

NOAA Right Whale Conservation



It's not a wrong whale!

How can NOAA save the North Atlantic Right Whale?

NOAA has pushed through new regulations, but the population continues shrinking

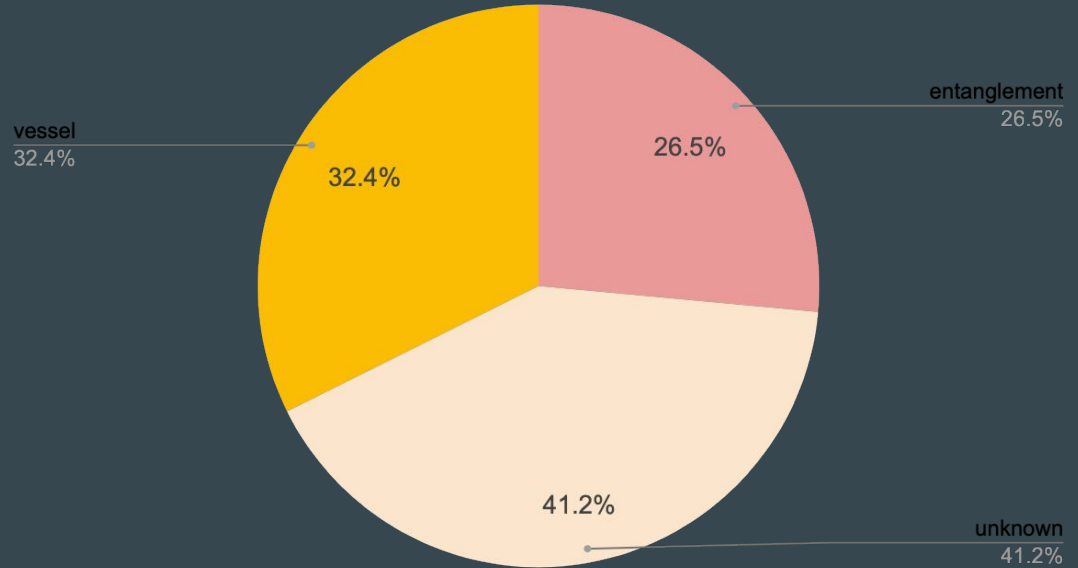
- grows 50ft in length
- Prefers shallow bays
- <400 left in the world

Problem

In the last 4 years, 10% of the population (34 whales) have been killed

NOAA must protect the Right Whales from Vessel Strikes (among other things)

Recent Causes of Whale Death

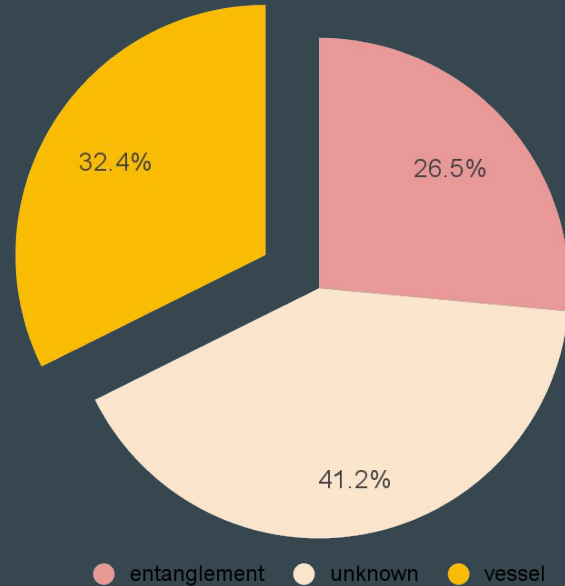


NOAA Vision

NOAA works with
shipping companies
decrease vessel strikes
to 1 a year

Whale population
increases

Recent Causes of Whale Death



Why are there so many vessel strikes?

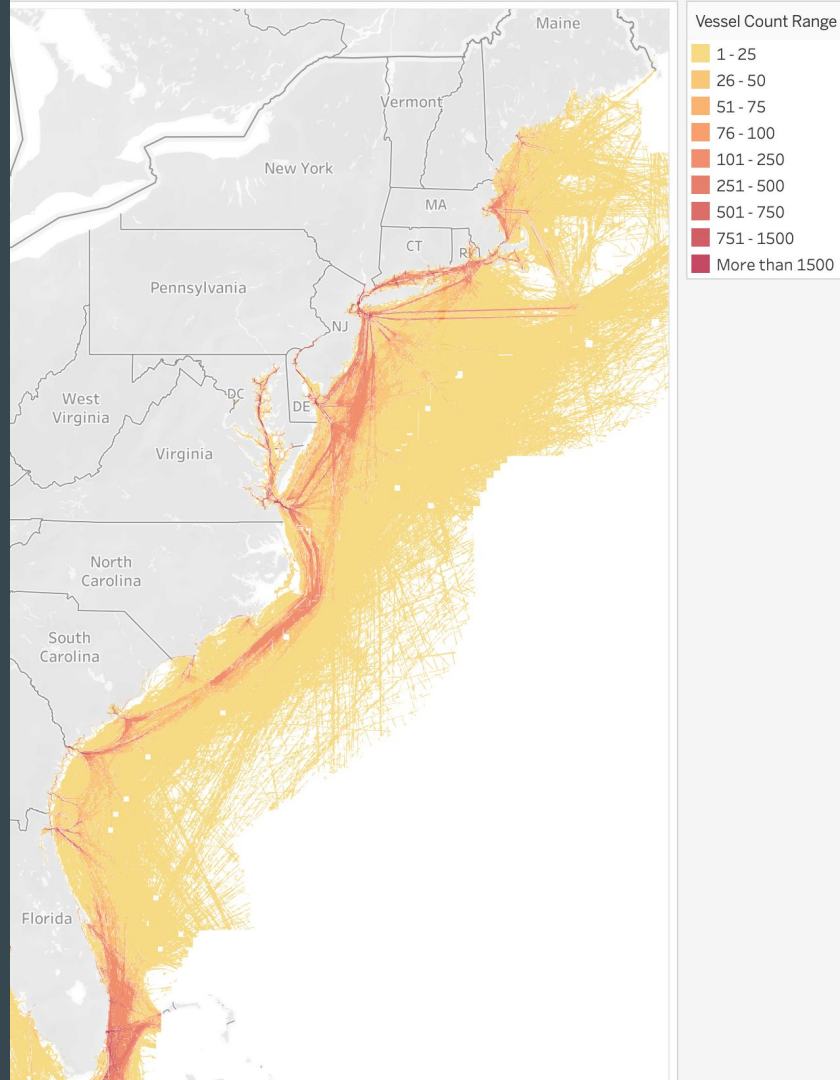
Largest Ports in United States:

Los Angeles

New York and New Jersey

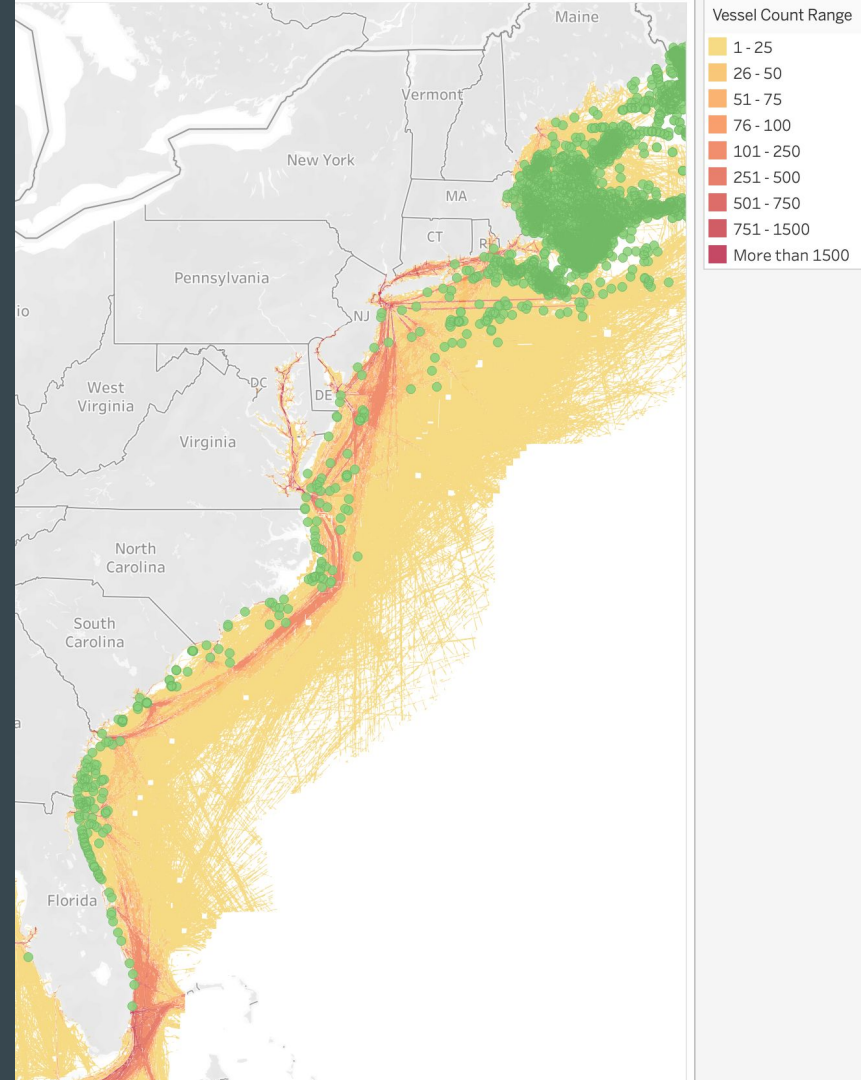
Georgia ports

Houston



Why are there so many vessel strikes?

Where the whales live



The Opportunity

Each ship carries:
an AIS beacon, which is a
live connection to the
shore

An electronic chart, with
alerting capabilities



We can send a ship an alert
based on their live environment

Hypothesis

NOAA can decrease whale deaths by alerting ships when a whale is likely to be in their vicinity

Classification Model

Using historic locations

&

Current Temperature data from
Buoys

&

Recent sightings

=

Is there a whale?



Historical whale movement

Whale patterns stay the
same year after year

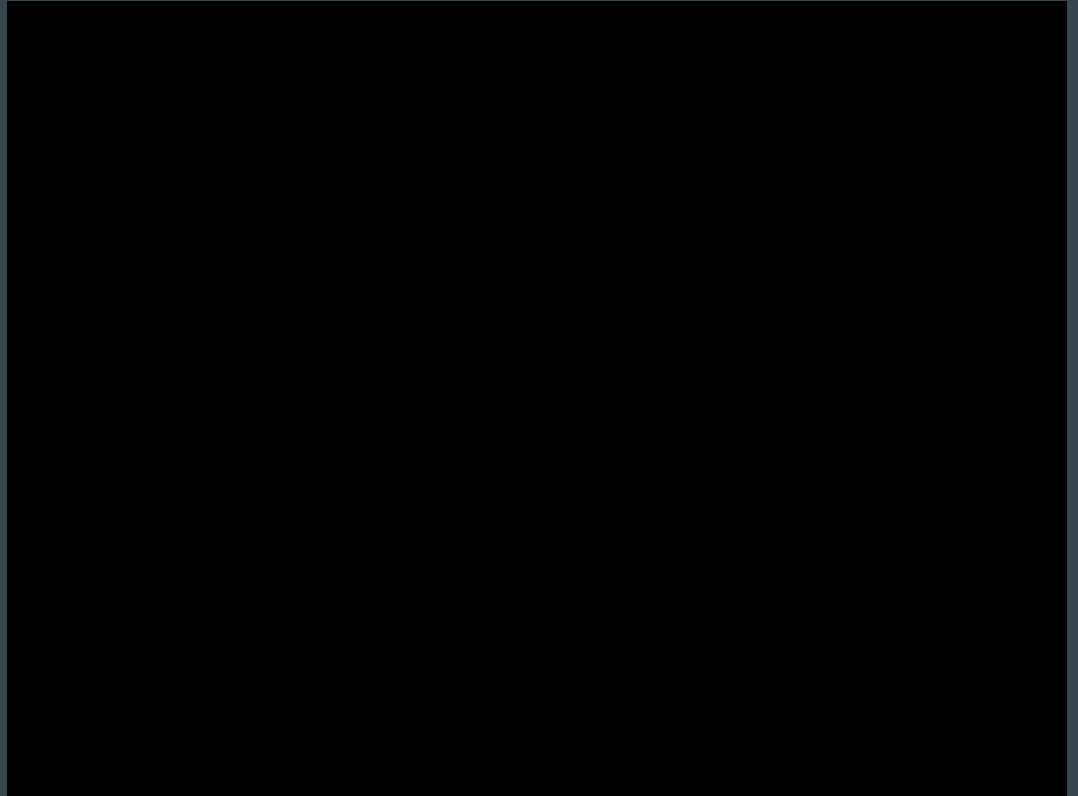


Whales and Food

Whales eat zooplankton

Zooplankton are affected by temps, salinity

Live into on temps and salinity available
from buoys



Place a higher risk on calving temps

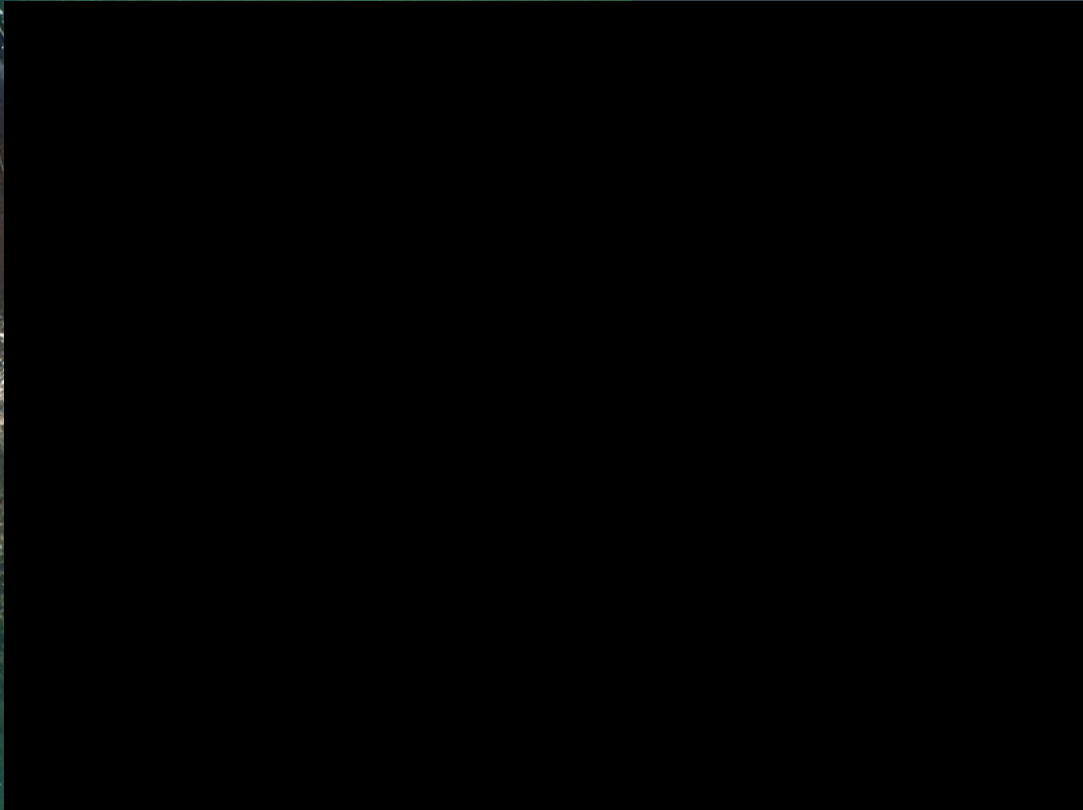
Whales calve between
55 and 60 degrees

+

Few Locations

=

We can find the whales



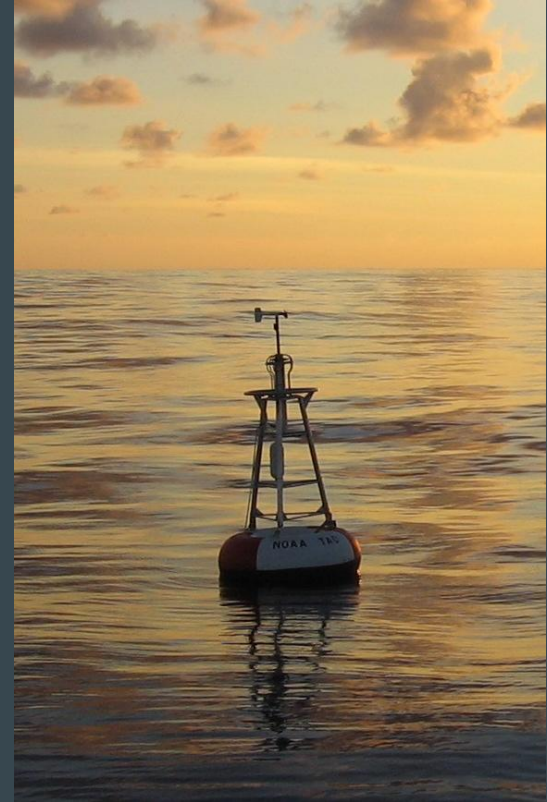
How to We Push this Info to Ships and Future Path

We build an app

Because ships already have beacon alerts and electronic chart plotters, no additional equipment is needed

The Future

Research on identifying whale sounds from small sensors is readying production. Mounting these on buoys and ships will provide data without human intervention



Lets Save Some Whales!

