

Statistical Assessment of Cetacean Stranding Events in Cape Cod area

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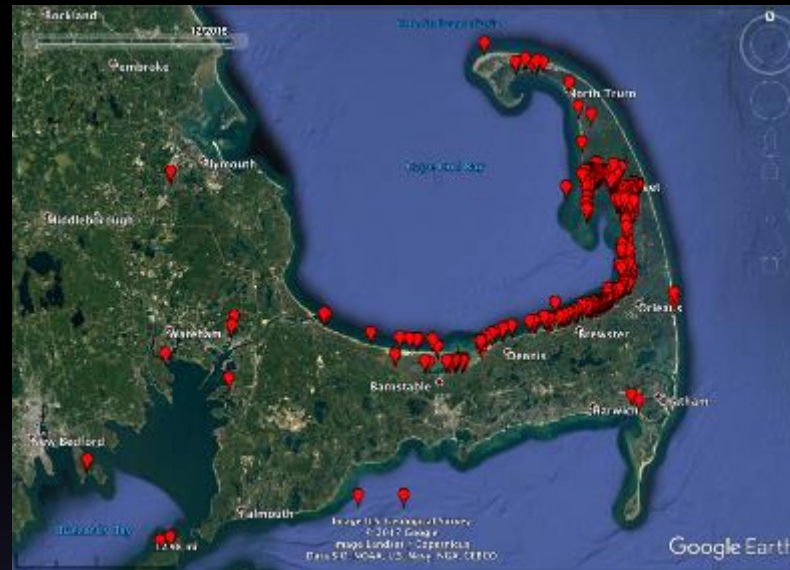
The International Fund for Animal Welfare (IFAW) provided summary records of their responses to Mass Stranded (MS) cetaceans in Cape Cod, Massachusetts.

(Mass Stranding: 2+ animals in proximity, during one tidal cycle, not mother/calf pair)

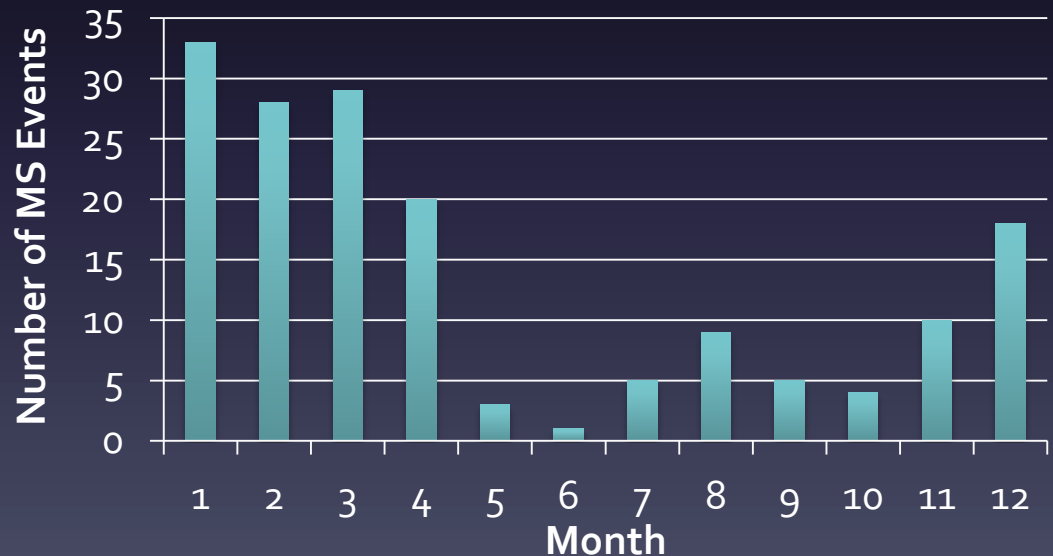
IFAW MS Event Data Summary for Cape Cod

| | |
|---------------------------|-------------|
| Years: | 1999 - 2014 |
| # Events: | 165 |
| # Animals: | 924 |
| Mean # Anim / Event: | 5.6 |
| Mean # Events /Yr: | 10.4 |
| Mean # Animals /Yr: | 58 |
| Species: | |
| <i>Delphinus delphis</i> | 57.1% |
| <i>Lagenorhynchus ac.</i> | 32.9 |
| <i>Globicephala melas</i> | 8.3 |
| <i>Grampus griseus</i> | 1.2 |
| <i>S. coeruleoalba</i> | 0.2 |
| <i>Tursiops truncatus</i> | 0.2 |

Locations of MS Animals

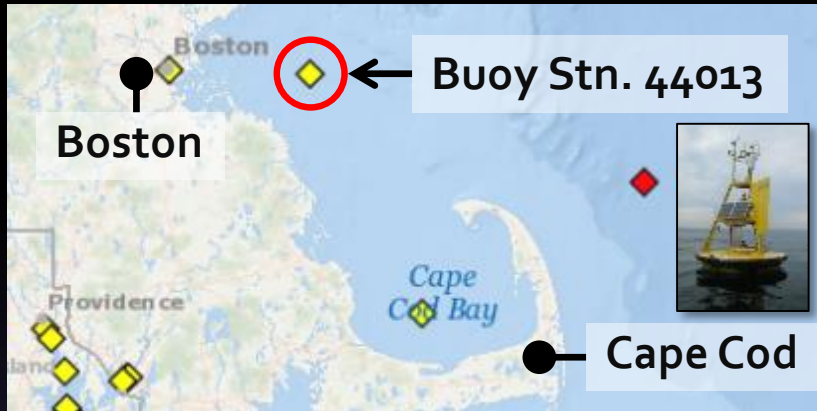


Aggregated MS Events By Month

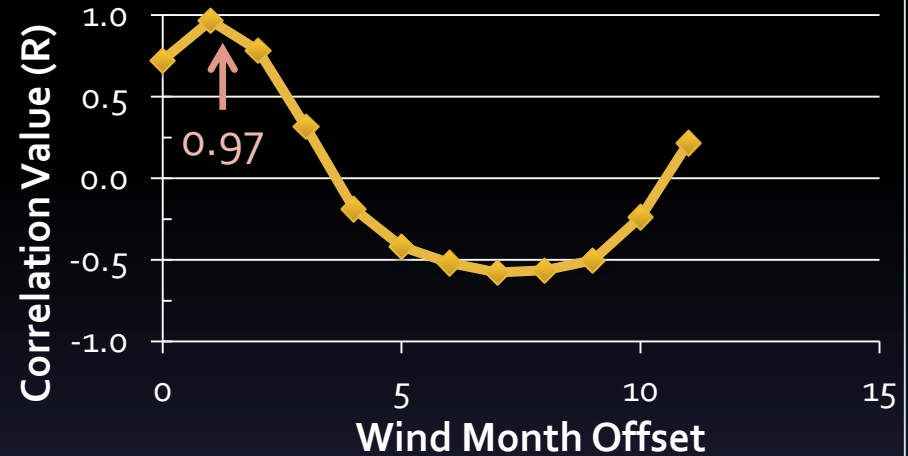


Avg Monthly Wind Correlates to MS Events

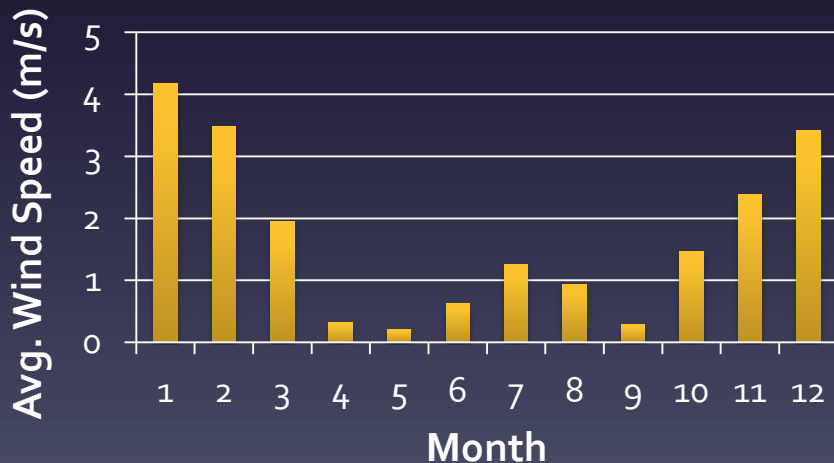
Wind Data from Buoy Station 44013



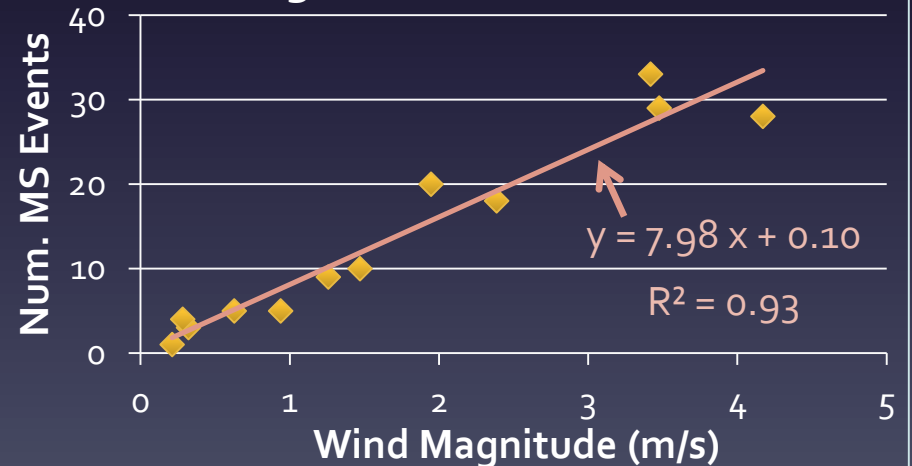
Time-Shifted Correlation



Avg Monthly Wind: Stn 44013



Linear Regression w/ One-Month Shift



Summary

- Avg. monthly aggregated wind correlates strongly with aggregated MS events.
 - Other parameters were investigated for correlation, but none were as strongly correlated.
- Cannot conclude that wind is a factor in MS events based on this data alone.
 - Correlation is not causation.
 - We cannot say that the wind is causing mass strandings.
- Additional data, concepts and alternate approaches are welcome.