# **Humpback Data Analysis**

## Anne Simonis

## Goals of this study

Investigate the co-occurrence of humpback whales and vessel noise.

### Data

Acoustic data was collected from drifting acoustic recorders during the 2018 California Current Ecosystem survey. See Simonis et al 2020 for more details. Data analyzed here includes CCES Drifts 10, 12, 13, 14, 16, 20.

### **Combine Logs**

The presence of humpback whales and ships were logged by 3 Seatech analysts, including Virginia Pearson, Audrey Bahnke, and Sarah Bahnke.

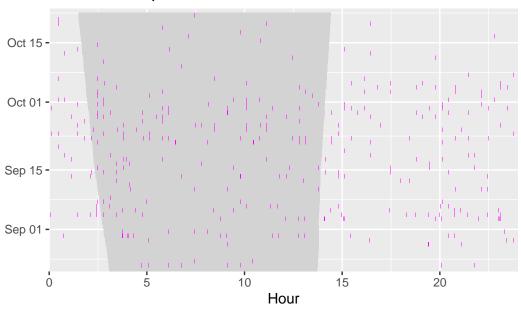
### **Plots**

#### **Diel Plot**

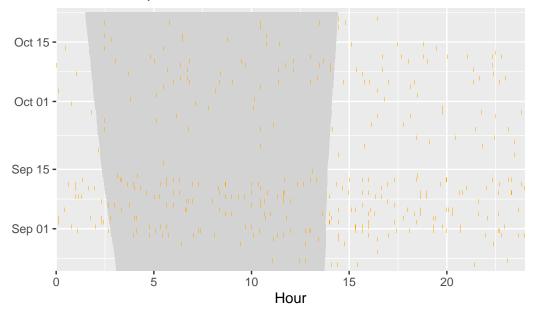
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#Define Figure Options

figtitle10<-'Drift 10'
figtitle12<-'Drift 12'
figtitle13<-'Drift 13'
figtitle14<-'Drift 14'
figtitle16<-'Drift 16'
figtitle20<-'Drift 20'
MnColor = 'magenta'
ShipColor = 'orange'
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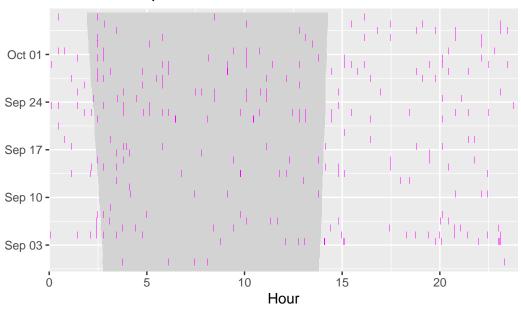
Drift 10: Humpback whales



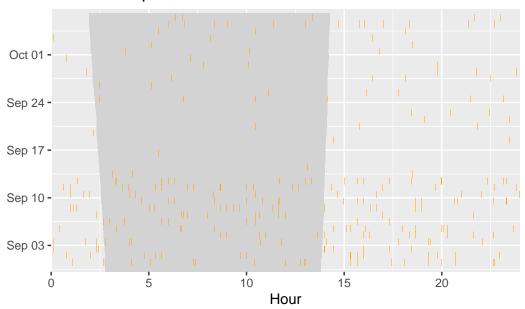
Drift 10: Ships



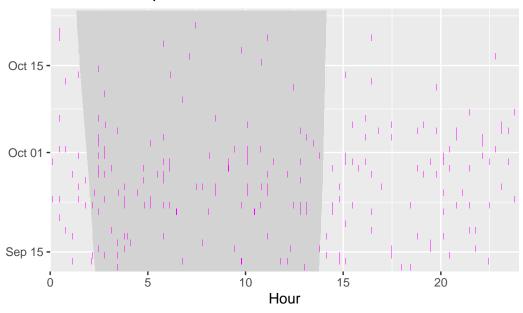
Drift 12: Humpback whales



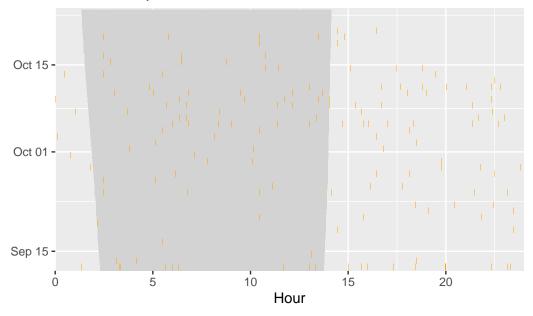
Drift 12: Ships



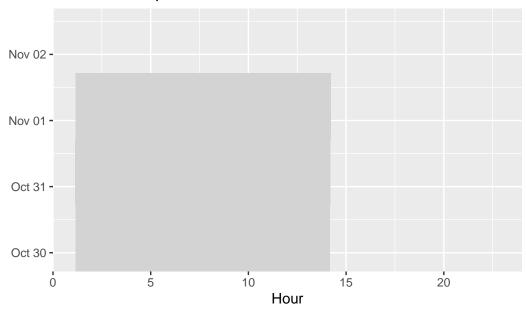
Drift 13: Humpback whales



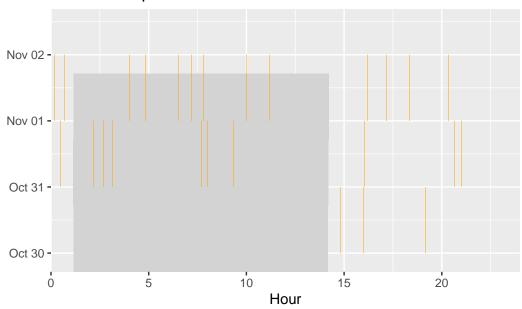
Drift 13: Ships



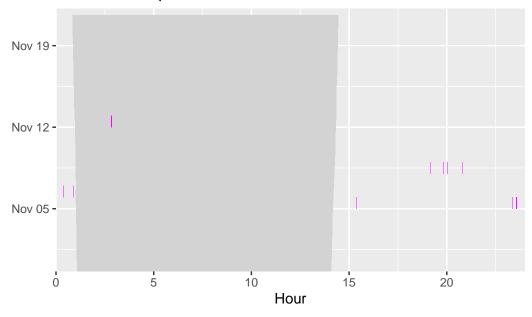
Drift 14: Humpback whales



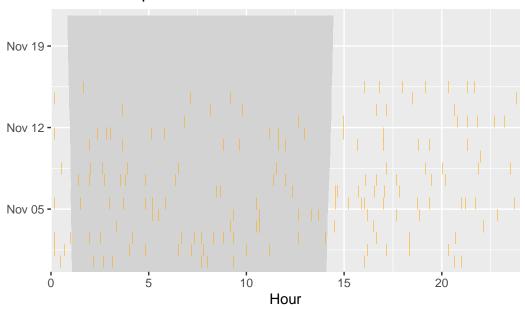
Drift 14: Ships



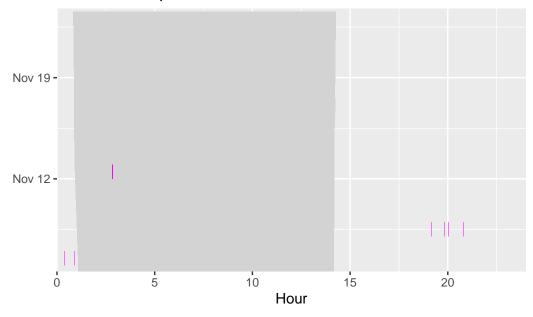
Drift 16: Humpback whales



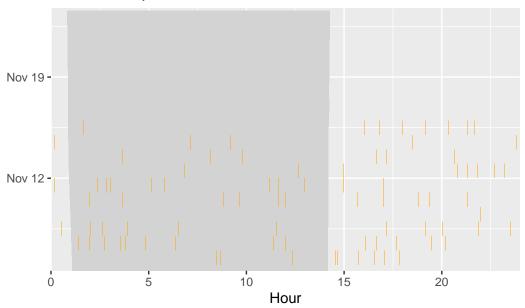
Drift 16: Ships



Drift 20: Humpback whales

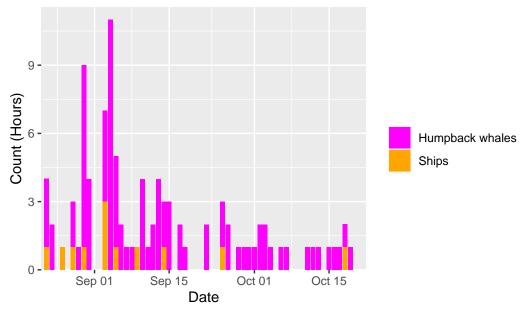


Drift 20: Ships

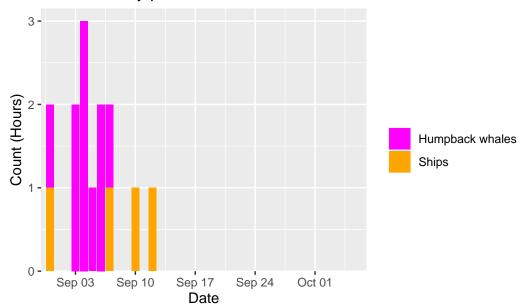


# Weekly Plot

Drift 10: Daily presence



Drift 12: Daily presence



Drift 13: Daily presence

1.00

0.75

0.50

0.00

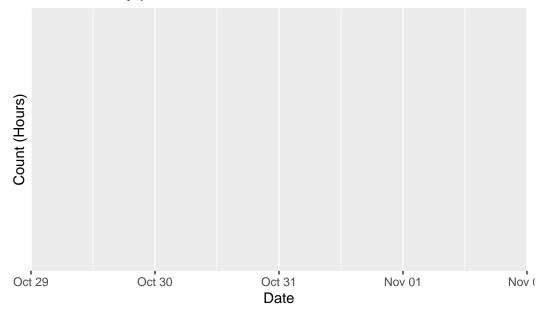
Sep 15

Oct 01

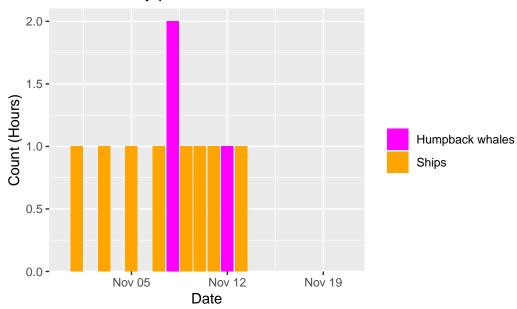
Date

Date

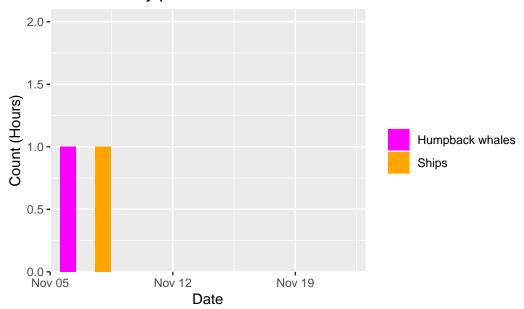
Drift 14: Daily presence



Drift 16: Daily presence

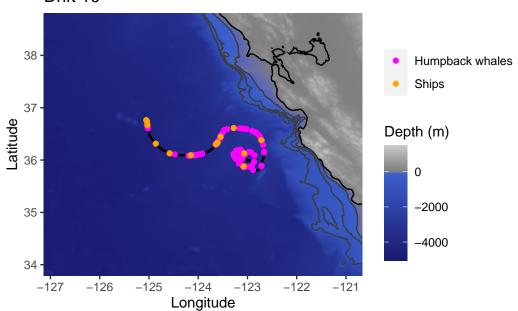


Drift 20: Daily presence

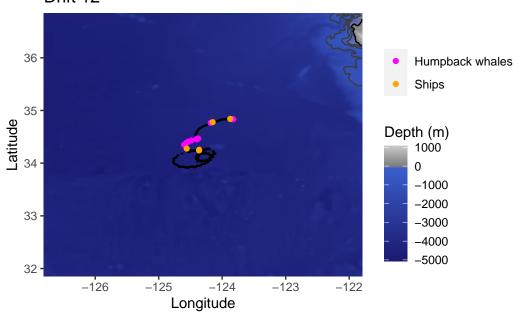


# Мар

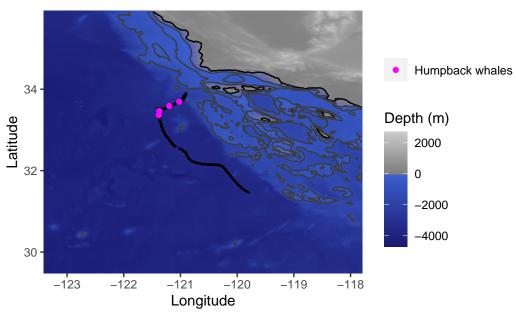




# Drift 12







# Drift 16

