ACESSE A VERSÃO EM PORTUGUÊS

An Ocean Without Mysteries BRAZILIANS' RELATIONSHIP WITH THE OCEAN EVOLUTION OF SCENARIOS | 2022-2025



AN INITIATIVE:



IN COOPERATION:



This publication is part of the "**An Ocean without Mysteries**" collection, developed within the scope of "**Ocean Connection**," an initiative of Boticário Group Foundation for Nature Protection dedicated to popularizing the importance of the ocean and its ecosystems. This study was developed in cooperation with UNESCO, Maré de Ciência, and the Federal University of São Paulo (UNIFESP), with research commissioned and conducted by Zoom Inteligência em Pesquisas.

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PRESENTATION

The ocean is changing, and so are Brazilians.

Paradise beaches, a sea of opportunities. But what is the real connection of Brazilians with the immense universe hidden beyond the sand?

In 2022, the Boticario Group Foundation for Nature Protection, in partnership with UNESCO and the Federal University of São Paulo (UNIFESP), began a deep dive to understand Brazilians' relationship with the ocean. Now, in 2025, during the Ocean Decade, the second edition of the research "An Ocean Without Mysteries - Brazilians' Relationship with the Ocean: Evolution of Scenarios (2022-2025)" presents a new portrait of this connection, comparing scenarios and offering unprecedented information about the interaction between ocean and climate.

Discover:

- What is Brazilians' willingness to change habits for the ocean's benefit?
- Does the population understand the relationship between the marine environment and climate change?
- 🕐 How do people perceive the ocean's impacts on their lives and vice versa?

With updated and analyzed data, as well as visual content and accessible language, this publication invites you to navigate a sea of information and discover how Brazilians are responding to the ocean's call.

Explore the publication and be part of this wave of change!





SECOND WAVE	05
SAMPLE PROFILE	06
TIDE OF EMOTIONS	07
(UN)KNOWN ENVIRONMENTS	08
SEASIDE ACTIVITIES	10
SOCIETY IN TRANSFORMATION	11
IMPACTS	12
TRUTHS ABOUT THE OCEAN	13
OCEAN AND CLIMATE	14
WEALTH FROM THE SEA	16
OCEAN DECADE, HALFWAY THROUGH	17
SOME FINDINGS	18
A DEEP DIVE OF KNOWLEDGE	19



SECOND WAVE

As a continuation of the 2022 study, this research evaluates the status of Ocean Literacy in Brazil and analyses how society's daily life is connected to the ocean. This edition adopted the same methodology as the previous research to enable data comparison.

GET TO KNOW THE STUDY

Research type: Quantitative

Target audience: Adult population, men and women of all socioeconomic classes, across the 5 geographical regions of Brazil

Sample: 2,000 interviews

Margin of error: 2.2%, with a 95% confidence level

Technique: Face-to-face interviews

Collection period: February 19, 2025 to April 7, 2025

Instrument: Semi-structured questionnaire, with open and closed questions.

Indicator: Top2Box was adopted for interpreting rating scales, summing the two highest scores from valid responses

Contracted institute: Zoom Inteligência em Pesquisas

GET TO KNOW THE QUESTIONNAIRE



Follow the same methodological standard, considering the country's sociodemographic characteristics, encompassing all regions, cities of different sizes, coastal and inland, and gender balance, schooling, and social profile.



1

METHODOLOGY

SAMPLE PROFILE



AGE GROUP

average of 42 years,

with interviewees between 18 and 86 years

76% have children

AVERAGE MONTHLY INCOME

R\$ 5.523,00 | US\$ 968,43 (family)

R\$ 1.841,00 | US\$ 322,81(per capita*)

4% say they work in an activity related to the sea

*considering an average of three people per household and dollar at R\$ 5,703

Base: 2,000 interviewees.

28%	Up to Elementary School completed
	Up to High School completed
18%	College degree or more

Base: 2,000

54%

**Bahia (Porto Seguro, Salvador and Vitória da Conquista): Ceará (Acaraú, Fortaleza and Juazeiro do Norte): Distrito Federal (Brasilia): Golás (Golánia and Rio Verde): Mato Grosso do Sul (Campo Grande and Dourados): Minas Geraic (Belo Horizonte and Uberaba): Paraín (Unritiba, Maringa and Paranaguá): Pará (Bolém, Salinőpolis and Santarém); Pernambuco (Ipojuca, Petrolina and Recife): Rio de Janeiro (Macaé, Nova Friburgo and Rio de Janeiro); Rio Grande do Sul (Pelotas, Porto Alegre and Rio Grande); Rondonia (Un-Parana and Porto Velho): Santa Catarina (Chapeco, Florianópolis and Itajá): São Paulo (Santios, São José do Rio Preto and São Paulo); Tocantins (Araguaina and Paimas).



TIDE OF EMOTIONS

In 2025, we investigated another aspect of Brazilians' relationship with the ocean. Instead of focusing on memories, we sought to understand the emotional connection people have with the sea.

80% reported a positive emotion towards the ocean

8% reported a negative emotion

3% Impressed

24% Calm

WHICH 1% **12**% **OF THESE** Grateful Curious **EMOTIONS DO YOU FEEL MOST** WHEN YOU THINK OF THE OCEAN?" 10% 8% Excited Fearful 63

8% Connected

Base: 2,000 interviewees. Stimulated responses.

7

(UN)KNOWN ENVIRONMENTS

While visits to marine environments remained stable between the 2022 and 2025 samples, interviewees' knowledge varied, reaching a difference of 23 percentage points (p.p.) in relation to restingas, for example. It is not possible to conclude that the population's knowledge decreased, but this is a new characteristic of the sample considered throughout the study.

It appears at the tip of the beaches, where the strip of sands ends.

An area with rocks, constantly impacted by waves.

Rocky Shores

62% know (-12 p.p. vs. 2022)

54% have never visited





Dunes

Sand mounds formed by the wind.

61% have never visited

69% know (-16 p.p. vs. 2022)

(+2 p.p. vs. 2022)

Coral Reefs

Clusters of coral species, other animals, and seaweed.

62% know (-18 p.p. vs. 2022)

77% have never visited (+2 p.p. vs. 2022)



coast and usually end in the sea.

47% know (-13 p.p. vs. 2022)

78% have never visited (+1 p.p. vs. 2022)



Areas along the coast where a river joins the sea.

56% know

(-12 p.p. vs. 2022)

69% have never visited (+1 p.p. vs. 2022)

...

 Mangroves

A region close to the sea with trees that are able to withstand the tides and the salty water.

69% know (-14 p.p. vs. 2022)

61% have never visited (+3 p.p. vs. 2022)

Sand strips bathed by the sea.

100% know

(= 2022)

12% have never visited (+2 p.p. vs. 2022)

Beaches



Plant formations that settle on sandy soils in the coastal plain region.

40% know (-23 p.p. vs. 2022)

80% have never visited (+ 8 p.p. vs. 2022)

Do you know that low-lying vegetation with shrubs between the street and the beach? That's the sandbank vegetation! Part of the Atlantic Forest biome, it stretches along almost 5,000 kilometers of the Brazilian coast, covering 79% of the coastline. This extremely important ecosystem helps to contain wave advance and coastal erosion and provides shelter for many birds. Protecting and restoring it is a true **Nature-Based Solution**, just like protecting coral reefs and mangroves, which also offer coastal protection against climate change!

The **South and Northeast** regions showed greater familiarity with marine environments. When asked about ecosystems they knew and had visited, respondents from the South surpassed the national average for beaches (96%), **dunes** (62%), **rocky shores** (61%), **bays and estuaries** (44%), **sandbank vegetation** (33%) and **cliffs** (30%). Northeasterners, on the other hand, stood out regarding **beaches** (97%), **mangroves** (50%) and **dunes** (46%).

The **North region**, however, showed lower levels of knowledge and visitation than the national average in 8 environments: **beaches**(59%), **dunes** (27%), **mangroves**(26%), **rocky shores** (23%), **bays and estuaries**(14%), **coral reefs**(12%), **sandbank vegetation**(7%) and **cliffs**(7%).

Base: 2,000 interviewees. Stimulated and single response.

What do you do when you are by the sea? What habits do you adopt in your daily life when you are away from the beach? Check if your answers match the Brazilians' profile

SEASIDE ACTIVITIES



SUSTAINABLE HABITS THAT ARE ALWAYS OR FREQUENTLY ADOPTED BY INTERVIEWEES



Renewable energy is on the rise. While some habits routinely adopted by Brazilians had minor variations within the margin of error between 2022 and 2025, the use of renewable energy by Brazilians emerged as the habit with the largest increase. According to the National Energy Balance, in 2023, 49.1% of Brazil's energy consumption came from renewable sources, such as solar, wind, and biomass.

The search for ocean-related information decreased by 6 percentage points (p.p.), possibly reflecting the knowledge about marine ecosystems within the interviewed group.

SHARE

Single and stimulated response

SOCIETY IN TRANSFORMATION

In three years, Brazilians' willingness to change habits in favor of the ocean increased by 5.4 percentage points (p.p.). A step forward in awareness and commitment to the ocean cause.



87.6% of Brazilians are willing to change habits for the ocean (vs. 82.2% in 2022), representing an increase of 11.48 million people. However, only 7% - equivalent to
14.8 million Brazilians - reported participating in some marine conservation activity in the past 12 months.

The data revealed increased concern for ocean conservation, but practical actions require further encouragement.





From 0 to 10, how willing would you be to change your habits for the good of the ocean?

Average 8.6 (+0.3 p.p. vs. 2022)

0 to 6 → 12.4% (-5.3 p.p. vs. 2022)

- 7 and 8 → 23.8% (-1.0 p.p. vs. 2022)
- 9 and 10 → 63.8% (+6.4 p.p. vs. 2022)

ightarrow 87,6% willing to change habits

Base: 1,963 interviewees. Stimulated and single response What role would you be willing to take on for the ocean?

60% Supporter, as a dissemination agent (+3 p.p. vs. 2022)

24% Active, as an agent of change, "getting their hands dirty" (-1.0 p.p. vs. 2022)

14% None (-3 p.p. vs. 2022)

3% Don't know (+2 p.p. vs. 2022)

Base: 2,000 interviewees. Stimulated and single response. Have you participated in any ocean conservation activity in the last 12 months?*

93% No

<u>7% Yes</u>

Among the 7% who participated in conservation activities, more than 80% have completed high school or higher education, suggesting a relationship between education level and active participation in ocean conservation.

- 32% Litter collection action
- 11% Participation in a lecture
- 7% Activity at school or university
- 6% Recycling activity
- 5% Care and preservation action
- Base: 2,000 interviewees. Single response.
- * Question asked for the first time in 2025.



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IMPACTS

While minor variations related to the ocean's impacts on Brazilians' lives and vice versa (within the margin of error), the changes between 2022 and 2025 warrant attention.

How does the ocean impact your life?

49% directly (-1 p.p. vs. 2022)

- 19% indirectly (-2 p.p. vs. 2022)
- 29% no impact (+3 p.p. vs. 2022)
- 3% don't know (= 2022)

The most significant perceived impacts were on food (20%), water (14%), quality of life and well-being (14%), climate change (14%), and global warming (14%) n 2022, only pollution (14%) and food (12%) were the most mentioned, indicating a broader awareness of ocean connections in 2025.

And how do you impact the ocean?

30% directly (-4 p.p. vs. 2022)

23% indirectly (-1 p.p. vs. 2022)

44% no impact (+4 p.p. vs. 2022)

3% don't know (+1 p.p. vs. 2022)

The most frequently cited impacts relate to pollution: waste disposal (30%), pollution (29%), packaging (8%), recycling (8%), consumption (8%), and waste generation (7%). Global warming (6%) and water consumption (6%) were also among the most mentioned topics.

Do you think the ocean and its ecosystems suffer threats or risks?*

SHARE

84% Yes

13% No

3% don't know

* Question asked for the first time in 2025.

Most Brazilians acknowledge the vulnerability of the coastal-marine environment and the risks it faces. The main threats mentioned were pollution noise, solid waste, liquid waste, among others (40%), climate change effects - acidification, temperature increase, sea level rise, and coastal erosion (22%), biodiversity loss (13%), irresponsible tourism (13%), and urban growth/ real estate speculation (11%).



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TRUTHS ABOUT THE OCEAN

The 2025 edition presented new statements related to the ocean to access public knowledge. Check out what Brazilians say. And you, agree or disagree?



Sea level rise is a real threat to coastal cities.



Sea level is rising rapidly. The annual rate more than doubled in the last decade, reaching 0.48 cm. Projections indicate a 18 to 77 cm increase by 2100, posing a significant threat to coastal cities.¹



Men have more opportunities in sea-related activities than women.



In Brazil, women comprise 49% of professional fishermen, exceeding men in five states. However, in marine sciences, women represent 54% of graduates but only 28% of faculty, highlighting career barriers.²

The ocean has no relation to global climate and weather conditions.



The ocean controls global climate and weather patterns. It absorbs and distributes heat via currents, influencing rainfall, cold fronts, and hurricanes. The 2024 tragedy in Rio Grande do Sul is an example: an **overheated** ocean altered climate dynamics.

The ocean is currently in a healthy and balanced state.



The ocean is in crisis. **Overfishing and plastic pollution** are increasing. Since 1970, human actions have resulted in a 20-35% loss of coastal ecosystems.3





Nearly 9 in 10 Brazilians (89%) agree that ocean education should be part of the school curriculum. This signalizes a strong society backing for this initiative.

Higher education levels and proximity to the sea are key factors driving support:

- Individuals with high school or higher education demonstrate significantly higher support (6% to 9% more). A stronger understanding of the importance of knowledge influences their valuing the education of future generations.
- Individuals living up to 150 km from the coast also demonstrate higher support (aproximately 5% more). Living near the ocean reinforces the perceived need for ocean literacy.

Panel. 2023. Ministry of F t" (IOC-UNESCO, 2024), avo

The widespread support aligns with initiatives like the "Blue Curriculum." In 2025, Brazil's formal commitment to implementing the Blue Curriculum represents a pioneering step in global ocean literacy efforts.

The research highlights the most effective ways to connect students to the ocean:

- Field activities: 45%
- Lectures: 37%
- Science fairs: 32%

This shows that Brazilians value practical experiences and direct interaction to learn about the sea.



OCEAN AND CLIMATE

The interdependence of Ocean and Climate is widely recognized by Brazilian society.

67% agree that the ocean is connected to meteorological and climatic conditions.

9 out of 10 Brazilians believe that sea level rise – a consequence of climate change – poses a real threat to coastal cities.

Climate change is identified as one of the main threats to marine ecosystems. Brazilians perceive the impact of ocean-related natural disasters, exacerbated by global warming, on their lives. This edition includes new questions to understand Brazilians' understanding of this relationship.

9 out of 10 Brazilians say they believe in climate change.

44% seek information about climate change and **its impacts**, while 34% rarely or never do so. In the South region, this figure rises to 56%.

55% report being extremely or very concerned about climate change, while 14% express little or no concern.

Levels of concern varies regionally, with the **South (60%)** and **Southeast (59%)** showing the highest concern, while **19% of the Northeast and North regions** express little or no concern.



1/3 of the population identifies sea level rise as one of the main impacts of climate change on the ocean; 30% are unable to identify any climate impact on the ocean. The main impacts identified:

SHARE SEA LEVEL RISE 35% GLOBAL WARMING 2% Coean acidification 1% Ocean aci



TRUTHS ABOUT THE OCEAN-CLIMATE RELATIONSHIP



Warming ocean waters influence extreme climate events on the continent, such as droughts, hurricanes, and floods in urban and rural areas.

85% Agree

8% Neither agree nor disagree

7% Disagree



A "feverish ocean," which persists with temperatures 0.5°C to 0.7°C above the historical average since March 2023, fuels extreme climate events, intensifying hurricanes, droughts, and floods, and impacting millions of people.



Forest fires have no relation to ocean conditions.

38% Agree

11% Neither agree nor disagree

51% Disagree

Record ocean warming between 2023 and 2024 exacerbated the Amazon's historical drought, leading to increased wildfires. The affected areas were equivalent in size to Ireland and Belgium in the Amazon and to Denmark in the Cerrado.



I believe that sea level is rising.

88% Agree

5% Neither agree nor disagree

7% Disagree

Global sea level has risen 20 cm since 1901, with a 9.4 cm increase since 1993, according to IPCC and NASA data. Glacier melt and thermal expansion of water, driven by global warming, threaten widespread coastal flooding.



The conservation and restoration of marine ecosystems is a Nature-Based Solution to extreme climate events

80% Agree

11% Neither agree nor disagree

9% Disagree

Nature-Based Solutions

The recovery and conservation of marine ecosystems, such as mangroves, coral reefs, and restingas, are strategies to mitigate the

impacts of extreme events driven by climate change. Nature itself offers solutions that can be combined with urban planning strategies to address coastal erosion, floods, and sea level rise, for example.

areas affected by extreme climate events generates high costs for the government and society. 77% Agree

The reconstruction of coastal





Climate-related disasters in Brazil increased 2.5 times fold between the 1990s (6,523 events) and 2020-2023 (16,306), requiring high investments in



recovery efforts.









Blue Economy Includes activities that make sustainable use of the seas.

WEALTH FROM THE SEA

Knowledge about the terms Sea Economy or Blue Economy remained practically the same between 2022 and 2025, with a large amount of the population unfamiliar with these concepts.

87% unfamiliar

12% heard of the terms

1% know them well

MOST FREQUENTLY MENTIONED OCEAN-RELATED ECONOMIC ACTIVITIES

Sea Economy

Encompasses all economic activities directly influenced by the coastal-marine

FISHING AND CULTIVATION OF ALGAE, <mark>9</mark>% **MOLLUSKS, SHRIMP, AND FISH** OGIST 0 **1%TRANSPORT OF GOODS** preservation **1**% CTION OF

RCH 1%

SAND GASTRONOMY 1% 1%

S

 $\overline{\mathbf{D}}$



preservation **1%**

and cleaning

handicrafts 4%

36% were unable to identify an economic activity related to the ocean

How do you evaluate the Ocean's contribution to Brazil's economy?*

Contributes a lot	62%
Contributes moderately	21%
Contributes little or nothing	17%)

*Comparison with 2022 was impossible due to scale change

19% of Brazil's GDP originates from the sea

Source: Interministerial Commission for Sea Resources



OCEAN DECADE, HALFWAY THROUGH

From 2021 to 2030, the UN invites the whole world to unite for ocean sustainability. The **Ocean Decade** - or **Decade of Ocean Science for Sustainable Development** - seeks to engage all sectors of society in favor of the ocean cause.

Between 2022 and 2025, awareness of the Ocean Decade among Brazilians increased by 4 percentage points (p.p.), within the margin of error. While the perception of the action's effectiveness decreased (-6 p.p.), overall evaluation remains positive (average of 8.4).

> 11% of Brazilians are aware about the Ocean Decade (+4 p.p. vs. 2022)
> 89% do not know about the global movement (-4 p.p. vs. 2022)

From 0 to 10, how do you evaluate this initiative? **Average 8.4** (-0.1 vs. 2022)

78% believe that the Ocean Decade will yield tangible results for ocean conservation (-6 p.p. vs. 2022)

BRAZILIANS WERE ALSO ASKED WHICH ENTITIES SHOULD TAKE GREATER ACTION TO ADDRESS OCEAN THREATS:





United Nations Decade of Ocean Science for Sustainable Development

SOME FINDINGS

:1:,

80% of respondents reported positive emotions towards the ocean.

44% of Brazilians believe their actions have no impact on the ocean

43% of Brazilians use some form of renewable energy (+17 p.p. vs. 2022). 87,6% of Brazilians are willing to change habits for the ocean's benefit (vs. 82.2% em 2022).

84% recognize the ocean and its ecosystems are under threat or risk.

68% believe the ocean directly or indirectly impacts their lives. Only 7% reported participating in marine conservation activities in the past 12 months.

9 out of

change.

10 Brazilians believe in climate

60% agree that men have more opportunities in sea-related activities than women. 90% agree that sea level rise is a real threat to coastal cities.

89% support the inclusion of ocean education in school curriculum.

85% agree that the warming of ocean waters influences extreme weather events on the continent.

55% expressed extremely or very high concern about climate change, while 14% expressed little or no concern.

87% are unfamiliar of the terms Blue Economy and Sea Economy. **36% are unable to identify** an ocean-related economic activity (+11 p. p. vs. 2022).



A DEEP DIVE OF KNOWLEDGE

Explore more publications from the "An Ocean Without Mysteries" collection, learn more about the ocean, and get involved in practical actions for the marine ecosystem!







BOTICÁRIO GROUP FOUNDATION FOR NATURE PROTECTION

The conservation of the marine ecosystem has been one of the priorities of the Boticário Group Foundation for Nature Protection throughout its history. In the last 35 years, about 25% of the values donated to projects were allocated to initiatives aimed at the conservation of marine environments - a significant volume compared to worldwide funding for marine studies, which, on average, does not exceed 4%, according to UNESCO. With a focus on society's adaptation to climate change, especially in relation to water security and coastal protection, the institution works to ensure that biodiversity conservation is prioritized in all sectors. Aligned with the UN Sustainable Development Goals, it considers that nature is the basis for the country's social and economic development.

OCEAN CONNECTION

Ocean Connection is an initiative of the Boticário Group Foundation for Nature Protection created in 2019 with the objective of stimulating communication for different audiences about the importance of conserving marine and coastal environments. Aligned with the Ocean Decade, it is a platform for connection with opinion makers, researchers, and representatives of public and private entities, which promotes and develops events, activations, publications, and content for the press and social networks. Throughout its trajectory, Ocean Connection has already engaged and sensitized thousands of people about the ocean cause.

IN COOPERATION



UNESCO

The UNESCO Representation in Brazil aims to support the formulation and implementation of public policies that are in line with the strategies defined by Member States at UNESCO General Conferences. The Organization promotes this action through technical cooperation projects, carried out in partnership with governmental bodies and civil society sectors, whenever these projects contribute to public policies focused on sustainable development in UNESCO's areas of expertise.



UNIFESP

The Federal University of São Paulo (UNIFESP) is a public institution of higher education widely recognized for its academic excellence, the training of highly qualified professionals, the production of knowledge, and the promotion of social development. At the Baixada Santista Campus, courses focused on Health and Marine Sciences stand out, which drive projects of great national and international relevance in these areas. Among them, the Maré de Ciência Program stands out, which promotes the dissemination of ocean culture to the entire society, connecting local actions to the global challenges proposed by the UN 2030 Agenda.

20





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