What we found

- Almost all animals (97.8%) displayed evidence of bites, and bites were most frequently documented on the head:
  - Seasonal prevalence of cookiecutter shark bites on short-finned pilot whales in Hawai‘i
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Why is this important?

- Research on the ecology of deep sea sharks has been limited by accessibility. This method provides data on behaviour that was previously unobtainable.
- Seasonal peaks in bite probability may indicate fluctuations in other shark prey species or whale movements into areas where they are more likely to be bitten.
- Negative correlations with sea surface temperature may highlight potential future impact of climate change influencing foraging ecology.

Why is this interesting?

- Cookiecutter sharks (Isistius brasiliensis) are small pelagic squaloid sharks common throughout tropical and sub-tropical waters.
- Little is known about their ecology due to their cryptic nature, difficulty to capture, and typical depth range (85 - 3,500m)3,4.
- A resident population of short-finned pilot whales (Globicephala macrorhynchus) off Hawai‘i Island is often observed with cookiecutter shark bites, which we used to infer shark behaviour.
- This is the first study to examine seasonality in cookiecutter shark foraging in Hawai‘i over a multi-year period and the first study to use whales as a proxy to examine seasonality in these sharks.

What we did

- We used a long term photo-ID catalogue of 405 resident whales representing 5,871 identifications from 365 encounters (2003 – 2012) to examine seasonality in bite prevalence.
- For each bite we noted status (fresh, healed, scarred), location (Fig. 1 and 2), whale ID and mean Sea Surface Temperature (SST)*.

References