(p=0.0031) in adult BB males (meanIVS = 0.32 cm + 0.05 SD) compared to adult SB males (meanIVS = 0.42 cm + 0.07 SD), however, whether this difference is an indication of cardiac disease or physiologic differences is not known at this time. Potential mechanisms for cardiac injury were evaluated by retrospectively examining histologic lesions in tissues of dead, stranded dolphins. On histologic evaluation, dolphins within the oil spill footprint had a higher prevalence of cardiac fibrosis than control animals stranding outside the spill area (44% vs 19%, p=0.002).

"Whales from The Hill": A platform for studying humpback whales in the northeast of Brazil.

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The humpback whales from the breeding stock A are recovering and currently, the whales are observed throughout northeastern Brazil. Since 2014, monitoring studies of humpbacks have begun in Serra Grande, a region where the continental shelf is narrower in the Brazilian coast, allowing the whales to approach near the coast. Land-based visual monitoring using a total station, and passive acoustic monitoring using Oceanpods deployed on the seabed at a sampling rate up to 16 kHz were conducted between July and October in 2014, 2015 and 2018. The objective of this project is to use these platforms with unique characteristics to monitor humpback whales, evaluating habitat use and movement patterns, as well as the evolution of acoustic communication of this population. The number of individuals observed at the peak of the seasons has increased over the years, with a maximum of 21 individuals observed per hour. Most of the groups observed were in waters of less than 50 m depth. The movement patterns, as net speed (5.49±2.73 km/h) and linearity (0.81±0.18), have remained constant over the years. Singing was the predominant vocal activity, but at least 13 social calls were also detected. Ten song themes were described: four themes were maintained between 2014 and 2015, and only one between 2015 and 2018. The next steps are the description of the repertoire of social sounds of this population and the study of song evolution applying the Levenshtein Similarity Index. Intra- and inter-population song comparisons are also planned within a newly formed research network in Latin America. The continuity of these monitoring efforts in the long term will allow us to identify the population and behavioral trends of the breeding stock A, building a baseline database about humpback whales before the construction of the new Port complex in the vicinity of Serra Grande area.

Comparison in phthalates concentration in four species of whales with different feeding behaviour from Mexican Pacific

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Over last decades, plastics litter have become a major problem due to its persistence and widespread distribution in the marine environment. Smaller fragments derived through environmental degradation from larger plastic can be easily incorporated in food chain, particularly microplastics (MPs), <5mm particles, that are ingested mistakenly by marine organisms and may cause long-term adverse effect as transfer and accumulate associated toxic chemicals into animal tissues. Phthalate esters (PAEs) are plasticizers that induce endocrine toxicity may have sublethal effects in hormone synthesis and, alter reproduction or other physiological and metabolic functions. The principal objective of the present study is to determine the concentration of PAEs in four whale species with economic, social and environmental importance to mexican community (*Balaenoptera physalus*, *B. musculus*, *Eschrichtius robustus* and *Megaptera novaeangliae*). To this aim, biopsies has been collectedin the whale feeding and breeding

grounds areas: San Ignacio Lagoon (gray whale: 5 males and 5 females), Los Cabos (humpback whale: 10 males) and Gulf of California (fin whale: 17 males). In addition, 8 zooplankton/MPs samples will be taken from two areas of the Gulf of California (Bahía de Kino and San Luis Gonzaga). In respect to PAEs, five diesters and their main monoester metabolites will be detected (DEHP, MEHP, DIOP, MIOP, BBzP, MBzP, DBP, MBP and DiBP, MiBP) using the GC-MS technique. Profiles of these chemical compounds in blubber will serve as plastic tracer of MPs and to assess whether the variation in feeding areas and habitats is reflected in their PAEs levels. Moreover, zooplankton/MPs samples will allow information about the ingestion/exposure to MPs and contaminated prey that affects two feeding grounds of whales in the Gulf of California.

Temporal distribution and multi-scale habitat preference analyses for Azorean blue whales

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Blue whales are sighted every year around the Azores islands, which apparently provide an important seasonal foraging area. In this study we aim to characterize habitat preferences and analyse the temporal distribution of blue whales around São Miguel Island. To do so, we applied Generalized Additive Models to a seven-year opportunistic cetacean occurrence dataset (2008-2014) and remotely sensed environmental data on bathymetry, sea surface temperature, chlorophyll concentration and altimetry (MSLA). Oceanographic dynamism in the Azores has been recently studied at a regional scale. However, detailed information at a more local scale is still scarce. As our study area is well limited and relatively small, here we provide a high-resolution description of the oceanographic conditions around São Miguel Island based on the environmental variables previously cited. We emphasize its high spatio-temporal variability. In order to capture this dynamism, we used environmental data with two different spatial resolutions (low and high) and three different temporal resolutions (daily, weekly and monthly), thus accounting for both long-term oceanographic events such as the spring bloom, and shorter-term features such as eddies or fronts. Blue whales' temporal distribution was analysed for sightings recorded between 2008 and 2018, accounting for a total of 188 records. Interannual differences in the number of blue whale sightings are apparent. Our results show that blue whales have a well-defined ecological niche around the Azores. They usually cross the archipelago from March to June, every year, and habitat suitability is highest in dynamic areas (with high Eddy Kinetic Energy) characterized by convergence or aggregation zones where productivity is enhanced. Multi-scale studies are useful to understand the ecological niche and habitat requirements of highly mobile species that can easily react to short-term changes in the environment.

Female productivity and calf survivorship of bottlenose dolphins (Tursiops truncatus) in Bocas, Panama

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The resident bottlenose dolphins of the Archipelago of Bocas del Toro are regularly exposed to intense interactions with dolphin-watching boats. Despite these intense interactions, the dolphins remain in the area for two reasons: the bay's safety from predators and abundance in food resources. However, ongoing studies indicate that while the preferred food source, sardines, is abundant, they provide low caloric gain. This means that the dolphins must eat regularly. Previous research has shown that Bocas dolphin foraging behavior is disrupted throughout the day by tour boats. This has created concerns about the health of the population, particularly lactating mothers and the potential effects on calf survival. In this study, we used mark-recapture data from 2004 to 2015 to infer dolphin female reproductivity and calf mortality rates. A total of 35 females were identified from 140 dolphins in the current catalog. Twenty-three of these females are regular users of Dolphin Bay. The bay is part of their home range where they regularly interact with dolphin watching boats. Each female in this population had between one and three calves during the study period, with