IMPACT REPORT
2022-2023

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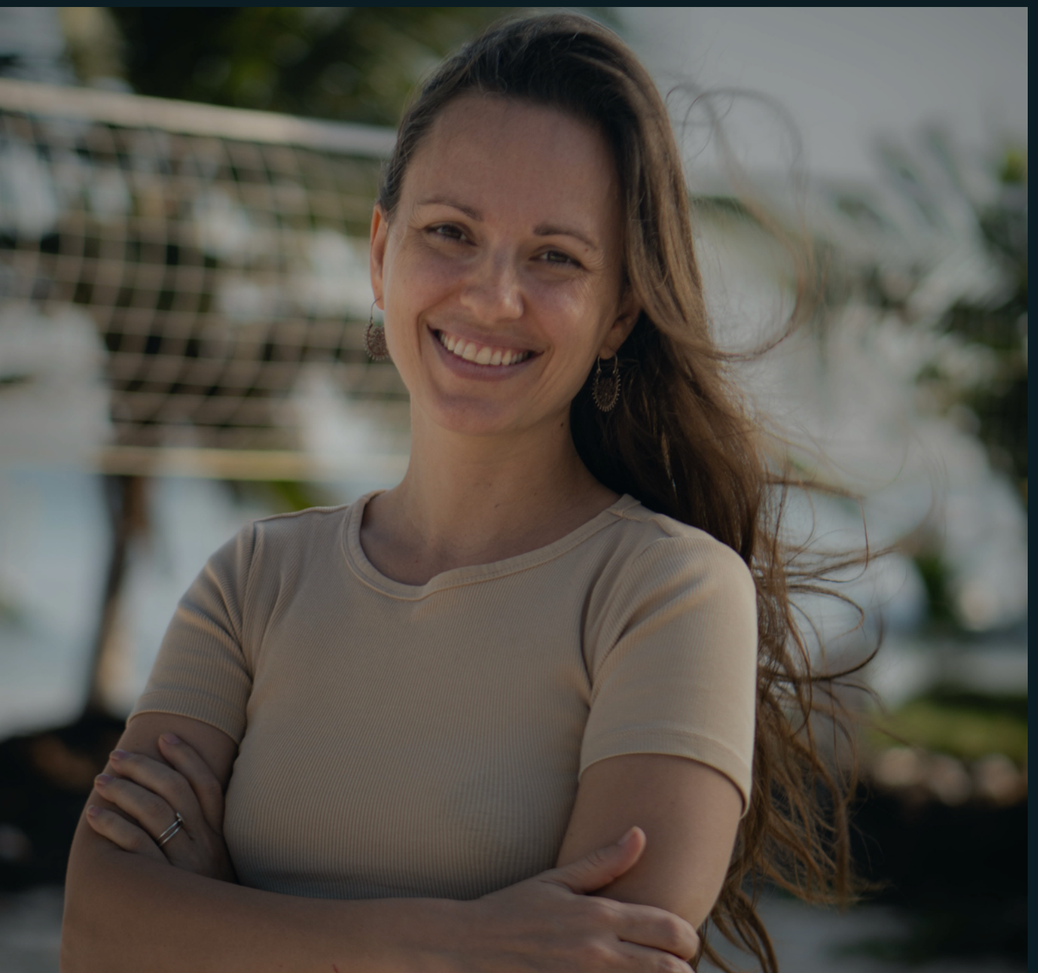
MEET OUR DIRECTOR

Cassiopea Carrier Doneys



“Mahahual is a hidden gem, a place full of nature, and vibrant biodiversity that captivates all who set foot in this haven. Whether engaging in tourism or fishing, every activity is intricately linked to the delicate balance of its natural wonders. Since the establishment of a cruise port in 2000, Mahahual has undergone rapid transformation, facing challenges to its marine biodiversity. In 2016, MARES was founded with a vision: to transform Mahahual into an ecotourism destination, fostering sustainable development while preserving its unique ecosystems. Over the past years, our programs have focused on conserving nature, protecting biodiversity, and involving the local community.

As we present our 2022-2023 activity report, we want to thank those, near and far, who contributed to the ongoing journey of shaping a sustainable future for Mahahual. Together, we continue preserving this precious paradise for generations to come”

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MARINE RESILIENCE & SUSTAINABILITY CENTER (MARES)

Restoring Nature while Empowering Communities

Our Mission

Protecting marine biodiversity through education, research and conservation

Our Vision

Creating a sustainable community to ensure the future of our oceans

About Us

Since 2016, our Research Center has worked to restore the biodiversity of the Caribbean Sea at a time when urgent action is needed. MARES Center, previously Takata Research Center, is an NGO specializing in marine ecology, sustainable coastal management, and public awareness. Our organization ensures that its work is based on effective collaboration with the local community and government

OUR LOCATION

Mahahual is one of the last hidden gems of the Caribbean. The coral reef, mangrove, seagrass, and coastal dunes are habitats for an incredible array of biodiversity

The modest size of the village, the richness of its ecosystems as well as economy based on tourism make Mahahual the perfect place for this much-needed green shift

It’s possible that this little locality initially destined to undergo aggressive development like the rest of the Mexican Caribbean, is developed responsibly for its local population and its ecosystems. Ecotourism, the valorization of local culture and nature conservation can replace mass tourism as the basis of the economy. Now is the perfect time to boost nature protection and responsible development as a driver of the local economy

OUR GOALS

1 Conservation of biodiversity

- Contribute to the protection of biodiversity and endangered species
- Implement environmental characterizations and biodiversity inventories in the territory to improve knowledge of the state of its conservation

2 Restoration of key ecosystems

- Establish projects to restore the coastal-marine ecosystems of Mahahual: mangrove, coastal dunes, and coral reef
- Work with local and foreign people to protect, restore and improve Mahahual's coastal-marine ecosystems

3 Education and environmental awareness

- Raise awareness about biodiversity and the importance of coastal ecosystems
- Sensitize people, youth, and visitors to the fragility of ecosystems and the importance of preserving them

4 Implementation of sustainable coastal development

- Act as positive leaders in development decisions
- Offer our expertise in environmental management and sustainable development
- Participate in constructive partnerships with the community, business sector, and government

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2500

CORALS OUTPLANTED

SINCE 2021

1000 CORALS OUTPLANTED

YEAR 2022 - 2023

ACHIEVEMENTS

CONSERVATION OF NATURAL HABITATS

- Cleaning natural environments, beaches, and diving sites
- Establishing the coral reef conservation program, and the mangrove and dunes conservation program

MONITORING

- Reef monitoring for benthos, corals, fish, and megafauna
- Monitoring seagrass prairies and associated species
- Mangrove forests and associated species monitoring

TRAINING AND ACCOMPANIMENT FOR LOCAL BUSINESSES

- Creating an Eco-Responsibility Guide and Eco-Mahahual Certification
- Supporting companies in eco-friendly transitions through guidance and training for managers and employees

HABITAT CHARACTERIZATION

- Mapping 12 km of coastline, including coral reefs, seagrass meadows, and mangrove forests
- Mapping the hydrology of the territory
- Comparing vegetation cover in the area between 2000 and 2019

EDUCATING THE LOCAL AND FOREIGN POPULATIONS

- Regular environmental education for the public and in Mahahual schools
- Creating and participating in community environmental education activities
- Organizing an environmental festival with workshops, talks, and social media outreach

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WASTE MANAGEMENT

- Participating in street cleaning
- Implementing a community and business recycling program
- Setting up transportation for recycled materials
- Organizing waste separation events

MOBILIZATION & INCLUSION

- Organizing the Eco-Mahahual and Healthy Urbanism Campaigns
- Working with the local ocean conservationist group the “Restauradores”
- Job creation for people in the community

COLLABORATION

- Collaborating with government, local and foreign universities, international organizations, researchers, and research centers

RESTORATION

- Establishing a coral restoration program with 4 underwater nurseries, ongoing monitoring, and a 5-year restoration plan

PROGRAMS & RESULTS

CORAL REEF CONSERVATION

- Coral monitoring
- Coral restoration

MANGROVE & DUNES CONSERVATION

- Mangrove & dunes monitoring
- Mangrove & dunes restoration

SOCIAL STUDIES

- Social perception of the environment

EDUCATION & CAPACITY BUILDING

- Environmental education

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CORAL RESTORATION RESULTS

Objective	Restore 10,000m2 of degraded coral reef and its biodiversity in Mahahual in 5 years
Results 2022-2023	Asexual restoration, 1000 outplanted coral fragments of ACER & APAL, transplant monitoring twice a year, 51.2% survival rate, mother colony monitoring, mother colony genotype analysis, 4 nurseries, sexual restoration planning
Previous results	1500 coral outplanted, asexual restoration 5 year plan, fragment monitoring, transplant monitoring
Coming next	Mahahual Marine Restoration Lab, sexual reproduction web lab, restoration of 6 coral species, herbivore reintroduction, coral reef resilience plan

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“RESTAURADORES”

The “Restauradores” (restorers) are a group of passionate ocean advocates dedicated to marine conservation. They work hand in hand with the brilliant biologists at the MARES Center to protect our precious oceans. They meticulously clean the coral nurseries, and help outplant the coral fragments, playing a crucial role in regenerating our fragile coral reef

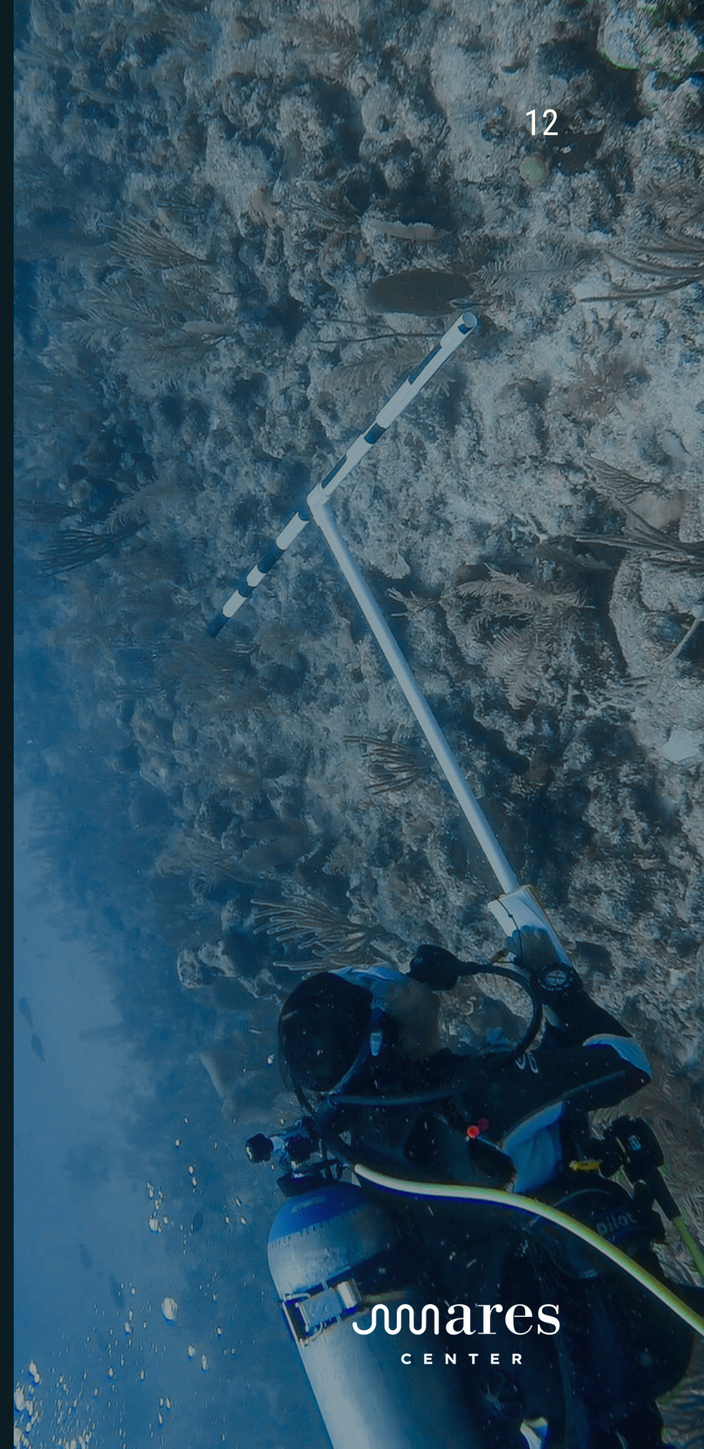
But they're more than just coral caretakers, they're the ambassadors of the sea. Our biologists lead educational workshops that not only impart knowledge but also ignite a strong dedication to ocean advocacy. This transformative experience empowers the “Restauradores” to raise awareness and be catalysts for change within our local community

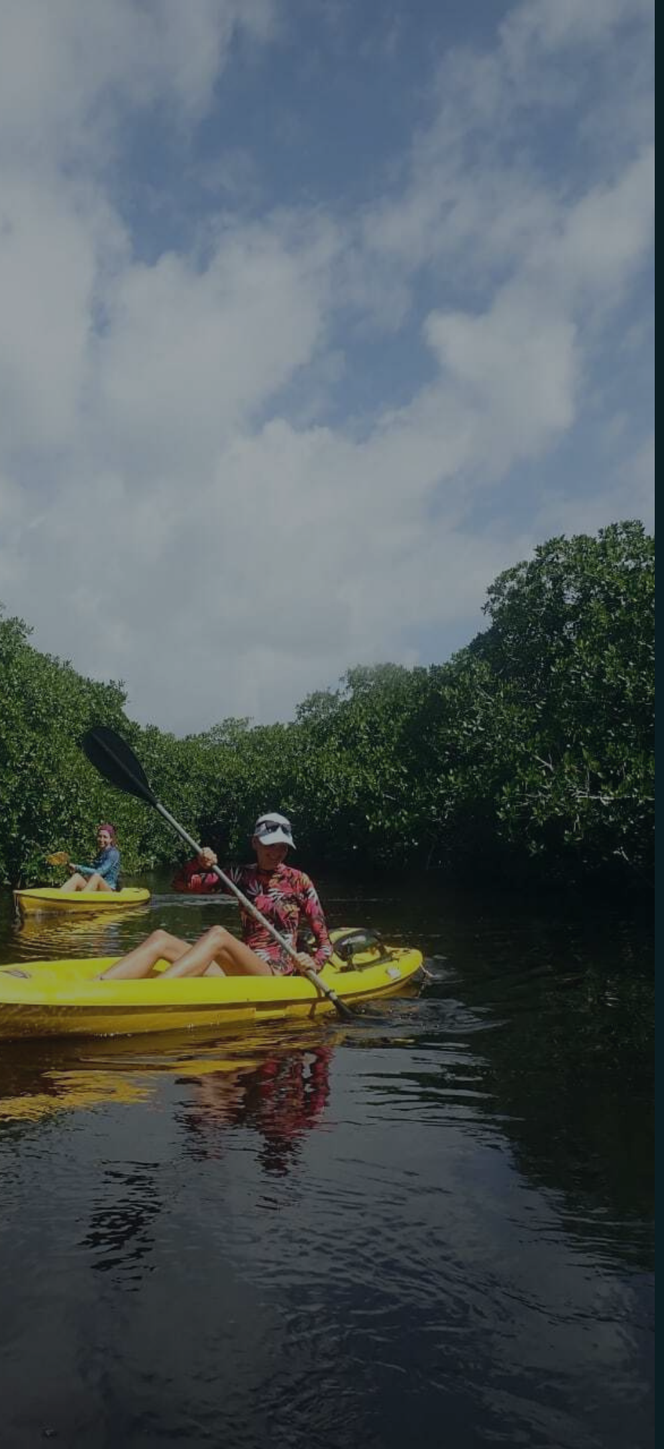
2022-2023 RESULTS:

100 coral nurseries outings
50 coral transplant outings
30 transplant monitoring outings
Over 50 people participating

REEF MONITORING RESULTS

Objective	Monitor reef dynamics and biodiversity to understand the causes of reef degradation
Results 2022-2023	AGRRA monitoring once a year, BRUVS 4 times a year, rays in lagoon monitoring twice a year, photo ID continuous program
Previous results	AGRRA, BRUVS, Rays in lagoon, photo ID
Coming next	Published results in scientific papers





MANGROVE & DUNES RESTORATION RESULTS

Objective	To restore 5 hectares of mangrove forests and dunes in 5 years by restoring the coast hydrology and by reforesting
Results 2022-2023	Study and selection of restoration area
Previous results	Development of a mangrove restoration action plan
Coming next	Conduct forensic studies of the restoration area, conduct restoration activities, which includes desilting of water passages, primary channels building, and reforestation if necessary

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MANGROVE & DUNES MONITORING RESULTS

Objective	Monitor and characterize mangrove and dunes to better understand the conservation state of these ecosystems and their value for the community
Results 2022-2023	Monitoring of mangrove seedling growth
Previous results	Creation of 3 maps: mangrove forest area, vegetation cover, topography and hydrology modelling. Study of the economic value of the mangrove of Mahahual. 2 different mangrove biodiversity monitoring and vegetation cover characterization. 2 different monitoring of the local turtle population nesting on the dunes
Coming next	Pilot project of Mahahual costal dunes restoration

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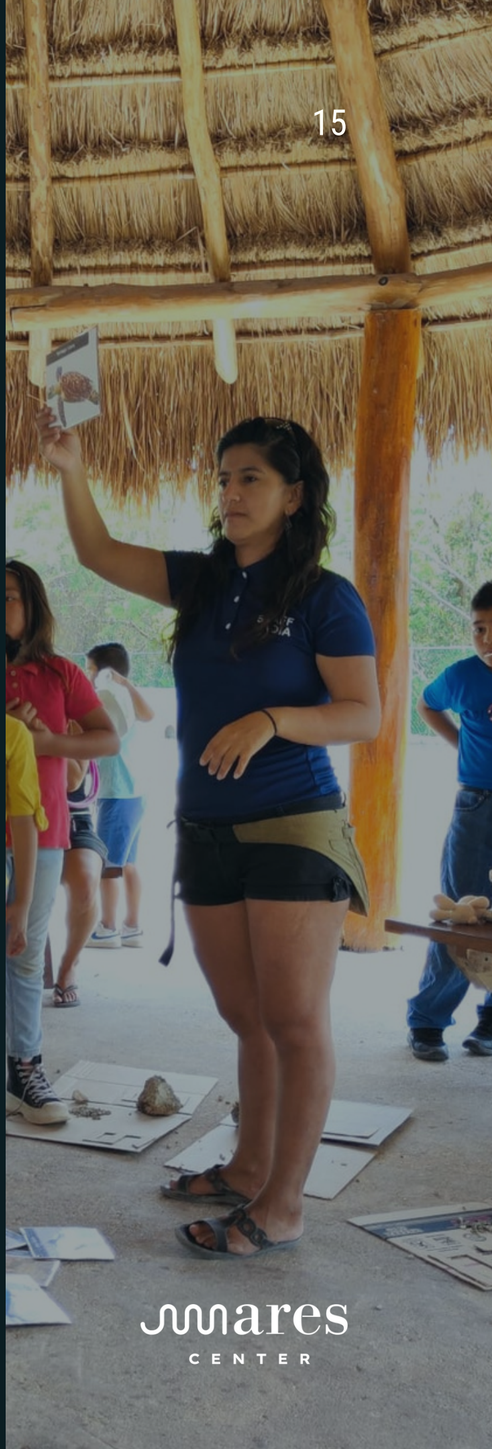
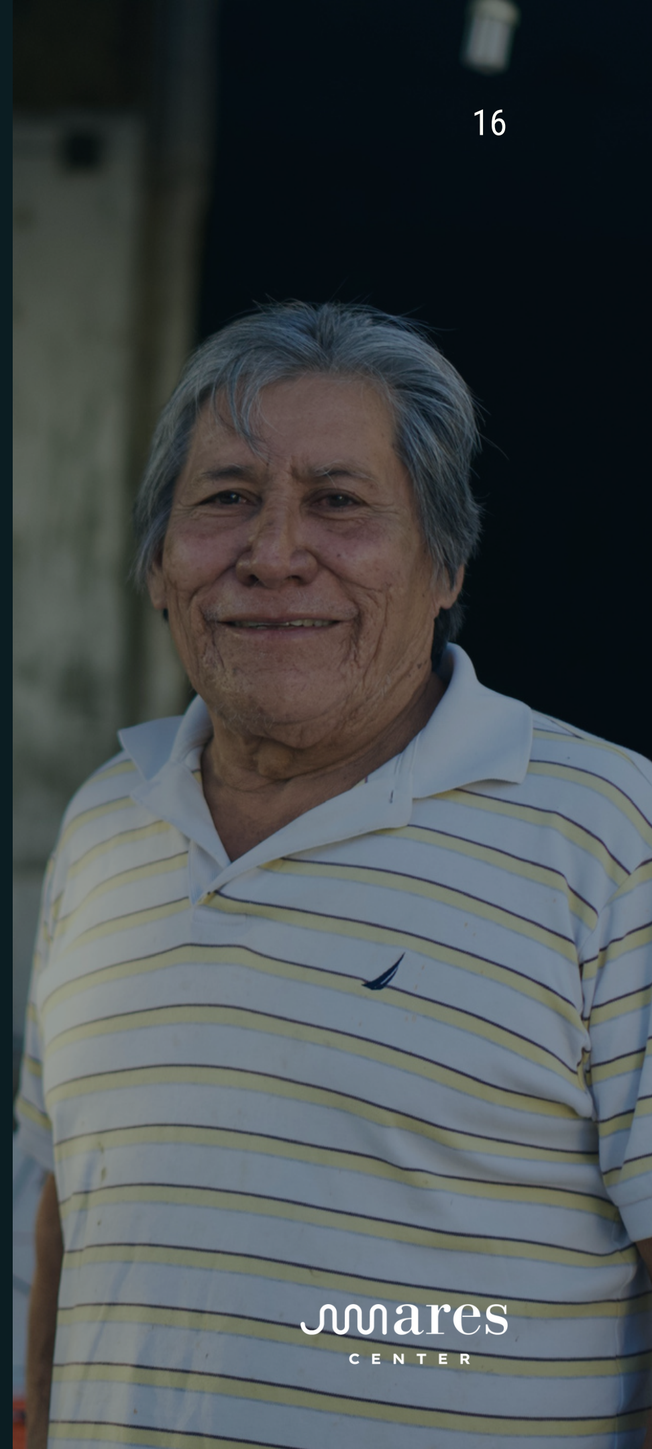
ENVIRONMENTAL EDUCATION RESULTS

Objective	To empower and bring awareness to young people and adults in the community to environmental challenges
Results 2022-2023	2 talks in the cruise ship port, +50 activities in the Wayak Community Center, 14 activities in the local secondary school, +10 intern project presentations, +10 Reef Monitoring Training, +5 Coastal Ecology Program, +20 Reef Ecology Workshop, +10 Coral Restoration Workshop to future dive instructors
Previous results	Regular workshops and talks in Mahahual schools, development of educational material, organization of activities in the community, organization of an environmental festival, talks at Takata, universities, Reef Monitoring Training, Coastal Ecology Program, Reef Ecology Workshop, Coral Restoration Workshop to future dive instructors
Coming next	Environmental podcast, photo exhibition, mangrove conservation campaign, ecosystem conservation communication campaign, film documentary projection for the community



SOCIAL PERCEPTION OF THE ENVIRONMENT RESULTS

Objective	Produce a description of the collective construction of the coastal environment from the perspective of local community
Results 2022-2023	Interview and publishing of 12 portraits of local actors through the project “portraits of Mahahualeños”. Study of the impact of sargassum on the community
Previous results	Study of the relationship between local actors. Study of the environmental perception of the local community. 50+ interviews (fishermen, businesses owners, tertiary workers, cruise ship port employees, national and international community, tourists)
Coming next	Publication of a book: “Portraits of Mahahualeños”



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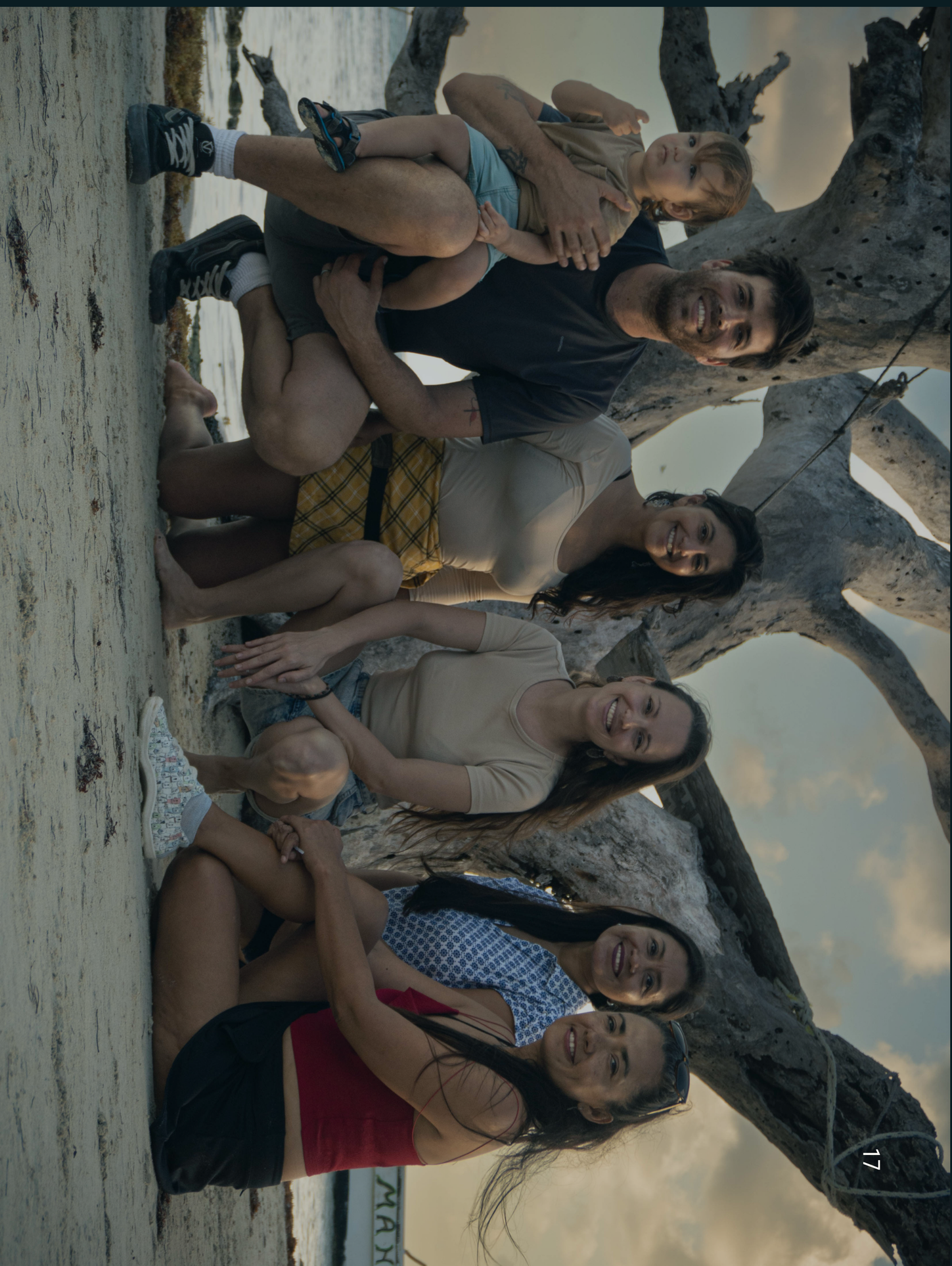
TEAM AND COLLABORATORS

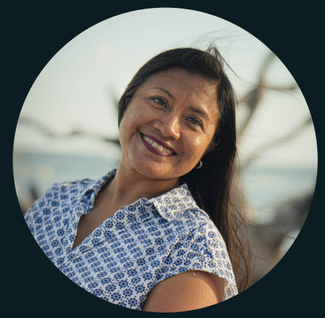


MARES TEAM

Cassiopea Carrier Doneys
Director

Dra Nadia Sandoval
Project Supervisor

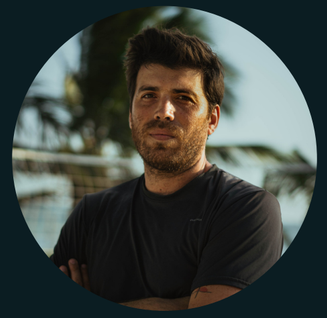
Dra Itzel Zamora
Project Supervisor



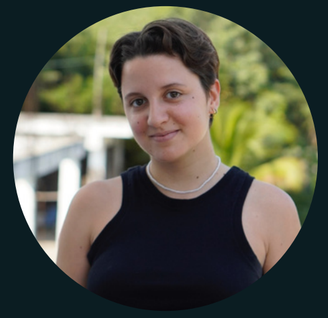
Dra Maria Geovana Leon
Scientific Collaborator

Dr Andres Larrea
Scientific Collaborator

Dra Clara Malbos
Scientific Collaborator



Pablo Calderón Cádiz
Public Relations Specialist



Elena Azor Uroz
Communication Specialist

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PROJECT COLLABORATORS

SEMARNAT
SECRETARÍA DEL MEDIO AMBIENTE Y RECURSOS NATURALES

OCEANUS A.C.

DIVE RESEARCH TRAVEL EXPERIENCE

FINS

CONANP
COMISIÓN NACIONAL DE ÁREAS NATURALES PROTEGIDAS

Healthy Reefs
for healthy people

WAYAK

UNITED NATIONS DECADE ON
ECOSYSTEM
RESTORATION
2021-2030

PROGRAMA
escuelas
azules
MÉXICO

PROYECTO
AK MAHAHUA

ECOSUR

INSTITUTO TECNOLÓGICO
DE CHETUMAL

RESERVA DE LA BIOSFERA
CARIBE MEXICANO

GOOD KARMA SQUAD
Think Globally Act Locally

UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO

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FUNDING COLLABORATORS

100+

UNIVERSITY INTERNS SINCE 2017

150+

VOLUNTEERS SINCE 2017

ACADEMIC COLLABORATORS

Collaborations with national and foreign universities allow us to accept bachelor's, master's, and doctoral interns to work as project managers in our programs and to conduct research. This helps us at various levels: it is a source of experts who come to share their knowledge, they help carry out projects, collect and analyze data, and support as volunteers in different projects

Interns pursuing undergraduate, postgraduate and masters studies join us from:

- UNAM (Mexico)
- ECOSUR (Mexico)
- CUCSUR (Mexico)
- UdG (Mexico)
- USherbrooke (Canada)
- UQAM (Canada)
- McGillU (Canada)
- CégepSL (Canada)
- UParisDescartes (France)
- UMontpellier (France)
- ESAT (France)
- UWageningen (Netherlands)
- HU (Netherlands)
- MU (Netherlands)
- PUC (Chile)

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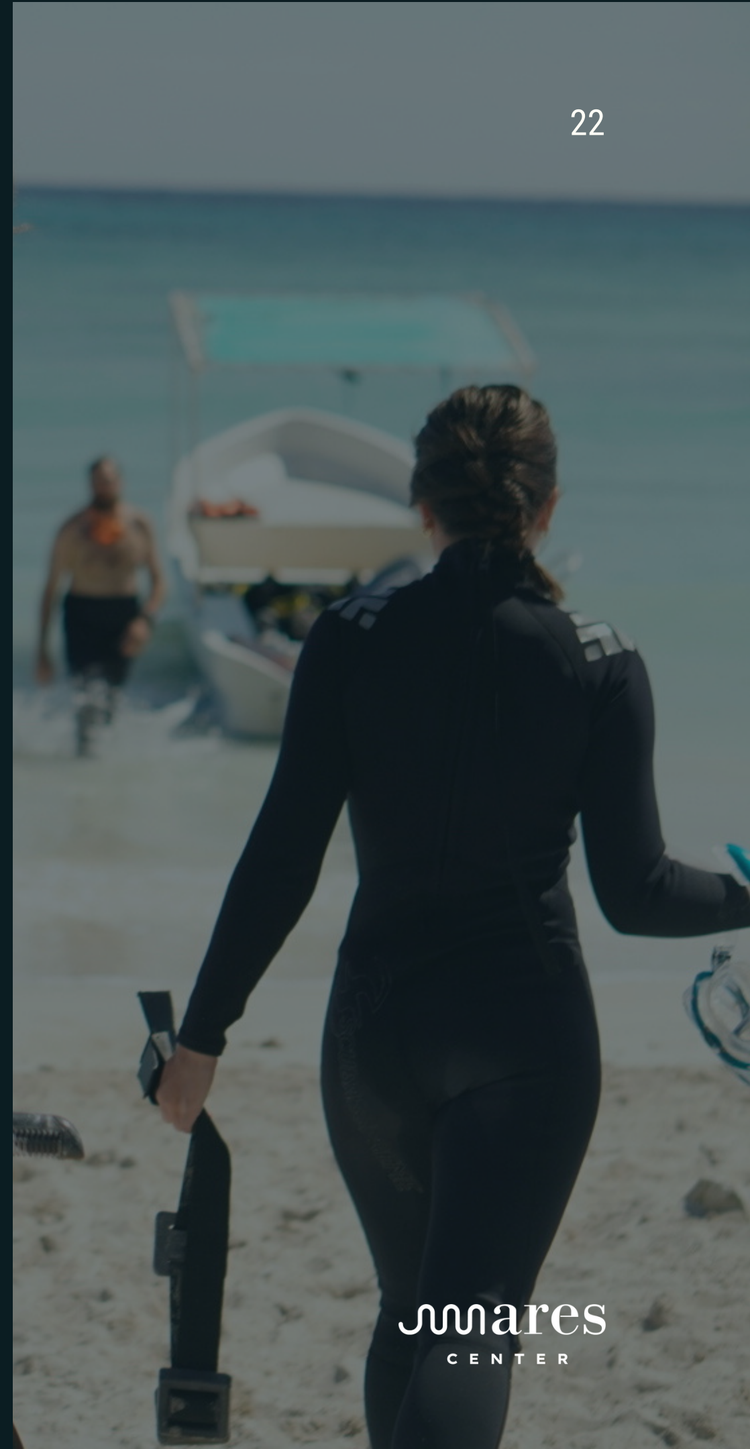
ACKNOWLEDGEMENTS

We are grateful for the help of our collaborators and our community. Environmental conservation work is complex and can be difficult. However, with support, it's amazing how much can be achieved. We are grateful for your trust, support, participation, and consideration

Thanks to your invaluable support, we were able to carry out our various projects and implement our mission. We are proud to share our achievements with our collaborators and we are happy to continue working with so many people and organizations that stand for the natural environment and the well-being of future generations

We also thank all those who work to protect the environment of Mahahual and the world including employees, partners, interns, and volunteers who help care for our planet and the incredible life it harbours

Mares Team



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