensacola, FL 26.83 inches; and Eglin Air Force Base 24.24 inches. Every coastal river and stream from Mississippi to the Florida panhandle experienced serious, life-threatening flooding. All-time record flood stages were measured at Flomaton, AL on the Escambia River with 20.4 feet; at Milligan, FL on the Yellow River with 20.3 feet; at Crestview, FL on the Shoal River with 23 feet; and at Baker, FL on the Blackwater River with 28.9 feet. Further east, heavy rains of 10 to 20 inches fell across south/central Alabama on the 28th and 29th. Lesser amounts of 6 to 8 inches reached as far east as southwest Georgia and the Florida Big Bend area.



Chris Hatch / NBC 15

Record floods occurred on many streams and rivers in the Florida Panhandle.



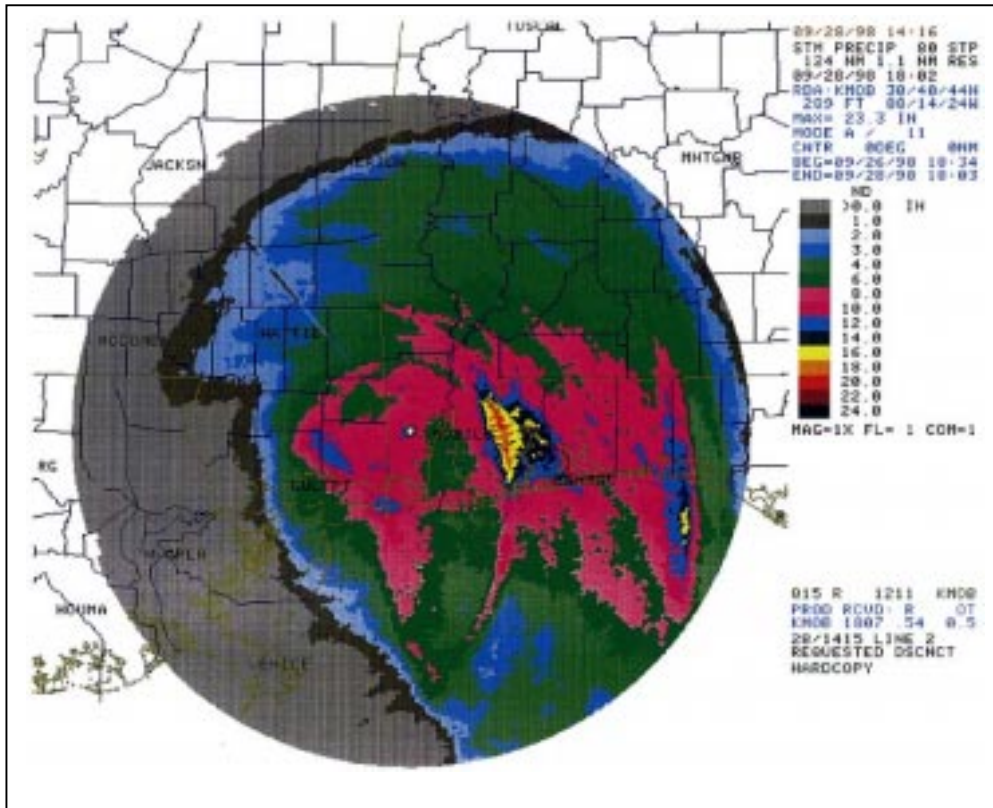
AP Photo/Dave Martin

Cars sit flooded in a parking garage along Water Street in Mobile on Monday, Sept. 28.



Water Street in downtown Mobile was under water as Hurricane Georges made landfall along the Mississippi Coast, causing extensive flooding in four states.

All told, in the United States, there were four storm related fatalities as a result of Georges. Georges was a classic long-track “Cape Verde” hurricane which inflicted a long trail of destruction, death, and human suffering.



Hurricane Georges Precipitation 26-28 September 1998

Hurricane Georges 15-29 September 1998

ADV	LAT	Lon	TIME	WIND (mph)	PR (mb)	STATUS
1	9.0	25.9	09/15/15Z	35	1006	TROPICAL DEPRESSION
2	9.5	27.4	09/15/21Z	35	1006	TROPICAL DEPRESSION
3	10.1	28.4	09/16/03Z	35	1006	TROPICAL DEPRESSION
4	10.2	30.3	09/16/09Z	35	1006	TROPICAL DEPRESSION
5	10.5	32.4	09/16/15Z	40	1005	TROPICAL STORM
6	10.7	34.0	09/16/21Z	46	1004	TROPICAL STORM
7	11.0	35.8	09/17/03Z	52	1000	TROPICAL STORM
8	11.4	37.5	09/17/09Z	52	1000	TROPICAL STORM
9	12.2	39.2	09/17/15Z	58	999	TROPICAL STORM
10	12.5	41.1	09/17/21Z	75	987	HURRICANE-1
11	12.6	43.1	09/18/03Z	81	984	HURRICANE-1
12	12.9	45.2	09/18/09Z	92	978	HURRICANE-1
13	13.1	46.6	09/18/15Z	98	978	HURRICANE-2
14	13.7	48.5	09/18/21Z	104	970	HURRICANE-2
14A	13.9	49.2	09/19/00Z	104	970	HURRICANE-2
15	14.0	50.0	09/19/03Z	104	970	HURRICANE-2

15A	14.1	50.7	09/19/06Z	104	970	HURRICANE-2
16	14.4	51.3	09/19/09Z	104	970	HURRICANE-2
16A	14.6	52.0	09/19/12Z	115	960	HURRICANE-3
17	15.0	52.8	09/19/15Z	127	948	HURRICANE-3
17A	15.4	53.5	09/19/18Z	127	949	HURRICANE-3
18	15.7	54.4	09/19/21Z	132	944	HURRICANE-4
18A	15.8	55.0	09/20/00Z	150	938	HURRICANE-4
19	15.8	55.8	09/20/03Z	150	939	HURRICANE-4
19A	15.9	56.5	09/20/06Z	150	939	HURRICANE-4
20	16.1	57.1	09/20/09Z	150	939	HURRICANE-4
20A	16.1	57.8	09/20/12Z	150	939	HURRICANE-4
21	16.3	58.5	09/20/15Z	150	939	HURRICANE-4
21A	16.4	59.2	09/20/18Z	132	949	HURRICANE-4
22	16.5	59.9	09/20/21Z	132	956	HURRICANE-4
22A	16.7	60.6	09/21/00Z	127	963	HURRICANE-3
23	16.9	61.4	09/21/03Z	115	966	HURRICANE-3
23A	17.0	62.1	09/21/06Z	115	966	HURRICANE-3
24	17.4	63.1	09/21/09Z	109	967	HURRICANE-2
24A	17.5	63.7	09/21/12Z	109	966	HURRICANE-2
25	17.7	64.3	09/21/15Z	109	966	HURRICANE-2
25A	17.9	65.2	09/21/19Z	109	972	HURRICANE-2
26	18.0	65.6	09/21/21Z	109	967	HURRICANE-2
26A	18.1	66.0	09/21/23Z	115	967	HURRICANE-3
26B	18.2	66.4	09/22/01Z	115	975	HURRICANE-3
27	18.1	66.9	09/22/03Z	109	978	HURRICANE-2
27A	18.1	67.5	09/22/05Z	109	978	HURRICANE-2
27B	18.0	67.6	09/22/07Z	109	974	HURRICANE-2
28	18.1	68.0	09/22/09Z	109	970	HURRICANE-2
28A	18.2	68.3	09/22/11Z	109	970	HURRICANE-2
29	18.3	69.1	09/22/15Z	121	962	HURRICANE-3
29A	18.6	69.7	09/22/18Z	121	965	HURRICANE-3
30	18.8	70.3	09/22/21Z	109	970	HURRICANE-2
30A	18.9	71.3	09/23/00Z	92	985	HURRICANE-1
31	19.1	71.9	09/23/03Z	81	986	HURRICANE-1
31A	19.2	72.5	09/23/06Z	75	986	HURRICANE-1
32	19.5	73.3	09/23/09Z	75	986	HURRICANE-1
32A	19.8	73.8	09/23/12Z	75	987	HURRICANE-1
33	19.7	74.2	09/23/15Z	75	996	HURRICANE-1
33A	19.5	74.7	09/23/18Z	75	995	HURRICANE-1
34	19.8	75.1	09/23/21Z	75	995	HURRICANE-1
34A	20.3	75.3	09/24/00Z	75	992	HURRICANE-1
35	20.6	75.7	09/24/03Z	75	992	HURRICANE-1
35A	20.7	76.0	09/24/06Z	75	992	HURRICANE-1
36	21.1	76.7	09/24/09Z	75	992	HURRICANE-1
36A	21.1	77.0	09/24/12Z	75	989	HURRICANE-1
37	21.5	77.5	09/24/15Z	81	989	HURRICANE-1
37A	22.1	77.9	09/24/18Z	81	989	HURRICANE-1
38	23.8	80.7	09/25/09Z	98	985	HURRICANE-2
38A	22.9	79.0	09/25/00Z	86	987	HURRICANE-1
39	23.2	79.6	09/25/03Z	92	985	HURRICANE-1

39A	23.4	80.0	09/25/05Z	92	985	HURRICANE-1
39B	23.5	80.3	09/25/07Z	92	985	HURRICANE-1
40	23.8	80.7	09/25/09Z	98	985	HURRICANE-2
40A	24.0	81.1	09/25/11Z	98	984	HURRICANE-2
40B	24.2	81.5	09/25/13Z	98	982	HURRICANE-2
41	24.3	81.7	09/25/15Z	104	981	HURRICANE-2
41A	24.7	82.1	09/25/17Z	104	981	HURRICANE-2
42B	24.7	82.5	09/25/19Z	104	979	HURRICANE-2
42	24.9	82.9	09/25/21Z	104	975	HURRICANE-2
42A	24.7	83.1	09/26/00Z	104	974	HURRICANE-2
43	24.9	83.5	09/26/03Z	104	974	HURRICANE-2
44	25.5	84.5	09/26/09Z	104	974	HURRICANE-2
45	26.1	85.6	09/26/15Z	104	974	HURRICANE-2
45A	26.3	85.9	09/26/18Z	104	974	HURRICANE-2
46	26.6	86.2	09/26/21Z	109	968	HURRICANE-2
46A	27.0	86.5	09/27/00Z	109	970	HURRICANE-2
47	27.3	86.8	09/27/03Z	109	968	HURRICANE-2
47A	27.6	87.2	09/27/06Z	109	970	HURRICANE-2
48	28.1	87.6	09/27/09Z	109	970	HURRICANE-2
48A	28.2	87.8	09/27/12Z	109	962	HURRICANE-2
49	28.4	88.0	09/27/15Z	109	963	HURRICANE-2
49A	28.6	88.2	09/27/17Z	109	963	HURRICANE-2
49B	28.9	88.3	09/27/19Z	109	962	HURRICANE-2
50	29.0	88.5	09/27/21Z	109	961	HURRICANE-2
50A	29.2	88.4	09/27/23Z	109	962	HURRICANE-2
50B	29.3	88.5	09/28/01Z	109	961	HURRICANE-2
51	29.5	88.6	09/28/03Z	104	961	HURRICANE-2
51A	29.6	88.6	09/28/05Z	104	964	HURRICANE-2
51B	29.9	88.7	09/28/07Z	104	964	HURRICANE-2
52	30.2	88.8	09/28/09Z	104	962	HURRICANE-2
52A	30.4	88.9	09/28/11Z	104	961	HURRICANE-2
52B	30.4	89.0	09/28/13Z	98	965	HURRICANE-2
53	30.5	88.9	09/28/18Z	75	972	HURRICANE-1
53A	30.5	88.9	09/28/18Z	75	972	HURRICANE-1
54	30.8	88.9	09/28/21Z	69	975	TROPICAL STORM
54A	30.7	89.0	09/29/00Z	52	977	TROPICAL STORM
55	30.5	88.9	09/29/03Z	46	985	TROPICAL STORM
55A	30.6	88.4	09/29/06Z	46	992	TROPICAL STORM
56	30.8	88.1	09/29/09Z	40	993	TROPICAL STORM
56A	31.0	88.0	09/29/12Z	40	993	TROPICAL STORM
57	31.1	87.9	09/29/15Z	35	995	TROPICAL DEPRESSION

Rainfall Totals from Hurricane Georges	
Location	Rainfall (inches)
<i>Munson (NE of Milton)</i>	38.46
<i>Bay Minette</i>	29.66
<i>Andalusia</i>	26.90
<i>Gulf Breeze</i>	26.87
<i>Pensacola</i>	26.83
<i>Eglin AFB</i>	24.24
<i>Crestview</i>	19.98
<i>Brett, Florida</i>	19.97
<i>Spanish Fort</i>	19.86
<i>Niceville</i>	19.53
<i>Georgiana</i>	19.15
<i>Brewton</i>	18.44
<i>Whiting Field (Milton)</i>	18.41
<i>Daphne</i>	18.24
<i>Jay</i>	18.19
<i>Greenville</i>	18.15
<i>Semmes</i>	17.84
<i>Hurlburt Field</i>	17.08
<i>Pascagoula</i>	16.68
<i>Fairhope</i>	15.82
<i>Pensacola Airport</i>	15.78
<i>Ocean Springs</i>	15.68
<i>Whatley</i>	15.15
<i>Atmore</i>	15.15
<i>Mobile Regional Airport</i>	15.02
<i>Vancleave</i>	14.81
<i>Alabama Port</i>	13.66
<i>Wiggins</i>	13.25
<i>Mobile Downtown</i>	13.13
<i>Pensacola NAS</i>	12.84
<i>Jackson, AL</i>	12.76
<i>Leakesville</i>	11.44
<i>Camden</i>	10.77
<i>Thomasville</i>	10.20
<i>Alberta</i>	9.90
<i>Lyman</i>	9.85
<i>Keesler AFB</i>	9.18
<i>Pass Christian Harbor</i>	8.79
<i>Evergreen</i>	7.67
<i>Destin</i>	6.21
<i>Waveland</i>	4.42
<i>Bogalusa</i>	2.98

Source: National Weather Service Mobile/Slidell

Wind Data from Hurricane Georges		
<i>Location</i>	<i>Wind(mph)</i>	
	<i>Sustained</i>	<i>Peak Gust</i>
<i>Mobile Regional Airport</i>	<i>51</i>	<i>83</i>
<i>Mobile Brookley Field</i>	<i>54</i>	<i>62</i>
<i>Pensacola Regional Airport</i>	<i>51</i>	<i>67</i>
<i>Crestview</i>	<i>32</i>	<i>49</i>
<i>Destin</i>	<i>38</i>	<i>56</i>
<i>Evergreen</i>	<i>36</i>	<i>45</i>
<i>Hurlburt Field</i>	<i>51</i>	<i>79</i>
<i>Eglin AFB</i>	<i>48</i>	<i>91</i>
<i>Pensacola NAS</i>	<i>46</i>	<i>70</i>
<i>Whiting Field (Milton)</i>	<i>44</i>	<i>58</i>
<i>Fairhope</i>		<i>64</i>
<i>Grand Bay</i>		<i>60</i>
<i>Semmes</i>		<i>49</i>
<i>Brewton</i>		<i>31</i>
<i>New Orleans International Airport</i>	<i>40</i>	<i>53</i>
<i>New Orleans Lakefront Airport</i>	<i>48</i>	<i>72</i>
<i>Pascagoula Trent Lott Airport</i>	<i>41</i>	<i>54</i>
<i>Gulfport Harbor</i>	<i>61</i>	<i>79</i>
<i>Gulfport Downtown – MS Power & Light</i>		<i>117</i>
Source: National Weather Service Mobile/Slidell		

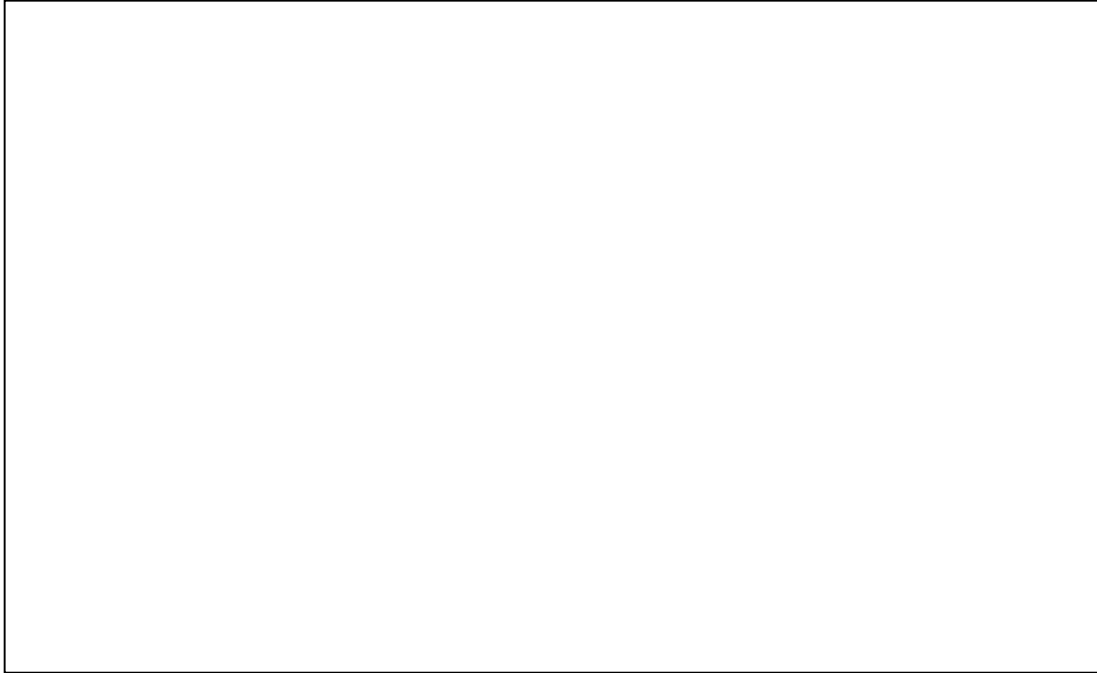
**Representative Storm Surge Elevations
Hurricane Georges**

<i>Location</i>	<i>Surge Elevation, (Ft-NGVD)</i>	<i>Wave Height Run-up Elevation, (Ft-NGVD)</i>
Mississippi		
<i>Pearlington</i>	5.3	
<i>Waveland</i>	5.7	
<i>Bay St. Louis</i>	5.8	
<i>Pass Christian</i>	6.4	
<i>Gulfport</i>	7.6	
<i>Biloxi – Pt Cadet</i>	8.2	
<i>Biloxi – Back Bay</i>	8.8	
<i>Pascagoula – Hwy 90</i>	8.6	
<i>Pascagoula – I-10</i>	9.0	
<i>Pascagoula – Bayou Chico</i>	9.6	
Alabama		
<i>Bayou La Batre</i>	8.8	
<i>Dauphin Island, Gulf</i>	---	
<i>Dauphin Island, Bay</i>	5.3	
<i>Mobile Bay - Belle Fontaine</i>	8.3	
<i>Downtown Mobile</i>	8.5	
<i>Mobile Bay - Causeway</i>	8.0	
<i>Weeks Bay</i>	6.5	
<i>Fort Morgan – Gulf</i>	8.5	
<i>Fort Morgan – Bay</i>	5.8	
<i>Gulf Shores</i>	9.0	
<i>Ono Island</i>	5.4	
Florida		
<i>Pensacola</i>	5.4	
<i>Pensacola Beach</i>	7.7	
<i>Navarre – Santa Rosa Sound</i>	5.0	
<i>Choctawhatchee Bay</i>	5.2	
<i>Destin Harbor</i>	5.2	
<i>Grayton Beach</i>	---	10.00
<i>Panama City Beach</i>	5.2	
<i>Panama City Harbor</i>	3.5	
<i>Mexico Beach</i>	---	6.8
<i>Port St. Joe – Gulf Side</i>	---	6.7
<i>Port St. Joe – North Side</i>	2.3	
<i>Apalachicola Bay</i>	4.5	
<i>Carrabelle</i>	4.6	

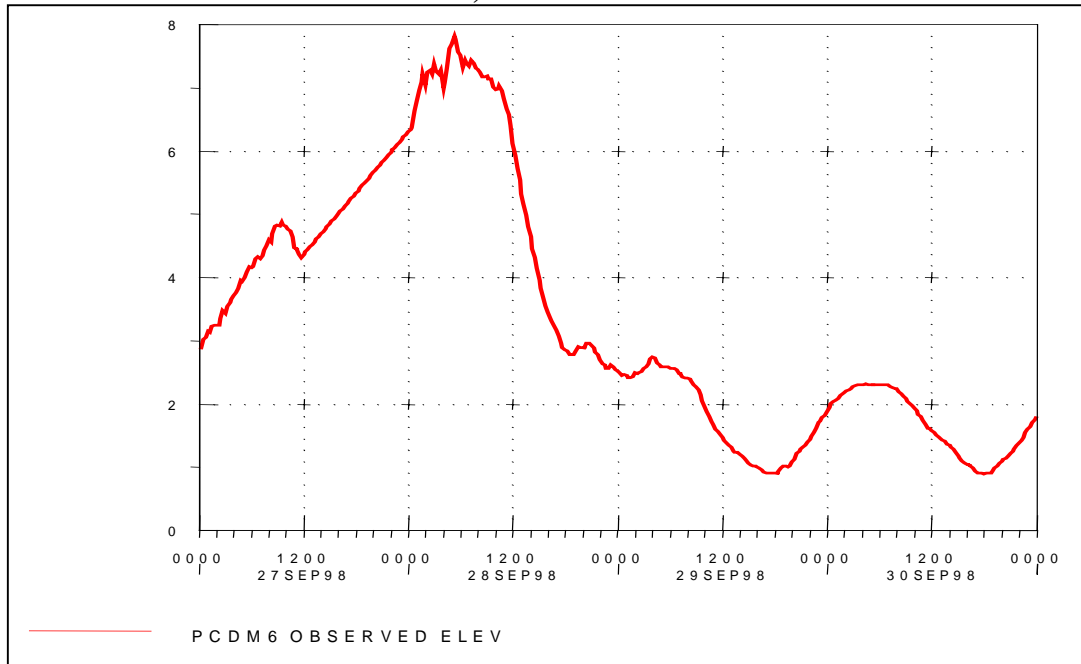
Source: U. S. Army Corps of Engineers, Mobile District

Note: The following real-time data have undergone gross error checking only. Please use with discretion.

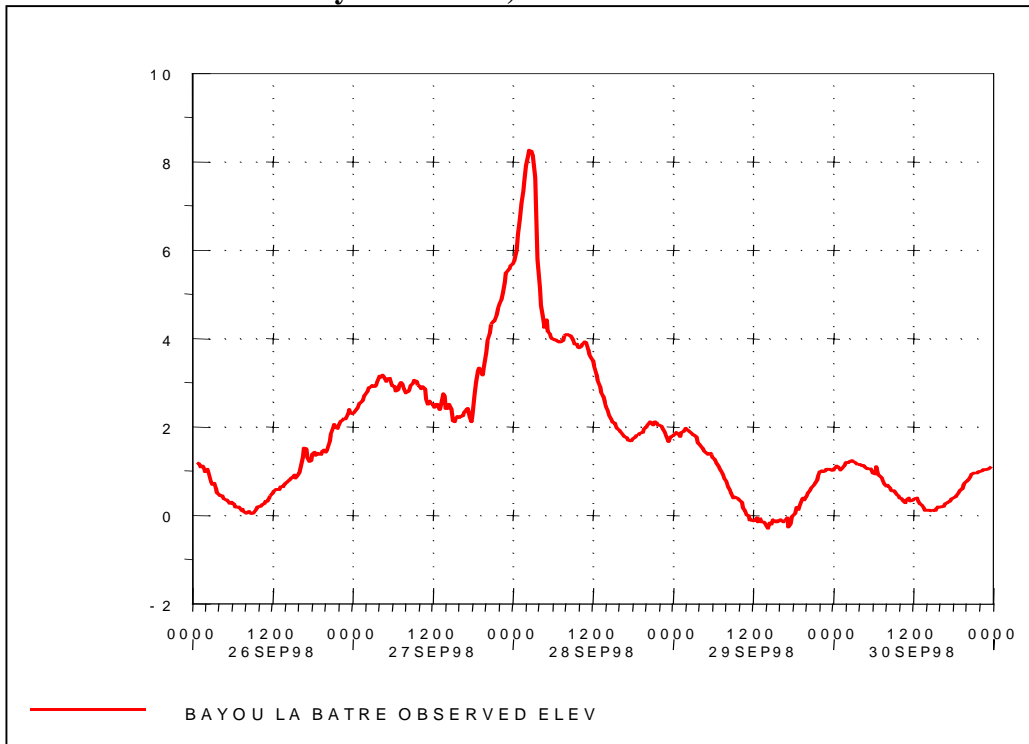
Gulfport, MS Tide Levels



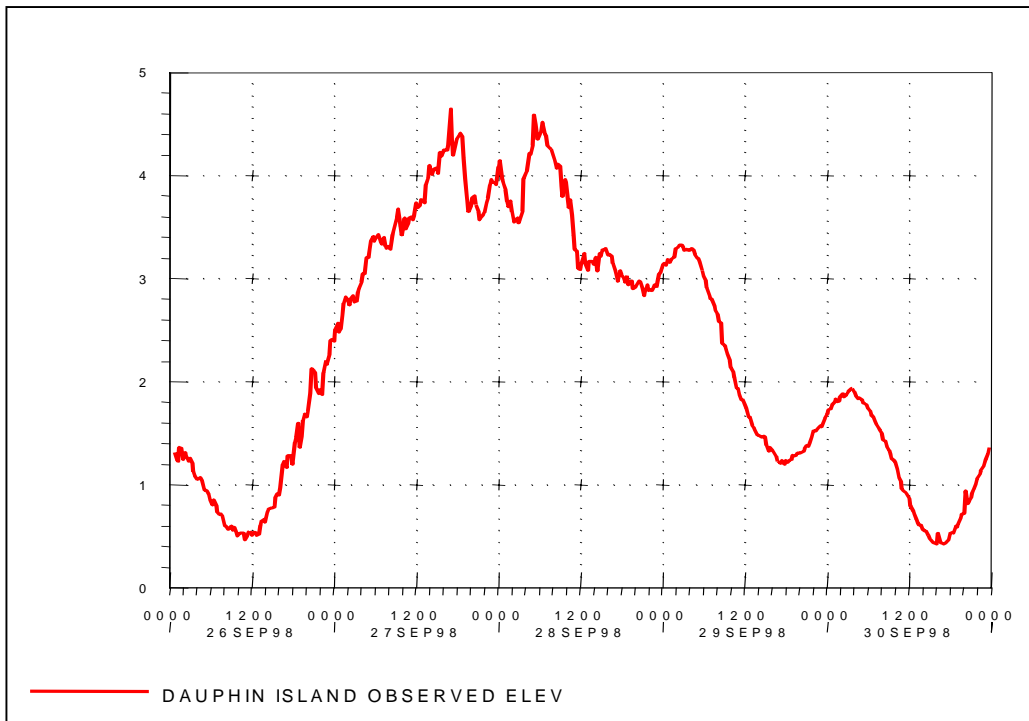
Biloxi-Pt. Cadet, MS Tide Levels



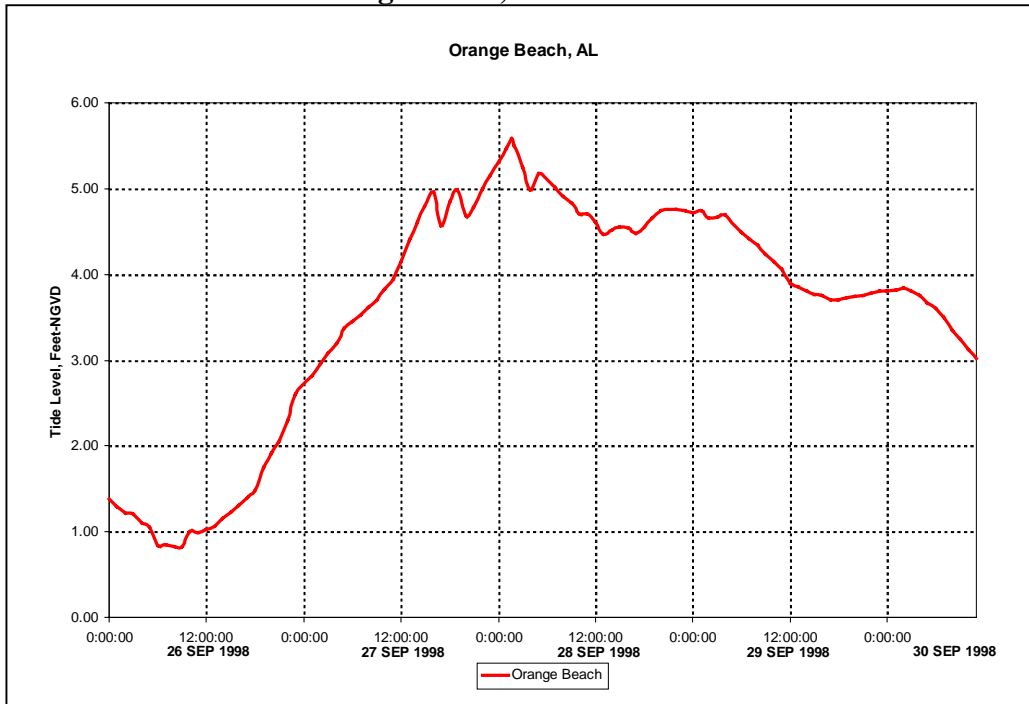
Bayou LaBatre, AL Tide Levels



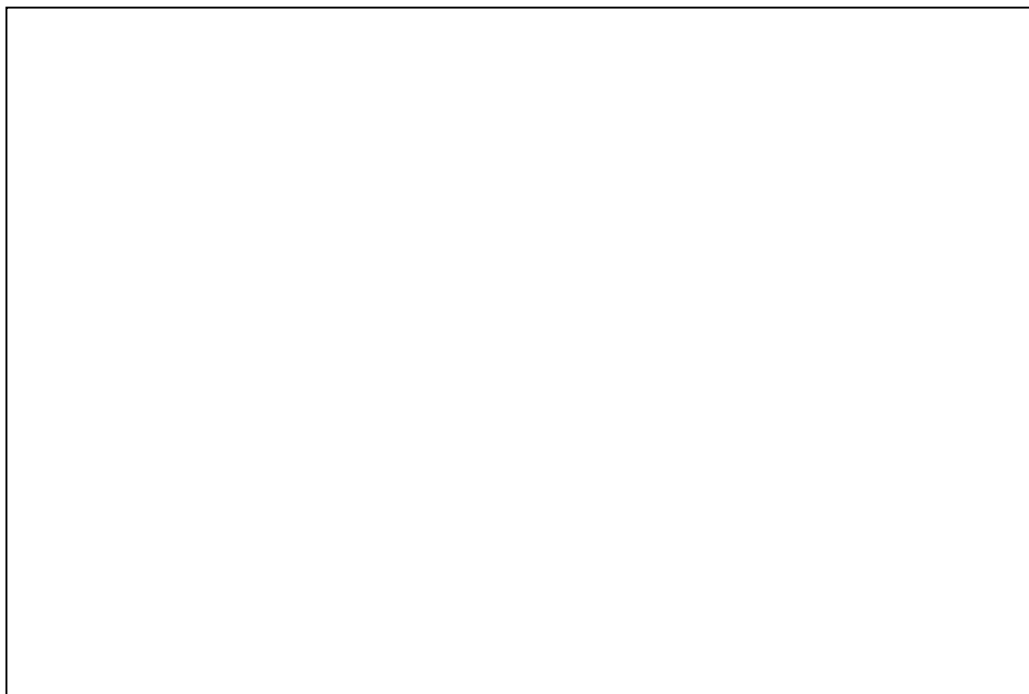
Dauphin Island, AL Tide Levels



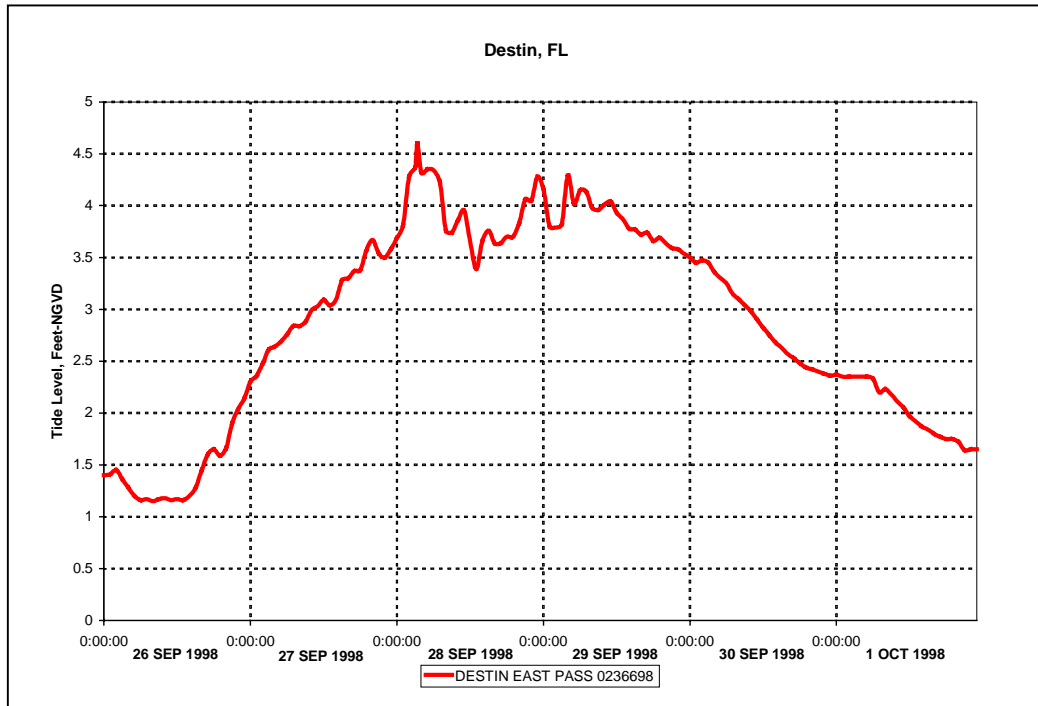
Orange Beach, AL Tide Levels



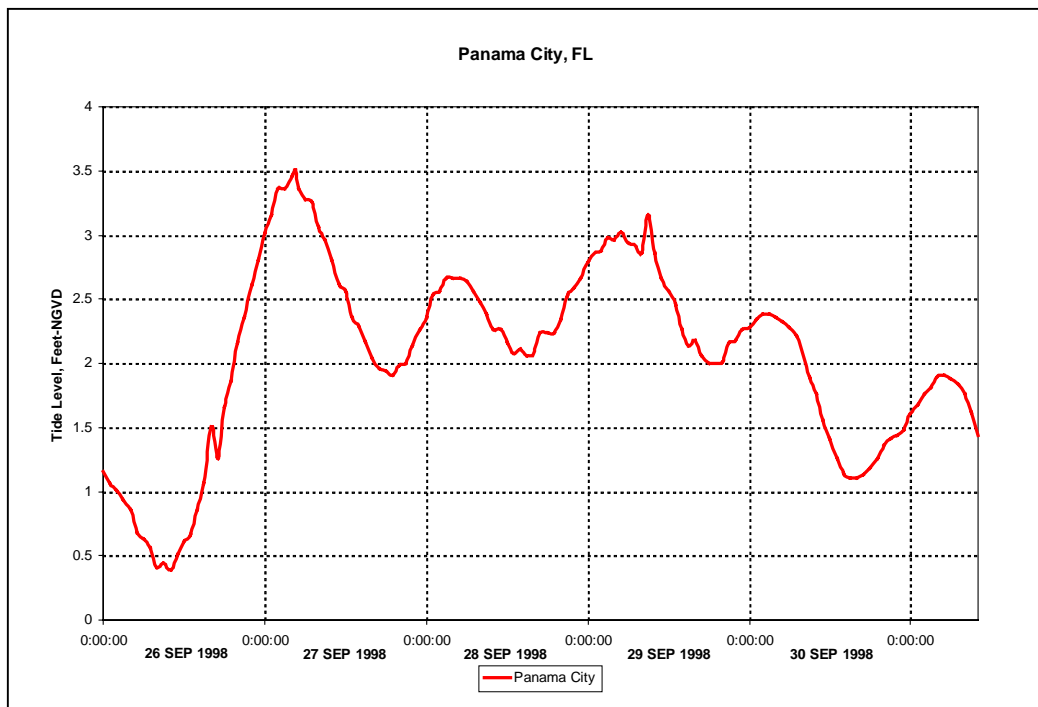
Pensacola Gulf Beach, FL Tide Levels



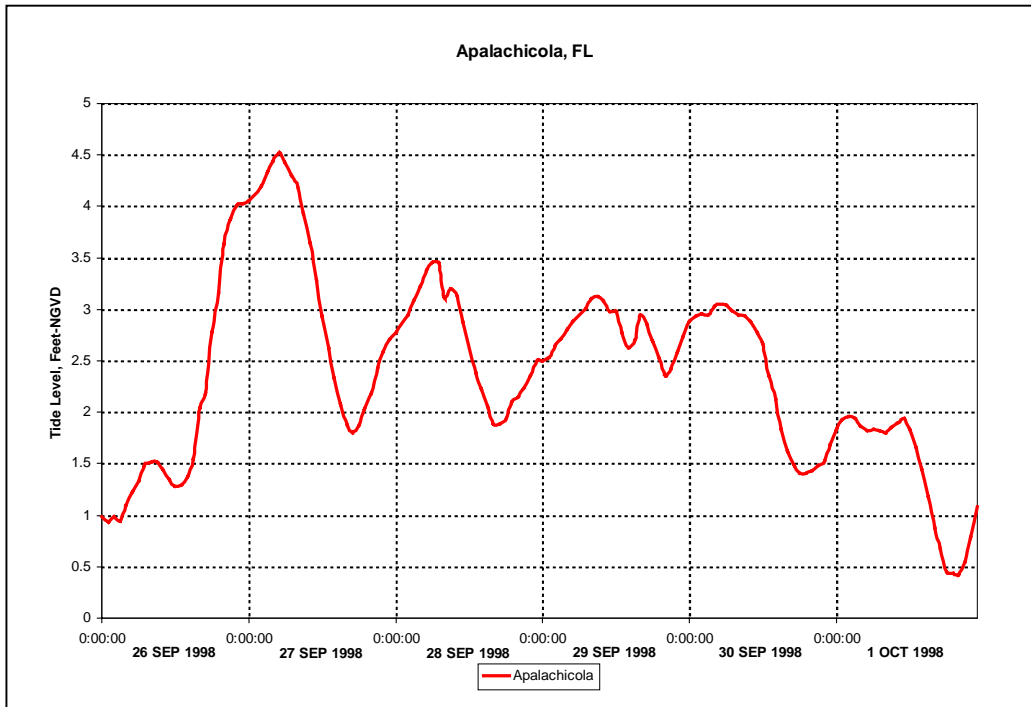
Destin, FL Tide Levels



Panama City, FL Tide Levels



Apalachicola, FL Tide Levels



Carabelle, FL Tide Levels

