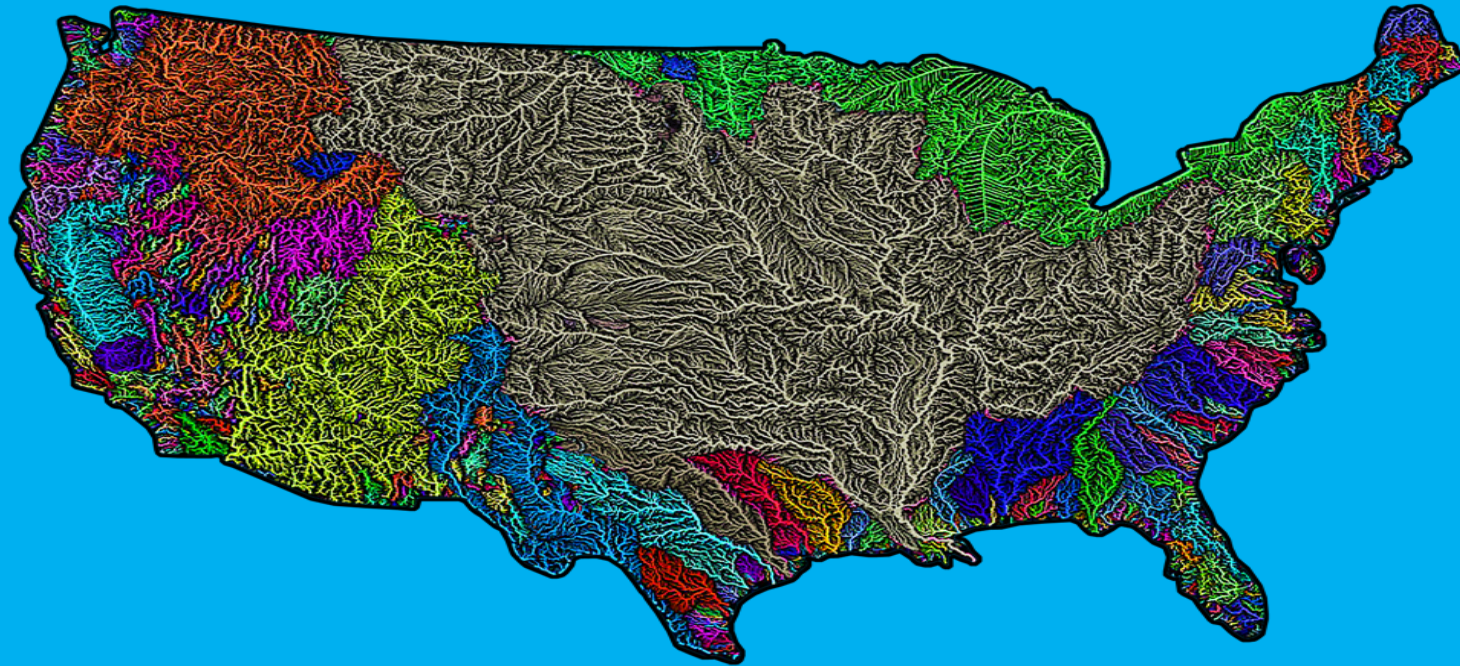


BIG RIVER COALITION

“Advocating for a Mightier Mississippi River”



“The basin of the Mississippi is the body of the nation.”
Mark Twain, *Life of the Mississippi* 1883

HYDROGRAPHIC SERVICES REVIEW PANEL

31022

NTSB Marine Accident Brief Sunshine Bridge Allision

VERTICAL CLEARANCE MATTERS



SUNSHINE BRIDGE MISSISSIPPI RIVER SHIP CHANNEL (Burnside, LA)

“However, the NTSB reviewed the available data for the Sunshine Bridge and other bridges with multiple spans on the Lower Mississippi River and found inconsistencies in the vertical clearances provided for all navigable spans. For example, the NOAA chart for the Hale Boggs Bridge at Mile 121.6 on the Mississippi River showed separate vertical clearances for the two spans (132.9 feet for the main span and 116.8 feet for the auxiliary span), but the charts for the Huey P. Long Bridge at Mile 106.1 and the Highway 190 Bridge at Mile 233.9 (both have two spans) showed the vertical clearance for only the main spans.”

NTSB Marine Accident Brief Sunshine Bridge Allision

INVISIBLE INFRASTRUCTURE MATTERS



SUNSHINE BRIDGE MISSISSIPPI RIVER SHIP CHANNEL (Burnside, LA)

The National Oceanic and Atmospheric Administration (NOAA) provides the following definition of an “air gap”:

“What is air gap? The NOAA Air Gap system is a tool that measures the vertical clearance between a defined reference point under a bridge and the surface of the water below.”

NTSB Marine Accident Brief Sunshine Bridge Allision

The following quote is reproduced from NTSB Marine Accident Brief # DCA19FM003:

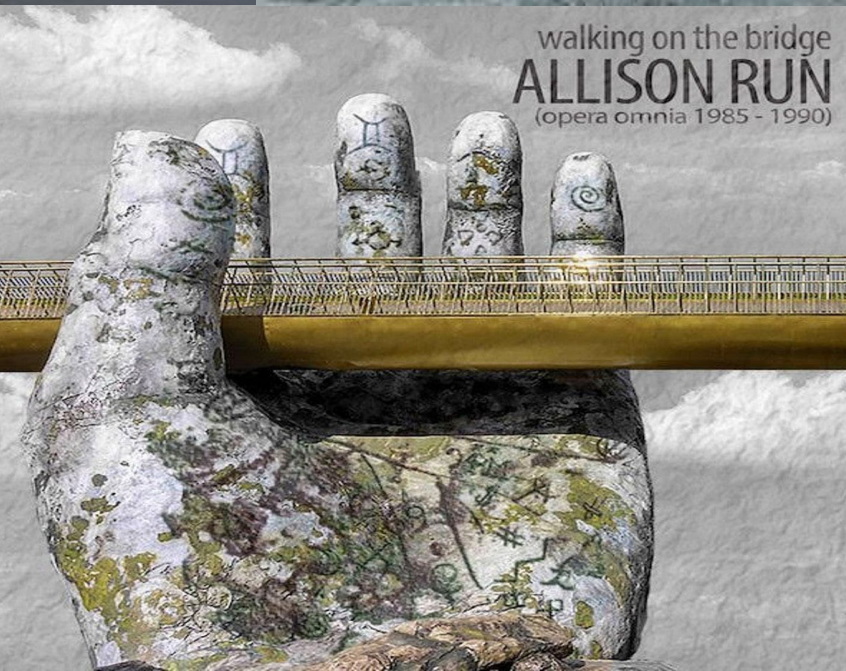
“Navigational aids should provide mariners with a simple and precise way to navigate and not increase workload or cause confusion. Mariners would be better equipped with the correct information if all of the information was included on the chart and any additional data sources were clearly stated so as to “steer” the mariner to the map books, river gages, and/or other Corps of Engineers information.”...



BAYOU RAMOS near MORGAN CITY



VERTICAL CLEARANCE MATTERS



NTSB Marine Accident Brief Sunshine Bridge Allision

VERTICAL CLEARANCE MATTERS

BAYOU RAMOS near MORGAN CITY

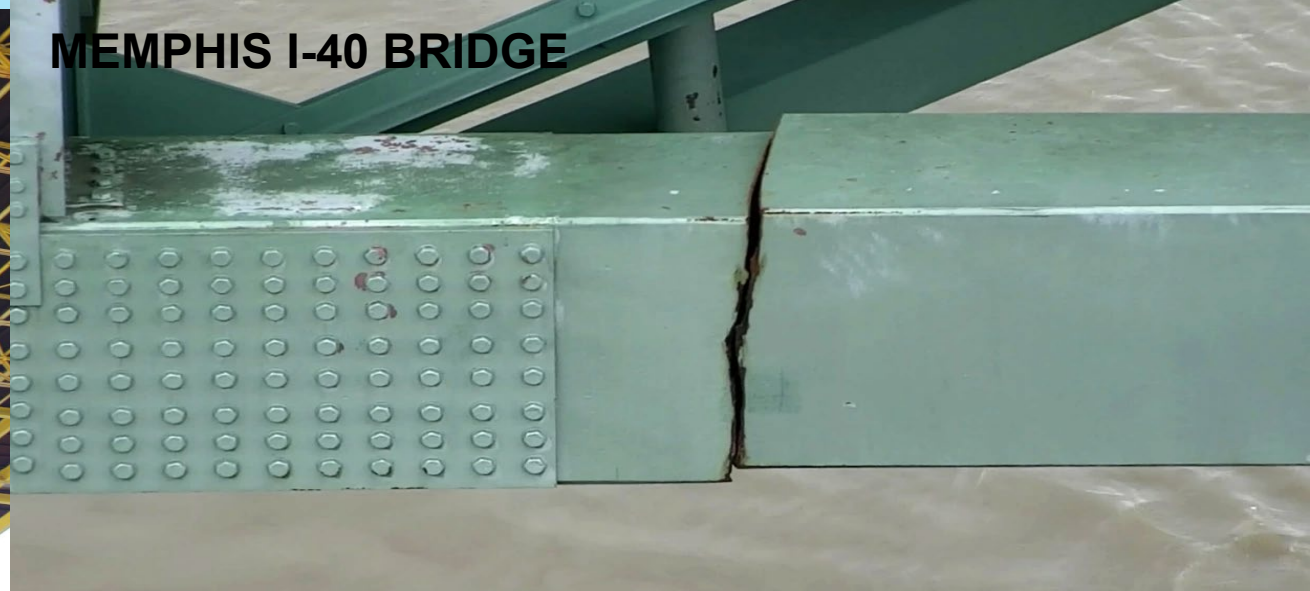


INVISIBLE INFRASTRUCTURE MATTERS

HURRICANE IDA DOWNED POWER LINES ACROSS MRS



MEMPHIS I-40 BRIDGE



BIG RIVER COALITION Research on Vertical Clearance of Seven Bridges over the MRSC

I-10 HIGHWAY BRIDGE (Baton Rouge, LA): This bridge crosses over the Mississippi River Ship Channel (MRSC) at Mile 229.3 AHP and was opened to vehicular traffic in 1968.

The listed vertical clearances or present methods to determine vertical clearances at the main channel span of the Baton Rouge I-10 Bridge are:

- A) NOAA's published chart 11370 documents a vertical clearance of 125 feet.
- B) USACE list the vertical clearance at 174 feet minus the **Port Allen Gage*** and offers the minimum vertical clearance as 127 feet with the Port Allen Gage at 47 feet.
- C) USCG list the vertical clearance as 174 feet minus the **Port Allen Gage*** and offers the minimum vertical clearance as 127 feet with the Port Allen Gage at 47 feet.
- D) New Orleans Baton Rouge Steamship Pilots Association list the vertical clearance as 172.5 feet minus the Baton Rouge Gage this gage is at Mile 228.4 AHP and 0.9 miles away from the bridge.

NTSB Marine Accident Brief # DCA19FM003:

“The New Orleans Geospatial Engineering Team (“the mapping team”) reviewed the document that was sent by you (Sean Duffy of Big River Coalition) on 19-Oct-2021. The mapping team reviewed the USACE 2015 Lower Mississippi Navigation Book, Chart No. 74 and the chart figure called “Chart No. 74 Supplement A” showing bridge clearance for I-10 Hwy Bridge at Baton Rouge.

In regard to the "Port Allen Lock River Side Gage", the mapping team concurs that this reference is misleading. This is an issue of nomenclature. The chart should more clearly refer to the gage as Mississippi River at Baton Rouge.”

The USACE RiverGages.com www site states that this “Mississippi River at Baton Rouge” gage is physically located on the river side forebay wall of the Port Allen Lock. Again, this is an issue of nomenclature. The intent of the chart book was to refer to this same gage.

NTSB Marine Accident Brief # DCA19FM003

Courses of Action:

1. Change the USACE chart gage name to show “Mississippi River Baton Rouge Gage (01160)”. The 01160 Gage ID will be very definitive for correlation of river stage to a specific 01160 gage via the publicly available information on RiverGages.com.
2. As the publication cycle for this chart book is not fixed, it cannot be determined when chart corrections would be available to the public via a printed chartbook. Therefore, USACE New Orleans will issue a "Navigation Bulletin" with this chart correction. The Navigation Bulletin will become part of a later USCG Local Notice to Mariners (LNM). It is incumbent on mariners to update their charts with this information from the LNM.
3. USACE New Orleans will also coordinate with NOAA and the USCG to resolve the discrepancy in low steel elevation that exists between the NOAA chart and the USACE chart.”

The Big River Coalition works closely with the government agencies and applauds the swift and appropriate actions by the USACE to make the noted adjustment or correction. The USCG has confirmed that it will also update their listings for the Baton Rouge I-10 Bridge vertical clearance calculation to match the noted adjustment from the USACE (174 – Baton Rouge Gage).

NTSB Marine Accident Brief # DCA19FM003

The following quotes are also reproduced from Marine Accident Brief # DCA19FM003:

...“A bridge inspector for the Louisiana Department of Transportation Development (LADOTD) arrived about 0230, viewed the underside of the bridge by boat, determined that the damage was extensive, and closed the bridge to vehicular traffic.”

“Subsequent inspections and strength calculations of the damaged bridge areas found that the section struck by the crane could have collapsed, but, because of secondary load redistributions, catastrophic failure was avoided. The bridge was completely closed until December 2018, at which point single-lane, two-way traffic was permitted until March 2019, when all repairs were complete.”...

Recommendations

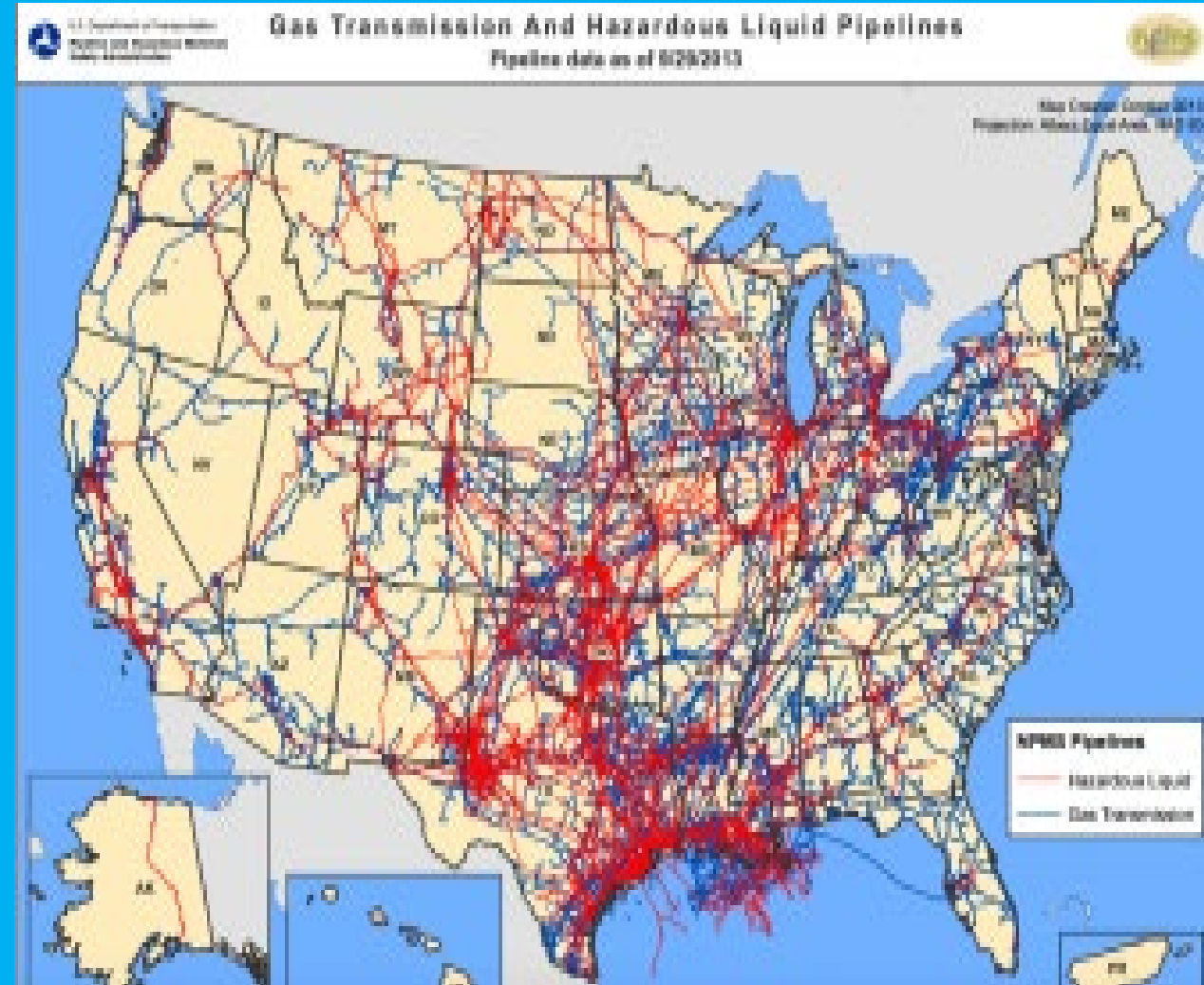
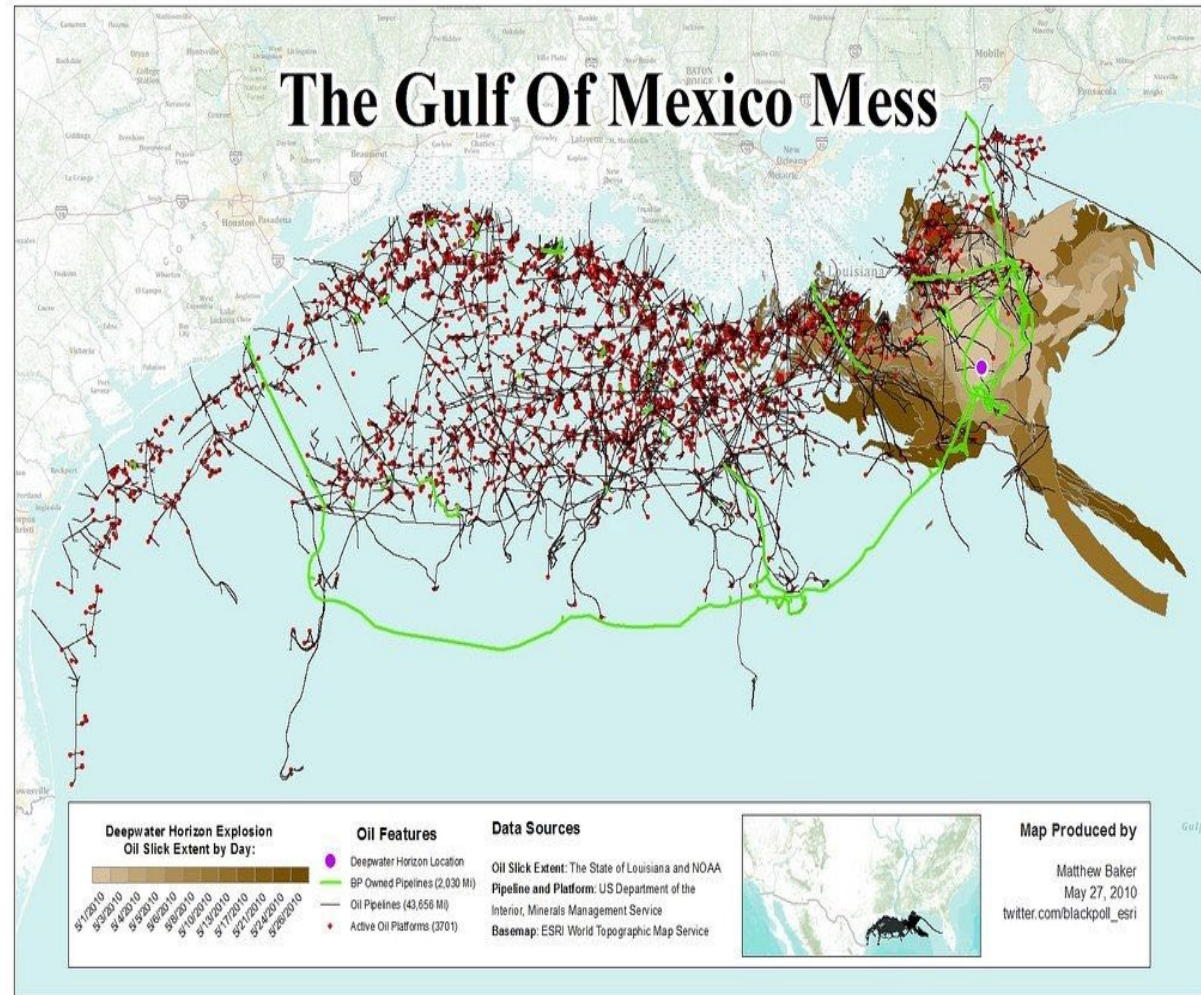
As a result of its investigation, the National Transportation Safety Board makes the following safety recommendations:

To the National Oceanic and Atmospheric Administration:

Review and update bridge data and charts to include vertical clearance information for all navigable bridge spans. (M-20-9)

INVISIBLE INFRASTRUCTURE





INVISIBLE INFRASTRUCTURE

Ruptured Pipeline off California Coast

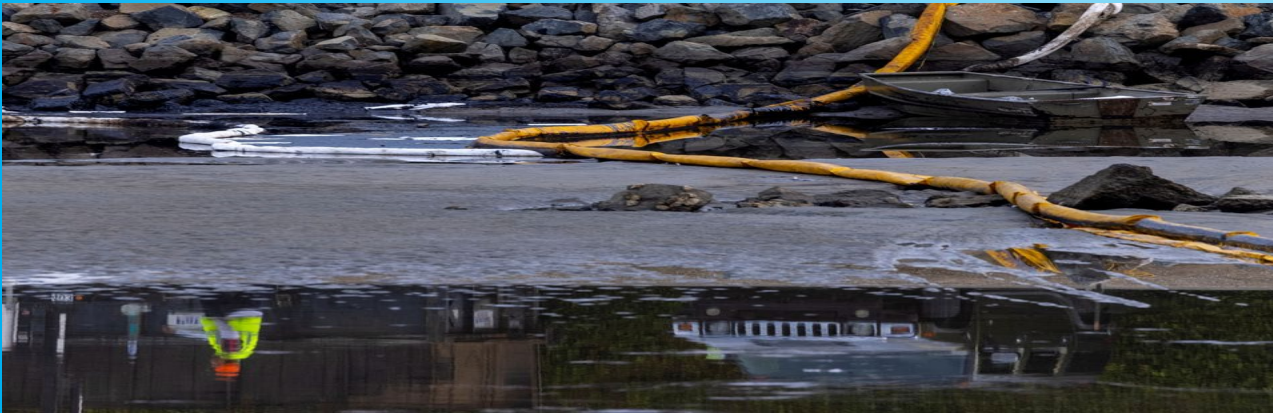
U.S. Coast Guard reporting on the underwater oil pipeline that released tens of thousands of gallons of crude oil near Huntington Beach, CA.

A large vessel of some kind may have struck the massive pipeline, shattering the concrete casing but not necessarily causing the slender crack from which oil spewed late September 2021. The pipeline, which was found to be intact during a survey the year before, may also have been struck several other times by anchors from other vessels.

We're going to be looking at every vessel movement over that pipeline, and every close encroachment from the anchor just for the entire course of the year," the captain said.

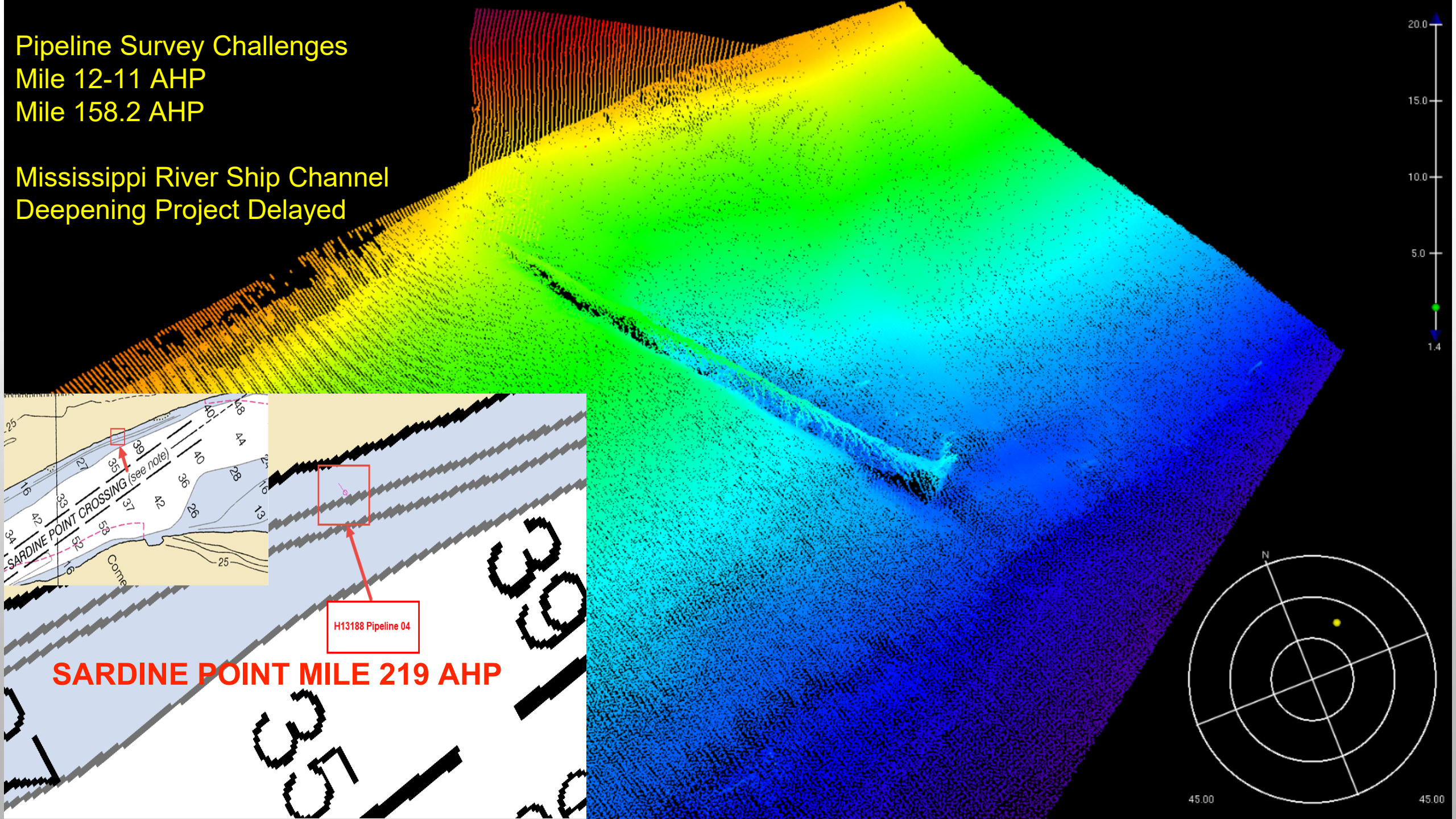
That indicates a large vessel was involved, he said. Cargo ships with multiton anchors routinely move through the area from the ports of Los Angeles and Long Beach.

At least 17 accidents on pipelines carrying crude oil or other hazardous liquids have been linked to anchor strikes or suspected anchor strikes since 1986, according to an Associated Press review of more than 10,000 reports submitted to federal regulators.



Pipeline Survey Challenges
Mile 12-11 AHP
Mile 158.2 AHP

Mississippi River Ship Channel
Deepening Project Delayed



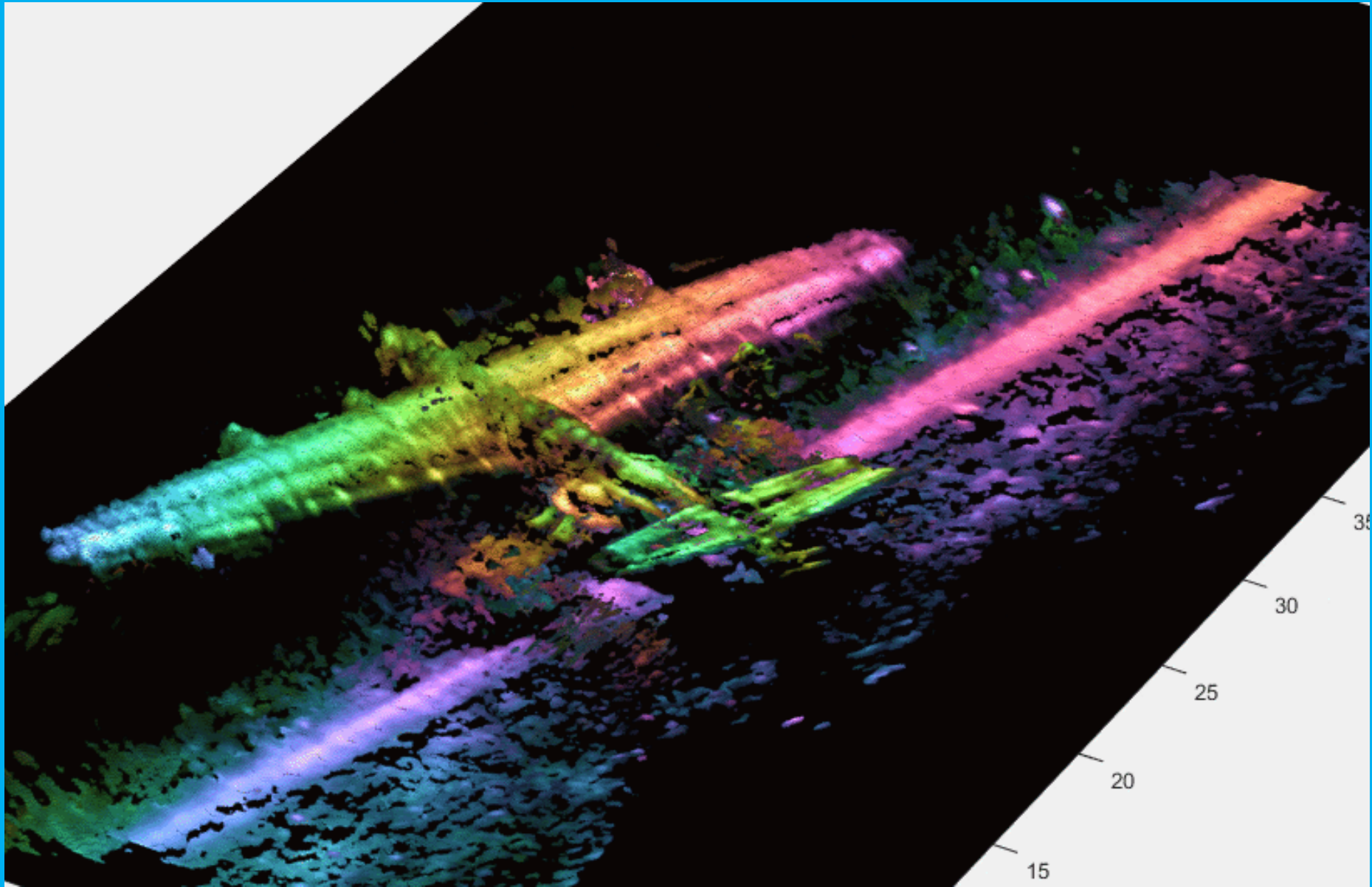
SARDINE POINT MILE 219 AHP

H13188 Pipeline 04

45.00

45.00

20.0
15.0
10.0
5.0
1.4



Matlab point cloud rendering