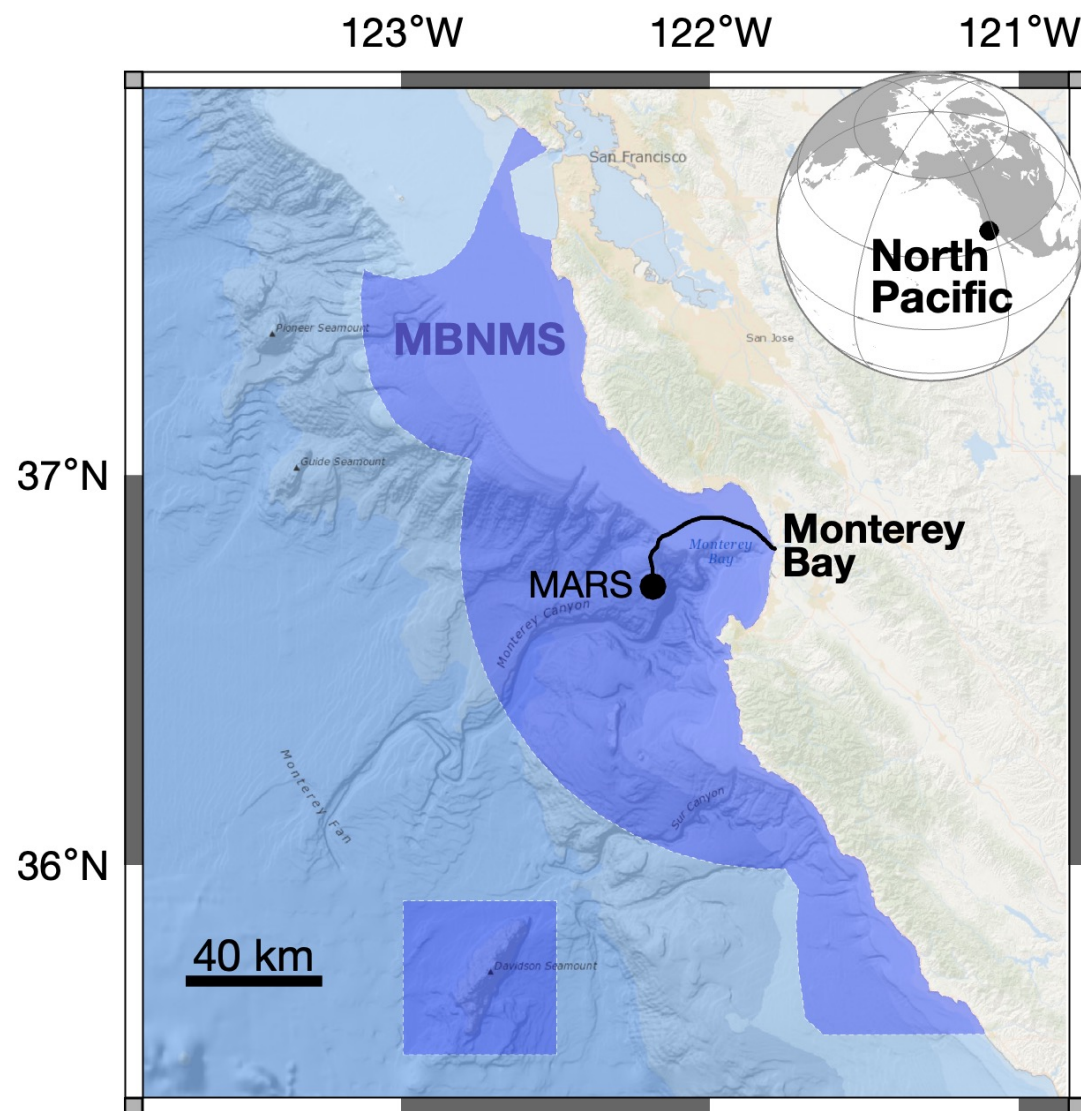
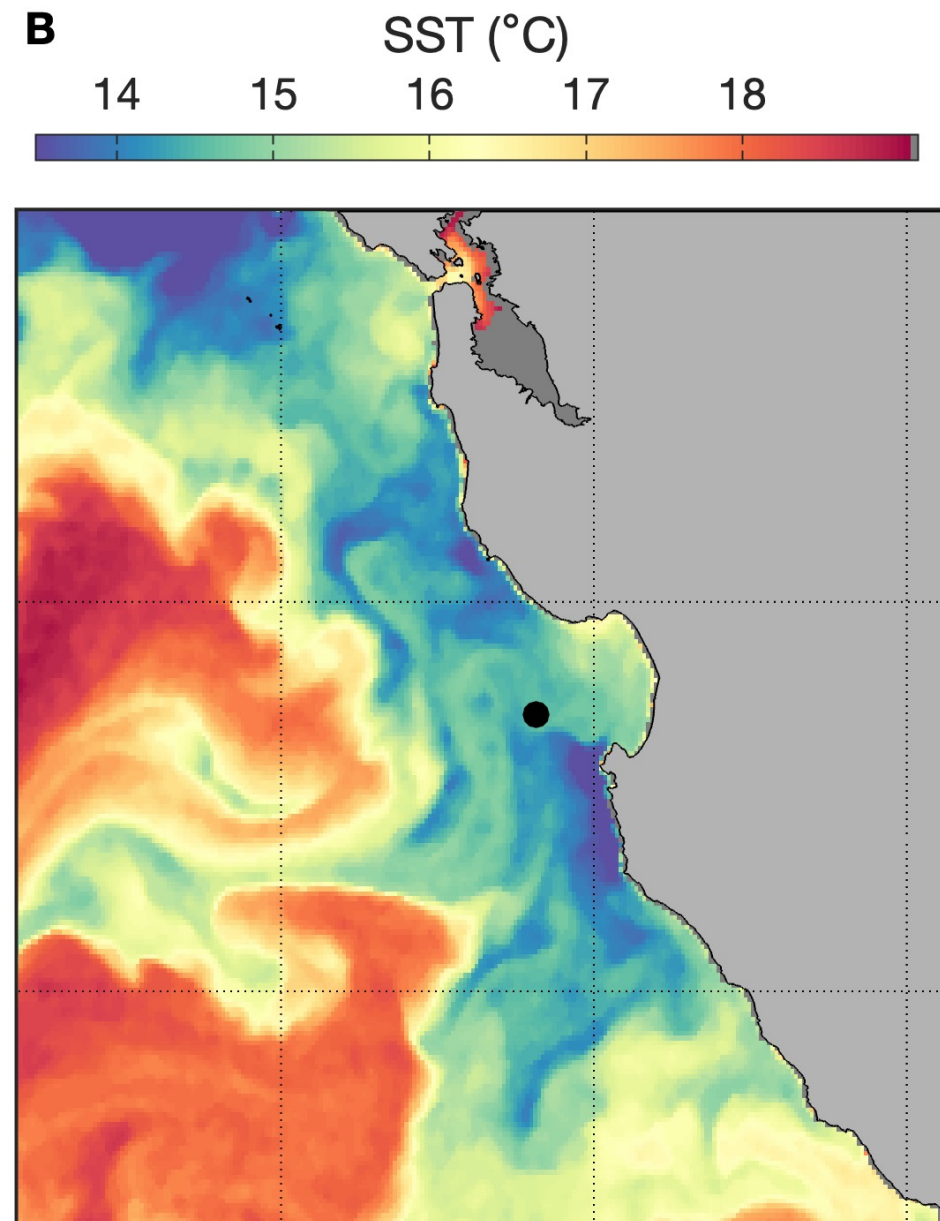


# Central California Current Ecosystem

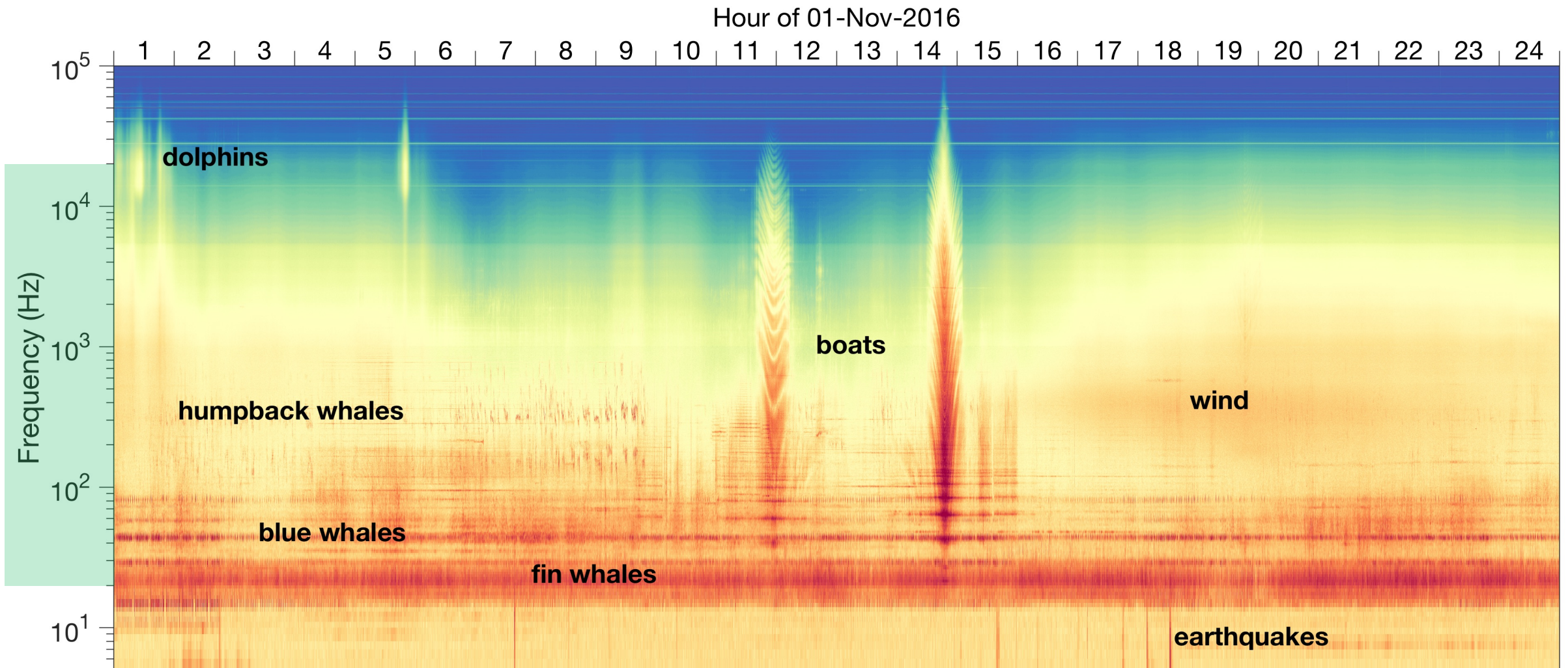
**A**



**B**

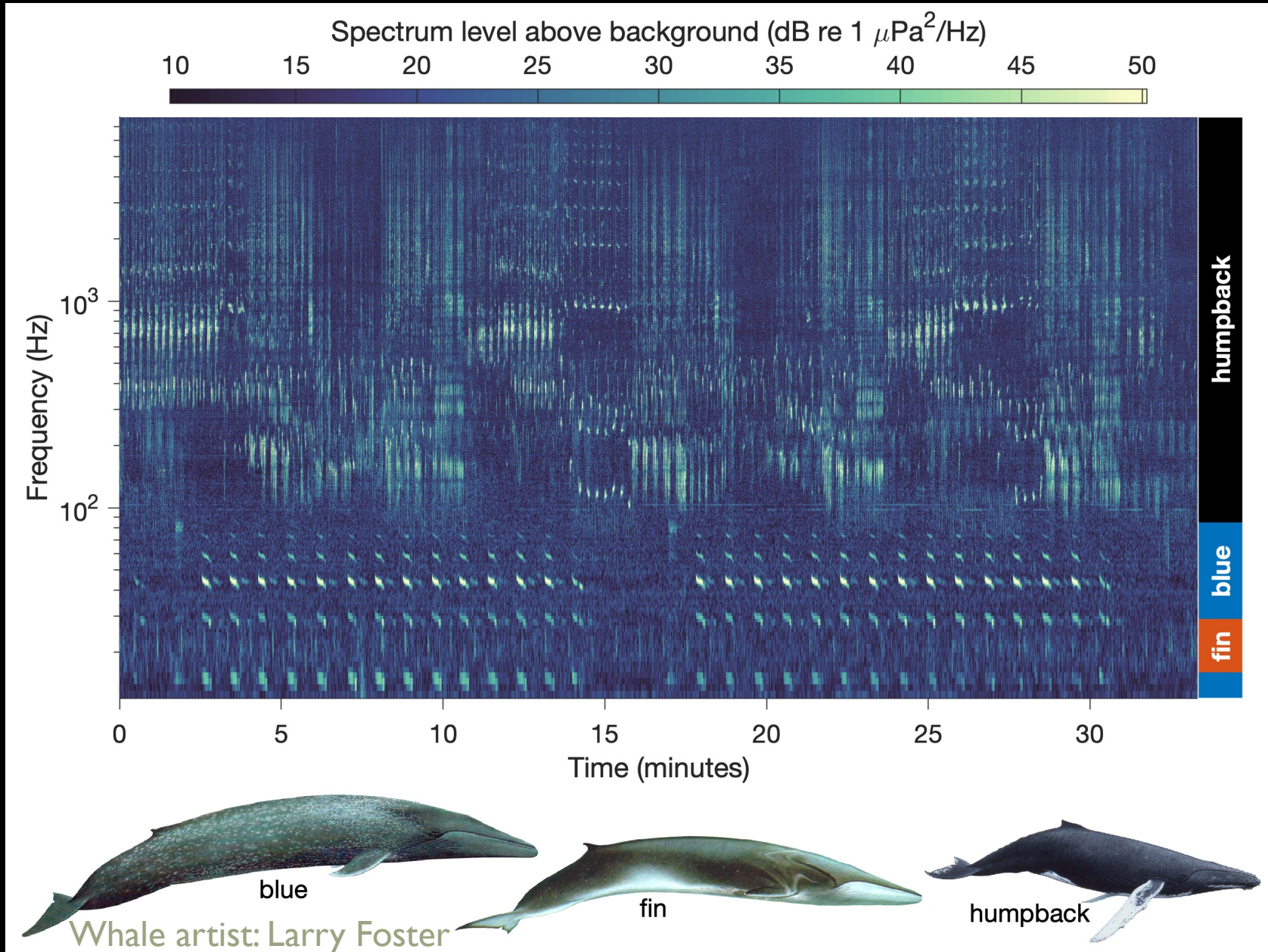


# A day in the life of an ocean soundscape

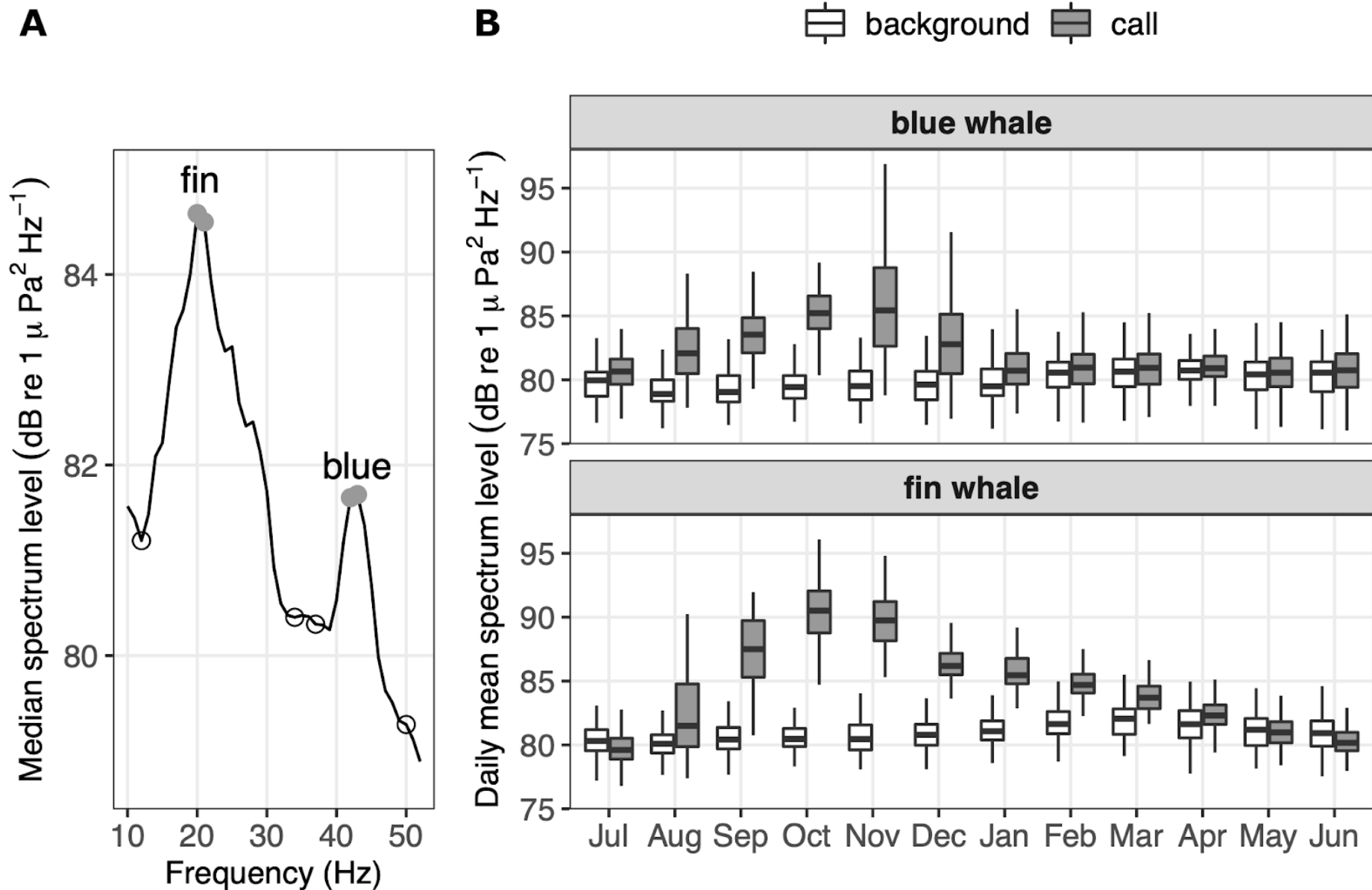




# The *Mysticete Symphony* in 3D



# Blue and fin whales: signal processing



# Humpback whales: machine learning

ORIGINAL RESEARCH article

Front. Mar. Sci., 17 March 2021

Sec. Marine Megafauna

<https://doi.org/10.3389/fmars.2021.607321>

## A Convolutional Neural Network for Automated Detection of Humpback Whale Song in a Diverse, Long-Term Passive Acoustic Dataset



Ann N. Allen<sup>1\*</sup>,



Matt Harvey<sup>2</sup>,



Lauren Harrell<sup>3</sup>,



Aren Jansen<sup>2</sup>,



Karlina P. Merkens<sup>1,4</sup>,



Carrie C. Wall<sup>5,6</sup>,



Julie Cattiau<sup>2</sup> and



Erin M. Oleson<sup>1</sup>



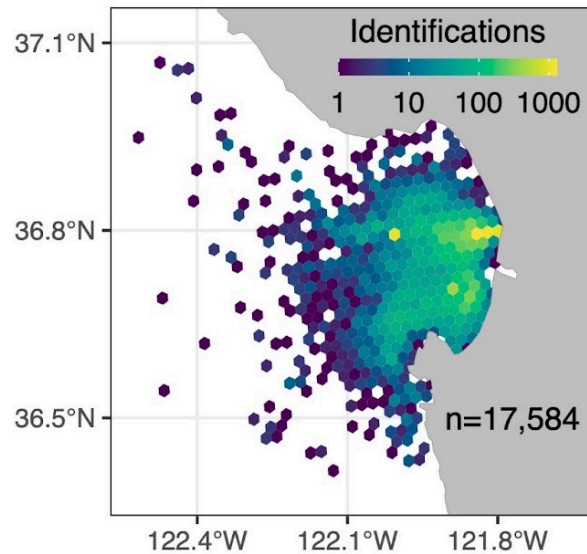
# Humpback whales: machine learning

**A**

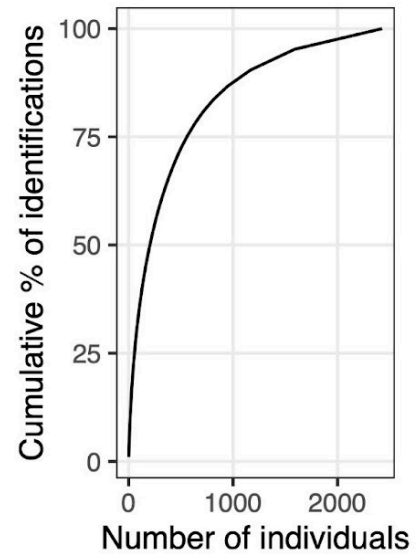


Ted Cheeseman  
Happywhale.com

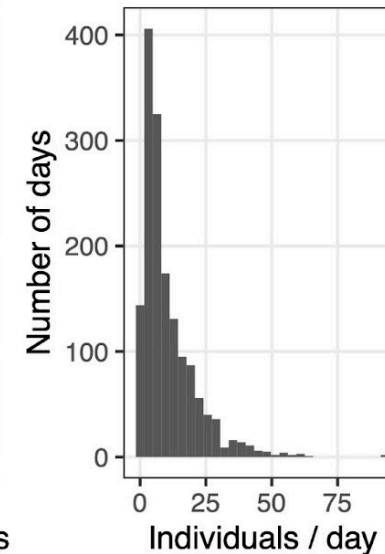
**B**



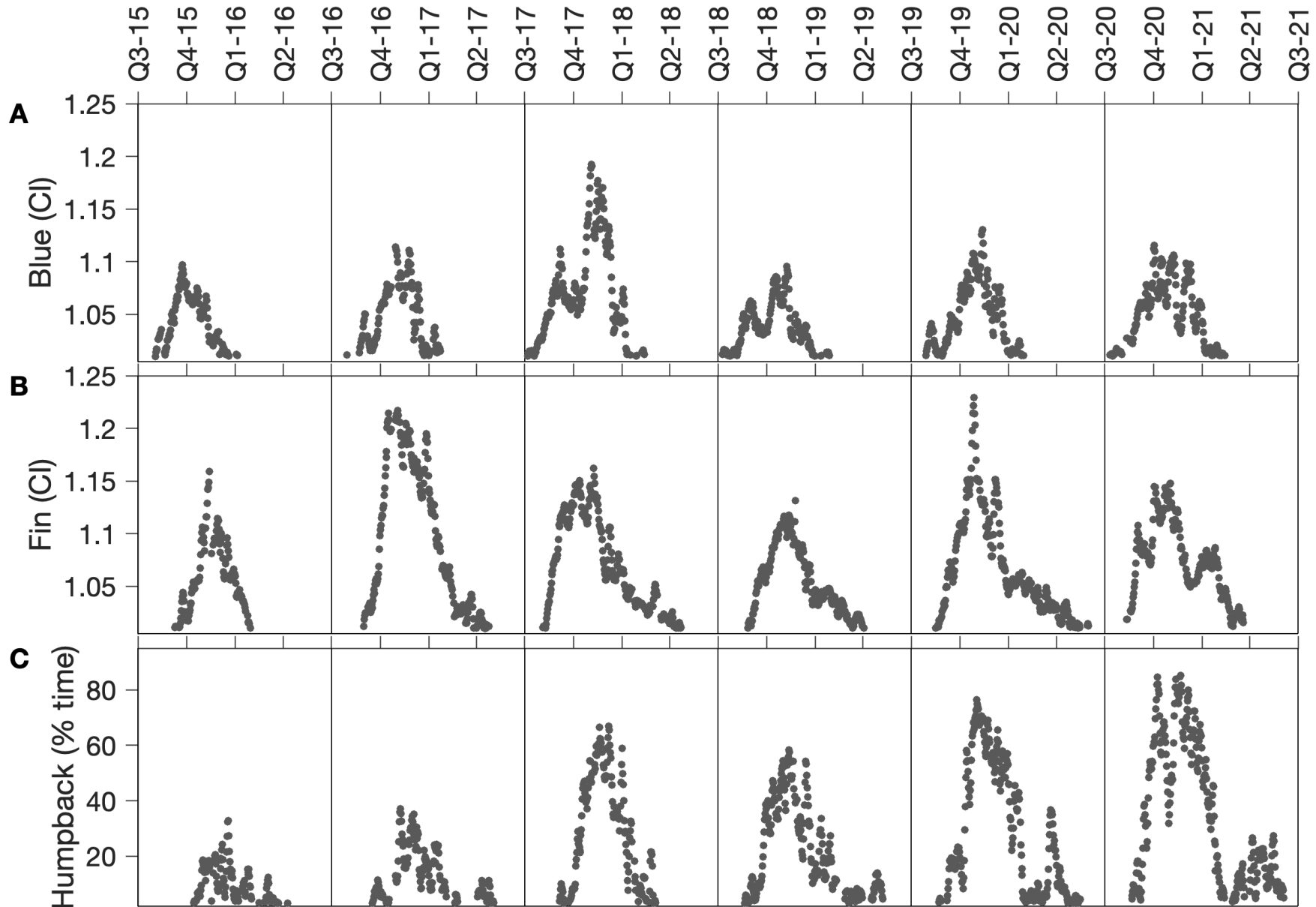
**C**



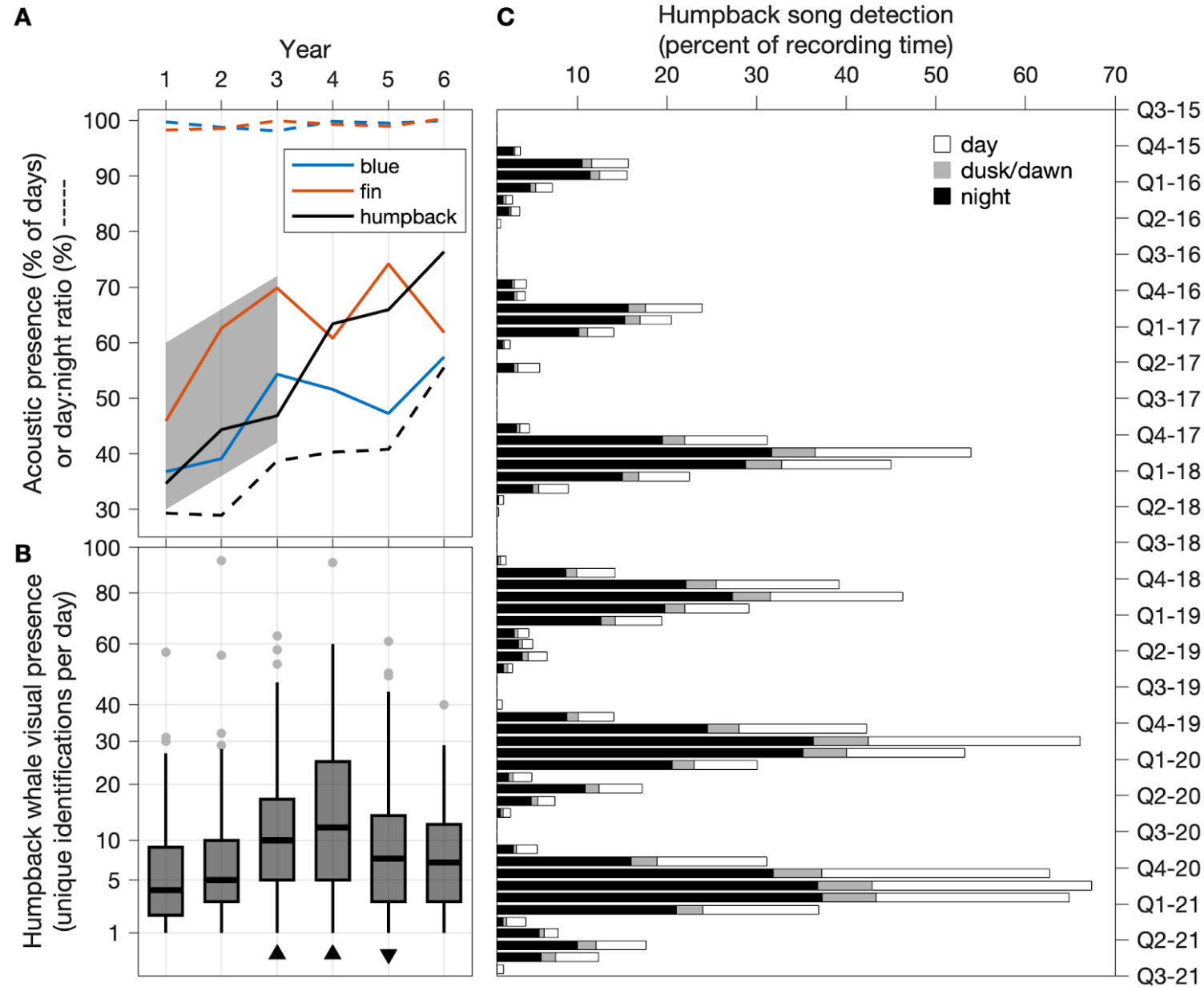
**D**



# Six years of daily acoustic detection



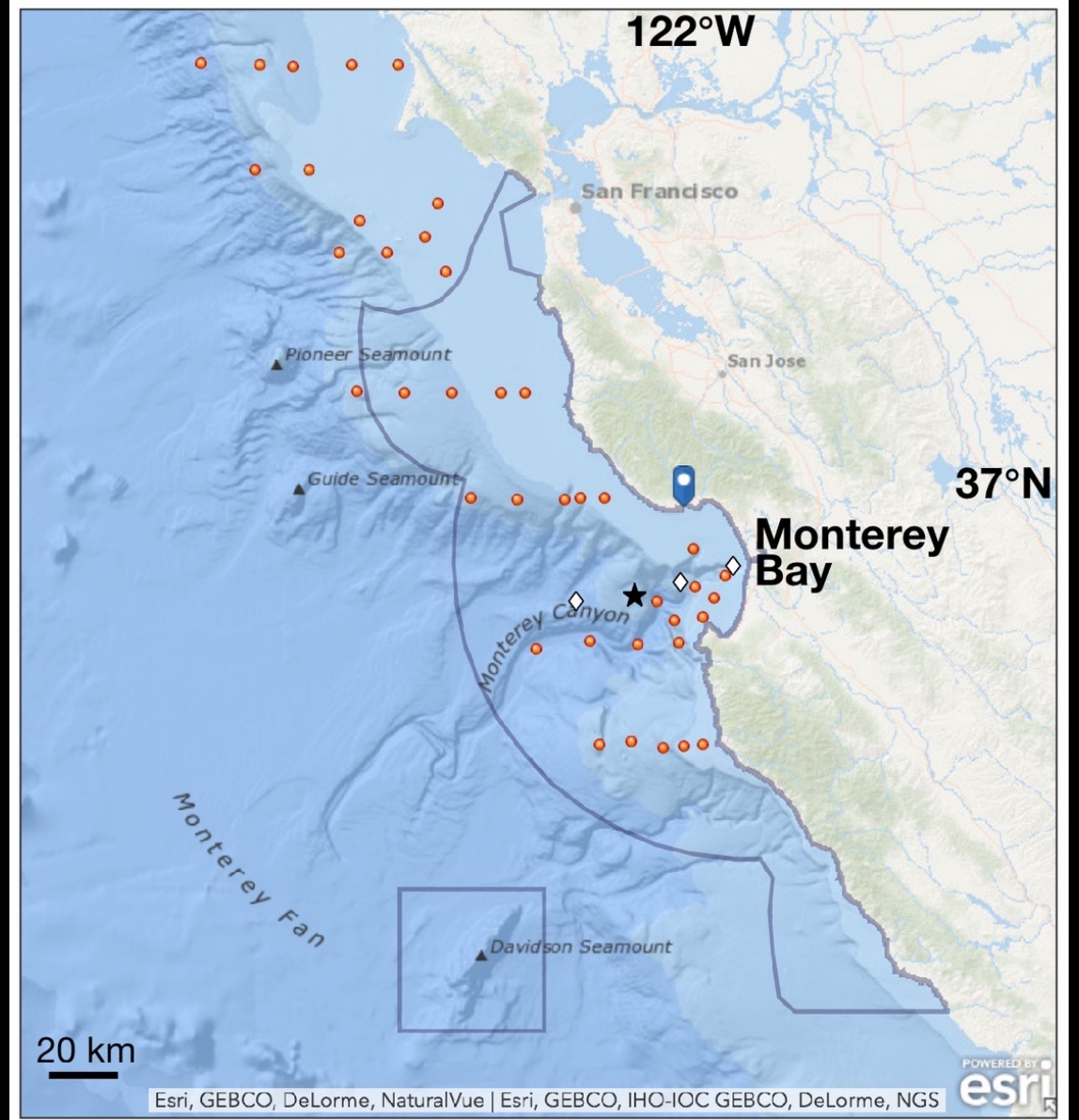
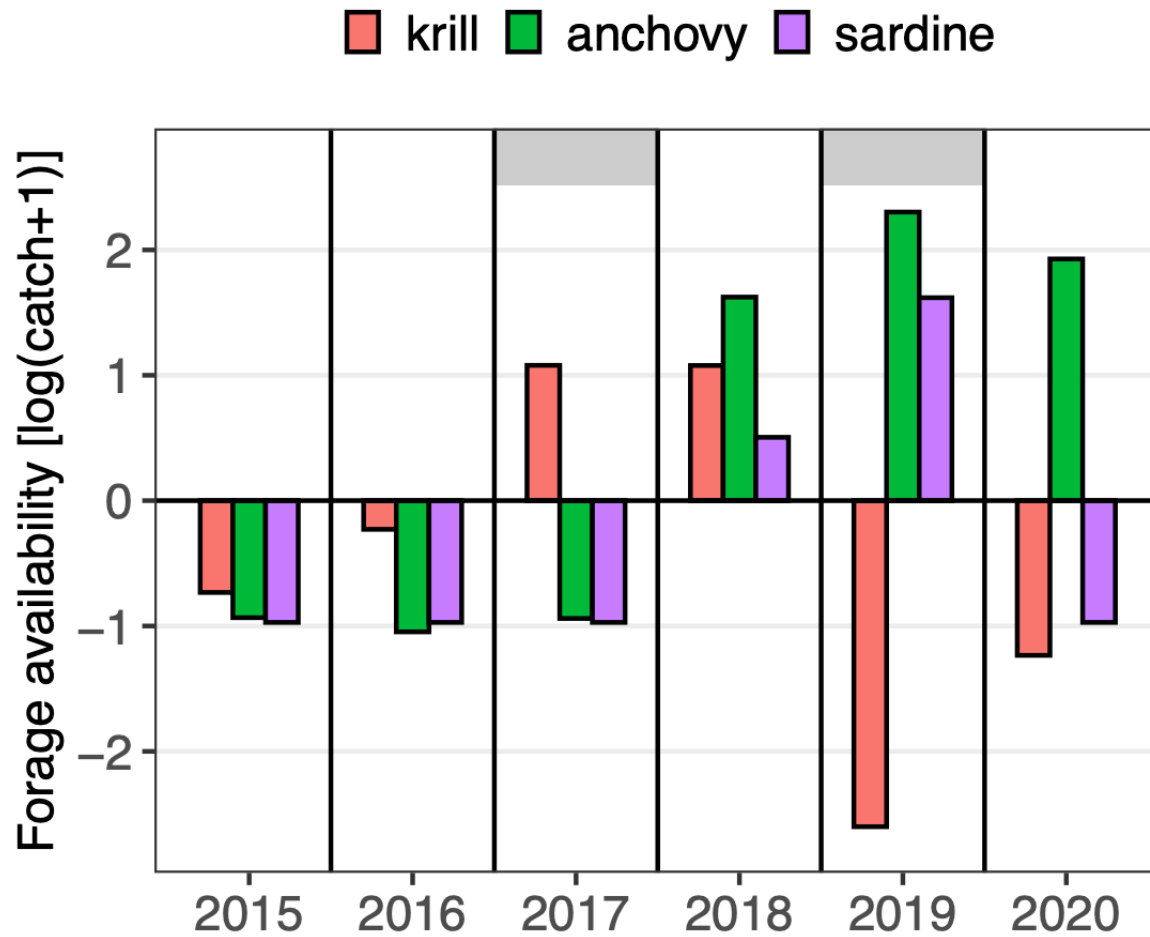
# Interannual patterns





# An ecosystem-level view

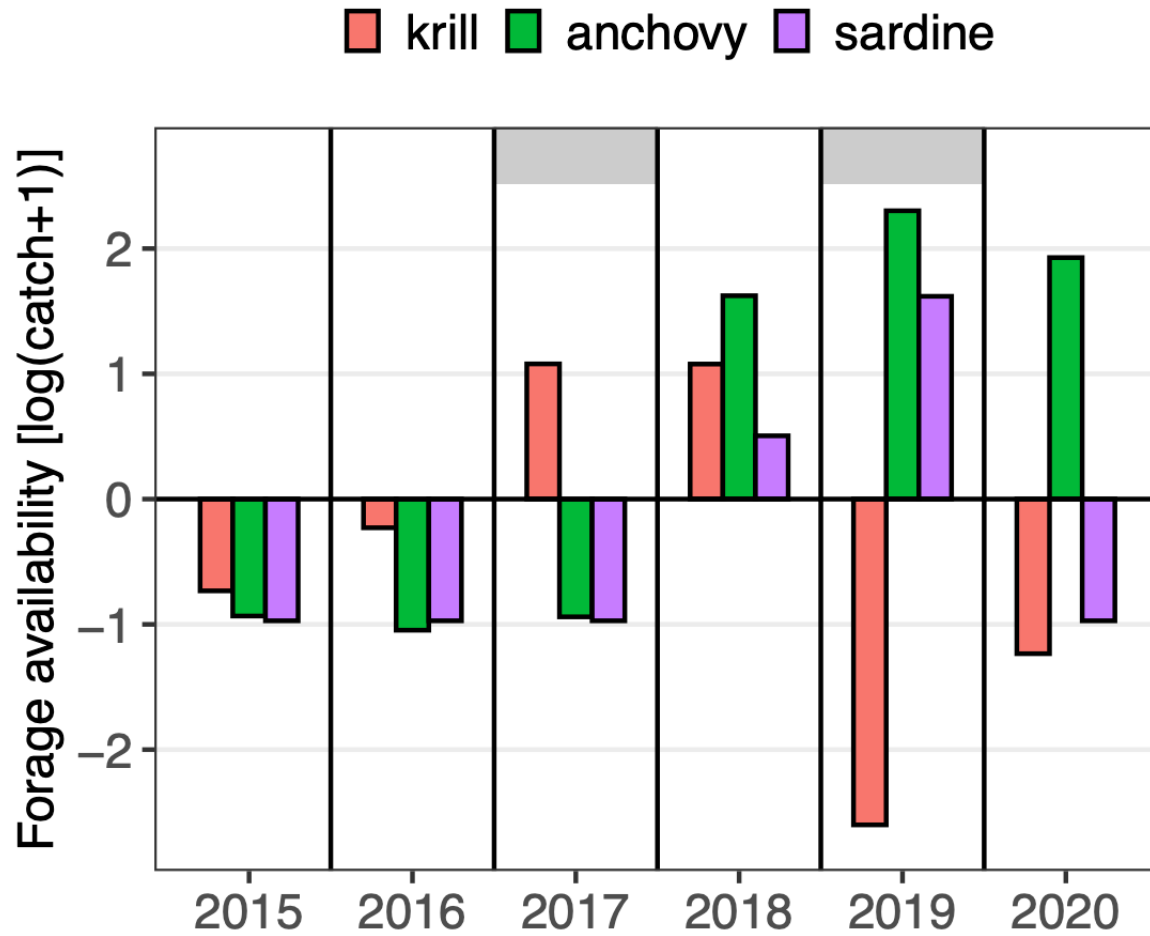
**A**



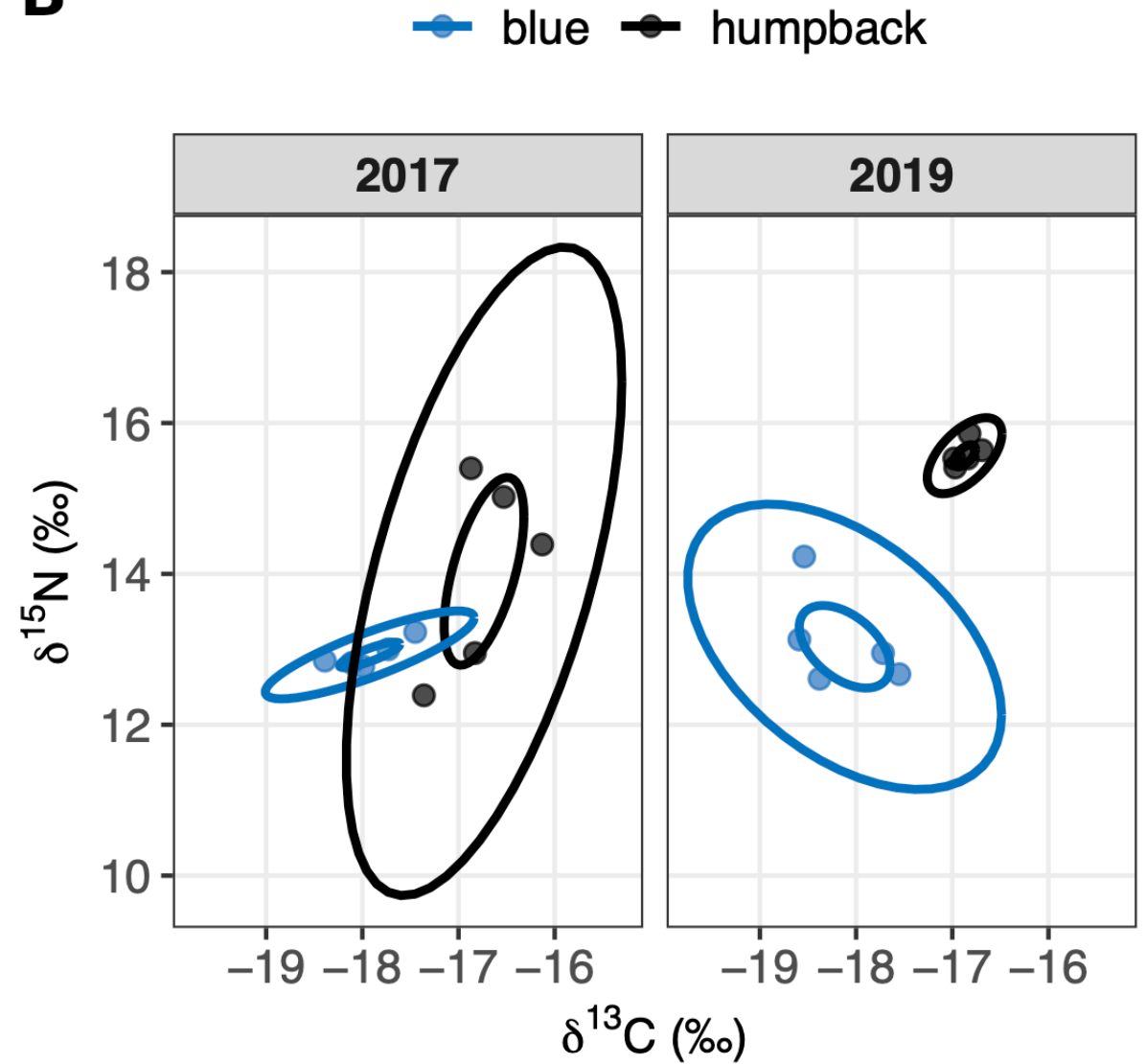
NOAA California Current Integrated Ecosystem Assessment

# An ecosystem-level view

**A**



**B**



# Access to data and analysis tools

## Registry of Open Data on AWS



## Pacific Ocean Sound Recordings

[acoustics](#) [biodiversity](#) [biology](#) [climate](#) [coastal](#) [deep learning](#) [ecosystems](#) [environmental](#) [machine learning](#) [marine mammals](#) [oceans](#) [open source software](#)

### Description

This project offers passive acoustic data (sound recordings) from a deep-ocean environment off central California. Recording began in July 2015, has been nearly continuous, and is ongoing. These resources are intended for applications in ocean soundscape research, education, and the arts.

### Update Frequency

daily

### License

CC-BY 4.0

### Documentation

<https://docs.mbari.org/pacific-sound/>

### Managed By



See all datasets managed by [Monterey Bay Aquarium Research Institute](#).

### Contact

[dcline@mbari.org](mailto:dcline@mbari.org)

### How to Cite

Pacific Ocean Sound Recordings was accessed on **DATE** from <https://registry.opendata.aws/pacific-sound>.

### Usage Examples

Tutorials

### Resources on AWS

#### Description

original 256 kHz audio recordings year 2015

#### Resource type

S3 Bucket

#### Amazon Resource Name (ARN)

```
arn:aws:s3:::pacific-sound-256khz-2015
```

#### AWS Region

```
us-west-2
```

#### [AWS CLI](#) Access (No AWS account required)

```
aws s3 ls --no-sign-request s3://pacific-sound-256khz-2015/
```

#### Description

original 256 kHz audio recordings year 2016

#### Resource type

S3 Bucket

#### Amazon Resource Name (ARN)

```
arn:aws:s3:::pacific-sound-256khz-2016
```

#### AWS Region

```
us-west-2
```

#### [AWS CLI](#) Access (No AWS account required)

```
aws s3 ls --no-sign-request s3://pacific-sound-256khz-2016/
```