ANNUAL REPORT 2024

Fondation
tara océan
explore and share

00. Editorial

Some years can be described as pivotal. 2024 is one such year, or rather a year during which the foundation and its teams have cast their nets a little wider, like skilled sailors. The investment in human resources, equipment and time has been colossal during the second and final part of the *Tara Europa - TREC (2023-2024)* expedition, along the entire Mediterranean coast of the European Union, from Gibraltar to the Bosphorus. Like you, we are eager to see the first results and conclusions in a few months' time. The scientific and societal impact of this mission, which is so close to our hearts, will undoubtedly be historic.

For two decades, under the impetus of our founders, Agnès Troublé and Étienne Bourgois, the foundation has chosen to take artists in residence aboard the schooner *Tara* during its expeditions. This approach, which was unique at the time, has been continued over the years with nearly 75 artists from all artistic and geographical backgrounds. For the first time since 2003, we have managed to bring together most of them to share, with the 35,000 visitors present, a wonderful collective exhibition co-produced with the CentQuatre in Paris. We are convinced that science informs our contemporaries, but that art, through the emotions it arouses, engages them.

We would like to take this opportunity to congratulate, thank and encourage all those who have worked, on land and at sea, to make this crazy year such a success and have such an impact.

Together, let's defend life. Let's protect the Ocean.

Étienne Bourgois, President
Romain Troublé, Managing Director

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The Tara Ocean Foundation is the first recognised public interest foundation (FRUP) dedicated to the Ocean in France.

For more than 20 years, it has been striving for a revolution to preserve life, convinced that the Ocean is essential to the balance of our planet. Exploring the Ocean and sharing scientific discoveries to raise collective awareness is at the heart of the foundation's mission.

It conducts scientific expeditions in partnership with leading international research laboratories to study marine biodiversity and understand the impacts of climate change and pollution. It raises public awareness of Ocean issues, educates younger generations, facilitates international cooperation and mobilises political decision-makers.

Thanks to its status as a Special Observer at the UN, the foundation actively participates in international Ocean governance.

Exploring, sharing, and protecting this living Ocean is more vital than ever.

Together, let's defend life. Let's protect the Ocean.

44 employees on land and at sea	**17** sailors	**27** members of the shore-based team	**€5** million annual budget

More than 20 years of commitment

Explore to understand

590,000 kilometres travelled

13 expeditions

280 ports of call

76 countries

140,000 samples

200,000 types of marine viruses and retroviruses characterised

500,000 species of bacteria discovered

100,000 species of microalgae discovered

150 million new genes characterised

5,000 scientific publications based on data collected during expeditions

Share to change

2 million citizens made aware of Ocean issues

1 million schoolchildren made aware

100,000 children welcomed aboard Tara

+60 artists welcomed aboard (12 on Tara Europa)

Engaging politicians to preserve life

Special Observer status at the UN

12 years of campaigning for the adoption of the High Seas Treaty

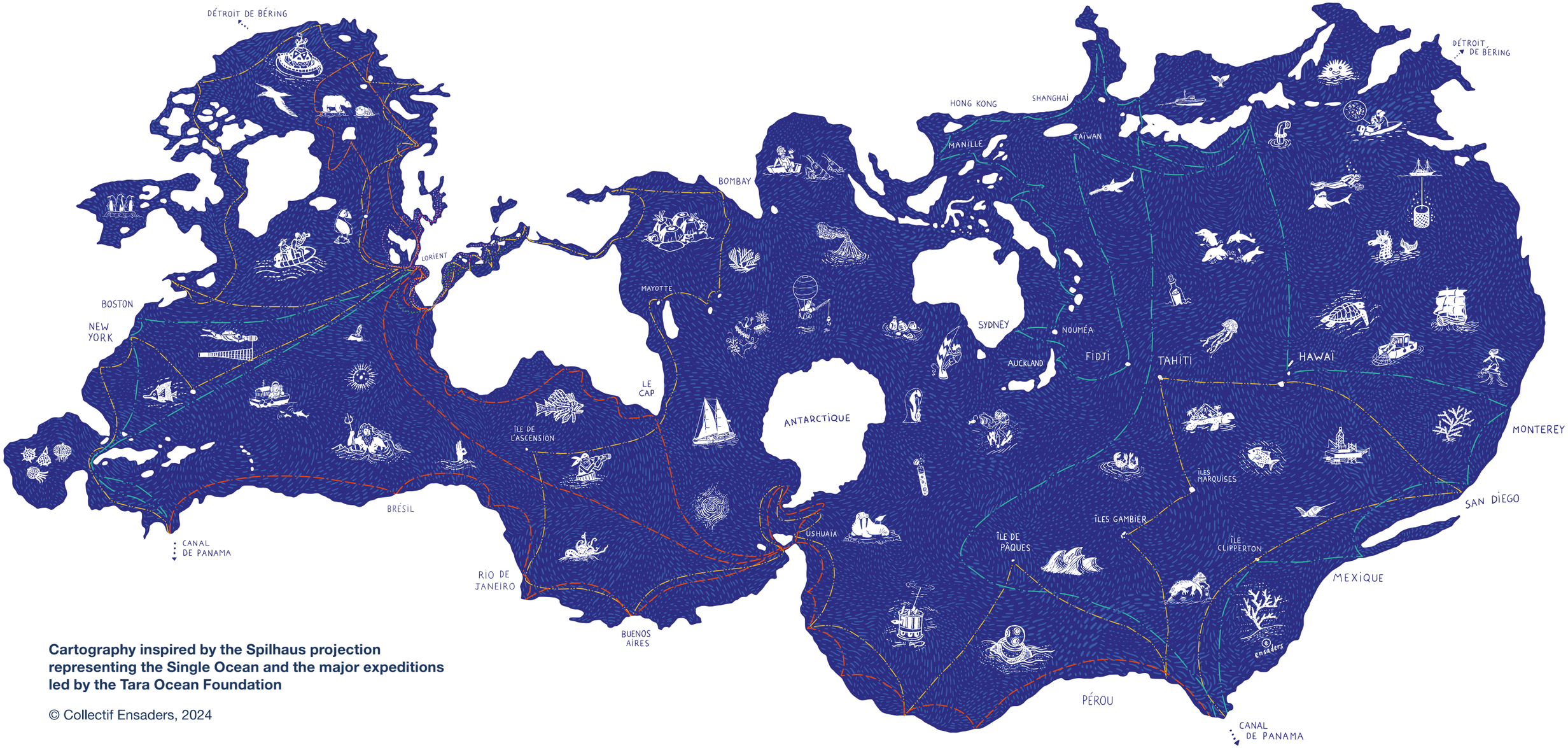
Participation in the Global Treaty on Plastic Pollution

Campaigns :
Entry into force of the Treaty on the High Seas
Marine Protected Areas:
protect 30% of the Ocean by 2030
Develop new scientific methods to conserve biodiversity
Include a ban on the most toxic plastics (styrenes, PFAS, etc.) in French law

Founding members of three collectives
Ocean & Climate Platform (POC)
Beyond Plastic Med Association (BeMed)
Pink Flamingo Society

100 elected officials committed to the Plastic-Free River Charter

2 scientific cooperation projects in South America and West Africa



Cartography inspired by the Spilhaus projection representing the Single Ocean and the major expeditions led by the Tara Ocean Foundation

Tara Arctic · 2006 to 2008
A unique expedition to the roof of the world
The first Arctic drift since Nansen's in 1893.

Tara Oceans · 2009 to 2013
The Ocean under the microscope
The first global study of the planktonic ecosystem.

Tara Méditerranée · 2014
Plastic, the Mediterranean Sea as a laboratory
Study of plastic impact on the Mediterranean marine ecosystem.

Tara Pacific · 2016 to 2018
An unprecedented approach to coral reef biodiversity
Study of coral reef capacity to adapt to climate change.

Mission Microplastiques · 2019
At the source of marine pollution
The first european study of microplastic origin in rivers.

Mission Microbiomes · 2020 to 2022
The hidden face of the Ocean
Study of the invisible people of the Ocean.

Tara Europa / TREC · 2023 to 2024
A scientific expedition to explore an interconnected world
Europe's first 18-month study of the land-sea interface along the entire coastline.

Mission UNOC · 2025
Heading for the United Nations Ocean Conference (UNOC)
An expedition to mobilise politicians and citizens.

02. Highlights of 2024

Second part of the Tara Europa expedition

2023 - 2024

337
media mentions

After an unprecedented stopover in Lyon, the schooner *Tara* has resumed its thirteenth expedition, *Tara Europa - TREC (2023-2024)*, picking up where it left off in southern Spain. This second year of the expedition crossed the Mediterranean Sea, the Balearic Islands, the Adriatic Sea and the Aegean Sea, passing through Spain, France, Italy, Croatia, Montenegro and Greece.

This expedition along the European coastline explored the interactions between our planet's two ecosystems, the Ocean and the land, in order to better understand how organisms – from viruses to animals – react to natural and anthropogenic environmental changes on European coastlines, particularly chemical pollution caused by our society.

"August 2024 marked the end of the Tara Europa - TREC expedition (2023-2024). This project was built with an enormous ambition: to connect terrestrial and marine ecosystems in order to study both viruses and macroalgae, combining genetics, microscopy, chemistry and cutting-edge technologies used in close proximity to living organisms, all along the European coastline!

The first TREC symposium, which took place in September 2024, is a true testament to the expedition's success: promising results are already available, collaborations are emerging, and scientists are currently processing hundreds of samples. The quality and diversity of the samples available will enable us to greatly advance our understanding of the mechanisms of life and its interactions with the environment; it's absolutely unique."
Flora Vincent, Group Leader at EMBL, TREC Scientific Coordinator

A unique exhibition at CENTQUATRE-PARIS:
The Great Expedition, art and science reveal the Ocean

Sailing to create, art in motion

On board the schooner *Tara*, artistic residencies offer a unique space for creation and expression. Inspired by travel, scientific research and life at sea, artists develop a new perspective on the Ocean, which they express through their creations.
Whether or not they are involved in the scientific research carried out on board, each artist explores and interprets this still little-known universe. These two worlds come together with a common goal: to raise collective awareness of the vital role of the Ocean.

To share these unique perspectives, the foundation presented *La Grande Expédition* at the CENTQUATRE-PARIS and published the book Art and science reveal the Ocean in collaboration with The Eyes Publishing. These works, created by 40 artists who have lived aboard *Tara*, highlight marine biodiversity, its role in climate balance, and the pollution that affects it. Through five chapters – Pollution, Landscapes, Living Things, The Sensory Experience and Travel Diaries – these creations invite us to reconnect with the Ocean, to better understand its still little-known riches and to question our impact on this essential ecosystem.

The exhibition and the book also ask the public about their relationship with living things:
What mark do humans leave on landscapes?
What invisible threats are hanging over the Ocean?
Can we perceive the Ocean through our senses?
These are all essential questions that will fuel a shared dialogue on the future of the Ocean and living things.

" Marveling at the revealed beauty of the Ocean makes its fragility more tangible and the signs of its depletion more cruel (...). The artists are sounding the alarm, searching for solutions to reveal the invisible." Les Échos, 25/01/2025

"An exhibition of activism and beauty, recommended for all ages." Beaux Arts Magazine, 01/02/25

"The CENTQUATRE-PARIS is exhibiting a selection of creations inspired by the expeditions of the scientific schooner Tara. These unique works celebrate the beauty and vulnerability of the largest ecosystem on Earth." La Croix, 04/01/25

Scan me

INTERVIEW

with José Manuel

Key figures for the exhibition

36
days open

35,000
visitors

3,500
schoolchildren

162
journalists at the opening

45
media reports at the launch

Continuation of construction work on *Tara Polar Station*

Tara Polar Station is a project initiated ten years ago by Étienne Bourgois and Romain Troublé, then developed over five years in collaboration with Olivier Petit, naval architect for *Tara*, the Mauric design office and with the support of Prince Albert II of Monaco. Capgemini Engineering, a partner of the foundation, has supported the project since its launch by providing expertise and assistance to the project owner.

Its construction was entrusted to the CMN (Constructions Mécaniques de Normandie) shipyard in Cherbourg. The project was carried out in several stages: four months of design, followed by twenty months of construction, from the installation of the moon pool in September 2023 to the scheduled delivery in April 2025. More than 200 people have been involved in its construction, totalling over 150,000 hours of work.

Tara Polar Station is a drifting polar station designed for observation and scientific research in the Arctic, a continent with extreme conditions that is little known and revealing of the climate crisis. This meant building a ship that had to meet major challenges: limiting its environmental footprint, ensuring the comfort of the crew in extreme temperatures and optimising energy efficiency. The goal was to reconcile the regulatory and operational requirements of a ship in a polar environment with the needs of scientific research and autonomous living. A technical and human challenge that is well on its way to being met!

In 2024, construction continued around the moon pool, an aluminium cylinder providing access to the water from inside the ship: the lower part of the hull was reinforced to withstand the pressure of the ice during drift, the upper hull was assembled on the submerged base to form the float, and the superstructure, called a geode because of its shape, was placed on top of the assembly.

The project represented a major technical challenge: 110 tonnes of aluminium, a 20 mm thick hull and high-performance insulation guaranteeing a constant temperature difference of 40°C, preventing condensation from freezing on the interior walls.

Tara Polar Station was launched on 4 October 2024, marking the start of a new phase. Although the structure is complete, the interior fittings are still being installed, including the on-board equipment, insulation and scientific instruments. A series of seven-week dock and sea trials will validate its watertightness and systems before it can obtain certification and a sailing permit. This unprecedented scientific exploration to the far reaches of the North Pole is fast approaching, with departure scheduled for summer 2026!

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TO LEARN MORE ABOUT THE TIMELINE OF THE PROJECT

Technical specifications

Length: **26 metres**
Width: **16 metres**
Draught: **3.20 metres**
Maximum height: **11 metres**
Weight: **388 tonnes maximum**
Hull thickness: **20 mm (aluminium)**
Moon Pool diameter: **1.6 metres**
Fuel capacity: **130 m3 of HVO**
Autonomy: **500 days**
Flag: **French**

20 months of construction

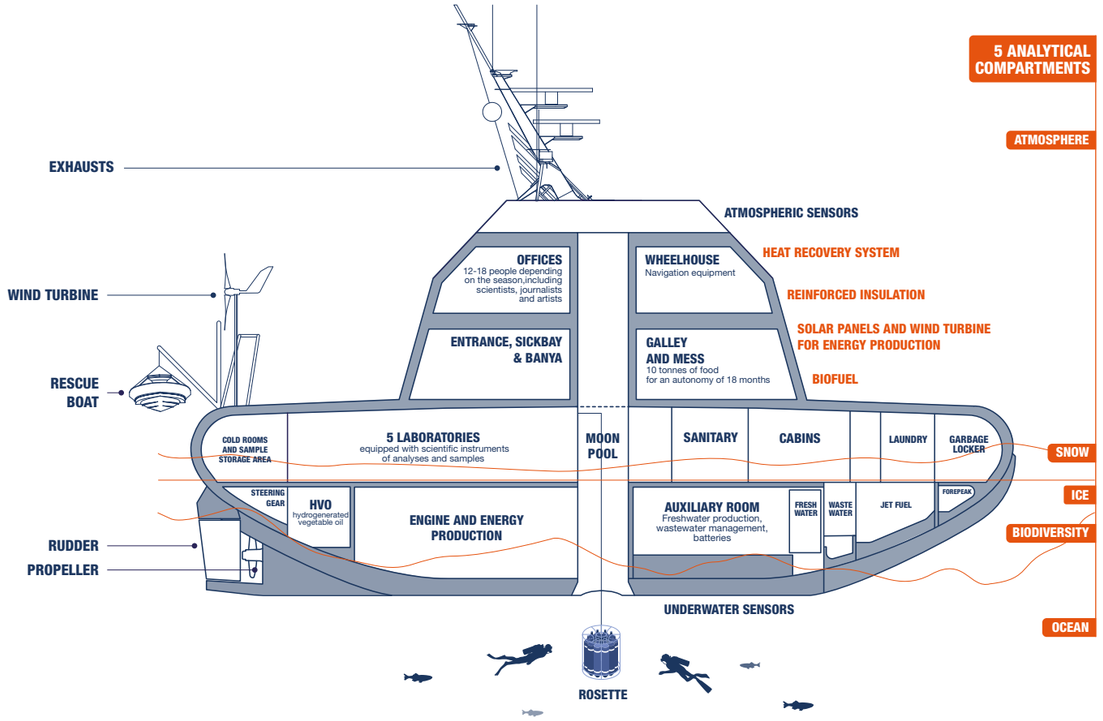
200 people involved in the project

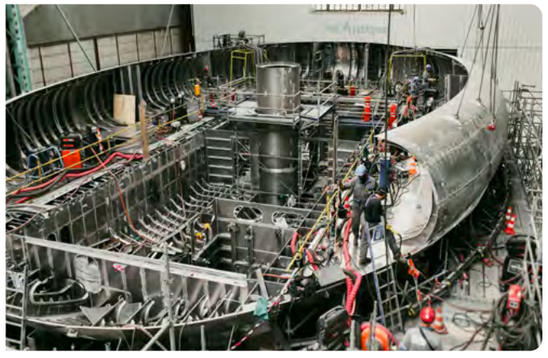
150,000 hours of work

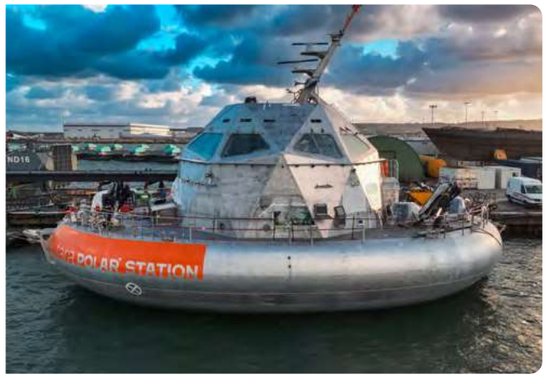
110 tonnes of aluminium required for construction

20 mm ull thickness

278 media appearances







03. Explore to understand

Exploration is at the heart of the foundation's mission, the result of its collaboration with international scientific laboratories. Thanks to the commitment of a collective of scientists, sailors, and institutional and financial partners, the schooner *Tara* sails the world's Ocean to better understand and protect them. Its 13th expedition, *Tara Europa - TREC (2023-2024)*, like previous expeditions, contributes to advancing knowledge about the ocean. Revealing its richness and the pressures it faces, such as climate change and pollution, is essential to better anticipate the future and preserve this ecosystem, which is vital to the planet's balance.

03.1 The expedition underway in 2024: TREC / Tara Europa

Tara Europa - TREC (2023-2024) was designed by the European Molecular Biology Laboratory (EMBL) in collaboration with the Tara Oceans consortium, the Tara Ocean Foundation and more than 70 scientific institutions. This expedition consists of a study of biodiversity on land, using EMBL's mobile laboratories, and, in parallel, with the schooner *Tara* at sea.

In 2024, after more than 40 days in Lyon, moored near the Musée des Confluences, the schooner *Tara* sailed down the Rhône. Passing through fourteen locks and around fifty bridges, and sailing past Montélimar, Avignon and Arles, *Tara* then docked at Port Saint Louis du Rhône for a short refit to re-mast and re-equip the ship with the scientific equipment needed for research on board.

The schooner then set sail for Malaga to resume the sampling programme. For this second year of the expedition, the *Tara* and EMBL teams, sailors, navigators, scientists and researchers on land and at sea worked closely together to enable these land/sea samples to be taken simultaneously, on the same day, and to adapt to the vagaries of the weather and logistics.

2024 also saw the creation of three supersites in Barcelona, Naples and Athens, enabling collaboration with local marine stations, the expansion of research protocols, the strengthening of scientific teams and the analysis of certain samples directly on site thanks to EMBL's "Advanced Mobile Laboratory" (AML) truck, revealing the treasures of life.

This expedition, unprecedented in its scientific ambition, geographical scope and scale in terms of European cooperation, enabled the collection of around 70,000 samples from both land and sea. Analysis of this data by partner laboratories is ongoing and will provide a better understanding of biodiversity and chemical pollution in European coastal ecosystems.

The stops in Barcelona, Marseille, Nice, Naples, Ancona, Venice, Kotor, Patras, Athens and Kavala provided an opportunity to carry out important logistical tasks: refuelling, shipping samples to Heidelberg, delivering equipment and changing crew. These stops also helped raise awareness among the public and political decision-makers about the scientific and societal challenges of the expedition.

After travelling 24,000 km and spending 18 months at sea, the schooner *Tara* set sail for Lorient, its home port, in August 2024.

TARA EUROPA - TREC

18 months of expeditions	**24,000** km at sea	**127,500** km on land	**188** sampling sites at sea
115 sampling sites on land/at sea	Approximately **70,000** samples	**42** local partners	**+200** scientists involved

337 media mentions

233 digital	**64** print	**25** radio	**15** TV

Testimonials

Jessika Fuessel, Coordinator for Biogeochemistry during TREC, University of Oldenburg, Institute for Chemistry and Biology of the Marine Environment

"Joining the *Tara Europa - TREC (2023-2024*) Expedition as one of the scientific coordinators and, repeatedly, as a member of the scientific crew was both a fruitful endeavor from a scientific perspective and a personally enriching experience. Life and work on board *Tara*, with its limited living and lab space, demand an efficient, well-coordinated, and considerate approach to everyday life and work. Unlike previous missions, the TREC expedition remained mostly within sight of the European coastline, which involved its own navigational but also personal challenges.

During frequent harbour stopovers across various European countries, we engaged regularly with the interested public. These rapid transitions between vibrant metropolitan and harbour towns and the remote, frugal existence at sea, that is always ruled by the ocean's temperament, deepened my awareness of the close, often unnoticed connections between marine and urban environments.

Tara Europa - TREC (2023-2024) focuses on these very intersections between land and sea, human activities and nature, along the European coastline. The mission enables us, as scientists, to investigate a wide range of natural and anthropogenically generated gradients and their influence on ecosystems vital to human livelihoods.

At the same time, the insights we generate will help to describe humanity's age-old relationship with coastal oceans as it exists today, revealing both detrimental impacts of human activity and examples of sustainable interaction with marine environments.

I feel privileged and grateful to have worked alongside the skilled, dedicated, and kind crew, engineers, and fellow scientists on board *Tara* during this mission. The genuine interest and warm reception we received during our stopovers give me hope that, despite the pace of modern life, there is a collective desire to foster a more sustainable relationship with our oceans."

Morgann Andrieux, second mate on Tara during the Tara Europa expedition - TREC

"My first time on board *Tara*, a polar vessel, was unusual, arriving in Lyon, sailing down the Rhône and spending almost a month and a half in Port Saint Louis du Rhône for repairs. The first voyage to Malaga in Spain was just as unusual. Strong winds, rough seas, a real treat downwind! The first stops of 2024 for the TREC mission between Malaga and Barcelona followed one after the other at the end of winter, with a stopover in the Balearic Islands. It was difficult for the new arrivals to get used to the short waves of the Mediterranean in winter. But the sampling days went off without a hitch. Then, finally, it was summer in the Mediterranean, with our arrival in Marseille in the early morning to dock at the Mucem. After two and a half months on board, between scientific stations and maintenance of *Tara*, I disembarked with impatience for the next embarkation.

I then returned on board in Venice, another very curious place to embark on a polar ship! Summer was well and truly underway in the Adriatic. The scientific teams and sailors came and went on board until the end of the *Tara Europa - TREC mission (2023-2024)* in July in Greece. The sampling sites were chosen in collaboration with the EMBL teams on shore. Every day, we anchored in a new location and followed the same well-established procedures, both in the laboratories and on the deck of *Tara*. Life on board was punctuated by nets, rosettes and dolphins. For two and a half months, we sailed through Croatia, Montenegro, the Corinth Canal, Greece, the Cyclades, etc. Navigating this part of the Mediterranean is always impressive due to its historical character. The vestiges of the not-so-distant war between Croatia and Montenegro are still visible, and there are countless remains of ancient buildings in Greece. Each anchorage has its own little story.

I disembark on the island of Santorini for a well-deserved return home. Next stop: Loriengeles."

Focus on Tara Europa Lab

Mobilising European decision-makers by creating a dialogue around Tara's programme

To connect the *Tara Europa programme - TREC (2023-2024)* to certain environmental issues, the expedition will host a series of discussions bringing together scientists and local stakeholders at several of its stops: the *Tara Europa Labs*. Organised in collaboration with the European projects BIOcean5D and BlueRemediomics, their aim is to engage in a privileged and expert dialogue between civil society, government institutions and academics in order to identify how the results of the expedition can respond to local Ocean protection issues.

• **Lyon, France** - Health and environment - Reflections on the management of diffuse pollution in the Rhône

In January, when the schooner *Tara* returned to Lyon, an initial *Tara Europa Lab* event addressed the challenges of diffuse pollution in the Rhône, a priority environmental and public health issue in the region. Based on scientific findings shared by Pierre Souvet, president of the Association Santé Environnement France, this event provided an opportunity to review lessons learned from past crises, particularly those involving PCBs, and to explore future courses of action, drawing on the current PFA crisis. Maître Antoine Clerc, an environmental lawyer, also provided essential legal insight into identifying solutions to these crises.

• **Marseille, France** - Innovative tools for monitoring and protecting the land-sea interface

The *Tara Europa Lab* in Marseille kicked off three days of activities and conferences at the Mucem, the Museum of European and Mediterranean Civilisations. Facing the Mediterranean Sea, the Tara Ocean Foundation and the France Ocean Committee proposed to engage stakeholders in a discussion on how to integrate scientific knowledge on the interconnection of terrestrial and marine ecosystems when establishing monitoring and conservation measures. The expedition's scientists first presented innovative ideas for science-based tools before discussing how to better contribute to current international processes, as implemented at the French level, in terms of Ocean policy, such as the goal of establishing 30% of marine areas as protected areas by 2030, approved by the United Nations Convention on Biological Diversity.

• **Naples, Italy** - Contemporary challenges facing the Ocean

The expedition's final *Tara Europa Lab* addressed scientific challenges and proposals that could be put forward by the foundation within Ocean governance bodies. This workshop brought together partners from three European projects – AtlantECO, BIOcean5D and BlueRemediomics – to present their results, identify challenges and discuss issues relating to scientific cooperation, in the presence of local and regional scientific organisations. The presentations highlighted scientific advances, data standards and knowledge sharing, while raising key questions about the link between the Ocean microbiome and current environmental challenges, such as chemical and plastic pollution. Bioremediation was particularly debated, highlighting both its potential and the ethical considerations necessary when exploiting living organisms.

In total, three *Tara Europa Labs* punctuated the stops on the second year of the *Tara Europa - TREC expedition (2023-2024)*. They provided an opportunity to engage in key discussions on the promotion and use of the results to come.

03.2. Science: The various research programmes

For each expedition, the Tara Ocean Foundation brings together at least twenty renowned international research laboratories and specialist experts. Scientific collaboration is based on a consortium agreement, ensuring a structured and efficient working environment.

A scientific consortium is an agreement between several French or international laboratories engaged in a joint project. This arrangement is governed by agreements defining the relationships between the consortium members and establishing common rules. In the case of Tara expeditions, it is specifically agreed that the results produced are the joint property of all consortium members participating in the expedition, who promote them through publications in leading scientific journals. Under French law, a consortium has no specific legal status. The consortium agreement simply formalises the cooperation between the partners, while guaranteeing their legal independence.

Testimonials

Colomban de Vargas, Director of Research at the CNRS, Scientific Director of the Tara Europa expedition (2023-2024), coordinator of the Tara Oceans expeditions (2009-2013) and Tara Pacific (2016-2018), Microbiomes Mission (2020-2022).

"Tara continues its exploration of the living ocean, from molecules to organisms, from viruses to animals. In 2024, like Ulysses returning to land after more than 10 years at sea, Tara Oceans (2009-2013), on the overseas reefs Tara Pacific (2016-2018), and closer to shore Mission Microplastics (2019) and Mission Microbiomes (2020-2022), Tara will contribute to its Tara Europa - TREC expedition (2023-2024) with an exceptional measurement of more than 100 land-sea transects from Finland to Greece, in collaboration with the excellent European Molecular Biology Laboratory (EMBL). This new harvest of more than 70,000 samples will be compared with the 130,000 marine samples collected over the previous 15 years, enabling us to differentiate between the common and the unique in the living world that shapes aquatic, sedimentary, terrestrial and even aerial marine ecosystems. In 2024, Tara will therefore emerge from the water to help lay the foundations for this new science that is as mind-boggling as it is vital: planetary biology! "

03.2.1 Previous expeditions by the Tara Ocean Foundation

Scientific research is a long and rigorous process. It takes several years for the initial results of previous expeditions to become available.

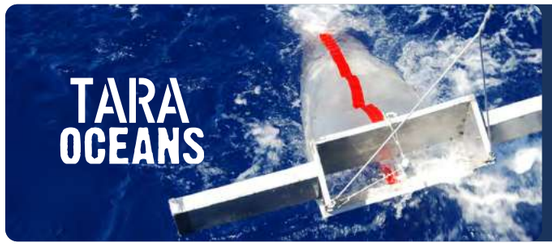
Once collected by researchers aboard *Tara*, samples are sent to partner laboratories around the world for analysis. The results of this research are then published in leading scientific journals such as Nature and Science. These publications are the fruit of collective work carried out by the expedition's scientific consortium. True to its commitment to open and accessible science, the Tara Ocean Foundation ensures that this data is made available as open data, allowing the entire scientific community to access and use it for future research.

2024 publications by previous expedition consortia

Tara Arctic · 2006 à 2008

Scientific Director:
Dr Jean-Claude Gascard, directeur de recherche CNRS

No new publications for 2024



Tara Océans · 2009 à 2013

Scientific Director:
Dr Chris Bowler (a remplacé Éric Karsenti en 2020), directeur de recherche CNRS à L'École Normale Supérieure.

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https://doi.org/10.1093/molbev/msae149

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Giordano, N., Gaudin, M., Trottier, C., Delage, E., Nef, C., Bowler, C., & Chaffron, S. Genome-scale community modelling reveals conserved metabolic cross-feedings in epipelagic bacterioplankton communities. Nat Commun, 15(1): 2721. (2024). Nat Commun. (2024) https://doi.org/10.1038/s41467-024-46374-w

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El Hourany, R., Pierella Karlusich, J., Zinger, L., Loisel, H., Levy, M., and Bowler, C.: Linking satellites to genes with machine learning to estimate phytoplankton community structure from space, Ocean Sci., 20, 217–239 (2024)
https://doi.org/10.5194/os-20-217-2024

Terraneo, T. I., Benzoni, F., Arrigoni, R., Berumen, M. L., Mariappan, K. G., Antony, C. P., Harrison, H. B., Payri, C., Huang, D., & Baird, A. H. (2024). A genomic approach to Porites (Anthozoa: Scleractinia) megadiversity from the Indo-Pacific. Molecular Phylogenetics and Evolution, 108238.
https://doi.org/10.1016/j.ympev.2024.108238

Tara Méditerranée · 2014

Scientific Director:
Dr Maria-Luiza Pedrotti, directrice de recherche CNRS

Jacquin, J., Budinich, M., Chaffron, S. et al. Niche partitioning and plastisphere core microbiomes in the two most plastic polluted zones of the world ocean. Environ Sci Pollut Res 31, 41118–41136 (2024).
https://doi.org/10.1007/s11356-024-33847-0

Tara Pacific · 2016 à 2018

Scientific Directors:
Dr Serge Planes, directeur de recherche CNRS
& Dr Denis Allemand, directeur scientifique
du Centre Scientifique de Monaco

Lucas Paoli, Fabienne Wiederkehr, Hans-Joachim Ruscheweyh, Samuel Miravet-Verde, Kalia S. I. Bistolas, Teresa Sawyer, Karine Labadie, Kim-Isabelle Mayer, Aude Perdereau, Maggie M. Reddy, Clémentine Moulin, Emilie Boissin, Guillaume Bourdin, Juliette Cailliau, Guillaume Iwankow, Julie Poulain, Sarah Romac, Tara Pacific Consortium Coordinators, Serge Planes, Denis Allemand, Sylvain Agostini, Chris Bowler, Eric Douville, Didier Forcioli, Pierre E. Galand, Fabien Lombard, Pedro H. Oliveira, Jörn Piel, Olivier Thomas, Rebecca Vega Thurber, Romain Troublé, Christian R. Voolstra, Patrick Wincker, Maren Ziegler, Shinichi Sunagawa, Genome-resolved diversity and biosynthetic potential of the coral reef microbiome, bioRxiv 2024.08.18.608444; doi:
https://doi.org/10.1101/2024.08.18.608444

Mériguet, Z., Bourdin, G., Kristan, N., Jalabert, L., Bun, O., Picheral, M., Caray–Counil, L., Maury, J., Pedrotti, M.-L., Elineau, A., Paz-Garcia, D. A., Karp-Boss, L., Gorsky, G., Lombard, F., and the Tara Pacific Consortium Coordinators team: Quantitative imaging datasets of micro to mesoplankton communities and surface microplastic across the Pacific Ocean from the Tara Pacific Expedition, Earth Syst. Sci. Data Discuss. [preprint], https://doi.org/10.5194/essd-2024-507, in review, 2024.

Mission Microplastiques · 2019

Scientific Director:
Dr Jean-François Ghiglione,
directeur de recherche CNRS

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https://doi.org/10.1007/s11356-024-35495-w

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https://doi.org/10.1007/s11356-024-33774-0

Mission Microbiomes · 2020 à 2022

Scientific Directors:
Daniele Iudicone, Chercheur à la Station
Zoologique Anton Dohrn (Naples, Italie),

Chris Bowler, Directeur de recherche au CNRS et
Président du comité scientifique de la Fondation,

Colomban de Vargas, Directeur de recherche
au CNRS, directeur de la Fédération de recherche
Tara Oceans – GO-SEE

Olivier, L., Boutin, J., Reverdin, G., Hunt, C., Linkowski, T., Chase, A., Haentjens, N., Junger, P. C., Pesant, S., and Vandemark, D.: Exploring the CO2 fugacity along the east coast of South America aboard the schooner Tara, Earth Syst. Sci. Data Discuss. [preprint],
https://doi.org/10.5194/essd-2024-452 , in review, 2024.

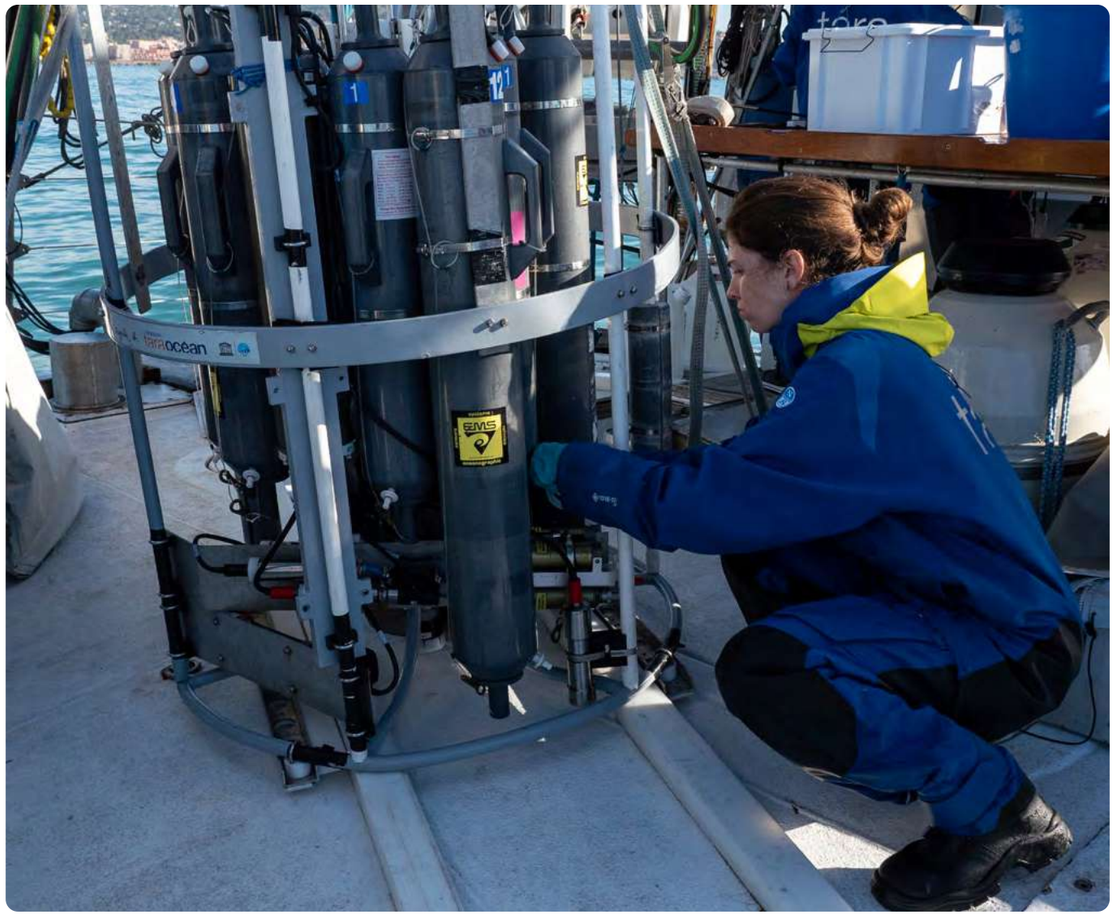
Olivier L., Reverdin G., Boutin J., Laxenaire R., Iudicone D., Pesant S., Paulo H.R. Calil, Horstmann J., Couet D., Erta J.M., Huber P., Sarmento H., Freire A., Koch-Larrouy A., Vergely J.-L., Rousselot P., Speich S., Late summer northwestward Amazon plume pathway under the action of the North Brazil Current rings, Remote Sensing of Environment, Volume 307, 2024,
https://doi.org/10.1016/j.rse.2024.114165

Tara Europa - TREC · 2023 à 2024

Scientific directors of TREC:
Peer Bork, Rainer Pepperkok, Detlev Arendt

Scientific director of Tara Europa:
Colomban de Vargas

No publications yet



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03.2.3 Focus on two scientific publications from 2024

A major scientific breakthrough: light perception in diatoms

Duchêne, C., Bouly, JP., Pierella Karlusich, J.J. et al. Diatom phytochromes integrate the underwater light spectrum to sense depth. Nature 637, 691–697 (2025). https://doi.org/10.1038/s41586-024-08301-3

December 2024 was marked by a major scientific breakthrough; which sheds light on our understanding of phytoplankton thanks to a study published in Nature by a team of scientists from the CNRS, including Chris Bowler, president of the scientific committee of the Tara Ocean Foundation and researcher at Sorbonne University. These results are based on data collected aboard the schooner *Tara* during the *Tara Oceans expedition (2009-2013)*, the first global study of the plankton ecosystem. This study reveals that phytoplankton, and more specifically diatoms (a group of microalgae species), perceive light and use it to locate themselves in the ocean. Thanks to specific sensors called phytochromes, these organisms detect changes in light and adjust their position according to depth. This ability allows them to optimise their access to light, which is essential for photosynthesis, and to improve their adaptation to the Ocean environment. This study sheds light on previously unknown mechanisms governing the distribution of phytoplankton and its role in the carbon cycle and oxygen production, highlighting its fundamental importance in the balance of marine ecosystems and the global climate.

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media reports

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FOR A BETTER UNDERSTANDING

Is light perception useful to phytoplankton?

The ‘plankton paradox’: a better understanding of the marine microbiome

Giordano, N., Gaudin, M., Trottier, C. et al. Genome-scale community modelling reveals conserved metabolic cross-feedings in epipelagic bacterioplankton communities. Nat Commun 15, 2721 (2024). https://doi.org/10.1038/s41467-024-46374-w

In March 2024, a study led by Samuel Chaffron and a team of researchers from the CNRS was published, enriching our understanding of the marine microbiome. Based on data from the *Tara Oceans expedition (2009-2013)*, it highlights the essential role of marine bacteria in the Ocean ecosystem.

Like trees and plants on land, these bacteria recycle nutrients and form the basis of the Ocean food chain. The study focuses on the ‘plankton paradox’: how can highly diverse microorganisms coexist and cooperate despite competition for limited resources? Researchers have identified metabolite exchanges and molecular interactions between bacteria and plankton that could explain how these organisms overcome competition. This is a key discovery for better understanding the balance and diversity of the marine microbiome.

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media reports

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TO UNDERSTAND BETTER THE PLANKTON PARADOX

unprecedented cooperation between bacteria in the ocean.

©Maéva Bardy · Fondation Tara Océan, ©Maryline Verite Guazzonne · Fondation Tara Océan

04. Share to change

Like exploration, knowledge sharing is at the heart of the Tara Ocean Foundation's mission. Making scientific discoveries accessible, raising awareness, informing and mobilising are all levers for advancing Ocean protection. Through the eyes of artists on board, a dedicated podcast and a series of conferences, the foundation raises awareness and understanding of the issues facing the ocean. At the same time, it informs policy-makers and supports teachers with tailored educational resources. By bringing the voice of the Ocean to as many people as possible, the foundation builds bridges between science, society and public action.

04.1 "The Ocean, a whole history…": the Ocean Culture Department

Knowledge has always been passed down through stories. From the discovery of new territories and the first sea routes in the 16th century to major scientific expeditions such as Darwin's, human adventure at sea has contributed to the spread of knowledge. However, despite decades of research, only 15% of the seabed has been studied, even though the Ocean covers more than 70% of the globe's surface. Nevertheless, some things are certain: human activities—pollution, overfishing, resource exploitation—and climate change are putting increasing pressure on the Ocean, disrupting its balance.

But knowledge alone is not enough. The personal connection that each of us has with the Ocean, a mixture of fascination, fear and wonder, reflects a diversity of perceptions rooted in cultures around the world.

The Ocean Culture section explores this link between knowledge and emotion. Long considered opposites, these two concepts are in fact closely related. By bringing together artists, stories, works and sensory experiences, it reveals an Ocean that is both scientific and intimate, living and fragile. Its aim is to nurture a shared Ocean culture, where knowledge informs emotion and emotion stimulates engagement in order to raise collective awareness.

33,654
people reached in France and internationally in 2024

30,916
people met at all events in France

2,738
people reached during all stops abroad

©Thomas Larrat · Fondation Tara Océan, ©Louise Cognard · Fondation Tara Océan

04.1.1 Knowledge sharing events

The return of the *Tara* expedition

On 5 and 6 October 2024, Lorient La Base celebrated the return of the *Tara Europa - TREC expedition (2023-2024)* with a programme of events and performances combining science, art and encounters. The event continued as part of the Fête de la Science and the Les Aventuriers de la Mer festival, offering the public an immersive experience in the world of *Tara*. Shows, workshops, tours and conferences punctuated these two festive days. On the quay, dancer Olga Dukhovna gave a striking performance of Swan Lake, while Simon Nogueira and Andréa Catozzi performed a dizzying acrobatic show on the roofs of the base. Two keynote lectures punctuated the event; the first revealed the behind-the-scenes of the *Tara Europa - TREC expedition (2023-2024)*, while the second retraced twenty years of scientific exploration through an original dialogue between researchers and improvisational actors.

Scann me

TO FIND OUT MORE ABOUT THIS RETURN SHIPMENT.

1,500 people on the quays

2 conferences with over **+ de 400** people

905 people visited *Tara*

60 people visited the AML

302 schoolchildren

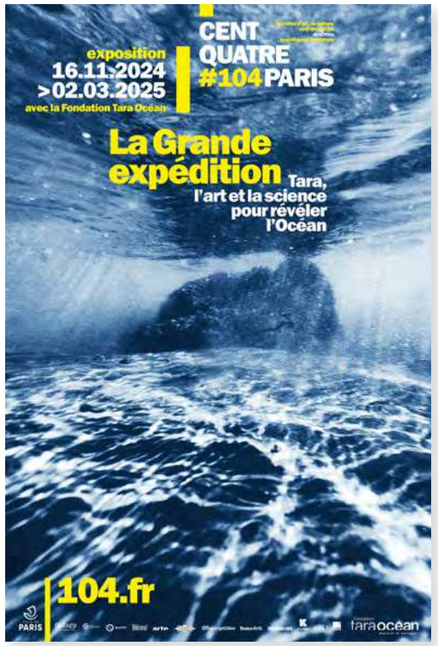
04.1.2 Artists at the heart of commitment

The Great Expedition: 20 years of artistic perspectives on the Ocean

With *The Great Expedition*, the Tara Ocean Foundation and CENTQUATRE-PARIS invited the public to explore the environmental, societal and poetic issues related to the Ocean through the eyes of artists who embarked on the schooner *Tara*.

This retrospective exhibition brought together works produced over the last twenty years of artistic residencies, highlighting the still little-known biodiversity of the marine world, its role in climate balance and the threats to this ecosystem.

Divided into five main themes – *living organisms, pollution, landscapes, the senses and travel diaries* – the exhibition also offered a glimpse into the artists' 'logbooks', which took various unique forms and provided intimate and valuable accounts of *Tara*'s expeditions. Paintings, sculptures, photographs, sound and audiovisual installations combined to create a powerful artistic narrative, at the crossroads of emotion and knowledge. *The Great Expedition* was an invitation to travel and raise awareness, revealing the Ocean as a precious common good that must be protected collectively.

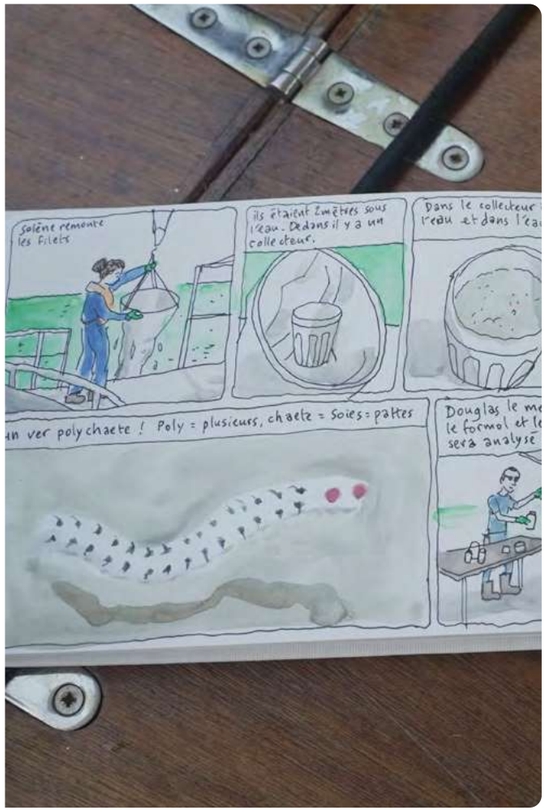


Tara, artists reveal the ocean: A book recounting 20 years of artistic perspectives from aboard the schooner

In this book, co-published with The Eyes Publishing, the Tara Ocean Foundation offers a retrospective of the artists who have sailed aboard the schooner *Tara* over the past two decades. Several chapters, based on the themes of the exhibition *The Great Expedition*, provide scientific insights to accompany the works and enrich their interpretation. They thus create a unique dialogue between scientific knowledge and artistic expression.

This book is part of the collection dedicated to the Civis Maritimus programme, conceived by the Eyes Wide Open association, which aims to strengthen the link between human societies and the marine world and to encourage active citizenship focused on the Ocean.

Artists:
François Aurat
Yann Bagot
François Bernard
Antoine Bertin
Samuel Bollendorff
Christian Cailleaux
Lorraine Féline
Benjamin Flao
Nicolas Floc'h
Cécile Fouillade – Siqou
Ellie Ga
Giulia Grossmann
Elsa Guillaume
Mara G. Haseltine
Rémi Hamoir
Pierre Huyghe
Katia Kameli
Irene Kopelman
Manon Lanjouère
Francis Latreille
Yoann Lelong
Ariane Michel
Leslie Moquin
Aurore de la Morinerie
Wilfried N'Sondé
Malik Nejmi
Claire Nicolet
Maki Ohkojima
François Olislæger
Arianna Pace
Renata Padovan
Lola Reboud
Emmanuel Régent
Christian Revest
Sebastião Salgado
Christian Sardet
et les Macronautes
Noémie Sauve
Robertina Šebjanic
Carly Steinbrunn
Lara Tabet
Laure Winants



04.1.3 Artistic residencies aboard *Tara*: creativity without borders

On board *Tara*, each residency is a total immersion in the marine world. True laboratories of inspiration, these residencies invite artists to live at the heart of the scientific expedition, to observe, feel and question their connection to the Ocean. In an environment in constant motion, they adapt their practices to build, reflect and bring their creative processes to fruition.

During the second part of the *Tara Europa - TREC expedition (2023-2024)*, the winners of the call for applications for the residency programme continued this artistic adventure, taking turns aboard the schooner to make the invisible visible and renew the human perspective on the Ocean.

ENRIQUE RAMIREZ
Listening to time and microplastics

Embarkation on 8 March 2024 in Palma (Spain)
Disembarkation on 19 March 2024 in Barcelona (Spain)

The fourth artist to join the *Tara Europa - TREC expedition (2023-2024),* Chilean multidisciplinary artist Enrique Ramírez continued his sensitive exploration of 'time' aboard the schooner. During his Mediterranean crossing, he developed a unique project: giving sound to microplastic flows. Inspired by the scientific protocols used on board, Enrique collected and catalogued microplastic particles. By integrating this invisible pollution into an artistic approach, he explores the links between the passing of time and human pollution.

A look back at his time aboard the schooner *Tara*, from Malaga to Barcelona.e.

ARIANNA PACE
A deep dive

Embarkation on 11 May 2024 in Naples (Italy)
Disembarkation on 28 May 2024 in Ancona (Italy)

During her residency aboard *Tara*, the Italian visual artist focused on "the morphological, narrative and anthropological aspects of the sea." Through her often multifaceted works, she explores landscapes that are not immediately apparent to the observer. Using a variety of documentary approaches, Arianna wants to "go deeper" because "when the water is murky, we are unable to see the Ocean floor. Thus, the most extreme and intimate part of the Ocean, perhaps even its soul, is forbidden to us."

To learn more about his project and past work.

FRANÇOIS OLISLAEGER
Drawing the invisible

Embarkation on 14 April in Nice (France)
Disembarkation on 29 April 2024 in Naples (Italy)

Belgian comic book author, illustrator and graphic artist François Olislaeger boarded the schooner between Nice and Naples. Inspired by the tradition of great explorer-naturalists such as Humboldt and Bonpland, he embarked on a unique challenge: to draw the microscopic world – a world he was discovering for the first time. A daring and captivating adventure, where every stroke of the pencil is an exploration of the infinitely small.

A look back at his time aboard the schooner *Tara*, from Nice to Naples

LAURE WINANTS
Exploring the invisible

Embarkation on 9 June 2024 in Venice (Italy)
Disembarkation on 29 June 2024 in Patras (Greece)

On board *Tara*, Laure Winants aims to make microscopic ecosystems and scientific data visible, particularly the impact of chemical pollution along the coastline. To do this, she begins by observing the scientific protocols in place, seeking to understand how she can contribute to this exploration of the invisible. Using photosensitive paper immersed in the water, she was able to capture the presence and interaction of living molecules and pollutants, as well as parameters such as water temperature and salinity.

To learn more about his project and past work.

04.1.4 Science: a common cultural element and a force for connection

Scientific culture is an integral part of culture in the broadest sense. It enables citizens to understand the world in which they live and prepare for the world of tomorrow. How can we share a new culture of the Ocean and encourage citizens to take action on the issues it faces? This question forms the basis of our partnership with the EDF Foundation. A common goal: to create and unite a network of mediators, rooted in local communities, to raise public awareness of the societal challenges facing the Ocean and promote scientific culture.

As part of the 2024 Science Festival, themed ‘An Ocean of Knowledge’, more than 110 mediators from public and private institutions across the country were trained by the Tara Ocean Foundation on the central tool of the awareness programme: the educational kit ‘Plastic in the sea, the solutions are on land’.

In partnership with local stakeholders in the pilot regions of Auvergne-Rhône-Alpes and Brittany, more than 39 kits have been distributed free of charge to Scientific, Technical and Industrial Culture Centres (CCSTI), media libraries, libraries and associations, reaching nearly 4,000 people, including audiences not usually exposed to environmental issues.

This strategy of scaling up does not aim to create new resources but to deploy and promote existing tools to new regions and new audiences, making the Tara Ocean Foundation a major player in the dissemination of knowledge.

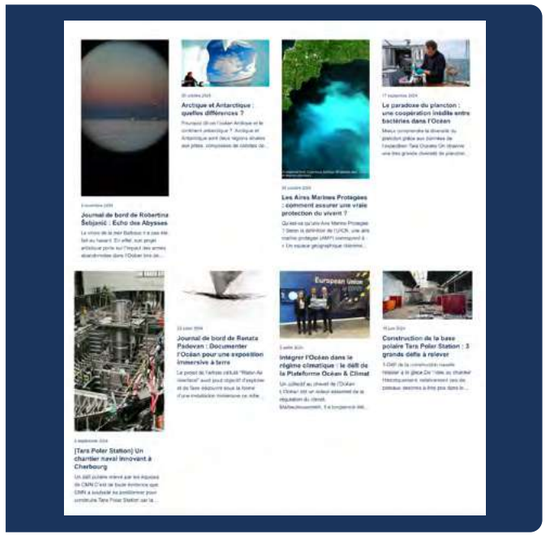
> “A very nice tool, easy to use and very comprehensive!”
>
> “A very nice tool that allows you to address the issue of plastic pollution with all age groups.”
>
> “A superb tool for raising awareness of the issues involved. We really enjoyed using it with our groups and talking about this subject, which we would certainly not have been able to tackle in such a fun and educational way.”
>
> ***User comments on the plastic kit***

04.2 Promoting the foundation’s mission and raising awareness of major Ocean issues: the Communication Department

The year 2024 marks an important milestone in the Tara Ocean Foundation’s communications: the launch of a two-ship fleet. The progress made in the construction of the *Tara Polar Station* and the continuation of the *Tara Europa - TREC expedition (2023-2024)* have provided numerous opportunities to introduce the general public to these exceptional adventures. Communication has been actively orchestrated to follow these expeditions and showcase the scientific discoveries, as well as the cultural, artistic, educational and political actions carried out by the foundation.

Numerous posts, press releases, articles and mailings have been distributed to share these highlights and involve the public in the foundation’s news.

2024 has been a year rich in events and discoveries, exciting to share!



Website

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ACCED TO THE WEB PAGE

+ 128,000
users (+16% compared to 2023)

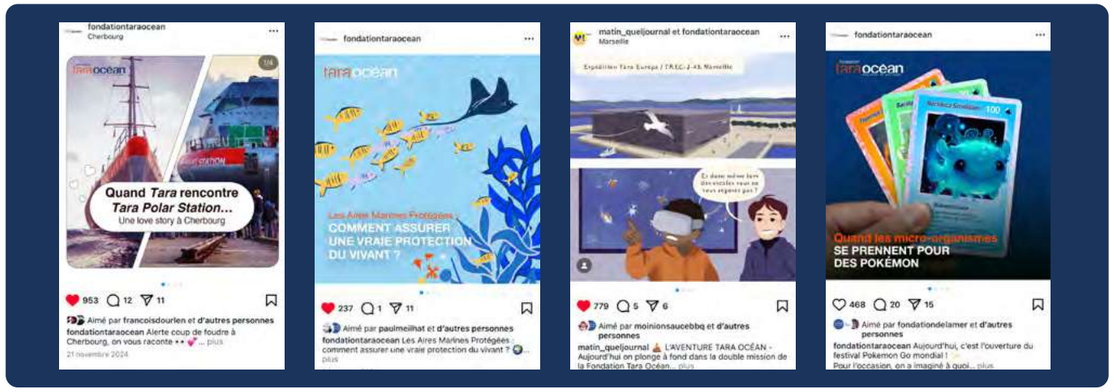
24
new articles in French and English

+ 19,000
resources downloaded from the website

Social Media

196,382
followers (+16% compared to 2023)

+ 5
million people reached



Newsletter

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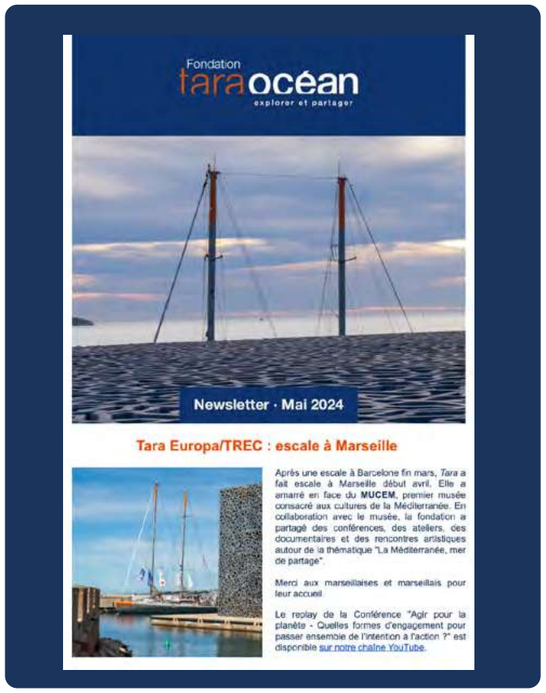
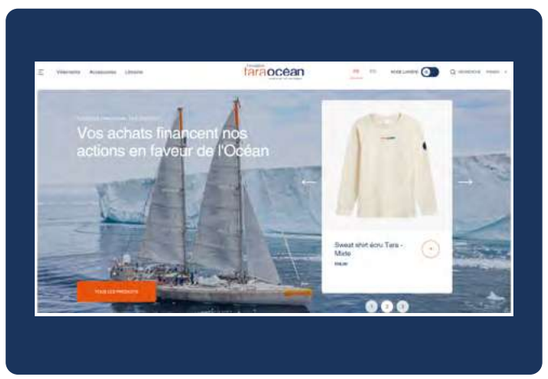
TO SUBSCRIBE TO THE NEWSLETTER





E-boutique

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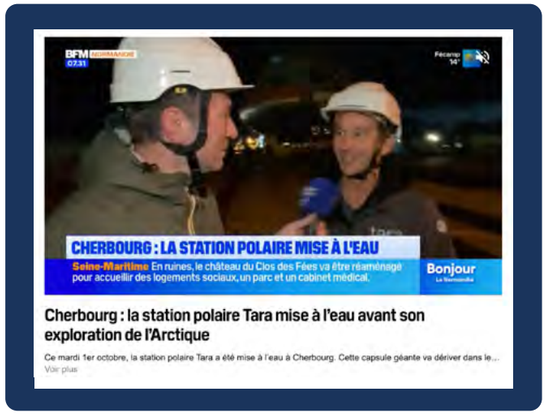
TO DISCOVER THE E-BOUTIQUE

La revue de presse

1,880 mentions

4,7 billion editorial reach



BFM, October 1, 2024

TF1, 13h from September 28, 2024

Le Figaro, October 5, 2024

Le Monde, September 8, 2024

Reporterre, November 25, 2024

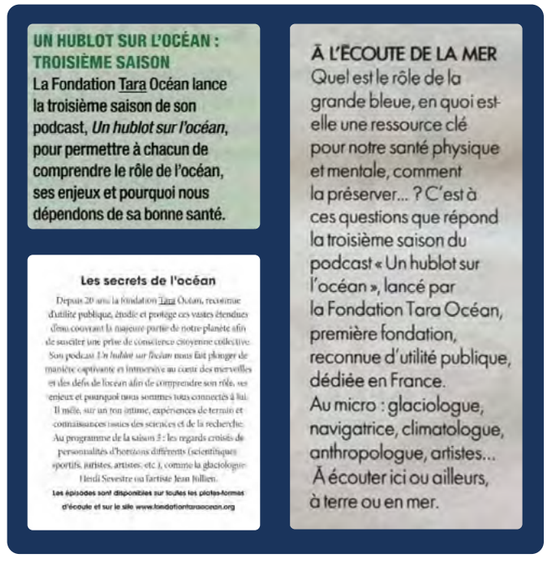
RFI, December 19, 2024

04.2.1 Life at the heart of communication: mobilising more strongly around the essential role of the Ocean in life on Earth and the connection between all living beings.

The scientific expeditions carried out by the Tara Ocean Foundation, alongside partner laboratories, study the complexity of Life and its future. It is this quest for knowledge about life, unique to *Tara*'s adventure, that has guided the actions of the foundation and all those who have been involved for more than 20 years.

In 2024, the communication strategy evolved to reflect and promote the foundation's raison d'être:
Defend Life. Protect the Ocean.

04.2.2 The podcast "Un Hublot sur l'Océan" (A Window on the Ocean): offering a captivating and immersive dive into the wonders and challenges of the Ocean.



To mark World Oceans Day, the Tara Ocean Foundation has launched the third season of its podcast *Un Hublot sur l'Océan* (A Window on the Ocean). The aim is to give everyone a better understanding of the crucial role played by the Ocean, the challenges it faces and why we are all connected to it.

After two seasons rich in discoveries on board and on shore, this new season offers exchanges with personalities from various backgrounds (scientists, athletes, lawyers, artists, etc.). Guests include figures such as Heidi Sevestre, glaciologist, and Jean Jullien, artist. This intimate format for sharing stories about the Ocean combines field experiences and scientific knowledge to raise awareness about the Ocean and its preservation among as many people as possible.

Recorded in collaboration with the Gaîté Lyrique, this season consists of six episodes, each offering unique perspectives and moments of reflection on the essential place of the Ocean in our lives.

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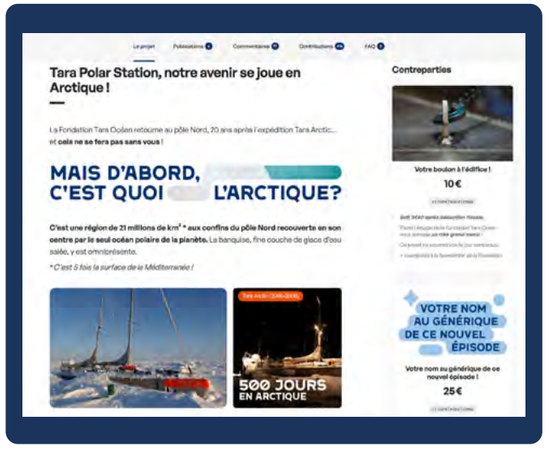
ACCESS THE PODCAST

04.2.3 A crowdfunding campaign with Kiss Kiss Bank Bank: enabling every citizen to contribute to the completion of *Tara Polar Station*

The construction of *Tara Polar Station* represents a technical, human and financial challenge. This ambitious research project, which involves expeditions over a period of 20 years, led the foundation to seek public support through a crowdfunding campaign launched in November 2024 in partnership with KissKissBankBank. The aim of this campaign was to help complete the construction of this future drifting laboratory and observatory, which will become the sentinel of the North Pole in 2026.

To encourage participation, a number of exclusive rewards were offered. A comprehensive communication campaign was rolled out over a period of more than two months. The foundation was able to count on the support and promotion of numerous public figures, partners, new donors, regular donors and its close network of volunteers and scientists. This campaign was a first for the foundation, enabling it not only to reach new audiences, but also to test new content formats and raise awareness of the importance of individual donations.



04.3 Putting the ocean on the school curriculum: The Education Department

04.3.1 The educational platform for sustainable development and science education in schools

Multiform and multidisciplinary resources

As part of an agreement with the Ministry of National Education, Higher Education and Research, and an agreement with the Agency for French Education Abroad (AEFE), the Education Department provides teachers in mainland France, overseas territories and French secondary schools abroad with innovative teaching resources on science, society and Ocean-related issues. The tools offered are free, varied and multifaceted: classroom experiments, teaching packs, scientific documentaries, live videoconferences with researchers, murals, etc. The educational activities can be used as a common thread throughout the school year.

The Tara Ocean Foundation emphasises the importance of multidisciplinarity as a catalyst for education on complexity, while offering solid content for subject-specific teaching. Using these resources, teachers can contextualise science and environmental issues. They develop stimulating teaching methods for young people from primary school (mainly from cycle 3) to the end of secondary school.

Since the start of the 2024 school year, the Tara Ocean Foundation has been offering new turnkey educational activities to strengthen global citizenship education. These tools enable teachers to help pupils develop their intercultural skills, exercise their critical thinking and understand the complexity of global issues. The aim is to make them aware of the links between ecosystems and societies around the world. This programme is run in partnership with the French Development Agency (AFD), of which the AEFE is also a partner.

… co-developed and approved by the French Ministry of Education

The foundation's resources are co-designed with the French Ministry of Education to ensure consistency with official curricula. The entire educational project has been supported for 20 years by the General Inspectorate and extended through close collaboration with Regional Education Inspectors (IPRs) and academic coordinators for ESD in almost all academies. This unique collaboration is long-term: it includes upstream advice, concept validation, co-production, dissemination to mobilise teachers around the educational offering, and co-facilitation of training and evaluation sessions.

An advisory committee for the Education division provides expert support. It includes inspectors from the French Ministry of Education, experts from ADEME, the La Main à la pâte Foundation, AFD, UNESCO networks, etc.

A new network of teacher ambassadors

In 2024, the Education division launched the 'teacher ambassador' network. 557 teachers from mainland France, overseas territories and French high schools abroad volunteered to promote the Tara Ocean Foundation's activities in their schools. They distribute information via posters and flyers in staff rooms, school libraries and lockers.

120,000
students worked on the foundation's resources,

supported by over
5,000
teachers.

04.3.2 The Tara Ocean Foundation's flagship educational operations and activities

The 'Graines de reporters scientifiques' (Seeds of Science Reporters) initiative

Designed in partnership with the Centre de Liaison de l'Enseignement et des Médias d'Information (CLEMI), this initiative aims to give middle and high school students the opportunity to act as scientific mediators for other young people on a major science and society issue: the influence of humans on the Ocean. By positioning themselves as knowledge brokers, the students produce videos or podcasts, which are permanently showcased on a dedicated website. This project-based approach is particularly conducive to the cross-disciplinary approach that is at the heart of media literacy and education for sustainable development.

In 2024, the initiative was enhanced with new educational tools to strengthen its international outreach. A selection of surveys conducted by students in regions outside mainland France was added, accompanied by a critical analysis grid. In addition, a collection of testimonials from investigative journalists specialising in the environment is currently being compiled and will be made available to students in early 2025.

4,900
students (in France and around the world)

in nearly
164
classes took part in the 'Graine de reporters scientifiques' (Seeds of Science Reporters) initiative.

The participatory science project on microplastics, 'Plastic under the microscope'

Aimed at secondary school pupils, the participatory science project *'Plastic under the microscope'* aims to build a database on plastics (macro, meso and micro) found on beaches and riverbanks in France (in mainland France and overseas territories) and at certain European and Mediterranean sites targeted by researchers. This information will feed into scientific research and contribute to decision-making at European level, within the framework of the Marine Strategy Framework Directive (MSFD). Le Cèdre and the CNRS laboratory in Banyuls-sur-Mer are the scientific partners of the project. The aim of this operation is twofold: firstly, to help researchers answer scientific questions; secondly, to act as a lever for scientific education, eco-citizenship, the development of critical thinking and the engagement of young people.

A specific methodology, designed by scientists, is offered to classes (collecting samples in the field, entering them into a database, then sending them to laboratories for chemical analysis). The results obtained enable scientists to identify the origin of the microplastics and work with students to consider actions that can be taken to reduce this pollution on a global scale. Discussions between scientists or experts and students are offered throughout the year to discuss the results obtained and possible solutions. Scientific rigour and cooperation with researchers represent a real educational benefit in terms of plastic pollution, moving from knowledge to commitment in the classroom, particularly with eco-delegates or within school projects.

To reinforce the international approach to plastic-related issues, new short, practical and accessible teaching resources were made available to teachers in September 2024. These include testimonials from students in other countries, a video on global waste flows, a photo language, and activities related to the Sustainable Development Goals and inequalities.

20,000
students, approximately

1,500
teachers

+ 516
schools across mainland France and overseas territories contributed to this participatory science initiative.

Scan me

TO LEARN MORE ABOUT THIS PARTICIPATORY SCIENCE INITIATIVE

The annual cycle of online meetings between students and scientists

The strength of our educational platform also comes from its direct connection to the world of research, particularly through the videoconferencing system that connects researchers with schoolchildren. These meetings are always very successful. Their aim is to encourage students to ask questions about crucial environmental issues, while giving them a taste for science and raising awareness of careers in research. These videoconferences then become long-term resources, accessible from a list of replays.

13,615
students in 102 classes from 33 different countries participated in the series of online meetings with scientists, through 34 sessions with 17 researchers on 12 topics.

The “Echoes of a Stopover - virtual expeditions” initiative

Through the schooner *Tara*’s stops around the world, students explore local sustainable development issues related to global eco-citizenship issues. Teachers can choose their itinerary and the number of stops visited according to a theme, a region of the world or a Sustainable Development Goal (SDG). For the *Tara Europa - TREC expedition (2023-2024)*, the programme has been enhanced with new educational resources on the stops in Naples and Malaga, addressing two additional sustainable development education issues. This flexible and attractive format has mobilised a large educational community in mainland France, overseas territories and French schools abroad.

The work of the classes registered for *‘Echoes of a Stopover - Virtual Expeditions’* was showcased at four end-of-year conferences: two via videoconference and two in person, organised by ‘Echoes of a Stopover - Virtual Expeditions’ communities in Seine-et-Marne and in the Northern Europe and Scandinavia Zone.

16,382
students

705
classes

… participated in the ‘Echoes of a Stopover - Virtual Expeditions’ programme

The plastic pollution mural

During an engaging and collaborative workshop, students acquire knowledge and reflect in groups to build a mural on the challenges of plastic, organising cards in a logical manner. Any teacher can learn how to use this tool through online workshops offered by the Tara Ocean Foundation’s Education team.

The rollout of the plastic pollution fresco for secondary schools continued after its launch in September 2023. Following feedback from teachers and scientific advances, a second version was released in September 2024.

64
workshops on how to use the tool

741
teachers trained in facilitating the mural

6,070
students made aware of plastic pollution thanks to the mural

04.3.3 Interventions in teacher training

Teacher training, whether in person or via videoconference, plays a key role in amplifying the impact of educational initiatives. Designed in line with official curricula and expected skills, these training programmes are developed in collaboration with the General Inspectorate of the French Ministry of National Education.

The Taracademy

To meet teachers' need for more in-depth knowledge on current environmental issues, the Tara Ocean Foundation, in partnership with the Office for Climate Education, launched the Taracademy in March 2024: interactive webinars between teachers and renowned experts. Each hour-long session begins with a scientific presentation by the speaker, followed by a live Q&A session with the teachers. These webinars are free to attend upon registration and feature experts on four major current issues: climate, biodiversity, plastic and the Arctic. Season 1 of Taracademy brought together four renowned experts: Gilles Bœuf, Jean-François Ghiglione, Eric Guilyardi and Marcel Babin. The replays form a library that can be accessed at any time and will be updated each year with new videoconferences.

A second season will be organised in March 2025.

1,500
new teachers trained

240
teachers exchanged ideas with experts.

Scan me

TO LEARN MORE ABOUT THE TARACADEMY

The Education Department would like to thank its partners for enabling it to carry out educational activities in classrooms every year.

MINISTÈRE DE L'ÉDUCATION NATIONALE, DE LA JEUNESSE ET DES SPORTS · AFD Agence Française de Développement · Cedre · CLEMI Le centre pour l'éducation aux médias et à l'information · aefe Agence pour l'enseignement français à l'étranger · Soutenu par la République Française · ADEME · Fondation La main à la pâte · Fondation Rothschild

04.4 The Tara Ocean Foundation's advocacy: creating dialogue to engage policymakers and preserve life

The schooner *Tara* has always carried a political message based on science. Its founders wanted the research conducted on board to inform political thinking and decision-making, placing science at the heart of major societal issues.

The Tara Ocean Foundation's advocacy aims to strengthen dialogue between the fundamental, human and social sciences, civil society and political decision-makers, while translating and disseminating knowledge on issues, regulations and management tools to inform decisions in favour of the protection and sustainable management of the Ocean.

Once again this year, the advocacy team has focused on three major interconnected themes – climate, biodiversity and pollution – with a single objective: protecting Life. The year 2024 was marked by a strong commitment to preparing for the United Nations conference to be held in Nice in June 2025 (UNOC 3). This event represents a unique opportunity for the foundation to set ambitious goals and drive a paradigm shift in favour of Ocean protection.

2024 was also a year in which the advocacy division, drawing on its unique technical and scientific expertise, continued its efforts to advance international processes, in particular to:
- achieve the number of ratifications necessary for the effective implementation of the Treaty on the High Seas (known as the 'BBNJ Treaty');

- defining ambitious content for the future Treaty on Plastic Pollution
- integrating plankton into biodiversity conservation strategies.

Finally, promising progress has been made in sharing scientific knowledge about the Ocean with a greater number of countries. In particular, the foundation has collaborated with Senegalese laboratories and institutions to open the first plankton imaging platform in West Africa.

It has therefore been a year rich in action, faithful to the values of dialogue and sharing upheld by the Tara Ocean Foundation.

> "*Tara* acts as a bridge between scientists and politicians to encourage better decision-making for the ocean."
>
> ***Étienne Bourgois, President of the Tara Ocean Foundation***

Moving towards the rapid entry into force of the Treaty on the High Seas: the foundation brings together negotiators and scientists in Nice

The text of the Treaty on the High Seas (BBNJ) was officially adopted in June 2023. However, two essential steps remain: obtaining ratification by 60 States for it to enter into force and defining its practical application by countries.

To make progress on these points, the Tara Ocean Foundation, in partnership with Harvard University, the City of Nice, the French Global Environment Fund (FFEM), the French Office for Biodiversity (OFB), the European projects BluRemediomics and Bio5D, and the Villefranche Oceanography Laboratory (LOV/Sorbonne/EMBRC/CNRS), organised a three-day workshop in April. The event brought together around 30 participants (UN delegates, representatives of European and French institutions, and the foundation's scientific partners) from nine countries: Seychelles, Barbados, Brazil, Chile, Canada, France, Monaco, Norway and the United States.

This important meeting addressed several key issues:

- access to marine genetic resources in the high seas;
- benefit sharing with developing countries;
- capacity building and technology transfer;
- accelerating ratifications ahead of the United Nations Conference in Nice in June 2025.

The workshop ended with a trip aboard *Tara*, followed by a visit to the Villefranche Oceanography Laboratory, a centre of excellence in plankton imaging. This was a unique opportunity for legislators and decision-makers to discover the work of scientists, both at sea and in the laboratory, and to gain a better understanding of plankton biodiversity.

The ambition is now to build on the momentum created within this 'Nice group' to organise further exchanges in partnership with the foundation. This event perfectly illustrates the foundation's expertise in building bridges between politics and science to make Ocean governance more operational and in mobilising the scientific community in the development of the High Seas Treaty. More than ever, the foundation remains committed to an enforceable, ambitious and equitable treaty for all countries.

Supporting stakeholders in reducing plastic production

Scientific findings on the omnipresence of plastics in the sea and the impossibility of cleaning up this space lead to an obvious conclusion: the solutions are to be found on land. Indeed, while the Ocean is the final destination for plastics, 80% of this pollution comes from land-based sources. This is not just a waste problem, but a systemic crisis with climatic, toxic, chemical and physical dimensions throughout the entire life cycle of plastics. Taking action upstream is therefore the only effective approach to addressing all of these issues.

The Tara Ocean Foundation's advocacy is therefore structured around the concept of the circular economy, not limited to recycling, but in the original sense of the concept, which encourages us to mimic the functioning of nature, drawing inspiration from its economy of means and its lack of harm to living organisms. This concept is reflected in particular in the '3Rs' strategy: Reduce, Reuse, Recycle, which are hierarchical and complementary principles.

The 'Toxic Plastics' Think Tank: building concrete and ambitious solutions

In 2024, the 'Toxic Plastics' Think Tank continued to contribute to the debate on the circular economy and to propose pragmatic, ambitious and effective solutions. An informal group of experts from the hard sciences and the humanities and social sciences, the Think Tank offers a systemic understanding of the issue through rich and interdisciplinary exchanges. In 2024, the Think Tank contributed in particular to the debate on the notion of essentiality, a concept of major importance for achieving reduction targets. The proposals put forward by the Tara Ocean Foundation in 2024 were informed by the expertise and discussions with this Think Tank.

Taking an ambitious systemic approach to the negotiations on the International Treaty on Plastic Pollution

To combat plastic pollution at the international level, the fifth United Nations Environment Assembly (UNEA-5) adopted a resolution in March 2022 to negotiate a global treaty against plastic pollution by the end of 2024. Two new rounds of negotiations took place in 2024. As in the previous rounds in 2022 and 2023, the Tara Ocean Foundation defended several proposals:

- transparency in the formulation and volume of plastics placed on the market;
- consideration of toxicity issues, particularly those relating to certain polymers and additives;
- consideration of global issues related to the entire value chain, from production to waste management, with a necessary reduction in production.

The fourth round of negotiations was held in April 2024 in Ottawa, Canada. The working groups met and, although no consensus was reached, progress was made on several issues: reduction of primary plastics, toxicity, waste treatment and financial mechanisms. The major breakthrough was the proposal by Peru and Rwanda to reduce global use of primary plastic polymers by 40% by 2040 compared to 2025 levels. This ambition is close to the minimum reduction targets of 50% advocated by the foundation, based on the economic work of Cordier et al.

Work continued during the fifth round of negotiations in Busan, South Korea, in November 2024. Contrary to the initial ambition, no final text was adopted. A new round of negotiations will take place in August 2025 in Geneva. Certain structural elements and articles (glossary, list of toxic substances, basis for reduction targets, etc.) remain weak, which could compromise the scope of the text. Nevertheless, the Non-Paper, an informal document published at the end of the session, shows some progress. The group of countries supporting an ambitious treaty has grown, and several delegations have denounced the strategy of certain states aimed at slowing down the negotiations and pitting North-South interests against each other. This stance has strengthened the cohesion of the countries committed to an ambitious agreement.

The advocacy team shared its recommendations for the 2024 negotiations, setting out the foundations for an ambitious and operational treaty, with the French diplomatic service and European, West African and South American delegations in particular. Numerous meetings were held with the Ministry of Ecology, the Élysée Palace and representatives of both chambers of parliament to demonstrate, on a solid scientific basis, the need to reduce plastic production and set targets for doing so.

In addition, throughout the treaty negotiations, the foundation's teams held training sessions for journalists from various media outlets. These sessions enabled them to better understand the technical issues at stake in the treaty. The results were very positive: more articles were published after each session and, above all, they were more accurate from a scientific and technical point of view.

The Tara Ocean Foundation commends the collective work accomplished by the NGO collective to which it belongs and welcomes the growing number of countries committed to the High Ambition Coalition (HAC), which now has 132 members. It also welcomes the realisation of the idea of an international parliamentary HAC, which it has been promoting since INC-2, thus adding a new democratic dimension to the commitment. The Tara Ocean Foundation will continue to mobilise stakeholders to take the many remaining steps towards an ambitious text.

Fostering dialogue with businesses

Dialogue with economic actors in the plastics industry – processors, marketers and waste operators – is continuing. The aim is to bridge the gap that has grown in recent years between these actors and scientific knowledge. While most Corporate Social Responsibility (CSR) strategies remain focused on the recyclability and recycling of plastics, scientific publications paint a much more complex picture than a simple matter of material savings. The values of the circular economy, as promoted by the foundation, take on their full meaning here. From now on, companies' commitment to combating the plastic crisis will be measured by their ability to reduce plastics without transferring impacts to other environmental issues.

The Plankt'Eco project: a plankton imaging platform officially launched in Senegal

Even today, numerous scientific oceanographic missions, studying plankton in particular, cross West African waters to take samples but return abroad due to a lack of quantitative analysis capabilities available locally. This deprives the countries concerned of control over the data collected and the results obtained. There is therefore a major need to strengthen scientific capacities in countries that are under-represented in global oceanographic research and to create international scientific networks.

To address this, the Plankt'Eco project was launched in 2023 for a period of four years. It aims in particular to improve knowledge of plankton ecosystems so that it can be integrated into current fisheries and climate research. Led by the foundation, this project brings together the Villefranche Oceanography Laboratory, the Institute for Research and Development (IRD) and the Plankton Planet association. Together, they are collaborating to equip a plankton imaging platform in Senegal. Three high-tech devices, frequently used in

the partner laboratories during missions, have been installed at the Oceanographic Research Centre in Dakar-Thiaroye (CRODT) for the benefit of the entire Senegalese and West African oceanographic community. A training programme for local academic institutions is

being developed to complement the purchase of this equipment. In 2024, an initial session was held in April at the Villefranche-sur-Mer laboratory for four researchers, technicians and PhD students from the CRODT. A second training session took place in November in Dakar for six people, this time directly on the installed equipment. The platform is now operational with staff trained in its use. Its official inauguration in December brought together researchers, NGO representatives, local ministries and actors involved in Franco-Senegalese cooperation.

Bringing new approaches to biodiversity conservation: the Foundation's participation in COP16 of the Convention on Biological Diversity

The Tara Ocean Foundation is committed in France and internationally to supporting the goal of protecting 30% of the Ocean by 2030. It advocates for the establishment of Marine Protected Areas (MPAs) that offer real protection against overfishing and bottom trawling, while taking into account the impacts of climate change.

The establishment of these MPAs must be based on current, multidisciplinary science that takes into account the complexity of marine life, from viruses and bacteria to large marine mammals. The foundation also advocates for participatory and inclusive management, as well as a transparent financing model that guarantees the sovereignty of states and local communities over their resources.

In 2024, the advocacy hub participated in the 16th Conference of the Parties to the Convention on Biological Diversity (CBD) in Colombia to present the foundation's new conservation approaches. The aim is to encourage the international community to mobilise these approaches to strengthen the protection of life and implement the Kunming-Montreal Agreement and its 30x30 target.

During two events organised at the Chilean Pavilion, the foundation presented the following documents:

The *Plankton Manifesto*, coordinated by the United Nations Global Compact, to which the foundation and its partner laboratories contributed. This document highlights the essential role of plankton ecosystems and the need to integrate them into conservation strategies. The event dedicated to its publication was the only one at the COP devoted to plankton.

The policy brief *'Dynamic oceans, dynamic solutions: New multi-disciplinary approaches for marine conservation tools'*, coordinated by the foundation as part of the BiOcean5D and Plankt'Eco projects. It recommends the implementation of new dynamic conservation strategies based on an ecosystem approach and proposes economic and legal tools to strengthen Ocean protection. On this occasion, the foundation and its partner laboratories officially launched an Ocean mapping initiative based on plankton studies. This will be one of the conservation tools proposed to achieve the 30x30 target at the next CBD COP.

In 2024, this work enabled the foundation to collaborate with new players and become part of a new governance framework, the next steps of which will be crucial for the protection of the ocean.

Scan me

DISCOVER THE *PLANKTON MANIFESTO*

Scan me

DISCOVER THE *POLICY BRIEF*

04.5 *Tara*'s activities in Japan in 2024

Tara Ocean Japan is a Japanese sister association of the Tara Ocean Foundation, of which Yumiko Patouillet is the Secretary General. It was founded in late 2016, just before the schooner *Tara* made multiple stops in Japan during the *Tara Pacific expedition (2016-2018)*, and now has several institutional, academic and media partners in the country.

Sampling for the new Tara JAMBIO Blue Carbon project (2024-2027)

In recent years, a phenomenon known as 'isoyake' (coastal desertification), in which seaweed beds suddenly disappear, has become common along the coasts of Japan. If this phenomenon continues to spread, the impact on the marine ecosystem and, consequently, on local food and culture will be immense. Studying these ecosystems is therefore essential to understanding and protecting them.

With its partner Jambio (Japanese Association for Marine Biology), which brings together more than twenty marine stations located along the coast of Japan, and with the support of agnès b. and Veolia Japan, Tara Ocean Japan launched the *Tara JAMBIO Blue Carbon expedition (2024-2027)* in 2024 to study the blue carbon ecosystems of Japan's coastal waters. Under the scientific coordination of Shigeki Wada of Hiroshima University, this expedition has two objectives.

The first is scientific: to strengthen understanding of the role of algae and seagrass beds in CO2 capture and to identify the different carbon sequestration mechanisms according to ecosystems. The second is educational: to raise public awareness of the importance of these ecosystems in carbon storage by actively involving local communities, schools, artists and the media. During this first year of the expedition, research activities and awareness-raising events were carried out at four sampling sites.

Over the next three years of the expedition, 13 additional sites will be sampled.

- Amakusa, Kumamoto	- seaweed
- Akkeshi, Hokkaido	- seaweed
- Takehara Hiroshima	- seagrass beds
- Oki, Shimane	- seaweed

Launch of Tara Ocean products and publication of the Japanese translation of a *Tara* comic book:

In Japan, 2024 also saw a collaboration between the Moral brand, agnès b Japan and the Tara Ocean Foundation to produce three models of travel bags and backpacks. These bags are sold in agnès b. shops in Japan and Hong Kong and in Moral sales outlets, with proceeds going to the Foundation. In addition, on Earth Day, 22 April, the Japanese translation of the comic book Climate Change: *Tara*'s Mission in the Arctic was published. In the space of nine months, more than 650 copies were sold in Japanese bookshops and online, demonstrating the public's interest in environmental issues.

Strengthening communication on social media

Tara Ocean Japan's digital communication continues to grow, particularly on social media and the Tara Ocean Foundation's Japanese website. The total number of posts increased by 19% compared to 2023. The total number of followers also increased by 24%.

3,401
followers on Instagram, X, Facebook, YouTube

851
posts on Instagram, X, Facebook, YouTube

05. It’s thanks to you

Financial independence

The Tara Ocean Foundation is financially independent and operates thanks to a balanced mix of public subsidies, corporate partners and private donors, whose numbers are growing. With the addition of a second vessel, the foundation needs to stabilise this balance of resources to ensure its long-term future.

Thanks to companies and public institutions

In 2024, the foundation was able to count on the renewed support of its co-founder Agnès Troublé, known as *agnès b.*, as well as the loyalty of long-standing corporate sponsors such as BIC, L’Oréal and Biotherm, the Veolia Foundation, the BNP Foundation and BNP Paribas, which donates part of its margin from the sale of structured products. AXA also continued its financial support for the second year.

In addition, public subsidies, both at European level (BiOcean5D research programmes, BlueRemediomics and Atlanteco), national (French Global Environment Fund FFEM, French Development Agency AFD and French Biodiversity Office OFB) and regional (Brittany Region, Lorient Agglomeration and Le Cotentin urban community) represent loyal financial support that is essential to the sustainability of certain salaried positions. This public support also demonstrates legitimate recognition of the Tara Ocean Foundation as a leading institutional player in scientific mediation.

And to individual donors, whose numbers are constantly growing

Fundraising from individuals has been strengthened with major loyal donors (committed directly, through their personal foundations or through their private banks) but also with a strategy of appeal campaigns at the time of payment of the Real Estate Wealth Tax (IFI) in the spring and at the end of the year at the time of Income Tax (IR). ‘Donor journeys’ enable the foundation to build loyalty among its community of donors.

The year 2024 was marked by a first for the foundation with the launch of a crowdfunding campaign on Kiss Kiss Bank Bank. The campaign, which ran at the end of the year (November to December), mobilised 476 contributors to finalise the financing of the construction of *Tara Polar Station*. This operation raised a total of over £100,000.

Finally, the traditional ‘Gala for the Ocean’ dinner held in early December brought together more than 180 people at the Bridge in Paris, including major donors and partner companies, with a focus on art and culture, ahead of the major exhibition at the CENTQUATRE Paris. Musician Jain closed the evening with a private concert. The gala evening enabled the foundation to raise nearly €218,000.

©François Dourlen · Fondation Tara Océan, ©Margault Desmales · Fondation Tara Océan, ©Xavier Renauld · Fondation Tara Océan

Mixed financing to support the foundation's development

This increase in resources has enabled the transition from one boat to a fleet of two vessels.

Thus, 2024 was marked by the launch in October of the construction of *Tara Polar Station*, made possible thanks to the financial commitment of the Public Investment Bank (Bpifrance), BNP, the Veolia Foundation, and private foundations: Albedo Foundation for the Cryosphere, the Prince Albert II of Monaco Foundation, and the Didier and Martine Primat Foundation for the preparation of scientific programs. As for the skills sponsorship for this second vessel, the indispensable support of Capgemini Engineering and Bureau Veritas, among others, has enabled a significant reduction in certain costs. The entire project, including the development of the vessel, is valued at €22 million.

Once again this year, donors have shown their generosity. It is thanks to their commitment that the foundation can now envisage scaling up its operations.

The Tara Ocean Foundation would like to warmly thank all its private and public partners who have renewed their trust in it and without whom none of this would be possible.

Our partners share their experiences

Three questions for Ulrike Decoene, Director of Communications, Brand and Sustainable Development at the AXA Group

1. Why did you choose to support the Tara Ocean Foundation?

«At AXA, protecting the environment is at the heart of our business and our strategic plan. In addition to the commitments we have made to reduce our environmental impact as an insurer, investor and responsible company, we are very active in philanthropy to enable virtuous and ambitious initiatives to develop. Supporting the Tara Ocean Foundation has been a natural choice since 2023. This partnership also illustrates the importance we attach to science, which is more essential than ever to understanding the world and finding solutions to preserve it. The ocean, often overlooked in the fight against climate change, plays a crucial role, particularly in carbon capture. By investing in this foundation, we are reaffirming our commitment to environmental sustainability and the preservation of natural resources for future generations. »

2. How is this partnership shared within AXA and with your stakeholders?

"This partnership is a real source of inspiration and motivation for AXA and all its employees. It is fully in line with our sustainable development strategy and is promoted among our teams through conferences, educational workshops and events such as a photo competition on social media. Our employees have even had the opportunity to board the *Tara* schooner during some of its stops in Europe. We have also involved our customers in events related to the foundation, thereby strengthening our shared commitment to protecting the ocean. In addition, we promote synergies between our various partnerships, as demonstrated by the highlighting of the Tara Ocean Foundation at the 2025 World Expo in Osaka, where AXA will be one of the main partners of the French Pavilion. As insurers and investors, this partnership enables us to take concrete action to preserve the Ocean and promote this cause beyond our borders.»

3. Do you have a highlight or personal memory with the Tara Ocean Foundation?

«A particularly memorable moment for me was discovering the T*ara Europa - TREC expedition (2023-2024)*, which aims to study the impact of human activities on the biodiversity of European marine ecosystems. I was deeply moved by the passion and determination of the *Tara* team, who work tirelessly to analyse and protect the Ocean and the microorganisms that inhabit it. This experience has strengthened my belief that every action counts and that, collectively, we can make a real difference.»

To support the Tara Ocean Foundation:

https://fondationtaraocean.org/nous-soutenir/

Fondation tara océan
explore and share

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agnès b.

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06. Our governance

Foundation objectives

The purpose of the Tara Ocean Foundation is to finance, alone or in partnership, French scientific research on the impact of global warming and climate change on ecosystems, to raise public awareness of environmental issues and to disseminate the data and results of this scientific research for educational purposes.

The means of action of the Tara Ocean Foundation are:

- Organization of scientific expeditions, in particular aboard the schooner *Tara*;
- Co-production of films, and organization of cultural and educational events during the expeditions organized by the Foundation, and dissemination of the results and/or the issues raised by these expeditions.
- The organization of exhibitions, conferences, events, television broadcasts, network broadcasts, as well as the publication, reproduction and editing in all forms and by all processes known or to be discovered, on the expeditions organized by the Foundation and their results and/or the issues raised by these expeditions.
- The payment of grants and financial aid to researchers or research teams on the impact of global warming and global changes on ecosystems and, more generally, any action contributing to the promotion of the Foundation's aims.

Administration and operation

The Tara Ocean Foundation is administered by a 9-member Board of Directors, made up of 3 colleges:

3 Founding members , of which two are life members: Agnès Troublé, (aka agnès b.) Étienne Bourgois, and the Endowment Fund Agnès Troublé, (aka agnès b.) represented by a person mandated by the legal entity ;

4 members from the College of Qualified Personalities, comprising people chosen for their expertise in the Foundation's areas of activity. They are co-opted by the other members of the Board of Directors.

2 members from the Friends of the Foundation, people appointed by the association «Amis de *Tara*». Membership of the Board of Directors of the association «Les Amis de *Tara*» is incompatible with membership of the Board of Directors of the foundation, in a college other than that of the «Amis de *Tara*».

A Government Commissioner, appointed by the Ministry of the Interior, attends meetings in an advisory capacity and ensures that the foundation's status is respected and that the activities of the Tara Ocean Foundation participates to the public interest.

Composition of the Board of Directors

College of founding members
Étienne Bourgois, Managing Director of agnès b., Chairman of the Tara Ocean Foundation
Agnès Troublé (aka agnès b.), Designer / Company Director
Nathalie Kistler, Company Secretary, appointed by the «Agnès Troublé, aka agnès b.» Endowment Fund and Treasurer of the Tara Ocean Foundation

College of qualified persons
Éric Karsenti, Emeritus Research Director at the CNRS and former Associate Research Director at the EMBL
Gérard Bonhoure, Honorary General Inspector of National Education
Françoise Gaill, Emeritus Research Director at the CNRS
Fabien Vatinel, Expert in heritage engineering

Friends of the Foundation
Sylvie Duboué, President of the Association les Amis de *Tara* and member of the Board of the Tara Ocean Foundation
Christian de Marliave, Publisher, polar specialist

Government Commissioner
Thierry Boisseaux, representative of the Ministry of Ecological Transition and Territorial Cohesion

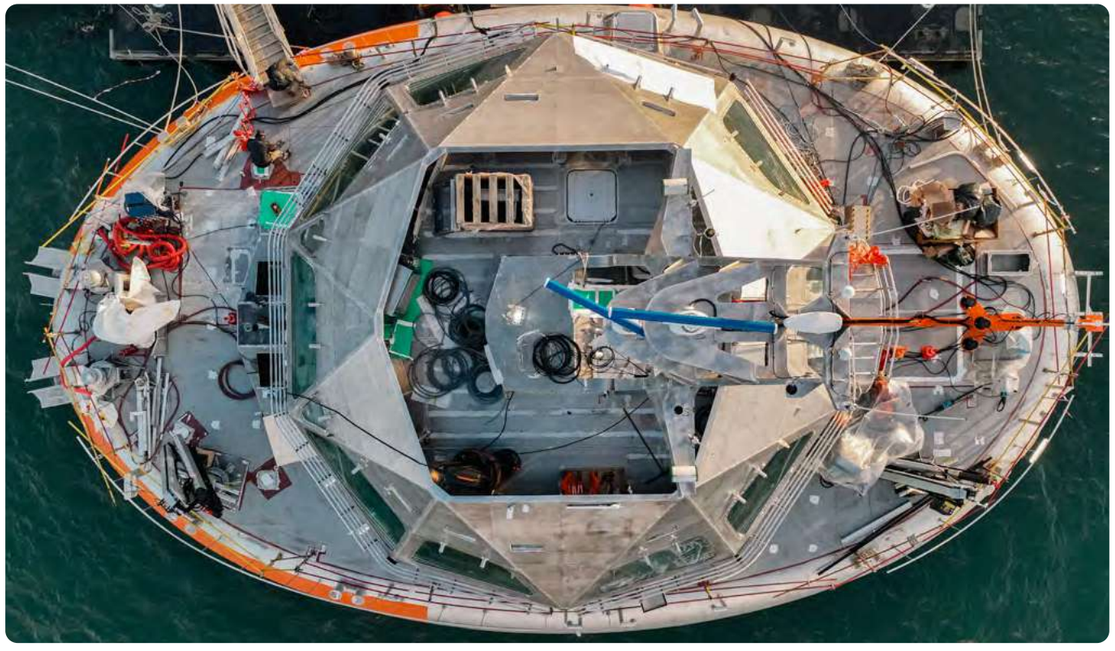
Managing Director
Romain Troublé, as Managing Director of the Tara Ocean Foundation, oversees the foundation's services and ensures its operation. He has the necessary powers to carry out his mission by delegation from the Chairman and the Treasurer. He attends meetings of the Board of Directors and the Executive Committee in an advisory capacity.

General Secretary
Sébastien Ruiz, as Secretary General of the Tara Ocean Foundation, supervises the land team, administers the structure and its general services, and supports the development and deployment of the foundation's social missions in support of the Managing Director. He has the necessary powers to carry out his mission by sub-delegation from the Chairman and the Treasurer. He attends meetings of the Board of Directors and the Executive Committee in an advisory capacity.

Duties of the Board of Directors

Through its deliberations, the Board of Directors regulates the affairs of the foundation.

In particular, the Board of directors:
- decides on the foundation's program of action;
- adopts the report presented annually by the Executive Committee on the foundation's moral and financial situation;
- votes, on proposal from the Executive Committee, on the budget and any amendments thereto, as well as on staffing forecasts;
- receives, discusses and approves the accounts for the financial year just ended, which are presented to it by the Treasurer with supporting documents;
- adopts the rules of procedure on proposal from the Executive Committee;
- accepts donations and bequests and allocates the proceeds and authorizes, apart from day-to-day management, acquisitions and disposals of movable and immovable property, contracts, leases and rental agreements, the creation of mortgages and loans as well as deposits and guarantees granted in the name of the Foundation;
- appoints one or more statutory auditors from the list referred to in article L. 822-1 of the French Commercial Code;
- sets the conditions for the recruitment and remuneration of staff;
- is kept informed by the Chairman of any draft agreement committing the foundation and deliberates on agreements falling within the scope of article L. 612-5 of the Commercial Code; in this case, it decides without the interested party being present.



The Tara Ocean Foundation is supported by two committees: a scientific committee and an educational advisory committee.

The scientific committee
Chris Bowler, CNRS Research Director and since 2010 head of the Environmental and Evolutionary Genomics Section at the Institut de Biologie de l'École normale supérieure (IBENS, CNRS/ENS)
Éric Karsenti, Emeritus Research Director at the CNRS and former Associate Research Director at the EMBL
Françoise Gaill, Director of Research at the CNRS
Gaby Gorsky, Oceanographer
Patrick Wincker, Director of the Genoscope - National Sequencing Centre
Colomban de Vargas, CNRS Research Director at the Roscoff Biological Station
Serge Planes, Scientific Director of the *Tara Pacific* expedition. Serge Planes is CNRS Research Director at the Centre de recherche insulaire et observatoire de l'environnement (CNRS/EPHE/UPVD)

Educational Advisory Committee
Geneviève Baret, UNESCO Associated School
Gérard Bonhoure, Honorary General Inspector of National Education
Florence Clément, ADEME
Monique Dupuis, Honorary General Inspector of Education
Sabine Lavorel, French Institute of Education
Françoise Ribola, Académie de Versailles
Gabrielle Zimmermann, La Main à la Pâte Foundation

Team organization chart

Explore

Scientific Expeditions Team
Planning and coordinating scientific programs; leading expeditions

Team Manager
Clémentine Moulin

Technical Director / Armament
Loïc Vallette

Logistics Team
Aliénor Bourdais
Alix Abautret

Technical Advisor
Jean Collet

Oceanographer
Thomas Linkowski

Volunteer Doctor
Thierry Mansir

Crew
Navigating and collaborating with scientists to carry out protocols

Captains
Samuel Audrain
Léo Boulon
Martin Hertau
Yohann Mucherie

Deck Officer
David Monmarché
Mathieu Oriot
Robin Villion

Cooks
Sophie Bin
Carole Pire
Jérôme Lochen

Boscos
François Aurat

Chief engineers
Dave Picaud
Laurent Rogniaux
Romain Burgos

Administrative and Financial Department
Sustainably manage the foundation's resources

Administrative and Financial Manager
Anne Ghuysen

Administrative Assistant
Marie-Sophie Bienfait

Accountant
Caroline Vergiat

Development Team
Fund raising for the foundation's activities

Head of development
Véronique Vezin

In charge of Philanthropy
Jonathan Achard

In charge of Partnerships
Pierre Mienville

Management
Team coordination, Foundation actions strategy guidance

Chairman
Étienne Bourgois

General Manager
Romain Troublé

General Secretary
Sébastien Ruiz

Share

Education Team
Making ocean science part of the school curriculum

Head of education
Brigitte Sabard

Education platform manager
Pascaline Bourgain

Mission coordinator Plastics through a magnifying glass
Maëla le Picard
Lata Soccalingame

Mission coordinators/teachers
Marine Cornuault
Nolwenn Coïc
Léa Prigent

Advocacy Team
Creating a dialogue to engage policy and preserve life

Head of advocacy
Romy Hentinger

Director of International Affairs
André Abreu de Almeida

Director of Public Affairs, Circular Economy Mission
Henri Bourgeois Costa

In charge of Advocacy and International Cooperation
Martin Alessandrini

Alternate project manager
Eva Matescot

Ocean Literacy Team
Writing a new collective narrative about the Ocean

Head of Ocean Literacy
Myriam Thomas

In charge of Cultural Action and Audience Development
Dalil Benhis-Folliot

Mediation and Events Project Manager
Thomas Larrat

BIOcean5D Mediation Project Manager
Anne-Marie Alleaume

Communications Team
Unite the general public and the media around the Foundation's mission and raise awareness of the major challenges facing the Ocean

Head of communication
Bérengère Roche

Communications and Digital Marketing manager
Déborah Roussel

Communications Team
Camille Lextray
Eva-Salomé Romano

Graphic Designer
Marine Prost
Arthur Billaud

06. The Foundation's carbon footprint

The Tara Ocean Foundation's carbon footprint for 2024 stands at 496 tCO2e (tonnes of CO2 equivalent), an increase of 26 tCO2e compared to 2023. This increase is anecdotal, as the two years of *Tara Europa - TREC expeditions (2023-2024)* were very similar in terms of distance travelled, scientific programme, wind patterns and crew movements.

The bunkering of HVO-100 biofuel was limited to 10% of the bunkering volume (instead of 53% in 2023) due to its price and lack of availability in southern Europe.

This still resulted in a saving of 16 tCO2e. Following the installation of flow meters on the generator boxes of the schooner *Tara* in May 2024, it was possible to confirm that 28% of fuel consumption is dedicated to generators for living and scientific needs on board.

Possible improvements include increasing the use of HVO-100, which reduces emissions by 80%, planning expeditions and running the schooner's engines at a reduced speed of 4 knots in calm conditions, etc.

The *Tara Polar Station* shipyard is starting to generate travel and purchases, but its construction has not been included in the 2024 carbon footprint. Its construction will be added to the carbon footprint for 2025, the year in which construction will be completed.

Thank you to Pierre Gliganic, a volunteer with the Tara Ocean Foundation, for calculating and analysing the annual carbon footprint.

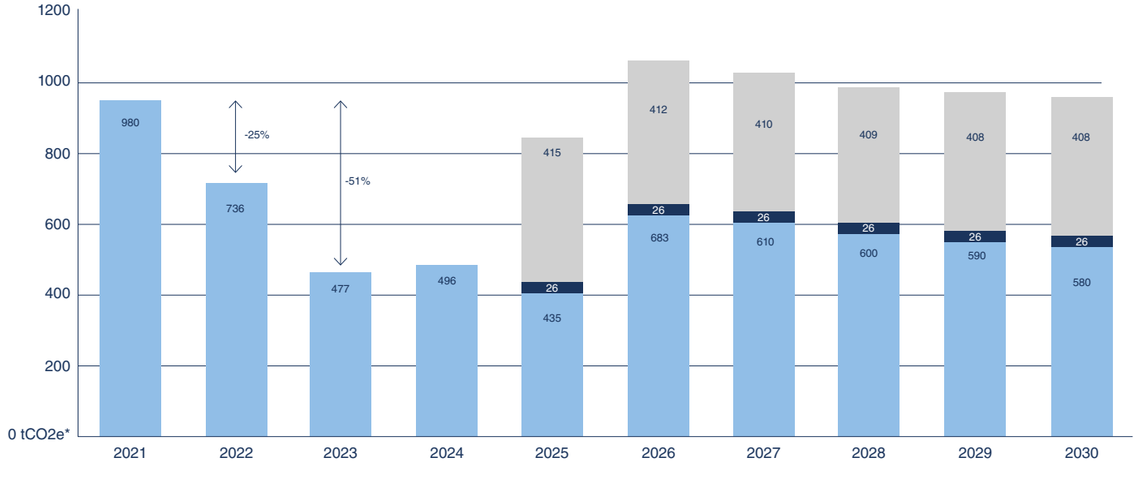
The carbon footprint of the Foundation

GHG emissions

Categories of emissions	Numbers	Emission sources	Total (t CO2e)
1. Direct GHG emissions	1.1	Direct emissions from stationary combustion sources	6
	1.2	Direct emissions from mobile combustion sources	120
	1.3	Direct emissions from non-energy processes	0
	1.4	Direct fugitive emissions	0
	1.5	Emissions from biomass (soil and forests)	
	Sub-total		**126**
2. Indirect emissions associated with energy	2.1	Indirect emissions from electricity consumption	2
	2.2	Indirect emissions linked to the consumption of energy other than electricity	0
	Sub-total		**2**
3. Indirect emissions associated with transport	3.1	Inbound freight	0
	3.2	Outbound freight	0
	3.3	Commuting to work	0
	3.4	Transporting visitors and customers	0
	3.5	Business travel	50
	Sub-total		**50**
4. Indirect emissions associated with products	4.1	Purchases of goods	129
	4.2	Fixed assets	162
	4.3	Waste management	6
	4.4	Upstream leasing assets	0
	4.5	Purchases of services	23
	Sub-total		**319**
5. Indirect emissions associated with products	5.1	Use of products sold	0
	5.2	Downstream leasing assets	0
	5.3	End of life of products sold	0
	5.4	Investments	0
	Sub-total		**0**
6. Other indirect emissions	6.1	Other indirect emissions	0
	Sub-total		**0**
	TOTAL		**496**

Carbon Roadmap 2030

with the action plan drawn up in May 2023



Operation of the schooner *Tara* and associated Foundation activities
Construction of *Tara Polar Station* amortized over 50 years
Operation of the *Tara Polar Station* and associated foundation activities

*tCO2e : tonnes équivalent CO

08. Our 2024 financial report

The accounts for the 2024 financial year were approved by the Board of Directors on 26 June 2025 and have been certified without reservation by our auditors. They reflect the actions presented in this report in accordance with our corporate purpose.

Summary report

ASSETS	Net 2024	Net 2023
FIXED ASSETS	**14 372 497 €**	**9 799 483 €**
Concessions, patents, licenses, trademarks	70 122 €	94 320 €
Plant, machinery and equipment	2 255 902 €	2 326 918 €
Assets under construction	12 011 775 €	7 352 062 €
Other financial assets	34 698 €	26 183 €
CURRENT ASSETS	**12 623 298 €**	**8 221 349 €**
Stocks		
Inventories and work in progress	111 866 €	120 709 €
Receivables		
Trade debtors and related accounts	47 171 €	96 128 €
Other receivables	4 683 681 €	4 556 117 €
Miscellaneous		
Marketable securities	6 074 537 €	1 300 000 €
Cash and cash equivalents	630 401 €	1 168 844 €
Prepaid expenses	1 075 642 €	979 550 €
TOTAL ASSETS	**26 995 795 €**	**18 020 832 €**

LIABILITIES	Net 2024	Net 2023
SHAREHOLDERS' EQUITY	**6 442 248 €**	**3 017 926 €**
Without right of withdrawal		
Statutory equity	1 750 000 €	1 750 000 €
Additional equity	241 246 €	241 246 €
Retained earnings	1 026 680 €	657 485 €
Profit for the year	3 424 322 €	369 195 €
OTHER FUNDS	**9 506 184 €**	**5 723 208 €**
Investment grants	9 506 184 €	5 723 208 €
DEDICATED FUNDS	**5 140 538 €**	**4 737 206 €**
Dedicated funds and funds carried forward	5 140 538 €	4 737 206 €
LIABILITIES	**5 906 825 €**	**4 542 491 €**
Payables to suppliers & related accounts	236 305 €	142 045 €
Tax and social security debts	371 319 €	348 304 €
Other payables	976 622 €	954 897 €
Deferred income	4 322 579 €	3 097 246 €
TOTAL LIABILITIES	26 995 795 **€**	**18 020 832 €**

Key figures

• **€5,857,000 in revenue from public donations** thanks to the support of a new philanthropist.

The Tara Foundation has decided to set aside financial reserves of €3 million.

• **€12,011,000 in fixed assets under construction** for the Tara Polar Station, which will be delivered in April 2025.

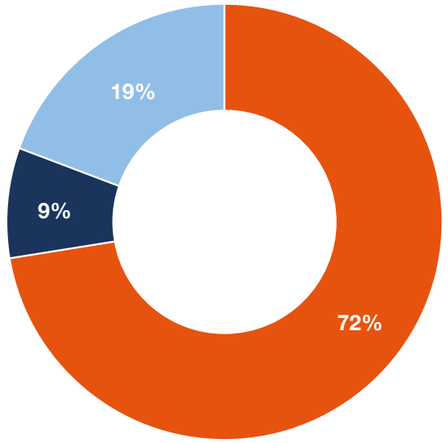
• **Operating subsidies amounted to €665,000.** As a reminder, the significant figure for 2023 was mainly due to FFEM funding of €2,119,000.

Cash and cash equivalents at the end of 2024 amounted to €6,731,000.

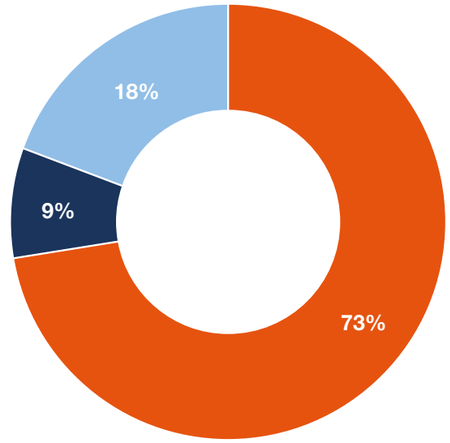
The financial year ended with a funding surplus of €3,424,000.

How our resources are used

Expenses by destination 2023



Expenses by destination 2024



Social missions carried out in France
Fundraising costs
0perating expenses

These charts do not include dedicated funds carried forward or corporation tax

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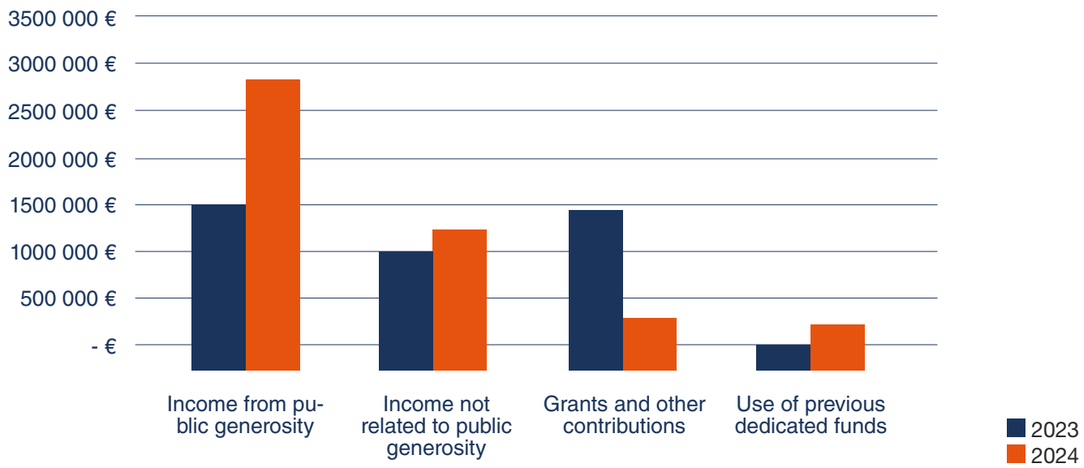
Where our resources come from

Comparison of 2022 and 2023 funding



09. The outlook

The foundation continues to grow, guided by its compass of impact in favour of a living Ocean. From 2025, we will have two ships at sea, each dedicated 100% to expeditions around the world, where knowledge is still lacking — and there are many such areas. With all of our partner research laboratories and numerous coalitions of committed countries, we will contribute as much as possible to the major international initiatives launched in Nice at the third United Nations Conference on Oceans. This conference will make 2025 a particularly decisive year for Ocean governance. We are proud that our country has been able to mobilise its entire diplomatic network, together with Costa Rica, to make it a great success. Never in history have so many heads of state and ministers gathered to focus on the Ocean: this is historic!

With the support of our partners, the foundation's teams will be there to promote this ambition, while remaining attentive to the concrete and ambitious commitments that are essential to our common well-being.

A landmark year for the Ocean, therefore, but in an international context where the value of scientific research is being undermined. Historical databases on climate, meteorology and oceanography are threatened with deletion at the whim of an American election. The country that is home to the world's largest Ocean and environmental research institution, NOAA, is now calling everything into question. A real shockwave in the world of research, this stress test should make us question the geographical distribution of knowledge and data storage in the future. An election, however sovereign it may be, should not jeopardise decades of international research. What safeguards need to be put in place? What place does Europe have in this distribution? And what role can hybrid public-private organisations such as the Tara Ocean Foundation play in the collective resilience needed to repair today and prepare for tomorrow?

The storm warning is clear, but with ever-increasing support, we must persevere in setting sail, for the common good.

Together, let's defend life.
Let's protect the Ocean.

Étienne Bourgois, President
Romain Troublé, Managing Director

Fondation
tara océan
explore and share

www.fondationtaraocean.org