

Protection of the marine environment in the Area

Work of ISA relating to regional environmental management planning and environmental impact assessment

Wanfei Qiu
Programme manager (Marine Environment), ISA



Introduction



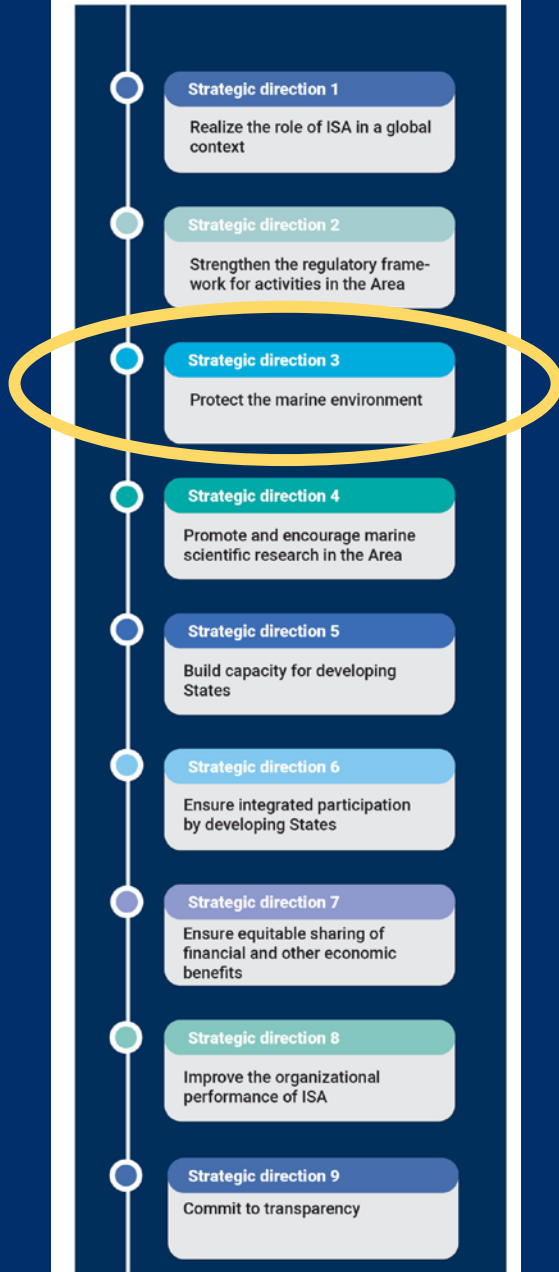
Protection of the Marine Environment

(Article 145, UNCLOS)

Necessary measures shall be taken....to **ensure the effective protection of the marine environment** from harmful effects which may arise from activities in the Area

To this end, ISA shall **adopt appropriate rules, regulations and procedures**





ISA Strategic Plan (2019-2023)

(ISBA/24/A/10)

- **SD3.1: Adaptive, practical and technically feasible regulatory framework**
- **SD3.2: Regional environmental Assessments and Management Plans**
- **SD3.3: Access to environmental information**
- **SD3.4: Monitoring programmes and methodologies**
- **SD3.5: EIA/risk assessment**





Regional environmental management plans (REMPs)





Regional Environmental Management Plans (REMPs)

- Established by **a decision of the Council, on recommendations of the LTC**
- REMPs support **informed decision-making** that balances resource development with conservation
- Includes a mechanism for identifying **areas/sites in need of protection**

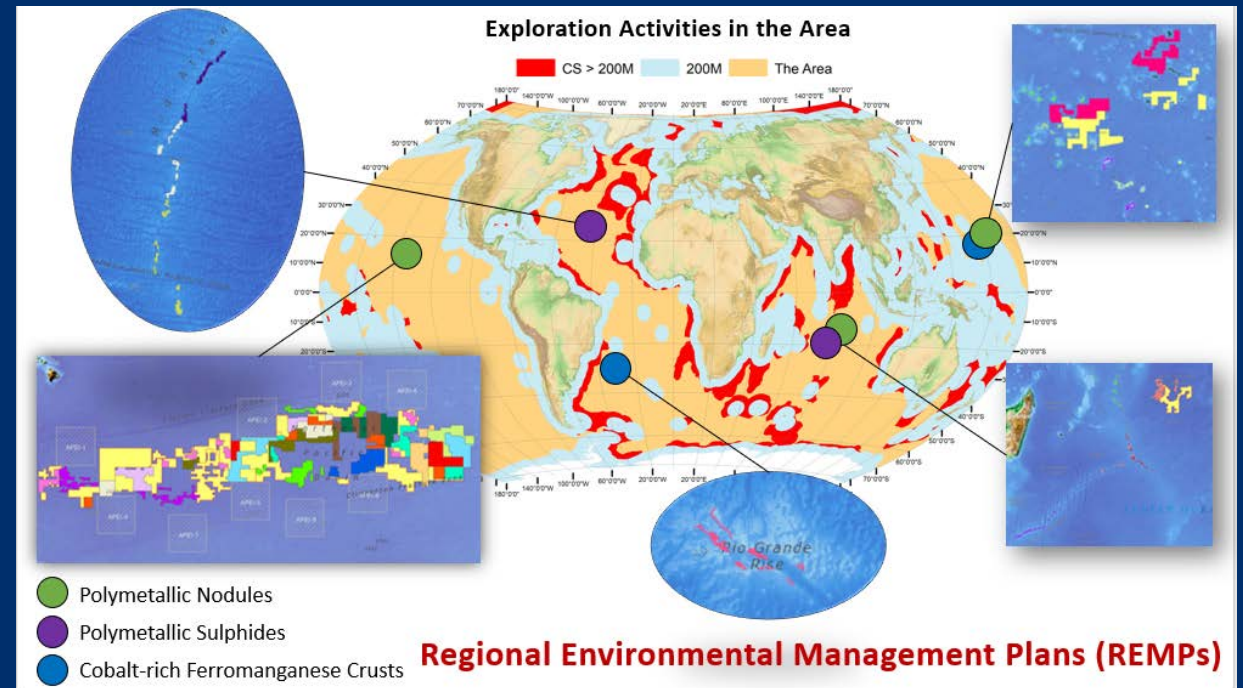


18th Session of Council (2012):
Adoption of CCZ-EMP (ISBA/18/C/22)

24th Session of Council (2018):
Strategy for REMP development
(ISBA/24/C/3)

25th Session (2019): Implementation of
the strategy for REMP development
(ISBA/25/C/13)

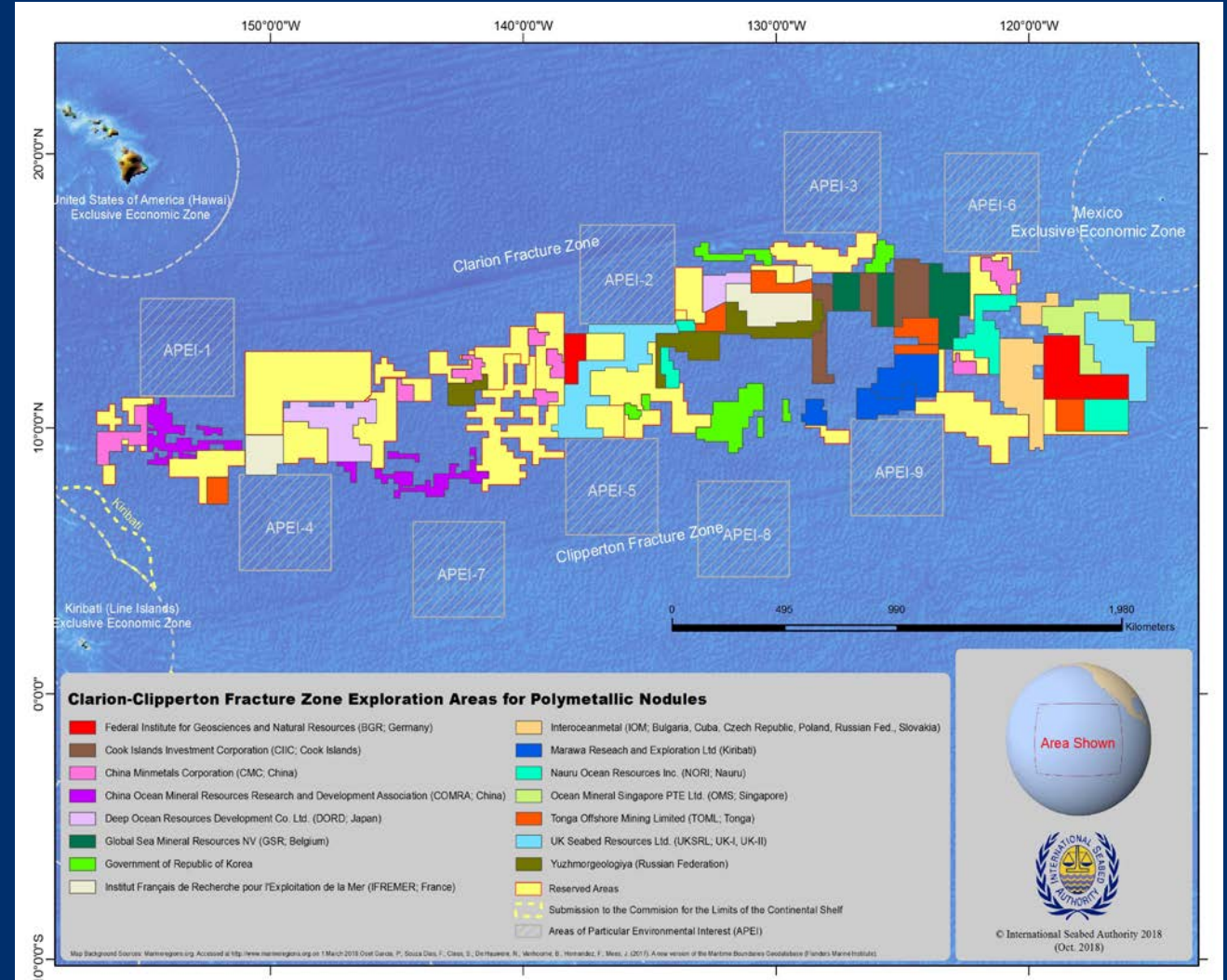
26th Session (2020): need for a
standardized approach (ISBA/26/C/10),
review of implementation of CCZ-EMP
(ISBA/26/C/58)



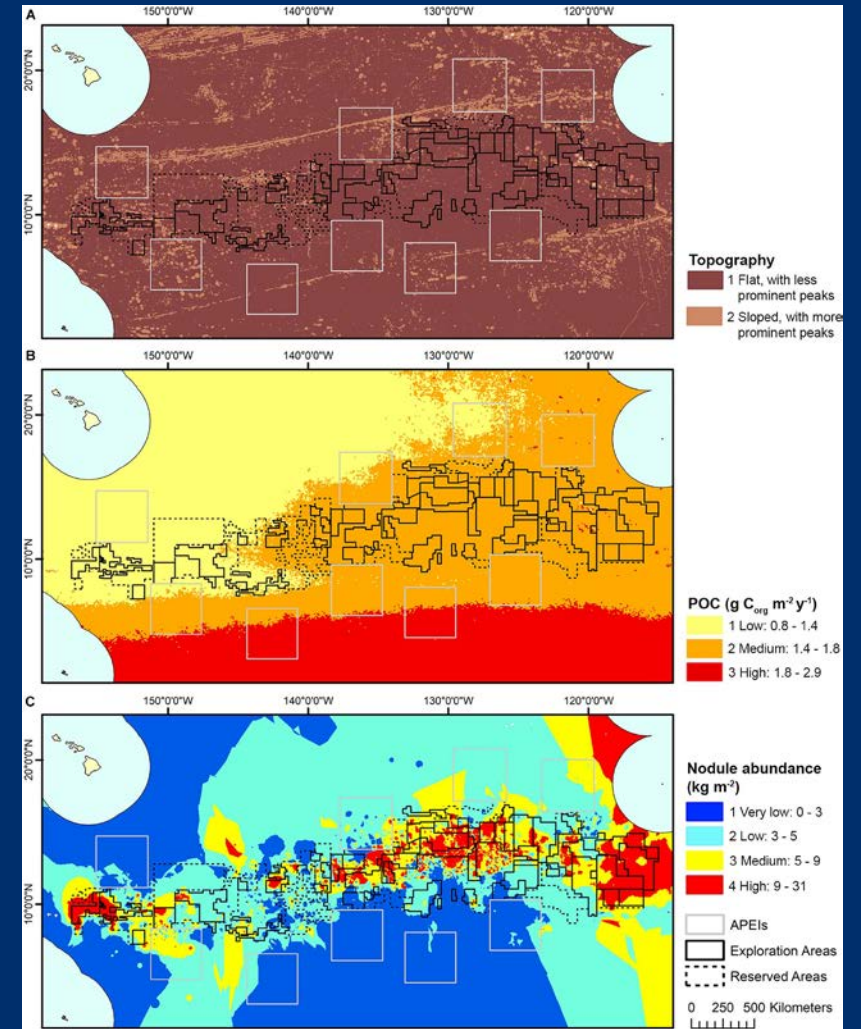
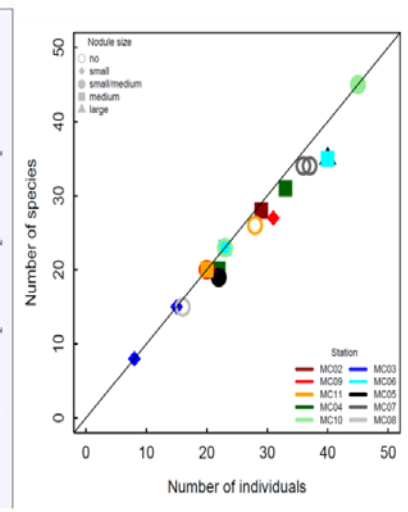
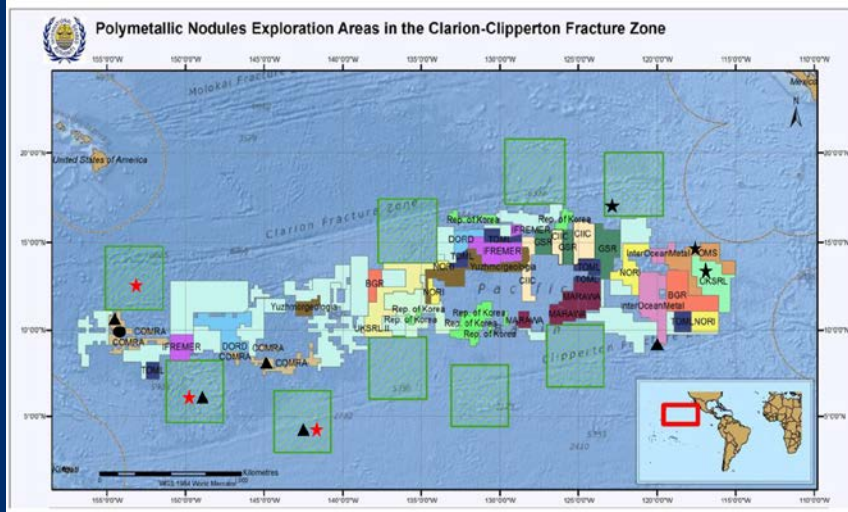
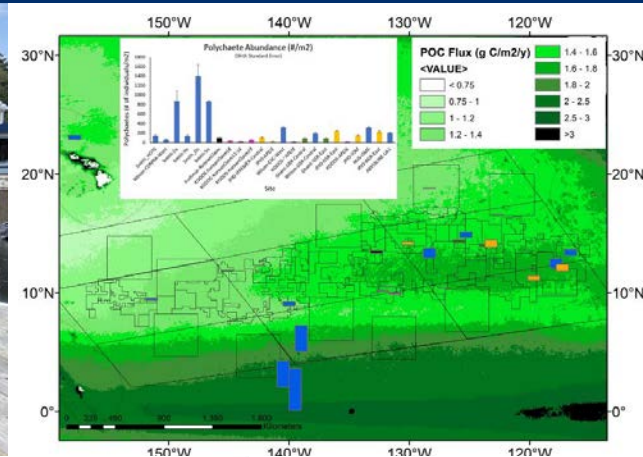
	2018	2019	2020	2021	2022	2023
Clarion - Clipperton Zone		Friday Harbour, USA				
Mid-Atlantic Ridge	Szczecin, Poland	Evora, Portugal	Virtual workshop			
Indian Ocean			Virtual workshop (preliminary discussion)			Chennai, India
Northwest Pacific Ocean	Qingdao, China		Virtual workshop			Tokyo, Japan

Environmental Management Plan for the CCZ (2012)

- Goals & operational objectives
- APEI network
- Implementation & review
- Priority actions



CCZ Biodiversity Synthesis (2019)



McQuaid et. al (2020)

<https://www.isa.org.jm/index.php/event/deep-ccz-biodiversity-synthesis-workshop>



Review of implementation of CCZ-EMP (2021)

International Seabed Authority

ISBA/26/C/58



Council

Distr.: General
10 December 2021
Original: English

Twenty-sixth session
Council session, part II
Kingston, 6–10 December 2021*
Agenda item 13
Report of the Chair of the Legal and Technical Commission on
the work of the Commission at its twenty-sixth session

Decision of the Council of the International Seabed Authority relating to the review of the environmental management plan for the Clarion-Clipperton Zone

The Council of the International Seabed Authority,

Taking into account the recommendations of the Legal and Technical Commission pursuant to article 165, paragraph 2 (e), of the United Nations Convention on the Law of the Sea of 10 December 1982,¹

Taking into account also the recommendations of the Commission on the review of the environmental management plan, including on the need to enhance the effectiveness of the network of areas of particular environmental interest,²

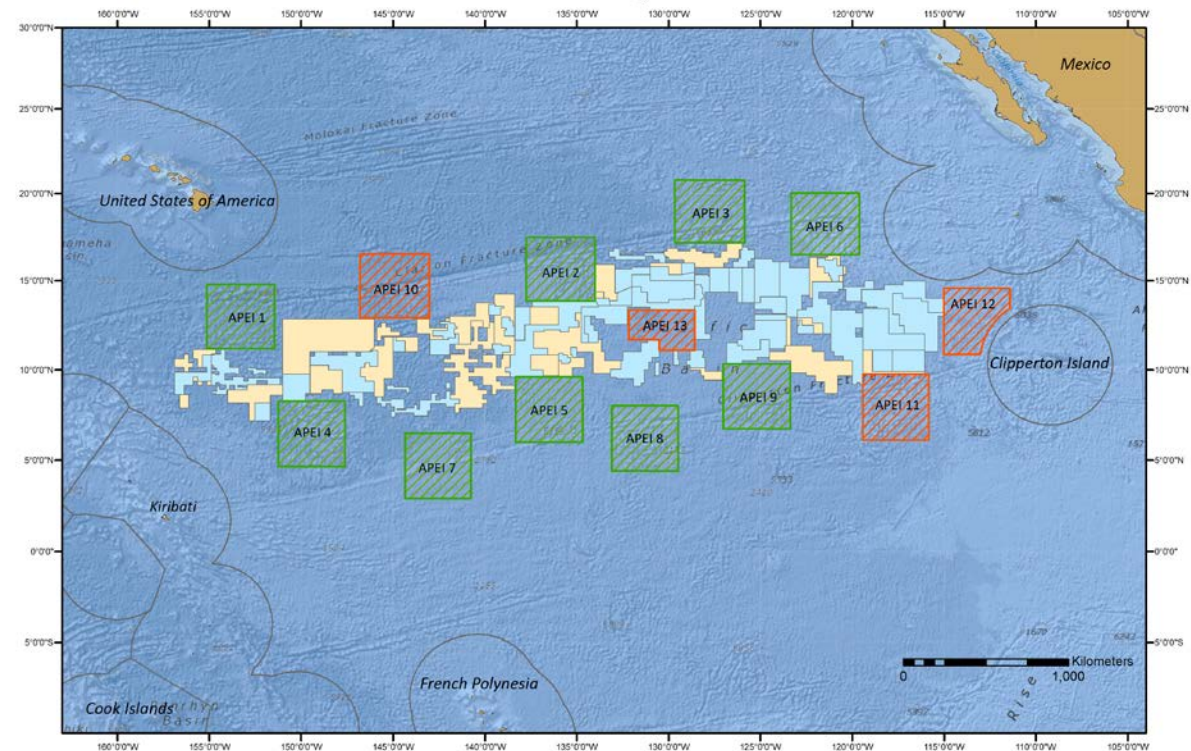
Recalling article 145 of the Convention, which requires that necessary measures shall be taken in accordance with the Convention with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects that may arise from such activities,

Recalling also that, pursuant to article 162 of the Convention, the Council has the power to establish the specific policies to be pursued by the Authority on any question or matter within the competence of the Authority,

Recalling further that the review and implementation of regional environmental management plans is a strategic priority for the Authority, as reflected and implemented within the context of the strategic plan³ and the high-level action plan⁴ of the Authority for the period 2019–2023 and the action plan of the Authority in support of the United Nations Decade of Ocean Science for Sustainable

Exploration areas, areas reserved for the authority and areas of particular environmental interest in the Clarion-Clipperton Fracture Zone

International Seabed Authority, 10 December 2021



- Area under contract or contract approved
- Reserved Areas
- EEZ (VLIZ 2021)
- Areas of Particular Environmental Interest (APEIs)
- Additional APEIs

Service Layer Credits: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE, Geonames.org, and other contributors
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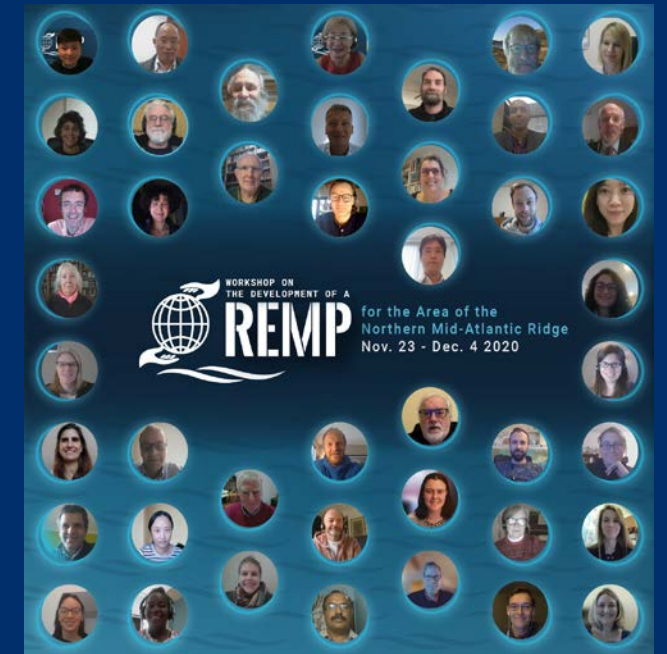
Northern Mid-Atlantic Ridge



Szczecin, Poland, 2018



Évora, Portugal, 2019

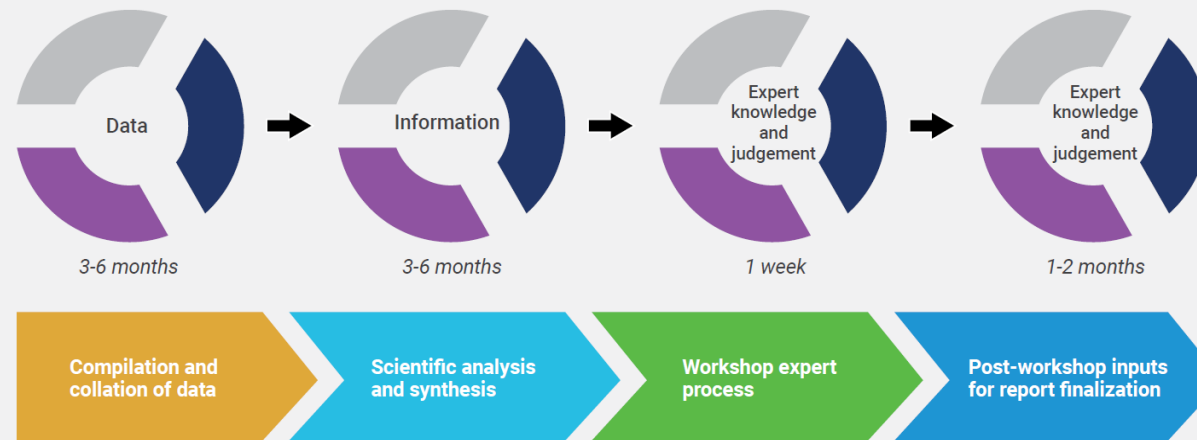


Virtual workshop, 2020

<https://isa.org.jm/events/workshops>



Scientific approaches in support of developing a REMP



Data Report:
Background document for the Workshop on the Regional Environmental Management Plan for the Area of the Northern Mid-Atlantic Ridge

Evora, Portugal
25-29 November, 2019

Wesley Cleary, Sarah Dickson, Elisabetta Merelli, Susie McCreey, Khairi Ibrahim, Patrick N. Halpin
Marine Geospatial Ecology Lab, Duke University

Supported by

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Regional Environmental Assessment
of the Northern Mid-Atlantic Ridge

Document prepared by the Atlantic REMP project to support the ISA. Submitted in the context of the development of a Regional Environmental Management Plan for the Area in the North Atlantic, by the International Seabed Authority

Supported by

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Cumulative Impact Assessment Area Based Management Adaptive management

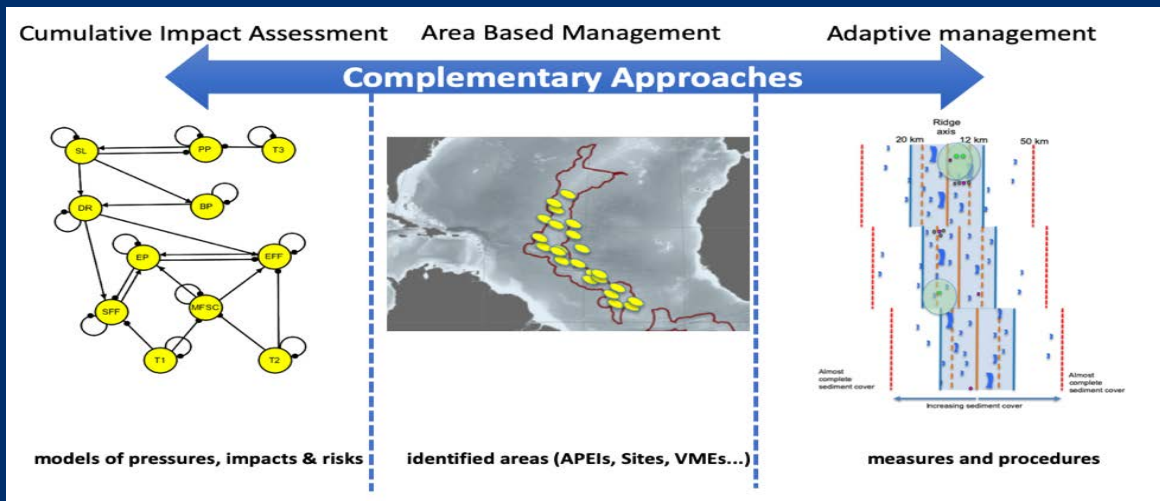
Complementary Approaches

The diagram shows three interconnected components:

- Cumulative Impact Assessment:** Represented by a network diagram of nodes (DR, EP, SF, T1, T2, EP, EP, T3, T3) and arrows, labeled "models of pressures, impacts & risks".
- Area Based Management:** Represented by a map of the Atlantic Ocean with highlighted areas, labeled "identified areas (APEIs, Sites, VMES...)".
- Adaptive management:** Represented by a vertical cross-section of the seabed showing sediment cover, labeled "measures and procedures".

A large blue double-headed arrow labeled "Complementary Approaches" spans across all three components.



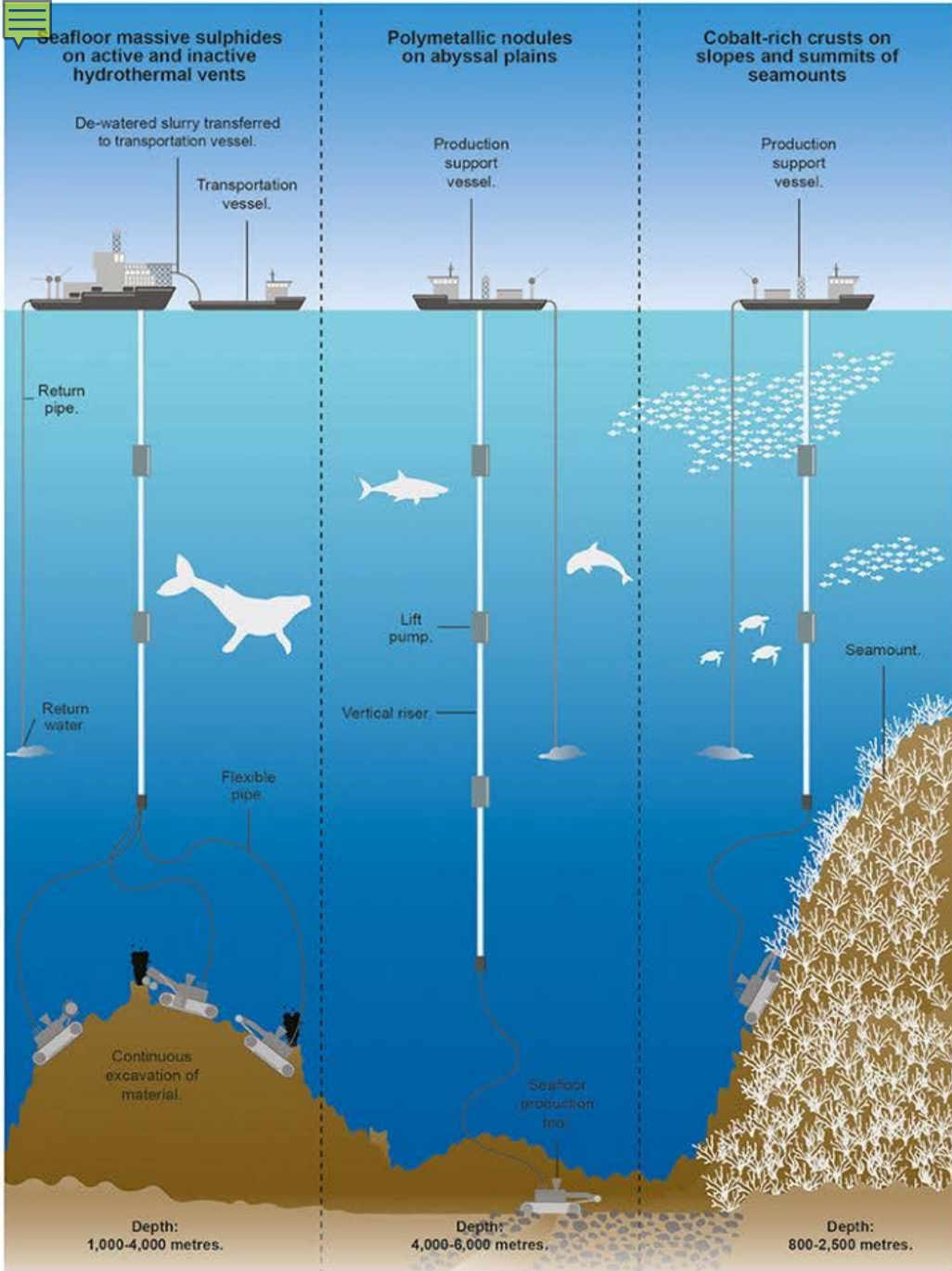


Elements for Draft nMAR REMP



Environmental Impact Assessment (EIA)





EIA in ISA regulations

ISBA/19/C/17, ISBA/16/12/Rev. 1, ISBA/18/A/11

- Legal and Technical Commission: **develop and implement procedures**
- Contractors: **gather environmental baseline data**
- Contractors and sponsoring States: **implementing programmes for environmental monitoring and evaluation**

Image: Design Studio, University of Exeter

Recommendations for the guidance of contractors *(ISBA/25/LTC/6 Rev. 1)*



Environmental Baseline Studies



Data collection, reporting and archival protocol



Cooperative research



EIA during exploration



Explanatory commentary (BAT and methodologies)

EIA during exploration

ISBA/25/LTC/6/Rev.1

Annex III

Environmental impact statement template for reporting an environmental impact assessment undertaken during exploration

The purpose of the environmental impact statement is to document and report the results of the environmental impact assessment process. The assessment of impacts should be appropriate to the nature and extent of the activity being considered. The environmental impact statement documents the project's parameters and the way in which the environmental assessment has been undertaken, including the predicted impacts of the project, proposed measures for mitigation, the significance of residual effects and the uncertainties that affect the predictions and how to address them, as well as concerns raised in consultations and how they have been addressed. The contractor should use the major headings set out below, as appropriate to the activity, and introduce subheadings or text divisions in order to present the information in a logical and coherent manner.

Template

Executive summary

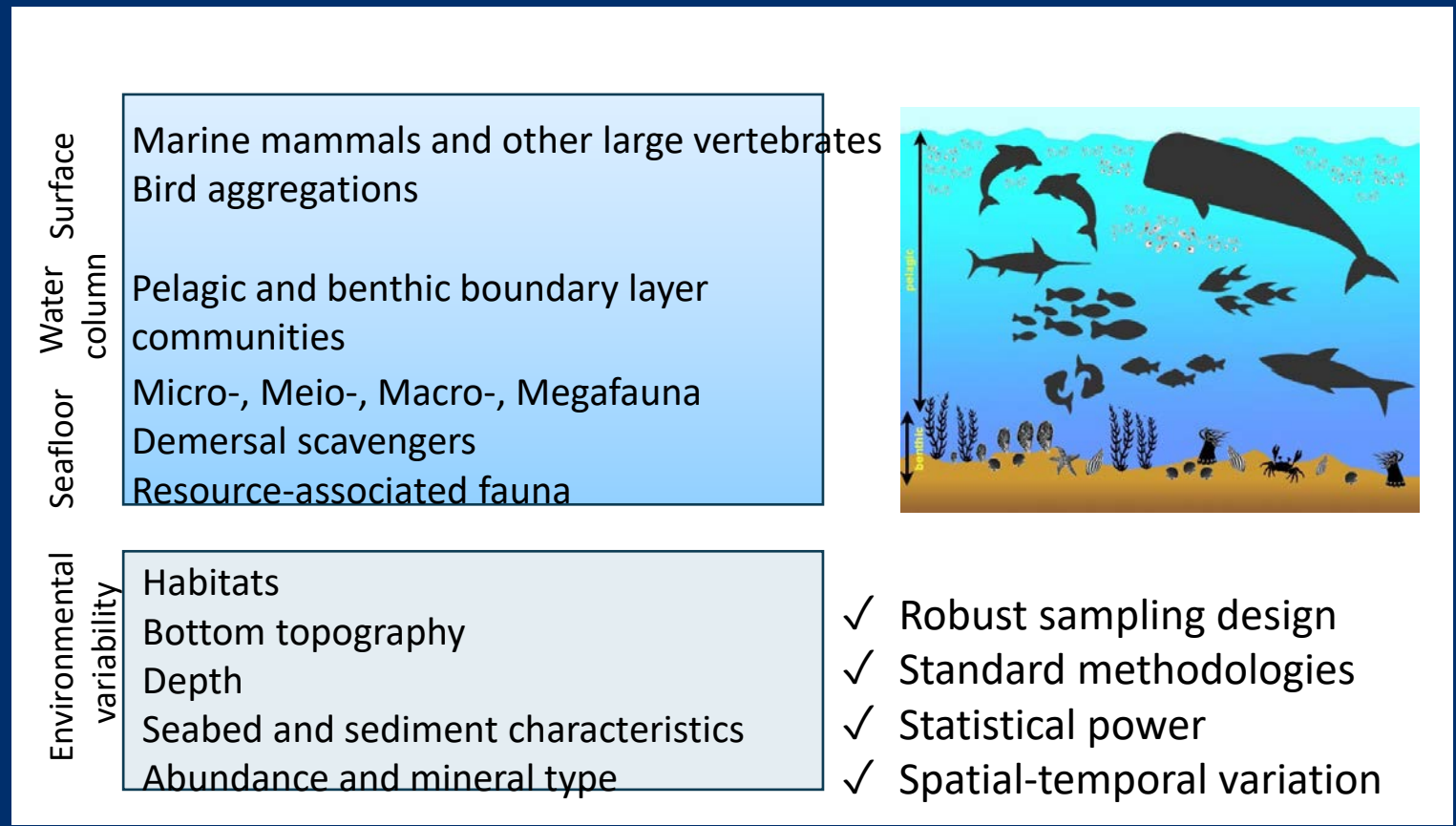
1. Introduction
2. Policy, legal and administrative context
3. Description of the proposed activity
4. Description of the existing physico-chemical environment
5. Description of the existing biological environment
6. Assessment of impacts on the physico-chemical environment and proposed mitigation
7. Assessment of impacts on the biological environment and proposed mitigation
8. Accidental events and natural hazards
9. Environmental management, monitoring and reporting
10. Consultation
11. Glossary and abbreviations
12. Study team
13. References
14. Appendices

Exploration activities that require EIA

- Use of sediment disturbance systems that create artificial disturbances and plumes on the sea floor;
- Testing of mining components;
- Test-mining;
- Testing of discharge systems and equipment;
- Drilling activities using on-board drilling rigs;
- Sampling with epibenthic sled, dredge or trawl, or similar technique, in nodule fields, that exceeds 10,000 m²;
- Taking of large samples to test land base processes.

Environmental Baseline Studies











































































































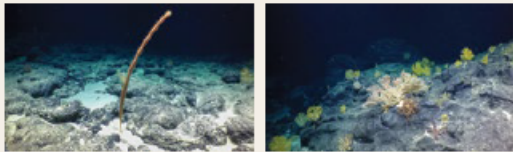
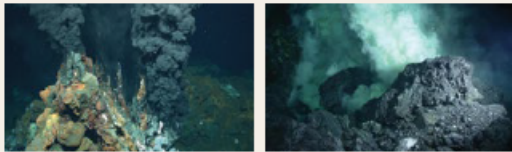
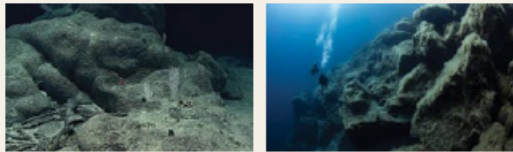
- Physical Oceanography
- Chemical Oceanography
- Geological properties
- Biological Communities
- Bioturbation
- Fluxes to the sediment
- Sediment oxygen consumption
- Food web structure



Reporting

- Annual reports, including digital data and results from monitoring programmes
- Information dissemination through DeepData



Polymetallic nodules (PMN)	Polymetallic sulphides (PMS)	Cobalt-rich ferromanganese crusts (CFC)
103 cruises in 20 Years	34 cruises in 9 Years	22 cruises in 7 Years
2001 	2001	2001
2002   	2002	2002
2003   	2003	2003
2004   	2004	2004
2005   	2005	2005
2006 	2006	2006
2007  	2007	2007
2008    	2008	2008
2009   	2009	2009
2010  	2010	2010
2011   	2011	2011
2012     	2012 	2012
2013      	2013  	2013
2014       	2014   	2014 
2015     	2015   	2015  
2016   	2016  	2016  
2017    	2017   	2017  
2018      	2018   	2018  
2019     	2019  	2019  
2020   	2020  	2020  
<p>Abyssal plains</p> 	<p>Mid-ocean ridges</p> 	<p>Seamounts</p> 

Summary

A number of measures are undertaken to ensure effective protection of the marine environment (article 145, UNCLOS), including inter alia:

- REMPs: plans at **regional level** that apply both area-based management tools and non-spatial management tools
- EIA: measures at **contract area** scale for prevention and assessment of the environment impacts of specific activities, including baseline studies, plans for monitoring and management
- Underpinning these measures is the growing body of **knowledge** about deep-sea ecosystems and biodiversity, gained through marine scientific research and exploration activities.





International Seabed Authority

14 - 20 Port Royal Street Kingston, Jamaica

Phone: +1 (876) 922-9105

Fax: +1 (876) 922-0195

