



MARHE



MAP THE GIANTS[®] SCIENTIFIC EXPEDITION

MALDIVES | 03 - 10 MAY 2025

For info:

mapthegiants@unimib.it

workshop.marhe@unimib.it

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INTRODUCTION

Coral reefs represent one of the most vital marine ecosystems on our planet. Despite covering only 0.1% of the ocean, they host over a quarter of all known marine species, protect coastlines from erosion, and support the livelihoods of nearly a billion people worldwide.

However, climate change and human activities are severely threatening coral reefs worldwide, leading to biodiversity loss and a decline in coral cover. It's estimated that over 50% of coral reefs have disappeared since the 1970s, and their survival is at high risk in the coming decades. Projections indicate that coral reefs could vanish by the end of the century, taking with them all the ecosystem services we rely on.

On April 15, 2024, the National Oceanic and Atmospheric Administration (NOAA) and the International Coral Reef Initiative (ICRI) officially confirmed a Fourth Global Coral Bleaching Event. With the decline of coral reefs, billions of coral colonies are at risk of dying.

In this dramatic scenario of coral loss, there is a serious risk of potentially losing the most enigmatic, resistant, and old coral colonies: the **GIANT CORALS**. These extraordinary organisms can grow for centuries and they can reach immense sizes and ages, standing as the oceanic equivalents of ancient sequoias—the most awe-inspiring trees on Earth. Like them, they hold unique information on climate, environment, and biodiversity. Their disappearance would represent an invaluable loss in our understanding of marine ecosystems. Having survived countless disturbances over centuries, giant corals display a resilience that suggests they could endure today's challenges as well, potentially holding insights crucial to the future preservation of coral reefs.

They are more than just rare specimens; they are natural time machines with inestimable value.

The world's largest coral so far, reported on the 14th November 2024 from the Solomon Islands, confirms that we should strive to discover and protect these incredible organisms.

Would we accept losing Earth's tallest tree? If the answer is no, then perhaps we should also fight to protect its largest corals.

How many giant corals are there? Where are they? Are they the key to coral reefs' resilience? What can we do to protect them?

Map the Giants aspires to **discover, study, and safeguard** the largest coral colonies in the world, starting from the Maldives.

The project, launched in January 2024, uses citizen science as a tool to locate them. It further relies on a network of scientists from every corner of the planet and any wealth of experience to study them and reveal the secrets behind their longevity. Moreover, the hope is to increase the general public's **awareness of corals** focusing on the wonders they behold rather than the impact they face. Finally, we aim for them to be recognized as **marine monuments, new heroes of our oceans**. Recognition through identification, research, and protection of these iconic organisms may increase environmental conservation and offer a new opportunity for protection.

The project is coordinated by researchers of the [University of Milano-Bicocca through MarHE Center](#) (Marine Research and Higher Education Center) which has been operating in the Maldives since 2009 and has, since then, conducted a multitude of research on various fields from coral reef ecology, to habitat mapping, to sociology, and sustainable tourism.



OBJECTIVES OF THE EXPEDITION

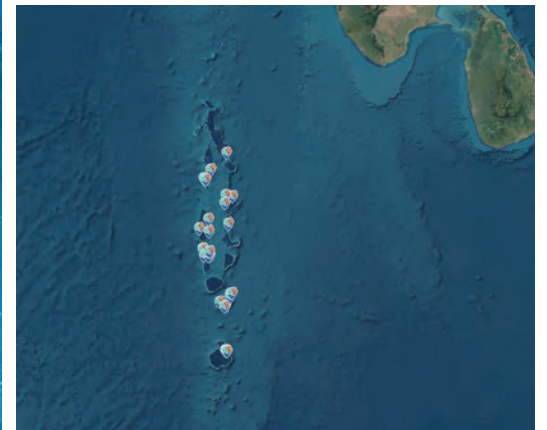
This first Map the Giants expedition represents a unique opportunity to combine fascinating dives in the Maldivian tropical coral reef with dedicated scientific dives to discover and study the wonders of giant coral colonies.

We will be looking at organisms that we have seen many times before, but for once, from a different perspective, realizing the inestimable value that a single giant coral colony has.

The cruise will be **coordinated by the Map the Giants team** and it is a **discovery/scientific expedition** aimed at **learning and studying giant corals**. During the week we will be searching from them across the central Atoll of the Maldives and **studying** those that have previously been identified. In particular, the expedition aims to:

DISCOVER & STUDY GIANT CORALS:

- explore shallow water areas through drones,
- map and identify selected colonies at species level,
- measure them and establish their conservation status,
- develop 3D reconstructions and estimate their age,
- collect data based on research questions from fellow scientists participating.





ORGANIZATION

The scientific expedition will take place between **3 and 10 May 2025** with a **diving cruise in the central atolls of the Maldives**. The logistical support base will be the safari boat Island Safari 2 operated by [White Wave Maldives](#) staff. The program and the activities are organized by [Map the Giants](#), a research group by the MarHE Center, the Marine Research and Higher Education Center of the University of Milano-Bicocca (Italy). The team is specialized in coral reef ecology, associated fauna, coral disease, habitat mapping, remote sensing, and photogrammetry.

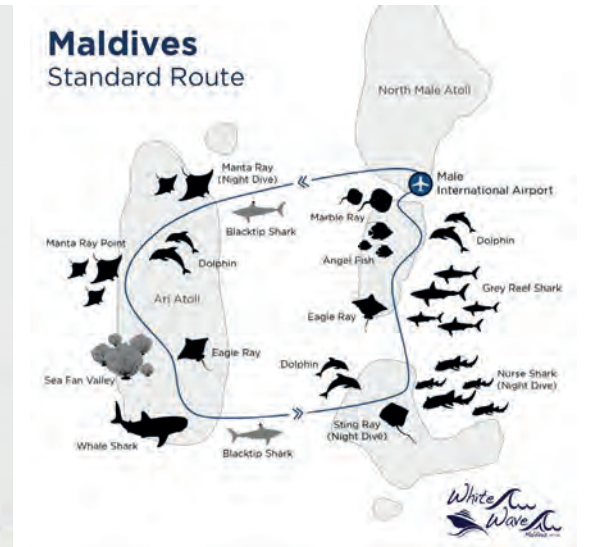
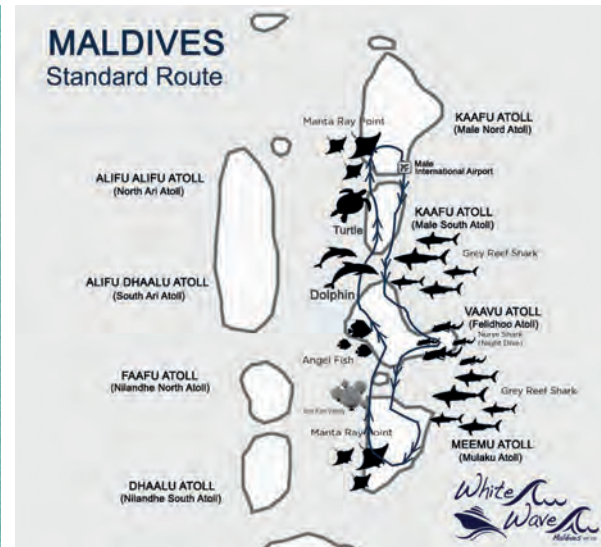
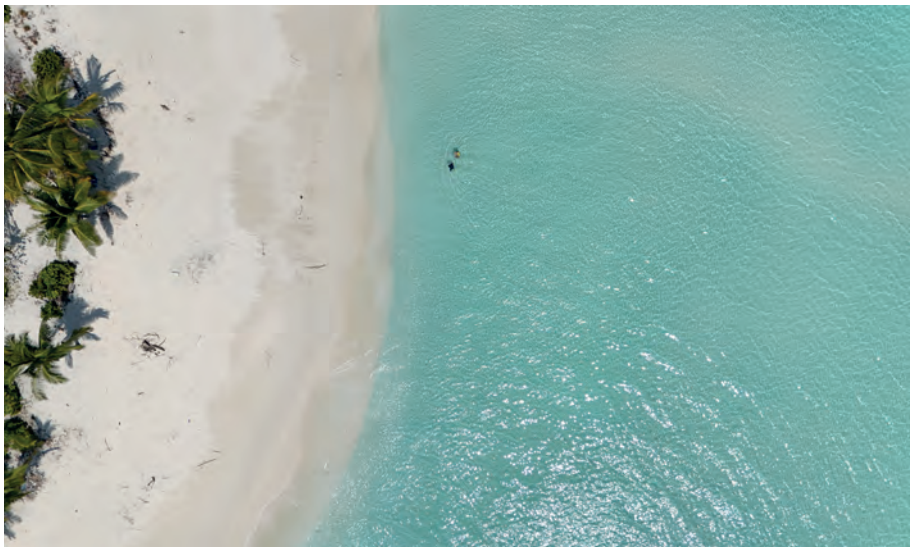
The program includes **optional field research activities** through scuba diving and snorkelling in different reefs of the Maldivian archipelago. In particular, 2-3 dives per day are envisioned (a night dive could be scheduled on a day) for a max of 15 dives during the week. **Participants** will

have the discretion to choose regularly between joining scientific research dives or recreational dives. Participants will be consistently assisted underwater by the staff from White Wave and the MarHE Center.

Theoretical presentations will be held to deepen participants' knowledge and answer questions and curiosities. These will include topics such as: Maldivian coral reef ecology, Map the Giants, Coral diseases, Coral-associated fauna, Geomorphology of the Maldives, Photogrammetry for science, and seminars held by researchers joining the expedition and willing to share their expertise.

The activities will be run in **English** language.

Two itineraries will be possible based on the weather conditions forecasted for the week of the expedition and decided by the boat captain and crew.



TARGET AND PARTICIPATION REQUIREMENTS

The scientific expedition is open to anyone holding at least an **open-water diver certification**.

We encourage students, researchers and also recreational tourist divers to join us onboard, and support our mission to explore the maldivian reefs in search of giant corals.

The maximum number of participants is set to **20 including 2 young students / researchers who will be entitled to a scholarship** (see paragraph "Scholarship Procedure").

Should the number of applicants exceed the number of available spots, priority will be given to students and researchers, and a selection of the participants will be based on their CV and research objectives.

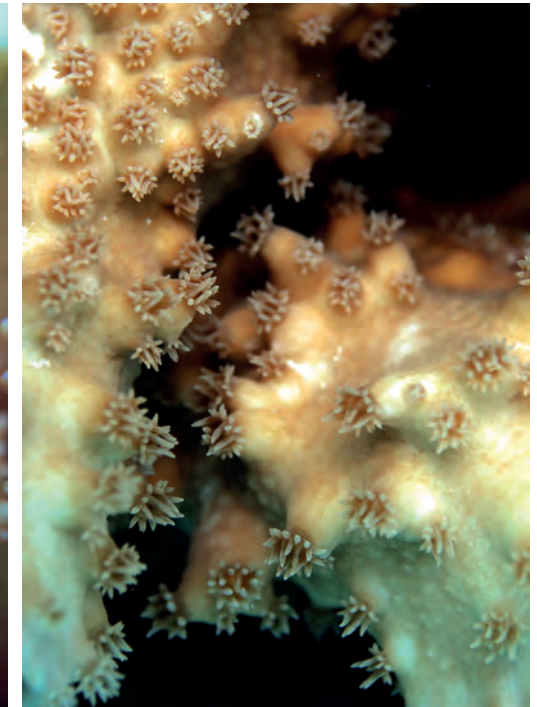
IMPORTANT NOTES

- **The itinerary will be decided based on the weather and the main objective of the expedition: searching for giant corals**
- **All scientists intending to conduct specific research on giant colonies will need to get in touch with us beforehand to discuss research objectives, logistics and permits.**

DIVING REQUIREMENTS

All divers must have a **valid diving insurance** (DAN or similar) in order to perform diving activities. Each diver must fill in upon his/her arrival at the Liveaboard a medical declaration for suitability for diving (see Appendix 1 as example). In case of positive answer to any questions, an additional medical certificate will be required to attest the suitability to diving activities. This must be obtained before travelling to the Maldives. Please take a look at the form before travelling to the Maldives.

Please note that all participants must bring their own diving computer, which can't be rented on-site, as well as the SMB (Surface Marker Buoy).



REGISTRATION & FEE

To proceed with the registration, you are asked to fill in the Google form which you can find at the following link:

<https://forms.gle/jKZV6oNCf1XzA9ei7>

After completing the online questionnaire through the Google form, please send an email to workshop.marhe@unimib.it specifying in the object: "Surname Name - Map the Giants expedition" and attaching:

- A good quality color scan of your passport as .pdf file (first 2 pages combined in one containing personal data), naming the file with MtG_Expedition_Surname_Name_PPT (please note that the passport needs to have 6 months validity from your departure from the Maldives)
- Your CV naming the file MtG_Expedition_Surname_Name_CV

Since a selection of the participants will be performed based on applicants' experience and interests, **please wait for our green light before purchasing the flights**. The maximum number of participants is set to 20 people.

THE REGISTRATION DEADLINE IS FIXED FOR 30 January 2025.

The fee is set to 1650€ per person.

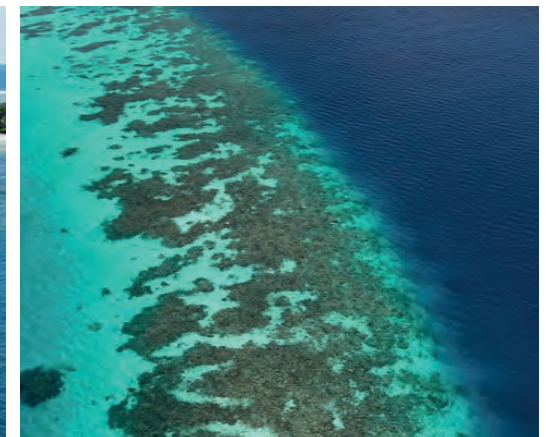
The above amount **includes**:

- Transfer between Male Airport and the boat
- Food and lodging onboard the M/Y Island Safari 2: full board treatment and accommodation in multiple rooms.
- Transportation to all dive sites and atolls
- 2 or 3 dives/snorkelling per day (to choose between recreational and research dives)
- Water and American coffee
- Beach towel and shower towel

- Excursions on deserted islands
 - Assistance by White Waves and Map the Giants staff
- The above amount does **not include**:
- Flight to/for Maldives (Male International Airport)
 - Mandatory service fee of 100 USD per person is to be paid directly to the boat manager. The fee should be paid in USD; payment in a different currency is subject to a commission of € 5.
 - Tax on tourist goods and services and green tax € 150.00 to be paid directly onboard
 - Possible rental of diving equipment (tank, weights and weight belts are included Dive computer and SMB are not available for rental)
 - Passport issuing or renewal costs, if any
 - Anything else not specified above
 - Nitrox is available for 70 euro per week

CANCELLATION POLICY

Following the payment of the fee, reimbursement for any cancellation until 30 days from the starting of the cruise (i.e., 4 April 2025 included) will be subject to 10% administration fee. In case of cancellation within 30 days from the cruise (from 5 April 2025) no reimbursement will be possible.



SCHOLARSHIP PROCEDURE

Map the Giants is ensuring the reservation of **2 slots to young students/researchers**, to offer them the opportunity to learn in the field and develop skills alongside experts in the sector.

One of the two positions will prioritize young people from the Maldives.

The scholarship does not include international flights.

Admission criteria

- Enrollment in a degree course (BSc. or MSc.) or PhD or in areas related to Life and Earth Sciences
- Open water diving certification

To apply for the scholarship, we ask you to send the following documents to mapthegiants@unimib.it and indicate in the object MtG Scholarship_Name Surame. For larger files, please include the wetransfer link or similar in the email:

- Motivation letter / video (in English) – the letter/video should present the applicant's motivation to join the expedition and future perspectives and aspirations. The letter should be around 500 words and the video should last a max of 3 minutes.
- CV with information about relevant experience and professional training (relevant courses, workshops, seminars, etc. can also be included).
- Certificate (self-certification) of enrollment in a degree course or PhD in areas related to Life and Earth Sciences
- Copy of the open-water diving certification

Selection Procedure and Criteria

All scholarship applications will be first pre-screened for formal requirements. Only complete applications will be assessed. Incomplete applications may be rejected without further notification, as well as the applications of candidates not meeting the admission criteria.

One slot will prioritize Maldivian nationals.

Complete applications will be assessed against three criteria:

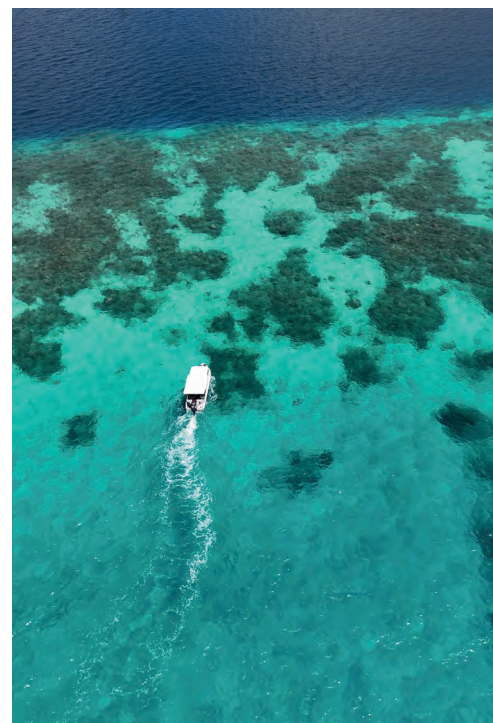
- a) Scientific track record: this will be assessed taking into account the relationship between the applicant scientific background and the Expedition objectives and contents. This will preferably include topics such as: coral reef ecology, biology, or physiology, molecular biology, remote sensing, photogrammetry and 3D modelling.
- b) Educational/Professional and research experience: Educational, work, and research experience will be considered if directly related to the degree and contents of the scientific expedition. Research scholarships awarded and internships done will also be considered.
- c) Motivation letter (~500 words max) or video (~3 minutes max)

CRITERIA	SCORE
Scientific track record	40%
Educational/Professional and research experience	35%
Motivation letter or video	25%

Admission procedure

All applicants will receive written communication informing them of the outcome of their application by **10th February 2025**.

The communication will also include relevant practical information with the following steps including the results of the scholarship selection process.



ECTS CREDITS

Recognition of training credits are foreseen for students of the International Master's Degree in Marine Sciences (University of Milano-Bicocca). In particular, for these students the set of all the activities carried out will reach a number of hours corresponding to 4 ECTS (practical training).

Students enrolled in other degree courses and/or PhD course and/or at other Universities or Institutions are requested to inquire at the respective administrative secretariats for the possible recognition of credits ECTS.

OTHER PRACTICAL INFORMATION

FLIGHT TICKETS

You will be responsible for purchasing the flights, but do so **ONLY ONCE we have confirmed the activation of the expedition and of a slot for you.** The choice of airline is yours; the important thing is to be at the airport in Malé, Maldives, on the day and at the time established (we will share with you the necessary information once registered). Pay attention while purchasing the flight tickets as your mistakes (incorrect flight dates or other) cannot be reimbursed by us.

ACCOMMODATION

The accommodation is provided by the Liveaboard Island Safari 2, in **multiple rooms** (up to 4 beds). Each room has a private bathroom, air conditioning and a fan. The rooms are cleaned and tidied up every day. Sheets and towels are provided. There is **no accommodation in single rooms.** Meals are included (breakfast, lunch and dinner) and are served as a buffet. Special dietary requirements and allergies are to be mentioned in the application form. More info reported in the technical specifications below. The White Wave Maldives team, composed of expert Italian instructors and integrated with the local Maldivian crew, will welcome you, making each day of your stay on board an unforgettable experience. For each dive, you will be accompanied by 5 to 6 dive guides, ensuring your safety and comfort, even in more challenging conditions.

DOCUMENTS

To enter the Maldives it is necessary to have a **passport with at least 6 months of validity** from your departure from the Maldives. If you don't have a passport, we invite you to request it promptly since the waiting time may be long. If it is necessary to speed up the release times, Italian

students only can request, after registering for the workshop, a letter from MarHE Center to be handed to the police headquarters. Please let us know if you need this.

A dive insurance (DAN or similar) is mandatory. Please consider whether buying an additional travel and medical insurance.

CLOTHING AND DIVING EQUIPMENT

The air temperature as well as the water temperature is around 28-29°C. The weather is always pleasant, even in the rainy months. Please note that most of the day will be occupied with field activities and lectures; it is, therefore, advisable to wear comfortable sportive and light clothes.

For field activities and diving it is strongly **suggested to have your own equipment** and in particular:

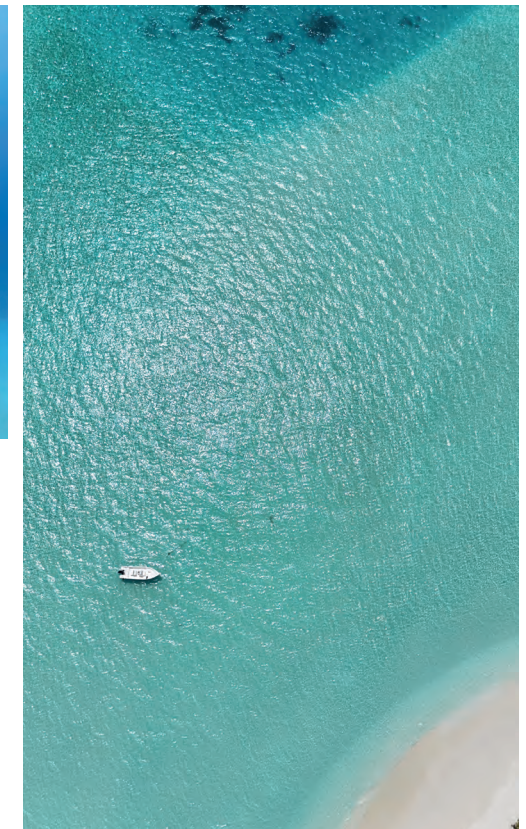
- Mask and fins (either with or without booties)
- Wetsuit (3mm) or shorty wetsuit (water is warm, avoid 5 mm or thicker wetsuits)
- Diving computer (it is mandatory to have your own)
- BCD and regulators
- SMB

It is possible to rent, for a fee and based on availability, diving equipment (BCD, fins and regulators) on the boat. **The dive computer and SMB are not available.** Nitrox is available for 70 euro per week.

Please inform us in advance in case you need to rent diving equipment or anything.

CURRENCY

The Maldivian currency is the Maldivian Rufiyaa (MVR). Euros and dollars are accepted in any bank and exchange offices. 1 Euro € = about 18 Maldivian Rufiyaa (MVR); 1 USD \$ = about 15.42 MVR; It is possible to exchange money at the airport. **COMMUNICATION** On board the Liveaboard there is a limited free WI-FI service



that can be used for educational purposes during the morning and for communicating at home in the evening. However, it is possible to purchase at the airport or in Malé city a local SIM with data traffic, if you want to be always connected. Internet top-ups can be purchased online. It is now available an e-sim card on the Maldivian Dhiraagu or Ooredoo website, however compatibility with mobile phones must be verified beforehand as not all the brands and models support e-sim cards.



Level 2



Level 3



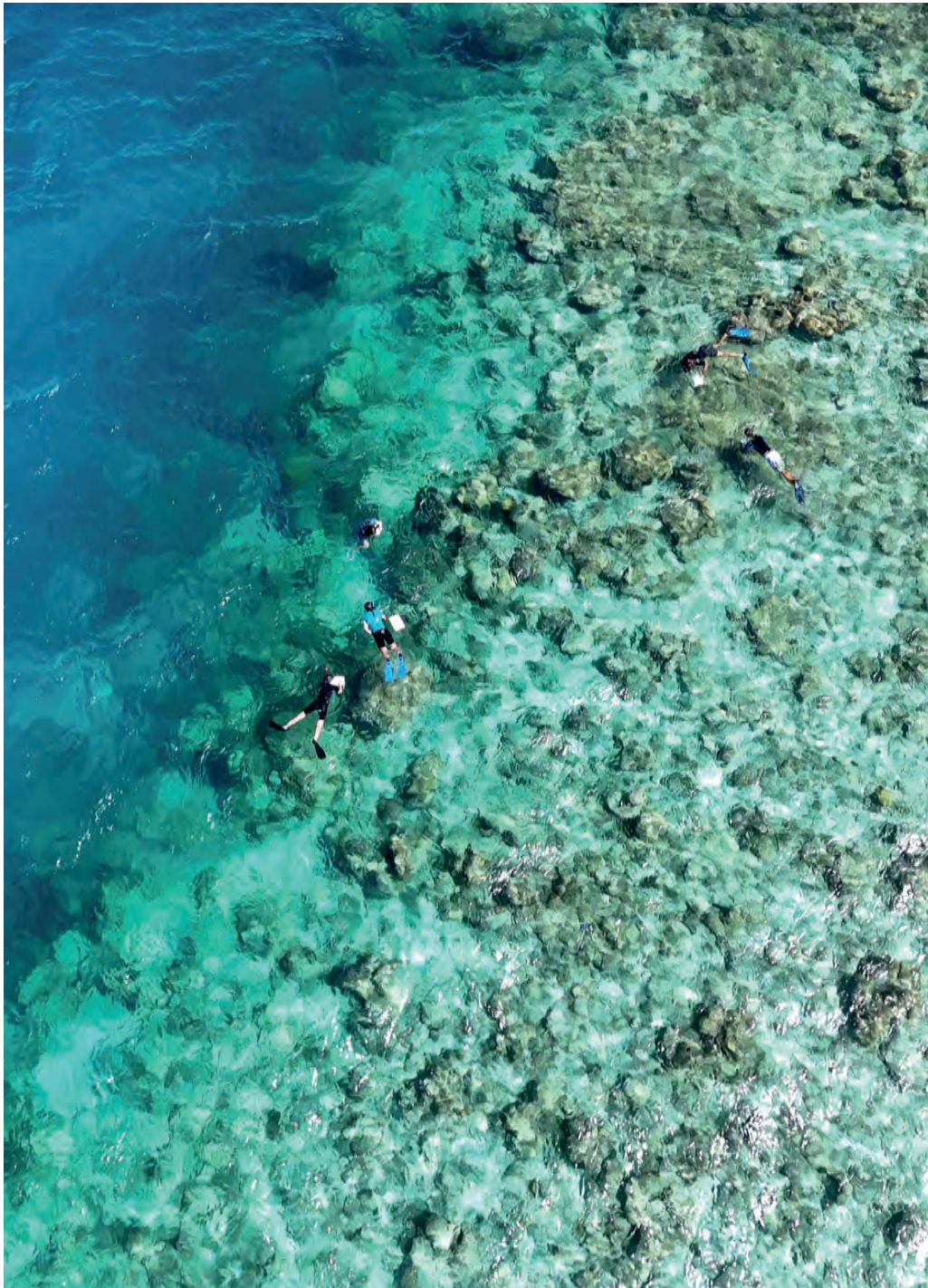
Level 1



Level 4

TECHNICAL SPECIFICATIONS M/Y ISLAND SAFARI 2

Year of construction:	2007.
Boat type and hull:	Three-deck wooden motor yacht of Maldivian construction.
Length:	32 meters.
Width:	10 meters.
Decks:	3.
Electrical power:	220/240 volts - 2 silenced generators, 30KV each.
Engine:	480 HP Yanmar.
Cruising speed:	11 knots.
Desalinators:	6000 liters of fresh water per day.
Cabins:	The 9 passenger cabins are all spacious and well-structured to accommodate any needs, families, and friends. They are equipped with a private bathroom with hot and cold shower, and autonomous air conditioning control and are divided as follows: <ul style="list-style-type: none"> • 2 junior suite cabins with double beds • 4 double/twin cabins • 3 triple cabins
Passenger capacity:	18 pax / 21 max.
Crew:	12 persons and 5 instructors and Divemasters.
Diving crew:	4/5 people.
Restaurant:	International cuisine.
Buffet-style:	Breakfast, Lunch, Dinner + Maldivian-themed evening.
Served bar:	Wide selection of cocktails, wine, liquor, fruit juices, and soft drinks.
Bar lounge:	(1st deck) with TV, DVD player, Hi-Fi system, library.
Telecommunications:	Paid Wi-Fi internet 20\$ per week subject to changes depending on local prices variations. CB radio, GPS, cell phone, and safety devices required by local regulations.
Tender:	5-meter dinghy with a Honda 40 HP outboard motor.
Diving Center:	A well-organized and equipped international diving center. Equipment rental is available onboard if needed.
Support boat:	"Diving Dhoni" with a 4-cylinder engine.
Underwater locator radio:	"Lost diver" safety device.
Compressors:	3 compressors.
Nitrox:	Available for an additional fee.
Cylinders:	12-liter steel tanks with INT/DIN mono valve - 5 cylinders: 15-liter steel tanks with INT/DIN mono valve - 1 cylinder: 18-liter steel tank with INT/DIN mono valve
First Aid:	3 oxygen cylinders of 50 liters each and a complete kit



Appendix 1

MEDICAL STATEMENT

Please carefully read the medical statement which you will need to fill only once on the boat. Should you reply YES to any of the questions, you are required to present a medical certificate following a Physical Examination by your doctor. This must be obtained before travelling to the Maldives.

The purpose of this Medical Questionnaire is to find out if you should be examined by your doctor before participating in recreational diving. A positive response to a question does not necessarily disqualify you from diving. A positive response means that there is a preexisting condition that may affect your safety while diving and you must seek the advice of your physician prior to engaging in dive activities. Please answer the following questions on your past or present medical history with a **YES** or **NO**. If you are not sure, answer **YES**. If any of these items apply to you, we must request that you consult with a physician prior to participating in scuba diving. Your instructor will supply you with an RSTC Medical Statement and Guidelines for Recreational Scuba Diver's Physical Examination to take to your physician.

- | | |
|--|---|
| <input type="checkbox"/> Could you be pregnant, or are you attempting to become pregnant? | <input type="checkbox"/> Dysentery requiring medical intervention? |
| <input type="checkbox"/> Are you presently taking prescription medications? (with the exception of birth control or anti-malarial) | <input type="checkbox"/> Any dive accidents or decompression sickness? |
| <input type="checkbox"/> Are you over 45 years of age and can answer YES to one or more of the following? | <input type="checkbox"/> Inability to perform moderate exercise? |
| <ul style="list-style-type: none"> <input type="checkbox"/> Currently smoke a pipe, cigars or cigarettes <input type="checkbox"/> Have a high cholesterol level <input type="checkbox"/> Have a family history of heart attack or stroke <input type="checkbox"/> Are currently receiving medical care <input type="checkbox"/> High blood pressure <input type="checkbox"/> Diabetes mellitus, even if controlled by diet alone | <input type="checkbox"/> Head injury with loss of consciousness in the past 5 years? |
| Have you ever had or do you currently have... | <input type="checkbox"/> Recurrent back problems? |
| <input type="checkbox"/> Asthma, or wheezing with breathing, or wheezing with exercise? | <input type="checkbox"/> Back or spinal surgery? |
| <input type="checkbox"/> Frequent or severe attacks of hayfever or allergy? | <input type="checkbox"/> Diabetes? |
| <input type="checkbox"/> Frequent colds, sinusitis or bronchitis? | <input type="checkbox"/> Back, arm or leg problems following surgery, injury or fracture? |
| <input type="checkbox"/> Any form of lung disease? | <input type="checkbox"/> High blood pressure or take medicine to control blood pressure? |
| <input type="checkbox"/> Pneumothorax (collapsed lung)? | <input type="checkbox"/> Heart disease and/or attack? |
| <input type="checkbox"/> Other chest disease or chest surgery? | <input type="checkbox"/> Angina, heart surgery or blood vessel surgery? |
| <input type="checkbox"/> Behavioral health, mental or psychological problems (Panic attack, fear of closed or open spaces)? | <input type="checkbox"/> Sinus surgery? |
| <input type="checkbox"/> Epilepsy, seizures, convulsions or take medications to prevent them? | <input type="checkbox"/> Ear disease or surgery, hearing loss or problems with balance? |
| <input type="checkbox"/> Recurring complicated migraine headaches or take medication to prevent them? | <input type="checkbox"/> Recurrent ear problems? |
| <input type="checkbox"/> Blackouts or fainting (full/partial loss of consciousness)? | <input type="checkbox"/> Bleeding or other blood disorders? |
| <input type="checkbox"/> Frequent or severe suffering from motion sickness? | <input type="checkbox"/> Hernia? |
| | <input type="checkbox"/> Ulcers or ulcer surgery? |
| | <input type="checkbox"/> A colostomy or ileostomy? |
| | <input type="checkbox"/> Recreational drug use or treatment for, or alcoholism in the past 5 years? |

The information I have provided about my medical history is accurate to the best of my knowledge. I agree to accept responsibility for omissions regarding my failure to disclose any existing or past health condition.

Date: _____ Signature: _____