

## Yachts for Science

Do send a yacht submission form even if you don't see a possible research project match. There will be plenty more science projects selected in the future.

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### Selected Science Projects:

1. Using SCUBA video, data will be collected to test the implication of foundation species loss on the short- and long term-biodiversity of coral reefs by studying early coral reef species succession in the British Virgin Islands after devastation from two back-to-back hurricanes. This baseline data will be compared with that collected before the hurricanes.

**Dates:** Very flexible but ideally not UK academic term time.

**Location/s:** British Virgin Islands - Great Thatch Island proposed Protected area and Guana Island

**Berths Required:** Min 4 (ideally 6)

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2. Breaking internal tides over seamounts that stir deep, nutrient-rich water up into the photic zone, supporting both pelagic and endemic benthic communities. An autonomous ocean glider will be used to measure linked components of this system, from internal tides to phytoplankton, in order to determine the spatio-temporal variability of both the driving physical processes and biogeochemical responses.

**Dates:** Experiment could take place between September 2019 and Summer 2020

**Location/s:** Mediterranean Sea not appropriate. However, seamounts near the Bahamas and Turks and Caicos Islands- region would be an ideal experiment location.

**Berths Required:** Two

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3. Explore the remote areas of the vast Maldives archipelago to discover and document new sub-populations of manta rays using SCUBA/free-diving surveys, tissue samples, satellite tags and photo identification techniques. Accurate estimates of their population size, structure, habitat use and connectivity is essential to ensure effective protection of these vulnerable species.

**Dates:** First quarter of 2019/20 for oceanic manta rays, year-round for reef manta rays

**Location/s:** Southern Maldives (Huvadhu, Fuvahmulah and Addu Atolls) for oceanic and reef manta rays. Northern Maldives (Ihavandhippolhu, Thiladhunmathi, Makunudhu, Kalhifushi and Raa Atolls) for reef mantas only.

**Berths Required:** Two-Four

Selected Science Projects Continued...

4. Survey black coral populations, using SCUBA to conduct video transects, to understand their current status, population trajectories including potential recovery and their role on supporting associated reef biodiversity in the Mexican Caribbean.

**Dates:** Survey requires 2 weeks on board, flexible but ideal dates Sep - Nov 2019 or April - June 2020

**Locations:** Mexican Caribbean

**Berths required:** 2, 1 or 0 (once installed, echosounder logging software can be left running)

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5. Using the Great Barrier Reef as a natural laboratory, the research proposed here aims to better understand the structure, function and recovery of coral reefs in the aftermath of mass coral bleaching.

**Dates:** 2 weeks between October and December 2019

**Locations:** Great Barrier Reef - Specifically central sector (off Townsville)

**Berths Required:** Minimum 4

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6. Using novel fixed-wing, water-landing, long-range drones to survey the sharks and ray living on the shallow coral reefs in proximity to the islands in the Chagos Archipelago.

**Dates:** We are reasonably flexible on timing. Scientific expeditions in BIOT are usually conducted between January and April, when the weather is more favourable to work.

**Locations:** British Indian Ocean Territory

**Berths Required:** 2 berths

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7. The Pribilof Islands Small Mammal Expedition will see a team of researchers journey into the heart of the Bering Sea, in search of the Endangered (EN) and little-known Pribilof Island shrew (*Sorex pribilofensis*), only known from the region's remote islands.

**Dates:** 4th – 17th May

**Locations:** Bering Sea – Pribilof Islands (with potential additional interest in Aleutian Islands)

**Berths Required:** 3

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8. As Palau develops and implements the new and innovative Palau National Marine Sanctuary (PNMS), we propose a 2-3 year “Voyage of Discovery” program. This program, using vessels of opportunity will provide new information on the oceanography, marine biology, and seabed of the Sanctuary, enabling better (and data-based) management.

**Dates:** 2020-2023 whenever yacht situation allows

**Locations:** Palau (easiest port is Koror)

**Berths Required:** 6-12