



THE COLOMBIAN FEDERATION OF SUBACUUM ACTIVITIES (FEDECAS) AND THE SCIENTIFIC DIVING COMMITTEE

Invite you to:

International Course on Marine Preservation and Conservation For the Training of Scientific Divers

"Every diver should be an ambassador for the ocean. Every diver should tell people that fish have a personality, every diver should be out front doing what he can, or she can to take care of the ocean. To be a voice for the ocean, because divers see what others don't, and we need to share the view or at least share our voice." –

Sylvia Earle

THE SCIENTIFIC DIVING COMMITTEE FEDECAS, with the endorsement of the Scientific Committee **CMAS ZONA AMERICA** and the Direction of scientific diving of the World Confederation of Underwater Activities (**CMAS**), convene the International Course Preservation and Marine Conservation for the Training of Scientific Divers, a theoretical-practical course in accordance with the established standards by the **CMAS** for the different levels of Scientific Diver.

The course will be held on the Island of San Andrés and Providencia, Colombia from May 23 to 28, 2018, organized by the National Scientific Diving Technical Committee of FEDECAS, with the advice of JUAN ARMANDO SANCHEZ, Ph.D., director of the research group BIOMMAR, EDGARDO OCHOA, M.S., Diving Safety Officer Conservation International and the participation of CEMarin researchers <http://cemarin.vmc.com.co/>

The course is offered to professionals and students from research and scientific institutions with proven scientific experience to learn and develop underwater scientific activities.

Scientific Diving. This is a class for graduate students (or senior undergraduates) from various majors (biologists, geologists, anthropologists, archaeologists, etc.) that are advanced open water divers, or in the process of becoming one, with interest in scientific and underwater leadership seeking the mastering of diving skills and underwater sampling techniques at different marine or lake environments.

Objectives

- to provide students theoretical and practical tools for performance in scientific diving (pool and open water)



- to improve and deepen diving skills, maximizing safety while working underwater.
- In a transversal way, the class promotes creativity through writing in groups of a popular article and a project to carry out an experiment in the Caribbean Sea.
- In addition to studying the techniques of biological, geological sampling at different underwater environments, students will have the opportunity to become certified (**Scientific Diving with the CMAS standards** <http://cmas.org/science>) and (CPR & BLS and O₂ administration).
- Introduction to technical diving: CCR-rebreather and decompression diving
- Optional additional courses: enriched air (EANx Nitrox), side-mount.

This course aims to develop the skills and techniques for the application of any underwater research work. The participant will perform the following activities:

1. Basic techniques and procedures common to most disciplines that require underwater field work.
2. Habits and responsible criteria during the development of their task and in the care of the marine habitat where the research is developed, being able to assess their own capacities and limitations.
3. Planning, organization, procedures, techniques, problems and dangers related to the specialty.
4. Collection of information on the potentially dangerous species that inhabit the sites where the practices are carried out, and the protected and fragile species.
5. Specific techniques of observation, registration, control, measurement and installation of research supports (grids, transects, etc.). Benthic and Fish surveys.
6. Techniques of transport and manipulation of underwater scientific equipment.
7. Emergency decompression and decompression systems.
8. Security management.
9. You will develop a course grade work related to the specialty of your research.

You will demonstrate competences

- Developing diving skills exercises
- Swimming 1000 meters with the face in the water, with tube, mask and fins, without stopping.

And participate in the training program that is detailed below.

Course syllabus

MAY 23 Sesión 1: Class introduction

CIENTIFICO/ GENERAL OBJECTIVE: To make known the candidates the requirements of the course the program and to know each one of the participants By LUIS FERNANDO BARRIOS Coordinator SCIENTIFIC COMMITTEE	
PRESENTACION DEL CURSO CMAS-FEDECAS	Luis fernando barrios h coordinador comitecientifico
PROGRAMACION DE LAS UNIDADES DIDACTICAS	Luis fernando barrios h coordinador comitecientifico

May 23th Sesión 2: Open water practice

GENERAL OBJECTIVE: Evaluate and rectify the skills to develop a correct equipped and an effective entry into the water	
Habilidades acuáticas	Docentes del curso

May 24th sesión 3

CIENTIFICO/ GENERAL OBJECTIVE: develop skills for basic emergency care in diving accident	
Programa Nacional de Avistamiento de Tiburones/national shark sighting program	Andres Navia

May 24th sesión 4

CIENTIFICO/ GENERAL OBJECTIVE: Provide scientific and technical knowledge about fish species, with emphasis on sharks and rays	
Soporte vital Básico y adm Oxigeno / Basic life support and oxygen administration	Luis Fernando Barrios

May 25th sesión 5

CIENTIFICO/ GENERAL OBJECTIVE: develop skills to develop diving plans	
Planes de Buceo científico en áreas remotas/ Dive planning for remote areas	Edgardo Ochoa Conservación Internacional

May 25th sesión 6

CIENTIFICO/ GENERAL OBJECTIVE: coral reef restoration using the concept of coral reef gardening	
Guarderías Coralinas y monitoreo de corales / Coral gardening and coral monitoring programs	Phanor Montoya Corales de Paz

May 26th sesión 7

CIENTIFICO/ GENERAL OBJECTIVE: Recognize the importance of measuring bioerosion in coral reefs and know the techniques for their estimation.	
Métodos de medición de la BIOEROSION arrecifal/ Methods for measuring reef bioerosion	Juan Armando Sánchez BIOMMAR

May 26th sesión 8

CIENTIFICO/ GENERAL OBJECTIVE: Address emergencies of decompression diseases in scientific diving.	
Descompresión y descompresión de emergencia Cámara Hiperbárica / Decompression and emergency decompression chamber procedures	Paulo Costa Da silva Universidad de Azores

May 27th sesión 9

CIENTIFICO/ GENERAL OBJECTIVE: use decompression procedures in scientific diving stops	
Decompression stops used in scientific diving	Leonardo Salinas Bustamante

May 27th sesión 10

CIENTIFICO/ GENERAL OBJECTIVE: An introduction to the exploration in the twilight zone. How to plan dives to explore mesophotic coral ecosystem down to 100 m (only theoretical) and the state of the art of the knowledge in coral reef science and symbiosis in this fascinating frontier of exploration	
Buceo de circuito cerrado y exploración en arrecifes mesofóticos/ Closed-circuit rebreather and mesophotic reef exploration	Juan Armando Sánchez

May 28th sesión 11

CLOSURE, DATES OF WORK AND DELIVERY OF CERTIFICATES

Those interested should register in the link <https://goo.gl/forms/i1FDZNcA1LC7PIPy2> page in the scientific diving course link and send the registration request (document attached) through the emails buceocientifico.fedecas@gmail.com. The course will be taught in English and Spanish and all levels of Scientific Diver will be certified; For this, the following requirements must be met:

Send via link to <https://goo.gl/forms/i1FDZNcA1LC7PIPy2> the following documents:

- Registration form (fill in the attached form).
- Identification document.
- Photo type document.
- Curriculum vitae professional and sports diving, detailing the scientific activities carried out.
- Scanner of the academic document you have (professional title or certification of study of the career in the scientific area).
- Copy of the payment made.

• FOR DIVERS

1. Scientific Diver: Current certification of diving (with a minimum grade of 2 stars or equivalent and experience registered in a log with a minimum of 40 open water dives).
2. Confirmed Scientific Diver: scientific diver: Current diving certification (with a minimum of three stars or equivalent and registered logbook experience with a minimum of 60 open water dives).

FOR DIVERS INSTRUCTORS

1. Scientific Diving Instructor: Current certification of diving (with a minimum degree of instructor 2 stars or equivalent and experience registered in a log with a minimum of 100 open water dives).

The deadline for receipt of registrations is until May 10, 2018 at 5:00 pm, maximum capacity is 20 people, including all levels. Once accepted, when registering for the course, it is mandatory to present:

- Current certification of a diver (registered in the respective Federation and the World Confederation of Underwater Activities or its equivalent of International Certification Agencies).
- Accident insurance.
- Medical certificate of aptitude (not less than 3 months).
- Logbook (with the minimum experience required in open waters).
- Full personal autonomous team.
- Underwater camera (optional).



- Compass or Compass.
- Primary spool.
- Reel (spool) with line of 50 meters. and cortaline.
- Writing table with letter size, with hook to hold it.
- Underwater lantern.
- Buizo type buoy.
- Diving computer.
- Laptop.

COURSE FEE: 1350 USD including:

- Lodging:
- Food: full board
- Instruction: theoretical-practical.
- Material for the participant.
- Tanks and ballast for practical activities.
- Certification (meeting the accreditation requirements).
- DIVING AND INSTRUCTION WITH DIVERSE REBREATHERS

Does not include: Transportation to the host country, visa for entry to the country, income tax and exit from the country and expenses not specified.

To enter the country, interested parties must apply for the Visa at the Travel Agencies or tour operators with which they carry out the travel process. To apply for a Colombian visa, you must have a passport in your name, with a validity date of at least 6 months.

Annex to the call is sent the registration request.

For any additional information or exceptional case will be attended by the director Mr. Luis Fernando Barrios in the mail buceocientificos@gmail.com



CONSIGNMENT DATA

Código Swift ó Bic	COLOCOBM en caso de requerir 11 dígitos agregar XXX
Datos del Beneficiario	FEDERACIÓN COLOMBIANA DE ACTIVIDADES SUBACUÁTICAS
Nit	890.315.463-9
Banco	BANCOLOMBIA
Cuenta Corriente	868-517953-37
Dirección Bancolombia	Calle 30A No 6 - 38 Piso 1
Ciudad	Bogotá
País	Colombia

WILLIAM PEÑA
Presidente
CMAS ZONA AMERICA -FEDECAS

CSDI-LUIS FERNANDO BARRIOS H.
DIRECTOR COMITÉ CIENTIFICO FEDECAS

MARIA CLOTILDE ZECKUA RAMOS
DIRECTOR COMITÉ CIENTIFICO CMAS ZONA AMERICA