Impact Report
2024

MARE
Madeira

Discover. Inspire. Democratize.

MARE-Madeira Impact Report 2024

Created by

Diane Esson, with support from Patrícia Nunes and Deise Faria and contributions from the entire MARE-Madeira team

Cover images

Rocky reefs: Patrício Ramalhosa
Monk seal: João Monteiro
Blue Startups Workshop: Beatriz Arraiol

Blue Startups Workshop (Academia Azul)

Table of Contents

MARE-Madeira racing in Volta à Cidade do Funchal 2024

Photo credit: Nelson Martins Photography

Director's Note

Dear MARE-Madeira Team, Partners, Sponsors and Friends,

As we close the chapter on 2024, I feel immense pride and gratitude for what we continue to build together. To me, this year was not just about achievements, but about persistence, purpose, and staying true to what we believe in.

Among many highlights, one stands out as a defining milestone for MARE-Madeira: Project TWILIGHTED. For years, we have dreamed of expanding our work on the deep sea — a dream that persisted despite multiple failed funding attempts in the last five years. This year, our persistence finally paid off. Approval by the European Commission for TWILIGHTED and our Kick-off Meeting were incredible moments of validation for what a small institute with limited resources can do.

Participating in the JellyWeb Madeira Cruise led by our German partner GEOMAR in February 2024 added another layer of excellence to our deep-sea ambitions, reinforcing the growing role of MARE-Madeira in international research campaigns.

We also reached new heights in competitive funding. Through the Interreg Atlantic program, we secured three major projects, including one coordinated by Filipe Alves - Atlantic Whale Deal, which represents a proud moment for our team. In addition, we saw five other projects funded under Interreg MAC, which was a team effort that reflects both scientific quality and our alignment with international goals.

On a more personal level, we also took a big leap forward in another long-term dream: the Blue Skills Academy (Academia Azul). With the generous support of Baillie Gifford, we hosted the Academy's first Blue Startups Workshop, engaging local young people in new ocean-related career paths. To me, this was more than a workshop – it was the first brick in our plans to build a transformative educational center for ocean-positive skills in Madeira.

I want to give a special word of thanks to our communication team, which has been doing a tremendous job in increasing MARE-Madeira's visibility. Through creative, engaging content across our social media platforms and website, they have helped bring our science closer to the public, partners, and policymakers. Their work ensures that what we do inside the lab — and out at sea — reaches far beyond our walls and resonates with a wider audience.

Finally, I want to recognize our incredible team. Our people remain the soul of this institution. Behind every paper (62 last year!), every project, and every data point are people with emotions, persistence, and purpose. Every achievement is a shared one, made possible by the dedication of our entire team. Thank you for being part of this journey! I am very proud to be a part of a team that keeps dreaming big, and has the courage and creativity to make those dreams come true.

We Keep Pushing,

João Canning-Clode

Director, MARE-Madeira

Submaris.com

Highlights from 2024

JellyWeb Madeira research cruise

In February, Sonia and Manfred joined the GEOMAR research cruise 'JellyWeb Madeira' aboard the RV Maria S. Merian. This cruise focused on mid-water species such as jellyfish and plankton in Madeira's deep waters.

▶ Our video

Funding successes and support

We secured funding as partners or coordinators in ten additional research projects in 2024, including three INTERREG Atlantic projects, five INTERREG MAC projects, one Horizon Europe project and one 'la Caixa' Fellowship project. We also received new and generous support from private sources for our outreach work, including from Baillie Gifford, the Ma'at Environment Fund and the Edinburgh Ocean Leaders!

Edinburgh Ocean Leaders visit ▶ News coverage

We were honored to welcome the annual Edinburgh Ocean Leaders excursion this year in Madeira! MARE-Madeira Director and 2023 Ocean Leader João Canning-Clode was host to the week's program of tours around MARE-Madeira's labs, Madeira's aquaculture facilities and sustainable hotels Sentido Galomar and Quinta do Furão, as well as meetings with government representatives and conservation teams. We enjoyed sharing our island with this inspiring group of global leaders and learned a lot from their perspectives and questions.
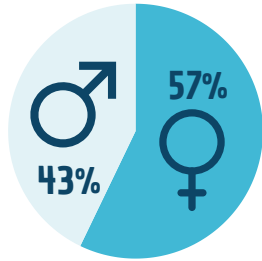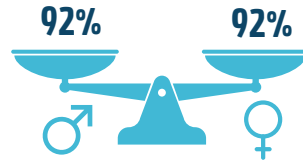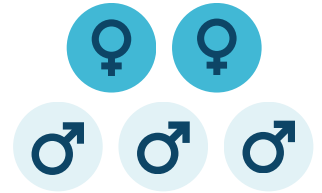
Our people
Madeira

Diversity and Equality

Our 42-person research team is comprised of individuals from 11 different nationalities

11 nationalities

Research Team
43% ♂ / 57% ♀

5-yr Retention Ratio (includes PhD students)
92% / 92%

Leadership Board

Achievements

Eight of our PhD candidates successfully defended their theses in 2024! Congratulations to all!

Youth Ambassadors Catarina and João with photographer Juan Mendes won the 'We, Children of the Ocean' photography competition -- showcased at the UN Ocean Decade Conference!

Dr. Ashlie McIvor
Monk seal population ecology and threats

Dr. Annalisa Sambolino
Phthalates as plastic tracers in pelagic food webs

Dr. Nuno Castro
Marine invasions in a changing world

Dr. Raul Valente
Cetacean evolution and population genomics

'Boomerang'

Dr. Alejandro Bernal
Macroalgae forests' threats and restoration

Dr. Mafalda Freitas
Deep-sea chondrichthyes

Dr. Sahar Chebaane
Trophic interactions and marine invasions

Dr. Juan Sempre
Macrobenthos ecology and coastal development

Director João Canning-Clode was name in the top 2% of most-cited researchers worldwide (Stanford University and Elsevier, 2024)

João Pestana was selected to participate in the MIT Portugal Marine Robotics Summer School!

Our Research

Our research is divided across four core teams. Learn more about these teams in our 2023 Impact Report. Below are some of the highlights from each team in 2024.

CLIMATE CHANGE & HUMAN PRESSURES

LED BY JOÃO CANNING-CLODE & JOÃO MONTEIRO

Three students received PhDs with honors and made significant contributions to marine bioinvasions research: Alejandro, Nuno and Sahar!

2024 was a landmark year for deep-sea research: we began our TWILIGHTED project, published a novel study on mesophotic fouling communities and participated in our first deep-sea cruise, JellyWeb Madeira, led by GEOMAR.

check out these papers from our new doctors!

read our first deep-sea paper

We secured four new research projects: one Horizon Europe (TWILIGHTED) and three INTERREG-MAC (IMPLACOST, ECOMARIS and CIRCULAROCEAN).

These three projects will map and assess impacts of marine litter, coastal erosion and other anthropogenic stressors, aiding marine spatial planning and conservation.

MARINE TECHNOLOGY & AI

LED BY MARKO RADETA

We developed two platforms for mapping underwater biodiversity and the spread of non-indigenous species: Dive Reporter and DeNIS.

We hosted an artist-in-residence, Victoria Evans, supporting her creation of The Whale Whisperer

We designed and installed interactive Dive Reporter stations for 10 local SCUBA centers

We developed and built the following low-cost technologies in 2024:

- Open biotelemetry tags for megafauna monitoring
- Underwater plastic detectors for SCUBA divers
- A modified Azores Drift Cam for deep-sea habitat mapping

MARE
Madeira
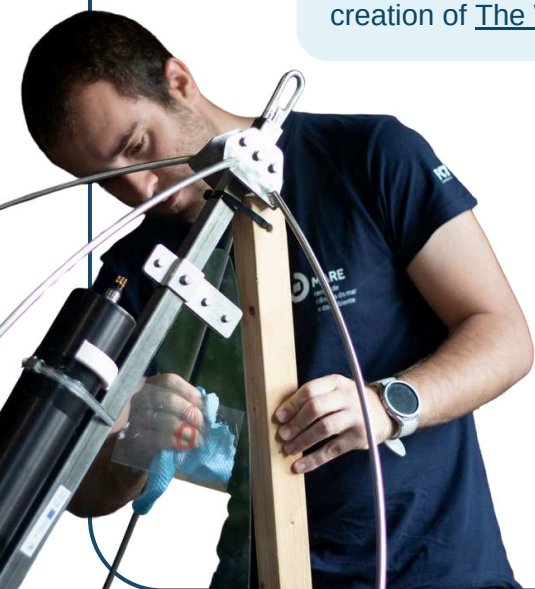
ECOSYSTEM SERVICES & BLUE ECONOMY
LED BY ANA DINIS & CARLOS ANDRADE

Our aquaculture team established hatchery techniques for larval and juvenile production of Madeira's two limpet species and two sea urchins of commercial interest.

For the Marine SABRES project, our ecosystem services team organized two stakeholder workshops (in Madeira and Porto Santo) for coastal management that balances socio-economics with marine conservation.

read our editorial on limpets as living resources!

We organized a 3-day bootcamp in Madeira for invertebrate aquaculture within our AQUAINVERT project, including laboratory sessions and food tasting!

"From publications to developing new methods, 2024 was a year of significant progress for our group. In 2025, expect a continued focus on this work, with increased stakeholder collaboration, and new projects on the horizon."

check out these papers from our new doctors!

MARINE MEGAFAUNA & OPEN OCEAN
LED BY FILIPE ALVES

We celebrated 3 new doctors on our team this year! Ashlie, Annalisa and Raúl all successfully defended their theses in 2024. We also hosted 10 MSc students and interns!

We secured three new project grants in 2024:

- Project BLUE from the FAM Foundation
- Oyster
- Seamphoni

CHANGING SEAS

We contributed to a new Changing Seas documentary about the effect of plastics on megafauna in Madeira. It was a fantastic opportunity to share our work with a professional film crew! We hope it will help us bring Madeira's amazing marine life (and their challenges) to new, global audiences. Keep an eye on Changing Seas for the 2025 release!

Our Projects and Networks

MarineGEO
THE TENNENBAUM MARINE OBSERVATORIES NETWORK
Smithsonian Institution
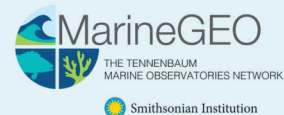
A global network of partners tracking vital signs of coastal marine life and sources of change to inform science-based solutions for coastal resilience.

GAME
GLOBAL APPROACH BY MODULAR EXPERIMENTS

A global education program for young scientists to investigate global coastal changes in a collaborative, modular way.

ACUICONECTA
Collaborative Innovation in Aquaculture

Strengthening the link between research, industry and society to promote sustainable, productive and resilient aquaculture

AQUAFISH

Promoting the innovation and adoption of circular aquaculture approaches for more sustainable seafood production in Europe.

MAC PUFFINUS BESTLIFE 2030

Aiding conservation of the Manx Shearwater by identifying and monitoring nesting areas and raising awareness.

Atlantic Whale Deal

Reducing the occurrence of ship strikes on whales in the Atlantic for the good of cetacean species, wider ocean biodiversity and the planetary carbon cycle.

MARINE SABRES

Improving marine management by designing a user-friendly socioecological framework.

CircularOcean

Integrating marine litter into a more circular economy in the Eastern Mid-Atlantic by sharing regional resources, knowledge and capacities.

MIMA

Comparing the acoustic signatures of plastic and the prey of deep-diving predators, to help design plastic with lower risks of accidental ingestion.

CLIMAREST

Developing a flexible, international toolbox that can monitor and restore coastal habitats and enhance climate resilience in coastal communities.

NATUR-EXT

Identifying renewable biological resources to aid industry, science and technology for a circular economy.

eco maris

Promoting a blue economy and marine sustainability on islands by filling data gaps and aiding decision-making.

TWILIGHTED

Increasing deep-sea research capacity in Madeira and improving global access to deep-sea environments with low-cost tools and methods.

free litter aT
ADVANCING TOWARDS LITTER-FREE ATLANTIC COASTAL COMMUNITIES BY PREVENTING AND REDUCING MACRO AND MICRO LITTER

Freeing coastal communities of marine litter by identifying its sources and using innovative ways to detect and clean it.

IMPLACOST

Assessing the impact and risks of climate change on coasts in Macaronesia and creating warning systems.

Our Growth

Year	Publications	Researchers	Collaborators	PhD students*
2014	6	2	6	
2015	11	4	7	
2016	14	5	7	
2017	18	7	7	2
2018	33	13	9	3
2019	35	14	14	8
2020	40	15	18	9
2021	61	17	19	12
2022	44	20	21	12
2023	67	23	23	13
2024	68	26	23	13

31% per annum

● Publications ■ Researchers ■ Collaborators □ PhD students*

*Note: in other calculations of researchers in this report, we include our PhD students as part of our research team. We separate in this graph only to illustrate our commitment to training early career researchers.

The last ten years of MARE-Madeira's history has not only seen rapid growth in our number of researchers and active collaborators, but also high productivity: our number of peer-reviewed publications has increased at 31% per annum, in-step with (actually a bit faster than) our annual headcount growth of 26%. We're also proud that our team continues to prioritize mentorship, with growth in PhD supervision mirroring the growth in our more experienced team members.

2013 — — — **2017** — — — **2019** — — — **2023** — — — **2024** — — →

Canning-Clode Marine Lab Founded

Become MarineGEO's European Observatory

MarineGEO
THE TENNENBAUM MARINE OBSERVATORIES NETWORK
Smithsonian Institution

Join MARE family; hosted by ARDITI

MARE

'Plasticrusts' research on CNN & Sky News

Canning-Clode named Ocean Leader

Edinburgh OCEAN LEADERS

Youth Ambassador program begins

Begin deep-sea program

First Academia Azul workshop

Going international

MARE-Madeira research into plasticrusts was filmed for a new <u>ARTE</u> documentary, yet to be released. João Canning-Clode and Sabine Rech were interviewed for the production.

Our research into the impact of plastic on marine megafauna and ecosystems is the focus of a new <u>Changing Seas</u> documentary, due to be released in Summer 2025. Changing Seas is a public television series produced by South Florida PBS (USA) that has been showcasing important marine research around the world since 2009.

22 Science conferences
   17 PRESENTATIONS
   26 POSTERS

Sharing our science

WITH GLOBAL AUDIENCES

Director João Canning-Clode was invited to give four panel discussions at three internationally-respected conferences in 2024: the <u>UN Ocean Decade Conference</u>, the <u>Mirpuri Foundation Conservation Forum</u> and <u>Monaco Ocean Week</u>.

7 General conferences
   8 PRESENTATIONS

Our Marine Megafauna team at the 35th European Cetacean Society Conference

Keeping it local
Connecting with our community

Bringing citizens and researchers together to talk science

Bilhardar Ciência

2024 marked the beginning of our monthly science talks, Bilhardar Ciência, where scientists and members of the public come together to talk science! **We held five conversations between June and December**, with short talks covering topics such as monitoring marine life in the age of the internet, microplastics in Madeira's marine environment, and the conservation of the European eel.

Thank you to all the community members who have come out to these events! Your interest and questions make them fun!

In October, we kicked off our new deep-sea capacity building project, TWILIGHTED, in Funchal, Madeira. With our partners at GEOMAR and NTNU and local collaborators, we held a public session with talks showcasing deep-sea research in Madeira and beyond.

▶ News coverage

TWILIGHTED Kick-off Meeting

Sharing our efforts to build deep-sea research capacity in Madeira with our local and international partners

School visits

Our researchers delivered

37 School lectures

at primary and secondary schools across Madeira

11 University courses

at the University of Madeira

Our Impact
on Science

68 MARE-Madeira Publications

62 JOURNAL ARTICLES
4 BOOK CHAPTERS
2 BOOKS

84% Open access

3.6 Impact factor mean
0.6 - 10.8 Impact factor range

43 Integrated team* publications

€19K FUNDING PER PUBLICATION

1.02 PUBLICATIONS PER RESEARCHER

excluding our collaborators, to show impact based on funding

Peer-reviewed publications remain the best measure of our commitment to high-quality, high-integrity science that seeks to advance knowledge of aquatic life; the myriad benefits of and threats to ocean ecosystems; and how we can ensure more sustainable interactions with our ocean into the future. In 2024, **our publications received an additional 1,897 citations**, demonstrating the on-going value of our work to the international scientific community.

We have selected a few publications to highlight on the following pages. We believe these publications showcase the versatility of our expertise and research approaches in Madeira, the range of our impact and our creativity in low-cost innovations.

Find all our publications on **our website**

5 year total **280** Publications
6,792 Citations

See Appendix I for more details on our impact on science. For an explanation of the metrics we use to quantify our impact on science, please refer to our 2023 Impact Report.

Publications
Select

1.

Abramic A., et al (2024). Site selection within the maritime spatial planning: Insights from use-cases on aquaculture, offshore wind energy and aggregates extraction. *Ocean & Coastal Management* 251. **DOI**

*This study proposes a new method to identify **sustainable development sites** for maritime activities, considering nature conservation, environmental impact and other maritime activities.*

2.

Castejón D., Sousa P., Andrade C.A.P. (2024). Specific settlement strategies for two exploited limpet species (*Patella aspera* and *P. ordinaria*) using coralline algae and conditioned seawater. *Aquaculture* 593. **DOI**

*Crustose coralline algae are strong settlement inducers for two types of exploited limpets. This study successfully tested a new settlement inducing method, which may enable **large-scale production of juvenile limpets** for restocking or commercial production.*
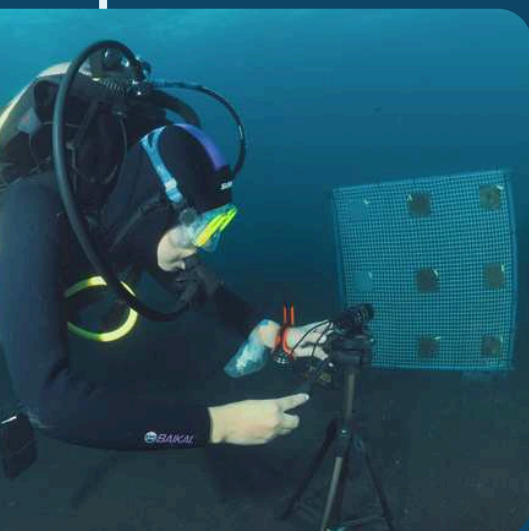

Juvenile limpet

3.

***Plastic additives,** such as phthalates, can have detrimental impacts on marine organisms and ecosystem health. In this study we examined fatty acid profiles and phthalates in blubber biopsies of free-ranging individuals from short-finned pilot whales and common bottlenose dolphins off Madeira.*

Sambolino, A., et al (2024). Phthalates and fatty acid markers in free-ranging cetaceans from an insular oceanic region: ecological niches as drivers of contamination. *Environmental Pollution* 360:124693. **DOI**

4.

Chebaane, S., et al (2024). Exploring foraging preference of local fish species towards non-indigenous fouling communities near marinas: Insights from Remote Video Foraging System (RVFS) trials. *Marine Pollution Bulletin* 198:115871. **DOI**

*This study explores the **effect of indigenous fish feeding behavior on non-indigenous species**, using settling plates. It also introduces a framework for using RVFS in in-situ experiments, which can be combined with metabarcoding and isotopic analysis to confirm consumption patterns.*

5.

Canning-Clode, J. and Esson, D. (2024). A beacon for deep-sea research. Spotlight on Madeira: *Oceanographic Magazine*, 34-35. ISSN: 2516-5941

oceanographic™

*In this general public magazine article, we share why Madeira is a special place for deep-sea research. We share **our vision for a global deep-sea research hub in Madeira** and the steps we're taking to get there.*

6.

*Our 24-month experiment in the deep waters of Madeira investigated factors influencing **macrobenthic communities in the mesophotic zone**. Long-term studies such as this aren't very common in deep-sea research due to challenges of access.*

Canning-Clode, J., et al (2024). A pioneering longterm experiment on mesophotic macrofouling communities in the North Atlantic. *Commun Biol* 7, 1618. **DOI**

7.

Escánez, A., et al (2024). Isotope-based inferences of the trophic niche of short-finned pilot whales in the Webbnesia. *Marine Environmental Research* 201:106700. **DOI**

*Predator-prey interactions** are key to understanding ecosystem function. In this study, we analyzed stable isotope ratios of the short-finned pilot whale to gain insights into the predator-prey interactions and foraging habitats of this deep-diving species.*

Rita Ferreira

8.

Radeta, M., et al (2024). TRITON - Open Telemetry and Location Estimation for Marine Monitoring Based on IoT and LoRa. IEEE *Journal of Oceanic Engineering* 99: 1-15. **DOI**

*We developed an **open biotelemetry tag** using radio and coastal receivers for marine megafauna, with an average georeferencing error of 500m when estimating the tag position at the sea surface for recapture.*

9.

Radeta, M., et al (2024). Man and the Machine: Effects of AI-assisted Human Labeling on Interactive Annotation of Real-Time Video Streams. *ACM Transactions on Interactive Intelligent Systems*, 14(2), 1-22. **DOI**

*We developed an **AI-assisted video annotation** platform for marine biodiversity footage. Using 50,000 images and 34 annotators, we find that AI-assisted models benefit non-experts annotators most, as well as domain experts when target species are only partially or briefly visible.*
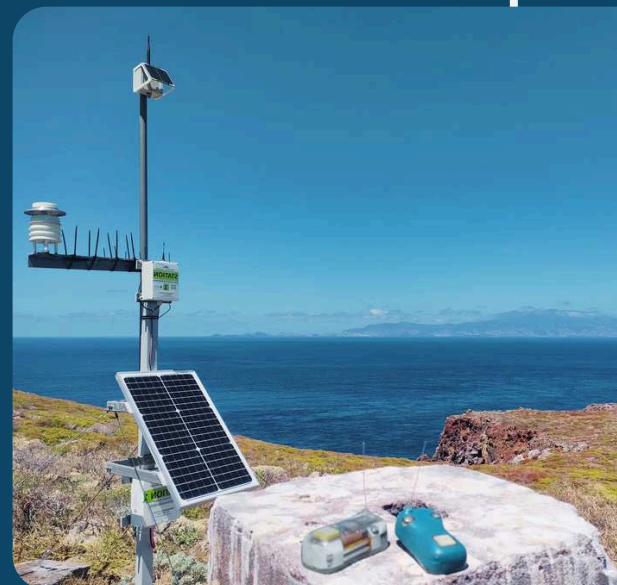
Our Impact
on Ocean Literacy

We continue to strengthen our commitment to ocean literacy by collaborating with schools, associations, and other institutions to host a wide range of ocean education activities.

Echo-Madeira Nature Fest

CLIMAREST VR Dive

Macaronight 2024

81 Outreach and education activities

2,000+ Citizens engaged

III Encontro de Universitários Madeirenses

Outreach activity highlights include our Ciência Viva no Verão event, 'Expedição Submarina, **introducing young people to snorkelling**; MARDIVE, where we shared **our new VR diving experience**, developed in CLIMAREST; and The Ocean Hike beach cleans with the **Trash Traveler**!

8,363 Social media followers
across all platforms

Supporting future scientists

217 Podcast streams
totalling 44 consumption hours

Summer Camp do Garachico

42 Students mentored

15 INTEGRATED

17 INTERNS

10 THESIS SUPERVISIONS

7 Youth ambassadors

See Appendix II for more details on our impact on ocean literacy

Lar Intergeracional da Santissima Trindade da Tabua

Youth Ambassadors
Learning with and from the Next Generation

Catarina   João   Martim   Joana   Catarina   Matilde   Sara

2024

MARCH
Our Youth Ambassadors started the year with a **beach cleanup** at Praia Formosa

APRIL
Catarina and João won the 'We, Children of the Ocean', **UN Ocean Decade photography competition**

Catarina tested the knowledge of Madeiran locals and visitors about the ocean in **street interviews**

Catarina and Martim rocking their fishing waders.

JULY
Catarina and João helped in the making of '**Aquakit - Hands-on marine science for schools**'

Our Youth Ambassadors organized another **beach cleanup**!

Martim and Catarina joined our freshwater team for a day **researching eels** in the streams of Madeira

Learn more on our website

The MARE-Madeira Youth Ambassadors program is generously supported by the Ma'at Environment Fund and the Edinburgh Ocean Leaders

Introducing
The Blue Skills Academy

Lighting the way to

2-3 SEPT 2024

Blue Startups Workshop

The Blue Skills Academy ('Academia Azul') is a MARE-Madeira initiative to equip young people with practical skills for ocean-positive careers. The Blue Startups Workshop was the first in a series of annual workshops, wherein we're developing the training modules for the full academy program.
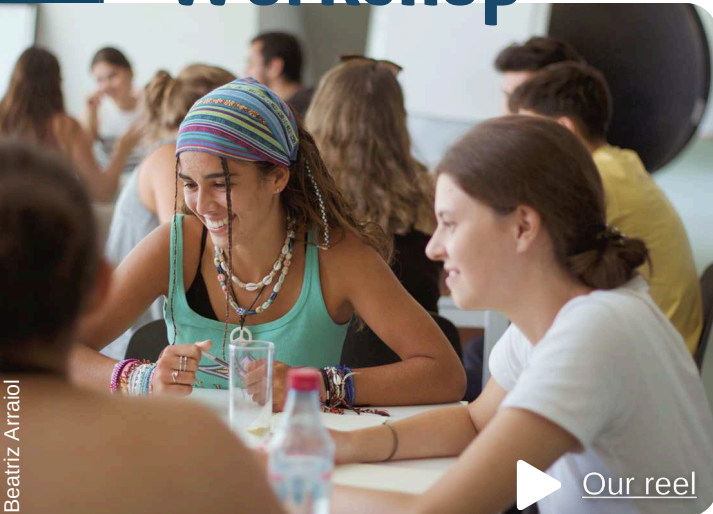
25 Young people
A G E D   1 6 - 3 0

10 Mentors from

11 Partner organizations

Beatriz Arraiol

▶ Our reel

From our participants

"The knowledge gained at this event gives me more confidence to start a business."

"I've always seen failure as something to be avoided at all costs, but the speakers reinforced that making mistakes is part of the process of growth and innovation."

Learn more on
our website

▶ News coverage

in partnership with

SOA SUSTAINABLE OCEAN ALLIANCE   and   **startup madeira**

with support from Baillie Gifford and FCT

an ocean of opportunities

Supported by
Baillie Gifford™

Our Impact
on the SDGs

Our research and outreach projects directly support the following UN Sustainable Development Goals (SDGs) and targets:

14 LIFE BELOW WATER

14.8 Increase scientific knowledge, research and technology for ocean health.

Supported by all research projects

17 PARTNERSHIPS FOR THE GOALS

17.6 Enhance international cooperation on and access to science, technology and innovation and enhance knowledge sharing

All international projects, panels, committees, conferences, events, partnerships. Involvement in Edinburgh Ocean Leaders program

13 CLIMATE ACTION

13.1 Strengthen resilience to climate change
CLIMAREST project, MarineGEO network projects, non-indigenous species monitoring

13.3 Raise awareness on climate change
Presentations at schools and international conferences

11 SUSTAINABLE CITIES AND COMMUNITIES

11.4 Safeguard cultural and natural heritage
Climarest research to restore marine forests, whale conservation research

11.6 Reduce environmental impacts of cities
Marine litter research and beach clean-ups

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

9.5 Enhance scientific research in all countries
Innovation within low-cost aquatic research methods and technologies

4 QUALITY EDUCATION

4.4 Increase skills for employment
Student mentoring and training, Academia Azul

4.7 Increase skills for sustainable development
MARE-Madeira Youth Ambassadors, Academia Azul

Obrigado
Thank you!

Thank you to all of our partners for joining us as we work to increase knowledge, understanding and care of aquatic ecosystems. Everything we do is a team effort, and we are grateful to everyone and every organization that is part of this team.

Our partnerships across institutes and areas of expertise help us expand our collective research efforts and impact – thank you for choosing to work alongside us.

Our relationships with local stakeholders and members of the public help us translate our research into meaningful action – thank you for valuing local, independent science.

And **our funding partners** make everything you read in this report possible. To the National Science Foundation of Portugal (**FCT**), the Aquatic Research Network (**ARNET**), the governments of **Portugal** and **Madeira**, the **European Commission**, Associação Oceano Atlântico (**AOA**), **Baillie Gifford**, the **Ma'at Environment Fund**, the **Edinburgh Ocean Leaders** and **Thomas and Astrid Preuss** (Lutz-Peter Schäfer) -- thank you so much for believing in the power of non-profit aquatic research and for trusting our team to do it well. Here's to another year of exploring the ocean for the benefit of our communities, wider society and the pursuit of knowledge!

With gratitude,   **The MARE-Madeira team**

Ways to
stay engaged

Follow us on social media:

- :camera: mare_madeira
- :briefcase: mare-madeira
- :f: mare.madeira
- :arrow_forward: maremadeira
- :bird: mare_madeira
- :musical_note: maremadeira
- :butterfly: maremadeira.bsky.social

Read **our blog** or check out **our art gallery** on our website

mare-madeira.pt

Listen to our
MARE-Madeira Aquatic Research Podcast

Our Team

MARE Madeira

Marisa Gouveia

Sílvia Almeida

Soledad Álvarez

Filipe Alves

Carlos Andrade

Alejandro Bernal-Ibáñez

Sara Bettencourt

Andreia Braga-Henriques

Patrícia Nunes

Nuno Castro

João Canning-Clode

Sahar Chebanne

Sónia Costa

Ana Dinis

Dinarte Vieira

Diane Esson

Marc Fernández

Rita Ferreira

Rúben Freitas

Sonia Gueroun

Eva Iñiguez

Manfred Kaufmann

Diego Castejón

João Monteiro

Inês Órfão

Paola Parretti

João Pestana

André Almeida

Marko Radeta

Patrício Ramalhosa

Laura Redaelli

Annalisa Sambolino

Susanne Schäfer

Raquel Alves

Rodrigo Silva

Mieke Weyn

Sabine Rech

Laura Piazzese
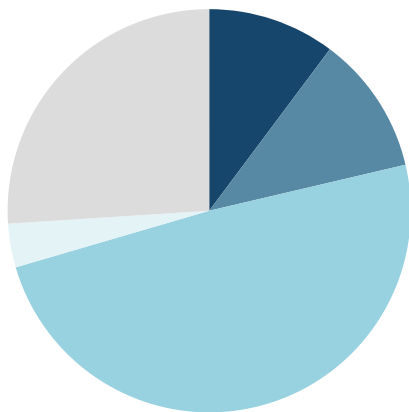
Moritz Klaassen

Mafalda Freitas

Eliette Hamard

Hervé Vela

Our Funding

Sources

Base funding (FCT)	€136,217	10%
Short-term project funding (PT)	€148,324	11%
Short-term project funding (EU)	€655,419	49%
Donations	€46,787	4%
External human resource funding	€347,103	26%

Total funding* €1,333,850

* Using an accrual method such that lump-sum, multi-year project and fellowship funding and donations are smoothed over the course of the contracted project or researcher tenure. This year we separated external HR funding from short-term project funding to separate individuals' fellowships from MARE-Madeira projects

In 2024, **10% of our annual funding was base-level funding** covered by the Portuguese National Science Foundation (FCT). The FCT's base-level funding was awarded to MARE for being an institute of 'Excellence' and was distributed between MARE's seven regional units. This is the highest designation possible for a research and development (R&D) institute.

The majority of our funding continues to be short-term project funding (60%), secured through applications to competitive national or EU grants. Most of our external human resourcing (26% of funding) is from short-term fellowships secured from competitive regional, national or international calls. Note that this funding goes directly to our researchers and therefore isn't technically received by MARE-Madeira, but we include it to more accurately represent the costs of conducting our research.

We also received **generous support from private donors:** Associação Oceano Atlântico, Baillie Gifford, the Ma'at Environment Fund, Edinburgh Ocean Leaders and Thomas and Astrid Preuss. This support greatly increases the range of activities and impact we can achieve and we are very thankful to these organizations and individuals.

75% Research team
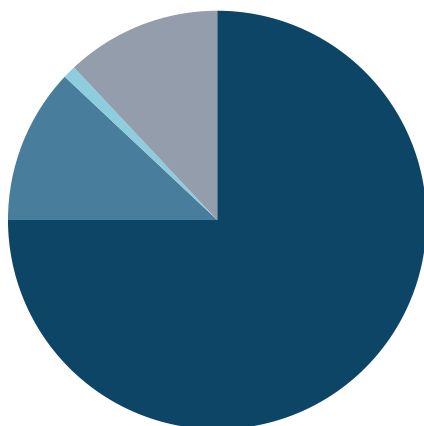Salaries (from projects or fellowships)

17% Research
Laboratory facilities, research expenses, travel

1% Communication
Outreach, engagement

12% Support costs
Office facilities, finance, IT, legal

Uses

Our funding is primarily used to cover human resourcing expenses, which accounted for 75% of our available funding in 2024. The remainder was used for research (17%), communication (1%) and ARDITI support costs, which go towards governance and administrative expenses.

Appendix I Our impact on science

Table 1. MARE-Madeira publications and impact in 2024

	Journal articles	Book chapters	Books	Total publications	Average IF (all)**	Open access	% Open access	Average IF (open)**
MARE-Madeira publications*	62	4	2	68	3.6	52	84%	3.4
Publications by MARE-Madeira researchers	43	4	2	49	3.5	37	86%	3.5

*MARE-Madeira cited in paper
**Impact factor (IF) of journal articles (books aren't measured by IF)

Table 2. Standardized impacts of MARE-Madeira integrated researchers and institutional funding in 2024

MARE-Madeira researchers	Publications	Publications per researcher	Funding	Funding per publication
42	43	1.05	€1,333,850	€19,620

Table 3. Standardized impacts of MARE-Madeira publications over the last 5 years

	2020	2021	2022	2023	2024	5-year total
MARE-Madeira publications*	40	61	44	67	68	**280**
Researchers + collaborators	42	48	53	59	65	**53 (avg)**
Publication/ researcher	0.95	1.27	0.83	1.15	1.05	**1.05 (avg)**
MARE-Madeira Citations*	572	1,018	1,200	1,540	1,897	**6,227**
Funding (in 1,000s)**	€672	€937	€1,218	€1,631	€1,334	**€5,792**
Citation per €1k funding	0.85	1.09	0.99	0.94	1.42	**1.08**

*MARE-Madeira cited in paper; source: Google Scholar
**Lump-sum project funding is smoothed over the course of the contracted project period

Note: backwards-looking funding has been adjusted to include a project that was missing in the 2023 Impact Report calculations

Appendix II   Our impact on education and ocean literacy

Table 4. MARE-Madeira science communications in 2024

	Events organized	Events attended	Presentations given	Posters presented
Science conferences & workshops	4	22	17	26
General conferences & workshops	1	7	8	0

Table 5. Education and outreach activities in 2024

	Outreach activities	School lectures	University courses	Total
Activities delivered	33	37	11	**81**
People reached	1,010	>1,000	80	**2,100**

Table 6. Students or recent graduates mentored in 2024 by education level

High school	Bachelor's	Master's	PhD	Total
3	8	14	17	42

Table 7. Students or recent graduates mentored in 2024 by degree of integration

MARE-Madeira researcher	Internship	Thesis supervision
15	17	10

Table 8. Social media presence 2024

	f	⊙	⤵	in	▶	♪	●
Profile since	2013	2021	2015	2023	2023	2023	2024
Followers	4,207	1,784	993	1,263	31	32	53
% growth from 2023	3%	47%	8%	100%	138%	256%	N/A