

Catching up with the times: creating accessible, updated NARW acoustic presence tools

Genevieve Davis^{1,2}, Mark Baumgartner³,
Hansen Johnson^{3,4}, Sofie Van Parijs¹



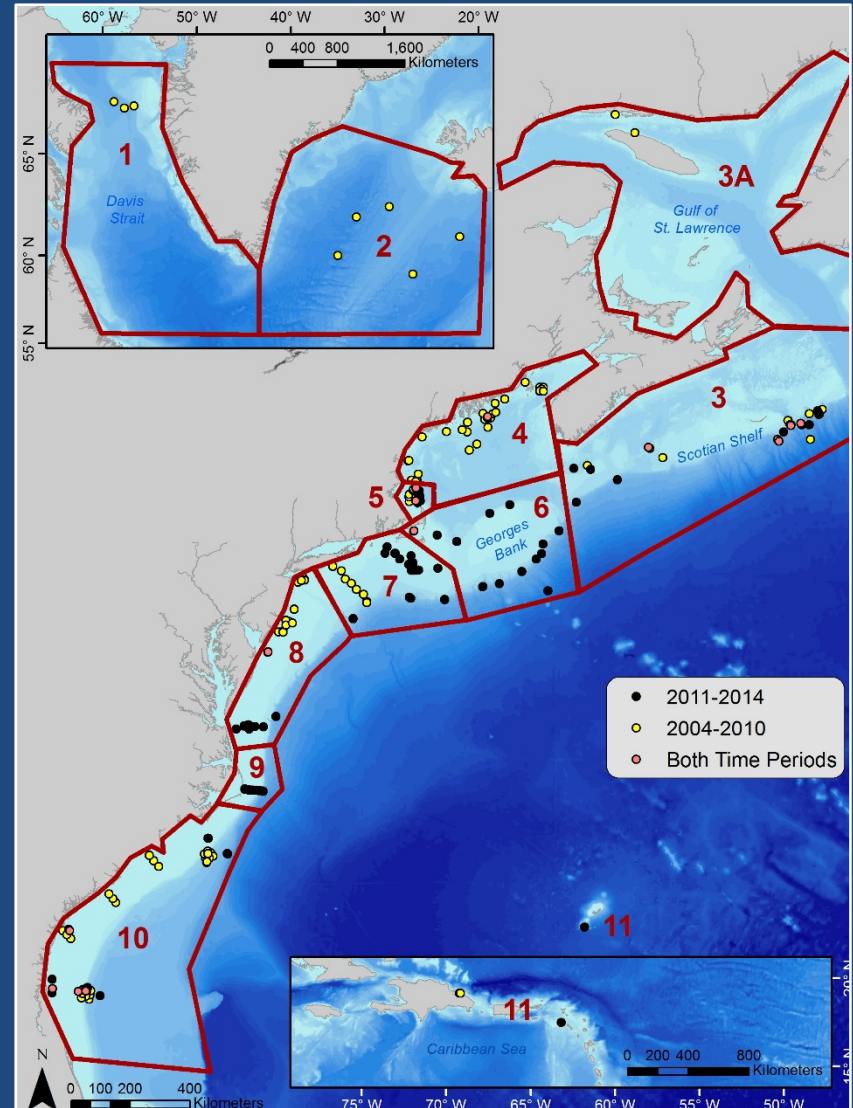
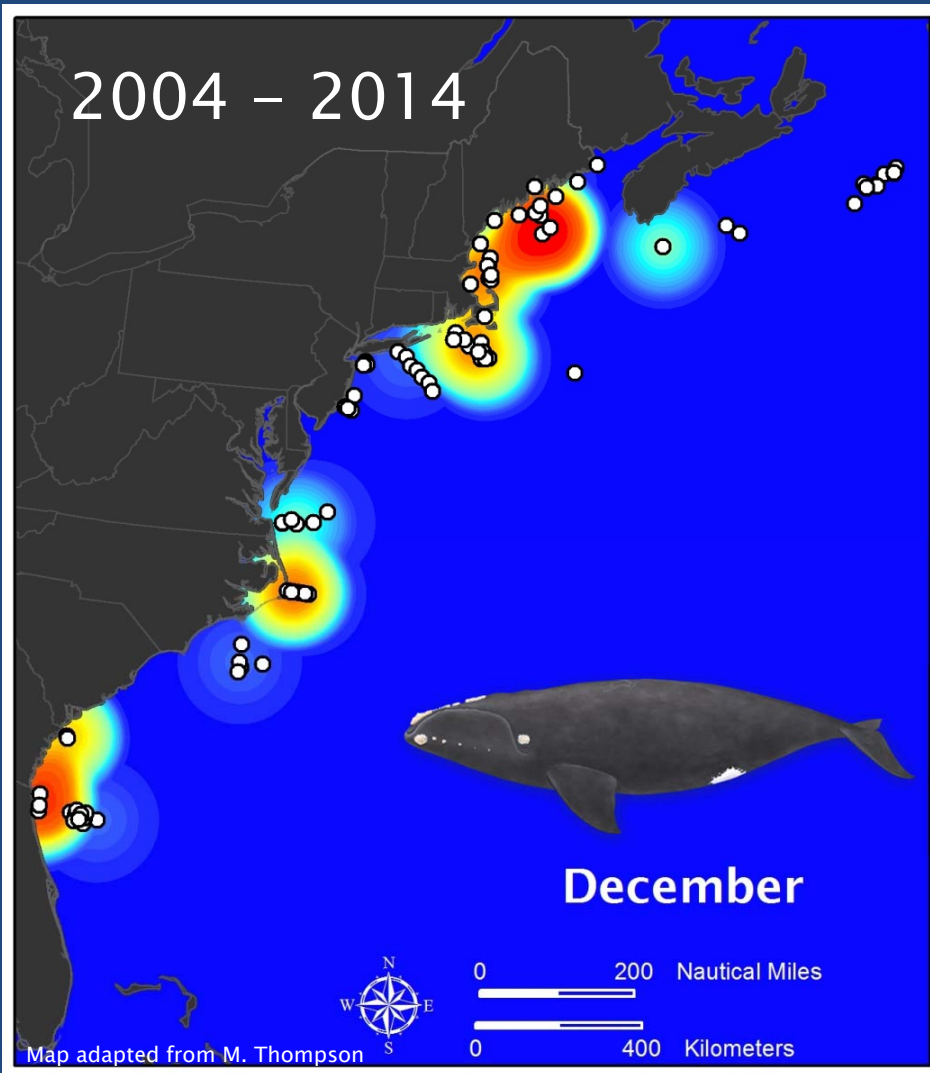
¹NOAA Northeast Fisheries Science Center

²University of Massachusetts Boston

³Woods Hole Oceanographic Institution

⁴Dalhousie University

US/Canada Past Archival Recorders



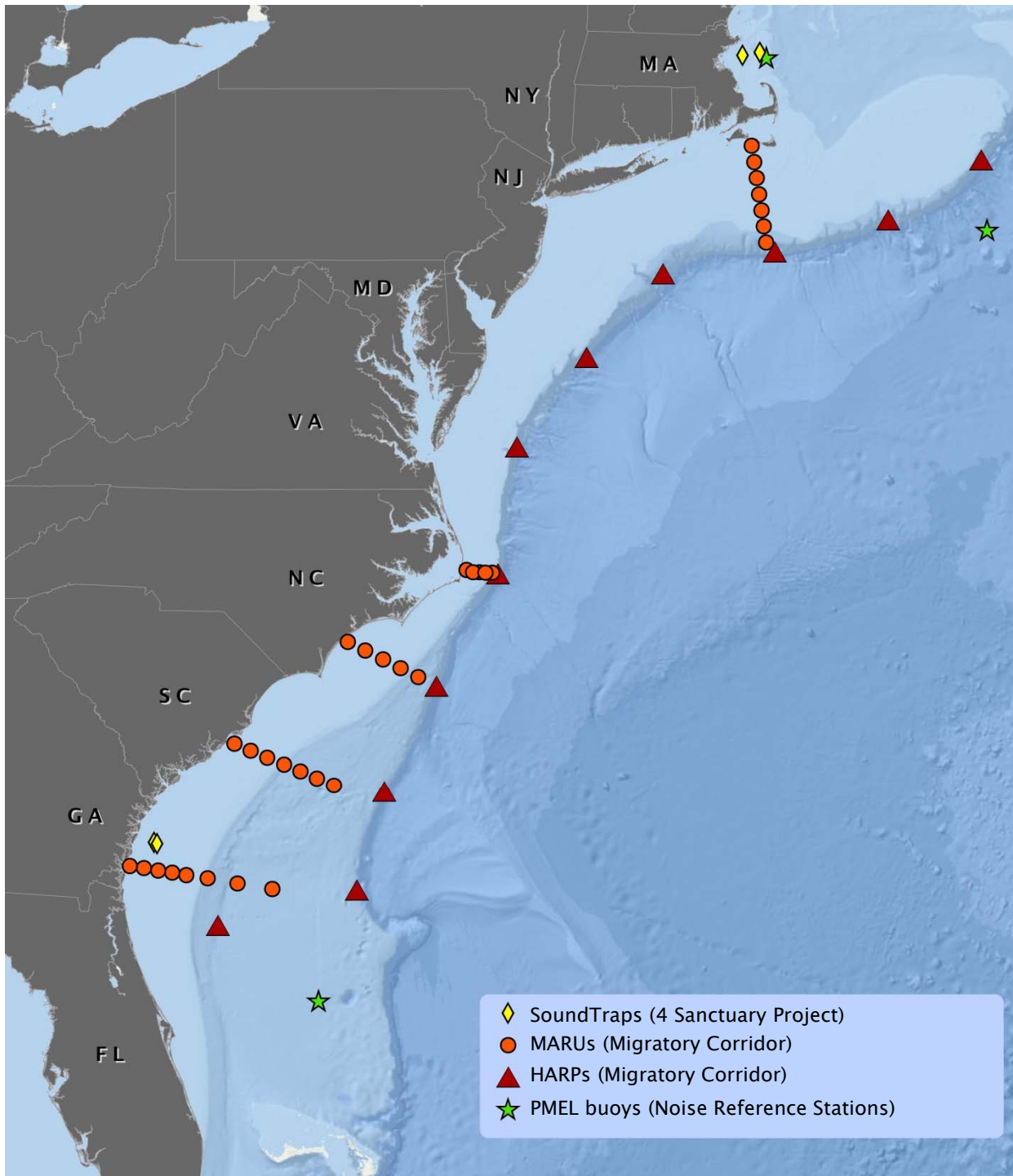
Davis et al. 2017. Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales. *Scientific Reports* 7: 13460.

Data Contributors

- Sean Todd; College of the Atlantic
- Chris Clark, Holger Klinck, Aaron Rice, Russ Charif; Cornell University
- Hilary Moors–Murphy; Department of Fisheries and Oceans Canada
- Andy Read, Doug Nowacek, Joy Stanistreet, Lynne Hodge; Duke University
- Kathleen Dudzinski; Dolphin Communication Project
- Julien Delarue, Bruce Martin; JASCO Applied Sciences
- Erin Summers; Maine Department of Marine Resources
- Joel Bell, Jaqueline Bort, Anu Kumar; NAVFAC Naval Facilities Engineering Command
- Scott Kraus; New England Aquarium
- Gary Buchanan; New Jersey Department of Environmental Protection
- Catherine Berchok; NOAA National Marine Mammal Laboratory
- Lance Garrison, Melissa Soldevilla; NOAA Southeast Fisheries Science Center
- Leila Hatch, Mike Thompson, David Wiley; NOS Stellwagen Bank National Marine Sanctuary
- Dave Mellinger, Sharon Nieukirk; Oregon State University
- Helen Bailey; University of Maryland
- Kate Stafford; University of Washington
- Denise Risch, Scottish Association for Marine Science
- Ana Sirovic, John Hildebrand; Scripps Institution of Oceanography
- Susan Parks; Syracuse University

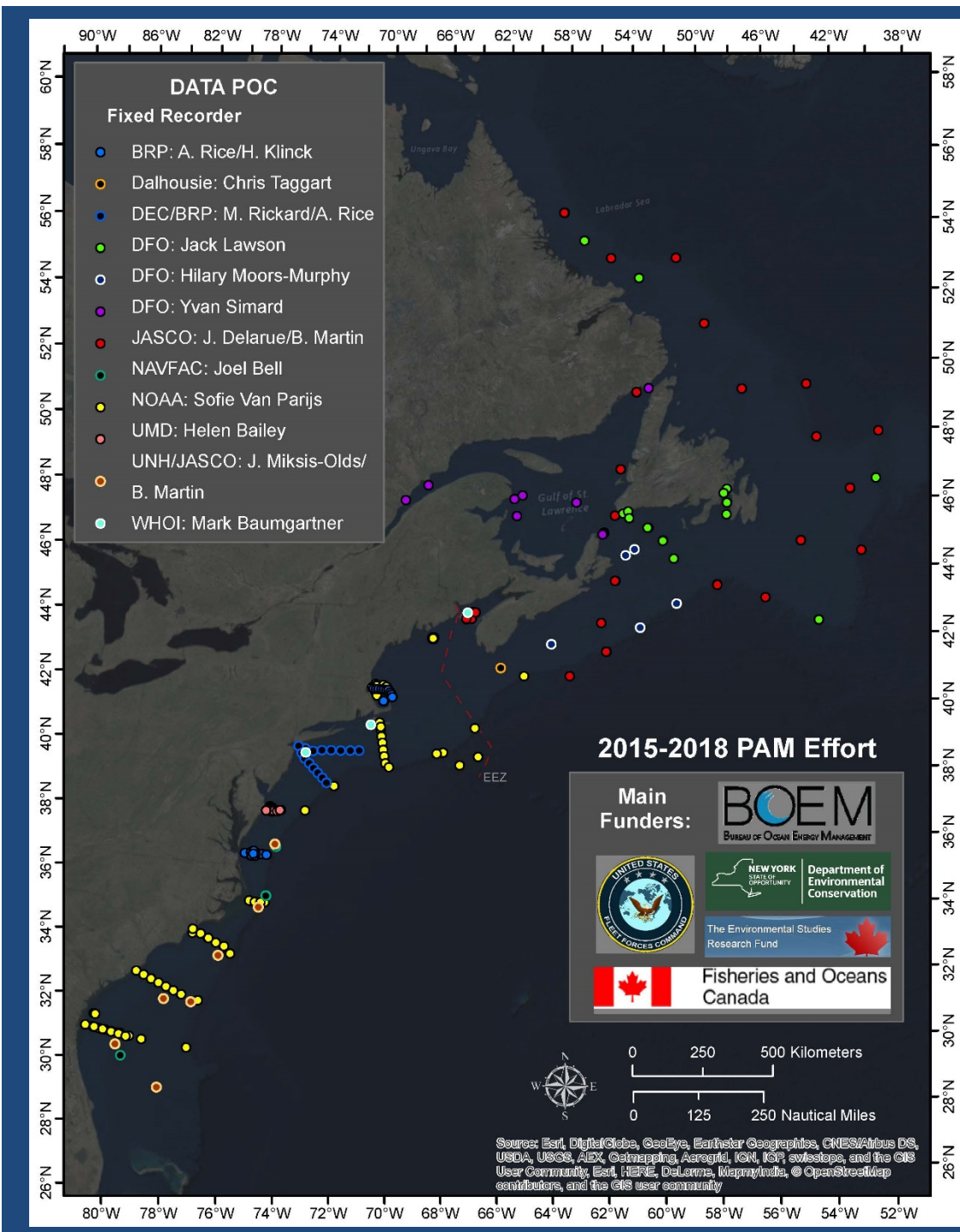


Thank You!



US Acoustic Deployments: 2015 – 2018





US/Canada compilation of PAM locations 2015 – 2018



WhaleMap:

<https://whalemap.ocean.dal.ca/>

Translate / Traduire

Select Language | ▼

WHALEMAT: LATEST RIGHT WHALE OBSERVATIONS

Last 14 days of sightings, effort, and acoustic detections

SUMMARY MAP

MAP KEY

ABOUT

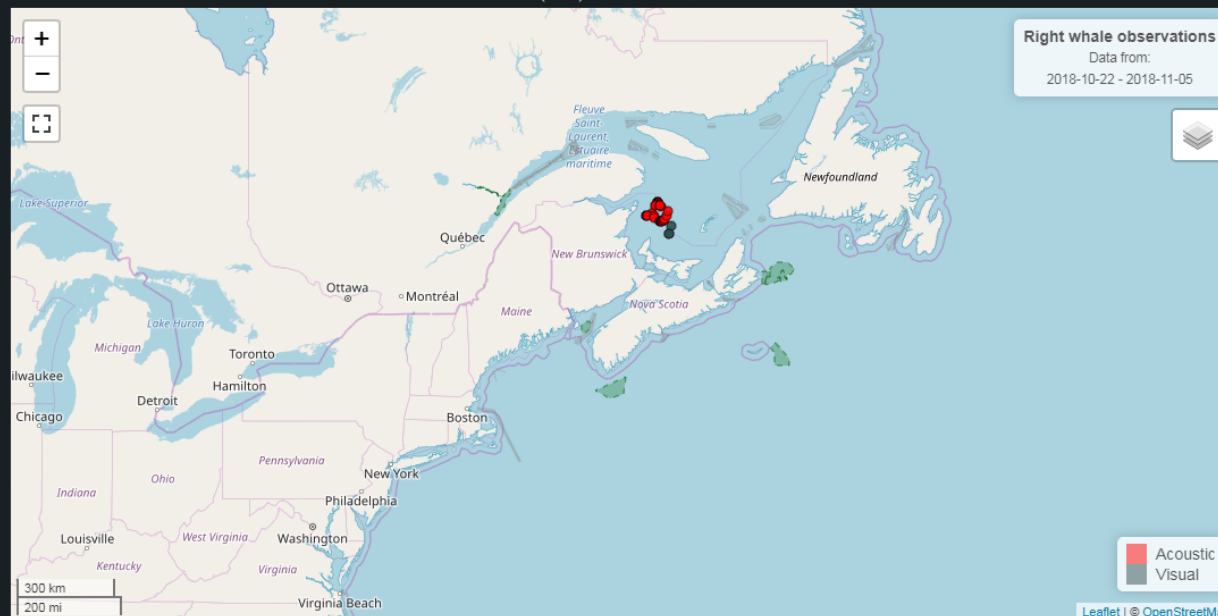
INTERACTIVE MAP

FISHERIES NOTICES

REPORT SIGHTING

REPORT DEAD/DISTRESSED WHALE

Current time (UTC): November 5, 2018 13:40:28



This map should not be used for navigation or fisheries management purposes. Data may only be used for the coordination of field research efforts. Any other use of data requires permission from the originating datasource. These are preliminary data and are subject to change. There may also be a delay between the publishing of tracks and

(Hansen Johnson, Dalhousie University)

US/Canada: Creating interactive mapping (2004–current)

Right Whale PAM

Editor

Reveal data:

Choose year(s):
 Specific year(s):
 Range of years:

2004 2014 2018

Choose start date:
Jan-01 Dec-30

Choose end date:
Jan-01 Dec-30

Choose platforms:
mooring buoy slocum

Choose layer(s):
 Show legend?
 Show tracks?
 Show possible?
 Show undetected?

Go!

Map

The color of the circle markers indicates the number of days during the selected time period in which right whales were definitely detected. Click on a marker for more information about that particular deployment.

Plot

Score:
■ undetected
■ possible
■ detected

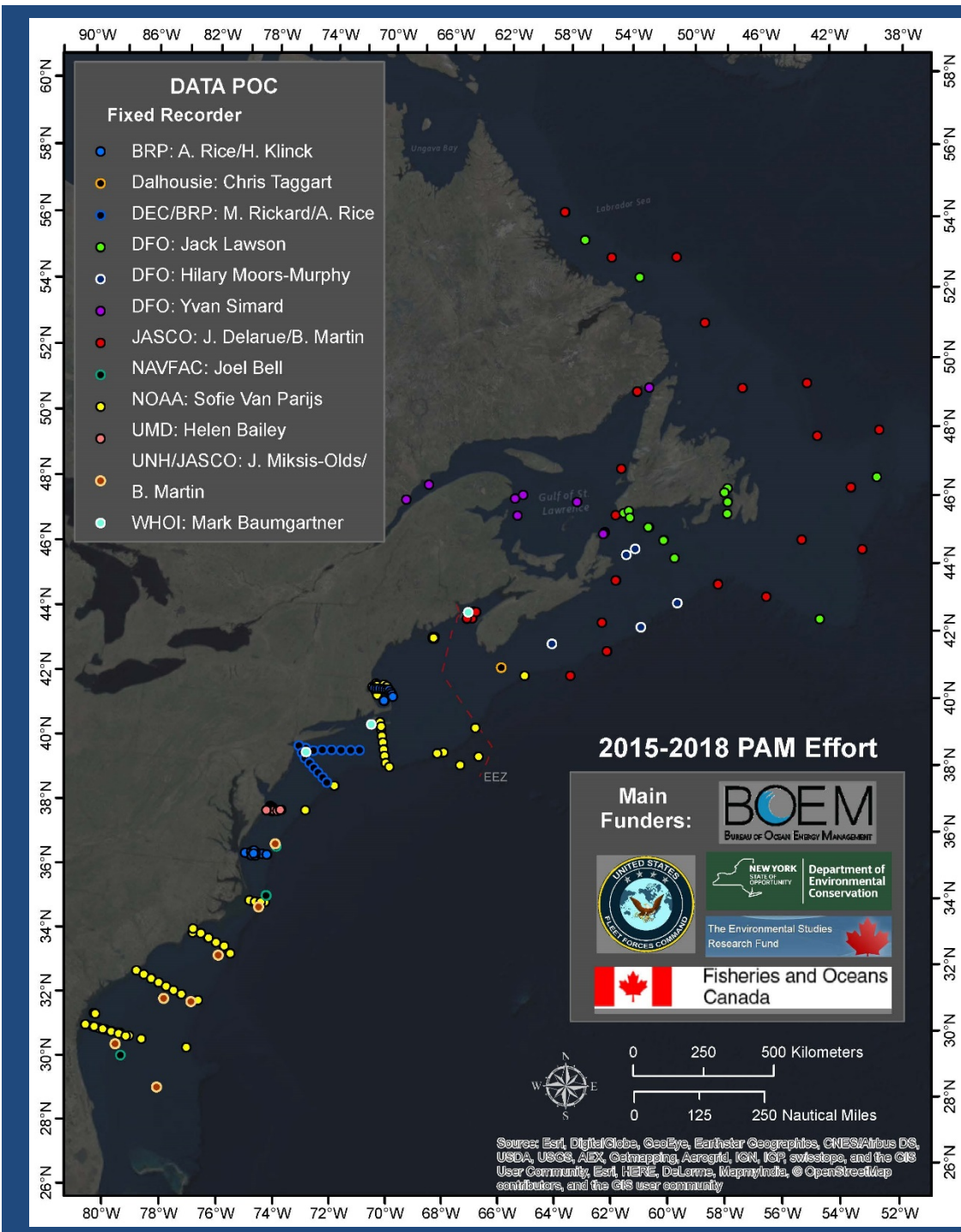
The height of a bar indicates the number of recorders within the map domain and selected time period and that were listening on a particular day. The color of the bar indicates the numbers of recorders that definitely detected (red), possibly detected (yellow), or did not detect (grey) right whale calls.

- Created by Hansen Johnson
- Password protected
- NARW acoustic detections

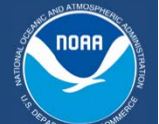
Goal: quick, comprehensive access to NARW acoustic results as they become available

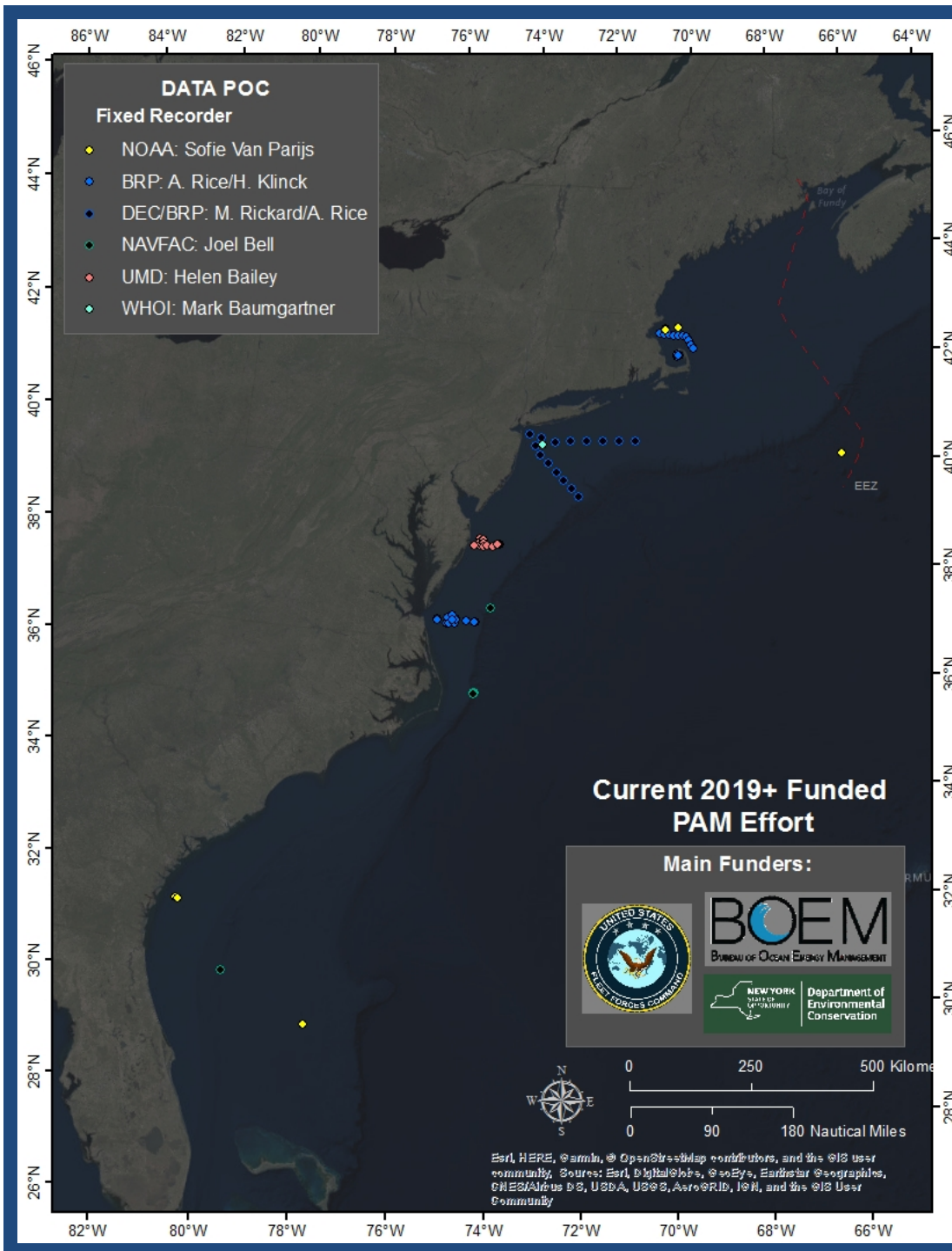
Right whale PAM map: Summary

- ▶ Archival NARW acoustic detections
- ▶ Platforms: moored, glider
- ▶ Plot true upcall detections + possible upcall detections within a range of dates and map extent
- ▶ Gives number of days (recordings + detections) and recorder information at location



US/Canada compilation of PAM locations 2015 – 2018





US Funded PAM effort

2019



Upcoming Real-Time Deployments

- New York:
 - 2019: Existing **moored buoy** to be turned around in winter for continued operation (NY Bight)
- Mid-Atlantic Region:
 - Jan-March 2019: **2 gliders**, track lines from coast to shelf break (N. & S. of Cape Hatteras)
 - Summer 2019: Proposals in place for **moored buoys** in wind energy areas off MD, NJ, & NY
 - Dec-Feb 2019: proposal in place for **glider** with Rutgers, cross-shelf surveys (S. New Jersey)
- Gulf of Maine:
 - Dec 2018-Feb 2019: **1 glider**, deployment starting southwest of Grand Manan Island (northern GOM)



Next steps: NARW Acoustic Detections Database

- Model after NARW Consortium sightings database & data request/access guidelines
- Acoustic database committee: Sofie Van Parijs, Mark Baumgartner, Hansen Johnson, Genevieve Davis
- Database to be held and managed at NEFSC



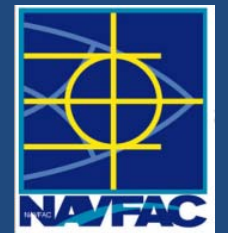
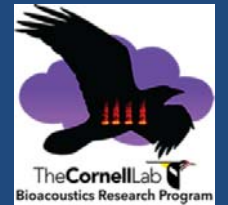
NARW Acoustic Detections Database

- Manually verified data
- Daily or more fine-scale detail
- Calibration dataset: have a manual analysis protocol for all data submission to go through
- Guideline for data submission



Acknowledgements

- Sarah Weiss – NOAA/NEFSC
- Alyssa Scott
- Delphine Durette-Morin – Dalhousie University
- Dani Cholewiak – NOAA/NEFSC
- Protected Species Branch– NOAA/NEFSC
- Chris Pelkie, Chris Tessaglia-Hymes; Bioacoustics Research Program, Cornell University
- Taggart Lab, Dalhousie University
- Many field teams and boat crew



Fisheries and Oceans
Canada



Thank you!