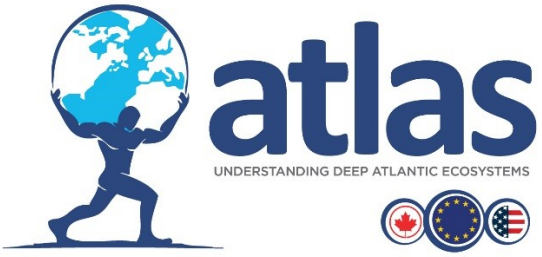

Deliverable 8.2

18-month progress report on ATLAS data integration in EMODnet

Project acronym:	ATLAS
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Deliverable title:	18-month progress report on ATLAS data integration in EMODnet
Work Package:	Work Package 8
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Authors:	UniHB (Stéphane Pesant), UEDIN (Katherine Needham)
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1 Introduction

A novelty in Horizon 2020 is the Open Research Data Pilot which aims to improve and maximise access to and re-use of research data generated by projects. ATLAS will generate diverse research outputs, including data, software and scientific articles about physical oceanography, biogeochemistry, visual surveys of biodiversity, biological rates and traits measurements, genomic analyses, socio-economic metrics, and spatial planning. This diversity requires an ambitious data management plan (DMP), building on existing open science resources that are interoperable and trusted. UniHB has a key role in the implementation of ATLAS' DMP, acting as a facilitator between ATLAS partners and six open science resources:

- ENA, the European Nucleotides Archive (http://www.ebi.ac.uk/ena)
- PANGAEA, Data Publisher for Earth and Environmental Science (http://www.pangaea.de)
- EuBI, Euro-BioImaging (http://www.eurobioimaging.eu/)
- ZENODO, EU-funded open access digital repository (https://zenodo.org)
- OpenAIRE, H2020's research monitoring infrastructure (https://www.openaire.eu)
- EMODnet, the European Marine Observation and Data Network (http://www.EMODnet.eu)

Ultimately, ATLAS research data will be transferred to EMODnet using the interoperability protocols specified by the different EMODnet thematic nodes (e.g. bathymetry, chemistry and biology). The present deliverable reports on the progress of this transfer process (Task 8.5), but more generally, it provides the overall progress of tasks leading to the integration of ATLAS data in EMODnet.

2 Tasks towards ATLAS data integration in EMODnet

Task 8.1 Engage ATLAS partners in H2020's Open Research Data Pilot (M1-M6)

The Data Management Plan (DMP) and Open Science policy for ATLAS were adopted by partners early in the project and published in open access at Zenodo (see D8.1 in the next section). With respect to open access, the DMP stipulates that partners must:

- ensure that Cruise Summary Reports (CSRs) (including a list of sampling activities, measured parameters and contact details of principal investigators for each parameter) are deposited in open access at ZENODO (https://zenodo.org/deposit/new?c=atlas) no later than three months after the cruise; and

- ensure that their research outputs are made available preferably in gold open access (or a least green open access) as soon as possible and at the latest six months after publication; twelve months for publications in the social sciences and humanities; twenty-four months in the case of unpublished data that are part of a research thesis.

Following ATLAS' Open Science policy, UniHB has cross-checked the contact details of all beneficiaries against the ORCID registries and invited all beneficiaries to confirm or register their ORCID. The list is now complete and available for curators to authenticate authorship of ATLAS research outputs.

Task 8.2 Assemble relevant research outputs from past EU-funded and nationally-funded efforts (M3-M12)

A first step towards assembling research outputs from past Atlantic-ecosystem-based research was to make an inventory of all parameters measured during these efforts. This inventory was carried out by the information specialist (UniHB) during the first six months of ATLAS and is included in the DMP (D8.1). After reviewing the list of parameters and the geographic distribution of selected data sets, it became clear that a more focused approach was required in order to aggregate data of relevance to ATLAS. After discussion with the Case Study coordinator and Work Package 1, it was decided to concentrate the data assembly on areas identified in deliverable D1.1 (Lagrangian connectivity of North Atlantic ecosystems). The completion of this Task will have a delay of 12 months. The resulting data compilation will be presented at the 2018 general assembly of ATLAS (M24). This deviation will not affect the associated deliverable (D8.4) which is due in month M42.

Task 8.3 Safeguard and publish ATLAS' research outputs in open access (M6-M48)

The information specialist (UniHB) created the "ATLAS research community" space at Zenodo where all research outputs can be deposited and consulted in open access (https://zenodo.org/communities/atlas/). While the project coordination office is responsible for depositing public outreach material and partner's presentations to ATLAS meetings, all partners are kindly asked to deposit their research outputs by themselves, with the assistance of the information specialist (UniHB) as needed.

A total of 118 research outputs have been deposited at Zenodo, 86% of which are currently available in open access. These include 88 presentations, 24 literature publications, four posters, one software and one video. Literature publications deposited at Zenodo consist of project deliverables, cruise reports, technical notes, and pre-publication research articles. Peer-reviewed research articles published in scientific journals by ATLAS partners are available directly from the journal publishers.

In accordance with the DMP, summary reports of all ATLAS cruises are currently available at Zenodo (https://zenodo.org/communities/atlas/search?type=publication&subtype=report), but so far, only a few data publications have been deposited at PANGAEA by ATLAS partners. The rate at which new data sets will be deposited at PANGAEA is expected to rise sharply in 2018 as data are analysed and validated.

Task 8.4 Monitor and report on ATLAS research outputs using OpenAIRE (M6-M48)

An ATLAS research community dashboard is being developed by OpenAIRE-connect to facilitate the curation, monitoring and reporting of community specific research outputs. In the meantime, data sets, peer-reviewed publications, and all research outputs deposited in Zenodo are automatically harvested-by, and reported-in OpenAIRE. A total of 127 research outputs from ATLAS are currently reported in OpenAIRE, of which 88% are available in open access. All peer-reviewed publications from ATLAS (17 in total) are available either directly from the journal publisher in gold open access (82%) or alternatively from Zenodo in green open access (18%). (https://www.openaire.eu/search/browse/publications?project=corda__h2020::1c7c2eac498a1684ecb096a13053f232).

Task 8.5 Transfer ATLAS research outputs to science and industry stakeholders using EMODnet (M12-M48)

Summary reports of all ATLAS cruises are available at Zenodo, but only a few data publications have been deposited at PANGAEA by ATLAS partners. The transfer of knowledge to EMODnet has therefore not yet begun. The current progress of ATLAS toward this objective is nevertheless in accord with the terms and schedule of ATLAS' Open Science policy. The rate at which new data sets from ATLAS cruises will be deposited at PANGAEA is expected to rise sharply in 2018 as data are analysed and validated. Only then will it be possible to transfer data to EMODnet.

A workshop was organised by WP6 (Brussels, 12-13 October 2017) to improve the project's internal data workflow between ATLAS case studies and ATLAS work packages. It was decided to follow the model put in place by WP8 to safeguard and transfer research output to science and stakeholders. In collaboration with the Case Study coordinator, all observations and data layers available from Case Studies will be safeguarded at PANGAEA and transferred to EMODnet. Since the start of ATLAS, the concept and central portal of EMODnet have evolved, including the development of Use Cases. This recent development is in line with the work proposed under Task 8.5. We are now discussing with the EMODnet secretariat (ATLAS partner SeaScape) to create an ATLAS Use Case that would act as a one-stop-shop for all data products (e.g. GIS layers) needed to assess and manage deep Atlantic ecosystems.

Task 8.6 Assess the suitability of WP8's methodology for the transfer of Atlantic ecosystem-based research outputs on the long-term (M24-M48)

The EMODnet secretariat has recently defined the terms of reference of an Atlantic Check Point. *"The EMODNET Atlantic Checkpoint is a sea-basin monitoring system assessment activity aiming to support sustainable growth in the blue economy by assessing the potential of current marine observation and data services to address targeted end-user applications. Specifically, the Atlantic Checkpoint will:*

- *Clarify the data collection and warehousing landscape of all compartments of the marine environment and highlighting the existing programs at national, European and international level;*
- *Build fitness-for-use indicators that will show the accessibility and usability of observation and modelled data sets and their roles and synergies based on targeted applications;*
- *Prioritize the needs for optimizing monitoring systems in terms of accessibility, availability, multiple-use, efficiency, reliability, time consistency, space consistency, etc. and the planning of the technological advancements, new accessibility, new assembly protocols and observational priorities required in the future to meet the challenges."*

This recent development is in line with the work proposed under Task 8.6. We are now working with the EMODnet secretariat (ATLAS partner SeaScape) to involve the EMODnet Atlantic Checkpoint in evaluating the "*fitness-for-use"* of currently available observations and modelled data sets, and in repeating this evaluation in 2020 at the end of ATLAS, thus assessing the suitability of ATLAS knowledge transfer methodology to support Atlantic ecosystem-based research and management.

Appendix 1: Document Information

EU Project N°	678760	**Acronym**	ATLAS
Full Title	A trans-Atlantic assessment and deep-water ecosystem-based spatial management plan for Europe		
Project website	www.eu-atlas.org		

Deliverable	**N°**	8.2	**Title**	18-month progress report on ATLAS data integration in EMODnet
Work Package	**N°**	8	**Title**	Open Science for Stakeholders

Date of delivery	**Contractual**
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