

Other Activities of the Authority

Since 2001, the Council of the Authority has been examining the status of deep-sea resources that were just being discovered as the Convention was being written – polymetallic sulphides and cobalt-rich crusts. Of particular concern to the Council is how rules for these resources should differ from those for polymetallic nodules, given the fact that the newly discovered deposits are often clustered in limited locales and fused to the seabed rather than scattered loosely and widely on broad undersea plains. This legislative work of the Authority will eventually produce a mining code to cover exploration and exploitation of all seabed resources.



The Authority has convened a series of annual technical workshops to exchange knowledge and acquire expert advice on specific aspects of deep-sea resources. Attending these gatherings have been 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:

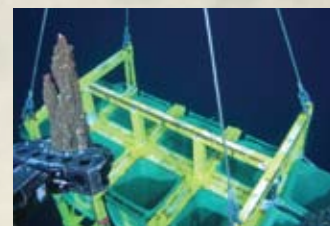
- Development of guidelines for assessing the possible environmental impacts arising from exploration for polymetallic nodules (Sanya, China, 1998)
- Proposed technologies for deep-seabed mining of nodules (Kingston, 1999).
- Mineral resources other than nodules (Kingston, 2000)
- Development of guidelines for the standardization of environmental data and information (Kingston, 2001)
- Prospects for international collaboration in marine environmental research on the deep seas (Kingston, 2002).
- Development of a geological model of the polymetallic nodule resources in the Clarion-Clipperton Fracture Zone (Fiji, 2003)
- Establishment of environmental baselines at deep seafloor cobalt-rich crusts and polymetallic sulphide mine sites in the Area (Kingston, 2004)
- Cobalt-rich crusts and the diversity of distribution patterns of seamount fauna (Kingston, 2006)
- Aspects on technical and economic considerations for mining cobalt-rich ferromanganese crusts and polymetallic sulphide resources of the international seabed area (Kingston 2006)
- Polymetallic Nodule Mining Technology - Current Status and Challenges Ahead (India 2008)

The results of these workshops, published in reports that include each group's recommendations as well as the papers submitted by the participants, have been used by the Authority in drafting its legal texts, including the nodule regulations and the environmental recommendations.

The Secretariat has created and is developing a Central Data Repository with the aim of collecting and centralizing all public and private information available to the Authority on marine mineral resources. This database, available on the Authority's Website (www.isa.org.jm), will enable the Authority to reconcile information from various sources, evaluate the data and draw conclusions.

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. Even the contractors with the Authority had concentrated most of their efforts on research and development and long-term environmental studies.



Sulphide being transferred from seafloor to batch cage. (©Nautilus Minerals)

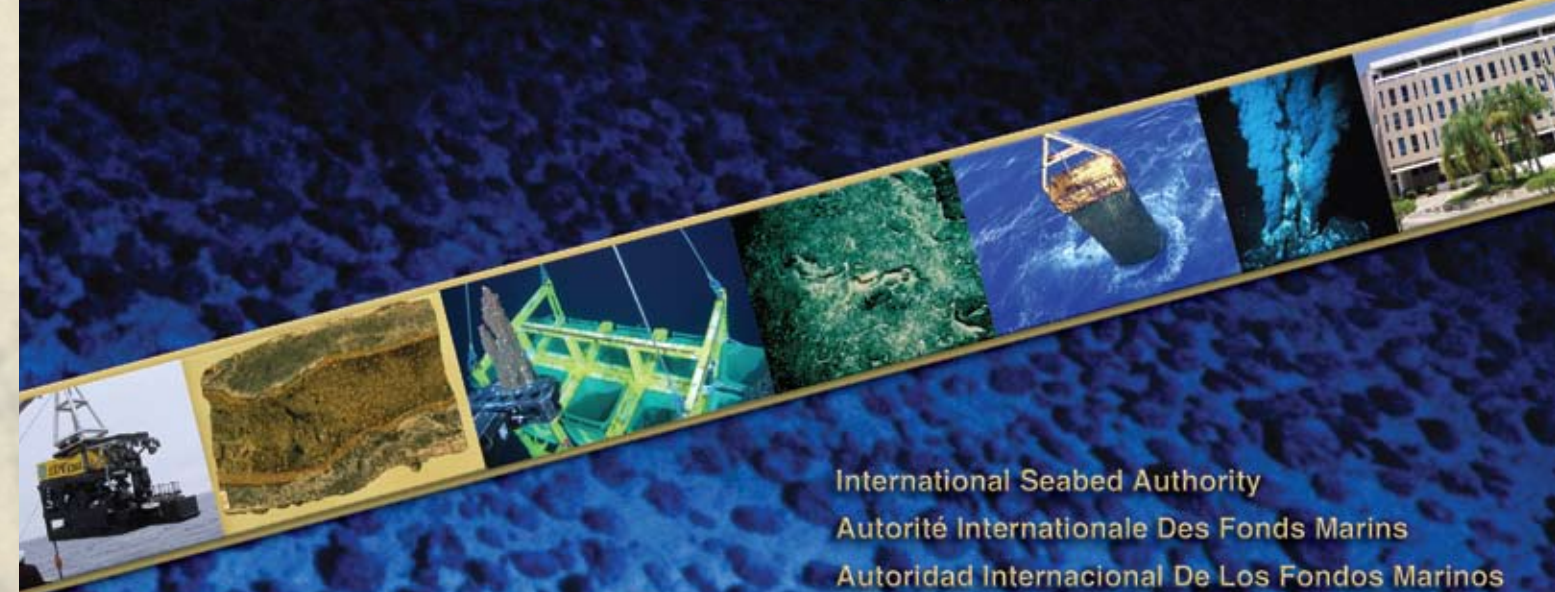
Over the past few years, however, there has been a surge in demand for most of the metals that would be derived from seabed mining, leading to dramatic increases in the prices of metals on world markets. Metal prices rose drastically in 2006 and most broke historical records. Much of this increase in demand and price

has been driven by surging economic growth in emerging economies. The result is that current economic conditions for seabed mining are more promising than before and 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 than ever that the 21st century is likely to see systematic efforts worldwide to develop the resources of the deep seabed. At the same time, environmental protection remains a critical concern to the Authority and its members. 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.



International Seabed Authority
14-20 Port Royal Street
Kingston, Jamaica W.I.
Tel (876) 922-9105/9
Fax (876) 922-0195
Website: www.isa.org.jm



International Seabed Authority
Autorité Internationale Des Fonds Marins
Autoridad Internacional De Los Fondos Marinos
МЕЖДУНАРОДНЫЙ ОРГАН ПО МОРСКОМУ ДНУ
السلطة الدولية لقاع البحار
国际海底管理局



Resources Of The Deep Seabed

The existence on the deep ocean floor of potentially valuable polymetallic nodules 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. At the same time, many persons thought it would be unfair if the economic benefits from mining were to accrue only to the few developed countries that possess the necessary capital and technology, in view of the fact that the resource lies in international waters.

More recently, 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 appropriate. 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.

Even then the work was incomplete, until remaining differences about the implementation of the seabed provisions were resolved in 1994 by a supplementary Agreement relating to the 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 these:

- The resources of the international seabed area shall be the common heritage of mankind, not subject to appropriation by any State.
- All rights in 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 Authority devises regulations that all contractors must follow when exploring and exploiting the seabed.

Once mining becomes profitable, the contractors will pay royalties to the Authority, which 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 States belonging to 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 that had applied for authorization to explore the international seabed area for polymetallic nodules. These were among the “pioneer investors” recognized by the Law of the Sea Conference as having already made large investments in the survey and location of nodules. In 2006 a contract was signed with Germany. The following eight entities now have 15-year contracts with the Authority:

- China Ocean Mineral Resources Research and Development Association (COMRA)
- Deep Ocean Resources Development Company (DORD), of Japan
- Government of India
- Government of the Republic of Korea
- Institut français de recherche pour l'exploitation de la mer (IFREMER), of France
- Interoceanmetal Joint Organization (IOM), a consortium formed by Bulgaria, Cuba, Czech Republic, Poland, Russian Federation and Slovakia
- Yuzhmorgeologiya, a State enterprise of the Russian Federation
- Federal Institute for Geosciences and Natural Resources of the Federal Republic of Germany

Signature of these contracts became possible once the Authority adopted its first legislation in 2000 entitled Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area. These regulations set out the legal rules that contractors and the Authority must follow in any future work to locate and evaluate nodules. They 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.

That Commission, in 2001, approved a set of recommendations to guide contractors in assessing the environmental consequences of their nodule 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.

The International Seabed Authority

The Authority came into existence on 16 November 1994, with the entry into force of the Convention. Its headquarters are in Kingston, Jamaica. All States parties to the Convention are members of the Authority. At the end of March 2009, there were 157 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 Agreement, and of 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 are a **Legal and Technical Commission**, which advises the Council, and a **Finance Committee** that deals with budgetary and related matters. These consist of 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 \$6.152 million for 2009 and \$6.364 million for 2010.