CS-MACH1

# D2.1 – Preliminary Assessment Report

VLIZ

November 2025

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# List of referenced acronyms

| | |
|---|---|
| CMCC | Centro Euro-Mediterraneo sui Cambiamenti Climatici |
| CS-MACH1 | MArine Citizen science data Horizon |
| CSIC | Consejo Superior de Investigaciones Científicas |
| ECSA | European Citizen Science Association |
| EMODnet | European Marine Observation and Data Network |
| EOVs | Essential ocean Variables |
| EurOBIS | European Ocean Biodiversity Information System |
| FAIR | Findable, Accessible, Interoperable and Re-usable |
| GBIF | Global Biodiversity Information Facility |
| GDPR | General Data Protection Regulation |
| GOOS | Global Ocean Observing System |
| Ifremer | French Institute for Ocean Science |
| JCDP | Joint Cetacean Data Protocol |
| MARIS | Marine Information Service, MARIS B.V. |
| MCS | Marine Citizen Science |
| MCSI | Marine Citizen Science Initiatives |
| MCSDN | Marine Citizen Science Data Network |
| MPA | Marine Protected Area |
| MSFD | Marine Strategy Framework Directive |
| OBIS | Ocean Biodiversity Information System |
| OSPAR | Oslo-Paris Convention for the Protection of the Marine Environment |
| OTTERS | Social Transformation for Water Stewardship through Scaling Up Citizen Science |
| OutBe | OutBe S.R.L. |
| SCOOP | Solutions for Cost-effective Ocean Observation Platform |
| SDN | Software-Defined Networking |
| SMHI | Swedish and Meteorological Institute |
| SSBE | SeaScape Belgium |
| VLIZ | Flanders Marine Institute |
| WP | Work Package |

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# 1. Introduction

## 1.1. Context of WP2 within the CS-MACH1 project

The **CS-MACH1 project** aims to strengthen the role of **marine and coastal citizen science initiatives (MCSI)** in Europe's ocean observation and **data management** landscape. Citizen science contributes valuable complementary data to traditional monitoring programmes, enhancing spatial and temporal coverage while engaging society in ocean knowledge generation.

Within this broader framework, Work Package 2 (WP2) focuses on understanding how MSCI currently manages their data, from collection and storage to sharing and long-term accessibility. The ultimate goal is to identify common practices, gaps, and challenges, and to provide a factual evidence base for improving dataflow, interoperability and FAIR data stewardship across the European MCSI community. **FAIR data** refers to data that are Findable, Accessible, Interoperable and Reusable: a set of guiding principles that ensure data can be easily discovered, properly accessed under clear conditions, combined with other datasets, and reused for future research and applications.

## 1.2. Objectives and scope of this deliverable 2.1

This deliverable, **D2.1 – Preliminary Assessment Report**, provides an empirical overview of how MCSI **handle** their data today, based on responses to a structured, Europe-wide survey distributed to 1,233 identified initiatives. The deliverable maps the current landscape of data-related practices and identifies early trends, barriers, and capacity needs.

It captures, for the first time, a consolidated view of how marine and coastal citizen science initiatives across Europe and neighbouring countries **organise, manage, and share** their data. The focus lies on understanding the present situation, not yet on developing recommendations or technical solutions.

Specifically, this deliverable aims to:

- Characterise the diversity of data management related practices within MCSI across Europe and neighbouring countries;
- Identify strengths, challenges, and barriers in the way these initiatives acquire, manage, and disseminate data.

The analysis presented here is derived exclusively from the survey conducted among the identified initiatives. While the dataset may not represent the entire European landscape exhaustively, it offers a comprehensive first snapshot of how data are currently handled in practice within marine and coastal citizen science.

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# 2. Methodology

## 2.1. Overview

The methodological framework of D2.1 was designed to produce a comprehensive and representative preliminary assessment of data management practices among marine and coastal citizen science initiatives in Europe and neighbouring countries. The approach consisted of three main phases:

- Compilation of a database of relevant initiatives through the integration of existing European citizen science and marine data infrastructures;
- Design and dissemination of a structured survey to collect information on current data practices;
- Systematic processing and analysis of survey responses to identify trends, challenges, and capacity needs.

The methodology ensures transparency, reproducibility, and compliance with Horizon Europe's standards for open and responsible research.

## 2.2. Rationale for a survey approach

Given the fragmented and diverse nature of the marine citizen science community across Europe, a **survey-based approach** was identified as the most effective way to gather **standardised** and **comparable** information from a large number of initiatives. The survey captures both quantitative data, providing measurable indicators of current practices, and qualitative insights through open-ended questions that reveal the context behind those practices.

This approach allows WP2 to:

- Map the current landscape of data-handling and sharing within MCSI;
- Identify common bottlenecks in achieving FAIR and interoperable data flows;
- Collect evidence-based input for designing the qualitative phase.

The qualitative component of WP2 will build directly on this survey. Through interviews , it will delve deeper into the social, institutional, and technical factors influencing data management. Together, these two complementary phases will form a **mixed-methods assessment**, moving from mapping what exists to understanding why it exists and how it can be improved.

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## 2.3. Compilation of the project database

VLIZ developed a consolidated database of **1,233 Marine and Coastal Citizen Science Initiatives (MCSI)** operating in Europe and neighbouring countries (hereafter referred to as European MCSI).

This database was created by merging and harmonising information from seven infrastructures and projects identified in the CS-MACH1 proposal, alongside other individual initiatives that were subsequently added to the contact list:

- WaveLinks: repository that served as the baseline for the list.
- OTTERS: their dataset was merged with WaveLinks.
- The following structures were contacted to provide input on marine citizen science projects: SCOOP, Cos4Cloud, CitSci-X, ECSA and Blue-Cloud.

## 2.4. Target population and inclusion criteria

The survey targeted citizen science initiatives with a marine, coastal, or estuarine focus. To be included, an initiative had to meet all the following criteria:

- Actively collect or generate data through citizen participation;
- Make use of some form of technology, tools, or sensors to support data collection or engagement;
- Operate within marine or coastal environments in Europe and neighboring countries;
- Maintain publicly accessible information (e.g. website, description, or contact details);
- Self-identify as a citizen science initiative or an organisation employing citizen science approaches.

This approach ensures that the assessment reflects the operational reality of projects directly contributing to marine data generation and sharing.

## 2.5. Survey design and distribution

The questionnaire was developed using Google Forms and structured around thematic sections reflecting the **full data lifecycle** and associated challenges. It combined closed-ended questions (single- and multiple-choice) with open-ended fields to capture context and nuance.

The survey was distributed by email to the 1,233 identified initiatives. The collection period lasted approximately two weeks, during which a single reminder was sent to maximise participation.

Responses were automatically recorded and exported for analysis. Participation was voluntary, and respondents were informed that their contributions would be anonymised and presented in aggregate form.

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### 2.6. Data processing and analysis

After closure, responses were downloaded, cleaned, and harmonised. Quantitative responses were analysed using descriptive statistics (frequency, percentage, distribution). All analyses were conducted by VLIZ.

### 2.7. Ethical considerations

The study complies fully with GDPR and Horizon Europe ethical requirements. Respondents were informed about the purpose of the survey, the voluntary nature of participation, and the confidentiality of their answers. No personal data were retained beyond optional contact details, which were stored securely on VLIZ infrastructure.

### 2.8. Limitations

While the survey provides a valuable first insight into the data practices of European MCSI, certain limitations must be acknowledged:

- Response bias: initiatives with more developed data infrastructures may have been more inclined to complete the survey;
- Language constraint: the survey was conducted in English only;
- Self-reporting: results rely on participants' own descriptions of practice;
- Coverage: some small or emerging initiatives may not have been captured in the original database.

## 3. Survey structure

This chapter provides an overview of the structure and internal logic of the WP2 survey instrument.

The questionnaire was developed by VLIZ, in close consultation with all WP2 partners (SMHI, ECSA, OutBe, MARIS, SSBE, Ifremer, CSIC, CMCC), to obtain a structured and comparable overview of how marine and coastal citizen science initiatives (MCSI) in Europe and neighbouring countries currently manage and share their data. The survey combines factual multiple-choice items with selective open questions to capture both the diversity and the depth of practices in data acquisition, management, sharing, and capacity needs. The survey is composed of four thematic sections, followed by a short closing block.

### 3.1. Section 1: General characteristics of the project

**Purpose**

This section gathers contextual information to profile each participating initiative. These descriptors enable stratified analysis (e.g. by region, maturity, or topic) and ensure that subsequent results can be interpreted in context.

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**Topics covered**

- Identification: project name, coordinator, website, contact details.
- Data collection technology: use of sensors, mobile applications, online tools, or manual recording.
- Geographical scope: country and region of activity, marine basin.
- Temporal dimension: start and end year of the initiative.
- Scale and participation: approximate number of participants per year, type of participants (wider public, divers, tourists, students, ...).
- Operational pattern: frequency of activities or events.
- Main thematic focus: e.g. biodiversity, litter, water quality, habitats.

**Expected insights**

A clear **typology of initiatives** (national vs. transnational, long-running vs. new, thematic clusters) that will contextualise all subsequent findings.

### 3.2. Section 2: Data flow

**Purpose**

To capture how citizen science data are currently handled, from **storage** to **accessibility** and **hosting platforms**, thereby mapping the existing *as-is* data lifecycle.

**Topics covered**

- Experience with data management: whether projects possess relevant expertise.
- Data storage: where and how data are stored (e.g. locally, within institutional systems, or using external/cloud storage).
- Standardisation of data and metadata: whether the data are raw, converted, partially converted, or unknown.
- FAIR awareness: familiarity with the FAIR principles and their practical implementation.
- Use of best practices: adoption of standard methods, guidelines, or protocols for data management.
- Findability of the data: whether the project's data are findable, and if so, where/
- Accessibility of the data: where and to whom the data are accessible (only to the respondent, within their institution, to project partners, or publicly).
- Hosting platforms: repositories or databases used for publication and connections to infrastructures such as OBIS, EMODnet, or GBIF.
- Recognition systems: mechanisms for tracking, attribution, or providing feedback to participating citizens (formally, informally, or not at all).

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**Expected insights**
A baseline understanding of technological diversity, maturity in data stewardship, and existing gaps in the application of FAIR and standardised practices.

### 3.3. Section 3: Challenges and training needs in data management

**Purpose**
To identify the **concrete obstacles** that hinder effective, FAIR, and interoperable data management, and to determine the related **training needs** of marine and coastal citizen science initiatives.

**Topics covered**
Respondents were invited to select from a predefined list of technical, organisational, and legal challenges and to indicate their training needs across various aspects of data management. Open comment fields allowed participants to describe context-specific issues or capacity gaps.

**Expected insights**
This section provides a quantitative overview of the most frequent barriers encountered by MCSI, such as limited resources, insufficient expertise, or lack of guidance on FAIR implementation, and highlights where targeted capacity-building and training interventions are most urgently required.

The findings will form the evidence base for qualitative follow-up interviews in Deliverable D2.2, which will explore in greater depth the underlying causes of these challenges and refine the design of the CS-MACH1 training and support strategy.

### 3.4. Section 4: Engagement

**Purpose**
To identify priority areas for **capacity-building** and the willingness of initiatives to engage in future collaborative activities.

**Topics covered**
- Network participation: interest in joining our marine citizen science data network.
- Community engagement: interest in participating in joint events, being featured in newsletters, or communication activities.
- Follow-up opportunities: consent to be contacted for interviews or workshops.

**Expected insights**
A summary of the level of interest and readiness among initiatives to collaborate through the marine citizen science data network, shared communication and events. The results will indicate preferred formats for engagement, identify potential partners for joint

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actions, and highlight opportunities for building a **sustainable network** of marine citizen science data actors.

### 3.5. Closing section: Feedback and consent

**Purpose**

To collect feedback on the survey process and obtain consent for follow-up communication.

**Topics covered**

- Open comments.
- Confirmation of voluntary participation and consent for future contact.

**Expected outputs**

A structured summary of respondent feedback on the survey.

### 3.6. Analytical perspective

The modular structure of the questionnaire allows for both quantitative analysis and qualitative interpretation of open fields.

Together, these outputs form the empirical backbone of Deliverable D2.1: a factual representation of the current data management landscape in European marine citizen science.

## 4. Results

### 4.1. Section 1: General characteristics of the project

Of the **1 ,233 marine and coastal citizen science initiatives (MCSI)** identified**, 117 projects (≈9%)** completed the survey. While not exhaustive, this sample provides a representative snapshot of the European MCSI landscape. The responses capture a broad geographic spread, with a slight bias toward Western and Northern Europe.

Overall, the surveyed initiatives reveal a **vibrant and diverse community**: most are ongoing, increasingly digital in their approach, and active across all major marine regions (from the Mediterranean and North Sea–Baltic basins to global initiatives). Common themes include biodiversity monitoring, pollution tracking, and habitat assessment, often combining volunteer-driven observations with modern technologies such as apps, GPS tools, and cameras.

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The following sections present these results in greater detail, outlining the general characteristics of the participating initiatives, including their geographical scope, duration, participant composition, technological tools, and thematic focus.

### 4.1.1. Data-collection technologies

Survey question: "Are any technologies or tools used in the project to collect scientific data?"
(Multiple answers possible)

A total of 117 projects responded to this question, where multiple answers were possible. The results demonstrate that **digital and image-based methods dominate** marine citizen science data collection. Over four-fifths of initiatives use mobile devices and apps, selected by 98 projects (82%), reflecting the widespread adoption of app-based reporting systems that facilitate georeferenced submissions. GPS-enabled mapping (63%) and cameras are frequently used alongside these, enabling precise localisation and visual validation of observations.

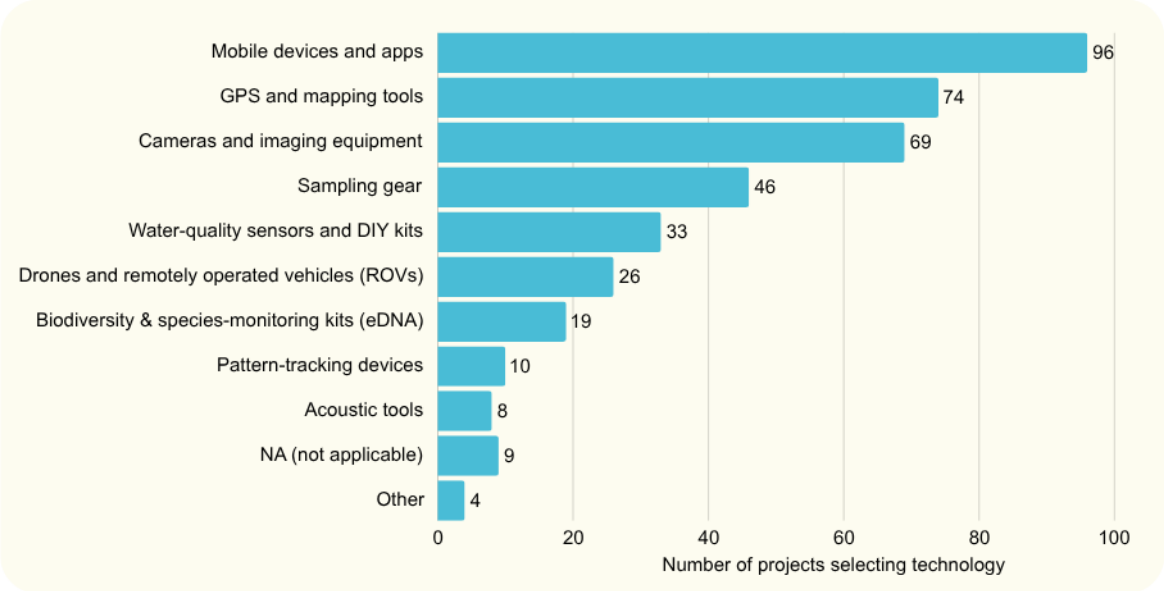


Figure 1. Data-collection technologies used in marine and coastal citizen science initiatives. *Horizontal bar chart showing the number of initiatives using each data-collection technology (n = 117; 390 total selections; multiple answers possible).*

A substantial proportion of projects employ sampling gear (39%) and DIY water-quality sensors (28%). The use of drones, eDNA kits, and acoustic or pattern-tracking devices highlights the diverse range of technological tools applied in citizen science operations, bridging community observation with professional oceanographic methods.

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Approximately 8% of the projects reported that no specific tools were used (*NA*). A small additional share (≈ 3%) relied on auxiliary materials, such as printed identification cards, litter-collection kits, or online governance-evaluation platforms, classified as "Other" due to their supporting rather than technological role in data acquisition.

Together, these findings underline the diversity, adaptability, and advancing sophistication of data-collection practices across European marine and coastal citizen science initiatives.

### 4.1.2. Geographical scope of the project

Survey question: "Does the project take place in a single country or a broader region?" (Single answer)

A total of 117 initiatives responded to this question. The results show an **almost even division** between projects that operate within **national borders** and those that extend across **multiple regions**:

- Single-country initiatives: 49%
- Broader-regional or transnational initiatives: 51%

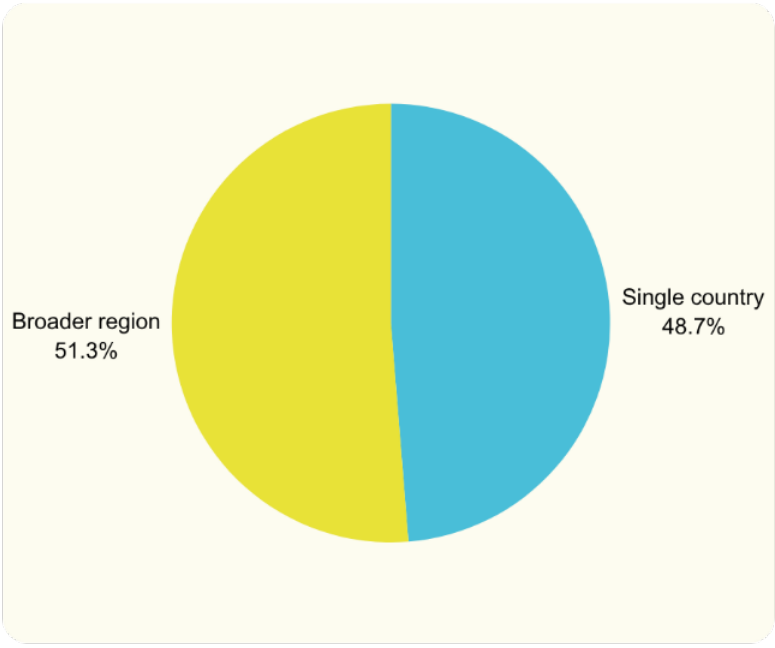


Figure 2. Geographical scope of initiatives. *Pie chart illustrating the near-equal distribution of single-country (48.7%) and broader-regional (51.3%) projects among the 117 survey respondents.*

This balanced distribution confirms that both locally anchored and multinational activities are well represented within the survey. Such diversity provides a valuable basis for later comparisons of data-handling environments operating under different regulatory and institutional frameworks.

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### 4.1.3. Country of operation

Survey question: “In which country does the project take place?”
(Single answer)

This question was addressed to respondents who indicated in the previous item that their initiative operates within a **single national context**. A total of **57 projects** provided a valid country response.

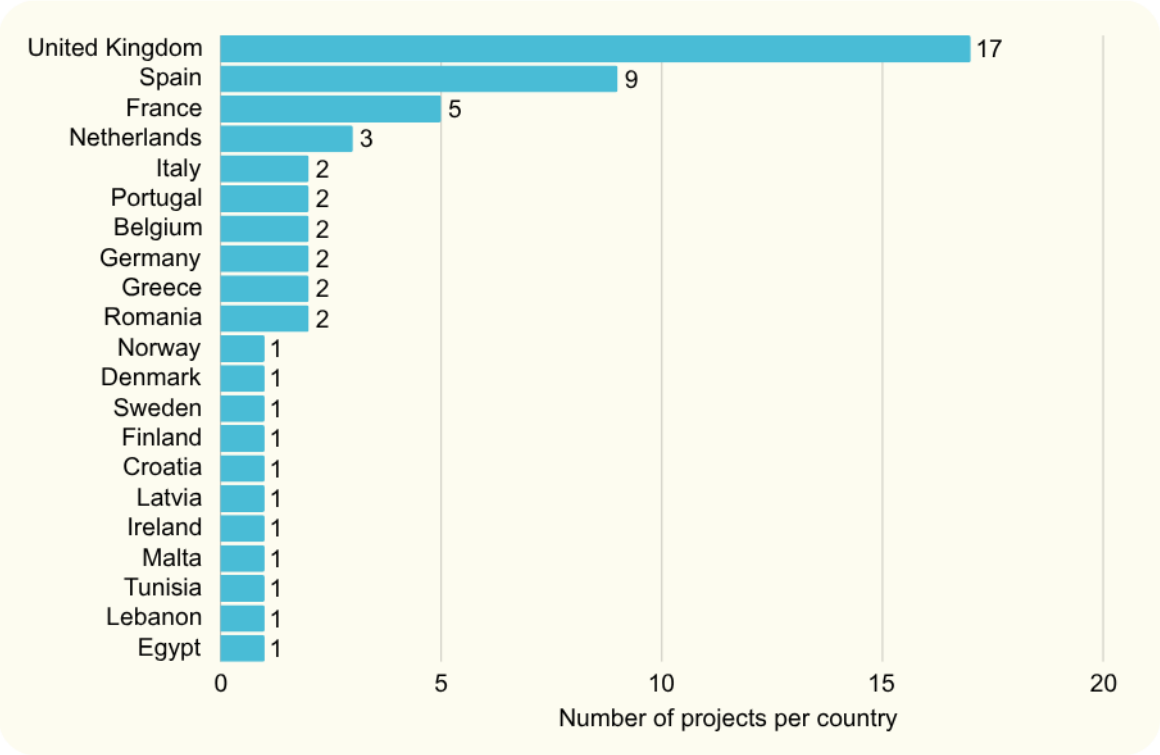


Figure 3. Distribution of initiatives by country. *Horizontal bar chart showing the number of projects per country (n = 57; single answer).*

The participating initiatives represent a wide geographical range, encompassing **23 countries** across Europe and neighbouring regions. The highest number of projects were reported from the United Kingdom, possibly reflecting a language bias due to the survey being conducted in English, followed by Spain, France, Italy, and the Netherlands. Additional representation was recorded from Portugal, Belgium, Germany, Greece, Romania, Norway, Denmark, Sweden, Finland, Croatia, Latvia, Ireland, and Malta. A limited number of contributions were also received from Tunisia, Lebanon, and Egypt reflecting collaborations extending beyond the European Union.

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### 4.1.4. Region of operation

Survey question: "In which region does the project take place?"
(Multiple answers possible)

This question was presented to respondents who indicated that their initiative operates across a **broader region** rather than a single country. A total of **60 projects** provided valid responses. Because multiple options could be selected, the total number of regional mentions exceeds the number of projects.

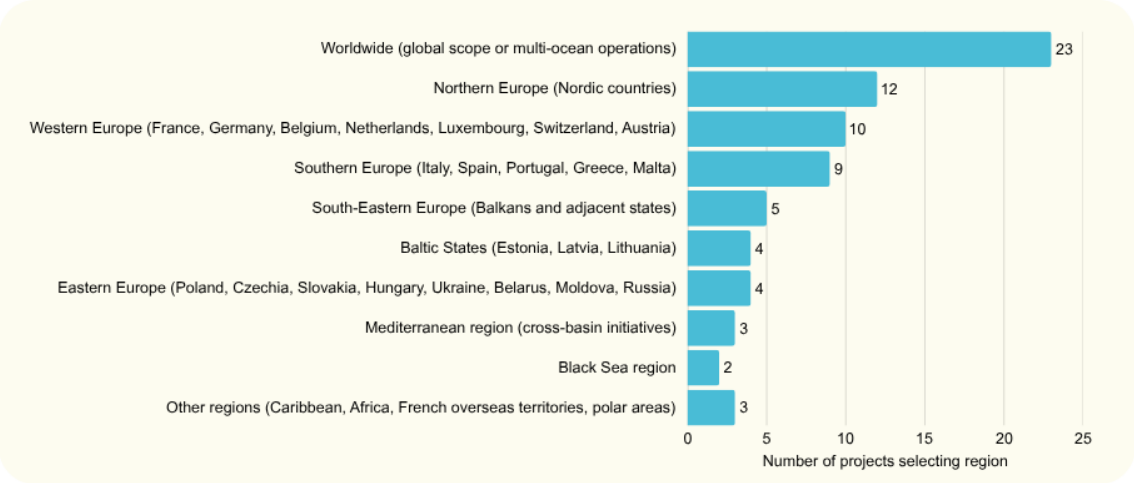


Figure 4. Regional distribution of broader-region initiatives. *Horizontal bar chart showing the number of broader-region projects per European or global region. (n = 60; 75 total selections; multiple answers possible).*

The responses show that **European-scale and global initiatives** are well represented in the sample. **Over one-third (43%)** of respondents indicated a **worldwide operational scope**, reflecting initiatives that collect observations across multiple ocean basins or in polar regions.

Combinations of Northern, Western, and Southern Europe were also frequently selected, showing that many projects operate across several European marine basins simultaneously. This multi-regional pattern demonstrates that interoperability challenges extend beyond national borders.

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### 4.1.5. Marine regions

Survey question: "In which marine region does the project take place?" (Multiple answers possible)

A total of 117 projects responded to this question, collectively reporting **288 instances of activity** across 18 marine basins, indicating that many initiatives operate in more than one region.

As shown in Figure 5, the **North Sea** was the **most frequently mentioned** area of activity (36%), followed by the North Atlantic Ocean (including the North-East Atlantic) (31%) and the Mediterranean Sea (general) (25%). Other important sub-regions included the English Channel (17%), Celtic Sea (15%), Baltic Sea (14%), and Western Mediterranean (12%). Around 22% of the total responses referred to worldwide or global ocean coverage, demonstrating the participation of European initiatives in broader ocean observation networks.

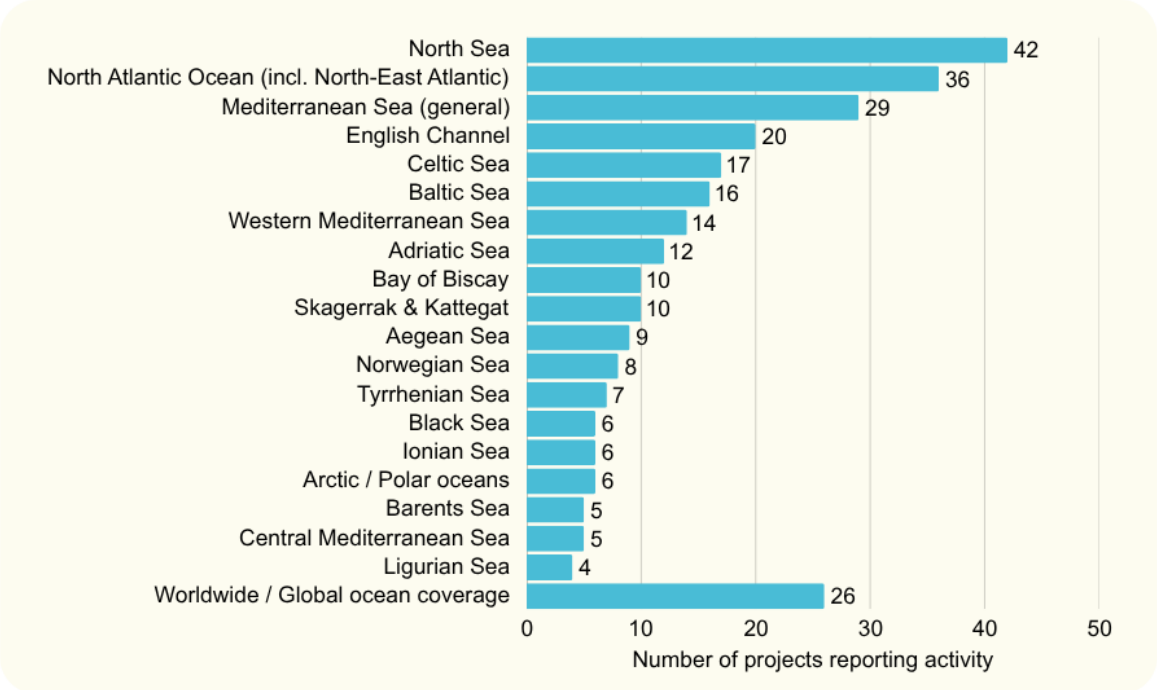


Figure 5. Distribution of initiatives across marine regions. *Horizontal bar chart showing the number of initiatives reporting activity in each marine region (n = 117; 288 total selections; multiple answers possible).*

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When aggregated according to the regional classification used under the **EU Mission "Restore Our Ocean and Waters"**: North Sea–Baltic (≈ 65%), Mediterranean (≈ 66%), Atlantic–Arctic (≈ 63%), and Other (≈ 27%), the distribution appears relatively balanced. However, the North Sea–Baltic and Mediterranean regions together account for roughly half of all reported activity, confirming these as the primary focal areas for marine citizen science in Europe.

Overall, the pattern indicates **broad geographical engagement** combined with regional concentration in Europe's most accessible and heavily monitored marine basins. This distribution reflects both existing research infrastructure and active coastal communities that facilitate citizen science participation.

### 4.1.6. Project duration

Survey questions:
"What is the start year of the project?"
"What is the end year of the project?"
(Single answer)

A total of 117 projects provided information on their start and end years. The start years range from before 2000 to 2025, with the median start year being 2020, indicating a marked increase in newly established initiatives during the last five years.

Approximately 80% of projects are ongoing, while 20% reported a defined end date between 2020 and 2025. The data suggest two main cohorts within the European marine and coastal citizen science landscape:

- **Established programmes (pre-2015):** These represent long-term monitoring initiatives, many of which began before 2010 and continue to operate, reflecting stable institutional and community engagement.
- **Recent and emerging initiatives (2018–2025):** This period constitutes the peak establishment phase, with more than 60% of all initiatives founded between 2018 and 2025. These projects highlight a strong expansion in marine citizen science, driven by increased digitalisation of data collection and a growing policy emphasis on citizen involvement in marine observation frameworks. This dynamic growth has been further supported by EU programmes such as Horizon 2020.

### 4.1.7. Participant categories

Survey question: "Who are the participants collecting the data in the project?"
(Multiple answers possible)

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Respondents were asked to identify all groups contributing to data collection within their initiatives. This question aimed to clarify the demographic and community composition of the European marine and coastal citizen science landscape.

A total of 117 projects responded, with **multiple participant types** often indicated per initiative. The vast majority of projects reported a **combination** of **citizen volunteers**, **students**, and **professionals** contributing to observation and sampling activities.

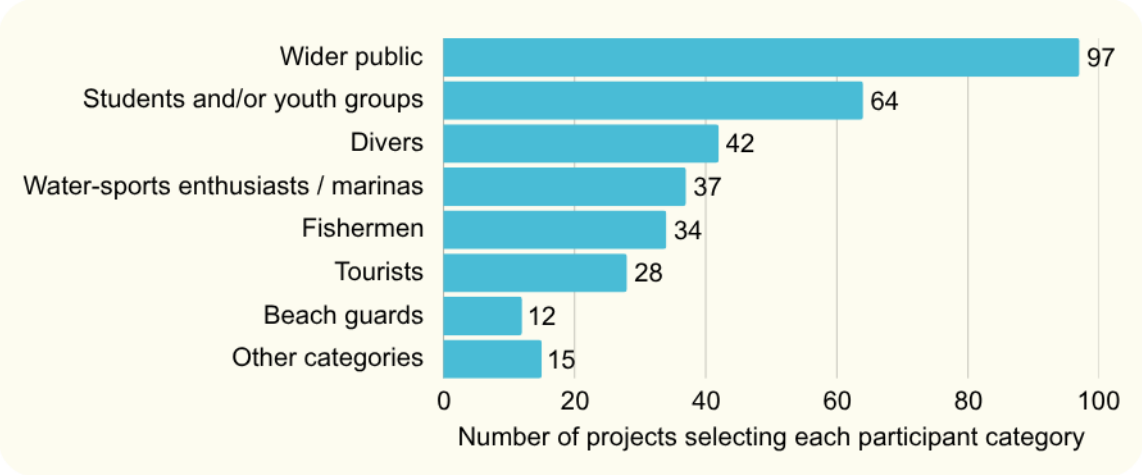


Figure 6. Participant types. *Horizontal bar chart showing the number of projects selecting each participant category (n = 117; 329 total selections; multiple answers possible).*

The data reveal that the **wider public**, selected by 97 projects (83%), constitutes the **backbone of marine and coastal citizen science initiatives**, participating both individually and through organised associations. Students and youth groups (55%) form the second-largest category, underscoring the strong educational dimension of marine citizen science. Specialised participant types such as divers (36%), water-sports enthusiasts (32%), and fishermen (29%) play essential roles in underwater and nearshore monitoring, providing observations that would otherwise be logistically or financially difficult to obtain through institutional programmes.

A smaller yet important share of projects involve professional or institutional actors, such as scientists, staff of a non-governmental organization (NGO), rangers of a marine protected area (MPA), nature guides, and coastal professionals, who support data validation, coordination, and capacity building. This “other participants” (13%) group also includes skilled volunteers and citizen experts (e.g. benthic samplers and amateur naturalists), as well as initiatives engaging social inclusion groups such as persons with disabilities and migrants through participatory frameworks.

Their involvement demonstrates that marine citizen science extends well beyond public volunteering, operating as a multi-stakeholder collaboration that bridges citizens, professionals, and organised civil-society actors. Such diversity contributes not only to the credibility and continuity of data collection but also to the social inclusiveness of the broader marine observation ecosystem.

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### 4.1.8. Scale of participation

Survey question: "What is the approximate number of participants per year?" (Single answer)

A total of 117 projects responded to this question, revealing wide variation in the size of participating communities. As shown in Figure 7, participation levels range from small to large-scale programmes.

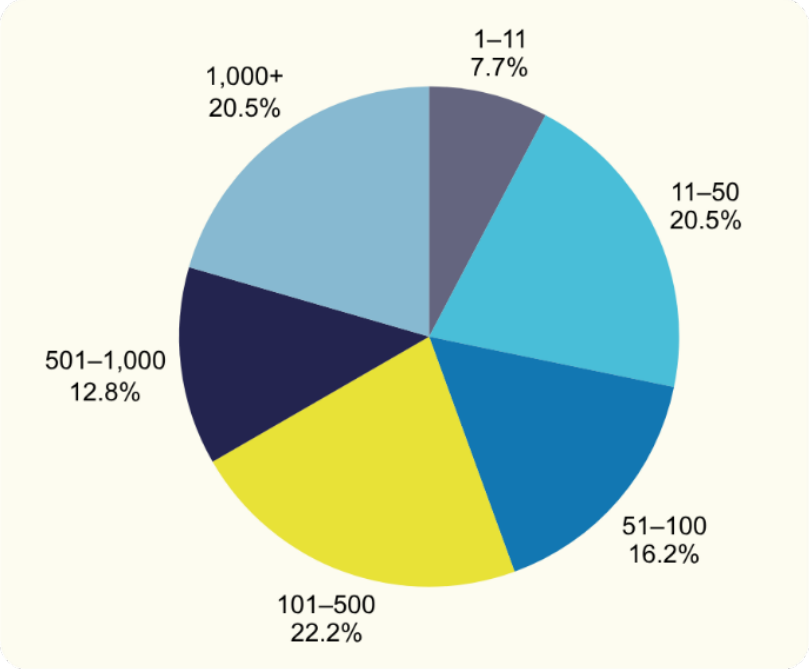


Figure 7. Approximate number of participants per year. *Pie chart showing the percentage of initiatives by annual number of active participants (n = 117; single answer).*

Roughly one-fifth of initiatives (21%) reported having more than 1,000 participants per year, indicating the presence of large, well-established citizen science networks. An equal share (21%) reported 11–50 participants, while 22% involved 101–500 contributors annually. About 16% of projects counted 51–100 active participants, and 13% reached between 501 and 1,000 participants. Only a small fraction (8%) represented very small initiatives with fewer than a dozen volunteers.

Overall, these figures point to a broadly balanced distribution of project sizes rather than a clear bimodal pattern. The majority of initiatives (≈60 %) involve between 11 and 500 participants, forming a strong middle tier of medium-sized efforts that combine community involvement with organised data collection.

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### 4.1.9. Frequency of activities or events

Survey question: "What is the frequency of the activity or event?"
(Single answer)

A total of 117 projects provided responses, revealing diverse temporal patterns in how citizen science activities are organised and implemented across marine and coastal initiatives.

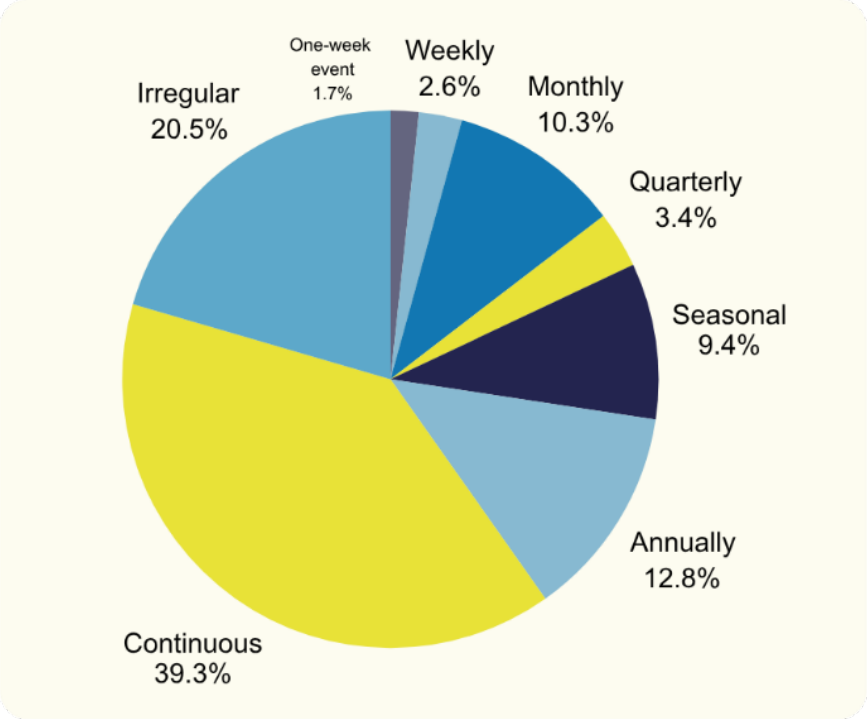


Figure 8. Frequency of activities and events. *Pie chart illustrating the proportion of initiatives by frequency of activity (n = 117; single answer).*

The **majority** of initiatives operate either on a **continuous basis (39%)** or with irregular activity patterns (21%), reflecting the highly flexible nature of marine citizen science engagement.

Roughly one-third of projects follow seasonal, annual, or monthly schedules, typically corresponding to biological or environmental monitoring cycles (e.g. breeding

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seasons, beach-litter campaigns, phytoplankton sampling). Shorter-term initiatives, such as one-day or weekly events, account for only a small proportion (3%).

### 4.1.10. Main topics of the projects

Survey question: "What is the main topic of the project?"
(Multiple answers possible)

A total of 117 projects responded to this question. Because many initiatives address several aspects of the marine environment simultaneously, respondents were allowed to select multiple thematic areas. The response categories were developed in alignment with the **Essential Ocean Variables (EOVs)** defined by the Global Ocean Observing System (GOOS), ensuring consistency with internationally recognised observation frameworks.

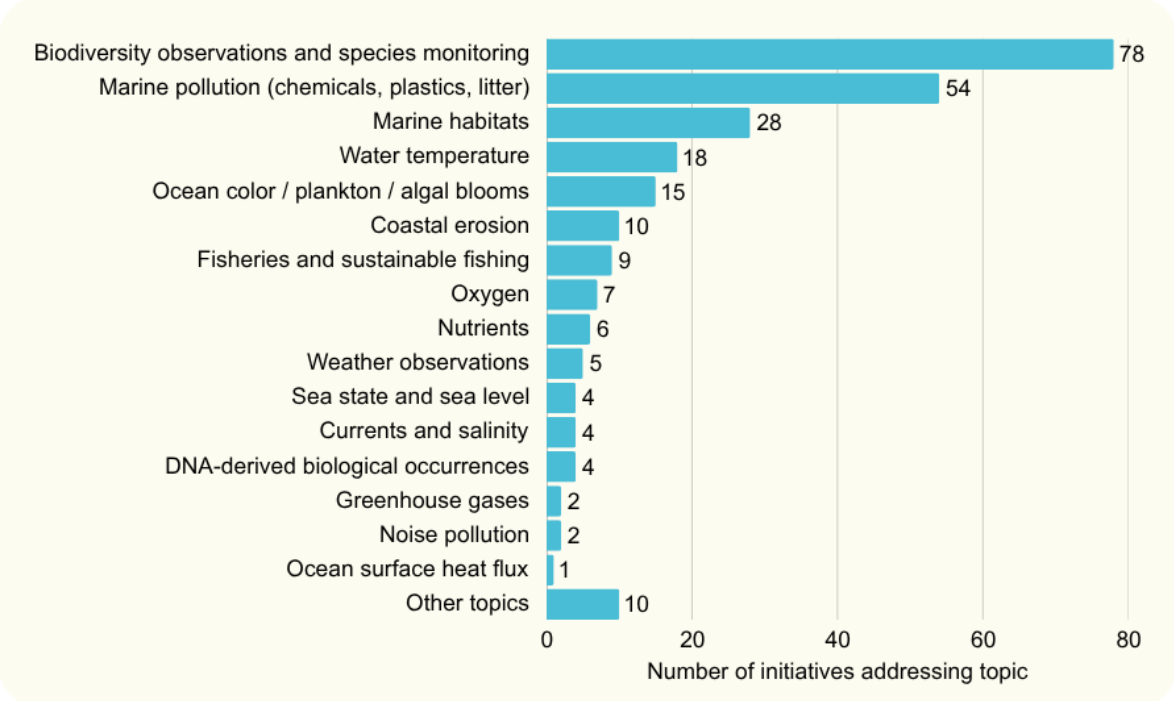


Figure 9. Main project topics. *Horizontal bar chart showing the number of initiatives addressing each main topic (n = 117; 257 total selections; multiple answers possible).*

The results reveal that **marine biodiversity, pollution, and habitat monitoring dominate**

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the European marine and coastal citizen science landscape, complemented by contributions to physical and chemical ocean observation.

The analysis highlights that biodiversity observations and species monitoring, selected by 78 projects (67%), remains the cornerstone of marine and coastal citizen science in Europe, with two-thirds of all initiatives involved in species identification, population monitoring, or habitat assessment. The strong representation of marine pollution-related projects (46%) underscores the prominence of public engagement in tackling marine litter and chemical contamination, topics that resonate widely with citizens and policy makers alike.

Physical and chemical ocean parameters such as temperature (15%), oxygen (6%), and nutrients (5%) are also monitored by a smaller but significant subset of projects. Finally, a limited number of projects focus on climate and atmospheric processes, such as greenhouse gases and weather observations, or on socio-economic and governance dimensions, reflecting the diversity of approaches within the European marine citizen science landscape.

## 4.2. Section 2: Data flow

This section examines how marine and coastal citizen science initiatives currently **manage, store, and disseminate their data**. The results show a community that increasingly recognises the importance of sound data stewardship and is gradually adopting more structured and interoperable practices, while notable variability persists among projects.

Overall, most initiatives report a solid foundation in data management, with a considerable proportion already applying elements of the FAIR principles and standardised methodologies. The widespread use of **cloud-based and hybrid storage** solutions reflects an emerging emphasis on **accessibility, collaboration, and scalability**. At the same time, a significant share of projects continues to rely on locally managed or institution-specific storage systems, which poses ongoing challenges for long-term preservation and interoperability.

Progress towards **data standardisation** is also evident. Many initiatives have begun to harmonise their datasets and metadata in accordance with recognised marine and biodiversity data frameworks, such as **EMODnet, GBIF, and EurOBIS**. Nevertheless, disparities remain in the extent of metadata documentation, the openness of data publication practices, and the formal recognition of citizen contributions.

In summary, the current dataflow landscape of European marine and coastal citizen science is characterised by both advancement due to the increased value of citizens collecting data and the use of growing technologies like smartphones and AI and

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heterogeneity because of varied data quality, challenges in standardizing data and ensuring clear policies for data exist.

### 4.2.1. Experience with data management

Survey question: "Do you have experience in managing data?"
(Single answer)

A total of 117 projects responded to this question. The results indicate that the majority of marine and coastal citizen science initiatives have a relatively high level of data management experience.

The data show that over two-thirds **(68%)** of initiatives have **direct experience** in managing datasets, suggesting that citizen science practitioners are not merely data collectors but also engage in aspects of curation, storage, and sharing. Another **30%** report having **partial experience.**

Only a very small number **(≈2%)** indicated having **no experience**. Overall, the responses reflect a maturing citizen science landscape in which community-led projects are increasingly aware of the technical and organisational demands of responsible data stewardship.

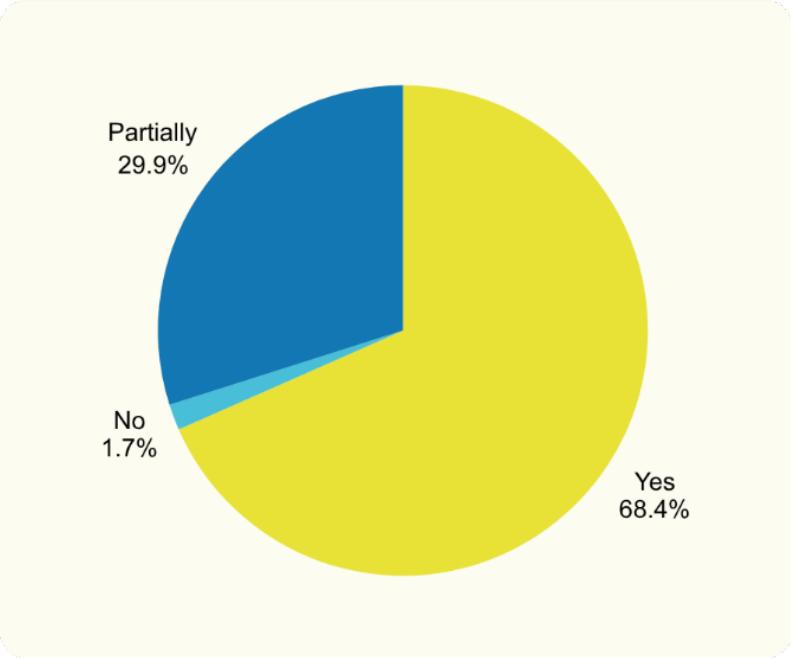


Figure 10. Experience with data management. *Pie chart showing the proportion of initiatives reporting experience in data management (n = 117; single answer).*

### 4.2.2. Data storage

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Survey question: “Where is the project data stored?”
(Multiple answers possible; responses normalised to 100%)

A total of 117 projects responded to this question. Because multiple answers were possible, respondents could indicate more than one storage environment. To help interpret the results, the three storage categories are defined as follows:

- **Local storage**: data saved directly on personal devices, such as laptops, desktops, smartphones, or external hard drives used by project contributors.
- **Internal storage**: storage environments provided and managed by the institution running the project (e.g. institutional servers, on-premise systems, internal network drives).
- **External storage**: systems hosted outside the institution, such as commercial cloud services (e.g. Google Drive, Dropbox), third-party repositories, or platforms managed by external partners.

The results are presented in two complementary ways:

1. The **pie chart** shows the normalised percentages of all storage configurations, summing to 100%, and thus representing the *relative distribution* of how different storage types and combinations are used across projects.
2. The **bar chart** shows the *absolute number of selections* for each storage category, independent of combinations between options.

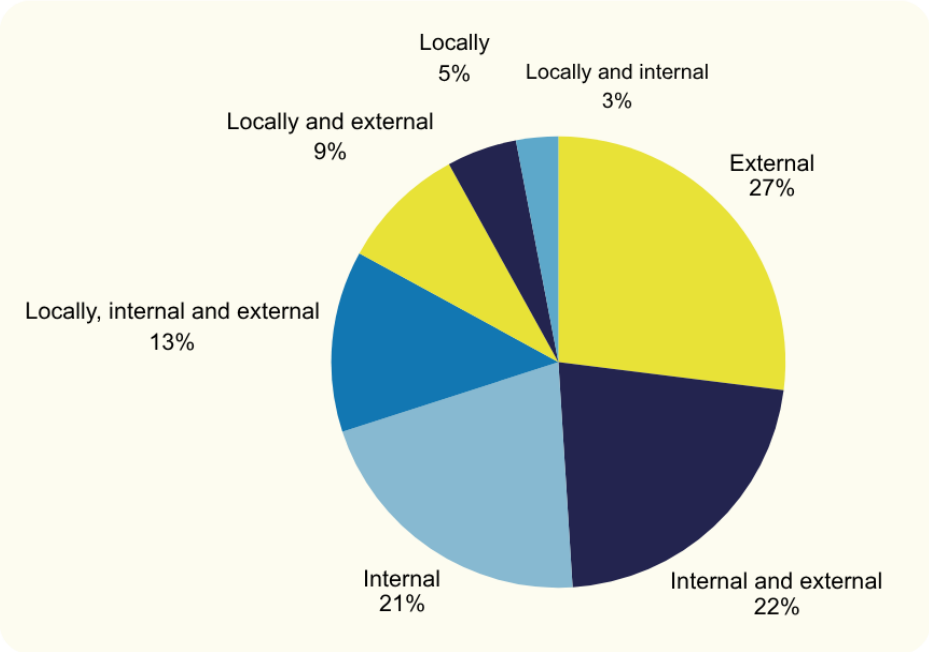


Figure 11. Storage environments used for citizen science data (normalised to 100%). *Pie chart showing the relative distribution of storage configurations among projects (117 respondents; multiple answers possible; normalised to 100%).*

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The results indicate a **heterogeneous landscape of data storage practices** among marine and coastal citizen science initiatives. No single environment is dominant. The most frequent configuration is external/cloud-only storage (27%), followed by internal institutional servers (21%) and combined internal–external systems (22%). Other mixed arrangements include local + internal + external (13%), local + external (9%), and local + internal (3%), while only 5% of projects rely exclusively on local storage.

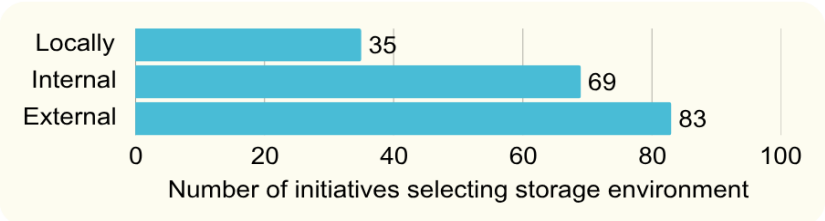


Figure 12. Storage environments used for citizen science data (total selections). *Horizontal bar chart showing the number of initiatives using each type of storage environment (n = 117; 187 total selections; multiple answers possible).*

When looking at the total counts, external storage was selected 83 times, internal storage 69 times, and local storage 35 times. This highlights that external or cloud-based systems are the most prevalent overall, but many projects still combine them with institutional or local solutions.

### 4.2.3. Standardisation of data and metadata

Survey question: "At this moment, the data of the project are raw, converted or partially converted?"
(Single answer)

A total of 117 projects responded to this question. The results indicate a heterogeneous level of progress in standardising citizen science data and metadata.

As shown in Figure 13, **39%** of initiatives report that their data are already **converted** into a consistent, standard format. Another **33%** indicate that their data are **partially converted**, suggesting that harmonisation efforts are underway but not yet complete.

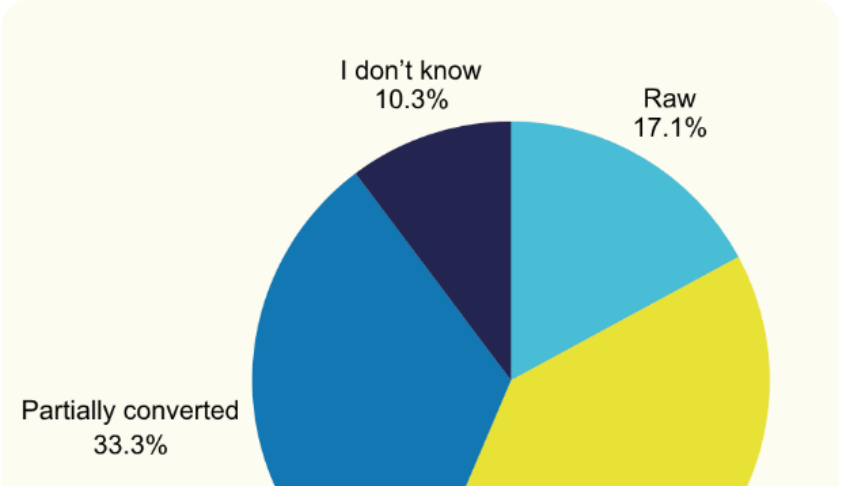

Figure 13. Standardisation status of citizen science data. *Pie chart showing the proportion of initiatives reporting their current data standardisation level (n = 117; single answer).*

These findings show that while a majority of projects (over 70%) have made at least partial progress towards standardisation, a substantial portion still manage non-harmonised or raw data, limiting interoperability with other datasets and infrastructures. The 10% of respondents who were uncertain about their standardisation status likely represent projects without dedicated data management expertise or formalised metadata documentation.

Overall, these results underscore the need for **targeted training and guidance** on data-standardisation workflows and the use of recognised marine data vocabularies to align citizen science outputs with FAIR principles and existing marine data systems.

### 4.2.4. FAIR awareness

Survey question: "Have you ever heard of the FAIR principles for data management?"
(Single answer)

A total of 117 projects responded to this question. The results show that most initiatives are at least familiar with the FAIR principles and actively attempt to apply them.

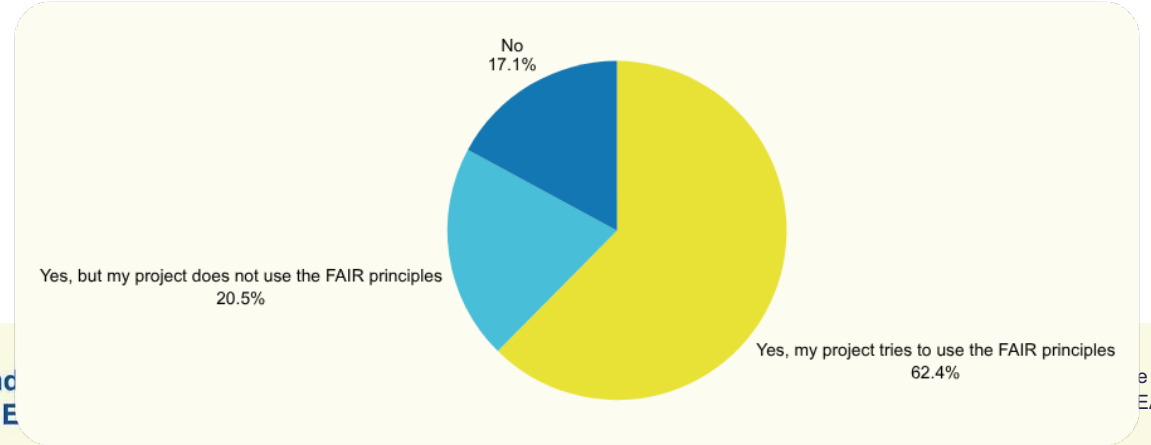

Figure 14. Awareness and application of FAIR principles. *Pie chart showing the proportion of initiatives reporting awareness and application of the FAIR principles (n = 117; single answer).*

The data reveal a **strong awareness** of the **FAIR framework (Findable, Accessible, Interoperable, and Reusable)** across European marine and coastal citizen science initiatives. Nearly two-thirds of respondents (62%) actively strive to implement FAIR principles, reflecting a growing culture of responsible and open data management within the community. An additional 20% are aware of FAIR but have not yet adopted the approach—often citing limited technical capacity, infrastructure access, or uncertainty about how to operationalise FAIR in small-scale projects.

Only 17% of projects reported no familiarity with FAIR principles, highlighting a clear opportunity for capacity building and training. These results emphasise that, while awareness is high, implementation remains uneven and would benefit from targeted guidance on metadata standards, repository integration, and open-data workflows.

### 4.2.5. Use of best practices and standardised protocols

Survey question: "Does the project currently use or document any best practices, standardised methods, protocols, tools, or guidelines for citizen science data collection, management, or sharing?"
(Single answer)

A total of 117 projects responded to this question. Nearly **seven out of ten initiatives (69%)** reported **using or documenting best practices, protocols, or standardised methods**, indicating a widespread awareness of the importance of methodological consistency and data reliability in citizen science workflows. These practices encompass a wide range of approaches, from defined sampling methodologies and structured data-submission formats to alignment with recognised marine observation frameworks.

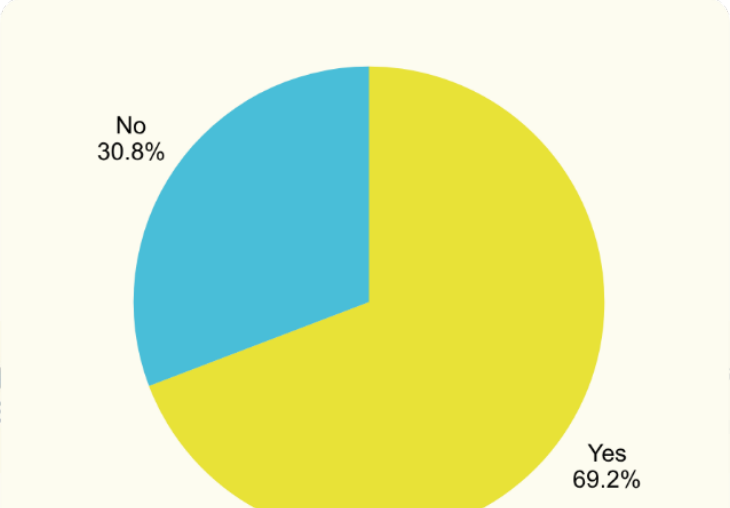


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Figure 15. Use of best practices and standardised protocols. *Pie chart showing the proportion of initiatives using or documenting best practices, standardised methods, or protocols (n = 117; single answer).*

Among those that provided further detail, many cited the **use of international standards**, such as the Darwin Core format and the FAIR principles, and integration in bigger data infrastructures (GBIF, EurOBIS, EMODnet). Others adhere to formal guidelines such as the Marine Strategy Framework Directive (MSFD), OSPAR protocols, and the Joint Cetacean Data Protocol (JCDP), demonstrating that citizen science data are increasingly compatible with professional marine and biodiversity monitoring systems.

Several respondents described the use of custom-developed protocols and tools, such as iNaturalist, MINKA, or bespoke mobile applications featuring fixed geographic zones, photographic validation, and expert review. Others reported structured training materials, species-identification cards, and video tutorials designed to ensure consistent data collection by volunteers.

In addition, a number of projects highlighted national or thematic frameworks, including Plastic Pirates, Artportalen, TurtleWatch Egypt, and Plages Vivantes, which each provide tailored guidelines for their participant communities. Some respondents also shared links to published protocols and datasets on Zenodo, GitHub, or in peer-reviewed journals, underscoring their commitment to open and reproducible science.

Conversely, around 31% of respondents indicated that they do not yet apply such frameworks. This finding underscores the continued need for shared templates, training materials, and harmonised guidance to ensure that data collected through diverse citizen science efforts can be aggregated and compared effectively across Europe.

Overall, the responses illustrate that methodological standardisation is already well embedded in a large share of marine and coastal citizen science initiatives, but that there remains scope for greater interoperability and capacity-building to consolidate these advances across the broader community.

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### 4.2.6. Data findability

**Survey question**: "Is the project data findable at this moment?"
(Single answer)

A total of 117 projects responded to this question. Slightly more than half (**56%**) indicated that their data are currently **findable**, while 44% reported that their datasets are not yet discoverable through public or institutional channels.

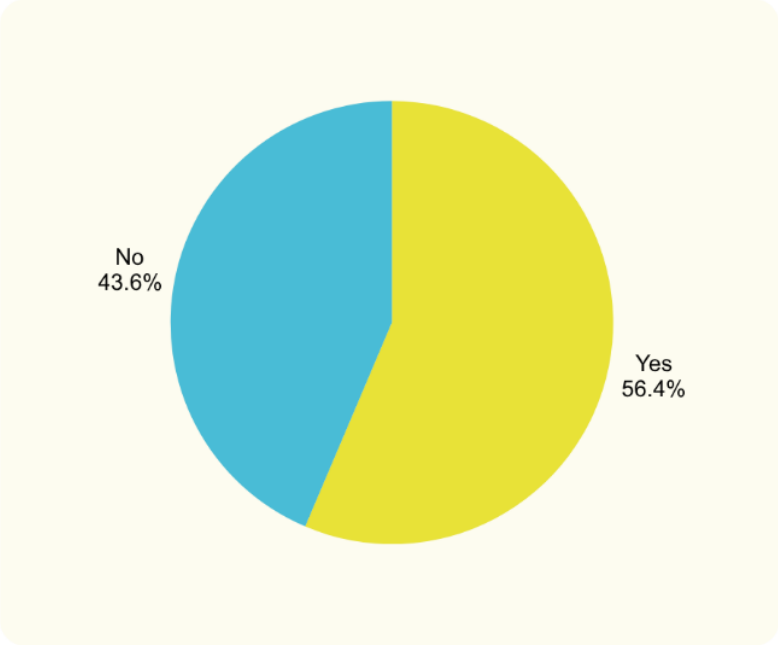


Figure 16. Data findability. *Pie chart showing the proportion of initiatives reporting whether their project data are currently findable (n = 117; single answer).*

Among the initiatives confirming data findability, the qualitative answers reveal a wide variety of publication environments and visibility mechanisms. Many projects host their datasets on **institutional websites, thematic data portals, or open repositories** such as GBIF, Zenodo, EMODnet, EurOBIS, and PANGAEA. Several others make data accessible through project-specific dashboards or interactive mapping interfaces (e.g. *MarineInfo*, *MINKA*, *Happywhale*, *Eye on Water*, *The Ocean Movement Dashboard*), providing users with visual insights or download options for observation data.

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A number of initiatives rely on **national or regional biodiversity databases**, including Artportalen (Sweden), iRecord and NBN Atlas (UK), or the National Biodiversity Data Centre (Ireland), which facilitate data discovery through structured metadata and Darwin Core–compliant records. In other cases, data is integrated into citizen science platforms such as *iNaturalist* or *Observation.org*, ensuring both visibility and standardisation across projects.

Several respondents highlighted that their datasets are findable but with controlled or **partial access**, particularly where sensitive species information or privacy considerations apply. Some projects therefore use metadata truncation, coordinate rounding, or request-based download systems to balance transparency with data protection. Others reported ongoing transitions, such as migrating data to EMODnet, GBIF, or institutional servers, to strengthen findability and interoperability in the near future.

Conversely, the remaining 44% of initiatives reported that their data are not yet discoverable, often because they are in an early developmental phase or rely on internal storage without metadata publication. This gap underscores that, while awareness of the FAIR data principles is relatively high, the "Findable" component remains only partially implemented across the marine and coastal citizen science landscape. To address this, future capacity-building efforts should prioritise training in data-publication workflows, including metadata creation, assignment of persistent identifiers (DOIs), and linking to established open-data infrastructures.

### 4.2.7. Data accessibility

Survey question: "The data of the project are accessible by…"
(Multiple answers possible; responses normalised to 100%)

A total of 117 projects responded to this question. The vast majority (**73%**) of initiatives make their data **accessible for everyone**, reflecting a strong alignment with open-data principles within the marine and coastal citizen science community. Smaller shares of projects limit access to project partners (11%), their own institute (7%), or both the institute and project partners (7%). Only 2% of projects indicated that their data are accessible only to themselves.

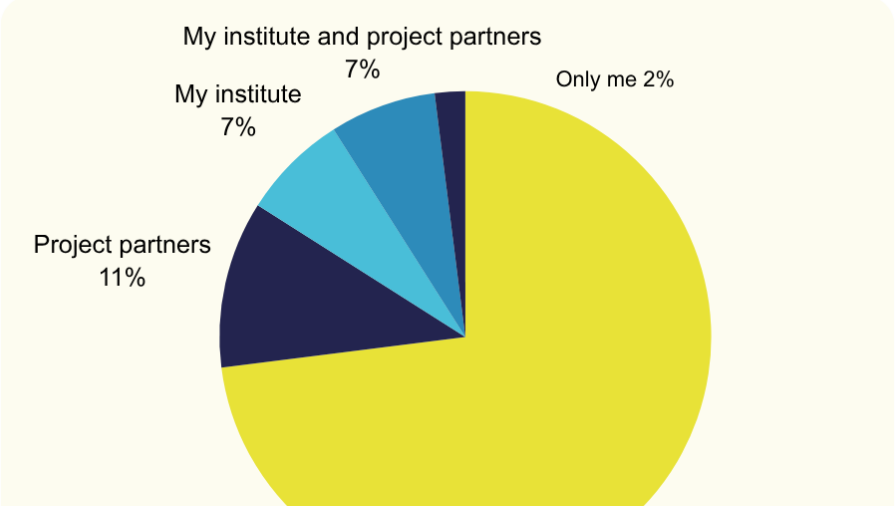

Figure 17. Data accessibility. *Pie chart showing the relative share of data accessibility levels among projects (n = 117; multiple answers possible; normalised to 100%).*

These results show a clear tendency toward openness and public accessibility. Most initiatives embrace transparency and shared access to support collaboration and reuse of citizen science data. However, the presence of restricted and institution-based access in a subset of projects suggests that organisational policies, technical limitations, or ethical considerations still influence data-sharing practices within the community.

### 4.2.8. Data publication platforms

Survey question: "If the data of the project are already (publicly) accessible, on which platforms are they available?"
(Multiple answers possible)

A total of 117 projects responded: 14% of respondents this question is not (yet) applicable for their project, meaning their data are not yet publicly accessible. This highlights the **transitional stage of data stewardship** within the MCSI community, where many projects are progressing from internal data storage toward open dissemination. When a project dedicated website exists 41% of initiatives already make their data available. However, the data sharing practices do not always align with the FAIR principles in these cases. Some examples are lack of metadata or even non existing, unclear access protocols, not interoperable formats, lack of domain-specific standards and missing or unclear licenses.

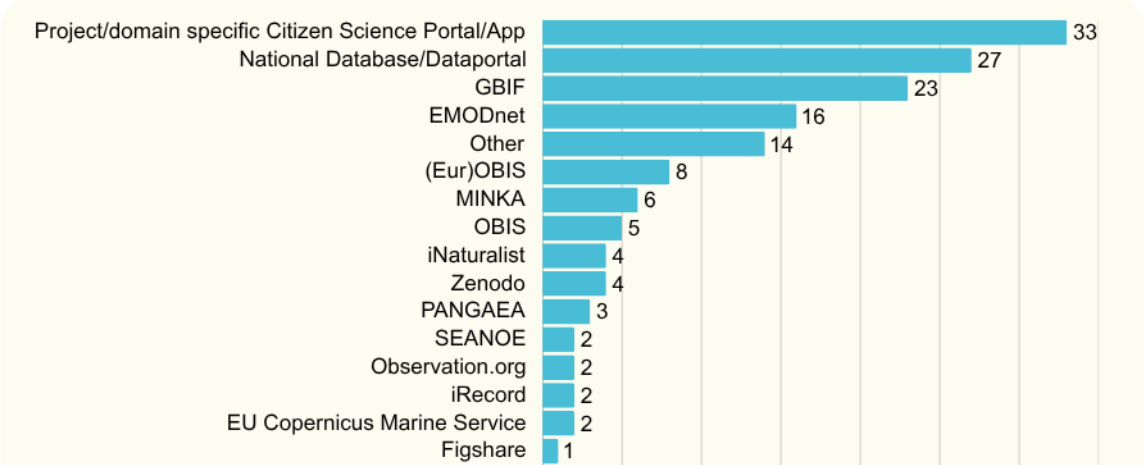

Figure 18. Publication platforms used by projects. *Horizontal bar chart showing the number of initiatives addressing each platform (n = 117; 156 total selections; multiple answers possible).*

The number of citizen-science tools, collaborative platforms and mobile apps facilitates data collection by citizen scientists. A total of 50 respondents (43%) currently use apps or platforms that are dedicated to, or designed for, specific projects or domains (environmental science, biodiversity, public and social sciences). The apps specifically used to monitor the marine and coastal environment are:

- The Shark Trust, Whale Track, Sea Watcher: observations on marine megafauna
- CoastSnap: monitoring changes to coastlines
- Sea Angling Diary: logging of fishing activities and catches for sustainable management of fish stocks
- Mini Secchi, Secchi, EyeonWater colour: observations on water clarity and colour temperature
- Beach Explorer, Marnoba, EAA Marine LitterWatch, The Ocean Cleanup Survey: observations on marine litter pollution
- Fish & Click: observations of lost or abandoned fishing gear

Next to specific marine apps, citizen science projects frequently use global biodiversity citizen science data platforms such as iNaturalist, Observation.org, iRecord and iSPOT. All research grade observations from these platforms are published in GBIF.

Notable fractions (5%) reference the MINKA Citizen Science Observatory as their marine data platform. MINKA is a platform acting as a participatory citizen science observatory on biodiversity data. 23% of projects generally store data in their **national databases** which are made available in **national data portals**.

Looking into publishing biodiversity data in (marine) international data portals and databases, the most frequently mentioned are GBIF (20%), EMODnet (14%) and (Eur)OBIS (7%) underscoring their importance as key nodes for the integration of European marine and coastal citizen science data. Next to these Zenodo and Figshare are used as general data repositories. Also, PANGAEA and SEANOE are used as international oceanographic data portals for storing and sharing datasets. This shows

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that citizen science data are increasingly connected to established marine and biodiversity data networks.

Last, 3% of projects contribute to EU initiatives (EU Copernicus Marine Service and EU Atlas of the Seas) which provide data about the marine environment.

### 4.2.9. Tracking and recognition of citizen contributions

Survey question: "Does the project use any form of tracking or recognition to give credit to participating citizens?"
(Multiple answers possible; responses normalised to 100%)

A total of 117 projects responded to this question. Respondents could select more than one option, as some initiatives apply both formal and informal recognition practices. To ensure comparability, results were normalised to 100%, showing the relative share of each recognition type.

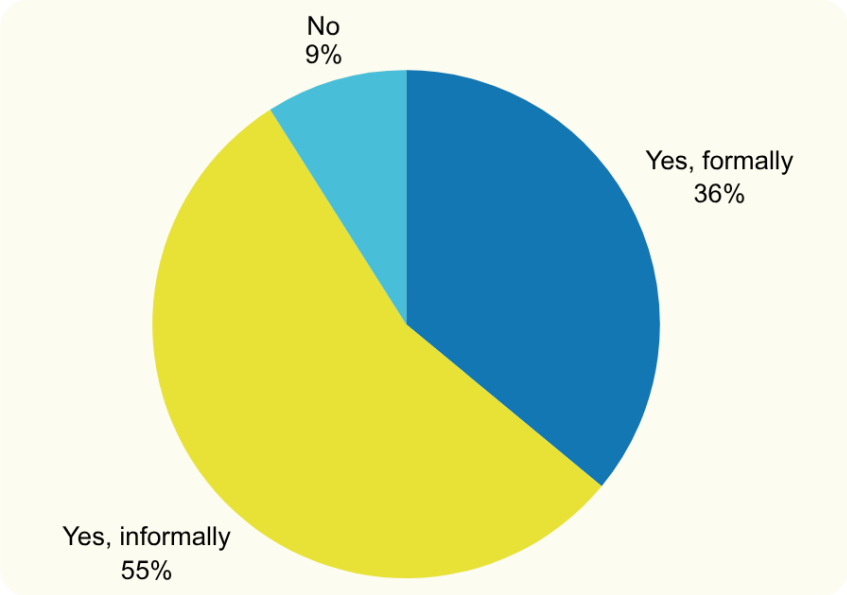


Figure 19. Tracking and recognition of citizen contribution. *Horizontal bar chart showing the proportion of initiatives applying different recognition mechanisms (117 respondents; multiple answers possible; normalised to 100 %).*

The results reveal that the majority of marine and coastal citizen science initiatives (91%) implement some form of credit or recognition for participants. **Informal recognition** dominates, applied by **around 55%** of projects, typically through thank-you messages, community acknowledgements, or public appreciation via social media or newsletters. **Formal recognition** mechanisms are used by **36%** of initiatives, for instance through authorship, certificates, acknowledgements in publications, or digital tracking systems.

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A smaller share of projects (**9%**) report **no formalised recognition system**, often citing anonymisation requirements, privacy regulations, or limited administrative capacity as reasons.

Overall, these findings indicate that recognition of citizen contributions is a widespread but heterogeneous practice within European marine and coastal citizen science. While structured credit systems remain less common, the strong prevalence of informal recognition reflects the social and motivational importance of acknowledging volunteers' efforts and fostering long-term engagement.

## 4.3. Section 3: Challenges and training needs in data management

This section explores the main obstacles and capacity gaps encountered by marine and coastal citizen science initiatives (MCSI) in handling their data. Respondents were invited to identify both the challenges that hinder effective, FAIR, and interoperable data management, and the training needs required to overcome these barriers. Together, these results provide a diagnostic overview of the community's current limitations and priorities for capacity-building, serving as a foundation for the targeted actions foreseen in WP2 Deliverable 2.2.

### 4.3.1. Major challenges in data management

Survey question: "What are currently the project's major challenges in terms of data management?"
(Multiple answers)

A total of 117 projects responded to this question, identifying a wide range of obstacles that affect how MSCI manage their data.

Figure 20. Major challenges in data management. *Horizontal bar chart showing the number of projects identifying specific challenges in data management (n = 117 respondents; 309 total selections; multiple answers possible).*

By far the most frequently reported barrier is **lack of funds**, cited by **71 projects (61%)**. This confirms that financial constraints remain the single most significant obstacle to sustaining data workflows, from collection to publication. **Limited time availability**, mentioned by **51 respondents (44%)**, follows closely, reflecting the dependence of many initiatives on volunteers or part-time staff who struggle to maintain regular data-management routines.

Other common issues include data-quality and consistency problems (27%), interoperability challenges with external systems (22%), and technical barriers such as insufficient storage or inadequate tools (16%). Together, these highlight the **need for stronger technical infrastructure** and clearer methodological guidance.

Human-capacity constraints are also evident: limited institutional support (20.5 %), lack of data-science expertise (19%), and insufficient training (5%) point to gaps in available skills and support mechanisms. Legal or ethical concerns (11%), including data protection (GDPR) and licensing, were also mentioned by several respondents.

A small number of initiatives noted no major challenges (4%), while unclear roles or responsibilities (3%) were least frequently reported. Overall, these results depict a landscape where financial, temporal, and technical limitations continue to hinder progress toward robust and FAIR-aligned data stewardship. Addressing these barriers will require not only targeted funding but also sustained investment in skills development, interoperability, and institutional support.

### 4.3.2. Training needs in data management

Survey question: “What are the project training needs in terms of data management?” (Multiple answers possible)

A total of 117 projects responded to this question, identifying clear areas where further training is needed to strengthen data-related workflows within MCSI.

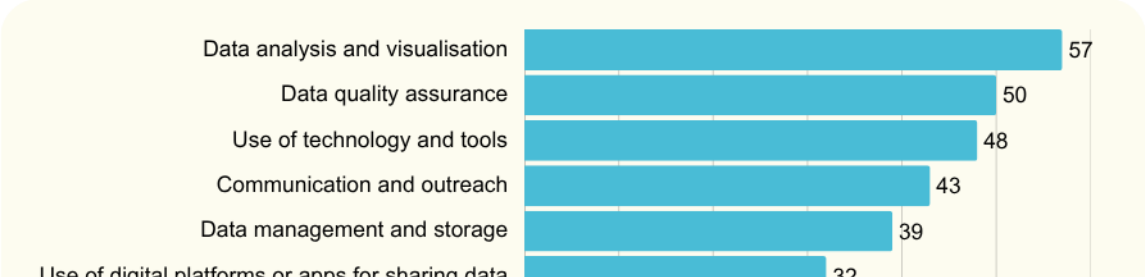

Figure 21. Training needs in data management. *Horizontal bar chart showing the number of projects identifying specific training needs in data management (n = 117; 316 total selections; multiple answers possible).*

The most frequently expressed need concerns **data analysis and visualisation**, selected by **57 projects (49%)**, indicating strong demand for capacity building in transforming raw citizen science data into interpretable and policy-relevant insights. **Data quality assurance (43%)** and **use of technology and tools (41%)** follow closely, underlining the importance of ensuring methodological rigour and technological proficiency across initiatives.

Further training needs are identified in communication and outreach (37%) and data management and storage (33%), reflecting ongoing efforts to professionalise data stewardship and enhance interoperability between systems. Use of digital platforms or apps for sharing data (27%) also features prominently, illustrating the increasing focus on open data and online dissemination practices.

More specific topics, such as legal and ethical aspects (19%) and project coordination and planning (19%), are less frequently cited but remain relevant, particularly for initiatives dealing with cross-border collaboration or sensitive information. Only 3 initiatives (3%) reported no current training needs, suggesting that nearly all respondents recognise the value of further skill development in one or more areas of data management.

Overall, the findings confirm a community-wide call for practical, hands-on training, especially in data processing, quality control, and digital tool usage, complemented by growing attention to communication and ethical data handling within the European marine and coastal citizen science landscape.

## 4.4. Section 4: Engagement

A total of 117 projects responded to the questions on engagement and willingness to collaborate within the marine and coastal citizen science community.

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The results reveal **a remarkably high level of interest in networked collaboration and communication** across the surveyed initiatives. An overwhelming 93% of respondents expressed interest in joining an informal marine citizen science data network, while 92% indicated they would like to participate in joint online or physical events with other project coordinators, data managers, and technology developers. Similarly, over 90% of projects wish to receive the CS-MACH1 newsletter, and 87% are open to having their project featured through CS-MACH1's communication channels.

When asked about future collaboration and follow-up, 69% of respondents agreed to take part in a one-hour follow-up interview, showing a strong willingness to contribute more in-depth insights. Among those using sensors or other data-collection technologies, 54% consented to being contacted for more technical discussions, while 43% marked this as not applicable to their work.

These findings collectively demonstrate broad enthusiasm for cooperation, visibility, and knowledge exchange within the European marine citizen science community. They provide a solid foundation for establishing a community of practice under WP2, supporting sustained dialogue, capacity building, and coordinated data management improvement across initiatives.

### 4.5. Closing section: Feedback and consent

The closing section invited participants to share open feedback, suggestions, or further comments on the survey and its broader objectives. Responses reveal a high degree of engagement and constructive reflection among the participating initiatives.

Several respondents **expressed appreciation** for the initiative, describing it as timely, relevant, and valuable for strengthening collaboration within the marine citizen science community. Many projects indicated a strong willingness to stay informed about upcoming developments, to participate in future activities, or to contribute to the emerging network.

Feedback also pointed to **practical and structural challenges** faced by initiatives. Respondents highlighted persistent limitations in **funding, time, and personnel**, as well as specific needs for **communication and outreach support**, particularly to engage broader audiences such as tourists and local communities. Others noted technical and organisational barriers, such as maintaining data quality, ensuring interoperability, and finding sustainable hosting or data management solutions suited to citizen science contexts.

Several contributions offered thoughtful suggestions for the future direction of the CS-MACH1 network. These included calls for more thematic focus areas (e.g. marine biodiversity or marine litter), translation of key materials, and dedicated capacity-

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building efforts tailored to varying levels of expertise. Some respondents shared detailed project experiences or ongoing innovations, from school-based monitoring systems to sophisticated cloud-based architectures, underscoring the diversity and creativity within the community.

Finally, multiple projects expressed explicit interest in future collaboration, joint funding applications, and knowledge exchange under the CS-MACH1 umbrella. Collectively, this feedback confirms both the enthusiasm and the readiness of the European marine citizen science community to move toward greater coordination, mutual support, and shared learning in the coming phases of WP2.

## 5. Discussion and outlook

This preliminary assessment provides a consolidated picture of a **diverse yet maturing** European marine and coastal citizen science landscape. Projects increasingly employ **digital and image-based tools**, such as mobile applications, GPS, and online reporting systems, to collect data. They store information across **hybrid environments**, combining local, institutional, and cloud-based systems. Awareness of the **FAIR data principles** is widespread, though their practical implementation, especially regarding findability, metadata completeness, and data publication, remains uneven. Most initiatives report partial or full progress toward data standardisation, and open accessibility is becoming a defining feature, even as long-term stewardship and systematic workflows still vary widely.

At the same time, the survey reveals **strong foundations** within the community. Many initiatives already connect to established infrastructures such as **EMODnet**, **GBIF**, **EurOBIS**, and **Zenodo**, illustrating that citizen science data is gradually integrating into the broader European marine data ecosystem. Recognition of citizen contributions is also widespread, often through informal means (thank-you messages, community visibility) and, in a smaller but growing number of cases, through formal credit systems such as authorship, certificates, or acknowledgements. The wide range of participant types (citizens, students, divers, professionals, and educators) underscores the social inclusiveness and interdisciplinary strength of marine and coastal citizen science.

However, several **persistent challenges** remain. Limited funding and time availability continue to be the most significant obstacles for good and robust data management, followed by issues related to data quality, interoperability, and insufficient technical or analytical capacity. Although awareness of FAIR principles is high, many initiatives still struggle with **metadata quality, persistent identifiers, and licensing**, constraining data reusability. The coexistence of

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multiple storage modes further complicates version control, traceability, and long-term preservation.

These insights will directly inform the **next phase of D2.1 of WP2**, which will adopt a qualitative approach through 10 interviews.

# 6. Annexes

## 6.1. Annex 1: survey questionnaire

The following annex contains the full set of questions used in the CS-MACH1 Survey.

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# CS-MACH1 survey: help shape the future of marine citizen science data!

* Indicates required question


This survey is part of the **CS-MACH1 project**, funded by the EU Horizon Europe programme. The project aims to strengthen the **marine citizen science data community** and improve how data is collected, managed, and shared across Europe and beyond.

With this questionnaire we want to learn how marine/coastal citizen science projects are currently handling their data — from collection to storage and sharing — and where additional support or training could be useful.

Completing the survey will take about **15–20 minutes**. If you coordinate more than one project, please fill in a separate form for each. This survey is intended for projects collecting data in the **marine or marine–riverine environment** (no other purely freshwater bodies).

Your responses will be processed in line with the **EU General Data Protection Regulation (GDPR)**. All personal data will be treated confidentially, used only for project purposes, and stored securely. Participation is voluntary, and you may access, correct, or request deletion of your data at any time. For questions, please contact **csmach1@vliz.be**.

Thank you in advance for your time and valuable contribution!

**IDENTIFICATION OF THE PROJECT AND COORDINATING PERSON**

1. What is the name of the project? *

2. What is the name (first name and last name) of the main coordinator? *

3. What is the email address of the main coordinator?

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4. What is the URL of the project's website? *

**GENERAL CHARACTERISTICS OF THE PROJECT**

5. Are any technologies or tools used in the project to collect scientific data? If yes, please select all that apply from the list below. *

*Tick all that apply.*

- [ ] Mobile devices and apps
- [ ] GPS and mapping tools
- [ ] Drones and remotely operated vehicles
- [ ] Cameras and imaging equipment
- [ ] Water quality sensors and DIY kits measuring physico-chemical water parameters
- [ ] Sampling gear
- [ ] Acoustic tools
- [ ] Pattern tracking devices (e.g., currents, waves, sea level)
- [ ] Biodiversity & species monitoring kits (e.g., eDNA)
- [ ] NA (not applicable for the project)
- [ ] Other:

6. Does the project take place in a single country or a broader region? *

If the project takes place in a single country (e.g., only in Belgium), select 'single country'. If you coordinate a project that covers more countries or a broader region (e.g., Western Europe, Eastern Europe), please select 'broader region'.

*Mark only one oval.*

- ◯ Single country *Skip to question 7*
- ◯ Broader region *Skip to question 8*

**GENERAL CHARACTERISTICS OF THE PROJECT**

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7. In which country does the project take place? *

*Mark only one oval.*

- Albania *Skip to question 9*
- Algeria *Skip to question 9*
- Andorra *Skip to question 9*
- Armenia *Skip to question 9*
- Austria *Skip to question 9*
- Azerbaijan *Skip to question 9*
- Belarus *Skip to question 9*
- Belgium *Skip to question 9*
- Bosnia and Herzegovina *Skip to question 9*
- Bulgaria *Skip to question 9*
- Croatia *Skip to question 9*
- Cyprus *Skip to question 9*
- Czech Republic *Skip to question 9*
- Denmark *Skip to question 9*
- Egypt *Skip to question 9*
- Estonia *Skip to question 9*
- Finland *Skip to question 9*
- France *Skip to question 9*
- Georgia *Skip to question 9*
- Germany *Skip to question 9*
- Greece *Skip to question 9*
- Hungary *Skip to question 9*
- Iceland *Skip to question 9*
- Iran *Skip to question 9*
- Ireland *Skip to question 9*
- Italy *Skip to question 9*
- Kazakhstan *Skip to question 9*
- Kosovo *Skip to question 9*
- Latvia *Skip to question 9*
- Lebanon *Skip to question 9*
- Liechtenstein *Skip to question 9*
- Lithuania *Skip to question 9*
- Luxembourg *Skip to question 9*
- Malta *Skip to question 9*
- Moldova *Skip to question 9*
- Monaco *Skip to question 9*
- Montenegro *Skip to question 9*
- Morocco *Skip to question 9*
- Netherlands *Skip to question 9*
- North Macedonia *Skip to question 9*
- Norway *Skip to question 9*
- Poland *Skip to question 9*
- Portugal *Skip to question 9*
- Romania *Skip to question 9*

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- ◯ Russia *Skip to question 9*
- ◯ San Marino *Skip to question 9*
- ◯ Serbia *Skip to question 9*
- ◯ Slovakia *Skip to question 9*
- ◯ Slovenia *Skip to question 9*
- ◯ Spain *Skip to question 9*
- ◯ Sweden *Skip to question 9*
- ◯ Switzerland *Skip to question 9*
- ◯ Syria *Skip to question 9*
- ◯ Tunisia *Skip to question 9*
- ◯ Turkey *Skip to question 9*
- ◯ Ukraine *Skip to question 9*
- ◯ United Kingdom *Skip to question 9*
- ◯ Other: _____

**GENERAL CHARACTERISTICS OF THE PROJECT**

8. In which region does the project take place? *

*Tick all that apply.*

- ☐ Baltic States (Estonia, Latvia, Lithuania)
- ☐ Eastern Europe (Poland, Czechia, Slovakia, Hungary, Ukraine, Belarus, Moldova, Russia)
- ☐ Northern Europe (Nordic countries: Denmark, Finland, Iceland, Norway, Sweden)
- ☐ South-Eastern Europe (Balkans: Albania, Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia, Serbia, Bulgaria, Romania, Greece, Slovenia, Kosovo)
- ☐ Southern Europe (Italy, Spain, Portugal, Greece, Malta)
- ☐ Western Europe (France, Germany, Belgium, Netherlands, Luxembourg, Switzerland, Austria)
- ☐ Worldwide
- ☐ Other: _____

**GENERAL CHARACTERISTICS OF THE PROJECT**

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9. In which marine region does the project take place? *

*Tick all that apply.*

- [ ] It's a river-based project
- [ ] Adriatic Sea
- [ ] Aegean Sea
- [ ] Baltic Sea
- [ ] Barents Sea
- [ ] Bay of Biscay
- [ ] Black Sea
- [ ] Celtic Sea
- [ ] Central Mediterranean Sea
- [ ] Eastern Mediterranean Sea
- [ ] English Channel
- [ ] Greenland Sea
- [ ] Ionian Sea
- [ ] Ligurian Sea
- [ ] Mediterranean Sea (general)
- [ ] North Atlantic Ocean
- [ ] North Sea
- [ ] Norwegian Sea
- [ ] Skagerrak & Kattegat
- [ ] Tyrrhenian Sea
- [ ] Western Mediterranean Sea
- [ ] White Sea
- [ ] Other: _____

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10. What is the start year of the project? *

Dropdown

*Mark only one oval.*

- 2025
- 2024
- 2023
- 2022
- 2021
- 2020
- 2019
- 2018
- 2017
- 2016
- 2015
- 2014
- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2003
- 2002
- 2001
- 2000
- Before 2000

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11. What is the end year of the project? * Dropdown

*Mark only one oval.*

- The project is ongoing
- 2025
- 2024
- 2023
- 2022
- 2021
- 2020
- 2019
- 2018
- 2017
- 2016
- 2015
- 2014
- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004
- 2003
- 2002
- 2001
- 2000
- Before 2000

12. Who are the participants collecting the data in the project? *

*Tick all that apply.*

- [ ] Wider public
- [ ] Water sports enthusiasts / marinas
- [ ] Divers
- [ ] Beach guards
- [ ] Fishermen
- [ ] Students and/or youth groups
- [ ] Tourists
- [ ] Other: _____

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13. What is the approximate number of participants per year? * Dropdown

*Mark only one oval.*

- 1–11
- 11–50
- 51–100
- 101–500
- 501–1,000
- 1,000+

14. What is the frequency of the activity or event? * Dropdown

*Mark only one oval.*

- One-day event
- Weekly
- Monthly
- Quarterly
- Seasonal
- Annually
- Continuous
- Irregular

15. What is the main topic of the project? *

*Tick all that apply.*

- Currents
- Salinity
- Sea level
- Sea state
- Ocean Surface Heat Flux
- Water temperature
- Ocean color / plankton / harmful algal blooms
- Oxygen
- Nutrients
- Green house gases
- Marine habitats
- Biodiversity observations and/or species monitoring (e.g., fish, birds, mammals, ...)
- DNA-derived biological occurrences (DNA from individual organisms, but also from environmental DNA)
- Marine pollution (chemicals, plastics, ...)
- Coastal erosion
- Fisheries / sustainable fishing
- Weather observations
- Noise pollution
- Other: _____

**DATA-FLOW NOW**

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16. Citizen science is hot! All over the world we are collecting all types of data. * Dropdown
Do you have experience in managing data?

*Mark only one oval.*

- ◯ Yes
- ◯ Partially
- ◯ No

17. Where is the project data stored? *

*Tick all that apply.*

- ☐ Locally (e.g., PC, laptop, external drive, USB)
- ☐ Internal institutional storage (e.g., shared network drives, institutional servers)
- ☐ External/cloud storage (e.g., Google Drive, Dropbox, OneDrive, SharePoint)
- ☐ Other: _____

18. Standardization of data and metadata makes information understandable, interoperable, and readily exchangeable with other datasets. It refers to the process of converting raw (meta)data into a consistent, standard format. *

At this moment, the data of the project are:

*Mark only one oval.*

- ◯ Raw
- ◯ Converted
- ◯ Partially converted
- ◯ I don't know

19. Have you ever heard of the FAIR principles for data management? *

The FAIR principles are international guidelines for research data management that aim to maximize the reuse of research data. FAIR data are data that are **Findable (F), Accessible (A), Interoperable (I),** and **Reusable (R).**

*Mark only one oval.*

- ◯ No
- ◯ Yes, but my project does not use the FAIR principles
- ◯ Yes, my project tries to use the FAIR principles
- ◯ Other: _____

20. Does the project currently use or document any best practices, standardized methods, protocols, tools or guidelines for citizen science data collection, management, or sharing? *

E.g., standardized protocols for water quality measurements, guidelines for recording species observations, metadata templates for marine data, tools for managing coastal monitoring results, or policies for sharing datasets according to FAIR principles.

*Mark only one oval.*

- ◯ Yes *Skip to question 21*
- ◯ No *Skip to question 22*

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21. You answered 'yes' to the question: *Does the project currently use or document any best practices, standardized methods, protocols, tools, or guidelines for citizen science data collection, management, or sharing?* Please specify or provide links if available: *

22. Is the project data findable at this moment? *

Data is discoverable via search engines and catalogues with the help of a rich set of metadata allowing its discovery. Metadata are always openly accessible, even if the data are restricted or under embargo.

*Mark only one oval.*

- ◯ Yes *Skip to question 23*
- ◯ No *Skip to question 24*

23. You answered 'yes' to the question: *Is the project data findable at this moment?* Please specify or provide links if available: *

**DATA-FLOW NOW**

24. The data of the project are accessible by: *

*Tick all that apply.*

- ☐ Only me
- ☐ My institute
- ☐ Project partners
- ☐ Accessible for everyone
- ☐ Other: _____

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25. If the data of the project are already (publicly) accessible, on which platforms are they available? *

*Tick all that apply.*

- [ ] Dropbox
- [ ] (Eur)OBIS
- [ ] EDITO
- [ ] EMODnet
- [ ] GBIF
- [ ] Google Drive
- [ ] ICES
- [ ] OneDrive
- [ ] PANGAEA
- [ ] SeaDataNet
- [ ] SharePoint
- [ ] Zenodo
- [ ] NA (not applicable for the project)
- [ ] Other: _____

26. Does the project use any form of tracking or recognition to give credit to participating citizens? *

*Tick all that apply.*

- [ ] Yes, formally (e.g., authorship, digital badges, acknowledegments)
- [ ] Yes, informally (e.g., thank-you messages, community recognition)
- [ ] No, we do not track or recognize contributions
- [ ] Other: _____

**CHALLENGES AND NEEDS WITH REGARDS TO DATA MANAGEMENT**

27. What are currently the project major challenges in terms of data management? *

*Tick all that apply.*

- [ ] Dirty data
- [ ] No time
- [ ] Unavailability or difficult access to data
- [ ] Lack of own knowledge
- [ ] Lack of guidelines
- [ ] Lack of funds to do the work
- [ ] Limited support in the project
- [ ] Lack of data science talent or experts in the project
- [ ] No training
- [ ] Unclear responsibilities or roles within the project
- [ ] Technical barriers (e.g., storage, tools)
- [ ] Data quality or consistency issues
- [ ] Legal or ethical concerns (e.g., privacy, licensing)
- [ ] Interoperability with (integration in) other data systems or platforms
- [ ] Other: _____

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28. What are the project training needs in terms of data management? *

*Tick all that apply.*

- [ ] Data collection methods
- [ ] Data quality assurance
- [ ] Data management and storage
- [ ] Use of technology and tools
- [ ] Data analysis and visualization
- [ ] Use of digital platforms or apps for sharing data
- [ ] Communication and outreach
- [ ] Legal and ethical aspects (e.g., GDPR, licensing)
- [ ] Project coordination and planning
- [ ] Other: _____

**CITIZEN SCIENCE DATA NETWORK**

29. Are you interested in being part of an informal citizen science data network? *

CS-MACH1 aims to establish a long-lasting network of stakeholders to enhance the use of marine citizen science data for societal benefit. The network seeks to connect (1) marine citizen science project coordinators, (2) low-cost technology developers, (3) data managers, and (4) potential users of the data (scientists and policy makers). As a coordinator of a marine citizen science project, are you interested in joining the network? You should be part of it!

*Mark only one oval.*

- ◯ Yes
- ◯ No

30. Are you interested in participating in a joint physical or online event with other marine/coastal citizen science project coordinators, data managers, designers of low-cost technology, and potential users of your data? *

The workshop will take place on February 3 and 4, 2026, in Ostend. Please note: this does not count as a registration, but merely indicates your interest.

*Mark only one oval.*

- ◯ Yes
- ◯ No

31. Would you like your marine or coastal citizen science project to be considered for featuring in the CS-MACH1 communication channels (newsletter, social media, etc.)? *

*Mark only one oval.*

- ◯ Yes
- ◯ No

32. Are you interested in receiving the CS-MACH1 newsletter? *

*Mark only one oval.*

- ◯ Yes
- ◯ No

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33. If your project uses sensors/technologies/tools, may we contact you for more detailed information about this aspect? *

*Mark only one oval.*

- ◯ Yes
- ◯ No
- ◯ Not applicable

34. Would you be open to discussing your answers in a one-hour (maximum) follow-up interview? *

*Mark only one oval.*

- ◯ Yes
- ◯ Preferably not

**LAST PART!**

35. Questions, suggestions, or feedback? We'd love to hear from you!

**DISCLAIMER & CONSENT**

**Purpose of data collection**

- Your data will be used for project purposes within CS-MACH1.
- The collected information may be included in reports, publications, and presentations related to the project.
- If needed, your data may be shared in open-access repositories, but only in anonymized form.

**Data protection & confidentiality**

- All personal data will be stored securely and handled in accordance with the GDPR (EU 2016/679).
- If any personal information is collected, it will be anonymized or pseudonymized when used in project activities and research.
- Your data will not be shared with third parties beyond CS-MACH1 project partners without your additional consent.
- Your email will only be used to share relevant updates, resources, and results within the CS-MACH1 project and will not be shared outside.

**Your rights**

- You have the right to access, rectify, or request the deletion of your data.
- You can withdraw consent at any time without providing a reason.

36. By ticking the boxes below, you confirm that: *

*Tick all that apply.*

- ☐ You have read and understood this information.
- ☐ You voluntarily agree to participate.
- ☐ You understand your rights regarding your data.
- ☐ You understand that the CS-MACH1 team will use your email to share only relevant resources and results from the CS-MACH1 project to support and upscale your marine citizen science project.



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## 6.2. Annex 2: list of contacted projects

This annex provides the list of all projects that were contacted to participate in the survey.

| |
|---|
| "Ocean literacy" czyli przeciwko analfabetyzmowi morskiemu |
| #2minutebeachclean |
| #BlackSeaMAS |
| #potavristou |
| “Blue Paths” project |
| 5 Gyres |
| A CiTizen science approach for data acquisition on coastal erosION |
| A large-scale investigation of microplastic contamination: Abundance and characteristics of microplastics in European beach sediment |
| A Rocha Plastics Toolbox |
| A scaling down mapping of Pinna nobilis (Linnaeus, 1758) through the combination of scientific literature, NATURA 2000, grey literature and citizen science data |
| Abundance and composition of near surface microplastics and plastic debris in the Stockholm Archipelago, Baltic Sea |
| Acqua di Casa Mia |
| Actions on Invasives |
| Adopt a Site - National Marine Monitoring Scheme |
| Adopt a Wreck |
| adrift |
| ALeRT |
| Algae Watch (Levävahti) |
| Algal Blooms Sweden |
| Algas na Praia |
| Algforskarsommar |
| Alien CSI Bioblitz |
| Alien CSI Cost Action |
| Alien fishes (same methodology as **"Invasive Algae"**) |
| Alien invaders |
| AlienFish |
| Aliens in the Sea |
| All Together Global Clean Up |
| AlloElasmo |

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| |
|---|
| An Ebbing Tide... |
| Andromeda |
| ANEMONE: Marine Litter & Cetacean Monitoring |
| Angel Shark Project (Canarias, Wales, Greece |
| Angel Shark Project: Croatia |
| Angel Shark Project: Greece |
| Angel Shark Project: Ireland |
| Angel Shark Project: Libya |
| Angel Shark Project: Wales |
| Angel Shark Sightings Map |
| Angling project: OFF THE HOOK |
| Animals stuck in the trash (Roskiin takertuneet elaimet) |
| ANM (Atlasproject Nederlandse Mollusken) |
| Año Nuevo Island - Animal Count |
| ANSWER: a scientific participatory initiative in the field of water |
| Antibiotic resistance in surface water and water treatment |
| AquaInvaders |
| ArcticPlastics |
| Artfakta |
| Artportalen |
| artsdatabank |
| Artsobservajoner (Species Observations Service) |
| Artsobservasjoner |
| Assessing fish assemblages on shallow rocky reefs |
| Assessing the benefits of beach cleanups |
| Assessing the distribution and abundance of bottlenose dolphins Tursiops truncatus in Scottish waters. |
| Atencion No me aplastes |
| Atlas des amphibiens et reptiles de Bretagne |
| Attenti a quei 4 |
| Attention, don't step on me! |
| Avez-vous vu des Mammifères marins ? |
| Avvistapp |

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| |
|---|
| Badanie obecności mezoplastiku na plażach Trójmiasta |
| Baltic App |
| Baltic Sea Project |
| Baltic sea project bioblitz |
| Baltic Seabird Project |
| BalticDiversity |
| BalticExplorer |
| Basking shark project |
| Basking Shark sighting/tags |
| Basking Shark Watch |
| Beach Cleanup Tour |
| Beach Explorer |
| Beach Track |
| Beached bird survey |
| BeachExplorer |
| BeachObserver |
| Beachwatch |
| Beluga Bits |
| Big Beach Clean |
| Big beach cleanup |
| Big Seaweed Search |
| Billfish Foundation Tagging |
| BioBlitz |
| Biodiversidad Virtual |
| BioDiversity4All |
| BioEcoOcean |
| BioLit |
| BioLit - A vos observations ! |
| BioLit - Algues brunes et bigorneaux |
| BioLit - Attention menaces ? |
| BioLit - Chlorophylle-mania |
| BioLit - Saisons de la mer |

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|---|
| BioLit "Nouveaux Arrivants" |
| BioLit, les observateurs du littoral |
| BioMARathon |
| BIOMARATO |
| Biomarató |
| BIOOBS |
| BioRegisto |
| BIOSUBZH |
| BioTourS |
| Biowatch |
| Bird Census |
| Bird Guides Sightings |
| Birds of the World |
| BirdTrack |
| Black Sea Watch |
| Bli med Under! |
| BLUE CONNECT: Shetland and Fair Isle IMMA |
| Blue Effect |
| Blue-Cloud 2026 |
| Blue-Cloud Hackathon |
| BlueDOT |
| BlueLights |
| BODDENHECHT |
| Boddenhecht (Ecology and management of coastal northern pike around Rügen, Germany) |
| BONUS Baltic App - Wellbeing from the Baltic Sea – applications combining natural science and economics |
| Boskalis Beach Cleanup Tour |
| Bottlenose dolphins monitoring |
| Brand Audit - Surfers Against Sewage |
| British Seahorse Survey |
| BRIZO |
| Brown water (Brunt Vatten) |
| Building a baseline for habitat-forming corals by a multi-source approach, including Web Ecological Knowledge |

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|---|
| Camminando sulle Tracce del Mare |
| Can Beach Cleans Do More Than Clean-Up Litter? Comparing Beach Cleans to Other Coastal Activities |
| Can citizen science contribute to fish assemblages monitoring in understudied areas?<br>The case study of Tunisian marine protected areas |
| Cape Clear Bird Observatory |
| CapOeRa |
| CapOeRa-baie de Douarnenez |
| CapOeRa-grand public |
| CapOeRa-sentinelles |
| Capturing Our Coast |
| Capturing our Coast(CoCoast) |
| Carnet de Relevés d'Observation des MIlieux Subaquatiques (CROMIS) |
| Case study: three Tunisian future Marine Protected Areas (MPAs) and adjacent areas (framework of MedMPAnet project) |
| Castaway |
| Catshark Egg Spotting |
| Caulerpa cylindracea – Egadi Islands |
| Caulerpa cylindracea - Ligurian coast |
| Caulerpa taxifolia - Central Mediterranean |
| Caulerpa taxifolia - Meditarranean countries |
| Caulerpa taxifolia - Mediterranean coast France |
| Cephalopod Citizen Science Project |
| Cetacean biodiversity in the Bay of Biscay |
| Cetacean Recording Network |
| Cetacean Sanctuary Research |
| Cetacean Sanctuary Research - Tethys |
| Cetacean Strandings Investigation Programme (CSIP) |
| Céta'Plongée |
| CetaSee |
| CIESM Jelly Watch Program |
| Cigesmed for divers |
| circUlar Low Trophic oFfshore Aquaculture in wind farms and Restoration of Marine Space |
| Čista obala |
| CitClops |

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| Citizan |
| Citizen Fins |
| Citizen Observatory Web COBWEB |
| Citizen Science |
| Citizen Science App |
| Citizen Science Brand Audit |
| Citizen Science for CIGESMED |
| Citizen Science Investigations - empowering the public through the use of novel technologies to collect policy-relevant marine data |
| Citizen Science MONitoring (CSMON) Life |
| Citizen Science unmanned aerial systems (UAS) and with computer vision methods for marine litter monitoring |
| CITIZEN SCIENTISTS NEEDED TO HELP MAP IRELAND'S MARINE LIFE |
| Citizen-based reporting for Marine Biodiversity in Lebanon |
| Citizens of Surf |
| Citizen-science detects the arrival and establishment of Branchiomma luctuosum (Grube, 1870) (Annelida: Polychaeta: Sabellidae) in Albania |
| Citizen-science mark-recapture records from 2016–17 for the Critically Endangered flapper skate (Dipturus intermedius) in Scotland |
| Clean & Collect |
| CLEAN Beach |
| Clean Coast Observer |
| Clean Sea Life |
| Clean Seas Odyssey |
| Clean Up Svalbard |
| Clean up the Med |
| CleanSea project |
| Climate Change (COMING SOON) |
| Climate fish |
| Climate Fish (Five minutes for climate change) |
| Climatescan |
| Cloughey and District Community Association Beach Care Group |
| Coastal Day (Strandens dag) |
| Coastal Litter Campaign |
| Coastal Nature Challenge |
| CoastSnap |

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|---|
| CoastSnap Balears (part of the Spanish CoastSnap Network) |
| CoastSnap Wales |
| Coastwards |
| Coastwatch Europe |
| Coastwatch Ireland Coastal Survey |
| Co-creating strong uptake of REMEDIES for the future of our oceans through deploying plastic litter valorisation and prevention pathways |
| CoLab (Coastal Observing Lab in a Box) |
| Comber |
| Community Seagrass Initiative |
| Comparison of a Smartfin with an Infrared Sea Surface Temperature Radiometer in the Atlantic Ocean |
| Comptage national de la pêche à pied de loisir |
| Conducting an evidence-based national Non-State Actors campaign on Marine Protected Areas Network |
| Conservation of Marine Turtles of the Mediterranean Region |
| Control of wild Pacific oysters Crassostrea gigas within the inter-tidal zone of the North East Kent Marine Protected Areas |
| Coral Alert! |
| Coral Reef (COMING SOON) |
| Coral Watch |
| CoralWatch |
| Cornwall Wildlife Trust Marine Strandings Network |
| Corsica Alien Network |
| COSEA \| Collaboration for Effective Sea Action |
| CosmicSail |
| Cost-effective monitoring of large micro- and meso-litter in tidal and flood accumulation zones at south-western Baltic Sea beaches |
| Cousteau divers |
| CovidLitter |
| Crab Camouflage |
| Crab Watch |
| CROMIS |
| CROMIS (Carnet de Relevés d'Observations des MIlieux Subaquatiques) |
| Crowdwater |
| CRUISE#SCIENCE |
| CSMON-Life+ |

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|---|
| CTON |
| CURL |
| Cybelle Méditerranée |
| Cyprus Beach Cleanup Campaigns |
| Człowiek – duży gatunek ssaka lądowego na plaży |
| Danish offshore marine mammal sighting reporting programme |
| Database of litter from ships |
| Decapod crustaceans |
| Decapod Crustaceans (same methodology as "**Pen Shells**") |
| Deep Sea Explorers |
| Deepcor |
| Deepod |
| Dem Plastikmüll auf der Spur |
| Dem Plastikmüll auf der Spur (Tracking Plastic Waste) |
| Demographic monitoring along the East-Atlantic Flyway: a case study on Sanderlings using international citizen science |
| Des espèces qui comptent (FFESSM) |
| Detecting marine litter on Arctic beaches of the Svalbard archipelago |
| Determining the species assemblage and habitat use of cetaceans in the Svalbard Archipelago |
| Diable de mer |
| Digging up the oceans past |
| Digital fishers |
| DIRAIPO |
| DISCOVERY yachts |
| Distribution of Acantholabrus palloni in Swedish waters |
| Distribution of marine litter in the Moroccan Mediterranean |
| Distribution of plastic pellets in the Baltic Sea (PELLET) |
| Dive Against Debris |
| Dive into science |
| Diveboard - Scuba diving citizen science observations |
| Divers for the Environment: Mediterranean Underwater Biodiversity Project (N) |
| Divers in Northern Ireland |
| divers4oceanography |

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|---|
| DNA & Liv |
| Dog Whelk Inventory and Monitoring |
| Donia |
| DORIS (Données d'Observations pour la Reconnaissance et l'Identification de la faune et la flore Subaquatiques) |
| DUGNAD |
| Dugnad for Havet |
| Duik de Noordzee schoon - ecologisch onderzoek |
| DutchSail |
| Dynamic Dunescapes |
| Dynamic habitat suitability modelling of black marlin |
| Dyreobservasjoner |
| Earthdive Global Dive Log |
| EarthEcho Water Challenge |
| Eastern Adriatic Monk Seal Project |
| eBIRD |
| eBlueCarbon |
| eBlueEconomy |
| eCave |
| ECOCEAN Whale Shark Photo Identification Library |
| Ecomore |
| ECOPredS (Ecological Consequences of Orca Predation on Seals |
| ECOSEASTEM |
| eDisease |
| EDITO-Infra |
| EDITO-Model Lab |
| eDNA expeditions |
| Education projects - Coastal Ecosystems of Southern Portugal (Blue Carbon project) |
| Educational Passages Miniboat Program |
| eElurikkus |
| eFisheries |
| eFishKill |
| Egg Hunt |

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|---|
| Eider Aware North East |
| eInvasive |
| eJellyfish |
| ELASMED - Citizen Participatory Observatory of the ELASmobranches of French Mediterranean |
| ELASMED - Observatoire participatif citoyen des ELASmobranches de MEDiterranée française |
| Elasmocat |
| eLitter |
| Ellenic Network on Aquatic Invasive Species |
| eManta |
| EME'RAUDE |
| eMPA |
| ENARAK |
| Encyclopedia of Life |
| Enquête EcoQo |
| Enquête Fulmar boréal |
| Enquête Mouette tridactyle |
| Enquête Oiseaux échoués |
| Enquête Oiseaux échoués (ECoQo |
| Enquête oiseaux échoués Picardie |
| Enquête Sternes |
| EnviObserver |
| EnvLogger |
| eOceans |
| eOceans + eShark, eManta, eSeahorse, eWhale, eSeaTurtle, Marine Heatwaves, MPA Health Tracking, Marine Megafauna, etc. |
| ePollution |
| Erasmus Maris |
| Erasmus Maris: RAISE-CS |
| ESABALT - Enhanced Situational Awareness to Improve Maritime Safety in the Baltic |
| eSeahorse |
| eSeal |
| eSeaTurtle |
| eShark |

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|---|
| ESMIC - Estimation, monitoring and reduction of plastic pollutants in Latvian-Lithuanian coastal area |
| Espai Mediterrani |
| Espèces Exotiques Envahissantes - Faune Introduite en France |
| Espèces Qui Comptent |
| Espion des grands fonds |
| Estimation of age at maturity of loggerhead sea turtles in the Mediterranean |
| Etude des Cétacés et découverte du milieu marin |
| European Tagged Seal Network |
| Evaluation de l'indice paysager sous-marin (Protocole SeaScape) |
| Evaluation des peuplements de poissons (Protocole FAST) |
| eWhale |
| eWhaleStranding |
| Expedition Grands Requins Du Bassin Algerien |
| Explore Océan |
| Explore Your Shore! |
| EXtreme EXposures |
| Eye on Earth |
| EyeOnWater |
| Falkland Islands Big Seaweed Search |
| FAMAR |
| Farmer monitoring reveals the effect of tidal height on mortality risk of oysters during a herpesvirus outbreak |
| Ferry Survey |
| FerryBox |
| FILMAR: Promotion of public participation in marine mammal research in areas of the Natura 2000 network |
| Fin whale project (Proyectos Rorcual Comun del Estrecho Oriental) |
| Findkelp |
| fischdetektive |
| Fish & Click |
| Fish Watch Forum |
| Fish Watchers (FishBase) |
| Fish&Click |
| Fishers' Local Ecological Knowledge Surveillance Indicators (FLEKSI |

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|---|
| Fishial.AI |
| Fishing by foot (recreative) |
| Fishing for Litter |
| Fishing in the past |
| Fishing Vessel Ocean Observing Network (FVON) |
| Fishmonitoring |
| Fiskeatlas |
| Fiskeatlasset |
| Fiskefunn |
| Floating Forests |
| Floating Litter |
| Flukebook |
| FOCCUS |
| Forskning på fritidsfiske |
| Foto-identificatie Bruinvissen Oosterschelde |
| FPCUP EO-Crowd |
| French stranding network |
| Fritidsfiske |
| from mails |
| From Sea to Street |
| Fulmar Monitoring |
| Funen finds Porpoises |
| FVON (Fishing Vessel Ocean Observing Network) |
| Fyn finder marsvin |
| GAP2 |
| Gears, lost and found (Kalanpyydykset, kadonneet ja löydetyt) |
| Geisternetze – Falle oder Habitat |
| GelAvista |
| Geo Bon (&MBON) |
| Ghost Fishing |
| Ghost Fishing (STOP Pesca Fantasma) |
| Ghost Med |

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|---|
| GIRT |
| Glasaalintrek |
| Global Earth Challenge™ Plastic Pollution |
| Global Fishing Watch |
| Global microplastic Initiative |
| Global Microplastics Initiative |
| Global Microplastics Project |
| Global Ocean Surface Ecosystem Alliance (GO-SEA) |
| Global Shark Census (COMING SOON) |
| GoJelly |
| GoJelly: a gelatinous solution to microplastic pollution |
| Građanska znanost |
| Grand Large |
| Great Annual Fish Count |
| Great Brittish Beach Clean |
| Great Nurdle Hunt |
| Great Shark Snapshot |
| Greek Shark Logbook |
| Green Balkan Dolphins |
| Green Bubbles |
| Green Expedition (Za?? eksped?cija) |
| Green Week |
| Grote Schelpenteldag |
| Grote Schelpenteldag / Big Seashell Survey |
| Groupe de tri de photos pour la photo-identification des dauphins de la Côte d'Emeraude |
| Groupe de tri de photos pour la photo-identification des dauphins de la Côte d'Emeraude. |
| Grup de Recerca d'Opistobranquis de Catalunya: GROC |
| GUILLEMOT |
| Gulf of Aqaba Beach Cleanups |
| H2020 DOORS (Developing Optimal and Open Research Support for the Black Sea) |
| Håll Sverige Rent |
| Hanko Bird Station |

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|---|
| HappyWhale |
| Harbour porpoises in north-western France |
| HavBlitz (SeaBlitz) |
| Hebridean Whale and Dolphin Trust |
| Hebridean Whale and Dolphin Trust: Cetacean Research Programme |
| Hebridean Whale and Dolphin Trust: Whale Track |
| Hellenic Conches |
| Hellenic Mediterranean Monk Seal Rescue and Information Network (HMSRINT) |
| Help save the Sea Cucumber |
| Het Groene Strand |
| Het Groene Strand (The Green Beach) |
| Hidden Deserts |
| Hidden Deserts - Observadores del Mar |
| Hippo-ATLAS |
| Hippo-HABITAT |
| Hippo-THAU - Fiche d'Observation des Syngnathidés |
| Hippo-THAU - Micro/Macro-habitat |
| Hjälp forskare att kartlägga förekomsten av Maerl på svenska havsbottnar |
| Hold Norge Rent |
| https://www.lifepinna.eu/ |
| https://www.ornitho.cat/ |
| Human Impacts @ coastal ecosystem |
| HydroColor App |
| Hyljehavaintoilmoitukset - LUKE |
| Hypogean Crustacea Recording Scheme |
| IAP (Invasive Alien Plants) |
| IAS tracker |
| IceWatch App |
| Ichtyos- Ichtyoplancton |
| iCoast- Did the Coast Change? |
| ID the Manta |
| Identifying cetacean species in Icelandic coastal waters |

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|---|
| Identifying Sevengill sharks |
| IGENTAC |
| Iguanas from Above |
| IHO Crowd Source Bathymetry Pilot Project |
| IHO Crowd Sourced Bathymetry Pilot Project |
| Ilmoita havainto |
| Ilmoita kalahavainto |
| Image Detective |
| iMermaid |
| IMPACT-CET |
| iNaturalist |
| InfoMedusa |
| Infomedusa App |
| Initiative Ocean |
| InNat |
| Innovative modelling approaches for predicting Socio-environMentAl evolution in highly anthRopized coasTal LAGOONs |
| INPN Espèces (Inventaire National du Patrimoine Naturel) |
| INTEGRATED DigitaL Framework FOR Comprehensive MARITIME DATA AND INFORMATION SERVICES |
| International Coastal Clean Up |
| International Coastal Cleanup - Spain |
| International Coastal Cleanup by Ocean Conservancy |
| International Pellet Watch |
| International Sea Turtle Observation Registry (iSTOR) |
| International Waterbird Census |
| Internet of Turtles |
| Intertidal Discorvery |
| Invader ID |
| Invasive Algae |
| Invasive Alien Species Europe App |
| Invasive Alien Species Tracker (IASTracker) |
| Invasive Species in Albanian Coast |
| Invazīvo sugu pārvaldnieks |

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| Investigate marine debris (Undersøk marint avfall) |
| Involving recreational snorkelers in inventory improvement or creation in the Indian Ocean |
| Ionian Dolphin Project |
| iRecord |
| Irish Basking Shark Project |
| Irish Marine Recreational Angling Survey |
| Irish Wetland Bird Survey |
| Irish Whale and Dolphin Group's Ferry Surveys |
| Is it Alien to you…. Share it!!! |
| iSeahorse |
| iSeahorse.org |
| Isle of Wight Local Records Centre |
| Isles of Scilly - Sub-Aqua Club |
| iSpot |
| iWatch Wildlife |
| Järvi Meri Wiki |
| Järvi-merwiki |
| Jellyfish Alert |
| Jellyfish Spotting Campaign |
| Jellyfish Survey |
| Jellyfish, Rhizostoma luteum, observations in Spain |
| JellyWatch |
| Join in gulls |
| JONIAN DOLPHIN CONSERVATION |
| Kalanpyydykset, kadonneet ja löydetyt |
| Kduino |
| Keep Britain Tidy Group: National Shoreline Litter Surveys |
| Keep Northern Ireland Beautiful Marine Litter Survey |
| KelpRes |
| Ketos |
| kieler forschungs:werkstatt |
| Killer Shrimp Invasion Challenge |

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|---|
| KingSearch |
| Klimatläroportalen "Vårt varmare hav" |
| Knobbed triton (Charonia lampas) monitoring project |
| KOR-project |
| KOSMOS |
| KOSMOS (Open Source Underwater Observation Kit) |
| Kuka syö rakkolevää? Vem äter blåstång? |
| KYMA Expeditionen |
| KYMA expeditions |
| Lagoa de Óbidos - Centro de Interpretação |
| Lamprey watch |
| Landsealot |
| Landshuter Black-headed gull ( Landshuter Lachmöwen) |
| Landslide Reporter |
| Le suivi des traces de tortues sur les plages de pontes. |
| L'écovoyage d'Arvik |
| LEF–UOB Marine Monitoring Platform |
| LEPIDES Area Cantabrica |
| Les espèces qui comptent |
| Les mamifères marins de Bretagne |
| Les Sentinelles citoyennes |
| Les Sentinelles citoyennes - RIEM |
| LIFE European Sharks |
| LIFE MIGRATE Project |
| Life on the shore |
| Life On The Yealm |
| LifeWatch |
| Lighthouse coordinating and supporting the innovation ecosystem for a Healthy, Pollution free Mediterranean Sea |
| Limes Bubble Barrier |
| LIMP (Litoraal Inventaris en Monitoring Project) |
| Links Conservation Group |
| Lintuhavainnot |

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| Lintujen rengastus |
| Litoral curat |
| LitterExplorer |
| Livet i fjæra |
| Lixo marinho app |
| Lobserve |
| Lobster fishing effort |
| Local Groups |
| Lofoten Waste Management Company (LAS) Beach Cleanups |
| Loodusheli |
| LOODUSVAATLUSTE ANDMEBAASI |
| Macro-déchets flottants (ObsenMer) |
| Macro-litter monitoring on southern Baltic beaches |
| Macroplastics Pollution in the Southern North Sea (Makroplastik Nordsee) |
| MaDCrow |
| MagSail |
| Makroplastik Nordsee |
| Malta Flora and Fauna app |
| Mammal Watch South East (MaWSE) |
| Mana Jūra (campaign My Sea) |
| Manatee Chat |
| Manta Matcher the Wildbook for Manta Rays |
| Manta rays in the Red Sea |
| Manx Basking Shark Watch |
| Manx Basking Shark Watch / Manx Whale and Dolphin Watch |
| Map of Life |
| Map the Gulf |
| Mapping marine litter on sandy beaches |
| Mapping of the algae maerl |
| Mapping Ostreopsis |
| Mapping the presence of Maerl on Swedish Seabeds |
| MARduino: mi boya, nuestros datos y el mar |

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| MARIN |
| Marine & Beach Clean-Ups |
| Marine & Beach Litter Clean Ups |
| Marine & Beach Litter Sightings |
| Marine Conservation & Monitoring |
| Marine Creatures |
| Marine Debris Monitoring and Assessment Project (MDMAP) |
| Marine Debris tracker |
| Marine forests |
| Marine Life and Biodiversity in Lebanon |
| Marine Litter |
| Marine Litter Fulmar Monitoring (Zwerfvuil Graadmeter Onderzoek) |
| MARine Litter in Europe Seas: Social AwarenesS and CO-Responsibility (MARLISCO) |
| Marine Litter Monitoring Program |
| Marine Litter quantities on six Beaches of northern Svalbard in 2016 determined by citizen scientists |
| Marine Litter Watch |
| MARINE LITTERWATCH |
| Marine LitterWatch - monitoring |
| Marine mammals in Belgium |
| Marine Mediterranean Invasive Alien Species Database (MAMIAS) |
| Marine Mollusca of the Libyan waters, the southern Mediterranean Sea |
| Marine oil pollution and beached bird surveys |
| Marine Ranger |
| Marine Sportfish Tagging Programme |
| Marine Strandings Network Cornwall |
| Marine Survey Day |
| Marine Turtle Records |
| Marinexus |
| MarinOBS |
| Marins Chercheurs |
| Marint faunavakteri ("marine fauna watch") |
| Maritiem Erfgoed Texel |

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| Maritime Hackathon |
| Maritime Heritage Texel |
| MARLIN – Baltic Marine Litter |
| MarLitCy |
| Marnoba |
| Marsh Explorer |
| Masseeksperiment 2019 |
| MedFever |
| Mediterranean Fishes |
| Mediterranean Fishes (Change indicators) |
| Mediterranean Hippocampus Mission |
| MED-JELLYRISK |
| MEDLEM (MEDiterranean Large Elasmobranchs Monitoring) |
| MedMIS |
| MedObs Sub |
| MEDPELLETS |
| MedPlastic |
| MedusApp |
| Meduses.Tunisie |
| Meet Mee voor een schone Noordzee |
| MetaProbe |
| MeteoMeduse |
| Microplastic Pollution Map |
| Microplastic sampling in the MED |
| Microplastic Watchers |
| Microplastic Watchers (same methodology as "**Marine Litter**") |
| Migration Watch |
| Mikroplastik Detektive |
| MINKA |
| MINKE: Metrology for Integrated marine management and Knowledge-transfer network |
| MOBIDic |
| Monitoring and removal of lionfish, Cyprus |

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|---|
| Monitoring Anthropogenic Particles and Plankton using Citizen Science |
| Monitoring bycatches of common guillemot in Sweden |
| Monitoring coastal biodiversity in south of Portugal |
| Monitoring Diel rhythms in shallow Mediterranean rocky-reef fishes |
| Monitoring Extreme Impacts of Rugulopteryx okamurae (Dictyotales, Ochrophyta) in El Estrecho Natural Park |
| Monitoring flapper skate through photo-identification in Scotland |
| Monitoring of Black Sea Cetacean Stranding Network |
| Monitoring of Mediterranean red coral |
| Monitoring of pelagic sharks in Galicia |
| Monitoring of poaching in Cory's Shearwater colonies |
| Monitoring of the macroalgal flora |
| Monitoring Phytoplankton by Kayak |
| Monitoring Sea Turtle Nesting on the Jebel Akhdar Coast |
| Monitoring seals and fisheries in the Clyde Sea area |
| Monitoring the lionfish expansion in the Mediterranean Sea |
| MONOCLE |
| Montenegro Dolphin Sightings Network |
| MOO (Monitoringproject Onderwater Oever) |
| Moray Ocean Community Invasive Speciees surveys |
| Mount Batten Bay Beach Clean |
| MPA-lobster protection areas |
| Multiple projects combined: Vannkvaliteten |
| Multiscale Observation Networks for Optical monitoring of Coastal waters, Lakes and Estuaries (MONOCLE) |
| My Ocean Sampling Day (OSD) |
| NASA NeMO-Ne |
| National biodiversity Network (NBN) Atlas |
| National Biodiversity Record Centre |
| National Whale & Dolphin Watch |
| Natura Alert |
| Naturæ Social Mapping |
| naturdive |
| NaturDive - Observatoire Citoyen de la Biodiversité Marine |

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|---|
| Nature2000 sites monitoring |
| Naturgucker |
| Natusfera |
| NauticAttiva project |
| Neat beat (Siisti Biitsi) |
| Nederlandse Stookolieslachtoffer Onderzoek (NSO) |
| NEMA |
| Nemo Live |
| Nemo-Net |
| NeMO-Net - Gamifying 3D Labeling of Multi-Modal Reference Datasets to Support Automated Marine Habitat Mapping |
| NeumaticOUT |
| New finds, sites and radiocarbon dates of skeletal remains of the Great Auk Pinguinus impennis from The Netherlands |
| NEWS (non-estuarine waterbirds survey) - BTO |
| North East Beached Bird Surveys |
| North East Cetacean sightings |
| North Sea Cetacean Recording |
| North Sea Dogwhelk Survey |
| Northeast England Beached Bird Surveys |
| Norwegian Orca ID |
| Norwich Union Coastwatch UK |
| Notes from Nature - Invertebrate Time Machine |
| Nudibranch of Denmark |
| Nurseries |
| NZG Marine Mammal Database |
| O MAR DÁ BOM CLIMA |
| Objectif Plancton |
| OBSEA Expandable Seafloor Observatory |
| OBSEA Laboratorio Submarino |
| OBSenMER |
| Observadores del Mar |
| Observation des Méduses en Méditerranée |
| Observation Espana - Observation.es |

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| |
|---|
| Observation.org |
| Observatoire Citoyen du littoral morbihannais |
| Observatoire Citoyen du Littoral Morbihannais (OCLM) |
| Observatoire des changements de l'estran (OBCE) |
| Observatoire des tortues marines de Méditerranée |
| Observatoire FAUNA |
| Observatoire Participatif de la Biodiversité Marine |
| Observatoire Participatif des Herbiers de zostères et Syngnathidés |
| Observatoire Régional de la Migration des Oiseaux |
| Observatoire régional des oiseaux marins de Bretagne |
| Observatory of Marine Governance (OGMAR) |
| Observers App |
| ObsIdentify |
| ObsSea4Clim |
| Occhio alla medusa |
| Ocean Alert |
| Ocean calling |
| Ocean Cities |
| Ocean Citizen |
| Ocean Community Challenge |
| Ocean Data |
| Ocean Guardians |
| Ocean Hackathon |
| Ocean Initiatives |
| Ocean observers |
| Ocean Plastic |
| Ocean Sampling Day |
| Ocean Science |
| Ocean Travelers |
| Ocean Vox |
| OceanEye |
| Oceano Vox |

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| |
|---|
| Oceanography for everyone |
| OceanPlastic List |
| OceanWatchers |
| Ocrotește delfinii! |
| Octopus Intelligence |
| Octopus Intelligence - Citizen Science Project |
| Oddfish |
| Offshore wildlife sightings |
| Ojo a las invasoras |
| Olamur |
| Old Wheater (Whaling/Artcic/WWII) |
| On the trail of plastic waste |
| Online reporting system for turtle egg theft |
| Open litter map |
| OpenTEK |
| Opération Cétacés Marine Mammals |
| Opération Méduses |
| Operation Otter |
| OPERAZIONE SQUALO ELEFANTE |
| OPHZ'S : Observatoire Participatif des Herbiers de zostères et Syngnathidés |
| Opistobranquis |
| ORCA Marine Mammal Surveyors |
| ORCA Observers |
| Orca Watch |
| Organization of marine phenology data in support of planning and conservation in ocean and coastal ecosystems |
| ORKS (Online Recording Kernow and Scilly) |
| Ornitho i NaturaList |
| ORNITHO.IT |
| OSPAR beach litter project |
| OSPAR Fulmar Litter Monitoring |
| OSPARITO |
| OspreyWatch |

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| |
|---|
| Otrivin Bottle Sightings |
| Otter Sightings Report |
| Otter Watch |
| Our Ocean in COVID-19 |
| OUR OUTDOORS |
| Paddle Surfing for science |
| PaddleSurfing for Science |
| Pangaea Exploration |
| Parsac App |
| Participatory Ocean Color Network |
| PELA-Med |
| Pen Shells |
| Penguin Detective |
| People's Porpoise Project |
| Perseus Jellyfish Spotting |
| pH Pro |
| Phenomer |
| Photo contest "Wanted Baby Fish" |
| Photo identification of whales |
| Photo-ID catalogue |
| Photo-identification Porpoises Oosterschelde |
| PIMP (Puperslakken Inventaris en Monitoring Project) |
| Pinnipeds, people and photo identification: the implications of grey seal movements for effective management of the species |
| Pl@ntnet |
| Plages Vivantes |
| Plankton i ferskvatn, Plankton i marint miljø |
| Plankton Planet |
| Plankton Portal |
| PlanktonID |
| Planteregistreringer |
| Plastexperimentet |
| Plastic Busters CAP |

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|---|
| Plastic Busters Initiative |
| Plastic Litter Project: Coastal Litter Mapping |
| Plastic Pirates - Go Europe! |
| Plastic Pirates – Go Europe! |
| Plastic Soup Expeditions |
| Plastic Soup Foundation |
| Plastik na brzegu – nieznane zagrożenia |
| PlastLIFE |
| PlutoF Biodiversity |
| POLARIS |
| POLARIS - Atencion Corales |
| POLARIS - Corbs |
| POLARIS - Veille environnementale |
| PolarQuest |
| Porcupine Marine Natural History Society Recording Scheme |
| POSEIDON - Passive-acoustic Ocean Sensor for Entertainment and Interactive Data-gathering in Opportunistic Nautical-activities |
| POSEIDON; Angel Shark Project |
| Posidonia activa |
| Posidonia Guards |
| Posimed |
| Posimed (Red Mediterranea de Control de la Posidonia) |
| Position data loggers and logbooks as tools in fisheries research |
| Predatory Bird Monitoring Scheme |
| Preventing Plastic Pollution |
| ProBleu |
| Pro-Coast |
| PROGRAM DE MONITORIZARE A DEȘEURILOR MARINE |
| Programme de photo identification des baleines à bosse de La Réunion |
| Programme d'études et de protection des phoques en baie de Somme |
| Programme national de recensement des observations de requins pèlerins |
| Programme Objectif Plancton à Concarneau |
| Project |

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| |
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| Project Baseline |
| Project Biodiversity MARE Tricase |
| Project campaign My Sea |
| Project Lapwing |
| Project Manaia |
| Project Manaia - sightings |
| Project Noah |
| Project Seagrass |
| Projet DIRAIPO |
| Projet Oiseaux de France (ODF |
| Projet REEHAB |
| Promocija birdwatchinga u FBiH |
| Proper Strand Lopers |
| Protocole ALAMER (Algues de la LAisse de MER) |
| Protocole OLAMER (Oiseaux de la LAisse de MER) |
| Proyecto ballena |
| Proyecto Libera |
| Proyectos Rorcual Comun del Estrecho Oriental |
| Purse Search Ireland |
| Pyöriäishavainnot |
| Qendra për Ruajtjen dhe Mbrojten e Mjedisit Natyror në Shqipëri |
| RAAlg |
| Rappen – rapportering av vattenorganismer |
| Rappen - reporting of aquatic organisms |
| Rapportera djur eller fågelring |
| Rapportera tumlare och sälar |
| Rarely Reported Cryptobenthic Fish in Marine Caves of the Eastern Mediterranean Sea |
| RecFishFuture |
| RECONNECT |
| Recording invasive species |
| Recording molluscs |
| Records of alien and a native species from Lebanon |

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|---|
| Recreatieve zeevisserij |
| Recreational Catch Diaries |
| Recreational monitoring of marine biodiversity |
| Red Sea Project |
| RedPROMAR |
| Reef Alert Network |
| REEF CHECK FRANCE |
| Reef Check Med |
| Reef Check Tropical EcoDiver program |
| Reef Life survey |
| REEF Volunteer Fish Survey |
| ReefBase |
| Referanseflåten |
| ReFish |
| Regjistri Elektronik i Specieve Shqiptare |
| REGUAR (formally WANTED) |
| Reknotting marine biodiversity |
| RELIONMED |
| ReMed Zéro Plastique |
| Report a Sighting |
| Report an observation |
| Report porpoises and seals |
| Report Sightings/Strandings |
| Report the Fish/Crab Sighting (Kalahavainnot) |
| reSEArch-EU |
| Réseau Alien Corse |
| Réseau d'Observation des Récifs Coralliens (RORC) de Nouvelle-Calédonie |
| Réseau Lamproie |
| Réseau National Echouages |
| Réseau National Échouages (RNE) |
| Réseau Tortues Marines de Méditerranée Française |
| RESPIRE |

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|---|
| Return the Tag |
| RISC (Recording Invasive Species Counts) |
| Rivages |
| River Tyne Kittiwake Monitoring |
| Rock Pool Project |
| Roskiin takertuneet eläimet |
| Royal Society for the Protection of Birds Beached Bird Survey |
| Run, Herring, Run! |
| Rydde |
| S.A.R.A.H. |
| S.E.A. (Scottish Entanglement Alliance) |
| Saaristolintulaskenta - LUOMUS |
| SAF21 |
| Safe Sharks |
| SAFMC FISHstor |
| Sail & Explore |
| Sail Britain |
| Sailing 4 Science |
| Sailing for Oxygen |
| Sailing Hirondelle |
| Sailing4Ocean - Prismian Group |
| Sailing4Science |
| Salp bloom |
| Saltpan Recovery Project |
| Samen voor de aal - kruisnetmonitoring |
| Sampling of fish stomachs in Saltstraumen and Skjerstadfjor in northern Norway |
| Sandbar Shark Occurence |
| Sanderling project |
| Sandwatch |
| SargaSea |
| Save the North Sea (SNS) |
| Save the Waves app |

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|---|
| Scanatura |
| Schelpenteldag |
| Schweinswale in den Flüssen Elbe und Weser |
| Science Gossip |
| Scotland's Coastal Heritage at Risk Project (SCHARP) |
| Scotlands coastal heritage at risk program |
| Scottish seashell survey |
| Scottish Vessel Project |
| Scouts4Science |
| SCRAPbook Project |
| Scuba Network |
| Sea Angling Diary |
| Sea Change |
| Sea Change: The European Beach Hazards Platform |
| Sea Deep Project |
| Sea Forester |
| Sea Guardians |
| Sea Sentinels - Divers United for the Environment |
| Sea Watch Foundation - report a sighting |
| Sea Watch Regular Observer |
| SeaBC - Birding Aboard |
| Seabed 2030 |
| SeaBee |
| Seabird monitoring programme |
| Seabird monitoring programme - BTO |
| Seabird Soundscapes |
| Seabird Watch |
| Seabirds |
| Seabirds: Observations out at sea |
| Seabirdwatch |
| SeaCleaner |
| SeaCleaners |

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|---|
| SeaClear 2.0 |
| SeaClear2.0 Marine Litter Photomap |
| Seafloor Explorers |
| Seagrass Guardians |
| Seagrass in Reproduction |
| Seagrass observatory |
| Seagrass Spotter |
| Seagrass Survey |
| Seagrass-Watch |
| Seal Research Project Ireland - sightings |
| Seal Spotter |
| Seal Watch |
| SeaLabs |
| Sealife survey |
| Sealife tracker |
| SEAlly |
| SeaPaCS |
| Seaquest Southwest |
| Seaquest Southwest |
| Seasearch |
| Seasearch Ireland - casual recordings |
| SeaSearch UK |
| Seashore Snail Survey |
| Seashore Snapshot |
| Seashore Spotter |
| SEATRACK |
| SeaWatch-B |
| Seaweed and Freshwater Algae Recording |
| Seaweed on the Beach |
| Secchi App |
| Secchi Disk |
| See Science, Save Seashores (4S#) |

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|---|
| Seguimiento de tiburones pelágicos en Galicia |
| SensOcean |
| Serpula Project |
| Service for the Sea |
| ShaREN (Shark and Ray Entanglement Network) |
| Shark Attract |
| Shark Log |
| Shark Observation Network |
| Shark Pulse |
| SharkApp |
| SharkBase |
| Sharkbook: The Wildbook for Sharks |
| sharkPulse Italia |
| Sharks & Rays: Vulnerable Species Protection |
| Sharks and Rays |
| SharksCount |
| Sharktivity |
| SHORE |
| Shorebird Research and Conservation Projects |
| Shoreline Monitoring Toolbox |
| Shoresearch |
| Shoresearch - North Wales |
| Shoresearch Cornwall |
| Shoresearch Devon |
| Shorewatch |
| SightMe |
| Siisti Biitsiin |
| SILLGRISSLA |
| Silurian Research Expeditions |
| Sivusaalis- ja hyljehavaintoilmoitukset |
| Skjellprøver fra laks og sjøørret |
| Slovenian Dolphin Project |

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|---|
| SLOVENSKI PROJEKT ZA DELFINE |
| SmartBirds |
| Smartfin |
| SMARTLAGOON |
| SMP (Strandaanspoelsel Monitoring Project) |
| SMRUsealpred |
| Snapshots at Sea |
| Social Transformation for Water Stewardship through Scaling Up Citizen Science |
| Solent Bird Studies |
| Solent Waders & Brent Goose Strategy |
| Solent Waders and Brent Goose Strategy |
| Sonic Kayak |
| SPA/RAC |
| Spatio?temporal distribution of the loggerhead sea turtle in the Pelagie Archipelago |
| Spider Crab Watch |
| SPLASH-EU |
| Sponge Recording Project |
| Sponge Safari |
| Spoonbill Migration |
| Spot the Alien Fish (and other project with same methodo: spot the alien |
| Spot the Jellyfish |
| Spot the Monk |
| SSI Scuba Divers |
| State of the World's Sea Turtles |
| STE - Scuba Tourism for the Environment - Red Sea Monitoring Program |
| Stichting the Ocean Movement |
| Stories & Coastal Structures |
| Stranding birds (ECoQo) |
| Stranding.nl |
| Strandings of NE Atlantic gorgonians |
| Strandspeurdag |
| Studland Seahorse Project |

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| Subjective water quality monitoring, Finland |
| Subtidal kelp forests in Ireland |
| Suivi de la pêche récréative dans le Parc national de Port-Cros |
| Suivi des oiseaux échoués sud Baie de Somme |
| Suivi des populations de grandes nacres (Pinna nobilis) |
| Suivi des tortues marines par photo-identification |
| Suivi du trait de côte |
| Suivi Hivernal des Oiseaux Communs (SHOC) |
| Suivi Ichtyo-Plancton |
| Suivi macro-déchets |
| Suivi phoque sur la Canche |
| suivi Reef Check |
| Summer Arctic Landscapes With Citizen Science |
| Summer monitoring of baby seals |
| Suomen Lajitietokeskus |
| Suomen Partiolaiset kansalaistieteen edistäjinä (SPARKA) |
| Surf and clean water |
| Surf e água limpa |
| Surfer Scientist |
| Surfing for science |
| Surveillance estivale des Phoques veaux-marins |
| Surveillance hivernale des Phoques gris |
| Sustainable inland fisheries / FishSizeProject |
| Swymm |
| Syngnathids |
| Syngnathids (Same methodo as "Sharks and Rays" and "Sea Turtles") |
| SYNTESE (SYNgnathes TEmoins de la Santé de leur Environnement) |
| Tag a Tiny |
| Tagging coastal cod |
| Tagging loggerhead sea turtles in Zakynthos, Greece |
| Thames marine mammals sightings |
| The Big Beach Biodiversity |

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|---|
| The Big Jellyfish Hunt |
| The Big Microplastic Survey |
| The Big Rock Pool Challenge |
| The Big Sea Survey |
| The Big Seaweed Search |
| The Black Sea Integrated Monitoring and Assessment Program |
| The Cephalopod Citizen Science Project |
| The community seagrass initiative |
| The Conchological Society of Great Britain & Ireland Marine Mollusca Recording Scheme |
| The Conchological Society of Great Britain and Ireland Marine Mollsuc Recording Scheme |
| The Danish Stranding Network |
| The Fishing Vessel Ocean Observing Network (FVON) |
| The GLOBE program |
| The Great British Beach Clean |
| The Great Eggcase Hunt |
| The Great Nurdle Hunt |
| The Great Shark Snapshot |
| The Hurtigruten Sciene Program |
| The Indigo Project (Indigo V Expeditions) |
| The Killer Algae Challenge |
| The Koster seafloor observatory |
| The Marine Animal Stranding Network Norway |
| The marine fishes of St Eustatius Island, northeastern Caribbean |
| The Marine Life Information Network |
| The Mass Experiment |
| The Meco Project |
| The National Mammal Atlas Project |
| the Nature and Origin of Marine Litter |
| The Ocean Clean Up |
| The Ocean Cleanup Survey App |
| The Ocean Movement |
| The ocean race Sustainable development team |

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|---|
| The Open Air Laboratories (OPAL) |
| The Plastic Tide |
| The Ray Project |
| The Reference Fleet (Referanseflåten) |
| The Rocky Share Safari |
| The Secchi Disk study |
| The Shore thing |
| The Stranding Network of Schleswig-Holstein |
| The Stranding Program |
| The value of marine ecological data collected by volunteers |
| The Welly Zone |
| The Wildlife Trusts Shoresearch |
| There is no formal project |
| Tiira |
| T-MEDNet |
| TOP-HABITAT |
| TORSOOI |
| Tourism & Citizen Science - Seas, Ocean and Public Health in Europe |
| Track the Decade |
| Tracking a keystone species recovery from a mass mortality event |
| Tracking sharks for Conservation |
| Transport, weathering and pollution of plastic from container losses at sea: Observations from a spillage of inkjet cartridges in the North Atlantic Ocean |
| Trash Hunt |
| Trash Survey |
| TREASURE |
| Triskail |
| Trzy gatunki inżynierskie |
| TsiÔno |
| TunSea |
| Turtle watch 2.0 |
| Turtle watch Egypt 2.0 |
| Turtles Uniting Researchers and Tourists (TURT) |

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| |
|---|
| UK Cetacean Strandings Investigation Program |
| UK Tides |
| Un mois- un espèce (Clicnat) |
| Under Water Culture (Unterwasserkulturerbe) |
| UndercoverEisAgenten |
| Undersøk marint avfall |
| Underwater Survey Team (UST) |
| Unfolding Jellyfish Bloom Dynamics along the Mediterranean Basin by Transnational Citizen Science Initiatives |
| Unterwasserkulturerbe |
| UrbamarBio |
| UrbamarBio (Urban Beaches) |
| Using complementary visual approaches to investigate residency, site fidelity and movement patterns of the dusky grouper (Epinephelus marginatus) in a Mediterranean marine protected area |
| Using historical and citizen science data to improve knowledge about the occurrence of the elusive sandbar shark Carcharhinus plumbeus (Chondrichthyes – Carcharhinidae) in the Adriatic Sea |
| Vårt varmare hav |
| Veille biologique des récifs du Prado |
| Vesilintulaskenta -LUOMUS |
| Vesitestirepun avulla tuotetut havainnot vedenlaadusta |
| Vieraslajit.fi |
| Vigie des havres |
| Vigilancia de la Posidonia |
| Virtual Reef Diver |
| VIRTUE-s |
| Vismonitoring |
| Vogelslachtoffers |
| Volunteer reported catch of red-listed marine species |
| Volunteer Seabirds at Sea Surveys |
| Voyages Bio Sous-Marine |
| Voyages Bio Sous-Marine - protocole Fish Watch |
| Voyages Bio Sous-Marine - protocole micro/macro-habitat |
| Voyages Bio Sous-Marine - protocole présence-absence sur transects temporels |
| Voyages Bio Sous-Marine - recensement des poissons lessepsiens en Turquie |

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| |
|---|
| Waarnemingen.be / Waarneming.nl |
| Wadden Sea Flyway Initiative |
| waddenplastic.nl |
| Wakamewatch |
| Wales Coast Explorer |
| Walking on the Sea Traces |
| Walvisstrandingen |
| Walvisstrandingen.nl |
| Water front |
| Water Rangers |
| Water Rangers (in partnership with CaSTCo) |
| Water Sentinels |
| Waterline Project (in development) |
| Watervogeltelling |
| Waves of Waste |
| Weather Observations Website (WOW) |
| Weather Rescue At Sea |
| WeObserve |
| Wetland Bird Survey |
| Wetland Bird Survey (WeBs) |
| Whale Alert |
| Whale Alert app |
| Whale Chat |
| Whale FM |
| Whale mAPP |
| Whale project |
| Whale Track |
| Whales as Individuals |
| WhaleTrack Ireland |
| Whats out! Don't step on me! (¡Atención! ¡No me aplastes! - Kontuz! Ez nazazu zapaldu! in original languages) |
| What's your water level? |
| Where is Spoony? |

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| |
|---|
| Who eats bladderwrack - bridging the gap between science and society with an iconic Baltic Sea species |
| Wild Sea Explorer |
| Wildlife Observation |
| Wildlife sightings |
| Wildlife Sightings Programme |
| Winter gull survey - BTO |
| World Register of Marine Species |
| World Seahorse Survey |
| WWF Live |
| Yayakarsa |
| Yorkshire Nauralist's Union |
| Zaļā ekspedīcija |
| Zasoby ptaków Polski |
| Zeetrektellingen |
| Zegen in de delta |
| Zéro Déchet Sauvage |
| Zmieraczki, zanikający gatunek ziemnowodnego skorupiaka |
| Zwerfvuil Graadmeter Onderzoek |
| Καρχαρίες και Σαλάχια σε Ελλάδα και Κύπρο |
| Μέδουσες των ελληνικών θαλασσών |
| Національна мережа інформації з біорізноманіття |

## Annex 3: list of participating projects

This annex provides the list of all projects that took part in the survey.

| |
|---|
| EyeOnWater |
| Project |
| Greek Shark Logbook |
| Schelpenteldag |
| Grote Schelpenteldag / Big Seashell Survey |
| Sea Angling Diary |
| Seabird Watch |
| eOceans + eShark, eManta, eSeahorse, eWhale, eSeaTurtle, Marine Heatwaves, MPA Health Tracking, Marine Megafauna, etc. |

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| |
|---|
| Seabird Monitoring Programme |
| RECONNECT |
| World Seahorse Survey |
| BeachExplorer |
| ArcticPlastics |
| MARNOBA |
| Mikroplastik Detektive |
| Marine Litter Watch |
| Explore Your Shore! |
| iSpot |
| MARIN |
| Mana Jūra (campaign My Sea) |
| Sailing for Oxygen |
| CoastSnap Balears (part of the Spanish CoastSnap Network) |
| Octopus Intelligence - Citizen Science Project |
| LIFE European Sharks |
| MedFever |
| #Potavristou |
| SeaClear2.0 Marine Litter Photomap |
| Hebridean Whale and Dolphin Trust: Whale Track |
| Boddenhecht (Ecology and management of coastal northern pike around Rügen, Germany) |
| Hebridean Whale and Dolphin Trust: Cetacean Research Programme |
| Pl@ntNet |
| Artsobservajoner (Species Observations Service) |
| CosmicSail |
| Scottish Vessel Project |
| BLUE CONNECT: Shetland and Fair Isle IMMA |
| Solent Waders & Brent Goose Strategy |
| Turtle watch Egypt 2.0 |
| Sandwatch |
| OSPAR Fulmar Litter Monitoring |
| Scuba Network |

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| |
|---|
| The Big Rock Pool Challenge |
| Conducting an evidence-based national Non-State Actors campaign on Marine Protected Areas Network |
| The Ocean Cleanup Survey App |
| Hidden Deserts - Observadores del Mar |
| The Conchological Society of Great Britain & Ireland Marine Mollusca Recording Scheme |
| Moray Ocean Community Invasive Speciees surveys |
| Water Rangers (in partnership with CaSTCo) |
| Observatoire Citoyen du littoral morbihannais |
| CoastSnap Wales |
| CoastSnap |
| The Great Eggcase Hunt |
| Whats out! Don't step on me! (¡Atención! ¡No me aplastes! - Kontuz! Ez nazazu zapaldu! in original languages) |
| BioObs |
| Monitoring of Black Sea Cetacean Stranding Network |
| Marine Litter Monitoring Program |
| Fiskeatlasset |
| The Secchi Disk study |
| Objectif Plancton |
| Seaweed on the Beach |
| BioEcoOcean |
| Fishing Vessel Ocean Observing Network (FVON) |
| TunSea |
| JONIAN DOLPHIN CONSERVATION |
| REEF CHECK FRANCE |
| CROMIS (Carnet de Relevés d'Observations des MIlieux Subaquatiques) |
| Microplastic sampling in the MED |
| Espèces Qui Comptent |
| Observation.org |
| Stranding.nl |
| H2020 DOORS (Developing Optimal and Open Research Support for the Black Sea) |
| Stichting the Ocean Movement |
| Marint faunavakteri ("marine fauna watch") |

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| |
|---|
| Our Outdoors |
| Shoresearch Devon |
| The Fishing Vessel Ocean Observing Network (FVON) |
| eDNA expeditions |
| SeaLabs |
| International Coastal Cleanup - Spain |
| NeumaticOUT |
| KOSMOS |
| Meet Mee voor een schone Noordzee |
| Northeast England Beached Bird Surveys |
| River Tyne Kittiwake Monitoring |
| Participatory Ocean Color Network |
| Distribution of plastic pellets in the Baltic Sea (PELLET) |
| Sailing4Science |
| Surfer Scientist |
| Erasmus Maris |
| CLEAN Beach |
| There is no formal project |
| MEDPELLETS |
| Knobbed triton (Charonia lampas) monitoring project |
| BioMARathon |
| UrbamarBio |
| Plages Vivantes |
| Posidonia Activa |
| TREASURE |
| Fish & Click |
| Observatory of Marine Governance (OGMAR) |
| PlastLIFE |
| ReFish |
| Suomen Partiolaiset kansalaistieteen edistäjinä (SPARKA) |
| Samen voor de aal - kruisnetmonitoring |
| Shoresearch |

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| North Sea Cetacean Recording |
| Waves of Waste |
| Citizens of Surf |
| Happywhale |
| The Wildlife Trusts Shoresearch |
| SeaWatch-B |
| Shoresearch - North Wales |
| Database of litter from ships |
| Plastic Pirates - Go Europe! |
| Observadores del Mar |
| Sea Sentinels - Divers United for the Environment |
| Educational Passages Miniboat Program |
| Marine & Beach Clean-Ups |

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