THE BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM

EXPLORING OUR ESTUARY

2024 TIDAL GRAPH CALENDAR

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We are all one with the

ESTUARY...

Over thousands of years, determined and persistent waters shaped, channeled, carved, and contoured the Mississippi River Basin. For this year's tidal graph calendar, we explore the breadth of our estuary and describe some of its defining elements. These are familiar names, but ones perhaps not often considered in the context of the role they play in our estuary.

In fact, it's probably fitting we start this exploration with "estuary," a term for coastal areas where saltwater from the ocean meets and mixes freshwater from rivers, rainfall, and upland runoff. In our case, the Barataria-Terrebonne Estuary describes the basins where the Mississippi River and its tributaries in south Louisiana meet the Gulf of Mexico. Estuaries are verdant areas with a variety of habitats supporting some of the most biologically diverse ecosystems on Earth.

The BTNEP staff thanks Earl Higgins, a retired ranger from the Barataria Preserve of the Jean Lafitte National Historical Park, for his years of service and for suggesting this year's calendar topic. Earl believes that the unique landforms and waterways of our estuary are worthy of celebration. We couldn't agree more!

THE BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM

The Barataria-Terrebonne National Estuary Program (BTNEP) encompasses the 4.2 million acres between the Mississippi and Atchafalaya rivers in southeast Louisiana. BTNEP works to protect and nurture the land, water, habitats, people, and unique culture that is so productive and valuable to the United States.

Our estuary produces a host of resources for the nation, including oysters, shrimp, fish, oil and gas and their related infrastructure, and ports through which we ship goods across the globe. Our estuary offers one-of-a-kind cultural and ecotourism opportunities.

Most importantly, our estuary is home to extraordinary people and their one-of-a-kind cultures, rich resources, and the diverse plants, animals, and birds that live here.

Since 1990, BTNEP and its stakeholders have made a concerted effort to improve the estuary, protect its resources and tackle tough environmental problems. This public-private partnership allows diverse interest groups to work together to promote, and in some cases, reestablish the physical, chemical, and biological balance critical for a healthy estuary.

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MAP OF THE BTNEP AREA

BTNEP practices a science-based, consensus-driven stewardship approach to protecting the land, water, and resources of the estuary focusing on:

- Pollution abatement to protect the health of plants, animals, and people
- Environmentally just and responsible economic activity
- Environmentally compatible infrastructure (such as roads, bridges, levees, and railroads)
- Comprehensive, integrated watershed planning
- Harmonious use of the resources by many interests
- Public education and informed citizen participation

DELTA LOBES

The Mississippi River deposits sediment from 31 present-day states and two Canadian provinces at its mouth, creating new land in the form of a delta lobe. Over years, a delta lobe eventually builds up enough sediment to form visible wetlands – and in doing so, advances the Louisiana coast south into the Gulf of Mexico.

This deltaic system is dynamic due to the river's natural tendency to seek the shortest path to the Gulf of Mexico. The river will continue to deposit sediments to the lobe forming at its mouth only until the time comes when it finds a shorter route to the Gulf. When this happens, the river "jumps", relocates its mouth, and begins to deliver sediment to the new location and begins to build a new delta lobe. The abandoned lobe loses its fresh water and sediment, eventually resulting in land loss due to compaction, subsidence, and erosion.

The deltaic cycle that built coastal Louisiana began more than 6,000 years ago, depositing sediment in a series of 16 distinct delta lobes when the river changed course. These delta lobes were grouped into five major complexes named the Teche, Atchafalaya, Lafourche, St. Bernard and Plaquemine delta complexes. And for the last 1,200 years, the Plaquemines-Balize delta lobe describes the area we refer to as the Mississippi River Delta, or the Bird's Foot Delta.

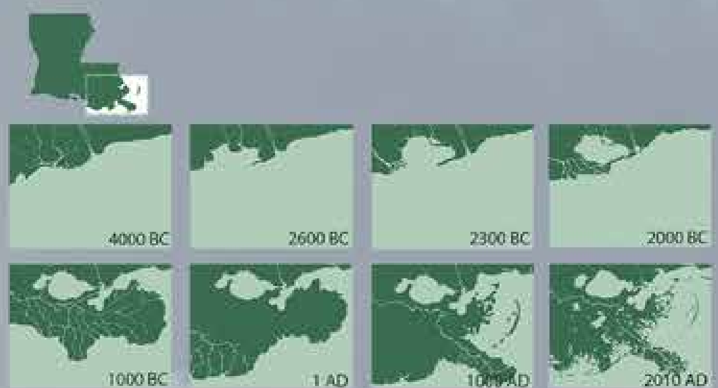
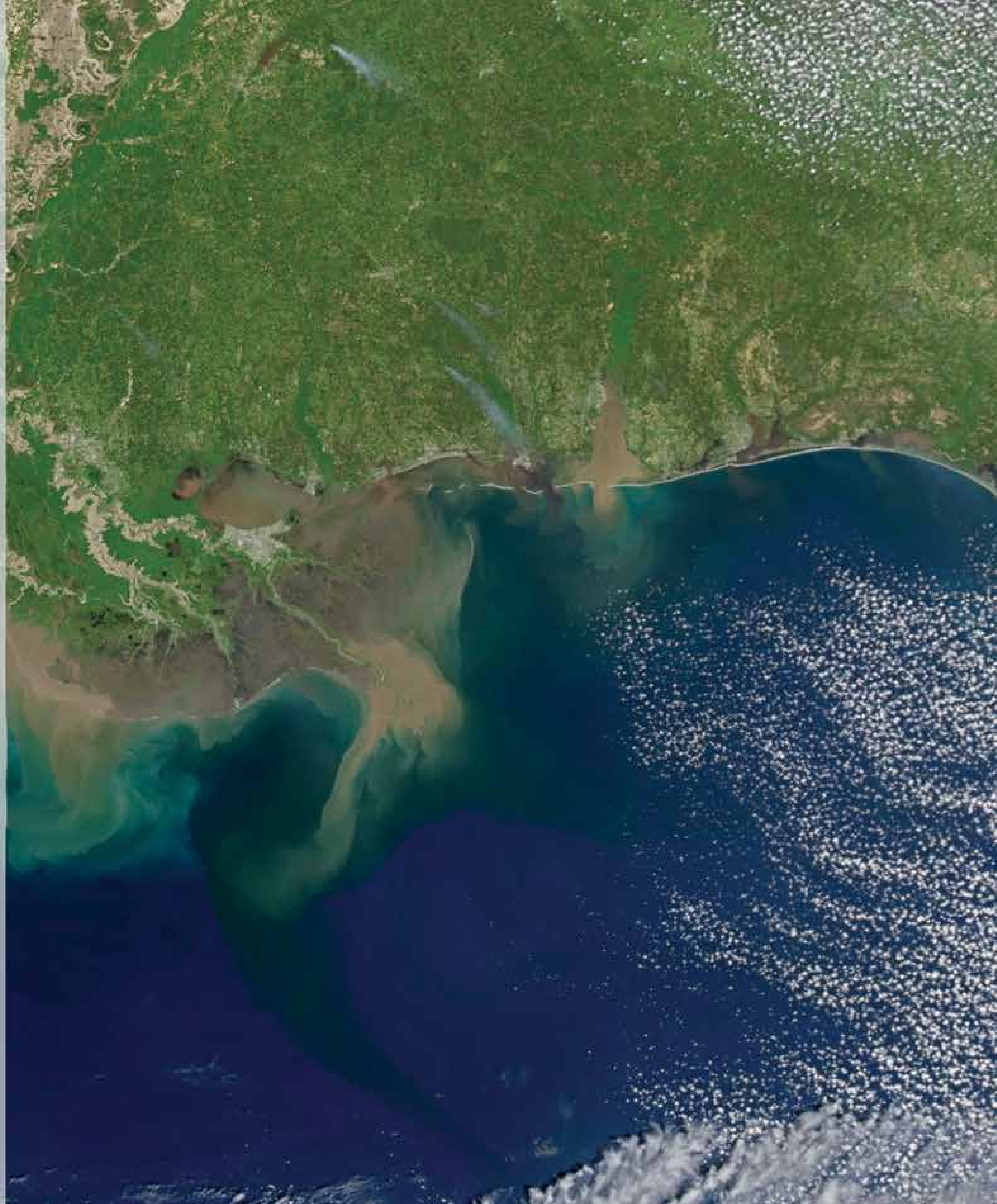
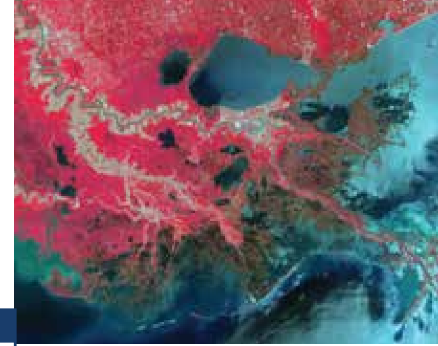


Diagram by Wikipedia, D.Boutte

Sediment Gulf of Mexico Photo by Norman Kuring, NASA Ocean Color Team





JANUARY 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
 *MS River photo by Ken Lund*	1 10:48 am -0.2 11:53 pm 0.5 New Year's Day	2 10:21 am -0.1 9:52 pm 0.3	3 8:47 am 0.0 5:45 pm 0.3	4 5:09 am 0.0 4:52 pm 0.4	5 4:00 am -0.2 4:54 pm 0.6 National Bird Day	6 4:14 am -0.4 5:22 pm 0.7
7 4:48 am -0.5 6:04 pm 0.9	8 5:31 am -0.7 6:54 pm 1.0	9 6:21 am -0.8 7:49 pm 1.1	10 7:13 am -0.9 8:45 pm 1.1	11 8:05 am -0.9 9:40 pm 1.1	12 8:56 am -0.8 10:32 pm 1.0	13 9:42 am -0.7 11:23 pm 0.9
14 10:20 am -0.5	15 12:12 am 0.6 10:41 am -0.3 Martin Luther King Day	16 1:00 am 0.3 10:07 am 0.0 5:20 pm 0.2	17 1:56 am 0.0 3:53 pm 0.4	18 2:41 am -0.3 3:58 pm 0.6	19 3:30 am -0.5 4:34 pm 0.8 Louisiana Arbor Day	20 4:21 am -0.7 5:24 pm 0.9
21 5:13 am -0.7 6:21 pm 0.9	22 6:05 am -0.8 7:19 pm 0.9	23 6:55 am -0.8 8:13 pm 0.9	24 7:41 am -0.7 9:01 pm 0.9	25 8:22 am -0.7 9:42 pm 0.8	26 8:54 am -0.6 10:17 pm 0.7	27 9:18 am -0.5 10:48 pm 0.6
28 9:30 am -0.3 11:16 pm 0.5	29 9:24 am -0.2 11:40 pm 0.3	30 8:41 am -0.1 11:44 pm 0.1	31 6:55 am 0.0 2:44 pm 0.2			

FUNfact

The Mississippi River has the third largest drainage basin in the world, exceeded in size only by the watersheds of the Amazon and Congo Rivers.

TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

DECEMBER 2023

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

FEBRUARY 2024

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

High Tide:
January 9
7:49 p.m. • 1.1 ft.

Low Tide:
January 10
7:13 a.m. • -0.9 ft.

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BAYOUS

The word “bayou” originates from the Choctaw word ‘bayuk’ meaning small stream. A bayou is a slow moving distributary waterway usually found in the coastal plain of the southeastern United States. Louisiana bayous are formed from the outlets and inlets of the Mississippi river and can be freshwater, intermediate, brackish, or salt water. This range of water types supports ideal habitats for American alligators, egrets and herons, shrimp, white-tailed deer, catfish and many other species.

Bayou Lafourche, originally called the Chetimachas River, is a 106-mile-long bayou through our estuary that provides drinking water for approximately 300,000 Louisiana residents of Ascension, Assumption, Lafourche and Terrebonne parishes. Bayous served as the primary means of transportation long before roads and railroads were constructed.

Native Americans, such as the United Houma Nation, plied the waters on pirogues and relied on the bayous for their subsistence. Later, in the 1700’s, French Canadian Acadian settlers called Cajuns migrated to the bayou region to escape persecution, explore new lands, and preserve their culture. Cajun and Creole settlers adopted many of the lifeways of the Native Americans and also relied on the bayous for their livelihood.

Because they lie low in the coastal plain, bayous are susceptible to runoff pollution from farm land, home sewage, and oil spills. We must be vigilant in protecting our bayous as they are fundamental to the formation of our land, culture, ecology, and our estuary.

Alligator photo by Lane Lefort

FEBRUARY 2024

FUNfact

Bayou Bartholomew is the longest bayou in the world at about 375 miles long, flowing from Arkansas into Louisiana.

Bayou Bartholomew Photo by Keith Yahl

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 2:28 am 0.0 2:35 pm 0.4	2 2:08 am -0.2 2:58 pm 0.5 World Wetlands Day	3 2:44 am -0.4 3:41 pm 0.7
4 3:31 am -0.5 4:37 pm 0.8	5 4:23 am -0.7 5:40 pm 0.9	6 5:17 am -0.8 6:46 pm 1.0	7 6:11 am -0.8 7:49 pm 1.1	8 7:03 am -0.8 8:51 pm 1.0	9 7:52 am -0.7 9:51 pm 1.0	10 8:38 am -0.6 10:54 pm 0.8
11 9:17 am -0.3	12 12:09 am 0.5 9:34 am -0.1	13 2:16 am 0.3 8:07 am 0.2 1:08 pm 0.3 10:13pm -0.1 Mardi Gras	14 1:10 pm 0.5 Ash Wednesday Valentine's Day	15 12:26 am -0.3 1:50 pm 0.7	16 1:49 am -0.5 2:45 pm 0.8	17 2:58 am -0.6 3:49 pm 0.9
18 4:01 am -0.6 5:00 pm 0.9	19 5:00 am -0.6 6:13 pm 0.9 President's Day	20 5:54 am -0.6 7:18 pm 0.9	21 6:41 am -0.5 8:14 pm 0.8	22 7:20 am -0.4 9:01 pm 0.8	23 7:50 am -0.3 9:42 pm 0.7	24 8:09 am -0.2 10:23 pm 0.6
25 8:14 am -0.1 11:10 pm 0.5	26 7:47 am 0.1 1:22 pm 0.2 4:40 pm 0.2 National Invasive Species Week	27 12:19 am 0.3 6:25 am 0.2 12:00 pm 0.3 7:39 pm 0.1 National Invasive Species Week	28 11:56 am 0.5 9:41 pm 0.0 National Invasive Species Week	29 12:17 pm 0.6 11:16 pm -0.1 National Invasive Species Week		

TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

JANUARY 2024

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

MARCH 2024

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

High Tide:
February 7
7:49 p.m. • 1.1 ft.

Low Tide:
February 6
5:17 a.m. • -0.8 ft.

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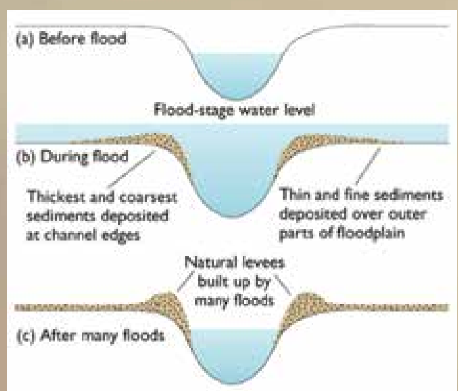
NATURAL LEVEES

Natural levees form along the banks of natural waterways from the deposition of sand, silt, and clay. Sands are the coarser and heavier sediment particles, and clays are the finest. Before man-made levees were built throughout the Mississippi River Basin, the river flooded its banks during high pulses that usually occurred in the springtime when the river received high volumes of snowmelt and runoff.

High volumes of water within river channels can generate high velocities, which enable the river to carry high sediment loads. When the river overflows its banks during flood stage, sediment-laden water overflows the channel and spills over into the surrounding land. During overflow, the river loses the energy that suspends sediment in the water column when it hits the banks. The water may flow far away from the banks but the coarse, heavier sediments fall immediately adjacent to the river, building natural levees.

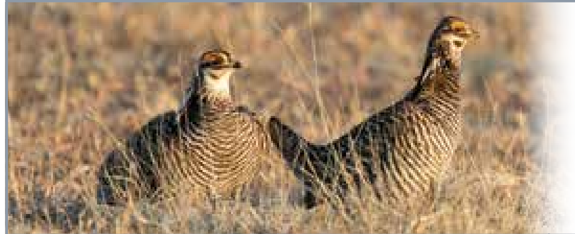
Natural levees have determined the pattern of ecological and human development in Southeastern Louisiana from prehistoric times through modern times. Cajuns referred to natural levees as cheniers, meaning “place of the oaks,” because live oaks thrive on this higher, dryer land. Natural levees are the ridges where we build roads, build houses, and grow crops. As a vital part of our landscape, they keep our feet dry and make south Louisiana a place where people can live.



Graphic by David Rogers

MARCH 2024

Atchafalaya River photo by Arthur Belala, USACE



FUNfact

The first European explorers found bison and prairie chickens living on the natural levees of Bayou Lafourche.

Greater Prairie Chicken photo by Ron Knight

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 12:55 pm 0.7 National Invasive Species Week	2 12:35 am -0.2 1:45 pm 0.8
3 1:47 am -0.3 2:48 pm 0.9 World Wildlife Day	4 2:53 am -0.4 4:01 pm 1.0	5 3:55 am -0.5 5:18 pm 1.1	6 4:53 am -0.5 6:35 pm 1.1	7 5:46 am -0.5 7:49 pm 1.1	8 6:36 am -0.4 9:06 pm 1.0	9 7:22 am -0.2 10:33 pm 0.8
10 9:01 am 0.1 Daylight Savings Time Begins	11 1:32 am 0.6 8:59 am 0.3 11:34 am 0.4 7:40 pm 0.0	12 11:25 am 0.6 9:43 pm -0.1	13 12:05 pm 0.9 11:22 pm -0.3	14 12:56 pm 1.0	15 12:50 am -0.3 1:52 pm 1.1	16 2:11 am -0.4 2:57 pm 1.1
17 3:25 am -0.4 4:10 pm 1.1 St. Patrick's Day	18 4:32 am -0.3 5:31 pm 1.0	19 5:30 am -0.3 6:51 pm 1.0 First Day of Spring	20 6:19 am -0.2 8:02 pm 0.9	21 6:57 am -0.1 9:06 pm 0.8	22 7:24 am 0.1 10:09 pm 0.7 World Water Day	23 7:35 am 0.2 11:23 pm 0.6
24 7:15 am 0.4 11:51 am 0.4 5:33 pm 0.3 Palm Sunday	25 1:16 am 0.5 5:43 am 0.5 10:52 am 0.6 7:13 pm 0.2	26 10:48 am 0.7 8:24 pm 0.1	27 11:06 am 0.8 9:25 pm 0.0	28 11:36 am 1.0 10:29 pm -0.1	29 12:16 pm 1.1 11:39 pm -0.1 Good Friday	30 1:05 pm 1.1
31 12:55 am -0.2 2:04 pm 1.2 Easter						

A portion of Harold Fisk's famous 1944 map of the Mississippi River's meander belt over time.

TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

FEBRUARY 2024

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

APRIL 2024

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

High Tide:
March 5
5:18 p.m. • 1.1 ft.

Low Tide:
March 5
3:55 a.m. • -0.5 ft.

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CREVASSE

"You could not step twice into the same river."
– Heraclitus

This famous ancient Greek quote speaks of the constant presence of change in the larger world. But it also works at face value describing how flowing water in a river is in a constant state of flux.

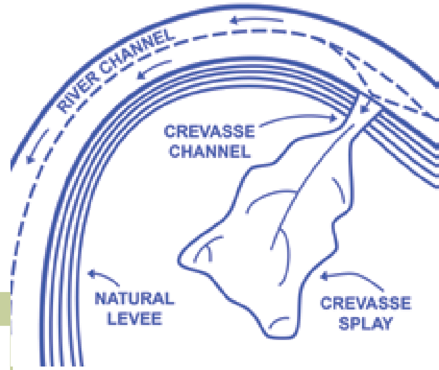
In our part of the world, rivers reach their highest stages early in the year, with the annual cycle of melting snow and spring storms. Springtime river flooding means that streambanks are full, and threaten overtopping natural levees. Full rivers are fast and energetic, and can scour the banks. Erosion can lead to a breach at a weak spot in the levee, resulting in a catastrophic blowout that can cause large-scale flooding. This is known as a crevasse.

Crevasses usually occur when the river is full and fast, carrying much more sediment than usual. As raging flood waters spill out and slow down, huge amounts of land-building sediment – silt, sand, and clay – can be spread over the river's floodplain in a short time. These "crevasse splays" can take the form of a fan or create a small delta.

While crevasse floods can be catastrophic in the short term, crevasse splays contribute a lot of sediment and are an important component of land-building in the estuary over time.

Photo by Google Earth, TerraMetrics

APRIL 2024



SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 2:09 am -0.2 3:11 pm 1.2	**2** 3:17 am -0.3 4:26 pm 1.2	**3** 4:17 am -0.3 5:48 pm 1.2	**4** 5:10 am -0.2 7:20 pm 1.1	**5** 5:58 am 0.0 9:09 pm 0.9	**6** 6:37 am 0.2 11:27 pm 0.8
7 6:50 am 0.5 10:34 am 0.5 5:53 pm 0.2	**8** 9:41 am 0.8 7:30 pm 0.0	**9** 10:01 am 1.1 8:48 pm -0.1	**10** 10:42 am 1.2 10:00 pm -0.2	**11** 11:30 am 1.4 11:12 pm -0.3	**12** 12:22 pm 1.4	**13** 12:26 am -0.3 1:19 pm 1.4
14 1:39 am -0.2 2:20 pm 1.3	**15** 2:46 am -0.1 3:24 pm 1.2	**16** 3:44 am 0.0 4:32 pm 1.1	**17** 4:30 am 0.1 5:44 pm 1.0	**18** 5:02 am 0.2 7:14 pm 0.8	**19** 5:17 am 0.4 9:23 pm 0.7	**20** 4:59 am 0.5 10:57 am 0.6 5:27 pm 0.5
21 9:41 am 0.7 6:32 pm 0.3	**22** 9:21 am 0.9 7:17 pm 0.2 Earth Day	**23** 9:30 am 1.0 7:59 pm 0.1	**24** 9:53 am 1.2 8:42 pm 0.0	**25** 10:25 am 1.3 9:30 pm -0.1	**26** 11:05 am 1.3 10:26 pm -0.1	**27** 11:52 am 1.4 11:30 pm -0.2
28 12:44 pm 1.4	**29** 12:35 am -0.2 1:39 pm 1.4	**30** 1:37 am -0.2 2:38 pm 1.4				

FUNfact

The famous Hymelia Crevasse of 1912 formed from a mere “crawfish hole” and grew to a 500-foot wide gap in the levee near present-day Killona, sending water rushing for hundreds of miles across the Barataria Basin.

MARCH 2024

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

MAY 2024

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

High Tide:
April 11
11:30 a.m. • 1.4 ft.

Low Tide:
April 2
3:17 a.m. • -0.3 ft.

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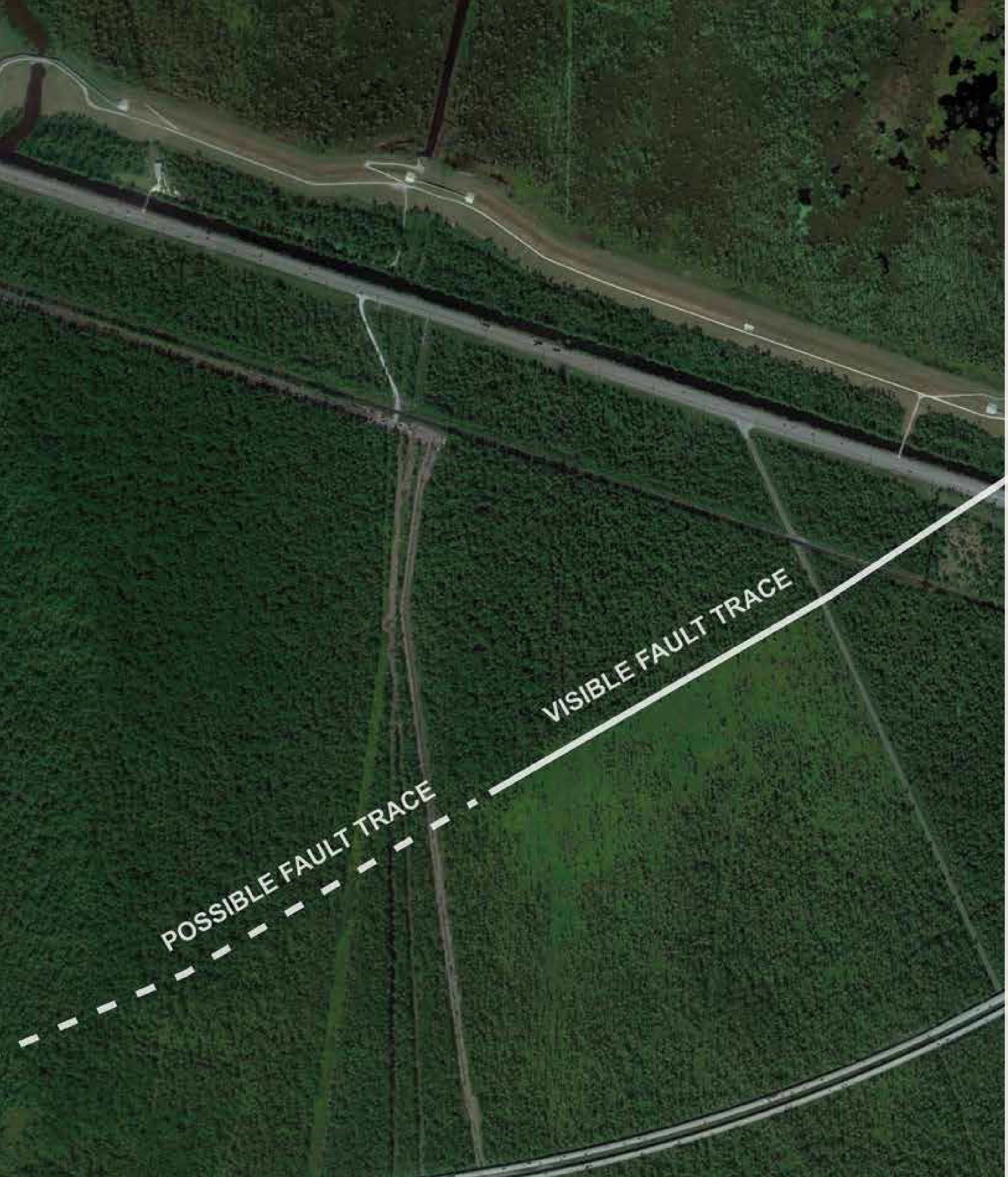
TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

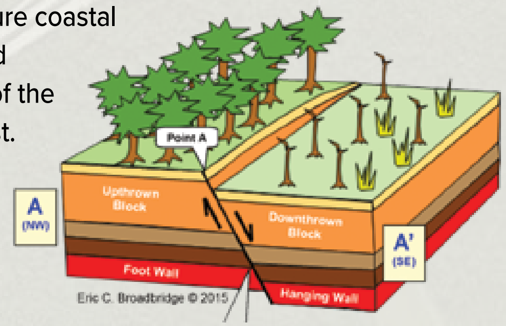


GEOLOGICAL FAULTING

Geological faulting is the fracturing of rock in Earth's crust that results in displacement of the rocks and sediments on either side of the fault. South Louisiana has many geological faults and is very tectonically active, meaning the crust actively shifts. However, rock in south Louisiana is sedimentary to deep levels, and releases energy more slowly and less dramatically compared to harder rock of the western United States where earthquakes can be catastrophic.

Faulting in south Louisiana can be caused by a combination of factors. Over geologic time, the Mississippi River built southeastern Louisiana in sedimentary layers, similar to the layers in a cake. As the layers stacked on top of one another, some areas compressed more than others and caused faulting (think of it as pushing down on one side of a layer cake). Additionally salt domes push up through the sedimentary layers from below and cause faulting (think of pushing your fist up through the bottom of a layer cake).

Faulting in Louisiana is an important geological process that has a dramatic effect on oil and gas production, the stability of our infrastructure, and increases coastal land loss. Geological faulting will be a critical factor in the success of future coastal restoration and sustainability of the Louisiana coast.



Fault Illustration by McLindon Geosciences LLC

MAY 2024

Photo by McLindon Geosciences LLC

FUNfact

Historical crevasses, such as the ones at Vacherie, Darrow (Bayou Lafourche avulsion), Fort St. Phillip, and The Jump are all associated with geological faults.

Vacherie Fault photo by McLindon Geosciences LLC

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 2:33 am -0.1 3:41 pm 1.2	**2** 3:20 am 0.0 4:59 pm 1.0	**3** 3:56 am 0.2 7:37 pm 0.8	**4** 4:07 am 0.5 10:24 am 0.7 4:52 pm 0.5
5 8:56 am 0.8 6:08 pm 0.2 Cinco de Mayo	**6** 8:40 am 1.1 7:08 pm -0.1	**7** 9:02 am 1.3 8:05 pm -0.2	**8** 9:41 am 1.5 9:02 pm -0.3	**9** 10:26 am 1.5 10:02 pm -0.3	**10** 11:15 am 1.5 11:04 pm -0.3	**11** 12:06 pm 1.5 World Migratory Birds Day
12 12:06 am -0.2 12:57 pm 1.4 Mother's Day	**13** 1:03 am -0.1 1:44 pm 1.3	**14** 1:52 am 0.0 2:25 pm 1.1	**15** 2:28 am 0.1 2:52 pm 1.0	**16** 2:47 am 0.3 2:29 pm 0.8	**17** 2:36 am 0.4 11:18 am 0.7 Endangered Species Day	**18** 12:55 am 0.5 9:16 am 0.8 6:19 pm 0.4
19 8:24 am 0.9 6:29 pm 0.2	**20** 8:15 am 1.1 6:54 pm 0.1 World Bee Day	**21** 8:28 am 1.2 7:25 pm -0.1	**22** 8:55 am 1.3 8:03 pm -0.1	**23** 9:30 am 1.4 8:46 pm -0.2	**24** 10:12 am 1.5 9:36 pm -0.3	**25** 10:58 am 1.5 10:29 pm -0.3
26 11:46 am 1.5 11:23 pm -0.3	**27** 12:34 pm 1.5 Memorial Day	**28** 12:15 am -0.3 1:21 pm 1.4	**29** 1:00 am -0.1 2:03 pm 1.2	**30** 1:34 am 0.0 2:27 pm 1.0	**31** 1:47 am 0.3 11:14 am 0.7	

APRIL 2024

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

JUNE 2024

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

High Tide:
May 8
9:41 a.m. • 1.5 ft.

Low Tide:
May 8
9:02 p.m. • -0.3 ft.

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TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

MAN-MADE LEVEES

"...If it keeps on rainin',
levee's goin' to break,
When the levee breaks,
I'll have no place to stay"
– Memphis Minnie Led Zeppelin

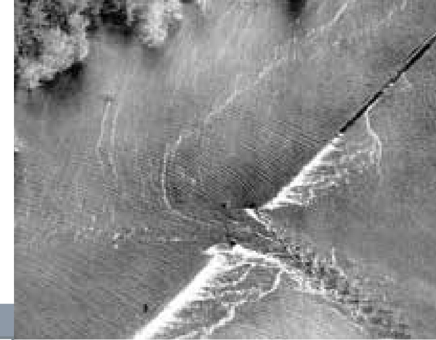
The landscape of our estuary is lined with man-made levees designed to strap and contain our waterways and prevent flooding. Our ability to live, work, and thrive in our estuary, as in much of Louisiana, is possible only because of the protection that man-made levees provide. In addition, the containment of our rivers makes them navigable in many stretches.

Archeologists have confirmed that construction of man-made levees is a technology fundamental to human civilizations dating back thousands of years. Long before European colonization, Native Americans constructed raised earthen embankments along the Mississippi River.

In the aftermath of the Great Flood of 1927, the U.S. government began a determined effort to contain the river and waterways of the Mississippi and Ohio river valleys that continues today. The technology behind building a levee may seem simple, but keeping the power of a river in check requires engineering and vigilance of the highest degree. Man-made levees are our constant reminder of the eternal struggle between nature and technology.

Photo by USACE, Pictured: Lake Borgne Surge Barrier, an important feature of the Greater New Orleans Hurricane & Storm Damage Risk Reduction System.

JUNE 2024



1927 Great Flood Archival Photo, NOAA

FUNfact

The construction of man-made levees in America predates the founding of the country. The French built levees in New Orleans in the 1720s.

1720 New France Map

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1 12:48 am 0.5 8:34 am 0.8 5:24 pm 0.3
2 7:40 am 1.0 5:55 pm 0.0	**3** 7:41 am 1.2 6:38 pm -0.2	**4** 8:08 am 1.4 7:26 pm -0.3	**5** 8:48 am 1.5 8:17 pm -0.4	**6** 9:35 am 1.6 9:10 pm -0.4	**7** 10:24 am 1.5 10:03 pm -0.4	**8** 11:12 am 1.5 10:55 pm -0.3 World Oceans Day
9 11:57 am 1.4 11:40 pm -0.2	**10** 12:35 pm 1.3	**11** 12:17 am -0.1 1:05 pm 1.2	**12** 12:41 am 0.0 1:19 pm 1.0	**13** 12:45 am 0.2 12:45 pm 0.8	**14** 12:10 am 0.3 9:59 am 0.7 9:54 pm 0.4	**15** 7:54 am 0.8 6:22 pm 0.3
16 7:09 am 0.9 5:57 pm 0.1 Father's Day	**17** 7:05 am 1.1 6:13 pm 0.0 Pollinator Week	**18** 7:25 am 1.2 6:42 pm -0.2 Pollinator Week	**19** 7:57 am 1.3 7:19 pm -0.3 Juneteenth Pollinator Week	**20** 8:38 am 1.4 8:02 pm -0.3 First Day of Summer Pollinator Week	**21** 9:24 am 1.5 8:49 pm -0.4 Pollinator Week	**22** 10:12 am 1.5 9:38 pm -0.4 Pollinator Week
23 11:00 am 1.5 10:25 pm -0.4 Pollinator Week	**24** 11:46 am 1.5 11:08 pm -0.3	**25** 12:29 pm 1.3 11:44 pm -0.2	**26** 1:06 pm 1.1	**27** 12:06 am 0.1 1:17 pm 0.9 11:53 pm 0.3	**28** 8:53 am 0.7 9:05 pm 0.5	**29** 6:42 am 0.8 4:48 pm 0.2
30 6:15 am 1.0 5:13 pm -0.1						

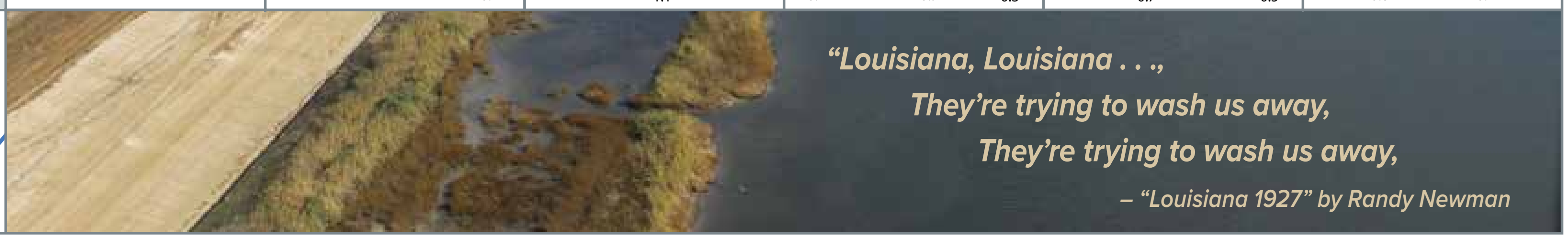


Photo by USACE, Pictured: Lake Borgne Surge Barrier, an important feature of the Greater New Orleans Hurricane & Storm Damage Risk Reduction System.

TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

MAY 2024

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

JULY 2024

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

High Tide:
June 6
9:35 a.m. • 1.6 ft.

Low Tide:
June 5
8:17 p.m. • -0.4 ft.

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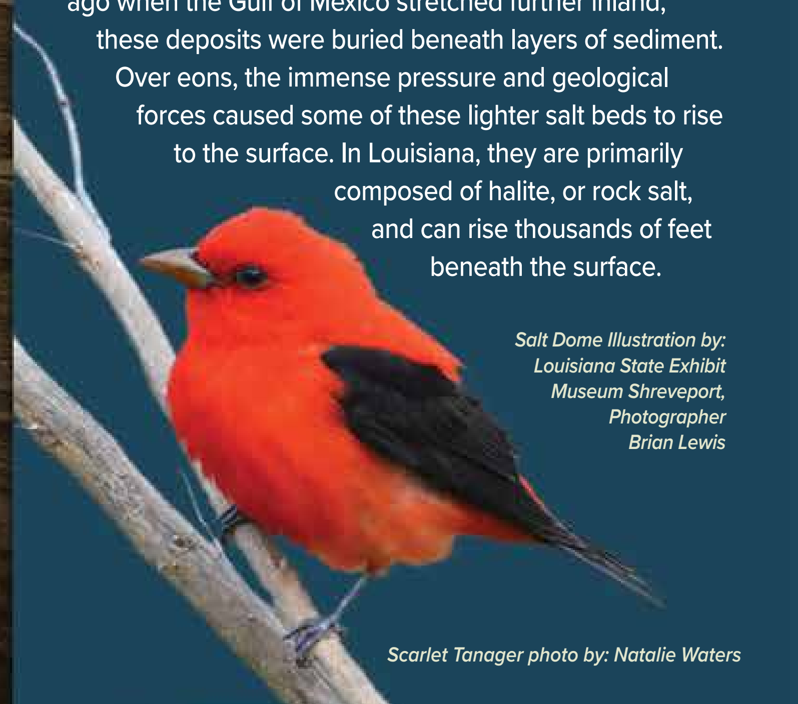
SALT DOMES

Salt domes are one of the most interesting landscapes to rise up out of Louisiana's coast. Hundreds of these natural formations dot the coastal landscape providing upland habitats of trees in otherwise wet and low lying areas. This higher ground provides crucial stopover points for migratory birds, like the Scarlet Tanager and Painted Bunting, during their long journeys and refuge for animals during storm surge events. Native Americans utilized this resource for thousands of years for food preservation, trade, and cultural practices.

In more recent times, salt domes have been instrumental in the growth and economic prosperity associated with Louisiana's oil and gas industry. As the salt dome pushes up to the surface, it bends the rock strata above. This causes empty pockets that often trap hydrocarbons, and create valuable reserves. The salt acts as a natural seal allowing these domes to serve as secure repositories for storing strategic reserves of oil and natural gas and even as underground storage of hazardous materials.

Born from salt deposits accumulated over 150 million years ago when the Gulf of Mexico stretched further inland, these deposits were buried beneath layers of sediment. Over eons, the immense pressure and geological forces caused some of these lighter salt beds to rise to the surface. In Louisiana, they are primarily composed of halite, or rock salt, and can rise thousands of feet beneath the surface.

Salt Dome Illustration by: Louisiana State Exhibit Museum Shreveport, Photographer Brian Lewis



Scarlet Tanager photo by: Natalie Waters

JULY 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 6:32 am 1.2 5:56 pm -0.3	**2** 7:09 am 1.4 6:43 pm -0.4	**3** 7:56 am 1.5 7:33 pm -0.4 International Plastic Bag-Free Day	**4** 8:48 am 1.5 8:24 pm -0.4 Independence Day	**5** 9:39 am 1.5 9:13 pm -0.4	**6** 10:27 am 1.5 9:57 pm -0.3
7 11:09 am 1.4 10:34 pm -0.2	**8** 11:44 am 1.3 11:01 pm -0.1	**9** 12:12 am 1.1 11:16 pm 0.1	**10** 12:29 pm 1.0 11:10 pm 0.2	**11** 12:16 pm 0.8 10:27 pm 0.4	**12** 8:46 am 0.7 8:32 pm 0.4	**13** 6:01 am 0.8 5:38 pm 0.3
14 5:27 am 0.9 4:57 pm 0.2	**15** 5:36 am 1.1 5:12 pm 0.0	**16** 6:06 am 1.2 5:44 pm -0.1	**17** 6:49 am 1.3 6:25 pm -0.2	**18** 7:39 am 1.4 7:10 pm -0.3	**19** 8:32 am 1.5 7:57 pm -0.4	**20** 9:25 am 1.6 8:44 pm -0.4
21 10:16 am 1.6 9:28 pm -0.3	**22** 11:06 am 1.5 10:08 pm -0.2	**23** 11:54 am 1.3 10:40 pm 0.0	**24** 12:43 am 1.1 10:55 pm 0.2	**25** 1:33 am 0.8 10:15 pm 0.5	**26** 5:24 am 0.7 2:06 pm 0.5	**27** 4:15 am 0.9 3:07 pm 0.2
28 4:24 am 1.1 4:00 pm 0.0	**29** 5:03 am 1.3 4:53 pm -0.2	**30** 5:55 am 1.4 5:48 pm -0.3	**31** 6:55 am 1.5 6:42 pm -0.3			

FUNfact

Louisiana has over 1,000 salt domes, more than any other state in the United States.

TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

Blackburnian Warbler photo by Natalie Waters

JUNE 2024

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

AUGUST 2024

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

High Tide:
July 20
9:25 a.m. • 1.6 ft.

Low Tide:
July 2
6:43 p.m. • -0.4 ft.

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Mandalay Trail by Mudbug Photography

BOTTOMLAND HARDWOOD FORESTS

Bottomland hardwood forests generally precede marsh habitat, and encompass low lying areas that are periodically inundated or saturated. These habitats do not experience permanent flooding like many swamps, and instead they alternate between wet seasons and dry seasons. Soils and nutrients deposited by seasonal flooding create a rich and nourishing environment in which a multitude of species thrive. Bottomland hardwood forests support the largest number of tree and shrub species of any habitat in the system and include hackberry, American elm, green ash, overcup oak, water hickory, water oak, swamp dogwood, sweetgum, red maple, and dwarf palmetto. These forests sustain Louisiana black bear and provide nesting habitat for Bald Eagles and migratory songbirds. They also are prize hunting areas for deer, squirrel, and Wood Duck. Bottomland hardwood forests not only provide habitat for a variety of wildlife, but also aid in carbon storage and filtering and purifying water as it moves through the environment.

Black Bear photo by USFWS, Pam McIlhenny

AUGUST 2024

Dwarf Palmetto photo by USFWS, Martha Zapata

AUGUST IS NATIONAL WATER QUALITY MONTH

Did you know?

It is estimated that potentially only 40% of bottomland hardwood forests still remain from 200 years ago. This loss can largely be attributed to conversion of forests to cropland and urban areas.

Landscape photo by USFWS

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 7:56 am 1.5 7:34 pm -0.3	**2** 8:54 am 1.5 8:22 pm -0.2	**3** 9:44 am 1.5 9:02 pm -0.1
4 10:27 am 1.4 9:34 pm 0.0	**5** 11:04 am 1.3 9:55 pm 0.1	**6** 11:35 am 1.2 10:02 pm 0.3	**7** 12:03 pm 1.0 9:45 pm 0.4	**8** 12:26 pm 0.8 8:48 pm 0.6	**9** 4:12 am 0.7 6:41 pm 0.6	**10** 3:10 am 0.9 2:54 pm 0.5
11 3:11 am 1.0 3:00 pm 0.3	**12** 3:38 am 1.2 3:38 pm 0.2	**13** 4:22 am 1.3 4:24 pm 0.1	**14** 5:18 am 1.4 5:13 pm 0.0	**15** 6:20 am 1.5 6:03 pm -0.1	**16** 7:24 am 1.6 6:52 pm -0.2	**17** 8:26 am 1.6 7:39 pm -0.1
18 9:26 am 1.6 8:24 pm -0.1	**19** 10:25 am 1.5 9:04 pm 0.1	**20** 11:28 am 1.4 9:37 pm 0.3	**21** 12:45 pm 1.1 9:45 pm 0.6	**22** 3:19 am 0.7 6:51 am 0.7 3:01 pm 0.9 8:11 pm 0.8	**23** 1:35 am 0.9 10:38 am 0.5	**24** 1:40 am 1.2 12:46 pm 0.3
25 2:20 am 1.4 2:13 pm 0.1	**26** 3:14 am 1.5 3:27 pm 0.0	**27** 4:19 am 1.6 4:34 pm 0.0	**28** 5:31 am 1.6 5:35 pm 0.0	**29** 6:46 am 1.6 6:31 pm 0.0	**30** 7:54 am 1.5 7:19 pm 0.1 National Beach Day	**31** 8:53 am 1.5 7:58 pm 0.2

JULY 2024

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

SEPTEMBER 2024

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

High Tide:
August 16
7:24 a.m. • 1.6 ft.

Low Tide:
August 1
7:34 p.m. • -0.3 ft.

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TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

Swamp photo by Lane Lefort

SWAMP

A swamp is a type of wetland ecosystem characterized by mineral soils with poor drainage and plant life dominated by trees. Swamps can be classified as forested, shrub, or mangrove swamps. The soils are inundated or saturated by water on a nearly permanent basis throughout the growing season except during periods of extreme drought. The hydrology of swamps along rivers, bayous, and streams is characterized by annual cycles of flooding and dewatering. Reduced flooding can result in a conversion of swamps into bottomland hardwood forests. Excessive flooding, either in depth or duration, can result in the conversion of swamp to open water, emergent, or scrub-shrub wetlands because of the lack of growth of new trees and the drowning of existing trees. Louisiana's swamp habitat shrouds the abundance of life below its muddy waters and within the towering cypress and tupelo trees that dominate this wetland. Numerous species of fish and aquatic invertebrates live in this rich and diverse habitat. It supports more than 270 bird species, from the majestic Bald Eagle to the tiny bright yellow Prothonotary Warbler. The number of reptiles and amphibians found within the swamp is also exceptional, from the well-known American alligator, to snakes, turtles, and the many species of frogs that call the swamp home.

Prothonotary Warbler photo by Natalie Waters

SEPTEMBER 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 9:43 am 1.4 8:27 pm 0.3	**2** 10:28 am 1.3 8:42 pm 0.5 Labor Day	**3** 11:13 am 1.2 8:38 pm 0.6	**4** 12:08 pm 1.0 7:56 pm 0.8	**5** 1:20 am 0.8 6:52 am 0.8 1:39 pm 0.9 6:10 pm 0.8	**6** 12:36 am 1.0 9:06 am 0.7	**7** 12:38 am 1.1 10:45 am 0.6
8 1:01 am 1.3 12:09 am 0.5	**9** 1:37 am 1.4 1:25 pm 0.4	**10** 2:26 am 1.4 2:35 pm 0.3	**11** 3:27 am 1.5 3:39 pm 0.2	**12** 4:36 am 1.6 4:37pm 0.1	**13** 5:49 am 1.6 5:30 pm 0.1	**14** 7:03 am 1.6 6:19 pm 0.1
15 8:17 am 1.6 7:04 pm 0.2	**16** 9:36 am 1.5 7:45 pm 0.4	**17** 11:07 am 1.3 8:15 pm 0.7	**18** 1:26 am 0.8 4:34 am 0.7 1:15 pm 1.1 7:54 pm 0.9 11:16 pm 1.0	**19** 7:29 am 0.6 11:08 pm 1.2	**20** 9:20 am 0.4 11:44 pm 1.5	**21** 10:54 am 0.2 International Coastal Cleanup
NATIONAL ESTUARIES WEEK						
22 12:33 am 1.6 12:20 pm 0.1 First Day of Autumn	**23** 1:30 am 1.7 1:43 am 0.1	**24** 2:34 am 1.7 2:59 am 0.1	**25** 3:46 am 1.7 4:08 pm 0.1	**26** 5:03 am 1.6 5:07 pm 0.2	**27** 6:21 am 1.5 5:56 pm 0.3	**28** 7:35 am 1.4 6:33 pm 0.4
29 8:43 am 1.3 6:56 pm 0.6	**30** 9:54 am 1.2 6:59 pm 0.7					

FUNfact

Despite its name, spanish moss is not a moss but a bromeliad. Most bromeliads, including spanish moss, are epiphytes, meaning they grow on other plants such as cypress trees, but they do not rely on the host plant for nutrients. They take their nutrients from the air and debris that collects on the plant.

Spanish Moss photo by Billy Hathorn

TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

Barred Owl photo by Natalie Waters

AUGUST 2024

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

OCTOBER 2024

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

High Tide:
September 23
1:30 a.m. • 1.70 ft.

Low Tide:
September 12
4:37 p.m. • 0.1 ft.

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MARSH

Much of south Louisiana is covered by various marsh habitats. A marsh is a wetland that is dominated by grasses or other herbaceous vegetation, or plants that do not produce a woody stem. Several kinds of marshes exist along a salinity gradient that is produced where freshwater flowing from inland meets and mixes with salt water from the Gulf. Furthest north, and with a constant freshwater supply, are freshwater marshes. This habitat is commonly dominated by maidencane and bulltongue. Frequently, freshwater marshes can create a unique floating habitat, called “floatant” marsh, which are buoyant mats of vegetation that break away from the soil and float during periods of high water. Due to saltwater intrusion, freshwater marshes are the fastest declining marsh type.

Freshwater marshes transition to intermediate and brackish marsh as salinity levels increase. Common plants of intermediate marshes, which receive periodic pulses of salinity, can include bulltongue, giant bulrush, common threesquare, and deer pea. Brackish marshes, which reliably have a saline influence, are dominated by marsh hay cordgrass, bulrush, leafy threesquare and widgeon grass.

Closest to the Gulf of Mexico, saltwater marshes have the highest salinity levels and the least diversity of the marsh habitats. Salt marshes are characterized by smooth cordgrass, saltgrass, black needlerush, and saltwort.

(top right) Marsh photo by Ashleigh Lambiotte

(bottom left) Photo by USGS.

Marsh Aerial photo by USGS

OCTOBER 2024

Bulltongue Flower

FUNfact

Marshes help to protect our state from the effects of storms. They do this by acting like a sponge, and absorbing storm surge and slowing down wave energy.

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 11:24 am 1.1 6:20 pm 0.9 11:20 pm 1.0	2 6:14 am 0.8 10:38 pm 1.1	3 7:34 am 0.7 10:38 pm 1.2	4 8:33 am 0.6 10:56 pm 1.4 World Animal Day	5 9:27 am 0.5 11:25 pm 1.4
6 10:25 am 0.4	7 12:03 am 1.5 11:30 am 0.3	8 12:50 am 1.6 12:41 pm 0.3	9 1:45 am 1.6 1:51 pm 0.2	10 2:47 am 1.6 2:54 pm 0.2	11 3:54 am 1.6 3:49 pm 0.2	12 5:08 am 1.6 4:38 pm 0.3
13 6:35 am 1.4 5:21 pm 0.4	14 8:26 am 1.3 5:54 pm 0.6 Columbus Day Indigenous Peoples' Day	15 10:57 am 1.1 5:56 pm 0.9 10:14 pm 0.9	16 5:44 am 0.6 9:28 pm 1.2	17 7:14 am 0.4 9:45 pm 1.4	18 8:28 am 0.2 10:24 pm 1.6	19 9:39 am 0.0 11:13 pm 1.7
20 10:51 am 0.0	21 12:07 am 1.8 12:06 pm 0.0	22 1:06 am 1.7 1:20 pm 0.0	23 2:07 am 1.6 2:28 pm 0.1	24 3:09 am 1.5 3:25 pm 0.2	25 4:10 am 1.4 4:10 pm 0.3	26 5:13 am 1.2 4:40 pm 0.5
27 6:32 am 1.1 4:48 pm 0.6	28 1:26 am 0.9 3:59 am 0.9 9:09 am 0.9 4:11 pm 0.8 10:28 pm 0.9	29 5:58 am 0.7 9:26 pm 1.0	30 6:46 am 0.5 9:12 pm 1.2	31 7:25 am 0.4 9:22 pm 1.3 Halloween		

TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

SEPTEMBER 2024

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

NOVEMBER 2024

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

High Tide:
October 21
12:07 a.m. • 1.8 ft.

Low Tide:
October 19
9:39 a.m. • 0.0 ft.

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Timbalier Island photo by CPRA

BARRIER ISLANDS

Louisiana's barrier islands were formed by the Mississippi River's process of sediment deposition and abandonment of six deltaic complexes from the Holocene epoch (11,700 years ago to present). The Mississippi River changed its course in cycles to access a shorter route to the Gulf of Mexico, creating new deltaic lobes. When the river shifted and abandoned a delta to create a new one, subsidence and erosion formed productive estuaries with a barrier arc separated from the mainland. Over time, the barrier islands continued to sink and erode, migrating until the land mass was altered into a shoal. This process continued until levees and structures were built along the Mississippi River to reduce flooding and maintain the current river channel position for shipping. Levees and structures have been maintained to the present day and constrain the Mississippi River, forever altering the deltaic building system.

Barrier islands provide critical ecological services. They buffer waves to decrease storm impacts to protect infrastructure, protect wetlands that provide suitable reproductive habitat and nursery grounds for fish and shellfish, and provide critical habitat for birds and sea turtles. Restoration efforts continue to sustain these essential landforms for Louisiana's coast.

Ghost Crab photo by Delaina LeBlanc

NOVEMBER 2024

Birds Flying Over Raccoon Island
photo by Delaina LeBlanc

FUNfact

On August 10, 1856, a resort town on Isle Derniere (French for “last island”) was hit by an unnamed hurricane that split it in half. Now, Grand Isle is the only inhabited island in Louisiana.

Brown Pelicans
photo by Delaina LeBlanc

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 8:02 am 0.3 9:45 pm 1.4	**2** 8:42 am 0.2 10:17 pm 1.4
3 8:28 am 0.1 9:56 pm 1.5 Daylight Saving Time Ends	**4** 9:20 am 0.1 10:41 pm 1.5	**5** 10:19 am 0.0 11:30 pm 1.5 Election Day	**6** 11:18 am 0.0	**7** 12:21 am 1.5 12:15 pm 0.0	**8** 1:14 am 1.5 1:05 pm 0.0	**9** 2:08 am 1.3 1:48 pm 0.1
10 3:11 am 1.1 2:19 pm 0.3	**11** 5:18 am 0.9 2:25 pm 0.5 9:04 pm 0.8 Veteran’s Day	**12** 3:38 am 0.6 7:36 pm 0.9	**13** 4:49 am 0.3 7:20 pm 1.2	**14** 5:47 am 0.0 7:43 pm 1.4	**15** 6:45 am -0.2 8:23 pm 1.5 America Recycles Day	**16** 7:44 am -0.3 9:12 pm 1.6
17 8:46 am -0.4 10:04 pm 1.6	**18** 9:51 am -0.4 10:59 pm 1.6	**19** 10:54 am -0.3 11:51 pm 1.5	**20** 11:53 am -0.2	**21** 12:39 am 1.3 12:41 pm -0.1	**22** 1:19 am 1.1 1:17 pm 0.1	**23** 1:44 am 1.0 1:32 pm 0.2
24 1:08 am 0.8 1:12 pm 0.4 9:47 pm 0.7	**25** 10:36 am 0.5 7:51 pm 0.7	**26** 5:20 am 0.3 7:07 pm 0.8	**27** 5:29 am 0.1 7:03 pm 1.0	**28** 5:53 am 0.0 7:19 pm 1.1 Thanksgiving Day	**29** 6:25 am -0.1 7:47 pm 1.2 Native American Heritage Day	**30** 7:02 am -0.2 8:23 pm 1.2

OCTOBER 2024

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

DECEMBER 2024

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

High Tide:
November 16
9:12 p.m. • 1.6 ft.

Low Tide:
November 17
8:46 a.m. • -0.4 ft.

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TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

BAYS AND OPEN OCEANS

Traveling southward through the diverse array of wetland habitats and vibrant communities of our estuary, the diminishing land elevation and freshwater supply eventually give way to the low, salty shores of the bays and open ocean of the Gulf of Mexico.

Sheltered by barrier islands, the brackish waters of the bays are characterized by their ragged, marshy coastlines and scattering of intertidal salt marsh islands. The bays provide habitat for a variety of species, including wading birds and waterfowl, oysters, shrimp, crabs, and hundreds of species of finfish. Bays play a crucial role as nurseries for juvenile fish, and support the life cycles of numerous aquatic organisms.

Beyond the barrier islands are the near-shore open waters of the Gulf of Mexico. Nutrients from the Mississippi River mix with saltwater and fuel the growth of plankton which provide the foundation for a diverse and productive food web. Oil and gas production platforms dot the horizon while snapper, grouper, sharks, and jacks prowl the rigs' legs. Numerous sea birds such as the Magnificent Frigatebird and the Brown Pelican ply the skies, while bottlenose dolphins and five species of threatened or endangered sea turtles cruise the gently sloping depths.

The bays and open ocean of the Barataria-Terrebonne National Estuary contribute to the complex web of life in this ecological system, emphasizing the need for their preservation and careful management to ensure the long-term health and sustainability of our estuary.

Birds photo by Mudbug Photography

DECEMBER 2024

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 7:44 am -0.3 9:05 pm 1.3	2 8:31 am -0.4 9:49 pm 1.3	3 9:20 am -0.4 10:35 pm 1.3 Giving Tuesday	4 10:09 am -0.4 11:20 pm 1.3 Wildlife Conservation Day	5 10:55 am -0.4	6 12:04 am 1.2 11:35 am -0.3	7 12:44 am 1.0 12:06 pm -0.1
8 1:14 am 0.8 12:17 pm 0.1 10:38 pm 0.5	9 11:26 am 0.3 7:08 pm 0.5	10 3:59 am 0.2 6:12 pm 0.7	11 4:27 am -0.1 6:14 pm 1.0	12 5:12 am -0.4 6:45 pm 1.1	13 6:03 am -0.6 7:29 pm 1.3	14 6:57 am -0.7 8:20 pm 1.3
15 7:54 am -0.7 9:14 pm 1.3	16 8:51 am -0.7 10:06 pm 1.3	17 9:46 am -0.6 10:54 pm 1.2	18 10:34 am -0.5 11:36 pm 1.0	19 11:12 am -0.4	20 12:08 am 0.9 11:37 am -0.2	21 12:24 am 0.7 11:38 am -0.1 11:50 pm 0.5 First Day of Winter
22 10:53 am 0.1 8:21 pm 0.4	23 8:00 am 0.1 6:16 pm 0.4	24 4:54 am 0.0 5:41pm 0.6 Christmas Eve	25 4:44 am -0.2 5:46 pm 0.7 Christmas Day	26 5:04 am -0.3 6:10 pm 0.8	27 5:36 am -0.5 6:47 pm 0.9	28 6:15 am -0.6 7:31 pm 1.0
29 6:58 am -0.6 8:17 pm 1.0	30 7:44 am -0.7 9:04pm 1.1	31 8:29 am -0.7 New Year's Eve				

FUNfact

The bays of the Barataria Estuary played a significant role in early American history. Jean Lafitte, the famous privateer and unlikely hero of the War of 1812, is said to have used Barataria Bay and the labyrinth of marshes south of New Orleans as a base of operations during the early 19th century.

Jean Lafitte Portrait credited to Rosenberg Library, TX

TIDE ADJUSTMENT TABLE CAN BE FOUND ON THE BACK COVER

Beach photo by Mudbug Photography

NOVEMBER 2024

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

JANUARY 2025

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

High Tide:
December 1
9:05 p.m. • 1.3 ft.

Low Tide:
December 14
6:57 a.m. • -0.7 ft.

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TIDE CORRECTIONS

To find the best time to fish your favorite locations, find a location that is closest to your area and add or subtract the time from the corresponding daily prediction.

AREA	LOW (Hours:Minutes)	High (Hours:Minutes)
Shell Beach, Lake Borgne	+5:10	+4:01
Chandeleur Lighthouse	+0:38	+0:05
Venice, Grand Pass	+1:28	+1:06
Southwest Pass, Delta	-0:29	-1:29
Empire Jetty	-1:35	-2:03
Bastian Island	+0:22	-0:19
Quatre Bayou Pass	+0:27	+1:18
Independence Island	+2:09	+1:29
Caminada Pass	+1:44	+1:14
Timbalier Island	+0:33	-0:41
Cocodrie, Terrebonne Bay	+2:50	+1:10
Wine Island	+1:12	+0:08
Raccoon Point	-0:10	-1:03
Ship Shoal Light	-1:40	-2:54

Charts in this calendar are intended for use solely as a reference guide to Louisiana fishing. It is not intended for navigational use. BTNEP makes no warranty, expressed or implied, with respect to the accuracy or completeness of the information contained in these charts. BTNEP assumes no liability with respect to the use of any information contained in this document.

**Grand Isle is used to determine the tides used throughout the calendar.*

BTNEP THANKS...

BARATARIA-TERREBONNE ESTUARY FOUNDATION

2024 Moon Phase Calendar Icons

New Moon
Full Moon
First Quarter
Third Quarter

2024 TIDAL GRAPH CALENDAR

Design and layout: Otey White & Associates/Angela deGravelles

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Barataria–Terrebonne NATIONAL ESTUARY PROGRAM

LUMCON

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Front cover and intro photos by Lane Lefort

FISHING REGULATIONS

This is not a comprehensive or official copy of the laws in effect and should not be utilized as such. Size and creel limit regulations are presented for selected species only. These species as well as other species may be managed by seasons, quotas and permits. Different regulations for bass, catfish and crappie may apply within specific areas. Contact the Louisiana Department of Wildlife and Fisheries (LDWF) for specific information.

FRESHWATER SPECIES

SPECIES	SIZE LIMIT	DAILY LIMIT	
Large mouth and Spotted Bass***	None	10	
Crappie (Sac-a-lait)	None	50	
Striped or Hybrid Striped Bass	None: 2 over 30" (TL)	5 (Any combination)	
White Bass	None	50	
Yellow Bass	None	50	
Channel Catfish	25 less than 11" (TL)	100	100 total of these three species
Blue Catfish	25 less than 12" (TL)	100	
Flathead Catfish (Spotted, Yellow or Opelousas)	25 less than 14" (TL)	100	
Freshwater Drum (Gaspergou)	12" Minimum (TL)	25	

SALTWATER SPECIES

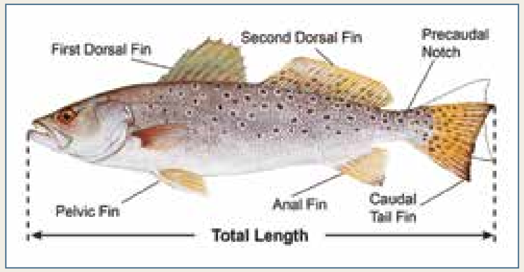
SPECIES	SIZE LIMIT	DAILY LIMIT
Spotted Seatrout (Speckled Trout)*	13" Minimum (TL), two over 20"	15
Red Drum (Redfish)*	16" Minimum (TL), one over 27"	5
Black Drum	16" Minimum (TL), one over 27"	5
Southern Flounder**	None	10
Greater Amberjack	State & Federal Reg. 34" Min. (FL)	1
Cobia (Ling or Lemon Fish)	State & Federal Reg. 36" Min. (FL)	1
King Mackerel	State & Federal Reg. 24" Min. (FL)	3
Spanish Mackerel	State & Federal Reg. 12" Min. (FL)	15
Red Snapper***	State & Federal Reg. 16" Min. (TL)	***

*Red Drum (Redfish) and Spotted Seatrout (Speckled Trout): LDWF local and statewide fishing regulations are subject to change.

**Southern Flounder: Season closed October 15- November 30.

***There are specific regulations for Bass, Red Snapper and Shark. Check LDWF regulations for more information.

FORK LENGTH (FL): Tip of snout to fork of tail. TOTAL Length (TL): Tip of snout to tip of tail.



LA. Department of Wildlife and Fisheries

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