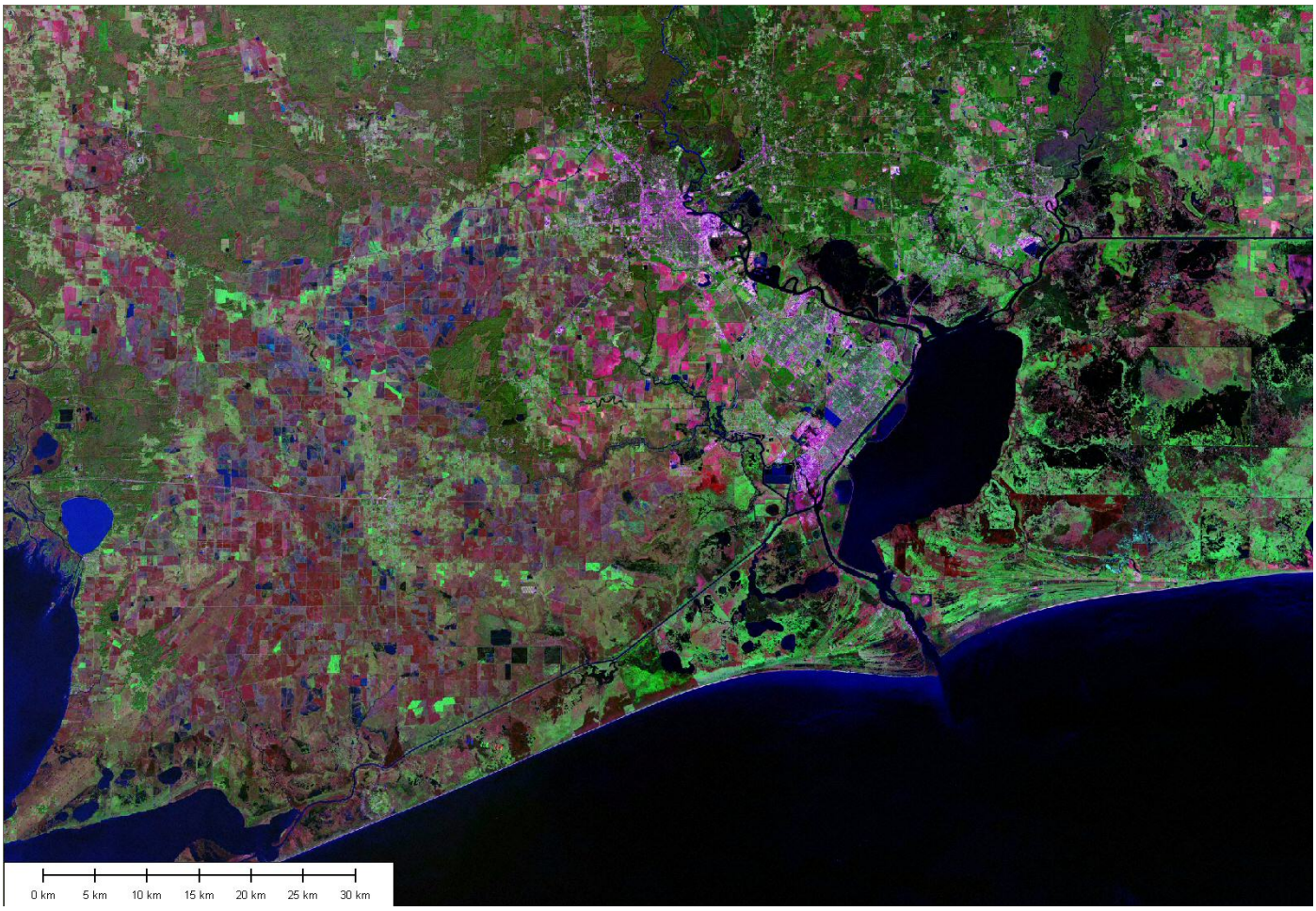
Hurricane Impact Report for State Farm Insurance.
Jefferson County, Texas – SAMPLE ONLY

Prepared 1/6/2005 by PC Weather Products, Inc.

Location Characteristics:

Jefferson County is the far NE coastal county of Texas bordering Louisiana. A Landsat image of the area is shown below.



Coastal Wind Impact

The following report indicates the "estimated" maximum wind speeds experienced at a coastal location in Jefferson County from 1851-2003 due to tropical cyclones.

Sustained Winds:

Category of Wind (Safir Simpson Scale)	Damage *	Occurrences by Wind Category	Chance of occurrence of category wind or greater, per year	Period occurrence (every x years)
0: 30-63 knots	Minor	101	66.4	Every 1.5 years
1: 64-82 knots	Minimal	18	11.8%	8.4 years
2: 83-95 knots	Moderate	6	3.9%	25.3 years
3: 96-113 knots	Extensive	2	1.3%	76.5 years
4: 114-134 knots	Extreme	0	***	***
5: 135+ knots	Catastrophic	0	***	***

The highest estimated sustained wind speeds experienced since 1851 was 110 knots (109 mph)

Wind Gusts:

Category of Wind (Safir Simpson Scale)	Damage *	Occurrences by Wind Category	Chance of occurrence of category wind or greater, per year	Period occurrence (every x years)
0: 30-63 knots	Minor	107	70.4%	Every 1.4 years
1: 64-82 knots	Minimal	38	25%	4 years
2: 83-95 knots	Moderate	14	9.2%	10.9 years
3: 96-113 knots	Extensive	10	6.6	15.2 years
4: 114-134 knots	Extreme	1	.7	152 years
5: 135+ knots	Catastrophic	0	***	***

The highest estimated wind gusts experienced since 1851 was 134 knots (140 mph)

Inland Wind Impact

The following report indicates the "estimated" maximum wind speeds experienced at an inland (5 km away from the coast) location in Jefferson County from 1851-2003 due to tropical cyclones. Due to the varying frictional nature of inland exposures this represents an average roughness index comparable to agricultural and suburban type areas.

Sustained Winds:

Category of Wind (Safir Simpson Scale)	Damage *	Occurrences by Wind Category	Chance of occurrence of category wind or greater, per year	Period occurrence (every x years)
0: 30-63 knots	Minor	15	9.9	Every 10.1 years
1: 64-82 knots	Minimal	1	.7	153 years
2: 83-95 knots	Moderate	0	***	***
3: 96-113 knots	Extensive	0	***	***
4: 114-134 knots	Extreme	0	***	***
5: 135+ knots	Catastrophic	0	***	***

The highest estimated sustained wind speeds experienced since 1851 was 80 knots (92 mph)

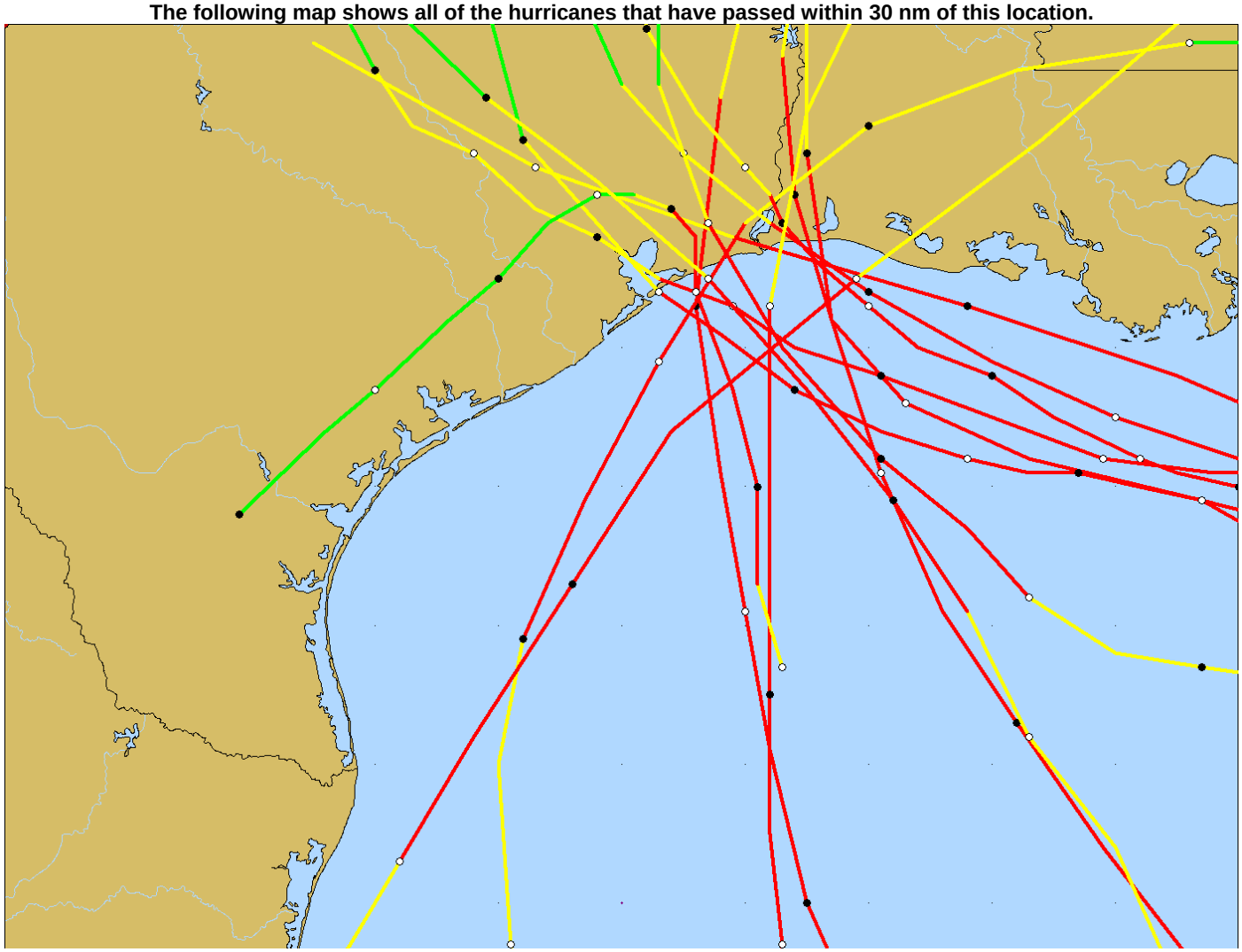
Wind Gusts:

Category of Wind (Safir Simpson Scale)	Damage *	Occurrences by Wind Category	Chance of occurrence of category wind or greater, per year	Period occurrence (every x years)
0: 30-63 knots	Minor	15	9.9%	Every 10.1 years
1: 64-82 knots	Minimal	2	1.3%	76 years
2: 83-95 knots	Moderate	1	.7%	152 years
3: 96-113 knots	Extensive	1	.7%	152 years
4: 114-134 knots	Extreme	0	***	***
5: 135+ knots	Catastrophic	0	***	***

The highest estimated wind gusts experienced since 1851 was 110 knots (126 mph)

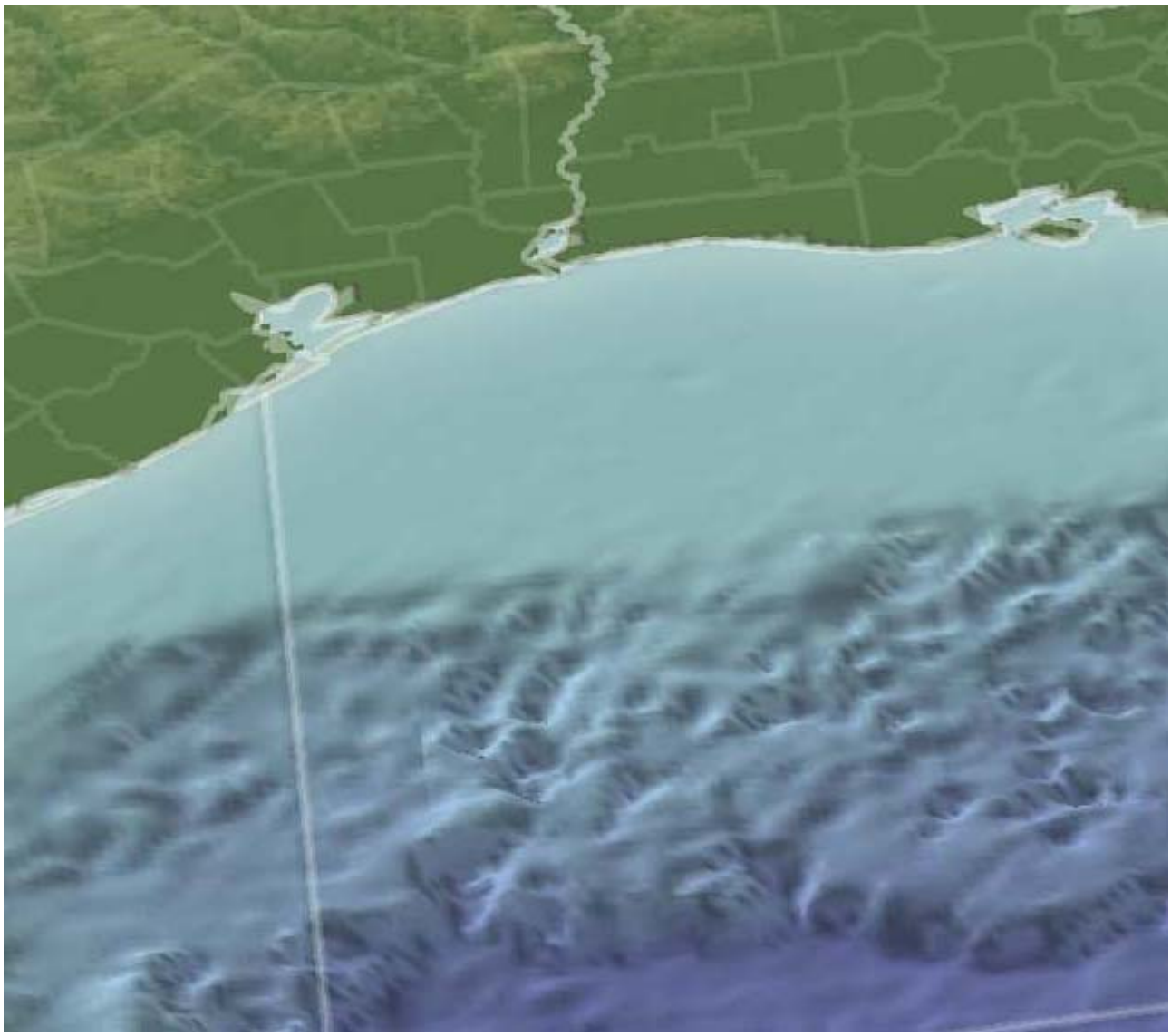
These statistics indicate a location that is prone to experience an above average number of storms. The vast majority of the winds experienced by these storms are category 3 or less and we estimate that only 6 storms have "delivered" Cat 2 hurricane force since 1851. See detailed description of Category Wind Damage at the end of this report.

The following map shows all of the hurricanes that have passed within 30 nm of this location.



Storm Surge Potential

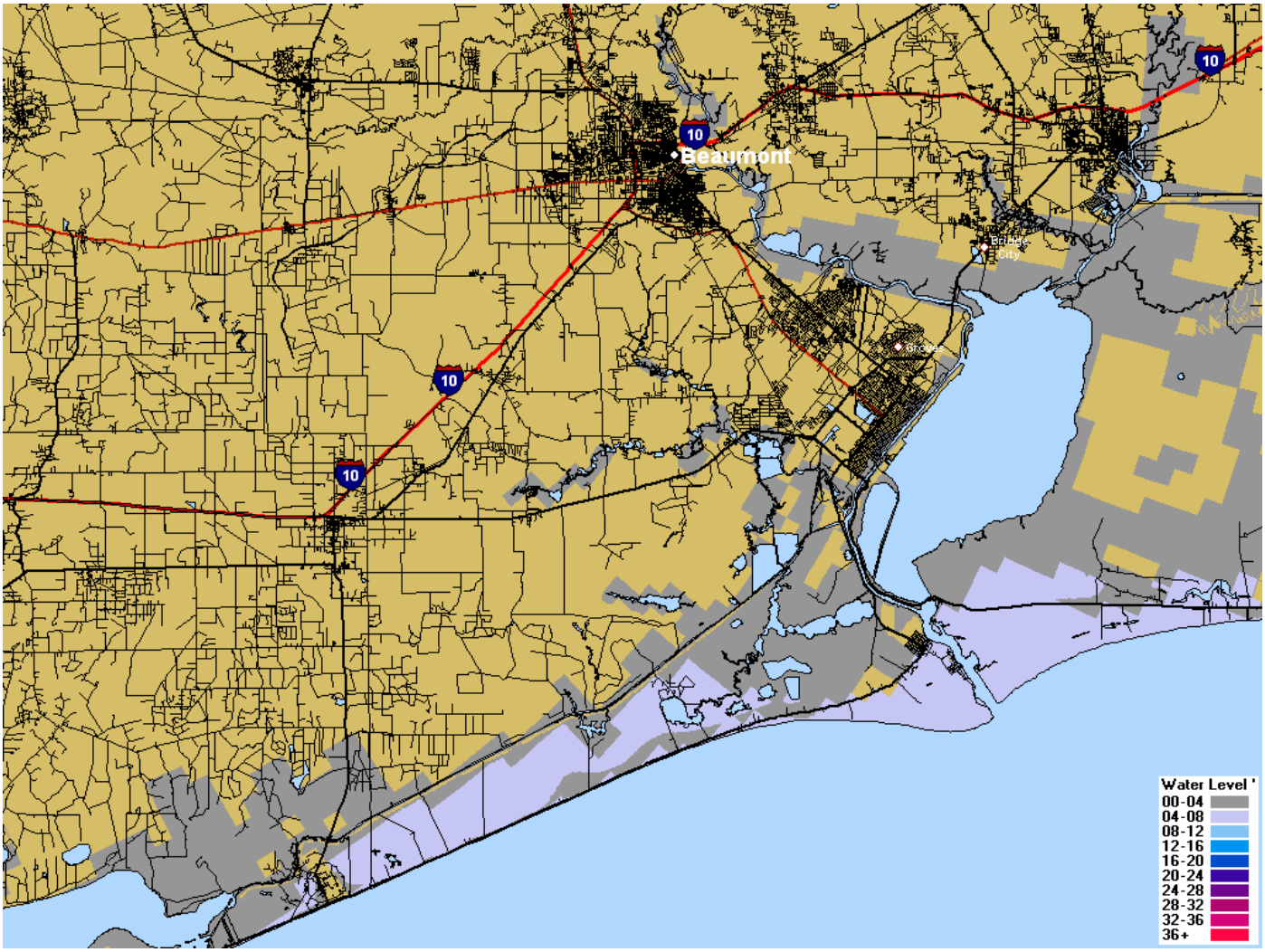
Being situated along the Gulf Coast, with shallow coastal bathymetry, this area is prone to significant storm surge potential. The image below shows the 3D view of the Gulf of Mexico near this area.



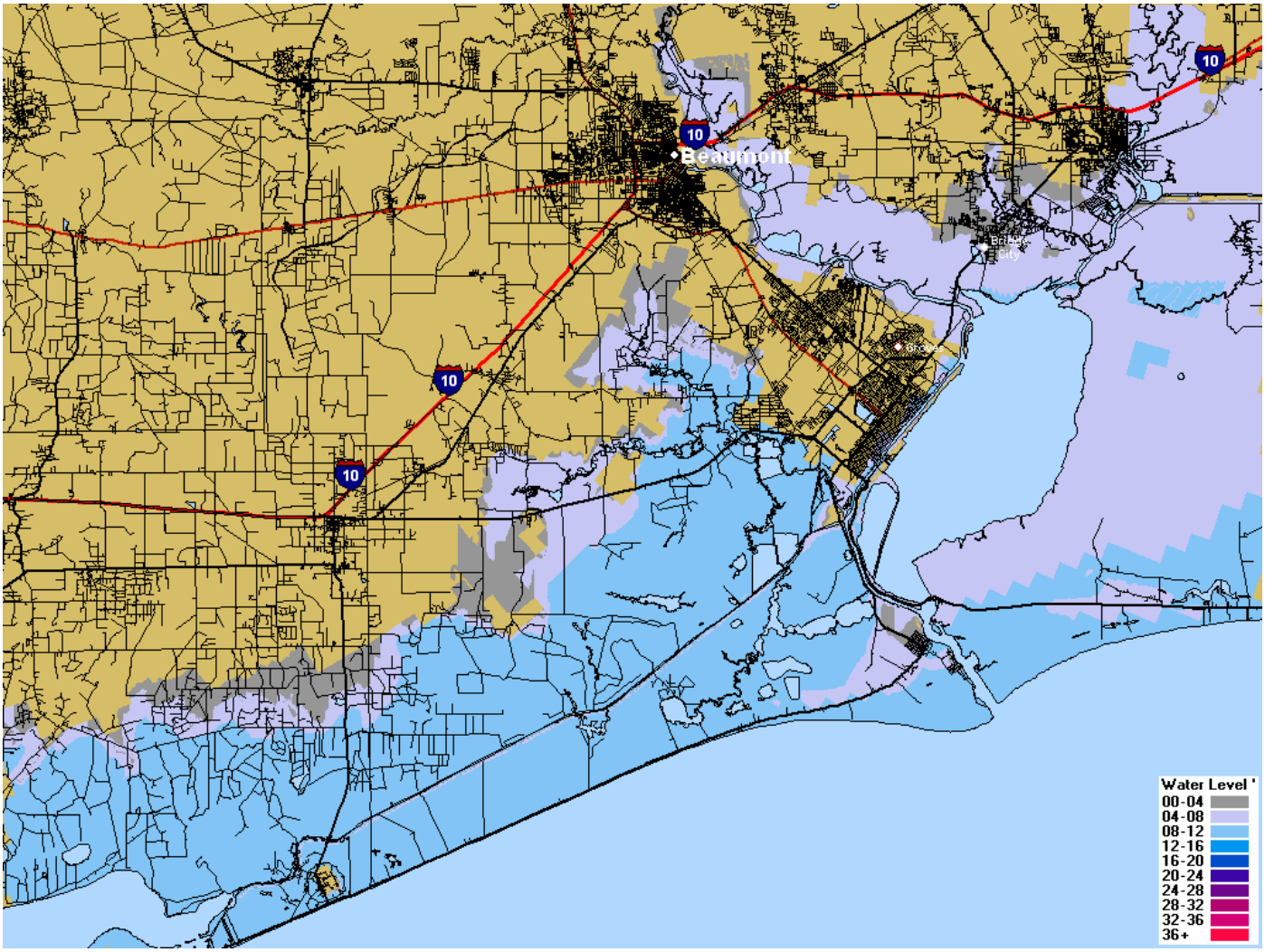
Compliments of oceanexplorer.noaa.gov

Storm Surge Inundation Maps:

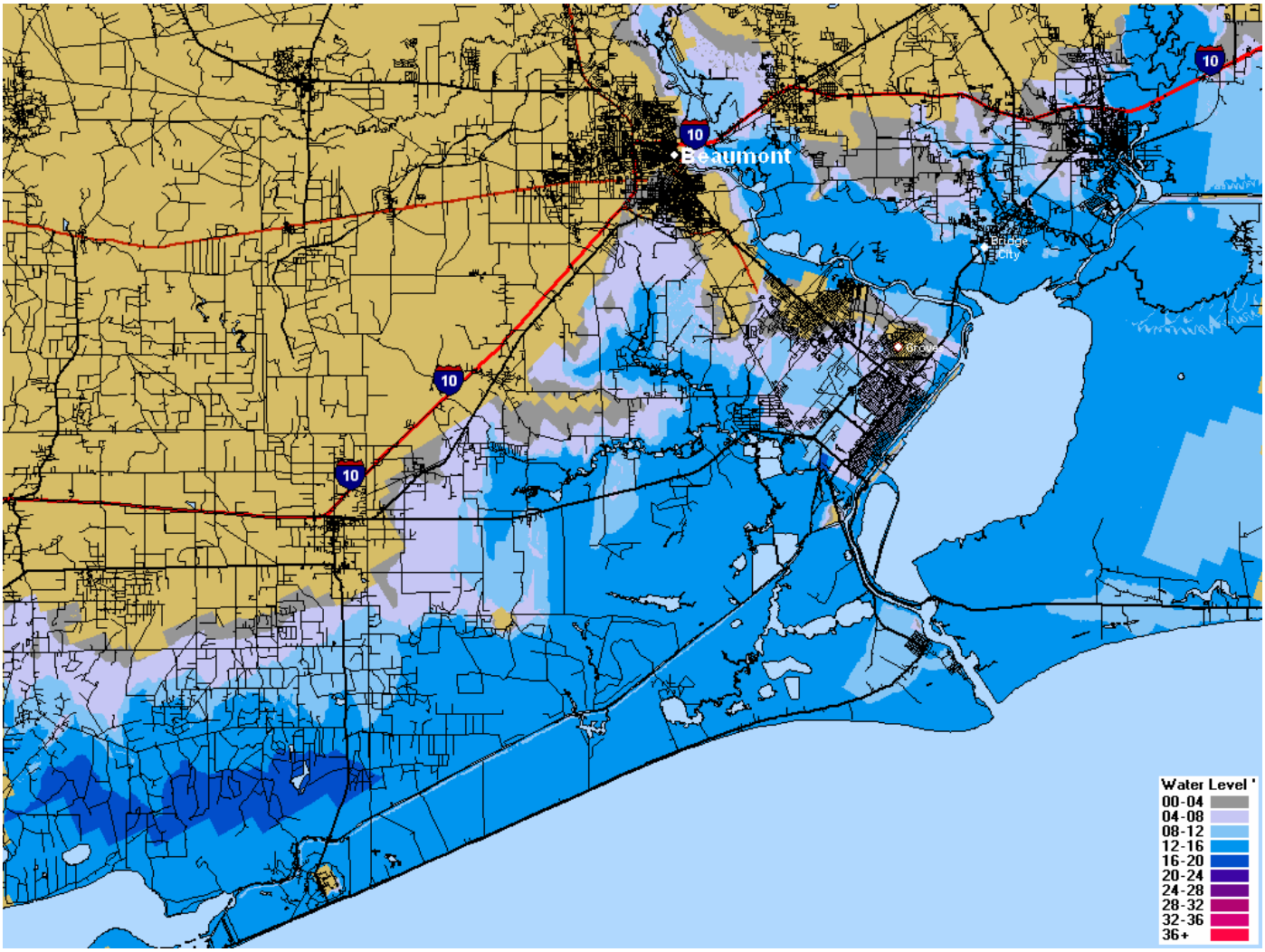
The maps indicate the maximum areas of storm surge flooding for each location on the map. I.E. since some areas of the map may experience the highest flooding with wind from a certain direction and other areas experience the highest flooding with winds from a difference direction, you would never see a pattern of flooding as represented by the image. . In addition, the elevation used to create these images is derived from the USGS Digital Elevation model data and is not as accurate as a "true" site elevation measurement.



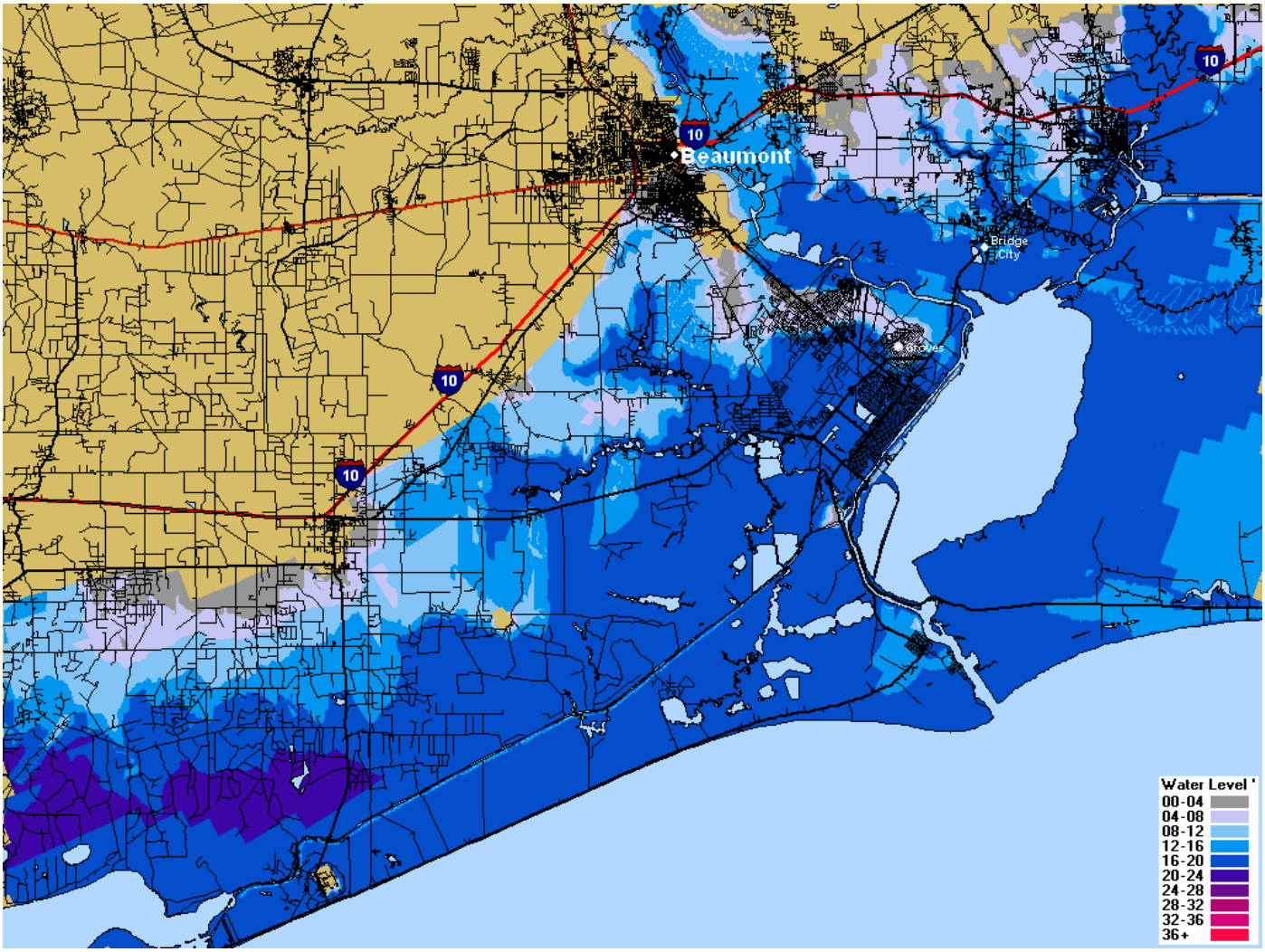
Category 1


Beaumont
10
Water Level '
00-04
04-08
08-12
12-16
16-20
20-24
24-28
28-32
32-36
36+

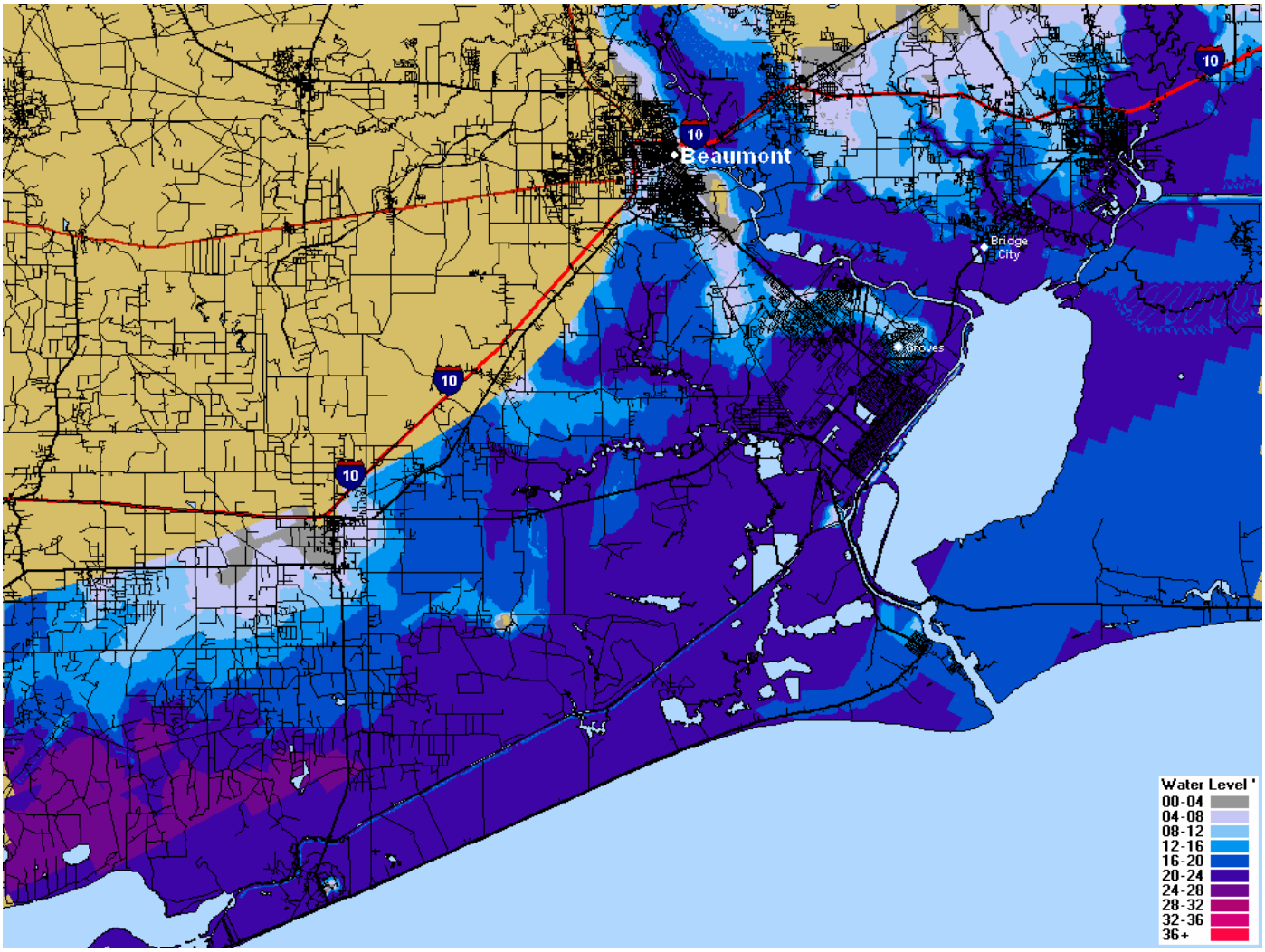
Category 2


Beaumont
10
Water Level '
00-04
04-08
08-12
12-16
16-20
20-24
24-28
28-32
32-36
36+

Category 3


Beaumont
Bridge City
10
Water Level '
00-04
04-08
08-12
12-16
16-20
20-24
24-28
28-32
32-36
36+

Category 4


Beaumont
Bridge City
Groves
10
Water Level '
00-04
04-08
08-12
12-16
16-20
20-24
24-28
28-32
32-36
36+

Category 5

*** Detailed description of Category 1 -5 wind damage.**

Category One Hurricane:

Winds 74-95 mph (64-82 kt or 119-153 km/hr). Storm surge generally 4-5 ft above normal. No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Some damage to poorly constructed signs. Also, some coastal road flooding and minor pier damage

Category Two Hurricane:

Winds 96-110 mph (83-95 kt or 154-177 km/hr). Storm surge generally 6-8 feet above normal. Some roofing material, door, and window damage of buildings. Considerable damage to shrubbery and trees with some trees blown down. Considerable damage to mobile homes, poorly constructed signs, and piers. Coastal and low-lying escape routes flood 2-4 hours before arrival of the hurricane center. Small craft in unprotected anchorages break moorings

Category Three Hurricane:

Winds 111-130 mph (96-113 kt or 178-209 km/hr). Storm surge generally 9-12 ft above normal. Some structural damage to small residences and utility buildings with a minor amount of curtain wall failures. Damage to shrubbery and trees with foliage blown off trees and large trees blown down. Mobile homes and poorly constructed signs are destroyed. Low-lying escape routes are cut by rising water 3-5 hours before arrival of the center of the hurricane. Flooding near the coast destroys smaller structures with larger structures damaged by battering from floating debris. Terrain continuously lower than 5 ft above mean sea level may be flooded inland 8 miles (13 km) or more. Evacuation of low-lying residences with several blocks of the shoreline may be required

Category Four Hurricane:

Winds 131-155 mph (114-135 kt or 210-249 km/hr). Storm surge generally 13-18 ft above normal. More extensive curtain wall failures with some complete roof structure failures on small residences. Shrubs, trees, and all signs are blown down. Complete destruction of mobile homes. Extensive damage to doors and windows. Low-lying escape routes may be cut by rising water 3-5 hours before arrival of the center of the hurricane. Major damage to lower floors of structures near the shore. Terrain lower than 10 ft above sea level may be flooded requiring massive evacuation of residential areas as far inland as 6 miles (10 km).

Category Five Hurricane:

Winds greater than 155 mph (135 kt or 249 km/hr). Storm surge generally greater than 18 ft above normal. Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. All shrubs, trees, and signs blown down. Complete destruction of mobile homes. Severe and extensive window and door damage. Low-lying escape routes are cut by rising water 3-5 hours before arrival of the center of the hurricane. Major damage to lower floors of all structures located less than 15 ft above sea level and within 500 yards of the shoreline. Massive evacuation of residential areas on low ground within 5-10 miles (8-16 km) of the shoreline may be required