Title/Name of the area:

Iles Éparses (part of the Mozambique Channel)

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Abstract (*in less than 150 words)*

The "Scattered islands" (literal translation of "les Iles Éparses") stretch down the length of the Mozambique Channel, between the east coast of Africa and Madagascar. These islands are fairly remote and largely still intact, offering sites of high conservation value.

Introduction

The Iles Éparses are an administrative unit rather than a single geological unit, with the northern banks (Glorieuses and Geyser) likely being extensions of the Comoros archipelago, while the middle and southern islands are distinct geological features.

Oceanographically, the islands are bathed by the variable eddies of the Mozambique channel with resulting enhanced productivity driven by the eddies and their interactions with the continental slopes and island slopes, but there is strong differentiation from north to south. In the north, the "Glorioso Front" was christened for its proximity to Glorieuses island, and may mark the transition from the SEC to the waters of the channel. Juan de Nova is at a point off the Madagascar west coast characterized by significant aggregations of marine mammals, an indicator of high productivity likely driven by interactions between eddies and the shallowest sections of the Davie ridge. Europa and Bassas de India, in the center of the southern Mozambique channel, experience mature eddy systems.

While the individual islands are all small, as a group they cover a large geographic range across the whole of the Mozambique channel. The integrity of the serial/island group is very high as the islands are uninhabited and human pressure very low. All studies show that marine habitats are in good health despite recent climate change impacts, and the composition of the trophic chain, with abundance of top predators is a sign of good health. Nevertheless, each island has a distinctive character, and provided the productivity and dynamics of open sea areas that are critical for feeding and migration remain in good condition, each island has a high integrity.

Location

The "Scattered islands" (literal translation of "les Iles Éparses") stretch down the length of the Mozambique Channel, between the east coast of Africa and Madagascar. Glorieuses island (11.3oS) and Geyser bank, close to Mayotte, are in the north, Juan de Nova is in the center, adjacent to the Madagascar coast, and Bassas da India and Europa (22.4oS) are in the south.

The Iles Éparses are under French jurisdiction, and since 2007 have been part of the French overseas territory called "French Southern and Antarctic Lands" (Terres australes et antarctiques françaises - TAAF), which also includes the southern islands of Crozet, Kerguelen Archipelago, St. Paul, Amsterdam and Terre Adelie. The EEZs of the Iles Éparses total 640,000 km2, and abut the EEZs of the neighbouring countries. The islands are subject to claims from these neighbouring countries, including Madagascar (Bassas da India, Europa, the Glorieuses islands and Juan da Nova) and from the Comoros for the Glorieuses islands.

Glorieuses is a coral bank 17 km long and covering 165 km² with two main coral islands, Grande Glorieuse (7 km²) and Lys island (600 m long). Grande Glorieuse is a sandy cay, with a set of dunes in the east and northeast that reach a maximum altitude of 12 m. Lys island and fossil rocks on the coral bank appear to be the remains of Pleistocene coral growth 125,000 years old, composed of limestone benches with Tridacna. Geyser is an active coral bank with a small sandy cay. The banks are currently subsiding, thus have active coral and bank formation to keep up with sea level.

Juan de Nova is a small coral island (about 6 km²) on a 250 km² coral reef platform. It consists of beachrock and sand dunes up to 12 m in height. The coral structures extend 12 km north and 2 km south of the island. The asymmetry of the reef bank, linked to the tilting of the island results in different reef morphologies: in the south the island has a well defined reef flat between 0 and 3 m depth, while in the north it slopes down slowly to 20 m deep before dropping to >2000 m to the channel bottom. On the island, phosphate deposits in the form of guano were exploited from 1900 to 1968.

Bassas da India is a subcircular atoll 12 km in diameter, with a shallow sandy lagoon and is almost entirely submerged at high tide. The atoll is currently growing and the reef slope is very steep, dropping to 3000 m to the bottom of the Mozambique Channel.

Europa is a raised atoll of 6-7 km in diameter and 28 km² area, a remnant of a Pleistocene atoll from 125,000 years ago. The island is a low sandy cay surrounded by a small cliff of raised dead coral, interrupted by sandy beaches. A dune fringe, to a maximum height of 6 to 7 m, in places is up to ten meters wide. The shallow inner lagoon, in the process of filling, covers about 900 ha with some 700 ha of mangrove, communicating with the sea via an underground karst system and a reef spillway covered by seagrass.

Feature description of the proposed area

<u>Oceanography</u>: The oceanography of the Mozambique channel is highly complex and the placement of the Iles Éparses along the length of the channel results in variable hydrographic forcing factors on the islands and marine communities, such as the Glorioso Front (GIF), located NW of Glorieuses and marking the northern boundary of the Mozambique channel.

<u>Biogeography</u>: the Scattered Islands are located at the western border of the West Indo-Pacific Realm, cover a range of latitudes from the center of the high diversity core region of the northern Mozambique channel to the southern part of the channel, have small habitat size which promotes speciation and extinction events and thus the generation and presence of endemic species.

Migratory species - the Iles Éparses are important places for migratory species such as turtles, marine mammals, sharks, and seabirds, with both breeding and foraging zones of significance, and seasonal migrations determined by local and regional scale phenology.
The extensive Halimeda facies, well represented in Glorieuses and Juan de Nova are unique in the context of the Indian Ocean islands, reflecting high productivity in surrounding waters. Green turtles show strong genetic differentiation into two populations, one in the north, the other in the southern and central Mozambique Channel. This may reflect the currents in the channel, that influence the dispersal of juveniles and separate sub-stocks for multiple species groups.

Europa - the breeding stock of green turtles is between 8,000 and 15,000 females, the third largest atoll nesting site for green turtles in the world and the largest in the Indian Ocean; blacktip reef sharks (Carcharhinus melanopterus), lemon sharks (Negaprion acutidens), shooling hammerhead sharks (Sphyrna mokarran); eight breeding seabird species including an endemic subspecies of the white-tailed Tropicbird (Phaethon lepturus europae), the most diverse seabird fauna of the Scattered Islands, and the richest in the WIO; unique mangrove system (700 ha) in its lagoon

Juan de Nova - important nesting site for hawksbill turtles; nursery areas for grey reef sharks; largest population of sooty terns in the Indian Ocean and one of the largest in the world with > 2 million breeding pairs; presence of coconut crab Birgus latro.

Glorieuses – second largest population of sooty terns, with 760,000 breeding pairs; presence of coconut crab Birgus latro.

Bassas da India - aggregations of juvenile sharks Carcharhinus galapagensis;

Zélée Bank – potentially a nursery ground for grey reef sharks (C. amblyrhynchos)

Marine mammals: humpback whales are present during the southern winter to breed and give birth

Feature condition and future outlook of the proposed area

Threats: The Iles Éparses are at not far from populated islands and the continental coastline, making them vulnerable to exploitation. Fisheries in the coastal waters surrounding the islands is banned but does occur by commercial boats, as well as recreational and small-scale targeting of reef fish, by fishers from e.g. Mayotte or South Africa, depending on the island. Moderate shipping traffic passes through the Mozambique channel, thus there is a pollution risk from tankers. Two petroleum exploration permits wihin the EEZs of the Iles Éparses were approved in December 2008, and exploration in the EEZs of neighbouring countries may have spillover impacts in the islands. As with other sites, climate change is a significant threat, with the added uncertainty of how changing water temperatures and currents will affect the dynamic eddies in the Mozambique channel that influence these islands in areas such as connectivity, primary productivity, prey populations for higher order predators, and fishing stock dynamics.

Management status: Europa, Bassas da India, and Glorieuses were declared Nature Reserves in 1975 (arrêté préfectoral de 1975), and there is a permanent presence on the islands, for military and/or civil (meteorology) purposes. As a result, access to the islands is strictly and effectively controlled, with permits only being given for research. In support of this, a Scientific Committee of the Scattered Islands (CSIE) has been established, as an advisory body to the

administration. In 2012, the whole the EEZ of Glorieuses was declared an MPA, and steps are underway to declare Europa as a national natural reserve. Europa was designated a Ramsar site in 2011.

Assessment of the area against CBD EBSA Criteria

(Discuss the area in relation to each of the CBD criteria and relate the best available science. Note that a candidate EBSA may qualify on the basis of one or more of the criteria, and that the boundaries of the EBSA need not be defined with exact precision. And modeling may be used to estimate the presence of EBSA attributes. Please note where there are significant information gaps)

CBD EBSA Criteria (Annex I to decision IX/20)	**Description** (Annex I to decision IX/20)	**Ranking of criterion relevance** (please mark one column with an X)			
		Don't Know	**Low**	**Some**	**High**
Uniqueness or rarity	Area contains either (i) unique ("the only one of its kind"), rare (occurs only in few locations) or endemic species, populations or communities, and/or (ii) unique, rare or distinct, habitats or ecosystems; and/or (iii) unique or unusual geomorphological or oceanographic features.			**X**	
Part of the unique Mozambique Channel ecosystem. See above.					
Special importance for life-history stages of species	Areas that are required for a population to survive and thrive.				**X**
Isolation makes them important for various species - spawning, feeding, calving, etc. See above.					
Importance for threatened, endangered or declining species and/or habitats	Area containing habitat for the survival and recovery of endangered, threatened, declining species or area with significant assemblages of such species.			**X**	
Many threatened and endangered species (turtles, mammals, birds), but lower diversity than Mozambique and Madagascar at same latitudes.					
Vulnerability, fragility, sensitivity, or slow recovery	Areas that contain a relatively high proportion of sensitive habitats, biotopes or species that are functionally fragile (highly susceptible to degradation or depletion by human activity or by natural events) or with slow recovery.				**X**
Reef and small island habitats are very vulnerable					

Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.				**X**
Part of the eddy / upwelling systems of the Mozambique Channel.					
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.			**X**	
Significant, but lower diversity than Mozambique and Madagascar at same latitudes.					
Naturalness	Area with a comparatively higher degree of naturalness as a result of the lack of or low level of human-induced disturbance or degradation.				**X**
The integrity of the serial/island group is very high as the islands are uninhabited and human pressure very low. All studies show that marine habitats are in good health despite recent climate change impacts, and the composition of the trophic chain, with abundance of top predators is a sign of good health.					

Sharing experiences and information applying other criteria (Optional)

Other Criteria	**Description**	**Ranking of criterion relevance** (please mark one column with an X)			
		Don't Know	**Low**	**Some**	**High**
Add relevant criteria					
Explanation for ranking					

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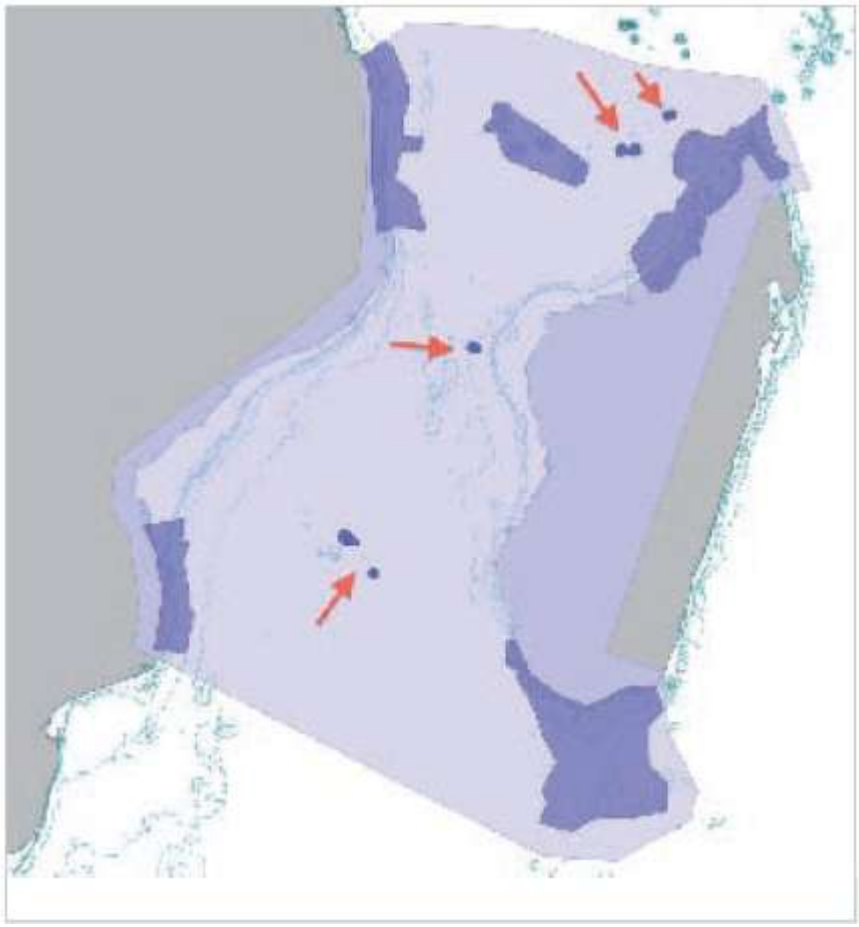
Maps and Figures

Figures below can be provided in higher resolution.



The Comoros-Glorieuses crescent. ©David Obura

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