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Knowledge Transfer Activity Report 1

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Summary

This Knowledge Transfer Activity Report 1 aims to describe Knowledge Transfer activities undertaken by the ATLAS project between M1 (May 2016) and M24 (April 2018).

The ATLAS project aims to gather diverse new information on sensitive Atlantic ecosystems, to produce a step-change in our understanding of their connectivity, functioning and responses to future changes in human use and ocean climate. To maximise the impacts of ATLAS and its results, the project has implemented effective communication, dissemination and knowledge transfer methodologies and strategies.

Knowledge Management systems applied to the ATLAS project are designed to promote optimal exploitation of the research outputs. To date, the Knowledge Transfer activities carried out within ATLAS have facilitated the communication and development of relationships amongst all ATLAS stakeholders.

Moving into the second half of the project, more Knowledge Outputs with potential for impact are expected to emerge. A more focused Knowledge Transfer approach will be implemented to ensure effective management and transfer to relevant stakeholders and end-users and, to facilitate exploitation at the end of the project.

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1 Introduction

The knowledge acquired from ATLAS research can be hugely important to its stakeholders, whether they be from industrial, policy, societal or scientific communities. For industry and science, it can catalyse innovation and the subsequent emergence of new technologies and business, thus advancing economic growth; and, for the policy community, it provides the latest scientific evidence in this area for informed decision making. Not only are these improved economic and political landscapes advantageous for society; but an improved understanding of the marine environment, resulting from research, allows us to maintain a sustainable world in which to live.

To ensure that ATLAS has a measurable impact, effective management and transfer of new knowledge to its different stakeholders resulting in uptake and application is required. ATLAS has a dedicated Work Package – WP9 (Dissemination, Knowledge Transfer and Outreach) which focuses on optimal knowledge transfer of ATLAS results and applications. Specific objectives related to ensuring a measurable impact are:

- to identify, collect and analyse the research results generated from project to suitably define and carry out knowledge transfer resulting in measurable uptake and application
- to compile the new knowledge generated within the project and facilitate exploitation through targeted engagement/exchange with specific science, policy, the general public and industry end-users

ATLAS research results are generated through Work Package 1 to 6 and the Work Packages 7, 8 and 9 deals with transferring these results to the different end users. Work Package 7 carries out science-to-policy activities amongst others using a Science-Policy interface (Science-Policy Panels), specifically to engage policymakers in the several related European Commission Directorate Generals and European Parliament. Work Package 8 carries out transfer activities to communicate ATLAS results to industry stakeholders using EMODnet. In WP9, ATLAS has a specific task dedicated to outreach activities facilitating communication with society in general.

The first Knowledge Transfer Activity report captures all ATLAS knowledge output transfer activities carried out in between M1 (May 2016) and M24 (April 2018) of the project.

2 ATLAS Knowledge Transfer Activities

Knowledge Transfer consists of a range of activities that aim to capture and transmit knowledge, skills and competence from those who generate them to those who will transform them into added value outcomes. It includes both commercial and non-commercial activities such as research collaborations, consultancy, policy, licensing, spin-off creation, researcher mobility and publication. The benefits of Knowledge Transfer – in other words, the exploitation of research – go beyond simple financial return. The benefits also lie in several other, less tangible, benefits for research institutions, for industry and for the society as a whole, such as helping research institutions focus their research on the wider needs of society and industry.

In its broad-based innovation strategy for the EU, the importance of improving knowledge transfer between public research institutions and third parties, including industry and civil society organisations were identified by the European Commission as one of ten key areas for action (http://ec.europa.eu/invest-in-research/pdf/download_en/knowledge_transfer_web.pdf).

Effective Knowledge Transfer (KT) is a core cross-cutting dimension to the ATLAS project and is being achieved through the adoption of a broad range of targeted Knowledge Transfer tools and channels, ensuring engagement and exchange so that research outputs are transferred effectively to relevant end-users. ATLAS partners have carried out many Knowledge Transfer activities addressing policy, industry, science and public stakeholders, during the first 24 months of the project.

2.1 Science to Policy

Translating ATLAS's scientific findings to policy and practice will ultimately inform national and international agreements to conserve Vulnerable Marine Ecosystems and Ecologically or Biologically Sensitive Areas (an Implementing Agreement to UNCLOS; building on commitments outlined in the 2013 Galway Statement and Atlantic Action Plan; contributing to Strategic Environmental Management Planning for subsea mineral resources; supporting the International Seabed Authority). Work Package 7 "Policy Integration to Inform Key Agreements" is dedicated and designed to fit this purpose and to facilitate direct transfer of knowledge from the project to policymakers.

ATLAS has engaged in key science to policy transfer activities, ensuring ATLAS contributes to major policy events.

2.1.1 PrepCom Participation (September 2016; April 2017; July 2017)

In June 2015, under the United Nations Convention on the Law of the Sea (UNCLOS) on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, a Preparatory Committee was established by UN General Assembly resolution 69/292. Prior to holding an intergovernmental conference, the Preparatory Committee makes substantive recommendations to the General Assembly based on the various reports of the Co-Chairs on the work of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction.

ATLAS has actively participated in three out of the four sessions that have been held:

1. **PrepCom2 (August – September 2016):** ATLAS featured as one of a series of presentations coordinated by the Global Ocean Biodiversity Initiative at a side event on 1 September 2016 delivered by David Johnson (Seascope Consultants).
2. **PrepCom3 (April 2017):** ATLAS held a side event entitled “Ocean-scale science for effective marine governance: A new approach to managing Atlantic ecosystems”. The ATLAS Project was showcased as an example for achieving ecosystem-based management by harnessing synergies and coordination of science for biodiversity conservation and sustainable use under a possible new agreement. The panellists covered opportunities for MSP including relevant information on Case Study 11 prepared by IEO-Vigo researchers. The presentation highlighted the Flemish Cap Case Study as an example of good practices in ABNJ; applied science – CBD cold-water biodiversity work plan (global perspective) based upon an original CBD report drafted by UEDIN (Murray Roberts & Sebastian Hennige) with the United Nations University (Marjo Vierros) and Opportunities for Trans-Atlantic Cooperation (AORA).
3. **PrepCom4 (July 2017):** ATLAS partners Anthony Grehan (NUIG) and Ronan Long (WMU) participated in this final PrepCom meeting providing feedback from ATLAS partners.

2.1.2 ATLAS Science Policy Panel (March 2017)

ATLAS Science-Policy Panels (SPP) have been specifically designed to facilitate cooperation based on new information provided by the project to senior Policymakers (e.g. DG-MARE, DG Environment, DG Research, DG Enterprise, Members of the European Parliament, EEA), Regional Fisheries Management Organisations, Inter- and Non-Governmental Organisations and the RTD sector. Two SPP have been organised at M12, M25 (Ottawa, Canada) and another one is scheduled for M36. These meetings aim

to link research and policy and to provide policymakers and stakeholders with timely and relevant scientific knowledge in support of policy developments.

The first ATLAS Science-Policy Panel was held at the European Parliament in March 2017 (M12). In addition to summarising ATLAS findings from 2016, it included contributions from the Canadian Healthy Oceans Network and Woodside Energy to highlight the project's transatlantic and industrial linkages, respectively.

The next ATLAS Science-Policy Panel with the Canadian Government will take place on 11 May 2018 (M25) in Ottawa.

Key Knowledge Output:

POLICY: Report on priorities for an expert assessment of North Atlantic MPAs, EBSAs, and VMEs in ABNJ. This report assessed the effectiveness of Area-Based Management Tools established by multi-lateral environmental agreements. The report is publicly available and makes recommendations on the priorities for an expert assessment on North Atlantic EBSAs, VMEs, MPAs in ABNJ.

Johnson D, Ferreira MA and Kenchington E (2018) Climate change is likely to severely limit the effectiveness of deep-sea ABMTs in the North Atlantic. Marine Policy. 87: 111-122.

2.2 Science to Industry

ATLAS' engagement with industry is mutually beneficial, ensuring sustainable exploitation and helping researchers to focus their work on the wider needs of society and industry. Statoil, Woodside Energy and BP are members of the ATLAS Advisory Board, providing a direct avenue from the project to industry. Furthermore, data for three ATLAS case studies areas; the LoVe Observatory – Case Study 1 (financed by Statoil), Porcupine Sea Bight – Case Study 5 (Woodside Energy); the sponge grounds in the marine protected area at the Faroe Shetland Channel – Case Study 2 (BP), have all been supported through industry links.

Two significant science to industry Knowledge Transfer Activities/events have been conducted.

2.2.1 Blue Growth Data Challenge Workshop, Edinburgh (February 2017)

This stakeholder engagement workshop was hosted by the University of Edinburgh and jointly organised with the INSITE (Influence of man-made Structures In the Ecosystem: www.insitenorthsea.org) research programme. The overall objective of the workshop was to bring

together members of the scientific community, government regulators and the oil and gas industry to discuss the challenges and opportunities surrounding data relevant to decommissioning, and the issues surrounding sourcing and maintaining environmental data for the offshore energy industries. Over 30 representatives from industry, academia, online data portals and regulators attended the workshop that combined presentations discussing the current availability of data for the North Sea, example Case Studies from academia using industry data, potential quick wins and long-term aims. Presentations and breakout sessions centred around three themes: the present situation and challenges; the opportunities; and the best way forward.

The following conclusions emerged from the workshop:

1. The development of national data centres and their coordination within EMODnet means that the structures are in place to handle and archive industry data for the benefit of all.
2. Many of the issues relating to the archiving of data, safeguarding data and making data available under controlled conditions are in place, but awareness of these facilities within the oil and gas industry is low.
3. Where data are deposited for open access in a transparent way, the opportunity for reputational gain may outweigh the risks from misinterpretation.
4. Trust and transparency issues are currently a greater barrier to data sharing than technological capabilities. Keeping communication between stakeholders through workshops and working groups can build trust and develop working relationships that will facilitate the development of data sharing protocols and overcoming the barriers identified.

Findings and recommendations of the workshop are outlined in a manuscript for publication in the journal *Marine Policy* (see below).

2.2.2 Blue Growth Data Workshops Part 1 and 2, European Maritime Day, Poole (18 – 19 May 2017)

The European Maritime Day is the annual meeting for Europe's maritime community. The meeting in 2017 themed; "The Future of Our Seas", had 28 parallel sessions including two workshops organised by ATLAS members which considered the data needs in an era of blue growth in relation to industry, academia, regulatory agencies and policy.

The first workshop "Engaging Industry – Involving industry in marine data initiatives", was co-organised by the EMODnet Secretariat (www.emodnet.eu) in collaboration with the COLUMBUS

project (www.columbusproject.eu) to discuss the challenges and benefits of public-private collaboration towards data acquisition and sharing.

For the second workshop, “Offshore Energy Case Studies – Involving industry in marine data initiatives”, ATLAS joined together with the INSITE programme to address data issues pertinent to specific Blue Growth challenges such as oil/gas decommissioning and marine renewable installation. The main message from this workshop was that emerging marine industries in sea basins across Europe would benefit from the lessons learnt during the North Sea decommissioning phase and the need to consider the full lifecycle of the oil or gas structure. Regarding data acquisition and sharing, feasibility studies for a variety of maritime industries can produce a wealth of data that needs to be gathered and stored in a central data repository before it is lost. In addition, compared to biological data, physics and chemistry datasets are significantly easier to standardise and produce data products from. Recommendations included producing guidelines to future-proof environmental datasets by thinking about potential future uses and in practice collecting marine environmental data at the highest possible resolution, standardise collection techniques for time series data to allow comparisons to be made across years and datasets, and finally, consider mapping the North Sea basin and making it a freely available public asset.

Key Knowledge Output(s):

INDUSTRY: A publication has been prepared outlining the conclusions emerging from the Blue Growth Data Challenge Workshop (Edinburgh, February 2017). Addressing the present situation and challenges; the opportunities; and the best way forward, this publication will be a helpful tool for Knowledge Transfer activities between science and industry.

Murray F, Needham K, Gormley K, Rouse S, Coolen J, Billet D, Dannheim J, Birchenough S, Hyder K, Heard R, Ferris J, Holstein J, Henry LA, McMee O, Calewaert JB and Roberts JM (2017). (Ecological) Data challenges and opportunities from decommissioning in the North Sea to support blue growth. Marine Policy. (Submitted for publication).

2.3 Science to Science

ATLAS is a multidisciplinary research programme, building on a variety of cross-disciplinary Case Studies and producing new knowledge as well as developing integrative models and technologies to improve innovation capacity and knowledge integration.

ATLAS results important for the scientific community are being published in high impact peer-reviewed scientific journals (e.g. Nature). All ATLAS publications are published in either ‘green’ open

access or 'gold' open access and are available through free online repository Zenodo (<https://zenodo.org/search?page=1&size=20&q=ATLAS>). A full list of publication can also be found on the ATLAS project website (see also Appendix 2). To date; 25 research papers (33 papers are currently in preparation) have been published in open access mode; two book chapters have been published; 16 project deliverables have been completed and submitted to the European Commission; and 19 research cruises reports have been published. Furthermore, all oceanographic data from these cruises, and project results are freely accessible via PANGAEA and metadata and genetic sequences are available from ENA.

ATLAS partners have presented or participated in over 110 scientific conferences, workshop and events (see Appendix 3). New cross-disciplinary networks have been established between individual partners in ATLAS as well as outside the consortium. ATLAS has established important collaborations with sister projects SPONGES and MERCES, improving research strategies and have a positive impact on future research initiatives.

2.3.1 Highlighted Science to Science Output (1): Nature publication “Anomalously weak Labrador Sea convection and Atlantic overturning during the past 150 years.”

ATLAS partners have recently published their findings in Nature, which is one of the world's top academic journals, with an impact factor of 40.14. The primary audience of the journal are research scientists, with an estimated online readership of three million per month. The findings of the paper imply modern circulation is not typical of the longer term, a concept that needs to be considered when developing our understanding of the distribution and functioning of present-day deep Atlantic marine ecosystems. The article's methods and results are exploitable scientific findings with applications and implications for; (i) model scenarios under current AMOC conditions and (ii) 'reduced strength' AMOC in the future, filling a knowledge gap on climate change resilience and feedback effects on deep-water ecosystems.

Key Knowledge Output(s):

SCIENCE: Publication with methodological applications and implications for future model scenarios on climate resilience and effects on deep-water ecosystems.

Thornalley David JR, Oppo Delia W, et al. (2018) Anomalously weak Labrador Sea convection and Atlantic overturning during the past 150 years. Nature 556, 227-230.
<https://doi.org/10.1038/s41586-018-0007-4>

2.3.2 Highlighted Science to Science Output (2): Physiology of Cold-Water Corals and Sponges Database

An inventory of existing relevant publications and general papers on cold water corals response to different conditions of food supply and oceanographic change scenarios has been assembled in a publicly-accessible database. The ‘physiology of cold-water corals and sponges’ database is fully exploitable and is publicly available on-line for use. The database also includes a review of all existing literature on the physiology of cold-water corals and sponges to support physiological experimental and modelling efforts planned within ATLAS (<https://zenodo.org/record/321898#.Wogica5I-Uk>).

2.4 Science to Society

Knowledge gained from the ATLAS project has been communicated to the general public and society through press releases, social media (Twitter, Facebook, LinkedIn, YouTube), the project website, project brochure, fact sheets, expedition blogs, and other dynamic communication products. These products have been utilised in a targeted way, raising public awareness about deep-sea ecosystems and ensuring the transfer of ATLAS Knowledge Outputs at specific event.

Press releases and articles have been issued at regular intervals throughout the project, with “hits” currently (April 2018) reaching up to 3,370 users (table 3). The launch of ATLAS in 2016 was featured on BBC news, as well as the AquaTT website and others, where an acknowledgement and weblink to H2020 was included (<http://www.bbc.co.uk/news/av/science-environment-36532758/deep-atlantic-scientists-launch-ocean-mission>).

Table 1. ATLAS Press Release Statistics

Press Release Title	Publication date	Platform	Alerts	Hits	Asset hits
Biggest ever assessment of Atlantic deep-sea ecosystems gets underway	24 June 2016	AquaTT website	N/A	1,439	N/A
		AlphaGalileo	3,370	682	187
Deep in the Atlantic Ocean: high-tech sensors to gather long-term biogeochemical data	29 June 2017	AquaTT website	N/A	1,095	N/A
		AlphaGalileo	2,746	490	212
Diving Deep to Explore New Frontiers of Collaboration and Innovation	21 July 2017	AquaTT website	N/A	993	N/A
		AlphaGalileo	1,644	654	117

Press releases issued on research published in *Nature* and part of the ATLAS project (see above also), received global coverage and featured on, amongst others, the following websites in Europe and the USA:

- <http://www.bbc.com/news/science-environment-43713719>
- <https://www.theguardian.com/environment/2018/apr/11/critical-gulf-stream-current-weakest-for-1600-years-research-finds>
- <http://www.dailymail.co.uk/sciencetech/article-5604003/Scientists-warn-weak-circulation-Atlantic-Ocean-trigger-extreme-climates.html>
- <http://theconversation.com/climate-change-is-slowng-atlantic-currents-that-help-keep-europe-warm-94930>
- <https://www.independent.co.uk/environment/gulf-stream-ice-age-collapse-climate-change-amoc-global-warming-a8301511.html>
- https://www.washingtonpost.com/news/energy-environment/wp/2018/04/11/the-oceans-circulation-hasnt-been-this-sluggish-in-1000-years-thats-bad-news/?noredirect=on&utm_term=.a5d30be3a3c4

Capitalising on people's natural fascination with the deep sea, examples of Knowledge Transfer activities to society include the following outreach events: Wave of the Waves (WoW) and Oases of Life in the Deep-Sea.

2.4.1 Wave of the Waves (WoW), September – October 2016

This artistic scientific outreach project illustrated the scientific discoveries from the MEDiterranean out flow WAtER and Vulnerable EcosystemS (MEDWAVES) research cruise. Artist, Martha Zein and filmmaker Jose Luis Matoso tracked the journey scientists following the Mediterranean water from the Alboran Sea to the Azores Archipelago. A visual story, consisting of seven chapters; Parallel Lives; The Date; Eyes That See Deeper; The Elegant Gaze; The Skin Moves; A World in Common; The Dance, were created. The videos are available in two formats (1:1 and 16:9) and are accessible via YouTube and the WoW page on the Medwaves website: <https://medwavesblog.wordpress.com/wow/>

2.4.2 Oases of Life in the Deep-Sea, August – September 2016

Photographs from the deep-sea taken with submersible vehicles were displayed in an Art Exhibit at the Hanse Institute of Advanced Studies (Hanse-Wissenschaftskilleg, HWK) in Delmenhorst, Oldenburg, Germany. The exhibit was launched in August 2016 through to September 2016 and was open to the public. The images taken with by submersible vehicles from ATLAS partner MARUM, the centre for Marine Environmental Science at the University of Bremen, show a variety of deep-sea ecosystems from the Atlantic Ocean. This cooperation successfully used scientific outputs that capture the beauty of the deep-sea and inform public audiences of life that exists at great depths.

<https://www.marum.de/en/Discover/Deep-Sea-Exhibition-Rosenheim.html>

Key Knowledge Output(s):

SOCIETY: A set of video stories outlining scientific results from ATLAS MEDWAVES research cruise (IEO-VIGO, October 2016). This fusion of Science with Art (CONCIENCIARTE), an alternative method in itself, is accessible and captivating for all audiences.

<https://medwavesblog.wordpress.com/wow/>

3 ATLAS Knowledge Management & Transfer: Outlook

To better streamline the capturing of all ATLAS outputs and potentially facilitate more transfer activities, from month 24, ATLAS will implement the Knowledge Management methodology that is based on the methodology originally developed in the FP7 MarineTT project, and consequently further applied and developed in other EU funded FP7 and H2020 projects, and recently refined in the H2020 COLUMBUS project (GA# 652690).

This methodology will ensure that all outputs arising from the project, including scientific outputs, new methodologies, data, protocols and experimental approaches as well as de-novo knowledge and new strategies, are captured and appropriately transferred (taking into consideration IPR). The protocols (outlined below) will be integrated into an updated DEP. All partners will contribute to the project's Knowledge Management by adhering to the protocols and assisting in the collection of Knowledge Outputs and transfer of high potential outputs to targeted end-users.

The Knowledge Transfer methodology focuses on KOs; A "KO" for the purposes of this project is the term used to describe a unit of knowledge that has been generated out of a scientific project. It is not limited to de-novo or pioneering discoveries but may also include new methodologies/processes, adaptations, insights, alternative applications of prior know-how/knowledge (*Definition developed by AquaTT in the context of Knowledge Management in the MarineTT project*).

The methodology aims to generate a systematic basis for value-creation from research and consists of the following phases (Figure 1):

a) Collect & Understand

b) Analyse & Validate

c) Transfer & Exploitation



Figure 1. Knowledge Transfer Infographic

3.1 Collect & Understand

The first step will involve the capturing of Knowledge Outputs in an internal KO Template (Appendix I), which includes information on end-users, potential application(s), potential impact and potential exploitation.

PROTOCOL – Collect & Understand:

1. WP9 leader AquaTT sends the Knowledge Output Template (KOT) to each task leader, who will be requested to complete it on a half yearly basis. Task leaders can indicate whether they prefer to (partly) complete the KOT or to get support from AquaTT through phone/video conferencing or face to face meetings.
2. If the task leader thinks another partner is better placed to provide the requested information, then the AquaTT team will contact the relevant partner(s) and complete the KOT with them.
3. First validation of the KOT will be carried out by AquaTT, whereby
 - any typographical/editing errors will be corrected;
 - it will be determined if the short title of the KO(s) is adequately informative;
 - it will be established if the knowledge description of the KO(s) is comprehensive enough to adequately understand the nature of the KO and to determine its possible application;
 - potential end-users of the KO will be identified and listed, as well as their potential application;
 - it will be clarified if the KO(s) is publicly available or is subject to issues of Intellectual Property (which would have an effect on transfer potential).
4. If deemed necessary, AquaTT will contact the KO author/s and the Project Coordinator to discuss the KO and identify if there is anything missing or unclear.

3.2 Analyse & Validate

In the Analyse & Validate stage, the collected KOs will be carefully assessed, and additional information asked for if needed. The KOT fields related to Analysis and Validation include owners and other beneficiaries of the KO; if the KO is ready for uptake or whether further research would be necessary; what sectors would benefit from this KO; and what would be end-users and their application of the KO.

The following protocol is in place in relation to the Analyse & Validate phase in ATLAS:

PROTOCOL – Analyse & Validate:

1. After first validation in phase 1 (Collect & Understand) AquaTT assures all KO fields are complete and validated.
2. Where further clarifications are required, AquaTT requests more information from the authors/creators of the KO. When necessary, other partners are asked to review or comment on the KOT, for example to assist in the identification of end-users and potential applications.
3. For high potential KOs, a Knowledge Transfer Plan is developed by the WP9 leader AquaTT. The Knowledge Transfer plan includes proposed mediums and channels for transfer as well as indicators that can be used to measure impact.
4. Whenever necessary, the Steering Committee is consulted to discuss the most appropriate way to transfer the KOs (exploitation mechanisms and exploitation partner(s)). The partner transfer office is responsible for examining IP issues to ensure protection and implement appropriate actions when needed.
5. When approved, each Knowledge Transfer Plan (KTP) moves to phase 3 – Transfer and Exploitation

3.3 Transfer and Exploitation

Within the framework of ATLAS, transfer of Knowledge Outputs, identified as having a high potential impact, will include the development of a Knowledge Transfer Pathway (KTP) whereby these KOs will go through a Due Diligence process. Due Diligence refers to the process whereby a more thorough examination and evaluation of the KO and its applicability and readiness for transfer will be investigated. Due diligence will be undertaken so that any factors that could affect the transfer potential of the KO and ultimately the uptake and impact of the knowledge can be identified.

The following protocol in relation to the Transfer & Exploitation phase will be applied:

PROTOCOL – Transfer & Exploit:

1. After approval of the Knowledge Transfer Pathway by the partner and their associated technology transfer officer, task leader AquaTT coordinates the implementation of the KTP with assistance from partners where required.
2. Knowledge Transfer activities will be carried out, depending on the KO, its associated end-user and possible applications
3. Impact of the activities carried out will be measured.

For any industry-relevant knowledge outputs, ATLAS will actively engage with commercial end users through the setup of the “User Development Group”. Interested commercial software developers and major environmental consulting organizations will be invited during the second half of the project to explore the commercial development of ATLAS marine information systems (M30-M48).

In addition to the Knowledge Transfer of results as outlined above, the Knowledge Outputs will be ultimately published on the ATLAS public website, after having ensured any IP / protection issues. Other transfer mechanisms will be used, and it is foreseen that the resulting Knowledge Outputs will also be taken up in the “Marine Knowledge Gate” <http://www.kg.eurocean.org> to ensure visibility and availability to end-users. All ATLAS data will be effectively managed via WP8, details on management and storage of the different research outputs are outlined in the Data Management Plan (D8.1). The final results of these activities will contribute to the effective management and transfer of the Knowledge Outputs resulting from the ATLAS project.

At the end of the project, ATLAS will produce a compendium presenting the projects knowledge outputs, their effective transfer and impacts on different end-user groups.

4 Conclusion

Knowledge transfer methodologies applied to the ATLAS project are designed to promote optimal exploitation of the research outputs. The Knowledge Transfer activities carried out within ATLAS have facilitated the communication and development of relationships amongst all ATLAS stakeholders.

Effective external communication, dissemination and optimal outreach of ATLAS has reached the wider public and raised awareness among the relevant stakeholders about the project's objectives and results.

In year 3 and 4 of the project, as more Knowledge Outputs with potential for impact are emerging, a more focused Knowledge Transfer approach will be implemented. Going forward, Knowledge Management carried out under WP8 and 9 will ensure that ATLAS research results are effectively managed and transferred to relevant stakeholders and end-users and exert an effective impact on EU competitiveness.

Appendix 1 – ATLAS Knowledge Output Template (KOT)

ATLAS Knowledge Outputs will be captured using an internal KOT which helps to obtain a proper in-depth and critical understanding of each KO. The KOT is presented in the format of an Excel file and consists of three worksheets: 1. an introduction to the KO Table (KOT; see **Figure 1S**), 2. Definitions (see **Figure 2S**), and the KOT (see **Figures 3-5S**). The objective of the KOT is to be able to identify KOs and collect them consistently from all people involved in the project.

Figures 3S, 4S and 5S show the different sections within the KOT. Section 1 is collecting 'General Information' about the KO like Short Title, KO Description, Knowledge Type, Contact Information, Public Availability, Link to KO. Section 2 contains information on 'Application and End-user identification' like Sectors & Subsectors, Sectors & Subsectors, End User, End User Description, Potential Application, IPR Protection, and Status. Section 3 collects 'Exploitation' information like Potential Impact and Project Exploitation, and Section 4 contains 'Comments' like Submission date and Notes.



Knowledge Output Template (KOT)

INTRODUCTION

ATLAS employs a Knowledge Management and Transfer methodology to ensure that all relevant knowledge coming out of the project will be collected, transferred and taken up by relevant users so **we deliver impact and create value** from our activities.

As a first step in the process, all (finalised) project **KNOWLEDGE OUTPUTS*** will be captured in this internal Knowledge Output Template (see next worksheet: 'KO Template to be completed'), along with their detailed descriptions. Your responses will help us to assess whether a Knowledge Output is of high potential to deliver impact and to get insight into what steps can be taken next to ensure your Knowledge Output reaches the users who can take it up.

We would like to emphasise that you can share your KNOWLEDGE OUTPUTS without compromising IP or affecting your potential to publish later.

In case of any questions, please contact Annette Wilson (annette@aquatt.ie)

* see definitions worksheet for explanation



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Figure 1S. An introduction to the Knowledge Output Table (KOT).

<u>DEFINITIONS</u>	
Knowledge	Intellectual property rights and related know-how, information, data and other intellectual assets. Technical information including discoveries, concepts, methodologies, models, research, development and testing procedures, the results of experiments, tests and trials, manufacturing processes, materials, formulae, formulations, processes, research or experimental results, techniques and specifications, quality control data, analyses. Knowledge is not limited to scientists and is not limited to technology information. Knowledge differs from data or information in that new knowledge may be created from existing knowledge by extension of logic. <i>(Definition developed by AquaTT in the context of the MarineTT project (April 2012))</i>
Knowledge Output	A "Knowledge Output" for the purposes of this project is the term used to describe a unit of knowledge that has been generated out of a research project. It is not limited to de-novo or pioneering discoveries but may also include new methodologies/processes, adaptations, insights, alternative applications of prior know-how/knowledge. <i>(Definition developed by AquaTT in the context of the MarineTT project (April 2012))</i>
Knowledge Transfer	Knowledge transfer is the process of creating, organising, capturing/sharing/distributing knowledge to ensure its availability for future users. Knowledge transfer encompasses both commercial and non-commercial activities such as research collaborations, consultancy, licensing, spinoff/spinout creation, researcher mobility, and publications etc. Knowledge transfer aims to support mutually beneficial collaborations between universities, businesses and the public sector. <i>(Definition developed by AquaTT in the context of the MarineTT project (April 2012))</i>
Knowledge Type(s)	<ul style="list-style-type: none"> * exploitable scientific result * scientific publication * report * book/review * RTD protocol/technical manual * guidelines/standards * training activity/learning module * software/modelling tools * product * prototype * services/tools * multimedia * data (if data, please specify where they are held in column P - Notes) * other (if other is chosen, please try to clarify in column P- Notes)
Sectors & Subsectors	<ul style="list-style-type: none"> • Aquaculture Aquaculture General Biofouling Breeding/Husbandry Quality/Health & Welfare Sustainable Aquaculture • Climate Change Climate Change General • Environmental Management Environmental Management General Coastal Management Environmental Impact Assessment • Environmental Resources Management Flood Risk Management Monitoring & Surveillance Risk Management Water Resource Management

	<ul style="list-style-type: none"> • Fisheries Fisheries General Fisheries Management Gear/Technology Stock Assessment Marine Sciences Marine Sciences General Biodiversity Marine Genomics Oceanography • Maritime Industry Maritime Industry General Blue Biotech Engineering Safety & Security Transport • Ocean Energy Ocean Energy General Marine Biomass/Biofuels OE Developers OE Supply Chain Offshore Oil & Gas Offshore Wind Energy Tidal Energy Wave Energy • Others Other General Agriculture Coastal & Ocean Governance Consumer Health & Welfare Finance Modelling & Prediction Socio-Economics Stakeholder Involvement
End User Types	<ul style="list-style-type: none"> o Education & Training o Environmental Managers & Monitoring o Industry o Policy Makers / Decision Makers o Scientific Community o Civil Society o Other
Impact	<p>Research Councils UK (RCUK) defines research impact as 'the demonstrable contribution that excellent research makes to society and the economy'.</p> <p>Research impact embraces all the diverse ways that research-related skills benefit individuals, organisations and nations.</p> <p>A key aspect of this definition of research impact is that impact must be demonstrable. It is not enough just to focus on activities and outputs that promote research impact, such as staging a conference or publishing a report. You must be able to provide evidence of research impact, for example, that it has been taken up and used by policymakers, and practitioners, has led to improvements in services or business.</p> <p>We aim to achieve research impact across all our activities. This can involve academic impact, economic and societal impact or both:</p>

Figure 2S. Definitions required for completion of the KOT (see Figures 3S-5S).

ATLAS Knowledge Output Template		Note: For each separate Knowledge Output, please complete a new row			
Short Title	Knowledge Output Description	Knowledge Type	Contact Information	Publicly Available?	Link to Knowledge Output
<p>Please provide a short and concise title to describe the Knowledge Output.</p> <p>Please only include generated Knowledge Outputs, not those that are expected. Note: Knowledge Outputs can be non-deliverables, milestones or 'grey knowledge'. Also, multiple Knowledge Outputs could exist within one deliverable, and should be separated.</p>	<p>Try to give a comprehensive description, making the Knowledge Output fully understandable to a non-expert.</p> <p>If relevant please provide detail of where the Knowledge Output differs from its equivalent, e.g. What are the key characteristics of the Knowledge Output? What research is it adding to and what is innovative about the Knowledge Output? (Max 500 characters).</p>	<p>DROPDOWN MENU - Please choose one option. If data or other is chosen please provide detail in Column P..</p>	<p>Please provide contact details of the most relevant person to provide further information, if required, on the Knowledge Output.</p> <p>Please indicate if the beneficiary/owner of the Knowledge Output differs from the contact person.</p>		<p>If you can provide a link to the Knowledge Output then please do so, e.g. digital object identifier (DOI), web address, download, research paper.</p> <p>If the Knowledge Output is not publicly available currently but will be in the future, please provide details. Also, if it is available but only upon request, please state this.</p> <p>If the Knowledge Output is not planned to be publicly available, please state "Not available for public".</p>

Figure 3S. KOT. Section 1 – General Information about the KO.

Sectors & Subsectors	End User	Potential Application	IPR Protection	Status
<p>DROPDOWN MENU - Choose as many options as required from the dropdown list. Pick those sectors that you think would benefit from the application of this Knowledge Output.</p> <p>For each sector chosen, please use a separate row.</p>	<p>DROPDOWN MENU - Choose as many options as required from the dropdown list.</p> <p>There can be more than one type of End User, e.g. Industry, Scientific Community, Policy Makers, Environmental Managers, Education, Other.</p> <p>For each End User chosen, please use a separate row.</p>	<p>Per identified End User, please identify possible applications of the Knowledge Output.</p> <p>For each application chosen, please use a separate row.</p>	<p>Please indicate whether IPR has been applied to this Knowledge Output (applied for a patent, copyright etc), or not.</p> <p>Please insert "n/a" if no IPR has been applied.</p>	<p>Please identify whether the Knowledge Output is finalised, is still being generated or whose status/future is unknown. Consider:</p> <ul style="list-style-type: none"> • Is your knowledge conclusive enough that it provides sufficient evidence to make an impact on, or be applied by, an End User? • Is there a corroborating body of evidence, or are contradictory results, available? • Does your knowledge progress beyond the current state-of-the-art / evidence base? • Is more research or demonstration needed to validate the results? <p>If the Knowledge Output is:</p> <ul style="list-style-type: none"> -Technology based, please indicate TRL level (1-9) -Able to inform evidence-based policy, please indicate whether further validation/contextualisation would be required. -relevant to the scientific community, please indicate whether the Knowledge Output is conclusive or whether further detail would be required.

Figure 4S. KOT. Section 2 – Application and End-user identification.

End User Description	Potential Impact	Project Exploitation
<p>Try to be as specific as possible, for example for 'Policy Makers' indicate the exact type and level also, e.g. European Commission – DG Research & Innovation / Directorate E (Health) / E1 Strategy.</p>	<p>Please provide details of the potential resulting impact this Knowledge Output could have if it were transferred to the End User.</p>	<p>In this field, indicate any dissemination / transfer activities that are planned for or have been undertaken to reach your identified End User.</p> <p>Please also indicate any impact that was achieved.</p> <p>Planned events are of particular interest because we need to ensure that there is no overlap between what the project intends to do and what the project can offer in terms of Knowledge Transfer activities.</p> <p>Examples of such activities are: publications, events and networking, collaborative research / researcher mobility, consultancy / training courses, licensing, new business / spin-offs, etc</p> <p>Please include web addresses, reference material, project reports so further investigation can be carried out.</p>

Figure 5S. KOT. Section 3 (Exploitation) and 4 (Comments).

Appendix 2 – ATLAS Scientific Publications

1. Armstrong CW et al. (2017) Use and Non-Use Values in an Applied Bioeconomic Model of Fisheries and Habitat Connections. *Marine Resource Economics*. doi.org/10.1086/693477
2. Carreiro-Silva M et al. (2017) Zoantharians (Hexacorallia: Zoantharia) Associated with Cold-Water Corals in the Azores Region: New Species and Associations in the Deep Sea. *Frontiers in Marine Science*. doi:10.3389/fmars.2017.00088
3. Cormier R et al. (2016) Moving from ecosystem-based policy objectives to operational implementation of ecosystem-based management measures. *ICES Journal of Marine Science*. doi:10.1093/icesjms/fsw181
4. Diz D et al. (2017) Mainstreaming marine biodiversity into the SDGs: The role of other effective area-based conservation measures (SDG 14.5) *Marine Policy*. doi.org/10.1016/j.marpol.2017.08.019
5. De Clippele LH et al. (2016) Using novel acoustic and visual mapping tools to predict the small-scale spatial distribution of live biogenic reef framework in cold-water coral habitats. *Coral Reefs*. doi:10.1007/s00338-016-1519-8
6. De Clippele LH, Huvenne V, Orejas C. et al. (2017). The effect of local hydrodynamics on the spatial extent and morphology of cold-water coral habitats at Tisler Reef, Norway. *Coral Reefs*. doi.org/10.1007/s00338-017-1653-y
7. Farrell ED, Carlsson JEL and Carlsson J. (2016) Next Gen Pop Gen: implementing a high-throughput approach to population genetics in boarfish (*Capros aper*) *Royal Society Open Science*. doi:10.1098/rsos.160651
8. Ferreira MA, Johnson D, Pereira da Silva C, Ramos TB. (2018). Developing a performance evaluation mechanism for Portuguese marine spatial planning using a participatory approach. *Journal of Cleaner Production*. doi.org/10.1016/j.jclepro.2018.01.183
9. Fox AD, Henry L-A, Corne DW and Roberts JM. (2016). Sensitivity of marine protected area network connectivity to atmospheric variability. *Royal Society Open Science*. doi:10.1098/rsos.160494
10. Gargan LM et al (2017) Development of a sensitive detection method to survey pelagic biodiversity using eDNA and quantitative PCR: a case study of devil ray at seamounts. *Marine Biology*. doi:10.1007/s00227-017-3141-x
11. Gress E, Andradi-Brown DA, Woodall L, Schofield PJ, Stanley K, Rogers AD. (2017). Lionfish (*Pterois* spp.) invade the upper-bathyal zone in the western Atlantic. *PeerJ*. doi.org/10.7717/peerj.3683
12. Hátún H et al. (2017) The subpolar gyre regulates silicate concentrations in the North Atlantic. *Nature Scientific Reports*. doi:10.1038/s41598-017-14837-4
13. Johnson D, Ferreira MA and Kenchington E. (2018) Climate change is likely to severely limit the effectiveness of deep-sea ABMTs in the North Atlantic. *Marine Policy*. doi: 10.1016/j.marpol.2017.09.034
14. Long R and Chaves MR. (2015). Anatomy of a new international instrument for marine biodiversity beyond national jurisdiction: First impressions of the preparatory process. *Environmental Liability – Law, Policy and Practice*, 6: 213-229.

15. Niner HJ et al. (2018) Deep-Sea Mining With No Net Loss of Biodiversity – An Impossible Aim. *Frontiers in Marine Science*. doi.org/10.3389/fmars.2018.00053
16. Palomino DV et al. (2016) Evidencias de expulsión de fluidos en el complejo Hespérides en el talud medio del Golfo de Cádiz. *Geotemas*, 16:327-330.
17. Ramalho Laís V, López-Fé Carlos M, Rueda José L. (2018). Three species of Reteporella (Bryozoa: Cheilostomata) in a diapiric and mud volcano field of the Gulf of Cádiz, with the description of Reteporella victori n. sp. *Zootaxa*, 4375(1): 090–104
18. Sampaio I, Stokvis F, van Ofwegen LP. (2016) New name for the soft coral *Alcyonium rubrum* Stokvis & van Ofwegen, 2006 (Alcyonacea, Alcyoniidae): *Alcyonium burmedju* nom. n. *ZooKeys*. doi:10.3897/zookeys.619.10086
19. Soetaert K et al. (2016) Ecosystem engineering creates a direct nutritional link between 600-m deep cold-water coral mounds and surface productivity. *Nature Scientific Reports*. doi:10.1038/srep35057
20. Sweetman A al. (2017) Major impacts of climate change on deep-sea benthic ecosystems. *Elementa: Science of the Anthropocene*. doi:10.1525/elementa.203
21. Taylor ML and Roterman CN. (2017) Invertebrate population genetics across Earth's largest habitat: The deep-sea floor. *Molecular Ecology*. doi.org/10.1111/mec.14237
22. Thornalley DJR, Oppo DW, Ortega P, Robson JI, Brierley CM, Davis R, Hall IR, Keigwin LD, Moffa-Sanchez P, Rose NL, Spooner PT & Yashayaev I. (2018) Anomalously weak Labrador Sea convection and Atlantic overturning during the last 150 years. *Nature*. doi.10.1038/s41586-018-0007-4
23. Vad J et al. (2017) Assessing the living and dead proportions of cold-water coral colonies: implications for deep- water Marine Protected Area monitoring in a changing ocean. *PeerJ*. doi:10.7717/peerj.3705
24. van den Beld IMJ et al. (2017) Cold-Water Coral Habitats in Submarine Canyons of the Bay of Biscay. *Frontiers in Marine Science*. doi:10.3389/fmars.2017.00118
25. van Dover C et al. (2018) Scientific rationale and international obligations for protection of active hydrothermal vent ecosystems from deep-sea mining. *Marine Policy*. doi.org/10.1016/j.marpol.2018.01.020

Book chapters:

1. Orejas C, Jiménez C. (2017) The Builders of the Oceans – Part I: Coral Architecture from the Tropics to the Poles, from the Shallow to the Deep. Marine Animal Forests. Springer International Publishing. Cham. ISBN: 978-3-319-21012-4
2. Rossi S, Bramanti L, Gori A, Orejas C. (2017) Animal Forests of the World: An Overview. In: Rossi S, Bramanti L, Gori A, Orejas C. (eds) Marine Animal Forests. Springer, Cham. doi.org/10.1007/978-3-319-21012-4_1

Appendix 3 – ATLAS Conference Participation

2. Scientific Event Participation

Project Partner	Type of scientific event	Specific type of activity	Title of contribution	Event name	Date of event	Venue & Location
USD	Participation to a Conference	Oral presentation	Application of the non-invasive Aquatic Eddy Co-Variance on complex cold-water benthic habitats	European Geoscience Union General Assembly 2018	08/04/2018	Vienna, Austria
NAFO	Participation to an Event other than a Conference or a Workshop	Working Group contribution		ICES/NAFO Joint Working Group on Deep-water Ecology (WG-DEC)	05/03/2018	Nova Scotia, Canada
IEO-Vigo	Participation to an Event other than a Conference or a Workshop	Working Group contribution	General Fisheries Commission for the Mediterranean Working group for Vulnerable Marine Ecosystems	General Fisheries Commission for the Mediterranean Working group for Vulnerable Marine Ecosystems	26/02/2018	Rome, Italy
NIOZ	Participation to a Workshop	Organised workshop	Modelling Connectivity		29/01/2018	
IMAR-Azores	Participation to a Workshop	Organised workshop	Standardising and development of Species Distribution Models / Habitat Suitability Models at different spatial scales, and under	ATLAS Work Package 3 Workshop	23/01/2018	

			current and future climate scenarios			
IMAR/IREMER/UEDIN	Participation to a Workshop	Training		International Cold-Water Coral ID Workshop	16/12/2017	Plymouth, UK
UEDIN / IEO-Vigo	Participation to a Workshop	Organised workshop	Cold-Water corals in a changing ocean	European Coral Reef Symposium (ECRS)	13/12/2017	Oxford, UK
UEDIN	Participation to a Workshop	Panellist	European Marine Board Strengthening the evidence base for international ocean governance: the key role of marine science.	6th EMB Forum "Implementing the UN 2030 Agenda: What role for marine science"	06/12/2017	Brussels, Belgium
UCL	Participation to an Event other than a Conference or a Workshop	Talk (dept seminar)	Beyond the instrumental period: Are 20th century changes in North Atlantic circulation exceptional?	Paleoclimate seminar, WHOI	09/11/2017	Woods Hole, MA, USA
	Participation to a Conference	Panel & Presentation		4th Atlantic Stakeholder Conference	08/11/2017	Glasgow, Scotland, UK
IEO-Vigo	Participation to an Event other than a Conference or a Workshop	Talk	ATLAS research on marine spatial planning and species distribution modelling for the Flemish Cap Case Study.	10th NAFO Working Group on Ecosystem Science Assessment (WGESA)	07/11/2017	NAFO Headquarters, Dartmouth, Canada
IEO-Vigo	Participation to a Workshop	Training Course	NAFO Inspectors Training Course	European Fisheries Control Agency (EFCA) Training Course,	24/11/2017	Vigo, Spain

Uni HB	Participation to a Conference	Panel & Presentation	Open Science: Community Experience	JPI-Oceans Conference	25/10/2017	Lisbon, Portugal
IEO-Vigo	Participation to a Workshop	Organised workshop	Workshop on Species Distribution Modelling (SDM)	IEO-Murcia in collaboration with LIFE iSEAS project SDM Workshop	16/10/2017	Murcia, Spain
UCL	Participation to an Event other than a Conference or a Workshop	Talk (Invited dept seminar)	Beyond the instrumental period: Are 20th century changes in North Atlantic circulation exceptional?	School of Earth and Ocean Sciences, U of Southampton	13/10/2017	Southampton, UK
UEDIN	Participation to a Conference	Presentation	Presentation Berta Ramiro Sanchez	MASTS Annual Science Meeting	04/10/2017	Glasgow, UK
UEDIN	Participation to a Conference	Networking		MASTS Annual Science Meeting	04/10/2017	Glasgow, UK
AquaTT	Participation to an Event other than a Conference or a Workshop			Aquaculture Europe 2017	01/10/2017	Dubrovnik, Croatia
UCL	Participation to a Workshop	Science Café	NHM EU Researchers Night	NHM EU Researchers Night	29/09/2017	Natural History Museum, London, UK
BGS	Participation to a Conference	Talk/Discussion	EMODnet Geology 3 Meeting 2	Second Project Meeting	25/09/2017	Rome, Italy
UCL	Participation to a Conference	Talk	A shift to a modern weaker state of Labrador Sea convection and AMOC at the onset of the Industrial Era	ACSIS-OSNAP-RAPID joint science meeting	19/09/2017	Oxford, UK

UCL	Participation to a Conference	Poster presentation	High resolution records of the Northeast Atlantic in the Late Holocene: Exceptional 20th century changes?	ACSIS-OSNAP-RAPID joint science meeting	19/09/2017	Oxford, UK
UEDIN	Participation to a Conference	Presentation	ATLAS WP1 and WP4	IMARCO Conference	11/09/2017	Brussels, Belgium
UCL	Participation to a Conference	Poster presentation	Exceptional Shift to a Weaker Atlantic Meridional Overturning Circulation at the end of the Little Ice Age	UK PACS meeting	11/09/2017	Cardiff, UK
UEDIN	Participation to a Conference	ATLAS Presentation	Title TBC	Advances in Marine Biogeochemistry Conference	06/09/2017	SAMS, Oban, UK
UCL	Participation to a Workshop	Talk	Constraining recent (exceptional?) decadal variability in the surface subpolar Northeast Atlantic	ECORD Summer School	28/08/2017	Bremen, GER
IEO	Participation to a Conference	Poster	Is the Mediterranean Sea Outflow conditioning cold water corals in the North Atlantic?	10th International Carbon Dioxide Conference (ICD10)	21/08/2017	Interlaken, Switzerland
UCL	Participation to a Workshop	Panel debate	The Oceans Debate	Cheltenham Science Festival	20/07/2017	Cheltenham, UK
NUIG	Participation to a Conference	Participation in IPCC prep	N/A	Oceans and Climate Change Governance	14/08/2017	Malmo, Sweden

Seascope	Participation to a Workshop	Participation in activities organized jointly with other H2020 projects	Trans North Atlantic research and prospects for South Atlantic partnership	EC A New Era of Blue Enlightenment	12/07/2017	Lisbon, Europe
UEDIN	Organisation of a Workshop	Participation in activities organized jointly with other H2020 projects	Trans North Atlantic research and prospects for South Atlantic partnership	EC A New Era of Blue Enlightenment	12/07/2017	Lisbon, Europe
UEDIN	Participation to a Conference	Award, Training and Networking	N/A	ComBeBiz Training and EBN Conference	05/07/2017	London, UK
Seascope	Participation to a Workshop	Meeting attendance		IMO MEPC71	03/07/2017	
Seascope	Participation to a Conference	Meeting attendance	International Marine Conservation Congress 4	Conserving the other 50% (focus group)	28/06/2017	St John's Newfoundland, Canada
IEO	Participation to a Workshop	Presentation	EU-ATLAS Project: Flemish Cap Case Study	Scientific Council Meeting-NAFO	15/06/2017	NAFO Headquarters. Dartmouth; Nova Scotia. Canada
Seascope	Participation to a Workshop	Meeting attendance		UN Ocean Conference	05/06/2017	New York, America
UEDIN	Participation to a Workshop	Participation in side event	Deep-sea science for sustainable development	UN Oceans Conference New York	05/06/2017	New York
UEDIN	Participation to a Workshop	Participation in side event	Ocean acidification: what can we do about it	UN Oceans Conference New York	05/06/2017	New York
UEDIN	Participation to a Conference	Presentation at MERCES Annual Science Meeting	ATLAS Overview	MERCES Annual Meeting	01/06/2017	Crete, Greece
BGS	Participation to a Conference	Talk/Discussion	EMODnet Geology 3 Meeting 1	Project Kick off Meeting	29/05/2017	Espoo, Finland

UEDIN	Organisation of a Workshop	European Maritime Day Workshop	Workshop 17 - Blue Growth Data Challenge Part 2: Offshore Energy Case Studies	European Maritime Day	18/05/2017	Poole, UK
Seascope	Participation to a Workshop	Meeting attendance	16 - 17 May 2017	IUCN expert workshop on MPAs in ABNJ	16/05/2017	Gland
Seascope	Participation to a Workshop	Meeting attendance		Arctic Council Ministerial Meeting	10/05/2017	Fairbanks, Alaska
UEDIN	Participation to a Workshop	ATLAS Presentation	Title TBC	IPIECA Biodiversity and Ecosystem Services working group meeting	10/05/2017	Sunbury, UK
UCL	Participation to a Conference	Poster presentation	High resolution records of the Northeast Atlantic in the Late Holocene: Exceptional 20th century changes?	PAGES conference	09/05/2017	Zaragoza, Spain
UCL	Participation to a Conference	Talk	A shift to a modern weaker state of Labrador Sea convection and AMOC at the onset of the Industrial Era	PAGES conference	09/05/2017	Zaragoza, Spain
UEDIN	Participation to an Event other than a Conference or a Workshop	Presentation CHONE meeting	Introduction to ATLAS	The ATLAS project: developing a trans-Atlantic assessment and deep-water ecosystem-based spatial management plan for Europe	04/05/2017	Ottawa, Canada
UEDIN	Participation to an Event other than a Conference or a Workshop	Presentation at DFO Canada	Introduction to ATLAS	The ATLAS project: developing a trans-Atlantic assessment and deep-water ecosystem-based spatial management plan for Europe	03/05/2017	Ottawa, Canada

AquaTT	Participation to a Workshop			Euromarine Foresight Workshop	01/05/2017	Faro, Portugal
UEDIN	Participation to a Conference	Presentation	Introduction to ATLAS	Third Joint Meeting of the Sargasso Sea Commission and Signatories to the Hamilton Declaration	18/04/2017	Azores
USD	Participation to an Event other than a Conference or a Workshop	Talk with emphasis on field testing of ATLAS gear in Antarctica	Antarctica	Thursday Bread Talks	06/04/2017	University of Southern Denmark, Odense, Denmark
IEO	Participation to a Workshop	Participation in a Working Group	Soft-bottom communities dominated by <i>Isidella elongata</i> and <i>Dendrophyllia ramea</i> . Two singular habitats in need of management measures	General Fisheries Commission for the Mediterranean VMEs	01/04/2017	Málaga. Spain
UEDIN	Participation to a Conference	Presentation at SponGES Annual Science Meeting	ATLAS Overview	SponGES 2nd General Assembly	01/04/2017	London, UK
Iodine	Participation to a Workshop	Workshop Chair		ATLAS Science-Policy meeting, European Parliament	23/03/2017	EU, Brussels, Belgium
Seascape	Organisation of a Workshop	Presentation	Policy implications of ATLAS	ATLAS Science-Policy meeting, European Parliament	23/03/2017	EU, Brussels, Belgium
UEDIN	Organisation of a Workshop	Presentation	Murray Roberts: Introduction to ATLAS	ATLAS Science-Policy meeting, European Parliament	23/03/2017	EU, Brussels, Belgium
UCL	Participation to a Workshop	Talk	A shift to a modern weaker state of Labrador Sea convection and AMOC at the onset	London Oceans Group	20/03/2017	Grantham Inst., London, UK

			of the Industrial Era			
Iodine	Participation to a Conference	Presentation	Debating Nature's Value: The Role of Monetary Valuation	Debating Nature's Value Network Workshop (see https://www.anglia.ac.uk/global-sustainability-institute-gsi/research/global-risk-and-resilience/debating-natures-value/dnv-events)	17/03/2017	University of East Anglia, UK
IEO	Participation to a Workshop	Participation in a Working Group	Following the Mediterranean path through the Atlantic: the MEDWAVES cruise	ICES. Work Group Deep Water Ecology	01/03/2017	Copenhagen. Denmark
Seascope	Participation to a Workshop	Discussion and networking	2nd International Conference on Marine/Maritime Spatial Planning	EC/UNESCO MSP Conference Paris	01/03/2017	Paris, France
Seascope	Participation to a Workshop	Participation in side event	UN Prep Com 3	UN Prep Com 3	01/03/2017	New York
UEDIN	Participation in activities organized jointly with other H2020 projects	Presentation at conference	ATLAS Overview	BluePharmTrain Conference	01/03/2017	Blanes, Spain
UEDIN	Participation to a Workshop	Participation in side event	UN Prep Com 3	UN Prep Com 3	01/03/2017	New York
UEDIN	Participation to a Conference	Award, Training and Networking	N/A	ComBeBiz Awards, London	21/02/2017	London, UK
AquaTT	Participation to an Event other than a Conference or a Workshop	Networking, Atlantic basin workshop		EMODnet Sea-Basin Checkpoints Stakeholder Conference	14/02/2017	Brussels, Belgium
UEDIN	Organisation of a Workshop	Industry, Policy, Academic workshop	Blue Growth Data for North Sea Decommissioning Workshop	INSITE - ATLAS Workshop	07/02/2017	Edinburgh, UK

BGS	Participation to a Workshop	Talk/Discussion	Atlantic Ocean Research Alliance (AORA) - Atlantic Seabed Mapping International Working Group (ASMIWG)	ASMIWG Meeting	01/02/2017	University of New Hampshire, US
UEDIN	Participation to a Conference	Networking		EMODNET conference	01/02/2017	Brussels, Belgium
Uni HB	Participation to a Conference		OpenAIRE-Connect	OpenAIRE-Connect Annual Meeting	24/01/2017	PISA
Seascope	Participation to a Workshop	Presentation / Advice	AORA Ocean Health and Stressors Working Group	Ocean Health and Stressors, Iceland	23/01/2017	Reykjavik, Iceland
UEDIN	Participation to a Workshop	Presentation / Advice	AORA Ocean Health and Stressors Working Group	Ocean Health and Stressors, Iceland	23/01/2017	Reykjavik, Iceland
UCL	Participation to a Workshop	Talk	A shift to a modern weaker state of Labrador Sea convection and AMOC at the onset of Industrial Era	Fall AGU conference	12/12/2016	San Francisco, USA
Seascope	Organisation of a Conference	Discussion and networking	Discussions to determine future of EBSAs and establishment of a CBD Informal Advisory Group for EBSAs	CBD COP13	01/12/2016	Cancun, Mexico
Seascope	Participation to a Conference	Lecture	Maritime Spatial Planning and Blue Growth in Europe and beyond	Maritime Spatial Planning and Blue Growth in Europe and beyond	01/12/2016	Portsmouth University

AquaTT	Participation to an Event other than a Conference or a Workshop	Networking science-policy interface	attendance of workshop for networking	EKLIPSE's first joint science-policy-society conference	01/12/2016	Brussels, Belgium
SAMS	Participation to a Conference	Presentation	ATLAS: Adding chemical sensors to the eastern portion of the OSNAP array	OSNAP-RAMOC-DYAMOC workshop	24/11/2016	Southampton, UK
SAMS	Participation to a Conference	Presentation	Particle residence times and AMOC pathways in the eastern subpolar North Atlantic	OSNAP-RAMOC-DYAMOC workshop	24/11/2016	Southampton, UK
SAMS	Participation to a Conference	Presentation	Ocean heat content and fluxes of energy in the Labrador Sea: 1992 to 2014	OSNAP-RAMOC-DYAMOC workshop	24/11/2016	Southampton, UK
BGS	Participation to a Workshop	Talk/Discussion	European Marine Sand and Gravel Group (EMSAGG)	EMSAGG Seminar	18/11/2016	BGS, Edinburgh
Seascope	Participation to a Workshop	Meeting attendance	Celtic Seas Partnership final conference	Tying the Celtic Knot	18/11/2016	Dublin, Ireland
USD	Participation to an Event other than a Conference or a Workshop	Invited lecture on deep-sea exploration & underwater technology	The mysterious deep-sea	Youth Science Society (UNF) Activities	17/11/2016	Odense, Denmark
BGS	Participation to a Workshop	Talk/Discussion	Atlantic Ocean Research Alliance (AORA) - Atlantic Seabed Mapping International Working Group (ASMIWG)	ASMIWG Meeting	10/11/2016	Rostock, Germany

IEO	Participation to a Workshop	Presentation	Update on identification and mapping of sensitive species and habitats in the NAFO area (2016 EU Spain + EU Spain & Portugal Groundfish Surveys)	NAFO Scientific Council Working Group on Ecosystem Science and Assessment	08/11/2016	IPMA. Lisbon. Portugal
Seascope	Participation to a Conference	Presentation	Developing management guidance for EBSAs	WWF Canada /DFO Canada Workshop	01/11/2016	Ottawa, Canada
Seascope	Participation to a Workshop	Discussion and networking		SEMPIA II meeting	01/11/2016	Sintra
BGS	Participation to a Conference	Talk/Discussion	European Marine Observation and Data Network (EMODNet) Geology	Final Project Meeting	27/10/2016	Heriot Watt University
AU	Participation to a Workshop		Participation in a Workshop	Annual MEMC (Marine Ecological Modelling Centre) workshop	26/10/2016	Danish Meteorological Institute, Copenhagen
AU	Participation to a Workshop	Presentation	The EU ATLAS Project: Modelling tools and approaches for mapping species and ecosystems at management relevant spatial scales	Annual MEMC (Marine Ecological Modelling Centre) workshop	26/10/2016	Danish Meteorological Institute, Copenhagen

Uni HB	Participation to a Workshop		European Consortium for Ocean Research Drilling (ECORD) Council	ECORD Council	26/10/2016	MARUM, University of Bremen, Germany
UEDIN	Participation to a Conference	Presentation	The sensitivity of modelled <i>Lophelia pertusa</i> larval dispersal and population connectivity to climate variability	MASTS Annual Science Meeting	20/10/2016	Glasgow, UK
Seascope	Participation to a Workshop	Meeting attendance	PEW Fellows Annual Meeting	MSP and Blue Growth, Protecting pelagic biodiversity	20/10/2016	Noordwijk, Netherlands
UEDIN	Participation to a Conference	Presentation	2020 and Beyond Can Europe sustain marine ecosystems and drive Blue Growth at a North Atlantic scale?	MASTS Annual Science Meeting	19/10/2016	Glasgow, UK
Seascope	Participation to a Workshop	Meeting attendance	The power of open-access interoperable marine data for the maritime sector: An untapped resource?	A Connected Ocean Conference and workshop at SEATECH WEEK	11/10/2016	Brest, France
Seascope	Participation to a Workshop	Meeting attendance	OSPAR ICG-MPA	OSPAR ICG-MPA	11/10/2016	Mallorca, Spain
USD	Participation to an Event other than a Conference or a Workshop	Research seminar	Advancing benthic oxygen flux measurements in coastal environments using eddy covariance	Research Seminar in Environmental Sciences	10/10/2016	University of Helsinki, Helsinki, Finland

AquaTT	Participation to an Event other than a Conference or a Workshop			Aquaculture Europe 2016	01/10/2016	Edinburgh, Scotland, UK
Seascope	Participation to a Workshop	Meeting attendance	OPEN DATA FOR BLUE GROWTH IN THE ATLANTIC AREA	3RD ATLANTIC STAKEHOLDER PLATFORM CONFERENCE	27/09/2016	Dublin, Ireland
AquaTT	Participation to a Conference	Networking	ATLAS dissemination and networking	3rd Atlantic Stakeholder Platform conference	27/09/2016	Dublin, Ireland
BGS	Participation to a Conference	Talk/Discussion	International Geological Congress (IGC)	35th International Geological Congress	27/09/2016	Cape Town, South Africa
Seascope	Participation to a Conference	Meeting attendance	CBD SOI Global Dialogue of RSCs and RFMOs	CBD SOI Global Dialogue of RSCs and RFMOs	26/09/2016	Seoul, Korea
USD	Participation to an Event other than a Conference or a Workshop	Invited lecture within the Blue Planet exhibition at the Danish National Aquarium	Exploration of the deep sea	The Blue Planet exhibition	25/09/2016	Danish National Aquarium, Copenhagen, Denmark
Seascope	Participation to a Workshop	Meeting attendance	Breakout Session 5: Legal and Technical R&I framework in support of innovative EO market and new business developments	EU Research and Innovation in Support to the Earth Observation Market	21/09/2016	Brussels, Belgium
SAMS	Participation to a conference	Poster	ATLAS: Understanding Deep Atlantic Ecosystems	Global marine sustainability workshop	20/09/2016	Oban, UK
UEDIN	Organisation of a Workshop	Galway Statement workshop	Galway Statement workshop	Deep Sea Coral Symposium	13/09/2016	Boston, USA

UEDIN	Participation to a Conference	Presentation	Introduction to ATLAS	Deep Sea Coral Symposium	12/09/2016	Boston, USA
UEDIN	Participation to an Event other than a Conference or a Workshop	Presentation	Introduction to ATLAS	London Atlantic Meeting planned by UK department of Business Innovation and Skills	05/09/2016	London, UK
UEDIN	Participation to an Event other than a Conference or a Workshop	Presentation	Introduction to ATLAS	Atlantic Area meeting post-Brexit	01/09/2016	Southampton, UK
IEO	Participation to a Workshop	Presentation and Panel	Marine research as a basis to adopt measures to prevent the impacts of bottom fishing on VMEs in the high-seas: the experience of the Spanish Institute of Oceanography.	Workshop to discuss implementation of resolutions 64/72 and 66/68 on Sustainable Fisheries, addressing the impacts of bottom fishing on VMEs and	01/08/2016	United Nations Headquarters New York. USA
UEDIN	Participation to a Workshop	Presentation	Introduction to ATLAS	Future of the Sea Foresight meeting	25/07/2016	London, UK
IEO	Participation to a Conference	Presentation and Poster	Micro-morphologies, habitats and associated biodiversity in a fluid venting submarine structure using ROV underwater images: Mercator mud volcano (Gulf of Cadiz).	V Simposio Internacional de Ciencias del Mar	20/07/2016	Alicante
IEO	Participation to a Conference	Poster	Underwater imagery-study of sediment and fauna for habitat	V Simposio Internacional de Ciencias del Mar	20/07/2016	Alicante

			characterization in mud volcanoes of the Spanish margin (Gulf of Cádiz).			
UEDIN	Participation in activities organized jointly with other H2020 projects	Presentation	Introduction to ATLAS	AtlantOS	30/06/2016	Kiel, Germany
UEDIN	Organisation of a Workshop	Trans-Atlantic Research discussion meeting ASPIRE	North Atlantic Collaborative Opportunities Discussion		16/06/2016	Edinburgh, UK
UCL	Participation to a Workshop	Talk at Summer school	The Day After Tomorrow, Yesterday	UCL Summer Challenge	07/06/2016	UCL, London
Seascape	Participation to a Conference	Meeting attendance	EU MSP Worldwide	EU MSP Worldwide	23/05/2016	Sao Miguel, Azores
UCL	Participation to a Conference	Plenary Talk	A paleo perspective on AMOC variability	US CLIVAR Workshop	23/05/2016	Boulder, USA

Final Page: Document Information

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Project website	www.eu-atlas.org		

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		CO Confidential restricted under conditions set out in Model Grant Agreement		
		CI Classified, information as referred to in Commission Decision 2001/844/EC		

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