

Abstract

During the summer of 2013, the U.S. Geological Survey, Louisiana State University, University of Louisiana at Lafayette, and the Louisiana Department of Wildlife and Fisheries Coastal and Nongame Resources Division jointly completed an aerial survey to collect data on 2013 vegetation types in coastal Louisiana. Plant species were listed and their abundance classified. On the basis of species composition and abundance, each marsh sampling station was assigned a marsh type: fresh, intermediate, brackish, or saline (saltwater) marsh. The current map presents the data collected in this effort.

Methodology

There are numerous datasets available to conduct analyses of marsh change in coastal Louisiana. Most prior studies have used either National Wetlands Inventory data or vegetation type maps produced by O'Neil (1949), Chabreck and others (1968), Chabreck and Linscombe

(1978, 1988, 1997), Linscombe and Chabreck (n.d. [2001]), and Sasser and others (2008). During the summer of 2013, the U.S. Geological Survey, Louisiana State University, University of Louisiana at Lafayette, and the Louisiana Department of Wildlife and Fisheries Coastal and Nongame Resources Division jointly completed an aerial survey to collect data on 2013 vegetation types in coastal Louisiana (table 1). The current map presents the data collected in this effort.

The 2013 aerial survey was conducted from a 206 Bell Jet Ranger helicopter by using techniques developed over the last 30 years while conducting similar vegetation surveys. Transects flown were oriented in a north-south direction and spaced 1.87 miles (mi) (3 kilometers [km]) apart. Sampling sites were located at a spacing of 0.5 mi (0.8 km) along these transects. Transects covered coastal marshes from the Texas State line to the Mississippi State line and from the northern extent of fresh marshes to the southern end of saline (saltwater) marshes on the beaches of the Gulf of Mexico or of coastal bays. Navigation along these transects and to each sampling

site was accomplished by using Global Positioning System (GPS) technology and geographic information system (GIS) software operating on a ruggedized laptop, a procedure that was established during the 1997 vegetation survey by Chabreck and Linscombe (1997).

As the surveyors reached each sampling station, plant species were listed and their abundance classified. On the basis of species composition and abundance, each marsh sampling station was assigned a marsh type: fresh, intermediate, brackish, or saline (saltwater) marsh (Visser and others, 1998, 2000, 2002). The data generated from the survey were later delineated by using the same base map as that used to map the data collected during the 1997 (Chabreck and Linscombe, 1997), 2001 (Linscombe and Chabreck, n.d.), and 2007 (Sasser and others, 2008) surveys. Delineations of marsh boundaries usually followed natural levees, bayous, or other features that impede or restrict water flow.

Table 1. Area of polygons as depicted on this map of the Louisiana coastal zone.

[Polygons were drawn on the basis of a survey of 8,302 stations and marsh classification of 4,107 stations]

	Acres	Hectares
Vegetation type		
Fresh marsh	956,617	387,129
Intermediate marsh	940,592	380,644
Brackish marsh	997,437	403,648
Saline (saltwater) marsh	729,942	295,397
Swamp	464,805	188,100
Land type		
Other—Nonmarsh	1,343,326	543,625
Water	4,606,864	1,864,332
Total	10,039,583	4,062,875

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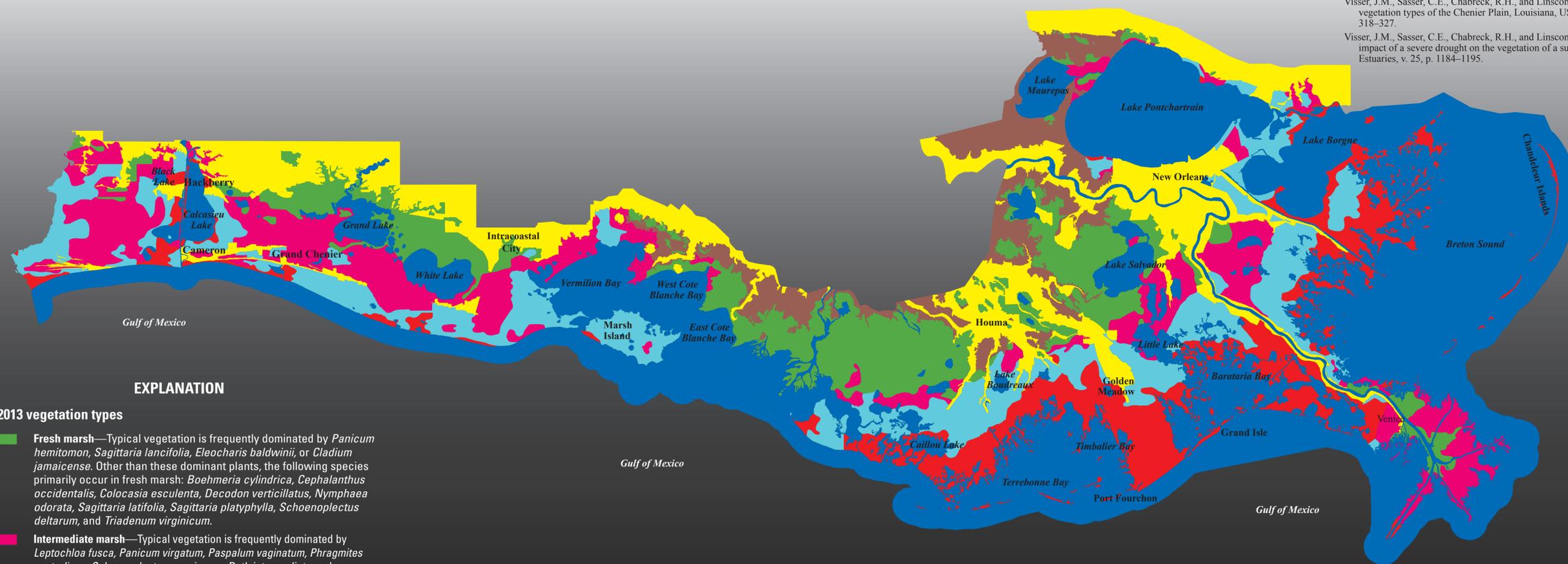
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EXPLANATION

2013 vegetation types

- **Fresh marsh**—Typical vegetation is frequently dominated by *Panicum hemitomon*, *Sagittaria lancifolia*, *Eleocharis baldwinii*, or *Cladium jamaicense*. Other than these dominant plants, the following species primarily occur in fresh marsh: *Boehmeria cylindrica*, *Cephalanthus occidentalis*, *Colocasia esculenta*, *Decodon verticillatus*, *Nymphaea odorata*, *Sagittaria latifolia*, *Sagittaria platyphylla*, *Schoenoplectus deltarum*, and *Triadenum virginicum*.
- **Intermediate marsh**—Typical vegetation is frequently dominated by *Leptochloa fusca*, *Panicum virgatum*, *Paspalum vaginatum*, *Phragmites australis*, or *Schoenoplectus americanus*. Both intermediate and brackish marshes can be dominated by *Spartina patens*, but intermediate marshes dominated by *Spartina patens* have a higher species richness often including *Sagittaria lancifolia*, *Schoenoplectus americanus*, *Eleocharis* spp., and (or) *Cyperus* spp.
- **Brackish marsh**—Typical vegetation is often dominated by *Spartina patens* but is occasionally dominated by *Spartina cynosuroides*, *Spartina spartinae*, or *Bolboschoenus robustus*. Both intermediate and brackish marshes can be dominated by *Spartina patens*, but brackish marshes dominated by *Spartina patens* typically have a small number of other species such as *Spartina alterniflora*, *Distichlis spicata*, *Juncus roemerianus*, or *Bolboschoenus robustus*.
- **Saline (saltwater) marsh**—Typical vegetation is frequently dominated by *Spartina alterniflora*, *Distichlis spicata*, or *Avicennia germinans*.
- **Swamp**

Land types

- **Other—Nonmarsh**
- **Water**



Vegetation Types in Coastal Louisiana in 2013

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Sasser, C.E., Visser, J.M., Mouton, Edmond, Linscombe, Jeb, and Hartley, S.B., 2014, Vegetation types in coastal Louisiana in 2013: U.S. Geological Survey Scientific Investigations Map 3290, 1 sheet, scale 1:550,000.

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