

Other Activities of the Authority

To date, the Authority has issued three Regulations: Prospecting and Exploration for Polymetallic Nodules in the Area; Prospecting and Exploration for Polymetallic Sulphides in the Area; and Prospecting and Exploration for Cobalt-Rich Ferromanganese Crusts in the Area.

These regulations include the forms necessary to apply for exploration rights as well as standard terms of exploration contracts and will form part of the Mining Code which refers to the comprehensive set of rules, regulations and procedures issued by the Authority to regulate prospecting, exploration and exploitation of marine minerals in the international seabed Area (defined as the seabed and subsoil beyond the limits of national jurisdiction).

All rules, regulations and procedures are issued within a general legal framework established by the 1982 United Nations Convention on the Law of the Sea and its 1994 Implementing Agreement relating to deep seabed mining.

As part of its mandate the Authority has convened a series of annual technical workshops to exchange knowledge and acquire expert advice on specific aspects of deep-sea resources. The workshops are attended by experts, marine scientists from developed and developing countries, seabed contractors, and members of the Legal and Technical Commission. So far, these workshops have dealt with the following topics:

- Development of guidelines for assessing the possible environmental impacts arising from exploration for polymetallic nodules (Sanya, China 1998)
- Proposal for technologies for deep-seabed mining of nodules (Kingston, Jamaica 1999)
- Mineral resources other than nodules (Kingston, Jamaica 2000)
- Development of guidelines for the standardization of environmental data and information (Kingston, Jamaica 2001)
- Prospects for international collaboration in marine environmental research on the deep sea environment (Kingston, Jamaica 2002)
- Development of a geological model of the polymetallic nodule resources in the Clarion-Clipperton Fracture Zone (Nadi, Fiji 2003)
- Establishment of environmental baselines at deep seafloor cobalt-rich crusts and polymetallic sulphide mine sites in the Area (Kingston, Jamaica 2004)
- Cobalt-rich crusts and the diversity of distribution patterns of seamount fauna (Kingston, Jamaica 2006)
- Aspects on technical and economic considerations for mining cobalt-rich ferromanganese crusts and polymetallic sulphide resources of the international seabed Area (Kingston, Jamaica 2006)
- Polymetallic Nodule Mining Technology – Current Status and Challenges Ahead (Chennai, India 2008)
- Finalization of the Geological Model of the Clarion-Clipperton Fracture Zone (CCZ). (Kingston, Jamaica 2009)
- Establishment of a Regional Environmental Management Plan for the Clarion-Clipperton Zone in the Central Pacific. (Kingston, Jamaica 2010)
- Environmental Management Needs for Exploration and Exploitation of Deep Seabed Minerals. (Nadi, Fiji 2011)
- Further Consideration of the Implementation of Article 82 of the United Nations Convention on the Law of the Sea. (Beijing, China 2012)
- Standardise Megafaunal Taxonomy for Exploration Contract Areas in the Clarion-Clipperton Fracture Zone (Wilhelmshaven, Germany 2013)
- Taxonomic Methods and Standardization of Macrofauna in the Clarion-Clipperton Zone (Republic of Korea, 2014)
- Taxonomic Methods and Standardization of Meiofauna in the Clarion-Clipperton Zone (Belgium, 2015)
- Towards an ISA Environmental Management Strategy for the Area (Germany, 2017)
- Marine Mineral Resources of Africa (Uganda, 2017)



In 2007, the Authority began a new programme of regional sensitization seminars on issues associated with the 1982 United Nations Convention on the Law of the Sea, the work of the Authority and on marine mineral resources.

The aim of the seminars was to bring together experts from the international legal and scientific community with national and regional government officials, scientists, researchers and academics to discuss scientific research on marine minerals and propose mechanisms for improving regional cooperation in scientific research and marine mineral development.

Topics covered at the seminars would include the status of the legal regimes established for recovery of minerals, types of minerals found in the Area, resource evaluation, protection and preservation of marine environment from prospecting, exploration and mining and the Authority's endowment fund for the promotion and encouragement of marine scientific research in the Area.

The first seminar was held in Manado, Indonesia in 2007. Other seminars were held in Rio de Janeiro, Brazil in November 2008, Abuja, Nigeria in March 2009, Madrid, Spain in February 2010, Kingston Jamaica in March 2011, New York in 2012 and 2013, Mexico City, Mexico in November 2013 and New York in April 2014. The results of these workshops are published as Proceedings, Technical Studies and Briefing Papers and are available in both electronic and print format.

Prospects for Deep-Seabed Mining

Since the 1970s, considerable investments have been made in research and prospecting activities in the deep ocean with a view to identifying alternative sources of metals. However, until recently, a number of factors inhibited progress towards commercial exploitation of nodules. These include the difficulties of retrieving nodules from a great depth in stormy ocean areas, and the high costs of technological research and development. As a result, the interest of the international consortia active in the 1970s in deep-sea exploration waned. Furthermore, the contractors with the Authority had concentrated most of their efforts on research and development and long-term environmental studies.

Over the past few years, however, there has been a surge in demand for most of the metals that would be derived from seabed mining, leading to dramatic increases in the prices of metals on world markets. Metal prices rose drastically in 2006 and broke most historical records. Much of this increase in demand and price conditions for seabed mining are more promising now and is becoming increasingly more favourable. One clear indicator of this is that the private sector is taking the lead in developing marine mineral resources in economic zones in the Western Pacific. Other resources, such as methane hydrates containing frozen natural gas, petroleum, phosphorites for agricultural fertilizers and precious metals, have also aroused the interest of research institutions and mining companies.

In these circumstances, it is more likely that the 21st century will see systematic efforts worldwide to develop the resources of the deep seabed. Although much basic and applied research has been carried out, it is broadly accepted that the current level of knowledge and understanding of deep-sea ecology is insufficient to allow conclusive risk assessment of large-scale mining.

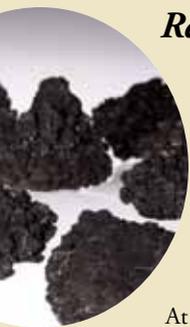


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МЕЖДУНАРОДНЫЙ ОРГАН ПО МОРСКОМУ ДНУ
السلطة الدولية لقاء البحار
国际海底管理局

Resources of The Deep Seabed



The existence of potentially valuable polymetallic nodules on the deep seafloor has been known for more than a century. Scientists investigating these rocks, also known as manganese nodules, found that they contained valuable metals such as nickel, manganese, copper and cobalt. About the shape and size of potatoes, the dark-coloured nodules lie strewn atop the seabed, notably in the central Pacific and Indian oceans.

At first, because these nodules were located in very deep water, more than 5,000 metres (three miles) below the ocean surface, commercial mining was not considered viable. By the late 1960s, however, with advances in technology, it appeared that harvesting of the nodules would become a commercial reality. In the late 1970s, researchers learned of other mineral resources in the deep oceans, containing many of the same metals, along with gold and silver. These are polymetallic sulphides, formed around hot springs in active volcanic areas, and cobalt-rich crusts, fused to the underlying rock around ridges and seamounts in all the world's oceans.

The 1982 United Nations Convention on the Law of the Sea

In 1970, the General Assembly of the United Nations adopted a resolution declaring the resources of the seabed and ocean floor beyond the limits of national jurisdiction to be “the common heritage of mankind,” which no State or person could rightfully claim. To give effect to this principle, and to resolve other longstanding issues relating to the oceans, the Assembly convened in 1973 the Third United Nations Conference on the Law of the Sea. This mammoth effort to write international law covering two-thirds of the earth's surface, a task that had stymied earlier conferences ever since 1958, came to fruition in 1982 with the adoption of the United Nations Convention on the Law of the Sea.

All remaining differences in the implementation of the seabed provisions were resolved in 1994 by a supplementary Agreement relating to the



General Assembly Adopts Resolution on Universal Participation in Law of the Sea Convention (6 December 1994, United Nations, New York)

implementation of Part XI of the Convention. The Convention and the Agreement entered into force on 16 November 1994 and 28 July 1996 respectively.

Part XI of the Convention, along with the 1994 Agreement, establishes the framework for an unprecedented international regime to manage the mineral resources of the international seabed area. This Area consists of the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction.

The guiding principles are:

- The resources of the international seabed area shall be the common heritage of mankind, not subject to appropriation by any State.
- All rights to these resources shall be vested in mankind as a whole and the economic benefits from deep-seabed mining are to be shared on a non-discriminatory basis for the benefit all of mankind.
- The International Seabed Authority is established as the organization through which States Parties shall organize and control activities in the Area, particularly with a view to administering the resources of the Area, and to promote and encourage the conduct of marine scientific research in the international area.

Features of the Seabed Regime

The aims of the international regime that governs all resource-related activities in the international seabed area are threefold: to encourage the development of seabed resources, to safeguard the marine environment as it may be affected by such activities, and to ensure the equitable sharing of economic benefits between miners and the international community. The Authority acts as regulator on behalf of all its members.

Exploration and mining in the international seabed area can be carried out only under a contract issued by the Authority. Through its Council, the Authority may issue contracts to companies or States that wish to carry out such activities, and must ensure that their activities are carried out in accordance with the contract. The Assembly of the Authority adopts regulations that all contractors must follow when exploring and exploiting the seabed.

Once mining becomes profitable, the contractors will pay royalties to the Authority, who is required to distribute these receipts equitably, taking into account the interests and needs of developing countries.

The commercial arm of the Authority will be the Enterprise. It will come into operation only when seabed mining becomes feasible on a commercial scale and will initially operate through joint ventures with mining companies or member States of the Authority. Until then, the functions of the Enterprise are to be carried out by the Secretariat of the Authority.

Functioning of the Regime

The seabed regime became operational in 2001 when the Authority signed contracts with a group of seven organizations and governments to explore the international seabed area for polymetallic nodules. These were the “pioneer investors” recognized by the Law of the Sea Conference as having already made large investments in the survey and location of nodules. To date (April 2014) the Authority has entered into 15 year contracts for exploration for polymetallic nodules, polymetallic sulphides and cobalt-rich ferromanganese crusts in the deep seabed with **twenty-nine** contractors.

Seventeen of these contracts are for exploration for polymetallic nodules in the Clarion-Clipperton Fracture Zone (16) and Central Indian Ocean Basin (1). There are **seven** contracts for exploration for polymetallic sulphides in the South West Indian Ridge, Central Indian Ridge and the Mid-Atlantic Ridge and **five** contracts for exploration for cobalt-rich crusts in the Western Pacific Ocean.

The groundwork for the signing of contracts was laid out in 2000 with the adoption of the Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area. This was followed by the adoption of the Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area in 2010 and the adoption of the Regulations on Prospecting and Exploration for Cobalt-Rich Ferromanganese Crusts in 2012. These regulations set out the legal rules that contractors and the Authority must follow in any future work to locate and evaluate nodules and incorporate provisions to protect the marine environment against possible harm from seabed activities.

Each contractor is required to submit an annual report on its activities. These reports are examined by the Legal and Technical Commission, which then reports to the Secretary-General on the extent to which contractors have met their commitments under their work programmes.

In 2001, the Commission also issued a set of recommendations to guide contractors in assessing the environmental consequences of their exploration. These voluntary guidelines describe technical procedures to be followed as contractors acquire baseline data on existing environmental conditions and monitor seabed activities that might cause serious environmental harm.



Active smoker chimneys precipitating iron, copper and zinc sulphides. They are 9 m tall from the base to the top of the chimneys. Dark beehive-type chimneys, here about 30 cm tall, commonly sit on top of these structures. (NOAA)

The International Seabed Authority

The Authority came into existence on 16 November 1994, with the entry into force of the 1982 United Nations Convention on the Law of the Sea. Its headquarters are in Kingston, Jamaica. All States parties to the Convention are members of the Authority. At the end of March 2014, there were 166 members. Its governing bodies are the Assembly and the Council.



- **The Assembly** consists of all members of the Authority. As the supreme body of the Authority, to which other bodies report, it is responsible for setting general policies and regularly reviewing the work of the Authority.
- **The Council** is the executive body of the Authority. It establishes specific policies and approves applications for exploration or exploitation rights. It has the power to oversee implementation of the seabed provisions of the Convention and the Agreement, and the rules and regulations of the Authority. Its 36 members are elected by the Assembly for rotating four-year terms, according to a formula intended to ensure the representation of all geographical blocs as well as groups with special economic interests affected by seabed mining.
- Also established is a 30-member **Legal and Technical Commission**, which advises the Council, and a 15-member **Finance Committee** that deals with budgetary and related matters. All members are experts nominated by governments and elected to serve in their individual capacity. The Authority currently has a Secretariat of 37 authorized posts and a biennial budget of \$9.01 million for 2017 and \$8.9 million for 2018.