ALL-ATLANTIC OCEAN RESEARCH ALLIANCE

Creating an Atlantic Ocean Community by Implementing
the Galway and Belém Statements

AA-DATA2030 Report:

Stakeholders Workshop Focus on the Tropical and Southern Atlantic

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ALL-ATLANTIC JOINT PILOT ACTIONS

Following a year-long collaborative process among more than 70 stakeholders at the Atlantic level, the All-Atlantic Ocean Research Alliance Multi-Stakeholder Platform, divided into 5 sub-multi-stakeholders platforms, identified more than 1000 initiatives towards strengthening marine research and innovation collaboration at the Atlantic level, 56 gaps and 79 needs/recommendations to achieve the All-Atlantic Ocean Research Alliance ambition, guided by a total of 20 Strategic Objectives, 20 Operational Objectives, and 10 Key Performance Indicators.

Based on these findings and on the idea of collaboration, alignment, and use of existing resources, they have developed six ambitious and long-term collaborative Joint Pilot Actions:

- **All-Atlantic Training Platform (AA-TP)**
- **All-Atlantic Aquaculture Technology and Innovation Platform (AA-ATiP)**
- **All-Atlantic Marine Biotechnology Initiative (AA-BIOTECMAR)**
- **All-Atlantic Data Enterprise 2030 (AA-DATA2030)**
- **All-Atlantic Blue Schools Network (AA-BSN)**
- **All-Atlantic Marine Research Infrastructure Network (AA-MARINET)**

This report was developed by the **All-Atlantic Data Enterprise 2030 (AA-DATA2030)** Joint Pilot Action, that aims at creating a one-stop, user-friendly transatlantic platform for gathering natural, social, and social-scientific data: The All-Atlantic Ocean Data Space (AAODS). AA-DATA2030 is supporting transatlantic information and data sharing in the spirit of 'open science' and the FAIR/CARE/TRUST principles. The establishment of the All-Atlantic Ocean Data Space will ensure that, in the future, all stakeholders have free access and can also contribute to relevant data, thus safeguarding sustainable stewardship of the Atlantic Ocean.

This report is a deliverable in scope of JPA All-Atlantic Data Enterprise 2030, Task 2. Defining the Needs & Customizing the services for the All-Atlantic Ocean community. The task, aimed at organizing three workshops for stakeholder engagement: Workshop - 1 - Data and Policy forum (online); Workshop - 2 - Data Infrastructures and Stakeholders' Forum: focus on Roadmap for the implementation of the All-Atlantic Ocean Data Space (online); and Workshop 3: Focus on the Tropical and Southern Atlantic (and Southern Ocean): Workshop in presence in Buenos Aires, 28 November – 1 December 2022, (Organisation: UNLP, USP, CSIR, and ZMT). The latter workshop further contributes to include action items in the all Atlantic Roadmap, which focuses on South Atlantic data community. This report corresponds to AA-DATA2030 D2.2, Workshop 3.

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1. Agenda of the All-Atlantic Data Enterprise 2030 Stakeholders Workshop – Towards a Sustainable competence Centre for Marine and Coastal Data of the global South

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All-Atlantic Data Enterprise 2030 Stakeholders Workshop
Towards a Sustainable Competence Centre for MARINE and COASTAL DATA of the global SOUTH
- Preliminary Agenda -

Buenos Aires, 28 November - 1 December 2022

TIME	MONDAY, 28 NOV 2022	TUESDAY, 29 NOV 2022	WEDNESDAY, 30 NOV 2022	THURSDAY, 01 DEC 2022
9:00 AM	Arrival	FAIR/CARE/TRUST Presentations on individual perceptions of these principles and how countries apply them in the Atlantic realm.	Summary of previous day	Internal reporting (open to all participants)
9:30 AM			Plenary Discussion: Roadmap for the all Atlantic Data Space	
10:00 AM				
10:30 AM				
11:00 AM		Coffee break	Coffee break	Coffee break
11:30 AM		Q/A session based on previous presentations: setting a baseline to ignite afternoon discussion.	Plenary discussion: AAData2030 White Paper	Internal reporting (cont.)
12:00 PM				
12:30 PM				
1:00 PM				Free time
1:30 PM		Lunch break	Lunch break	Lunch
2:00 PM				
2:30 PM				
3:00 PM		Towards a Sustainable Competence Centre for Marine and Coastal Data of the global South.	Plenary discussion: Achieving WP5 SO1 and SO2 and way forward	Departure
3:30 PM				
4:00 PM				
4:30 PM				
5:00 PM		Coffee break	Coffee break	
5:30 PM	Welcome / Icebreaker / Introduction to the workshop / Reception (from 7pm onward)	Identification of SMART action items	WRAP-UP / Conclusion	
6:00 PM				
6:30 PM			Free time	
7:00 PM		Free time	Policy&Science guest speech / Farewell dinner	
7:30 PM		Dinner		
8:00 PM				

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2. Introduction and Objectives

Introduction

Under the umbrella of the All-Atlantic Cooperation for Ocean Research and Innovation (AANChOR, https://allatlanticocean.org) this workshop was part of the implementation plan of the Joint Pilot Action All-Atlantic Ocean Data Enterprise 2030 (AA-DATA2030, https://allatlanticocean.org/jointaction/all-atlantic-data-enterprise-2030-). The organization of this workshop was kindly supported by Prof. Sandra Torrusio from the Universidad Nacional de la Plata, Argentina.

Objectives

The AA-DATA2030 Stakeholders' workshop "Towards a Sustainable Competence Centre for Marine and Coastal Data of the global South" aimed at solidifying WP5 stakeholder's cohesion, discuss the long-term sustainability of AA-DATA2030, revisit the All-Atlantic Data Space roadmap and create a zero version of the white paper regarding data needs. Strategically, the workshop contributes to support the development of a natural- and social-scientific ocean data platform with historical, current and future ocean data (SO1) and to define a minimum set of ocean metadata standards and formats to be used by local, regional, and national initiatives in the Atlantic basin (SO2).

In particular, the workshop aimed at bringing together science-policy stakeholders from all countries bordering the South Atlantic Ocean to share experiences on the topic of scientific data. From a broader perspective, data is the key (re)source for evidence-based political decisions.

Basic questions for this workshop were:

1. Do all entities, i.e. institutes, universities, ministries, states/countries etc., know about each other's scientific results and the scientific data on which they are based?
2. What experiences with the basic principles of scientific data management exist in the individual units, i.e. the FAIR/ CARE/ TRUST principles?
3. The ever-growing amount of digital information available for research requires a dedicated entity that brings together education, research, infrastructure, data management and value creation. Connecting a Competence Centre for Marine and Coastal Data for the Global South with other data units around the world (in an all-inclusive network) would effectively support the long-term sustainability of the All-Atlantic Data Space and promote unrestricted knowledge to all, under the All-Atlantic Ocean Research and Innovation Alliance's motto: Connecting, acting, co-operating! How can we make a suitable management structure/ funding/ key actor/ etc. come true?

The above-mentioned roadmap – with specific focus on the Tropical and South Atlantic and Southern Ocean – shall vividly illustrate the path and the time frame by which any particular action item should be developed.

The above-mentioned white paper – written in all languages relevant to the Atlantic regional space – will provide the information and decision-making foundation for local, regional and national science-policy

stakeholders – at least for the signatories of the Belém Statement – who are to define the future framework for dealing with data.

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3. Summary of the first day (29.11.2022)

AANChOR AA-DATA2030 Joint Pilot Action leader, Prof. Olga Sato, Universidade de São Paulo (USP) Brazil, and the local host, Prof. Sandra Torrusio, Universidad Nacional de la Plata (UNLP) Argentina, welcomed the international group from several countries bordering the Atlantic Ocean (particularly from South America and Africa). They started by making special reference to the unusual situation of a hybrid working meeting across the ocean. They explained the aim of the workshop and what was expected from the group: target-oriented openness for an interdisciplinary intercultural meaningful exchange.

The 25 participants from Argentina, Belgium, Brazil, Burkina Faso, Côte d'Ivoire, Europe, Germany, Morocco, Nigeria, South Africa, and Uruguay introduced themselves stressing the importance of the meeting, but also expressed their concerns about the realization of high expectations and ambitions. At the same time, everyone assured full commitment for the best possible efforts for the exchange and contribution to the *Competence Centre for Marine and Coastal Data of the Global South*.

15-minutes-presentations from members of different Institutions of South America and Africa involved in the study of the South Atlantic Ocean, aimed at sharing their (individual) perceptions of the data principles of FAIR, CARE, and TRUST and how their countries apply them in the Atlantic realm.

During the presentations, several common problems were recognized:

a. Organizing data in a presentable and useful way ("Is my data relevant to others?")
b. Not knowing which repository to use nor the best way to share the (meta-)data
c. Lack of time, incentives, appropriate places, etc. to deposit data
d. Costs of sharing data
e. Lack of connection between researchers, natives and stakeholders
f. Need for training capacities
g. Lack of data policy in the institutions involved in data collection

Possible action plans were therefore discussed and other concerns were raised in the process:

a. The need to fundamentally change the current mind-set / perception of the importance of scientific data: Scientific work on raw data results in quality-assured data sets; linking data sets yields information; collected information creates knowledge; combined knowledge is the source for evidence-based policy decisions.
b. Data openness as a relevant issue, but guaranteeing data protection as well.
c. Considering what type of data is more relevant, which is connected to what kind of problems we want to tackle (climate change, pollutants, etc).
d. The importance behind doing Citizen Science in which members of local communities engage in data acquisition.
e. The need to recognize the difference between data and information.

f. The need to change how to address stakeholders, aiming to recognize key problems and provide evidences on how data sharing is an essential part of the solution (provide resources for evidence-based political decisions).

g. Commitment to Open Science - in the context of this workshop "open data" - as a measure to promote transparency, accessibility, traceability and re-usability of scientific results and practices. However, certain limits must also be observed to openness and opening up, e.g. for economic, legal or ethical-moral reasons, so that the principle "as open as possible, as closed as necessary" must generally apply. The problem of dual use, for instance, which refers to the potential misuse of scientific knowledge, needs careful consideration in the context of Open Science.

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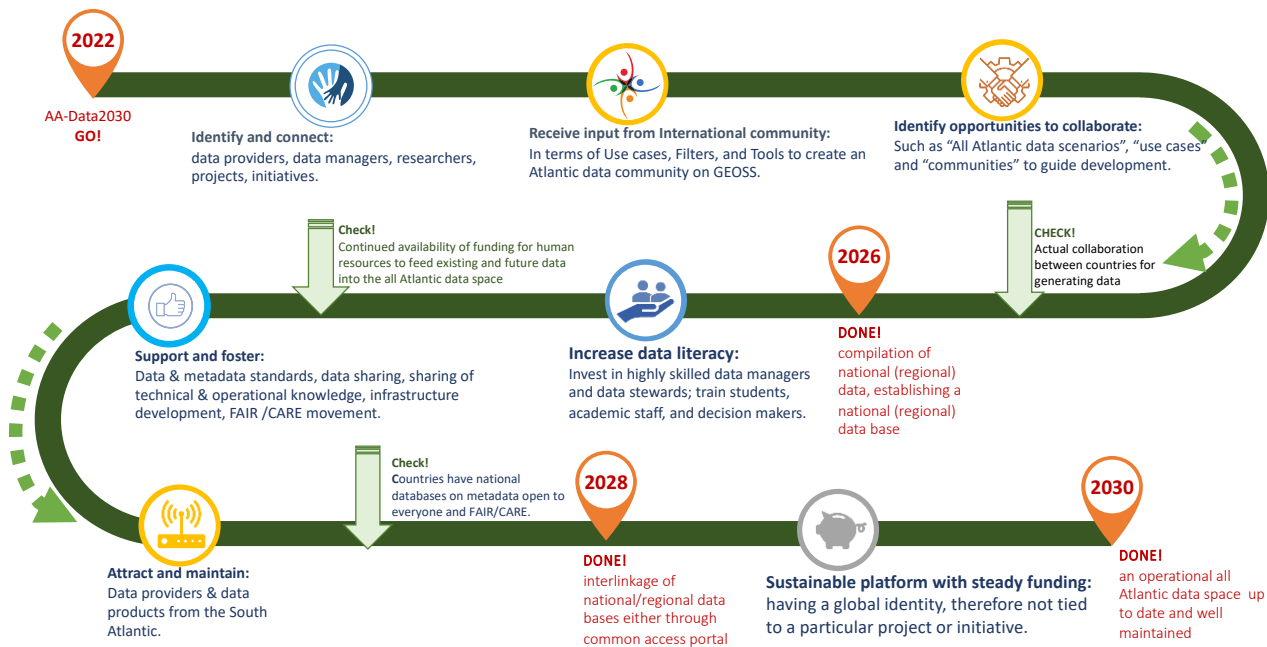
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4. Summary of the second day (30.11.2022)

During the Ministerial Event of the 2022 All-Atlantic Ocean Research Forum that took place in Washington DC, July 2022, the All-Atlantic Ocean Research and Innovation Declaration envisioned the Connecting-Cooperating-Acting! motto and proposed to promote the following recommendations:

- Build an All-Atlantic Ocean Research and Innovation Alliance by co-creating and co-implementing for ocean science activities.
- Promote accessible, interoperable, and transparent knowledge and data systems.
- Enhance access to infrastructures, data, and expertise.
- Promote local and indigenous knowledge in ocean science initiatives.
- Promote diversity, equity, and inclusion.
- Strength stakeholder engagement.

The Roadmap for the AAODS, first introduced to the Scientific Event of the 2022 All-Atlantic Ocean Research Forum in Brasília, June 2022, was presented at the workshop abide to those recommendations as it is shown below:

During the stakeholders' workshop in Buenos Aires, additional plenary discussions led to ten more "action items" that will be integrated in our original roadmap above:

1. Approach AIR Centre - José Luiz Moutinho <jose.moutinho@aircentre.org> - as potential host of the (physical) "Competence Centre for Marine and Coastal Data of the Global South".
2. Seek/ Find existing/ upcoming regional/ national Capacity Development activities related to scientific data: Teach the Teacher, student training etc.
3. Approach/ convince regional/ national stakeholders (science policy, private sector, industry, etc.) to lobby for support in sharing data/ meta-data.
4. Share minimum list of scientific variables of interest in the coastal/ oceanic Global South research.
5. Share minimum list of meta-information required to cover action item #4.
6. Approach technical providers of "platforms" that can host the foreseen common space for a Global South Atlantic Ocean Data Space
    - The Ocean Info Hub (https://oceaninfohub.org - Nicolas)
    - The GEOSS portal: All Atlantic Ocean Data Community GEOSS, for Geospatial data (https://www.geoportal.org/community/all-atlantic-ocean-data-community?m:activeLayerTileId=osm&f:dataSource=dab - Patricia)
    - And others
7. Focus on work with data collectors and get them involved in future works that might encourage collaboration, with a particular focus on indigenous people.
8. Push for data and manuscript publication, with the objective to give recognition of south Atlantic scientists and their findings in an international context, via DOI for citation purposes.
9. Select curated metadata from existing Atlantic metadata catalogues to feed the foreseen Global South Atlantic Ocean Data Space.

    A list of metadata and data catalogues were identified during the workshop:

    - MIMS e-catalog (https://data.ocean.gov.za)
    - SAEON data portal (https://catalogue.saeon.ac.za/)
    - Sister projects:
        - Mission Atlantic metadata catalog (https://sextant.ifremer.fr/documentation/pages/mission_atlantic.html#/search?from=1&to=30)
        - AtlantECO https://atlanteco-geonode.eu/ (https://atlanteco-geonode.eu/)
10. Publish an extended version of the white paper (i.e., stakeholders executive summary) to journals like Marine Policy as the leading journal of ocean policy studies, Frontiers in Marine Science showcasing emerging and important areas of research, and Ocean & Coastal Management as the leading international journal dedicated to the study of all aspects of ocean and coastal management from the global to local levels.

Plenary discussion: The White Paper

Discussions aimed at the development of the first draft of the white paper which summarizes the recommendations for local, regional and national governments of countries bordering the South Atlantic, enabling them to address critical issues arising from the need of sharing scientific data. The white paper is entitled "**An Atlantic Data Space for All Scientific data - the key (re)source for evidence-based political decision**". We included the goals that the All-Atlantic Ocean Data Enterprise 2030 aims to achieve but also indicated the needs and gaps that we identified during the course of our discussions. We suggest some of the key actors (stakeholders) who can potentially guide the project towards its successful implementation. Finally, we devised an **Action Plan** to prepare the propagation of the community data standards and promote the interoperability across the All-Atlantic Ocean data space.

Figure 1 Science-policy stakeholders from the South Americas and Africa convening in the ALL-ATLANTIC DATA 2030 STAKEHOLDERS WORKSHOP - Towards a Sustainable *Competence Centre for MARINE and COASTAL DATA of the global SOUTH*

Artist's intervention

I was commissioned to capture pictorially, then digitally, the spirit of the event and what concerns you as the group of science-policy stakeholders, directly.

My work seeks to visually narrate the status of your data and their community.

My answer places you in Dante Alighieri's Purgatory where the reality of your data comes in a direct metaphor as lazy souls aspiring to reach a Paradise which I represented as a box that evokes not only the unification of data but a "present continuous" Paradise for future generations.

In the gestural/ accidental/ intentional process of painting words that evoke your words, a visual alchemical process begins where accidental figures accidentally create and respond conceptually.

The work then gives birth to another work in which the alchemical process deepens. I digitally copy and paste pixel patches from a photograph of the work, thus achieving a new neo-figuration in which the aforementioned accidents generate "causal beings". The causal beings multiply and add information to the first work, as if the chain of potentiality were respected almost organically, understood in a given chaotic order. We already knew and now believe that there is data which are voices, souls that want to be heard from the deepest and most ancient

Figure 2   Artist Santiago Espeche capturing pictorically the spirit of the event

times, thus arriving to a Data Science Paradise of the Sea, an artificial oasis generated by real beings, who sail together to change the world as we know it. Just as the sum of lines and colours can generate a visual narrative, the sum of efforts, campaigns, data and ideas can improve the scientific narrative and reality.

Santiago Espeche, artist, Buenos Aires (http://www.santiagoespeche.com)

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