



Policy implications of ATLAS research and recommendations for ocean governance under changing deep-sea dynamics

Phillip J. Turner and David E. Johnson





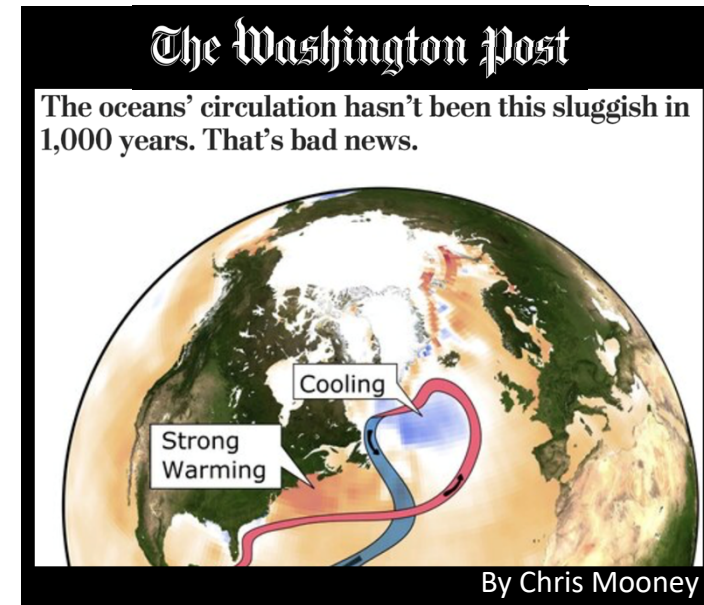
Approach

1. Collate policy-relevant results from work package deliverables
2. Develop a set of key messages for each work package
3. Send key messages to WP leaders
4. Draft science-policy report (D7.8)
5. Seek feedback after ATLAS GA.



WP1: Ocean dynamics

1. Weakening of the Atlantic Meridional Overturning Circulation (AMOC)
 - Weakest during the last 150 yrs than any other time over the last 1500 yrs.
2. Basin-scale physical processes can impact bottom conditions
 - Food supply, temperature, pH, O₂

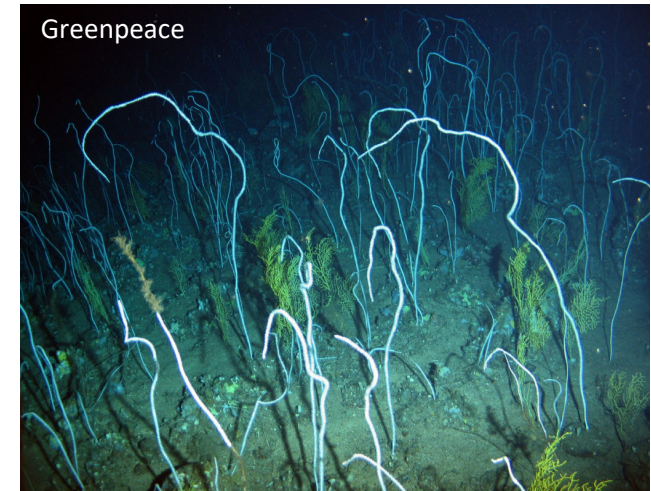


Policy relevance - e.g., UK Sustainable Seas Inquiry and ISA

Need to account for climate change in management decisions and potential for weakening AMOC to impact resilience.

WP2: Functional ecosystems

1. Climate change impacts can have interactive effects that affect survival
 - e.g., ocean acidification and food supply impacts on *Viminella flagellum*
2. CWCs and DWS are important contributors to biogeochemical cycles
 - Condor seamount coral gardens have respiration rates 10 times surrounding sediment

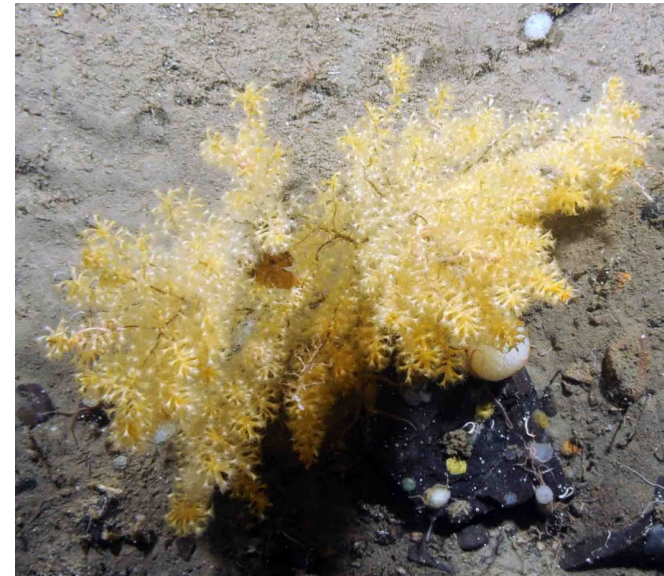


Policy relevance - e.g., EU MSFD and RFMOs

Supports commitments to protect VMEs and ensure GES under the Marine Strategy Framework Directive.

WP3: Biodiversity and biogeography

1. Climate change is likely to reduce habitat suitability for cold-water corals
 - > 79% reduction for *L. pertusa*
 - > 80% reduction for *A. armata*
 - ~ 99% reduction for *P. arborea*
2. VME index developed with ICES
 - Aggregates occurrence data with accompanying Confidence Index



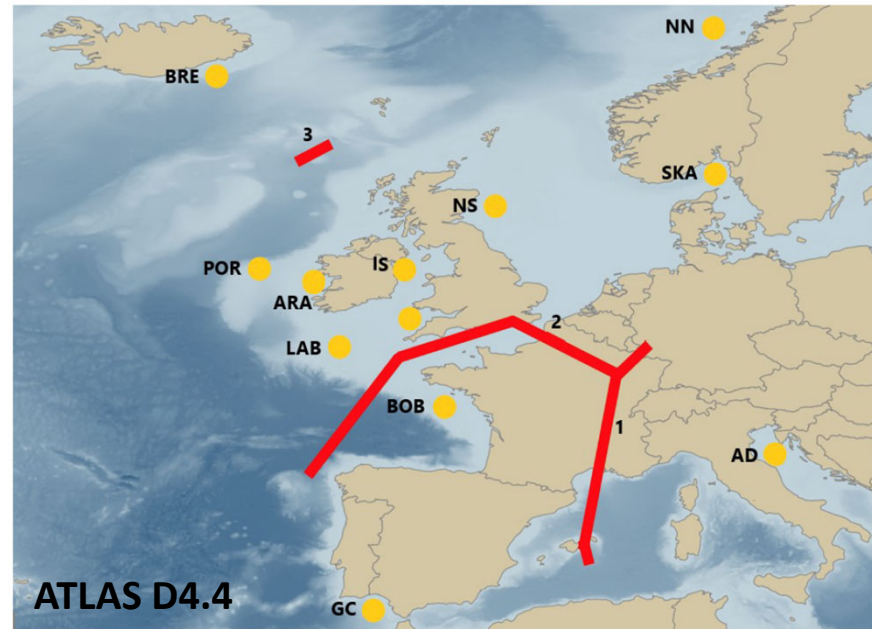
Acanthogorgia armata

Policy relevance - e.g., EU MSFD and NEAFC

Loss of coral habitat will impact Good Environmental Status.
VME index will help to inform NEAFC management measures.

WP4: Connected resources

1. Utility of next-generation sequencing techniques to assess population structure
 - *Nephrops norvegicus* population structure does not match fisheries functional units
 - Boarfish
 - Atlantic horse mackerel



Policy relevance - e.g., Common Fisheries Policy

Evidence to better inform Total Allowable Catch allocations across functional units that are not genetically distinct.

WP5: Valuing ecosystem services and blue growth potential

1. Public willingness to pay for management that improves environmental health
 - Marine litter > Fish stocks
> MPAs > Marine jobs
2. Need to consider monetary valuations alongside research in the social sciences, natural sciences and environmental ethics.



Image © D van Oevelen

Policy relevance - e.g., EU MSFD

Societal support for marine strategies that improve fish stock health (GES Descriptor 3) and reduce litter (GES Descriptor 10)

WP6: Maritime Spatial Planning

1. Cumulative Impact Assessment Tool and blue growth scenario testing
 - Rockall Bank: fisheries, oil & gas
 - Davis Strait: Arctic fisheries, oil & gas
 - Azores: Deep-sea mining

Note: fisheries scenario (n = 5)
oil & gas scenario (n = 7)



Image © Joint IOC-UNESCO – EC DG-MARE

Policy relevance - e.g., EU MSP Directive

Tool to help consider economic, social and environmental info to balance sustainable development of the blue economy.

WP7: Policy integration

1. Engagement in policy discussions
 - UK Sustainable Seas Inquiry, ISA Draft Exploitation Regulations

IGCs for BBNJ

1. “Building MSP frameworks to enable Blue Growth”
2. “Capacity development in the context of climate change”
3. “Biodiversity & Biogeography”

→ IGC-4: March 2020

CBD EBSA process

Gulf of Cádiz
Tropic Seamount
N Azores Plateau
Charlie-Gibbs FZ
S Reykjanes Ridge
Rockall & Hatton

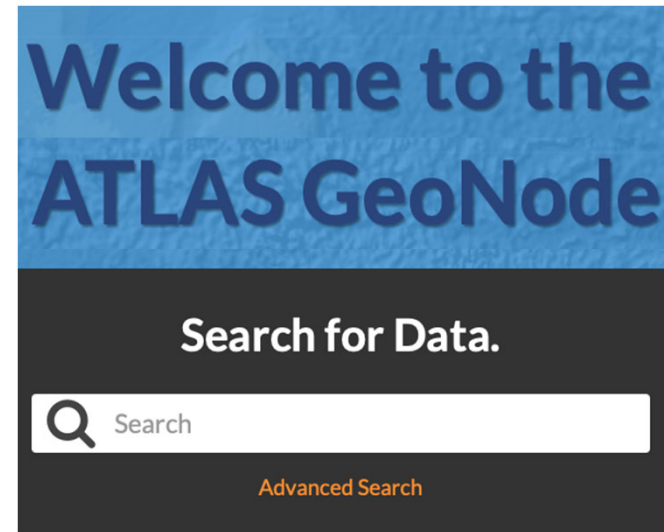


→ COP 15: October 2020

WP8: Open science resources for stakeholders



1. Facilitating submissions to repositories
 - ATLAS space on Zenodo & OpenAIRE
2. Collection of ATLAS geospatial data
 - ATLAS GeoNode (53 data layers, 91 maps)
 - Future transfer to EMODnet



Policy relevance - e.g., EU IMP and Marine Knowledge 2020

Contributes to a better (FAIR) evidence-base for management and EC vision for a “seamless multi-res digital seabed map”

WP9: Dissemination, knowledge transfer and outreach

1. Dissemination channels & materials
 - Website, Twitter, YouTube
 - Newsletters, Compendium, Film
2. Educational materials
 - Public engagement sheets, activities
 - Dynamic Earth: ROV simulator



Policy relevance - e.g., 2013 Galway Statement

Contributes to commitments to enhance ocean literacy
(Atlantic Ocean Research Alliance: Ocean Literacy WG)

Engagement at national, regional and global scales

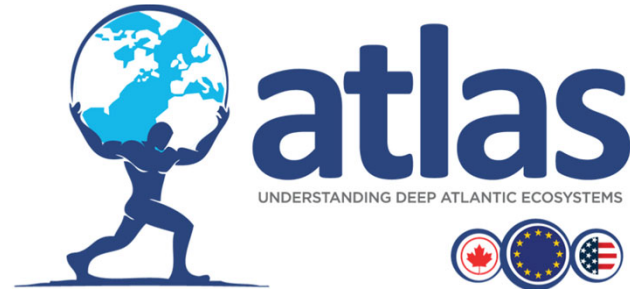
UK Sustainable
Seas Inquiry

Canadian
EBSAs

Azores MPA
targets

Europe's
Integrated
Marine Policy

BBNJ
negotiations



Europe's MSFD

CBD EBSA
process

An impressive
policy-related legacy

Europe's MSP
Directive

2013 Galway
Statement

ISA Mining
Code

Regional
Fisheries
Management

Common
Fisheries
Policy



Opportunity to provide feedback

Download the draft report at the ATLAS partners' area

1. Log-In
2. Scroll Down



3. Download

Partners' area

Documents

9 month ATLAS post available at Ifremer (4 downloads)	02 Nov 2018	Download (docx, 14 KB)
ATLAS 3rd Internal report (21 downloads)	08 Aug 2018	View (pdf, 4.79 MB)
ATLAS advisory board meeting 04.04.2019 (7 downloads)	06 May 2019	View (pdf, 492 KB)
Draft Science-Policy Report (Deliverable 7.8) New Draft	06 Mar 2020	Download (docx, 3.11 MB)

atlas
EU HORIZON Marie Skłodowska Curie Actions

Deliverable 7.8 – Draft Report

Report on the policy implications of ATLAS research and recommendations for ocean governance under changing deep-sea dynamics

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This draft has been produced for the 5th ATLAS General Assembly (8th – 13th March 2020, Edinburgh) so that each Work Package can provide feedback on the report. The complete report will be published at the end of the ATLAS project.

ATLAS members
When reviewing this report please download the document and comment with tracked changes. You can send feedback to: phil.turner@seascopeconsultants.co.uk

Email me with your edits/comments:
phil.turner@seascopeconsultants.co.uk