

# **History, development, growth and current events at the International Seabed Authority**

**ASEAN Regional Forum – Seminar UNCLOS**

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## GUIDING PRINCIPLE

*International Seabed Authority*

### United Nations Convention on the Law of the Sea

PART XI

THE AREA

SECTION 2. PRINCIPLES GOVERNING THE AREA

*Article 136*

*Common heritage of mankind*

The Area and its resources are the common heritage of mankind.



# History, development, growth and current events at the ISA

## *Outline*

History, structure and areas of responsibility

Seabed Disputes Chamber: Request for Advisory Opinion

Environmental Considerations

Available information and data

Current technology



# HISTORY

## *HMS Challenger*



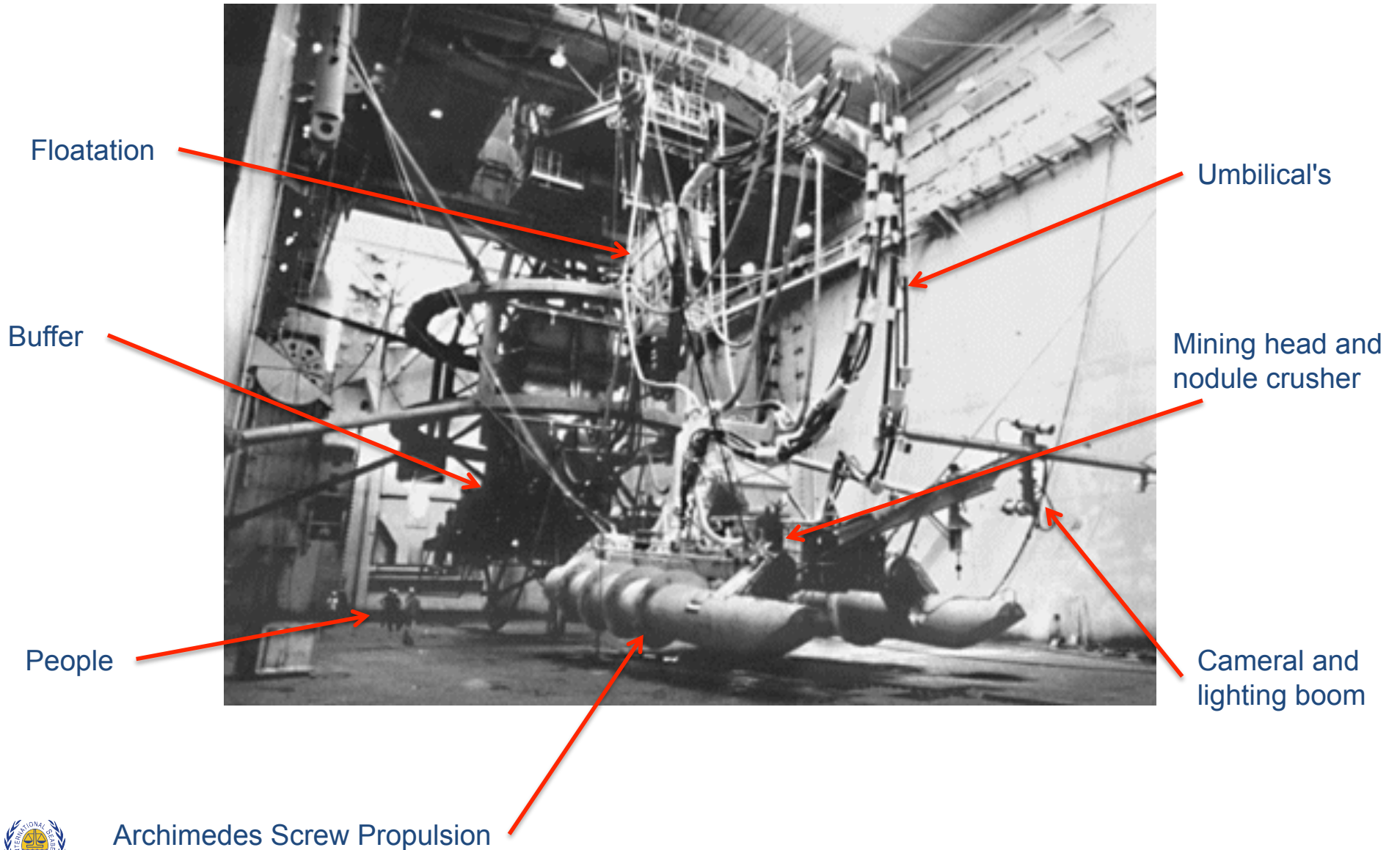
The HMS Challenger was the first vessel to undertake a global scale oceanographic research cruise from 1873-76 and traveled 68,890 nautical miles. During this cruise nodules were discovered and this started the pursuit of deep ocean mining.





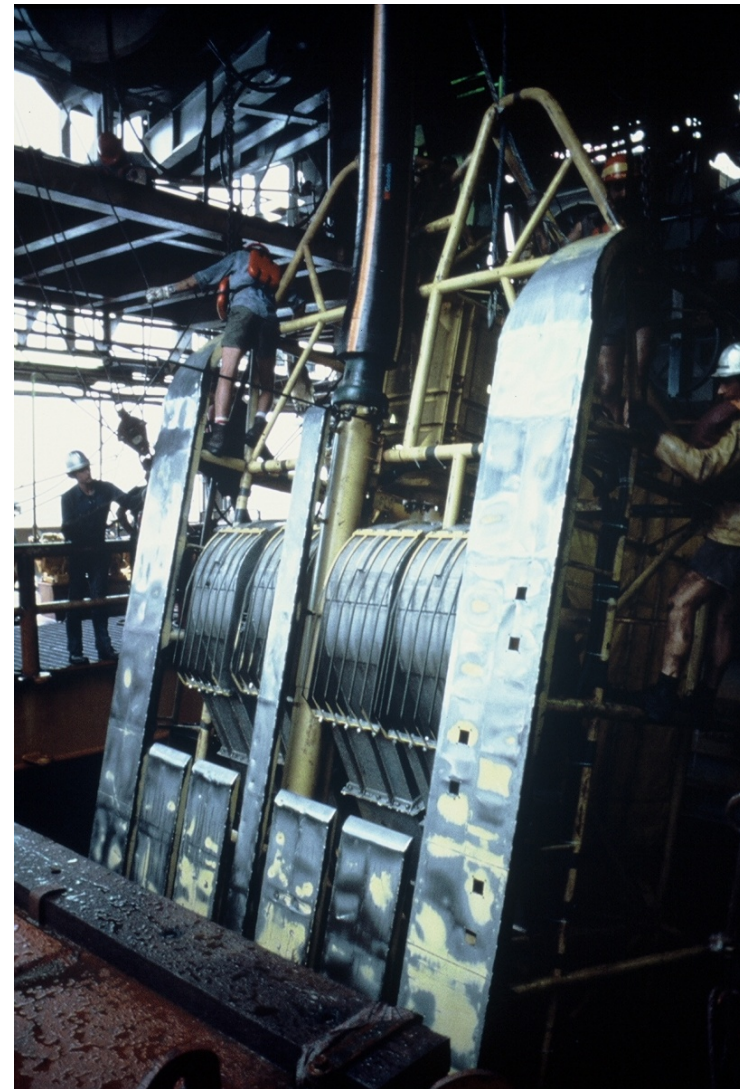
# HISTORY

## *Ocean Minerals Company, 1/10<sup>th</sup> scale test platform*



# HISTORY

## *Ocean Mining Incorporated*



*Photo credits: Ted Brockett, SOSI*



# HISTORY

## *Ocean Mining Incorporated*

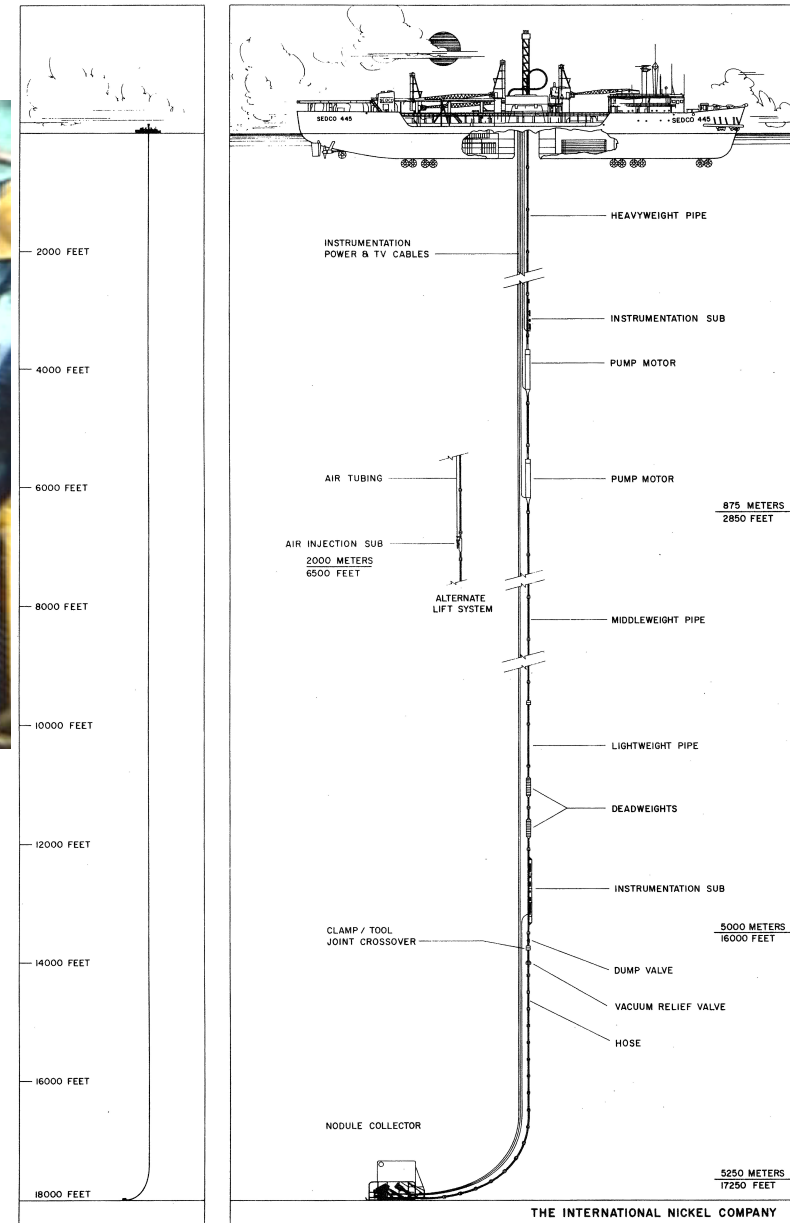
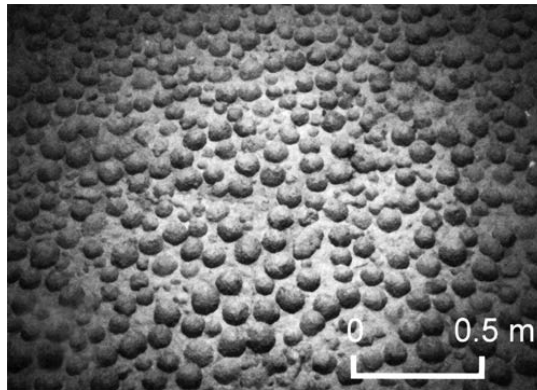
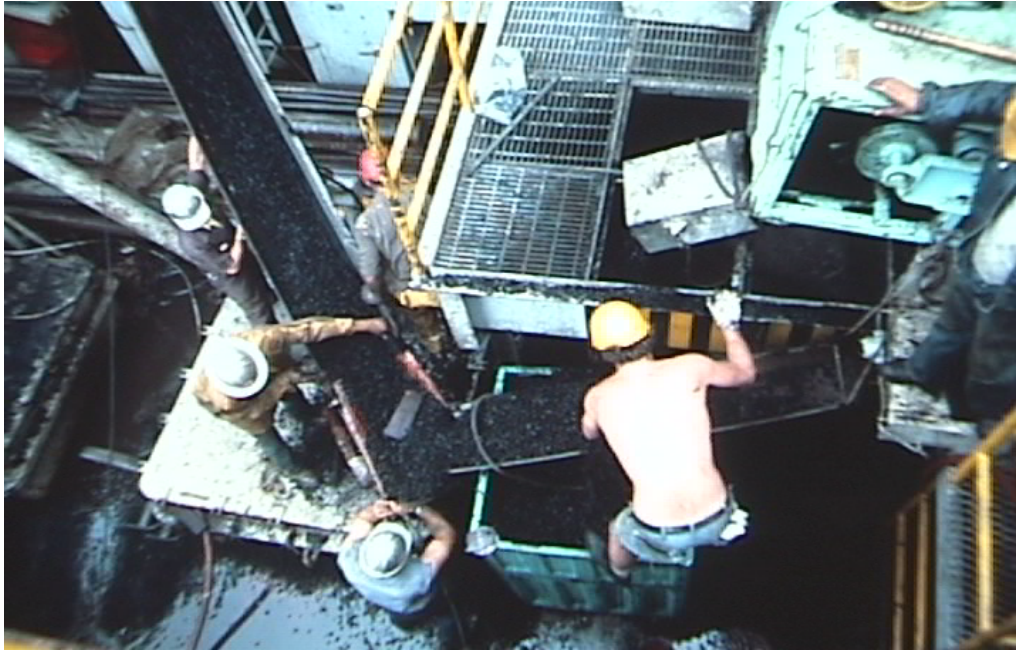


Photo credits: Ted Brockett, SOSI



# HISTORY

## *International Seabed Authority*

1982

- Established under 1982 United Nations Convention on the Law of the Sea & history of the 1994 Implementation Agreement relating to the Implementation of Part XI of UNCLOS

1994

- ISA came into existence on 16 November 1994 upon entry into force of the 1982 Convention

1996

- Became a fully autonomous international organization in June 1996, currently there are 161 States Parties to the Convention, does not include the United States of America.

- It is the organization through which States Parties organize and control activities in the Area, particularly with a view towards administering resources in the Area.

- All rights in the resources of the Area are vested in mankind as a whole on whose behalf the Authority acts.



# HISTORY

## *Substantive Work of the Authority*

### *Article 133 - Use of terms*

- For the purposes of this Part<sup>1</sup>:
- "resources" means all solid, liquid or gaseous mineral resources in situ in the Area at or beneath the seabed, including polymetallic nodules;
- resources when recovered from the Area, are referred to as "minerals"

### *Article 157 - Nature and fundamental principles of the Authority*

- Paragraph 1
- The Authority is the organization through which States Parties shall, in accordance with this Part, organize and control activities in the Area, particularly with a view to administering resources in the Area.

- First marine mineral recognized in the Area - Polymetallic nodules

<sup>1</sup> – Part XI, the Area, Section 1. General Provisions



# HISTORY

## *Substantive Work of the Authority*

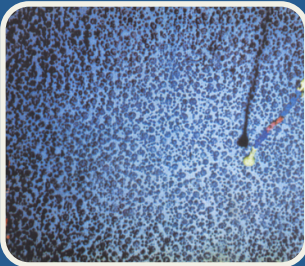


### Part XI – The Area

Dealt exclusively with this resource and based on the optimistic views of early economic benefits, was drafted to include, inter alia, the financial terms of contract, transfer of technology and production. All of these were dealt with in the implementation Agreement.



Also included in Part XI were provisions for the settlement of disputes and advisory opinions by the Seabed Disputes Chamber of the International Tribunal of the Law Of the Sea (ITLOS), also established by the Convention.



For the protection of investments in the effort to mine nodules, the Pioneer regime was established before the Authority came into existence.

# HISTORY

## *Prospecting and Exploration – Rules, Regulations and Procedures*

### Polymetallic Nodules

- Authority has adopted rules, regulations and procedures for prospecting and exploration for polymetallic nodules (ISBA/6/A/18), adopted July 2000. There are currently eight contractors.
  - China Ocean Mineral Resources Research and Development Association (COMRA)
  - Institut français de recherche pour l'exploitation de la mer (IFREMER)
  - Federal Institute for Geosciences and Natural Resources of the Federal Republic of Germany
  - Government of India
  - Interoceanmetal Joint Organization (Bulgaria, Cuba, Czech Republic, Poland, Russian Federation and Slovakia)
  - Deep Ocean Resources Development Co., Ltd. (Japan)
  - Government of the Republic of Korea
  - Yuzhmorgeologiya (Russia)

### Polymetallic Sulphides

- Authority has adopted the Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area (ISBA/16/A/12/Rev.1), adopted May 2010
- These regulations were under consideration for 12 years before adoption
- China submitted an application the day after the regulations on prospecting and exploration for polymetallic sulphides were passed.
- Russia also has an application in the process of being submitted.

- *Legal and Technical Commission prepared draft regulations for cobalt crusts in 2008-2009*
- *Council will consider the draft rules, regulations and procedures for prospecting and exploration for ferromanganese cobalt rich crusts during the 17<sup>th</sup> Session in 2011.*





# HISTORY

## *Substantive Work of the Authority*

### The Authority

- Comprised of 3 principal organs and 2 subsidiary organs;
  - Assembly, 160 State Parties are members
  - Council, 36 elected members
  - Legal and Technical Commission, 25 expert members
  - Finance Committee, 15 expert members
  - Secretariat, staff of 35
- Operating budget of \$13,014,700 for the Authority's operations for the 2011-2012 biennium
- ISA is based in Kingston, Jamaica

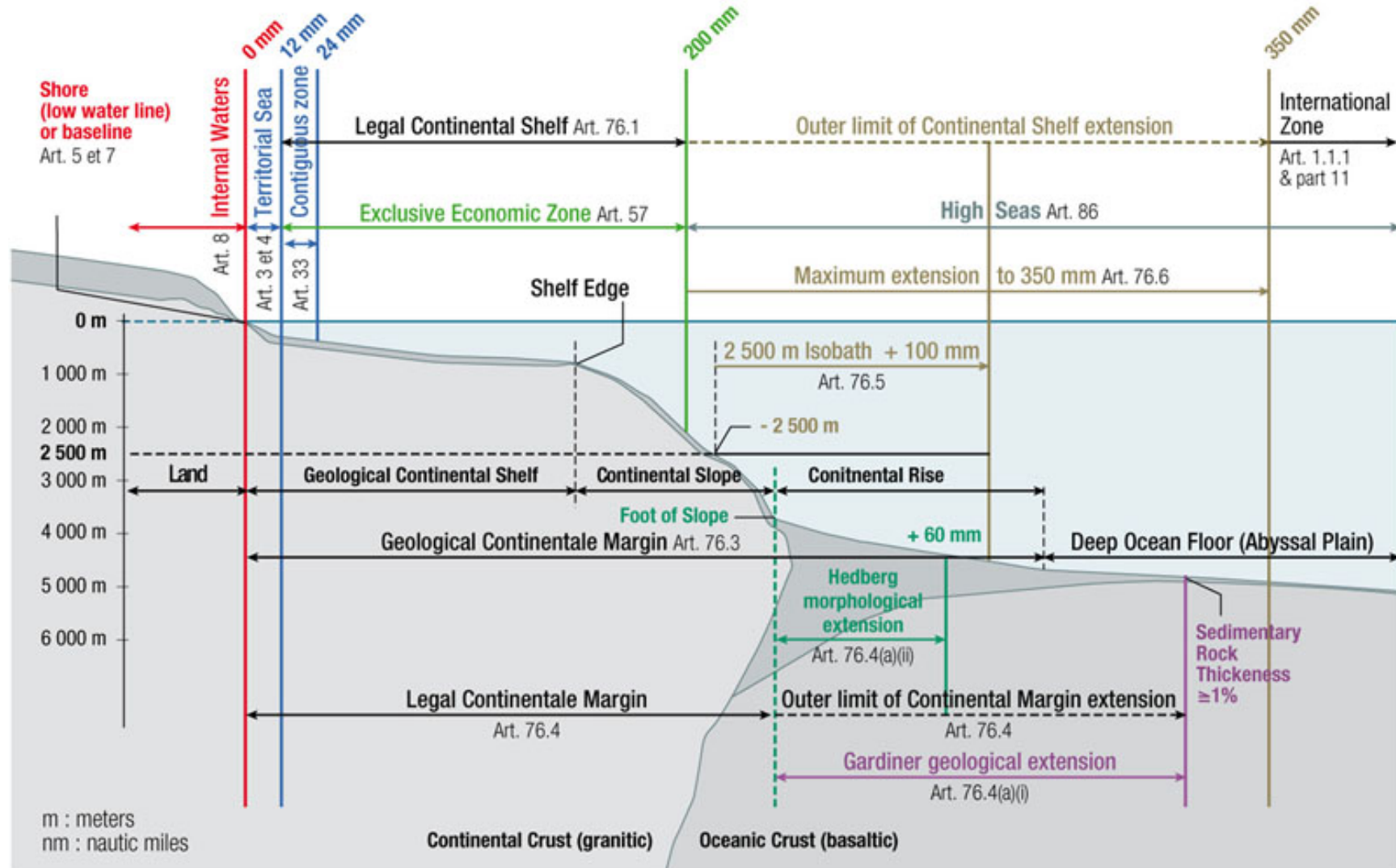
### Responsibilities

- Rules, regulations and procedures for the conduct of activities in the Area (prospecting, exploration and exploitation).
- Entry into contracts and applications
- Protection and preservation of marine environment (Article 145)
- Assessment of prospecting data
- Administration of the resources of the Area
- Marine scientific research (Article 143)



# THE AREA

## International Seabed Authority





# History, development, growth and current events at the ISA

## *Outline II*

History, structure and areas of responsibility

Seabed Disputes Chamber: Request for Advisory Opinion

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# Request for an Advisory Opinion

## *Content of the request*

Request submitted by the Council to the Seabed Disputes Chamber of the ITLOS under article 191 of the Convention on 3 questions:

1. What are the legal responsibilities and obligations of States Parties to the Convention with respect to the sponsorship of activities in the Area in accordance with the Convention, in particular Part XI, and the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982?

2. What is the extent of liability of a State Party for any failure to comply with the provisions of the Convention, in particular Part XI, and the 1994 Agreement, by an entity whom it has sponsored under Article 153, paragraph 2 (b), of the Convention?

3. What are the necessary and appropriate measures that a sponsoring State must take in order to fulfil its responsibility under the Convention, in particular Article 139 and Annex III, and the 1994 Agreement?

*On the basis of a proposal initially submitted by Nauru (ISBA/16/C/6)*



# Request for an Advisory Opinion

## *Issues involved*

Questions relate to Nauru's intention to sponsor Nauru Offshore Resources Incorporated (NORI) in an application for exploration licence in the international seabed area (filed in 2008 and currently pending)

- The Convention and 1994 Agreement requires every applicant to be sponsored by a State Party (evidenced by a certificate of sponsorship).
- Involves interpretation of following articles:
  - Article 153(2)(b) - must be “*effective control*” by the sponsoring State
  - Article 139(1) - Sponsoring State is responsible to ensure that activities carried out in conformity with Convention and applicable regulations
  - Article 139(2) – Sponsoring State not liable if it has taken “*all necessary and appropriate measures to ensure effective compliance*”.
  - Annex III, article 4(4) – Sponsoring State to adopt laws and regulations and administrative measures which are “*reasonably appropriate*” for securing compliance.



# Request for an Advisory Opinion

## *Advisory Opinion – Question 1*

What are the legal responsibilities and obligations of States Parties to the Convention with respect to the sponsorship of activities in the Area in accordance with the Convention, in particular Part XI, and the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982?

- Regarding Article 139 an obligation is identified that States Parties supporting the Authority, and under the Convention Annex III, Article 4 Para 4, State sponsors shall also “pursuant to article 139, have the responsibility to ensure, within their legal systems, that a contractor so sponsored shall carry out activities in the Area in conformity with the terms of its contract and its obligations under this Convention.”
- Having recognized that this provision contains an ‘obligation to ensure’ the Chamber then goes on, from an environmental law perspective, and outlines what is possibly the strongest part of the Opinion to itemize what the constituent elements of this obligation are - pointing out this is an obligation of conduct rather than of result, i.e. it is not an obligation that requires compliance in every case.





# Request for an Advisory Opinion

## *Advisory Opinion – Question 1*

What are the legal responsibilities and obligations of States Parties to the Convention with respect to the sponsorship of activities in the Area in accordance with the Convention, in particular Part XI, and the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982?

- The Chamber identified requirements pertaining to “due diligence” and “legal obligations”, both of these requirements illustrate the responsibility for performing detailed Marine Scientific Research before exploitation begins. The term “legal obligation” in the Advisory Opinion should be applied as a Precautionary Approach as found in Principle 15 of the Rio declaration.
- The ISA Rules and Regulations for the Prospecting and Exploration of Nodules and Sulphides Regulations identify Precaution (environmental) as a requirement. In the Advisory Opinion the Chamber goes further stating “an integral part of the due diligence of sponsoring states which is applicable even outside the scope of the regulations” and “there are plausible indications of potential risk.” The scientific research to fulfill these requirements will be extensive and detailed.
- The Chamber additionally noted this could be part of “a trend towards making this approach part of customary international law”



# Request for an Advisory Opinion

## *Advisory Opinion – Question 1*

What are the legal responsibilities and obligations of States Parties to the Convention with respect to the sponsorship of activities in the Area in accordance with the Convention, in particular Part XI, and the 1994 Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982?

- The ISA regulations, which include the Standard Clauses of the prospecting and exploration contract include the requirements of “best environmental practices” as due diligence elements.
  - Technical and financial guarantees
  - Financial recourse for prompt and effective compensation in the event of damage cause by marine pollution
- Treatment of developing states
  - The Chamber clearly endorsed the principle of equality
  - Sponsoring states “of Convenience” (similar to flags of convenience for ships) would place the of highest standards of protection of the Area at risk



# Request for an Advisory Opinion

## *Advisory Opinion – Question 2*

2. What is the extent of liability of a State Party for any failure to comply with the provisions of the Convention, in particular Part XI, and the 1994 Agreement, by an entity whom it has sponsored under Article 153, paragraph 2 (b), of the Convention?

- The 1982 Convention provides the clearest answers for the Chamber to formulate the Opinion in regards to question 2, this is a major component of the response.
  - Article 139(2) provides that “without prejudice to rules of international law ... damage caused by the failure of a state party ... to carry out its responsibilities under this Part shall involve liability.”
  - “State Party is not liable for damage caused by a failure to comply ... by a person whom it has sponsored ... if the State Party has taken all necessary and appropriate measures to secure effective compliance...”
  - “State Party has adopted laws and regulations and taken administrative measures which are, within the framework of its legal system, reasonably appropriate for securing compliance by persons under its jurisdiction.”



# Request for an Advisory Opinion

## *Advisory Opinion – Question 2*

2. What is the extent of liability of a State Party for any failure to comply with the provisions of the Convention, in particular Part XI, and the 1994 Agreement, by an entity whom it has sponsored under Article 153, paragraph 2 (b), of the Convention?

- The Chamber ruled:
  - Sponsoring States must meet a high standard of due diligence.
  - Given the explicit text of the Convention, it was not a strict liability regime (liability could be introduced in exploitation rules and regulations)
  - But, if there were damage and the sponsoring state had not taken “all necessary and appropriate measures to ensure compliance” by its contractor then it would be liable.
  - Consideration of the establishment of a trust fund to cover damage as utilized by other marine related activities such as the offshore oil and gas industry.



# Request for an Advisory Opinion

## *Advisory Opinion – Question 3*

3. What are the necessary and appropriate measures that a sponsoring State must take in order to fulfil its responsibility under the Convention, in particular Article 139 and Annex III, and the 1994 Agreement?

- Question has been addressed previously in Advisory Opinion, recap:
  - Due diligence
  - Precautionary approach
  - Highest national and international rules standards
  - A contract in force with the ISA must meet all laws, regulations and administrative measures
  - These requirements are more than just contractual arrangements with the sponsored entity
  - The State and contractor must meet a baseline of these measures as stringent as those adopted by the Authority
  - Do not use rules and regulations of the lowest common denominator, no less effective than international rules at any time.



# History, development, growth and current events at the ISA

## *Outline III*

History, structure and areas of responsibility

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# Environmental protection

## *Convention provisions and international obligations*

### **Article 145**

*ISA under an obligation to adopt rules, regulations and procedures to protect marine environment from harmful effects of seabed mining and to protect and conserve the natural resources of the Area*

### **Article 165**

*Legal and Technical Commission to prepare assessments of the environmental implications of activities in the seabed Area and to make recommendations on the protection of the marine environment*

### **Article 192**

*States have the obligation to protect and preserve the marine environment*

### **Article 209**

*States to adopt laws and regulations to prevent pollution of the marine environment from activities in the seabed Area undertaken by nationals and vessels; such laws shall be no less effective than the international rules, regulations and procedures*

- Rio Declaration, Principle 15 (precautionary approach)
- 1992 Convention on Biological Diversity
  - CBD Voluntary Guidelines on Biodiversity Inclusive Environmental Impact Assessment
  - CBD Draft Guidance on Strategic Environmental Assessment
  - CBD Decision IX/20 on Scientific Criteria for Identifying Ecologically and Biologically Significant Marine Areas (EBSAs) in Need of Protection





# ENVIRONMENTAL CONSIDERATIONS

## Regulations 33 - 37

*Reg 33(1): The Authority shall, in accordance with the Convention and the Agreement, establish and keep under periodic review environmental rules, regulations and procedures to ensure effective protection for the marine environment from harmful effects which may arise from activities in the Area.*

*Reg 33(2): In order to ensure effective protection for the marine environment from harmful effects which may arise from activities in the Area, the Authority and sponsoring States shall apply a precautionary approach, as reflected in principle 15 of the Rio Declaration, and best environmental practices.*

### The Authority

- Establish and keep under review environmental rules, regulations and procedures.
- Apply a precautionary approach.
- Develop and implement programmes for monitoring and evaluating impacts of mining on marine environment.

### The Contractor

- Include environmental information with application (Reg. 20).
- Take necessary measures to prevent, reduce and control pollution and other hazards to the marine environment, applying a precautionary approach and best environmental practices.
- Cooperate with Authority in establishment and implementation of monitoring and evaluation programmes.
- Gather environmental baseline data and establish baselines, taking account of any recommendations issued by the Legal and Technical Commission.
- Report annually to the Authority.

### The Legal and Technical Commission

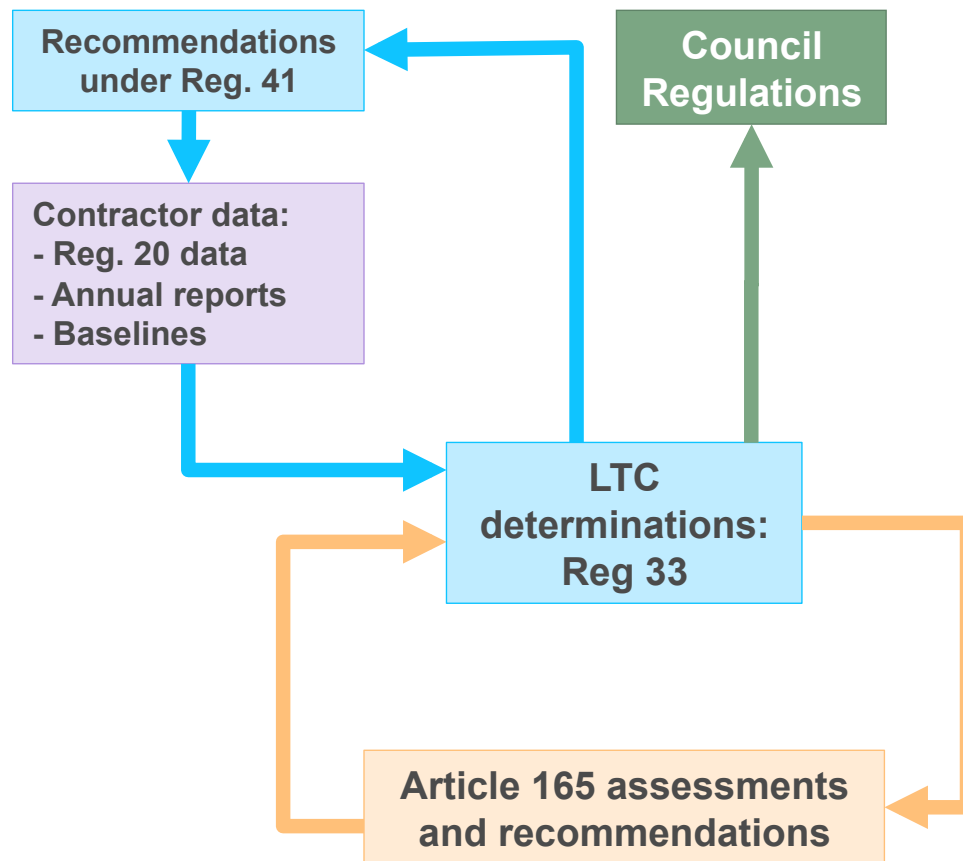
- Make recommendations to Council on implementation of Regulation 33(1) and (2).
- Consider annual reports of contractors.
- Issue Recommendations for Guidance of Contractors.
- Apply Regulation 33(4).
- Other powers under article 165.



# ENVIRONMENTAL CONSIDERATIONS

## Powers of the Legal and Technical Commission

Extensive powers under Regulations 33(4), 41 and Article 165 of Convention

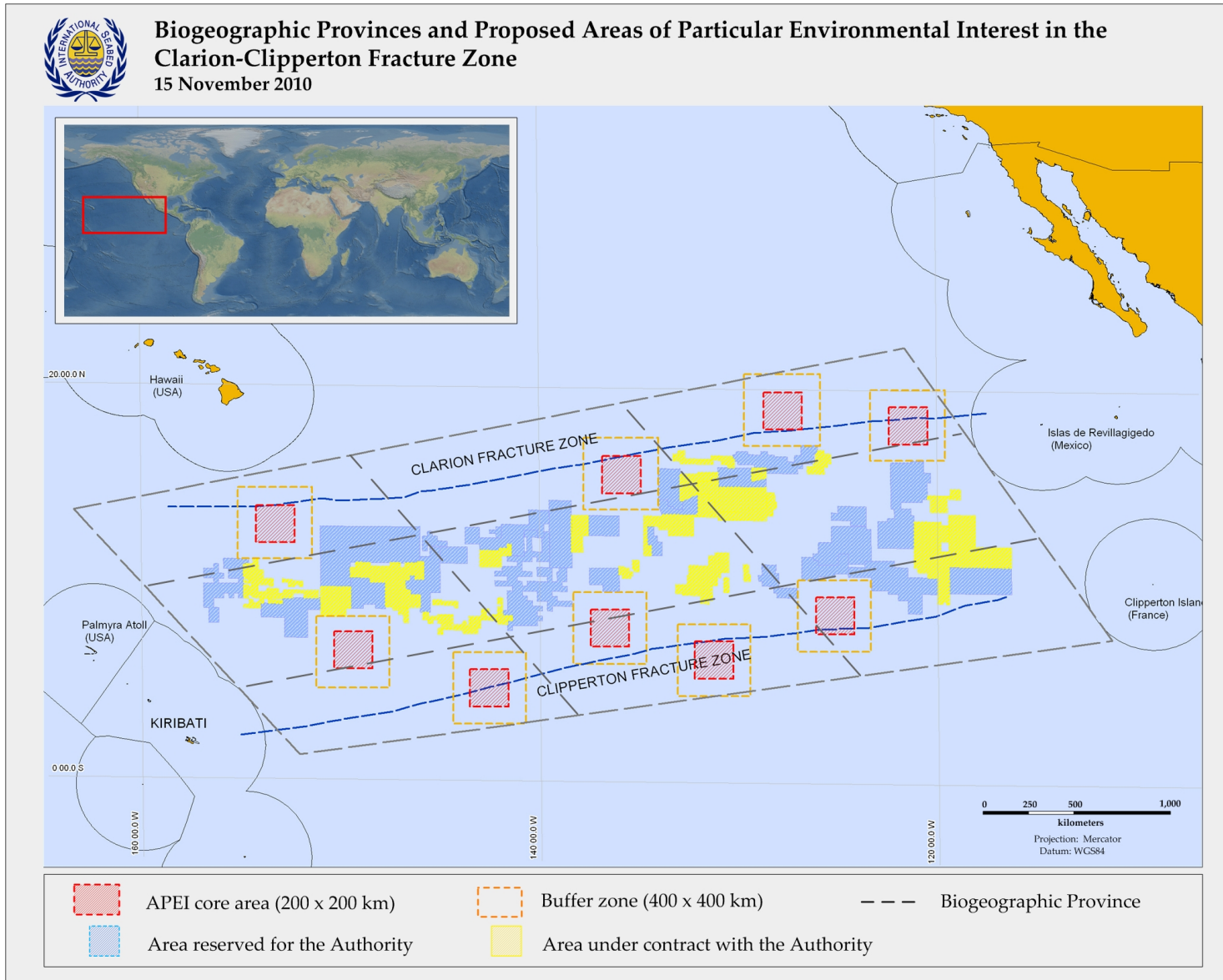


*Reg 33(4) (cf UNGA Resolutions 61/105 and 64/72)*

*The Commission shall develop and implement procedures for determining, on the basis of the best available scientific and technical information, including information provided pursuant to regulation 20, whether proposed exploration activities in the Area would have serious harmful effects on vulnerable marine ecosystems, in particular hydrothermal vents, and ensure that, if it is determined that certain proposed exploration activities would have serious harmful effects on vulnerable marine ecosystems, those activities are managed to prevent such effects or not authorized to proceed.*

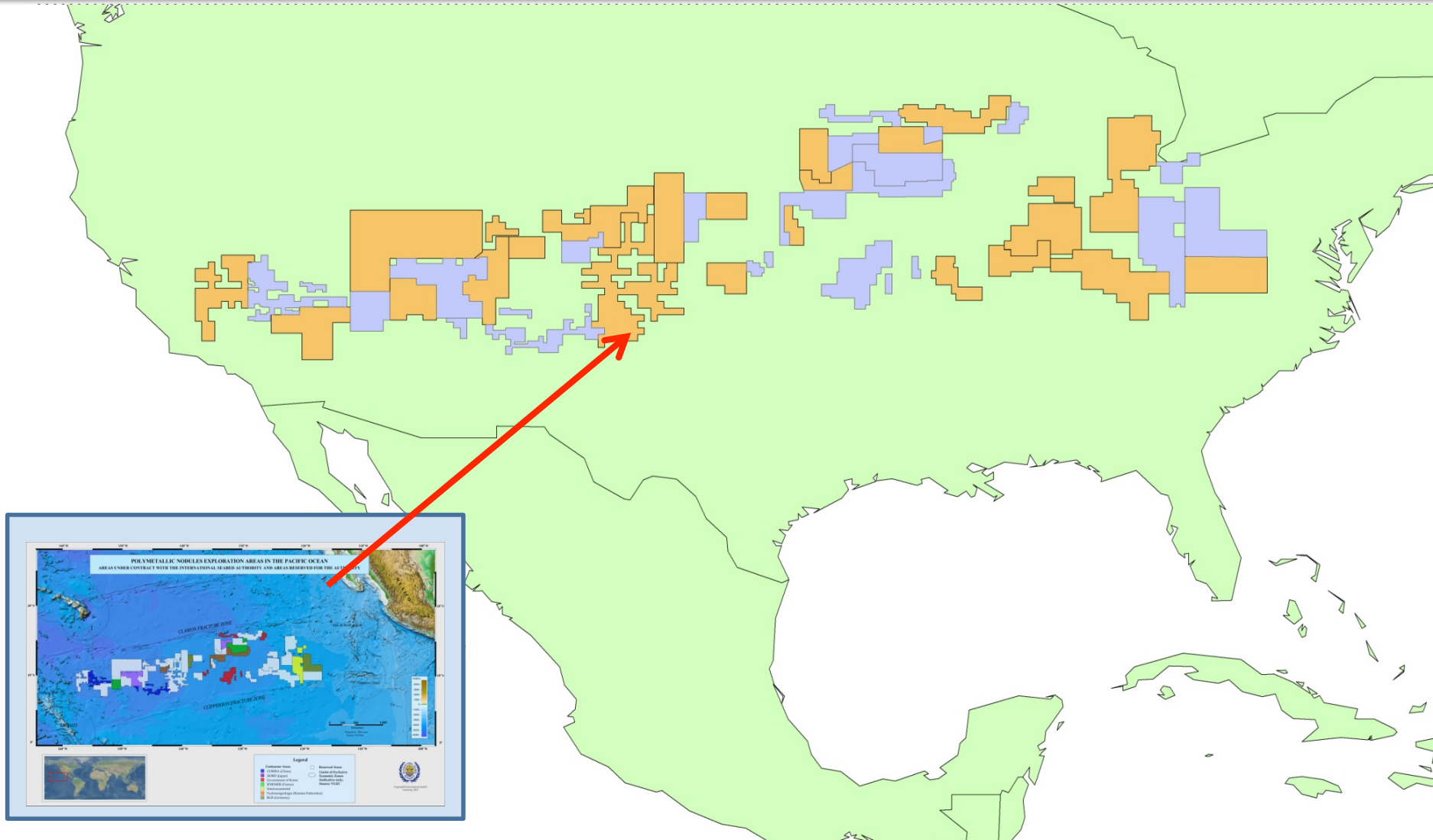
# Environmental protection

## *Proposed environmental management plan for CCZ*



# ENVIRONMENTAL CONSIDERATIONS

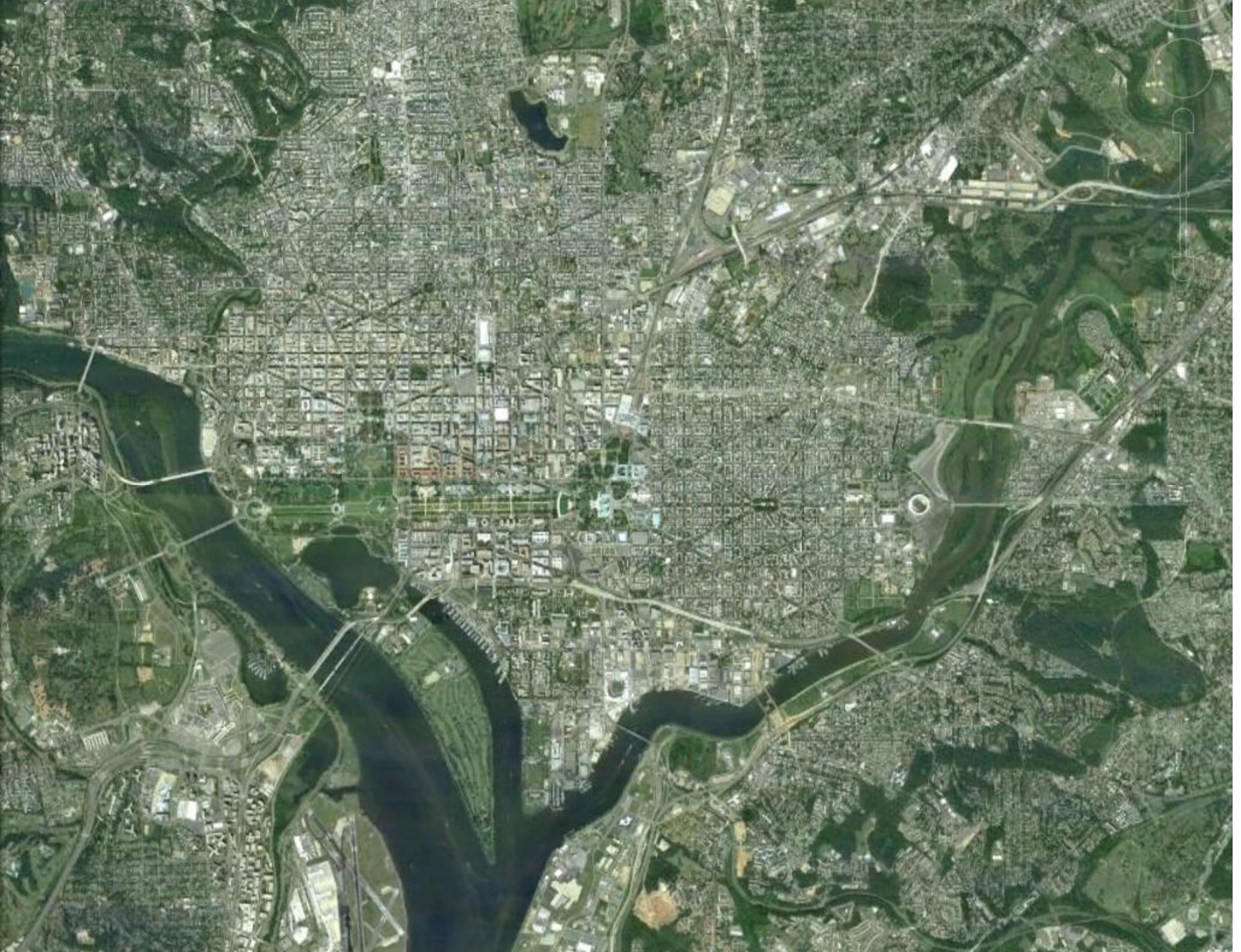
What is the scale of the potential environmental impact of deep seabed mining?



Indicative area comparison I: Polymetallic nodule exploration areas in the Pacific Ocean under contract with the Authority or reserved for mining depicted to scale in comparison with North America



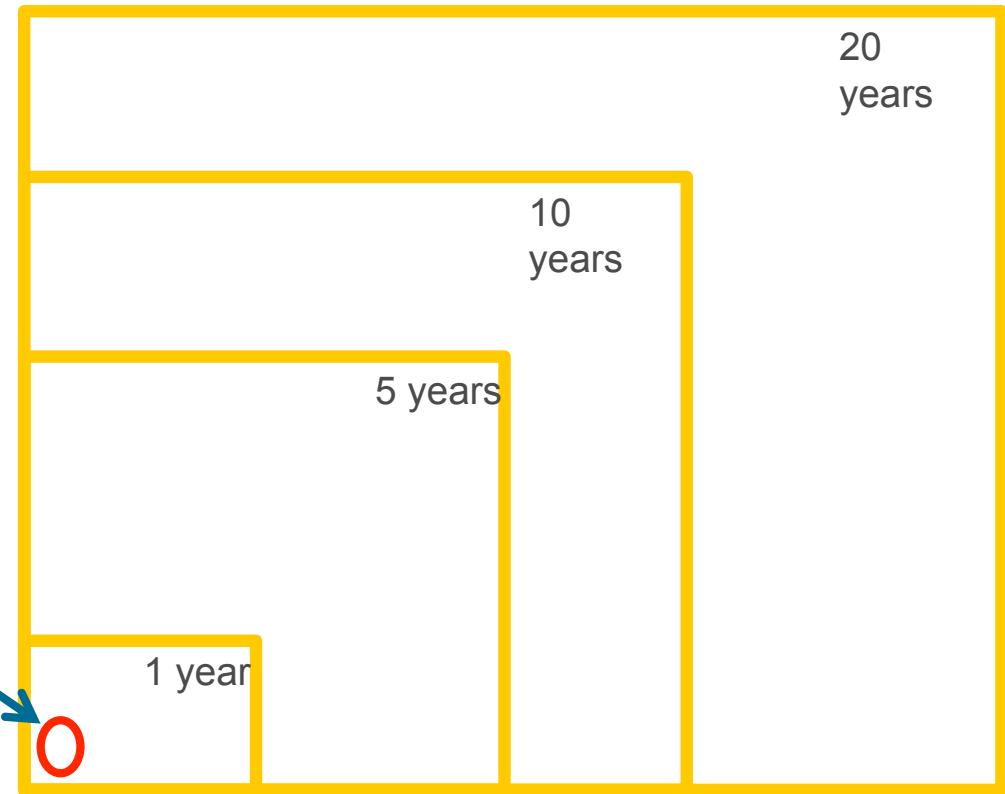






Indicative area comparison II: Deepest open pit mine in the world (Bingham copper mine, Utah. Opened 1906, current plan good to 2019 and new plan until 2030. Mine is 1.2km deep, 4km wide and covers 7.7km<sup>2</sup>, 49.5 million metric tonnes annual ore production) compared to a model mining operation for polymetallic nodules (model parameters: 4.5 million metric tonnes annual ore production over 20 years at a recovery rate of 10 kg per m<sup>2</sup>)

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# History, development, growth and current events at the ISA

## *Outline IV*

History, structure and areas of responsibility

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# PUBLICATIONS

## *Assorted legal, technical and administrative*

The ISA produces publications that include the Selected Decisions and Documents of the Annual Sessions plus a supporting annual Handbook. The ISA also creates technical studies and detailed reports from every workshop. To date the ISA has created the following documentation which can be viewed on the ISA web site @ <http://www.isa.org.jm/en/documents/publications>

- 16 – Selected Decisions and Document sets from the Annual Sessions
- Authority Handbook, updated annually
- 6 – Technical Studies
- 8 – Workshop Reports, published
- 3 – Workshop Reports, in press
- 14 – ISA General Documents, includes, inter alia, rules of procedure for different organs of the Authority.
- Quarterly newsletter (7 issues)



# Available Data Sets

## Databases pertaining to the Area and the ISA responsibilities

- Polymetallic Nodules
  - Samples Analysis
  - Major Elements Table
- Ferromanganese Cobalt Rich Crusts
  - Sample Analysis Table
    - Major Elements
    - Reduced Data Set – All Elements
  - Major Elements Table
- Sulphides and Vents Database - A number of different types of seafloor hydrothermal systems and associated seafloor mineral deposits are recognized. These are grouped into 6 categories according to deposit type or the nature of the associated hydrothermal venting.
- Web GIS – Atlas of the International Seabed Area and its Resources
- Bibliographic
- Patents



# History, development, growth and current events at the ISA

## *Outline V*

History, structure and areas of responsibility

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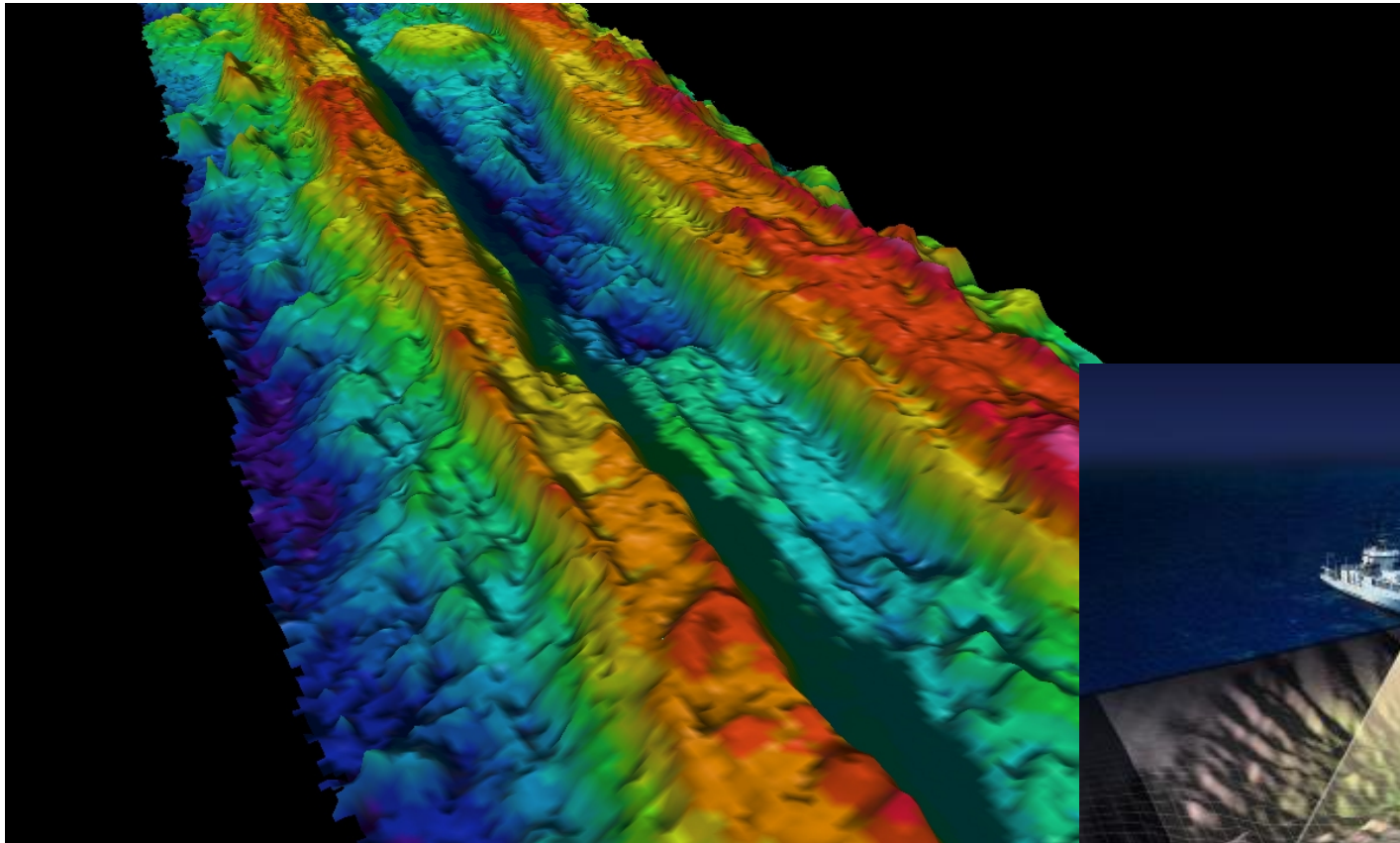
Available information and data

Current technology

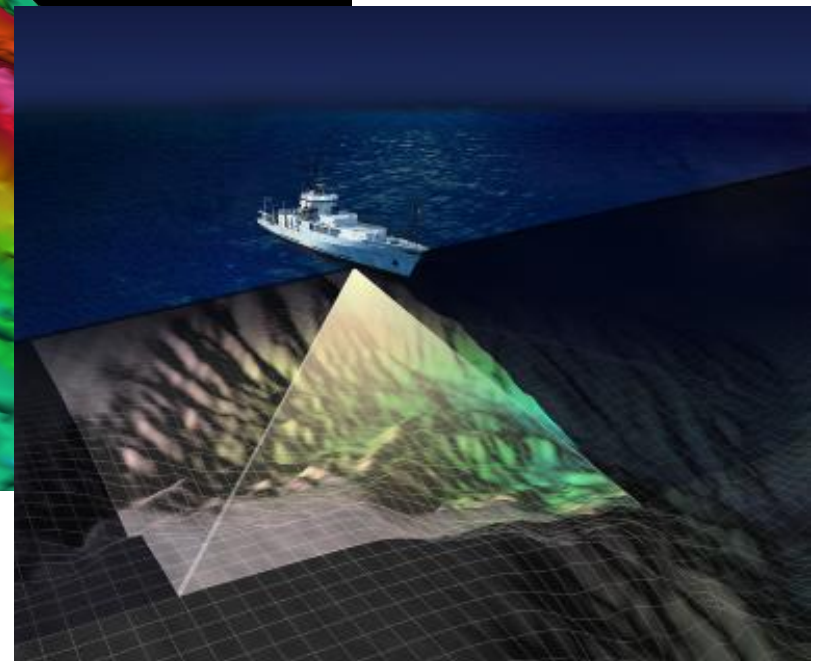


# CURRENT TECHNOLOGY

## *Survey Systems*



Galapagos sonar image - NOAA



Hull mounted multibeam sonar  
University of Washington

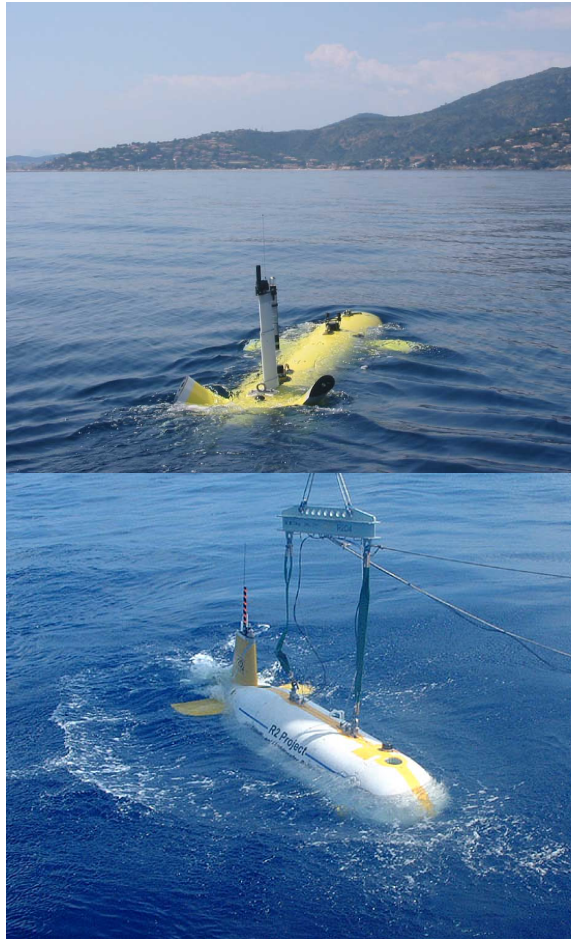




# CURRENT TECHNOLOGY

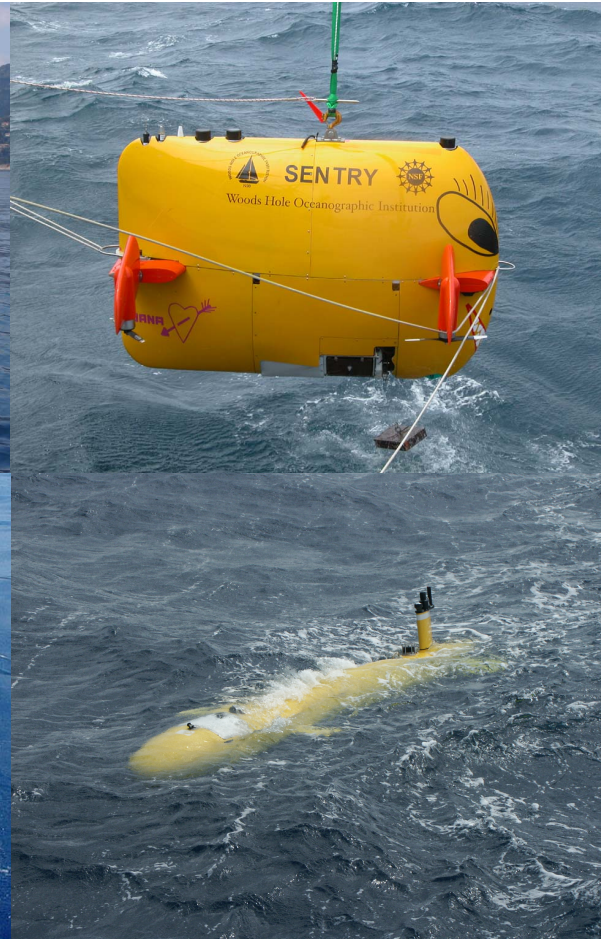
## *Autonomous Underwater Vehicles - AUV*

Explorer



R2D4

Sentry



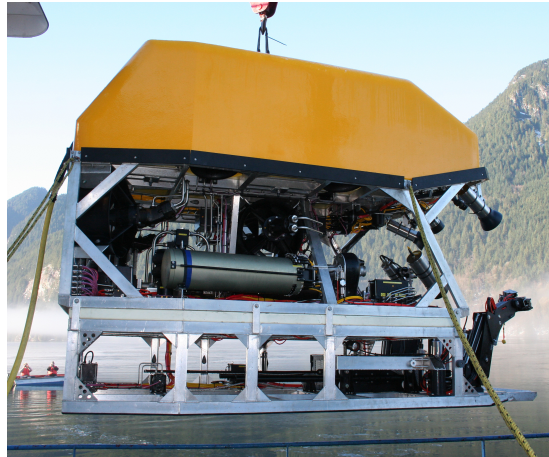
SEAL



# CURRENT TECHNOLOGY

## *Remotely Operated Vehicles - ROV*

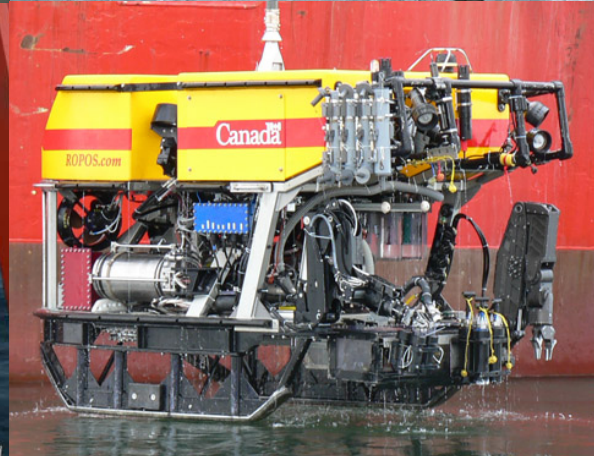
Sea Lion



ISIS



Victor



ROPOS

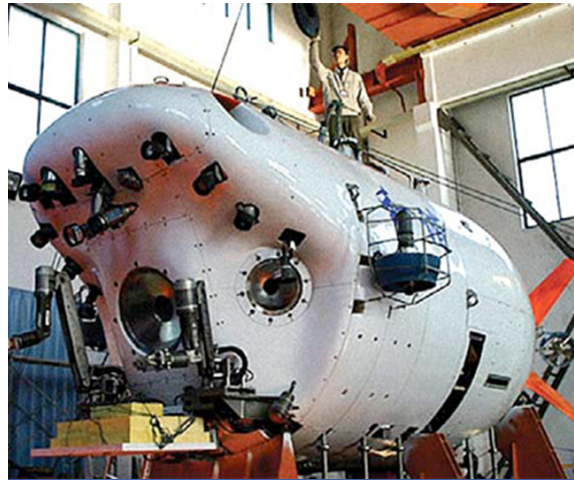




# CURRENT TECHNOLOGY

## *Human Occupied Vehicles - HOV*

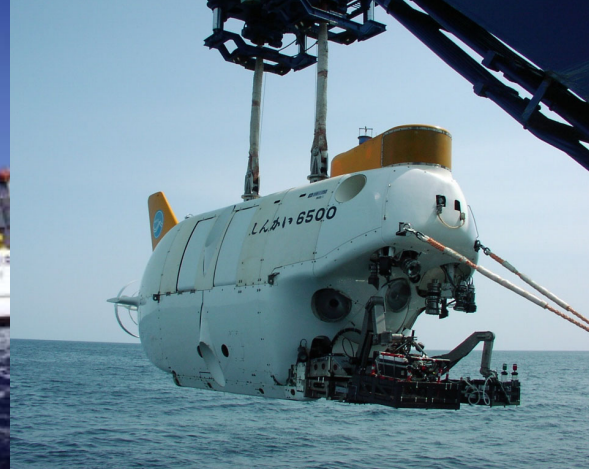
Jiaolong



MIR



Nautilus



Shinkai



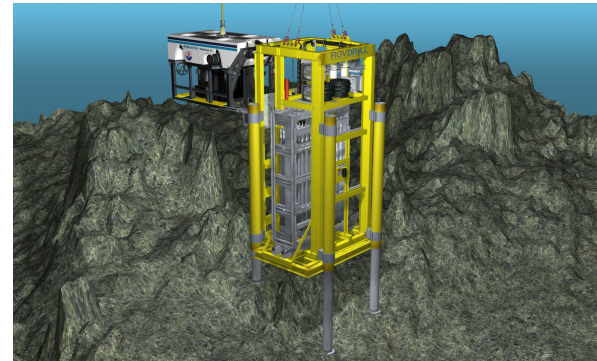
# CURRENT TECHNOLOGY

## *Technology development for exploitation*

Nautilus



Nautilus



COMRA



KORDI





***Thank you!***

