



# OA-ICC HIGHLIGHTS

The latest news and updates from the OA-ICC



Experts gathered for the fourth edition of the CSM and IAEA workshop on the economics of ocean acidification. © F. Pacorel / Musée Océanographique.

## THIS QUARTER:

OCEAN ACIDIFICATION AND CORAL REEFS

OCEAN ACIDIFICATION AT COP 23

COLLABORATION IN TRAINING COURSES IN FIJI

SUPPORT TO OCEAN

ACIDIFICATION NETWORKS IN LATIN AMERICA

PARTICIPATION IN THE INDO-PACIFIC FISH CONFERENCE IN TAHITI

SUCCESS STORY: OA RESEARCH IN COSTA RICA

DEVELOPING REGIONAL CAPACITY IN THE WESTERN INDIAN OCEAN

## Workshop discusses ocean acidification and coral reefs

The OA-ICC co-organised with the [Scientific Centre of Monaco \(CSM\)](#) the fourth international workshop in the series “*Bridging the Gap between Ocean Acidification Impacts and Economic Valuation*”, which this year focused on the impact on ecosystem services and coral reefs. With the participation of HSH Prince Albert II of Monaco, it aimed to bring the global discussion from science to solutions.



HSH Prince Albert II © S. Jones Couture / IAEA

With the consecutive bleaching episodes over the past couple of years, the focus on coral reefs was timely. It is currently estimated that we have lost 50% of the world’s coral reefs. David Osborn, director of the IAEA Environment Laboratories, highlighted the “need for new science in order to inform the decisions we make on ocean acidification”. He added that “it is important to address the multiple stressors faced by our oceans, including pollution, overfishing and environmental changes”.

Bringing together world experts including natural scientists, economists and sociologists, the workshop was held at the Oceanographic Museum in Monaco from 15-17 October 2017. Participants discussed the “value” of coral reefs. Whereas some of the economic valuations ranged in the trillions of dollars, several participants emphasized their societal and sociological value.

Beyond solutions for adaptation and rehabilitation, one of the key messages from participants was that reducing greenhouse gases would effectively limit the pressure on coral reefs by curbing ocean acidification, and climate change impacts such as increase in temperature and rise in sea level. As Jean-Pierre Gattuso from the French National Centre for Scientific Research (CNRS) summarised: “if the Paris Agreement on Climate is fully and timely implemented, only 1% of the world ocean will exceed key thresholds of temperature and acidity. Otherwise, in a business-as-usual situation, 69% of the ocean will exceed these thresholds”. Read the [full article](#). #SCIENCE





## Ocean Acidification discussed at COP 23



OA-ICC discussed ocean change at COP 23 © K. Isensee / IOC-UNESCO

On 11 November, the IAEA Environment Laboratories participated in a UN Oceans side-event at the United Nations Framework Convention on Climate Change (UNFCCC) COP23 in Bonn entitled “A Resilient Ocean for Future Generations”. The objective of the side-event was to present actions that countries are taking, with the support of the UN system, to address climate-related multi-stressors on the ocean through improved scientific capacity to understand ocean change, the development of

CO<sub>2</sub> mitigation strategies and new innovative adaptation approaches.

*“We have to talk of ocean change like we talk of climate change”*

Peter Thomson, UN special Envoy for the Oceans

Ultimately, these efforts contribute to equip countries to respond to Sustainable Development Goal 14 dealing with ocean change, and it’s Target 3, specifically addressing ocean acidification. The side event was coordinated by the Intergovernmental Oceanographic Commission of UNESCO (IOC UNESCO) and the IAEA with representatives from UN Environment, FAO, IMO, the UNESCO World Heritage Centre and the WMO. [More... #COMMUNICATION](#)

## OA-ICC collaboration in training courses in Fiji

The OA-ICC continued its collaboration with US-based The Ocean Foundation (TOF) and other partners to help train scientists and advance OA measurements in locations where data is scarce. The OA-ICC supported 5 researchers from Fiji, Papua New Guinea, Palau and Vanuatu to participate in basic-to-intermediate-level training courses on ocean acidification in Suva, Fiji, 30 October to 10 November 2017. The training course focused on observing ocean acidification in the coastal waters of Pacific Small Islands Developing States (SIDS). The course was organised and supported by the Ocean Foundation, The US Department of State, The Swedish International Development Agency, the Secretariat of the Pacific Regional Environment Programme, the Global Ocean Acidification Observing Network (GOA-ON), the X-PRIZE Foundation, the OA-ICC and the Commonwealth Marine Economies (CME) Programme. [#CAPACITYBUILDING](#)

## Support to Ocean Acidification networks in Latin America

The OA-ICC continues to promote regional networks on ocean acidification. It recently supported the First International Science Symposium of the [Latin American Ocean Acidification Network LAOCA](#), held in Buenos Aires, Argentina, 24-26 October 2017. The OA-ICC

facilitated the participation of 19 LAOCA members from 5 Member States (Brazil, Chile, Colombia, Mexico and Peru). LAOCA, launched in 2016, regroups 36 principal investigators from 8 Latin American countries. Seventy-eight participants from 11 countries attended this first Scientific Symposium of the Network which had several parallel sessions with presentations discussing ocean acidification in the context of other stressors such as temperature and oxygen loss. [#SCIENCE](#)

Participants designed new collaborative studies to increase the understanding of ocean acidification and its impacts on ecosystems in the region. © Musels



## Enabling Member States to participate in the Indo-Pacific Fish Conference in Tahiti

In addition to receiving training on ocean acidification, it is crucial for researchers to be able to present their results and interact with peers at international conferences. The OA-ICC supported four participants from Bangladesh, Brazil, Colombia and Mexico to present their research at an ocean acidification session at the *10th Indo-Pacific Fish Conference*, Papeete, Tahiti, from 2 to 6 October 2017. [#SCIENCE](#)





## Success story: developing OA research in Costa Rica



Trainees designed experiments to set up OA research in Costa Rica. © S. Dupont

The OA-ICC has been helping develop knowledge on ocean acidification and capacity to study it in Costa Rica. PhD candidate Celeste Sánchez Noguera from the Centro de Investigación en Ciencias del Mar y Limnología (CIMAR), University of Costa Rica, and Mr Sam Dupont from the University of Gothenburg met for the first time in Tasmania in May 2016 at the *4th Symposium on the Ocean in a High CO<sub>2</sub> World* and the 3rd Science meeting of the [Global Ocean Acidification Observing Network \(GOA-ON\)](#). Ms Sánchez Noguera also participated in a training course on ocean acidification organized by the OA-ICC, the Centro de Investigación Científica y De Educación Superior de Ensenada (CICESE) and the University of Baja California (UABC) in Ensenada, Mexico, in September 2016. She then joined Mr Dupont's team in Kristineberg, Sweden, for one month in summer 2017 to work on an experiment aiming at evaluating ocean acidification tipping points on invertebrate larvae.

Since then, the two scientists have been exploring opportunities to develop ocean acidification work in Costa Rica. This was recently initiated through a SCOR visiting scholar grant allowing Mr Dupont to visit Costa Rica for 2 weeks in November 2017 and, with the support of CIMAR, to organize a training on best practices in ocean acidification. They also built an experimental set-up allowing them to manipulate the carbonate chemistry in a replicated aquarium system and tested the impact on larval stages of invertebrates. [More...](#)

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## Developing regional capacity for ocean acidification observations in the Western Indian Ocean

Little is known about ocean acidification in the Western Indian Ocean (WIO), as long-term observations and relevant experiments have not been carried out. Consequently, countries in the region are not able to report towards target 3 of the Sustainable Development Goal 14, which looks to “*minimize and address the impacts of ocean acidification*”.



Participants in the workshop addressed information gaps on OA in the Western Indian Ocean © IOC-UNESCO

The Western Indian Ocean Marine Science Association (WIOMSA) Ocean Acidification Workshop held 24-25 October 2017 in Dar Es Salaam, Tanzania, provided the platform for a range of stakeholders, including scientists and policymakers, to discuss how to improve knowledge on the current and expected impacts of ocean acidification on marine life in the region.

Twenty-three international experts representing international organizations and six countries from the region (Kenya, Madagascar, Mauritius, Mozambique, South Africa and Tanzania) used this opportunity to develop strategies to improve their scientific capacity to detect and observe the effects of ocean acidification, based on their countries' vulnerability to ocean change. The workshop was hosted by [WIOMSA](#) and the [Nairobi Convention Secretariat](#), and supported by [IOC-UNESCO](#), [Future Earth Coasts](#), [GOA-ON](#), [OA-ICC](#), the [University of Washington](#), and the [Universitat Autònoma de Barcelona](#). [More...](#) [#CAPACITYBUILDING](#)

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*The IAEA OA-ICC promotes global collaboration and activities to advance ocean acidification science, capacity building, and communication*

OA-ICC online resources: [www.iaea.org/ocean-acidification](http://www.iaea.org/ocean-acidification)

- [OA-ICC news stream](#) - recent publications, media coverage, meeting announcements, jobs etc.
- [OA-ICC bibliographic database](#) - over 4,500 references with citations, abstracts and keywords
- [OA-ICC data compilation](#) on the biological response to ocean acidification - access to experimental data from 870 scientific papers