Variation in fin whale songs recorded near Hawaii

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Introduction

- Marine mammals use acoustics as a main form of communication
- Male fin whales (*Balaenoptera physalus*) produce a call around 20 Hz that has a characteristic down-swept shape
- The 20 Hz call is thought to be associated with breeding

(Castellote et al. 2012; Hatch and Clark 2004; Oleson et al. 2014)
• The inter-pulse interval (IPI) can vary based on the individual, geographic region, and season

• In the winter, mating is occurring near Hawaii and the calls are more frequent and loud

(Oleson et al. 2014)
Dataset used

- Glider deployed: December 2014 – January 2015
- Records passive acoustics of marine life
- 164 dives
- 712 hours of data
- Continued analysis of Klinck et al. 2015 report
Methods

- 33 days with fin whales detected
- 22 days had songs of measurable quality
- Selected 7 song bouts for inter-pulse-interval measurements
Results

Inter-pulse interval of fin whale calls

25 sec peak
31.5 sec peak
Conclusions

• Both singlet and doublet song types present in glider data

• IPIs measured match previous recordings from December 2000 and 2005 (Oleson et al. 2014)
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• Acoustics helps us learn more about the spatial distribution of species

• Differences in acoustics with geography may help us identify population structure

(Hatch and Clark 2004)
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• Gained experience working with marine mammal acoustic data!