KAREN SCHOFIELD PHOTOGRAPHY
PRESENTS

Tubbataha Reef, Phillipines

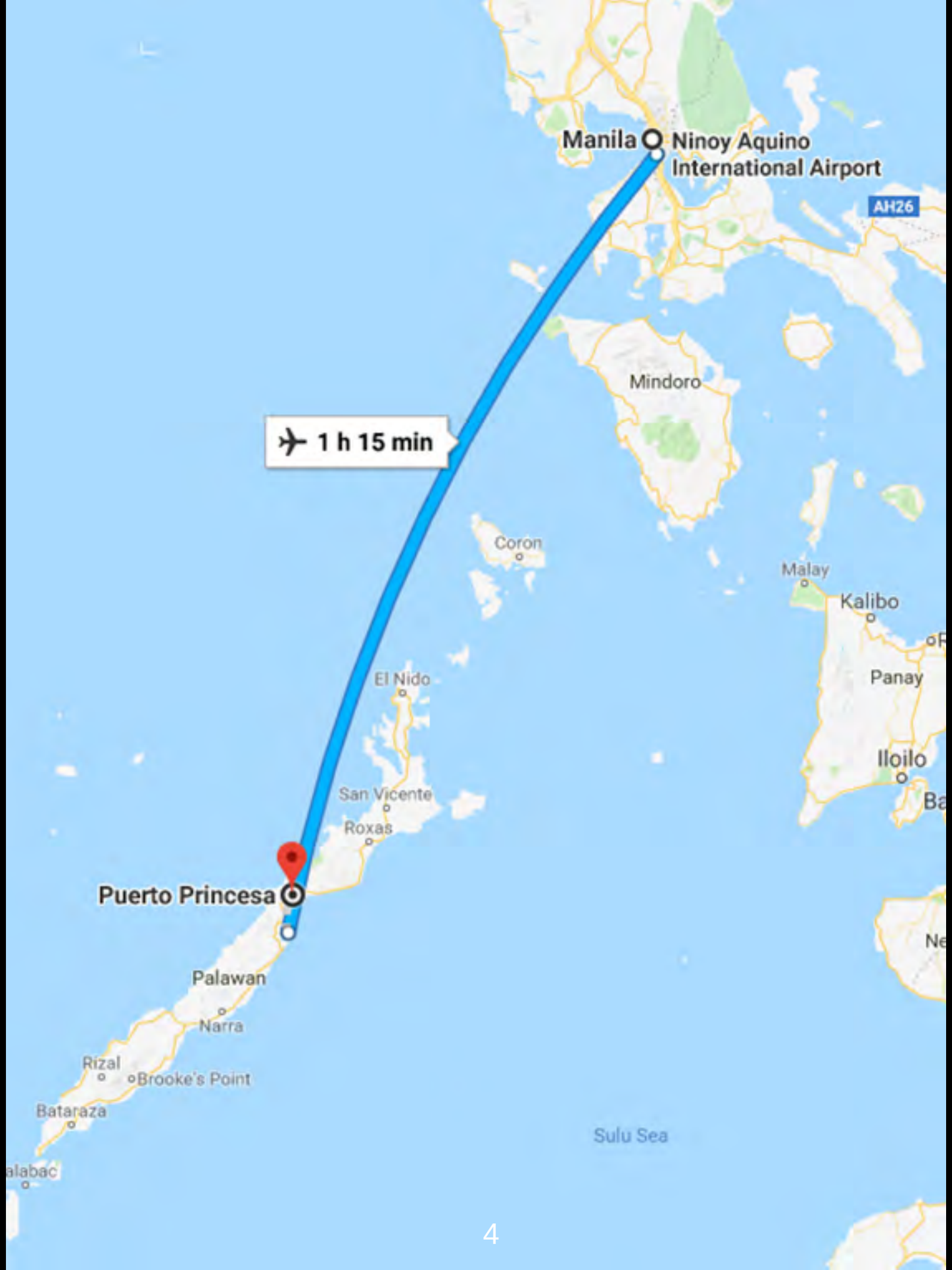
# Basic Underwater Photography tips I use
# &
# The Challenges of Dive Travel
# and Underwater Photography

Underwater photography has a huge amount of challenges that a diver must overcome to get good images. The diver must have a good understanding of dive physiology, the many components of complex diving gear & various gas mixtures used for breathing underwater. A bulky underwater camera housing must be used and it must be meticulously checked each dive for any leaks. External light sources are a must to see color in your images. Water absorbs wavelengths of light so reds & yellows cannot be seen below the surface at varying depths. At >70’ depth only blue can be seen. Powerful strobe flashes need to be used at depth and the diver should be no more than 4 feet from the subject to light it up. Currents, thermoclines, depth, time spent below the surface, and air supply must be monitored continuously. Diving too deep or ascending too quickly can have deadly consequences. Divers are not allowed to touch or hang onto the reef which means that getting the subject in focus, manipulating your settings, stabilizing the camera, setting up the lights properly, and having peak buoyancy in the water, all needs to happen in a split second before the subject swims off or before the diver just drifts away in the current. Note: When you enter the water, you enter the food chain.

CHALLENGES OF DIVE TRAVEL:
LONG FLIGHTS WITH OVERWEIGHTED LUGGAGE FILLED WITH EXPENSIVE DIVING & UW PHOTOGRAPHY GEAR MUST BE CAREFULLY PACKED AND HAULED FROM PLACE TO PLACE.
FLIGHT FROM SFO TO MANILLA

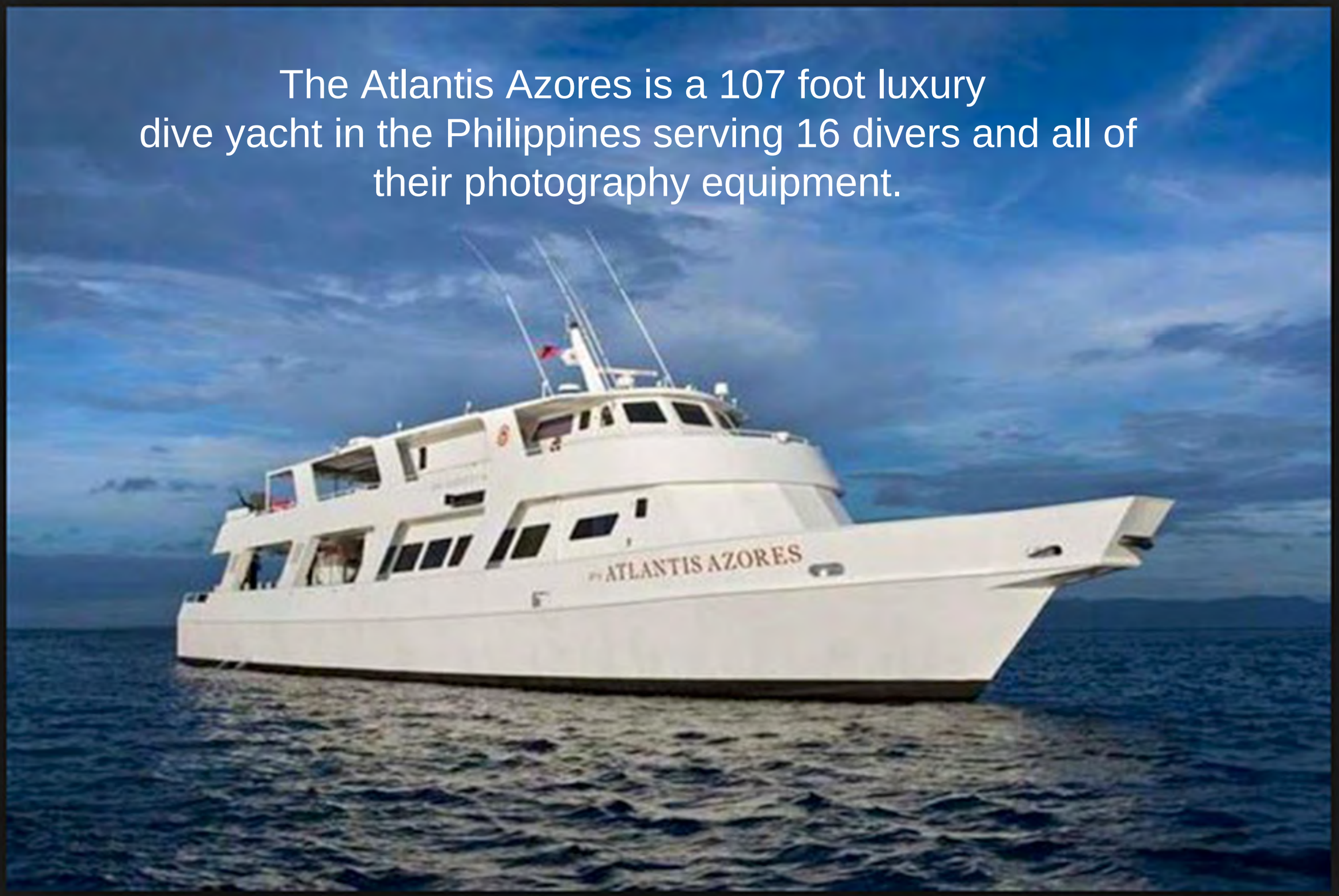
THE BEST DIVING IS WITHIN THE CORAL TRIANGLE WHICH IS A MARINE AREA LOCATED IN THE WESTERN PACIFIC OCEAN. IT INCLUDES THE WATERS OF INDONESIA, MALAYSIA, THE PHILIPPINES, PAPUA NEW GUINEA, TIMOR LESTE AND SOLOMON ISLANDS.

THE FLIGHT FROM MANILLA TO PUERTO PRINCESSA AND THE BEAUTIFUL ISLAND OF PALAWAN IS ANOTHER LEG OF THE GEAR HAUL.

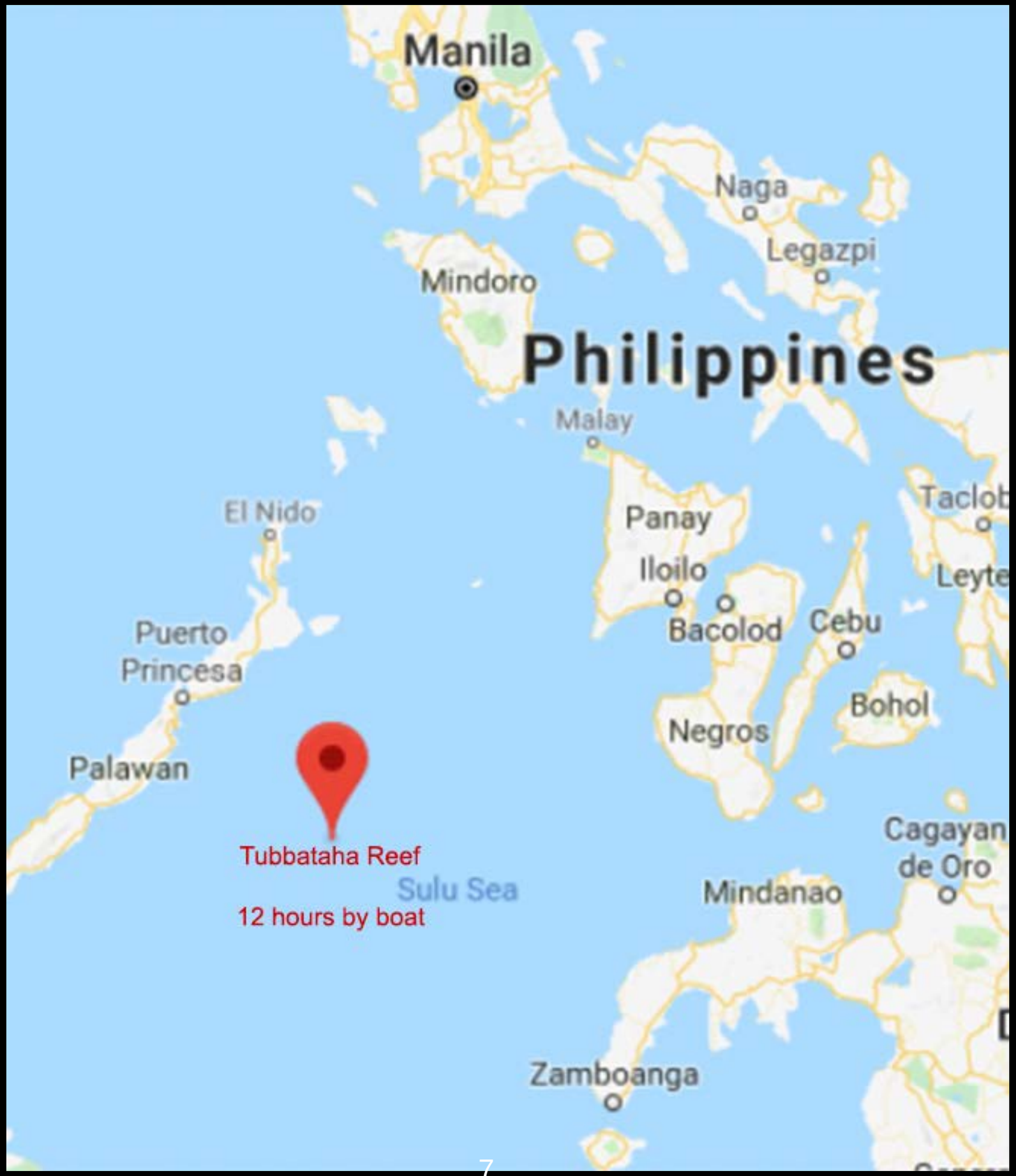


# THE ISLAND OF PALAWAN, AERIAL VIEW

The Atlantis Azores is a 107 foot luxury dive yacht in the Philippines serving 16 divers and all of their photography equipment.



ITS BEEN A LONG 3 DAYS OF TRAVEL. FINALLY ON BOARD SHIP, WE NOW HAVE A 12 HOUR LONG SAIL AHEAD OF US AND WE SAIL MANY MILES AWAY FROM ANY LAND MASS TO THE REMOTE REEF SYSTEM OF TUBBATAHA



# MY UW PHOTOGRAPHY SET-UP
# THANK YOU "BACKSCATTER TEAM"

RON & KAREN ON THE TENDER GETTING EXCITED FOR A DIVE

Photo by Chris Mott

# KAREN TAKING UW IMAGES WHILE BALANCING IN A SWIFT CURRENT

UW STABILIZATION CAN BE DONE WITH A TRIPOD OR EVEN WITH THE HELP OF A DIVE BUDDY.

*NO DIVERS WERE HARMED IN THIS DEMONSTRATION.*

Peak UW Buoyancy is required to not the damage reef.

PHOTO BY JENNIFER PENNER

# •SYMBIOSIS

Black Saddleback Anemone fish (Amphiprion polymnus) wrapped inside a giant carpet anemone for protection.(Stichodactyla gigantea)

A Clown Anemonefish pair (Amphiprion ocellaris) use a giant carpet anemone (Stichodactyla gigantea) for protection for nesting.

Orange Skunk Clownfish (Amphiprion sandaracinos). Anemone fish form a symbiotic mutualism with sea anemones and are unaffected by the stinging tentacles of the poisonous host anemone.

A Harlequin Sweetlips Parks over Cleaning Station (Plectorhinchus chaetodonoides). Cleaner fish do not get eaten by these larger fish since they perform a very much needed task.

Bluestreak Cleaner Wrasses (Labroides dimidiatus) clean parasites from fish that park over its area on the reef.

Orbicular Batfish (Platax orbicularis); and Cleaner Wrasse (Labroides dimidatus) at local reef cleaning station.

# CAMOUFLAGE

Scribbled Leatherjacket Filefish (Aluterus scriptus)

The background body coloration is olive-brown or grey depending on its surrounding environment. The colors may quickly vary depending on background similarly to an octopus.

Whale Shark (Rhincodon typus).  At an astounding 40’ length and 40,000 lbs its hard to believe they can camouflage themselves. The pattern of lines and spots on the skin of each Whale Shark enables them to 'blend' into their surroundings.

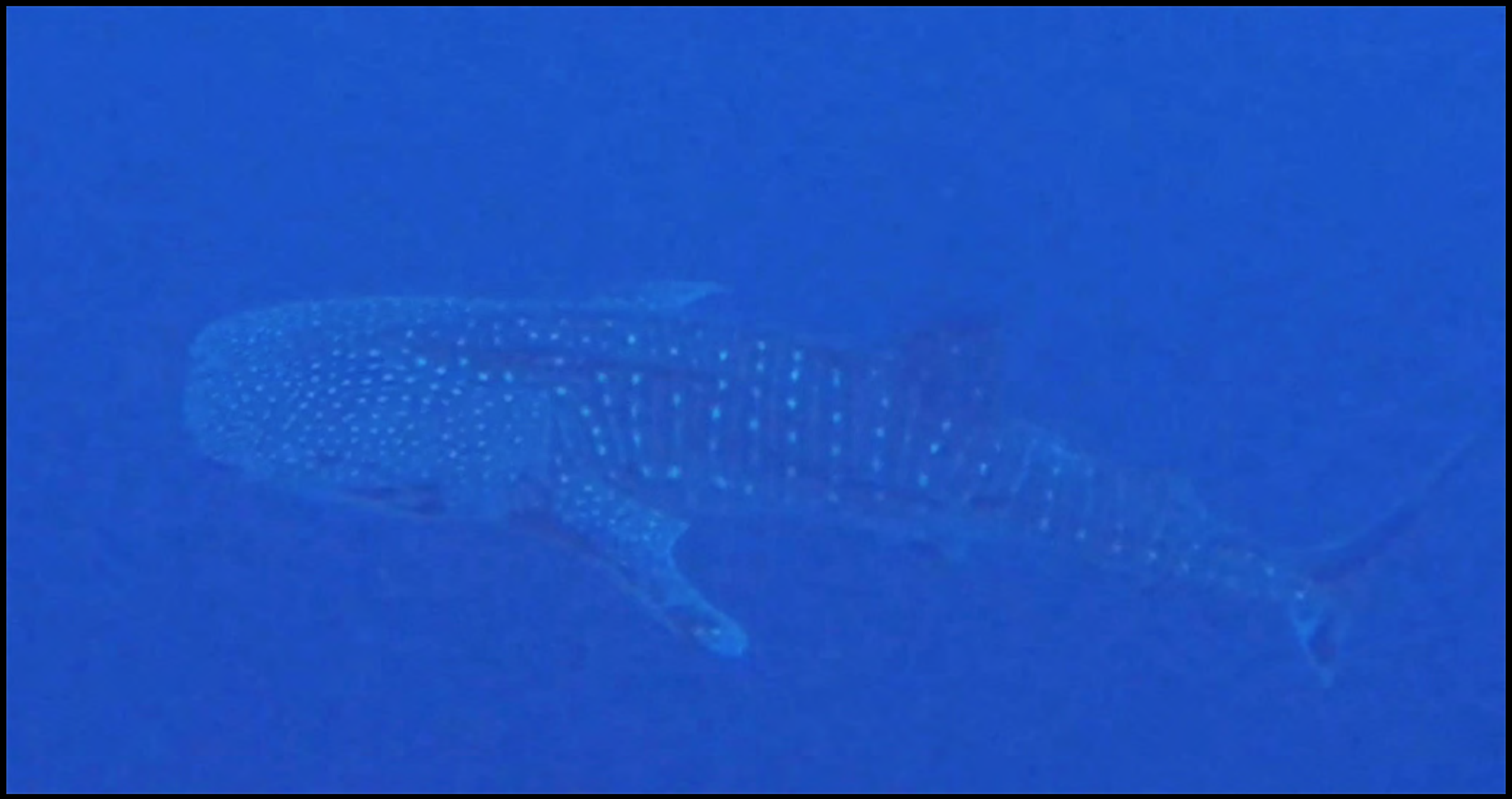


Photo by Ron Underhill

UW PHOTOS REQUIRE BEING VERY CLOSE TO YOUR SUBJECT IN ORDER FOR THE COLOR TO BE OTHER THAN ALL BLUE AT DEPTH. THIS IMAGE WAS POORLY PHOTOSHOPPED, BUT FOR FACEBOOK, I DID NOT CARE.
I WANTED TO SHOW HOW DIFFICULT IT IS TO FIX AN ALL BLUE DISTANT UW PHOTO.

- Roughsnout Ghost Pipefish (Solenostomus paegnius). Tiny Ghost Pipefish are 5-6 inches in length and float motionlessly with their mouth facing downwards. They change their color and shape to minimize visibility making them nearly impossible to see.

# Strange Adaptations

Hawksbill Sea Turtle  (Eretmochelys imbricata).
The hawksbill sea turtle has been shown to be biofluorescent and is the first reptile recorded with this characteristic.

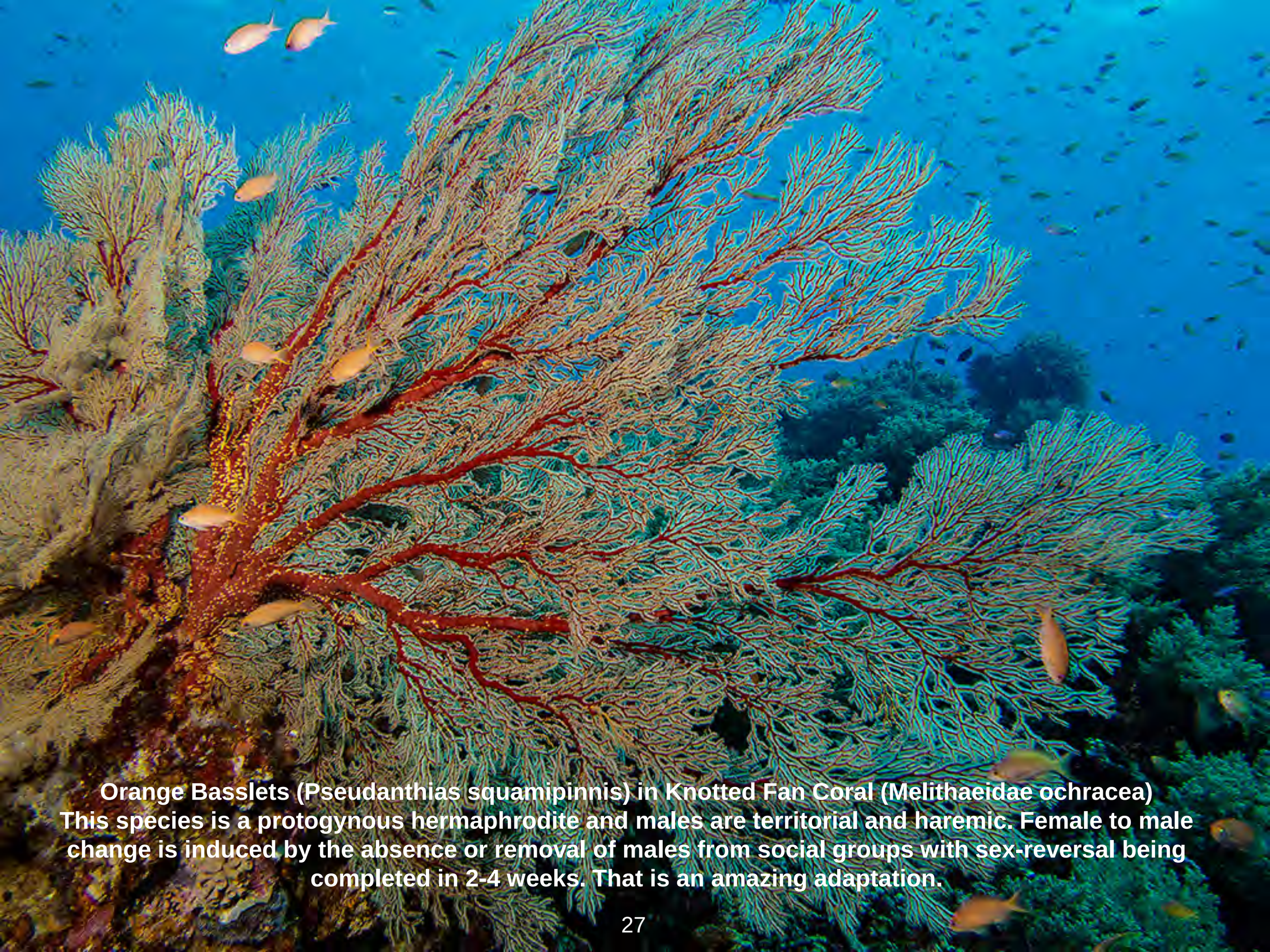
A resting or sleeping turtle can remain underwater for 4-7 hours even though it needs to breath air.

# Troschel's Parrotfish (Chlorurus troschelii)

**This fish secretes a mucus cocoon which shields it's scent from the reef predators during the night. This image was captured during a night dive.**

**The Giant Moray Eel (Gymnothorax javanicus)**

**Like the monster in the 1979 movie”Alien”, Morays attack their victims with a hidden set of chompers. Inside their gullet are a pair of concealed pharyngeal jaws that help the eel ensnare its prey.**



**Orange Basslets (Pseudanthias squamipinnis) in Knotted Fan Coral (Melithaeidae ochracea)**
**This species is a protogynous hermaphrodite and males are territorial and haremic. Female to male change is induced by the absence or removal of males from social groups with sex-reversal being completed in 2-4 weeks. That is an amazing adaptation.**

- **The digestive tract of the Emperor Angelfish protects itself with a special layer of mucus to protect the gut from the sponges this fish feeds on which are made up of tiny, needle-like pieces of silica.** e gut from the sharp silica

Emperor Angelfish (Pomacanthus imperator)

# White Spotted Pufferfish (Arothron hispidus).

When threatened, the puffer can more than double its original size, making it much more difficult to eat for the would be predator.

## Underwater Photography Tips

Different wavelengths of light have different abilities to penetrate through water. Light in the red spectrum travels the shortest distance through water, while blue light travels the furthest. Reds & yellows are lost below 15’ depth, so strobe lighting is necessary to show the colors of the subjects underwater. A strobe can reach only about 4' distance max. What that means for underwater photography is that the further the distance is between your subject and your camera underwater, the less red light will be captured by the camera – which is why things look blue underwater. Placing yourself down current, ahead of other divers can be a great image. A wide-angle lens & strobes brings out the colors of the wall life, the divers give scale to the scene, and the deep blue water shows water depth & the massive expanse of the ocean creates some negative space.

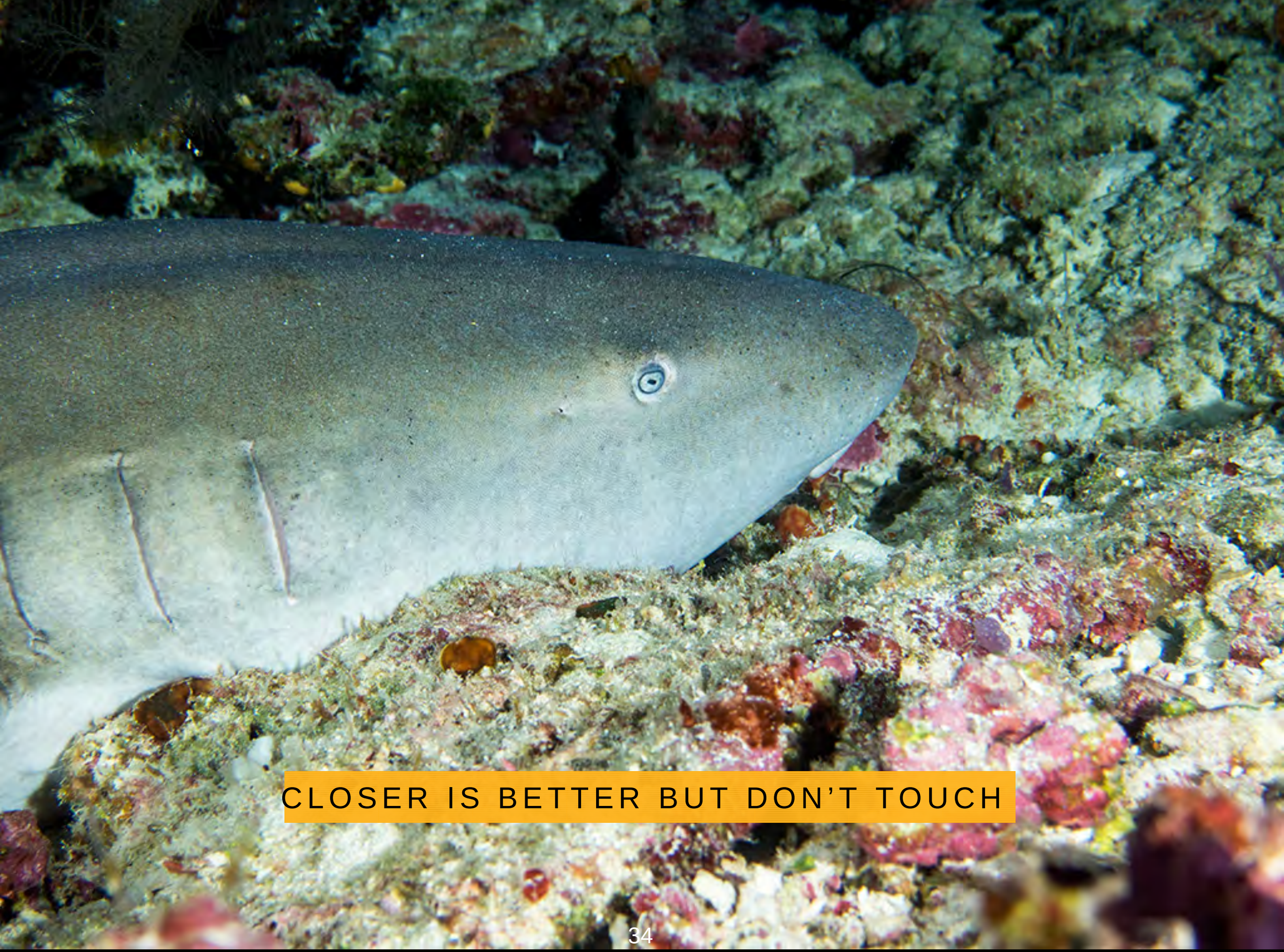
Deep Wall Divers-down around 80' depth.

# Knotted Fan Coral
(Melithaeidae ochracea)

Fan corals jut out perpendicular to sea walls in the deep to capture nutrients drifting by in the current.
They make great photo subjects with the deep blue background.

# Nurse Shark (Ginglymostoma cirratum)

Nurse Sharks are mostly benign, however they can give a nasty bite if annoyed. This image was taken at about 90' depth during a wall dive. She is portly and most likely pregnant. This shark was about 5.5 feet in length. Sleeping sharks are easy to photograph.


CLOSER IS BETTER BUT DON’T TOUCH

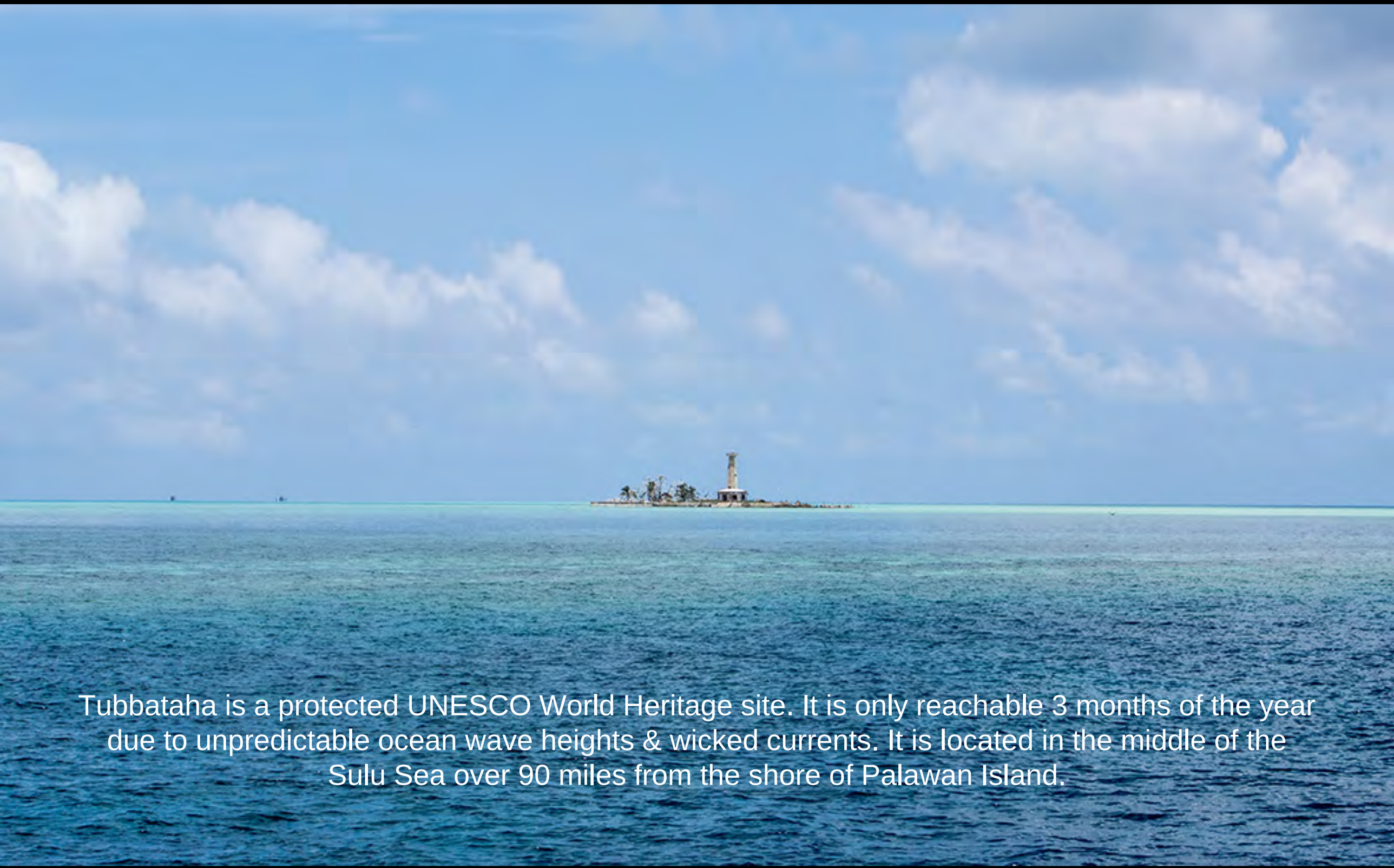
GREY REEF SHARK(CARCHARHINUS AMBLYRHYNCHOS) & DIVERS PHOTOGRAPHED FROM A DISTANCE, THE REEF COLORS LOOK BLUE & GREEN SINCE THE STROBE LIGHT CANNOT TRAVEL FAR THROUGH THE DENSE WATER.

Painted Spiny Lobster (Panulirus versicolor)
Its important to know your subject. These lobsters have no claws so it was safe to get closer.

# Nudibranch (Chromodoris lochi)

Divers love Nudibranchs for their bright colors & the opportunities to watch them & photograph them due to their slow movement.

This is what a healthy coral reef is supposed to look like…Colorful & filled with life.



Tubbataha is a protected UNESCO World Heritage site. It is only reachable 3 months of the year due to unpredictable ocean wave heights & wicked currents. It is located in the middle of the Sulu Sea over 90 miles from the shore of Palawan Island.