

PRESS RELEASE

The Ocean Mapping Expedition **Heading towards the Great Barrier Reef**

Fleur de Passion to scrutinize an endangered environment

The Swiss expedition will depart Brisbane at the end of March 2017 to begin the second half of its journey around the world in Magellan's wake.

Two new scientific programmes will be deployed for the mapping and observation of the Great Barrier Reef, in partnership with the University of Queensland and the Australian NGO Coralwatch.

Working from *Fleur de Passion*, the aim will be to better understand the state of this UNESCO World Heritage site, which is witnessing serious deterioration owing to global warming, and to help develop tools for monitoring its evolution, with a view to its conservation.

Almost two years after leaving Seville in April 2015, The Ocean Mapping Expedition will then head for the Solomon Islands, Papua New Guinea, Indonesia, and then the Philippines, where it aims to arrive by the end of 2017.

And it will continue its metaphorical quest for today's "spices", some 500 years after the very first circumnavigation of the earth.

Geneva/Brisbane, 22 March 2017 – A Swiss sailboat on Australia's Great Barrier Reef. Switzerland and Australia, two countries situated poles apart, combining their efforts and their vision of the environmental challenges to work together through their respective civil society for the good of an endangered world heritage. This is «the adventure within the adventure» that will begin on 28 March next in Brisbane. On that day, the 33-metre ketch *Fleur de Passion*, the largest sailboat flying the Swiss flag, will put to sea from the capital of Queensland and head north towards the Great Barrier Reef, continuing The Ocean Mapping Expedition's four-year journey around the world in Magellan's wake, begun in April 2015 under the auspices of the Geneva-based *Fondation Pacifique*. Two new scientific programmes will be launched on board, each of which will contribute significantly in its field to global efforts to rescue this environment existing on borrowed time.

Mapping the Great Barrier Reef

The main programme, lasting a month from April to May, will be conducted in partnership with the University of Queensland over a specific area of four hundred kilometres between Townsville and Cooktown. Under the leadership of Dr. Chris Roelfsema of the Remote Sensing Research Centre (RSRC), several teams of

volunteers will be coming on board successively to map the coral reefs as part of a larger joint project which, besides the University of Queensland, encompasses several other Australian research institutions, namely the Australian Institute for Marine Science (AIMS), the Commonwealth Scientific and Industrial Research Organisation (CSIRO), James Cook University and the Great Barrier Reef Marine Park Authority (GBRMPA).

«No comprehensive map of all the vast and diverse habitats on the whole Great Barrier Reef currently exists describing geomorphic zonation (e.g. slope, flat, crest) or benthic community composition (e.g. coral, algae, sand)», explains Dr Chris Roelfsema. «These maps would provide valuable information for monitoring and management to support: current bleaching surveys, the Crown of Thorns Starfish Eradication Program, marine park zonation design and day-to-day management of the GBR. These types of map have not been produced due to lack of resources and suitable approaches for mapping the 3,000 extensive and mostly submerged shallow reefs of the GBR».

He adds: «Currently, the Remote Sensing Research Centre at the University of Queensland (UQ) is leading efforts, with funding from the GBR Foundation, to create these comprehensive maps through combination of field and satellite image data, and ecological modelling and mapping. A pilot study was used to test the approach in the Capricorn Bunker group during 2016, and methods have now been adapted for application on the 200 reefs in the Cairns to Cooktown Management Region (CCMR). The approaches applied will be the first of their kind to be used over such a large area for so many reefs, and will result not only in benthic and geomorphic maps but also produce detailed water depth and wave climatology data for each shallow reef of the GBR».

For Chris Roelfsema, «*Fleur de Passion's* journey along the GBR comes at the right time as it provides a unique opportunity to collect additional field data for 15-20 reefs to validate the mapping of the 200 reefs in the CCMR area. Validation data will include georeferenced photo transect surveys, Reef Health and Impact Surveys and Coral Health Chart surveys. This collaboration between the Swiss vessel and RSRC-UQ with the support of the Embassy of Switzerland in Australia is a clear message that there is international interest in conserving the biggest reef globally».

With CoralWatch, an example of citizen science

The second programme will take place in partnership with the NGO CoralWatch, a global citizen science project based at The University of Queensland. The project helps school, community and tourism groups to understand and support reef management by providing people with accessible information and the opportunity to participate in the collection of scientific data. From Brisbane onwards, wherever the expedition comes across coral reefs, the *Fleur de Passion* team will conduct underwater observations of their state of health in accordance with the NGO's protocol. These observations will feed into a database and allow for very close monitoring of the evolution of this ever more worrisome state of health.

«The Great Barrier Reef continues to face a barrage of threats», says Prof Justin Marshall from the Sensory Neurobiology Group of the Queensland Brain Institute and project leader at CoralWatch. «As a second major coral bleaching event takes hold, now more than ever the reef requires support by international government, industry, science and the community. Citizen Science is recognized as an effective way to bolster information flow between these sectors».

«CoralWatch is in a prime position to facilitate understanding between these sectors», he adds. «The visit to Australia of the *Fleur de Passion* and the *Fondation Pacifique* and our developing cooperative relationship could not come at a better time. CoralWatch is looking forward to working with the crew, visiting scientists and guests aboard the *Fleur de Passion* to gather information on reef health but also to help the global community preserve reef systems for our children».

«Our core values can be summarized by the old saying: 'Tell me and I will forget, teach me and I will remember, involve me and I will learn.' The *Fondation Pacifique* clearly has the same values at heart and provides a superb opportunity to reach large areas of reef in Australia and around the world, otherwise hard to reach», says Prof Justin Marshall. Beyond the Great Barrier Reef, these observations will in fact continue wherever the expedition encounters corals along the way, starting with those in South-East Asia.

340,000 km² of corals on borrowed time

The Great Barrier Reef comprises almost 3,000 coral reefs spread over an area of more than 340,000 km² extending 2,300 km along Australia's east coast from Gladstone in the south to the Torres Strait between Australia and Papua New Guinea. It is the planet's largest living structure, which has been part of the UNESCO World Heritage since 1981 and is home to thousands of marine animals and organisms. But it is a structure in mortal danger.

Under the influence of the El Niño weather phenomenon and man-made global warming, the Great Barrier Reef has been experiencing ever more frequent bleaching events over recent years, the latest being in 2016, which is still ongoing. The corals – which are living creatures or polyps, surrounded by a hard exoskeleton and living in colonies – are expelling the microscopic algae that live in symbiosis with them and give them their colour. If the temperature falls, the polyps can gradually recover from a bleaching episode. But if it does not fall, the algae do not return and the corals die. The entire Great Barrier Reef is therefore affected to varying degrees, though mainly in the north, where 67% of the coral have experienced bleaching, the very ones that will be scrutinized by The Ocean Mapping Expedition as of the end of April; bleaching has been as much as 99% on some reefs.

As Australia's lead management agency for the Reef (the Great Barrier Reef Marine Park Authority) recently confirmed, «We're seeing mass coral bleaching on our Reef for the second consecutive year – part of a global event affecting the world's coral reefs», says Great Barrier Reef Foundation Managing Director Anna Marsden. «This Ocean

Mapping Expedition is a wonderful opportunity for the research team to contribute meaningful information to reef managers, helping them gain a more comprehensive picture of how our Reef is faring – not an easy task given the Great Barrier Reef’s immense size spanning more than 2,300 kilometres along the east coast of Australia», she adds. «The Foundation aims to catalyse solutions to some of the most complex and challenging problems facing the Reef. This project will fill a critical gap by helping to create a comprehensive map of the vast and diverse habitats of the Great Barrier Reef», says Anna Mardsen.

***Fleur de Passion*, an ideal logistics platform**

«For the *Fondation Pacifique*, these two Australian programmes give full meaning, if that were needed, to The Ocean Mapping Expedition and its two key missions: contributing to a better understanding of human's impact on the oceans and raising awareness of the related sustainable development issues», recalls Samuel Gardaz, its Vice-President. «We are very happy that a Swiss vessel like *Fleur de Passion* can contribute logistically to scientific and awareness raising programmes relating to the Great Barrier Reef in areas that are hardly if at all covered owing to difficulty of access», adds Samuel Gardaz. «And we would be delighted if such cooperation between Australian and Swiss civil society players, with the invaluable help and support of private and institutional players such as the Canton of Geneva or the diplomatic network on the Swiss side, or the Great Barrier Reef Foundation on the Australian side, could help protect an ecosystem of worldwide significance».

Two other programmes on noise and micro-plastic pollution

«These two programmes specific to the Great Barrier Reef come in addition to the two others in progress since the start of the expedition on 13 April 2015, and which will also be continued», says Samuel Gardaz: *20,000 Sounds under the Seas*, relating to noise pollution in the oceans, in partnership with the Applied Bioacoustics Laboratory (LAB) of the Polytechnic University of Catalonia in Barcelona, and *Micromégas*, on micro-plastic pollution, in partnership with the Oceaneye Association in Geneva. «The 87 surface water samples collected from the ocean since departing Seville have been analysed by biologists at Oceaneye in Switzerland and have all been found to contain micro-particles of plastic. We will therefore be stepping up our efforts in relation to this problem, about which there is also a critical shortage of field data, especially as regards South-East Asia. Broadly speaking, it is clear that a logistics platform like *Fleur de Passion* can play a highly significant role working in complementarity with more conventional oceanographic vessels», he adds.

***In Magellan's Mirror*, Pierre Baumgart's underwater view**

Under the cultural programme entitled *In Magellan's Mirror*, The Ocean Mapping Expedition will welcome its eighth illustrator on board in Brisbane: the Genevan wildlife illustrator Pierre Baumgart. Renowned for keeping alive a remarkable engraving technique that combines both Western and Eastern traditions, he is delighted to be able to express his passion for animals and wildlife in an environment as special as the Great Barrier Reef. He will of course be doing his sketches under water, and they will then become engravings in the tranquillity of his studio.

Pierre Baumgart is looking forward to «discovering the beauty of this gigantic living organism and trying to capture some of its beauty through drawing», as well as «understanding what it is that is affecting the corals and perhaps being able to bear witness to it through images». «Following in the wake of great travellers like Magellan, Cook, Darwin and others, sailing at the speed of the wind in the sails and setting out to discover an entirely new world while swimming underwater with a pencil and a PVC slate (*on which he will sketch his impressions*) seems a magnificent journey in an age when everything moves very (too) fast, everything is connected and in which people believe that they can access and get to know everything with a simple 'mouse click'», he adds.

After Australia, we head for the Solomon Islands and South-East Asia

The imminent departure of *Fleur de Passion* will end a lengthy stopover in Brisbane, during which the vessel could also undergo maintenance. In a shipyard to the east of the city, the 100-tonne boat was raised from the water so that the hull could be thoroughly cleaned, treated and repainted in early 2017. Not only has it been a long stopover, but also a fertile one which, thanks to the support of the Swiss Embassy in Australia, should see hundreds of people taking advantage of public visits to come aboard for a tiny share of the adventure, while the vessel itself participates officially in the World Science Festival from 22 to 26 March. After its two-month mission on the Great Barrier Reef, *The Ocean Mapping Expedition* will depart Cairns for the Solomon Islands, then Papua-New Guinea, Indonesia and its famous spice islands the Moluccas, and finally Cebu in the Philippines, where it aims to arrive by December 2017.

***Fleur de Passion*, a vessel whose ultimate destiny was... Pacific!**

Flagship of the Foundation and logistical platform of *The Ocean Mapping Expedition*, *Fleur de Passion* has a remarkable history. It was originally a *Kriegsfischkutter* (KFK), a motor boat in the Germany navy built in 1941 and used for coastal defence, mine laying and for supplying submarines. Having survived the Second World War, it was handed over to the French navy, which used it for some 30 years before disarming it in the 1970s and selling it to a private individual, who then converted it into a rigged vessel and gave it its current name. Until the mid-1990s, *Fleur de Passion* sailed the Mediterranean and the Atlantic under socio-educational and scientific programmes. In 2002 the vessel was bought by the Geneva-based *Association Pacifique*, which completely refurbished it over the six years from 2003 to 2009 with a view to prolonging its henceforth peaceful existence under the auspices of the Foundation.

About *Fondation Pacifique*

Fondation Pacifique is a Swiss non-profit based in Geneva and recognized as being of public utility. Since its establishment in 2007, it has been developing, organizing and carrying out theme-based expeditions combining scientific research programmes, and cultural, socio-educational and environmental awareness projects on its sailing ship *Fleur de Passion*, a 33-metre ketch. Its ambition is to contribute to a better understanding of



humanity's impact on the oceans, and to prompt us to think about mankind's place on "planet ocean" by enabling anyone to enlist as a crew member and join in an expedition. *Fleur de Passion's* voyages take a multidisciplinary approach based on experience-sharing, and are accompanied by projects designed to communicate with the wider public, especially at ports of call. Its most important project so far, *The Ocean Mapping Expedition*, a four-year journey around the world (2015-2019) in the wake of the discoverer of the Pacific, will be an exceptional, one-of-a-kind opportunity to observe and map the state of the oceans today, echoing the spirit in which the Portuguese navigator and his crew embarked on their adventure almost 500 years ago.

The Ocean Mapping Expedition

500 years after Ferdinand Magellan, a 4-year (2015-2019) sailing voyage around the world aboard *Fleur de Passion* – a 33m ketch and the biggest sailing boat flying the Swiss flag – to observe, understand and map the state of the oceans, inspired by the expedition carried out by the discoverer of the Pacific. A package of scientific, socio-educational and cultural programmes are being undertaken in a multidisciplinary spirit of encounters and experience-sharing in order to gauge humanity's impact on the oceans and contribute to the discussion of man's place on "planet ocean".

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The Ocean Mapping Expedition

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THE GBR Habitat Mapping Program is supported by



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