Pinniped Stranding and Oceanographic Index Modeling Analysis and Research Questions

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## Methodological Questions

* Appropriate to apply breakpoint and then two different means for more even anomalies over time?
* What are the things I should be cognizant of that are particular to my data?
* How to deal with colinearity of oceanographic conditions, and seasonality of all strandings?
* Is applying a timeseries monthly average (all Januaries) to each month the appropriate way to derive monthly anomalies?
* How will the models deal with certain oceanographic variables not being available for the whole time series?

## Research Questions

1. Are strandings (and or HI cases) for combined or individual species correlated with certain oceanographic indices?

1a. All cases

# (a) Strandings for combined species   
  
# (b) Strandings for separate species

1b. HI cases

# (a) HI cases for combined species   
  
# (b) HI cases for separate species

1. Are stranding anomalies correlated with certain oceanographic indices?

2a. All cases

# (a) Stranding anoms for combined species   
  
# (b) Stranding anoms for separate species

2b. HI cases

# (a) HI case anoms for combined species   
  
# (b) HI case anoms for separate species

1. Is there a detectable and appropriate lag time where oceanographic indices correlate more strongly with strandings or stranding anomalies?

3a.

#All strandings combined species  
  
#All stranding anomalies combined species  
  
#All HI cases combined species  
  
#all HI anomalies combined species  
  
#Separate species?

1. Are there different models that are a better fit for different species (i.e., are species impacted differently by the same ocean conditions?)
2. Are stranding hotspots different during EN vs LN conditions? Or some other metric?

# (a) All strandings  
  
# (b) HI cases combined  
  
# (c) HI case types