

# On the Administrative Law Protection of Marine Data Property Rights

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## Abstract

With the rapid development of the marine economy and the swift progress of information technology, marine data, as an emerging factor of production, is increasingly valued. However, there are still many challenges in defining, protecting, and utilizing marine data property rights. This paper aims to explore the administrative law protection of marine data property rights, analyze the legal attributes of marine data property rights, review the current status of marine data property rights protection in China, and draw on international experiences to propose countermeasures for improving the administrative law protection of marine data property rights in China.

**Keywords:** marine data, data property rights, administrative law protection

## 1. Introduction

Marine data refers to information related to the marine environment, resources, and ecology obtained through observation, measurement, investigation, and analysis. With the continuous progress of marine observation technology and the increasing number of marine economic activities, both the quantity and quality of marine data are rapidly improving. Marine data plays an important role in marine resource management, marine environmental protection, and marine disaster early warning, and is an important support for promoting the high-quality development of the marine economy. However, the unclear definition of marine data property rights and the imperfect protection mechanisms restrict the effective utilization and value realization of marine data.

Therefore, strengthening the administrative law protection of marine data property rights is of great significance.

## 2. Legal Attributes of Marine Data Property Rights

### 2.1 Definition of Marine Data Property Rights

With the rapid development of marine science and technology, the volume of global marine data is constantly expanding. Marine data has become an important cornerstone for promoting the marine economy, scientific research, and security. The oceans cover about 71% of the Earth's surface and bear important human demands for resources, transportation, and climate, among other aspects. (Song Wei, Ding Shuixin, Dong Mingmei et al., 2025) Marine data property rights refer to the rights to possess, use, benefit from, and dispose of marine data. The

subjects of marine data property rights can be government agencies, research institutions, enterprises, or individuals, while the objects are marine data with specific value and significance. The objects of marine data property rights have characteristics such as intangibility, replicability, and non-consumption, which make the protection of marine data property rights different from traditional property rights protection.

## *2.2 Legal Characteristics of Marine Data Property Rights*

**Intangibility:** Marine data exists in electronic form and does not occupy physical space, making it difficult to possess and control the objects of marine data property rights in a physical manner, unlike traditional property rights.

**Replicability:** Marine data can be copied and disseminated infinitely, which increases the difficulty of protecting marine data property rights and is prone to causing infringement.

**Non-consumption:** Marine data is not consumed or diminished during use, which determines that the use of marine data property rights is different from traditional property rights. Marine data can be used multiple times to generate different values.

**Value:** Marine data has economic, scientific, and social values and is an important resource for the development of the marine economy.

## *2.3 Relationship Between Marine Data Property Rights and Related Rights*

**Relationship with Intellectual Property Rights:** Marine data property rights are related to intellectual property rights but also differ. Marine data property rights may involve data collection, organization, and analysis, which may include elements of copyright, patent rights, and other intellectual property rights. However, marine data property rights focus more on the overall control and utilization of marine data, rather than merely the creative expression or technological innovation of the data.

**Relationship with Property Rights:** There is a significant difference between marine data property rights and property rights in terms of the form of the object, but there are similarities in rights protection. For example, both require clear identification of the right holder and object, prevention of infringement, and legal remedies.

## **3. Current Status of Marine Data Property Rights Protection in China**

### *3.1 Imperfect Legal System*

Currently, China has not yet enacted specific laws and regulations for the protection of marine data property rights. Although laws such as the “Civil Code”, “Data Security Law”, and “Marine Environmental Protection Law” involve content related to data protection and the utilization of marine resources, they lack clear definitions and protection provisions for marine data property rights. This results in a lack of clear legal basis for handling marine data property rights disputes, which is not conducive to the effective protection of marine data property rights.

### *3.2 Incomplete Administrative Management System*

The administrative management of marine data property rights involves multiple departments and levels, including the State Oceanic Administration, Ministry of Natural Resources, and Ministry of Industry and Information Technology. However, the current administrative management system for marine data property rights in China is still not complete, with issues such as unclear responsibilities and poor coordination between departments. This makes it difficult to form a united effort in the protection, utilization, and management of marine data property rights, affecting the effective utilization and value realization of marine data.

### *3.3 Lack of Data Sharing Mechanisms*

Marine data has the characteristic of shareability, and different departments and institutions need to share marine data to achieve optimal allocation and efficient utilization of resources. However, China has not yet established a complete marine data sharing mechanism, with data barriers and silos existing between different departments and institutions. This leads to underutilization of marine data and restricts the effective protection of marine data property rights.

### *3.4 Frequent Infringements and Difficulty in Curbing*

Due to the imperfect protection mechanisms for marine data property rights, infringements occur frequently and are difficult to effectively curb. Some enterprises and individuals collect, use, and disseminate marine data without authorization, infringing on the legitimate rights

and interests of marine data property rights holders. At the same time, due to the intangible and replicable nature of marine data property rights objects, infringements are often difficult to detect and evidence, bringing great difficulties to rights protection efforts.

#### **4. International Experience in Marine Data Property Rights Protection**

##### *4.1 United States*

The United States is one of the countries with a relatively comprehensive system for protecting marine data property rights. The U.S. government places great emphasis on the development and utilization of marine data resources and strengthens the protection of marine data property rights through a series of laws, regulations, and policy measures. For example, laws such as the “Ocean Law” and “Marine Resources Conservation Law” clearly stipulate the collection, organization, analysis, and sharing of marine data. Additionally, the U.S. government has established a comprehensive marine data sharing mechanism and management system, promoting the effective utilization and value realization of marine data.

##### *4.2 European Union*

The European Union has also achieved significant success in protecting marine data property rights. The EU promotes the connection between marine science and policy, providing a common strategic agenda and framework for action, effectively integrating and enhancing Europe’s marine exploration and observation capabilities. The European marine observation network covers five sea areas and has formed five regional operational oceanography systems in the Baltic Sea, North-West Continental Shelf, Arctic, Mediterranean, and Black Sea. (EuroGOOS, 2023) The EU has also enacted laws such as the “EU Data Protection Regulation” to strengthen data protection, which includes the protection of marine data property rights. The EU has established the European Marine Observation and Data Network (EMODnet) and other marine data sharing platforms, promoting the sharing and exchange of marine data among different countries and regions. In addition, the EU focuses on strengthening international cooperation and exchange to promote the establishment and improvement of a global marine data property rights protection system.

##### *4.3 Summary of International Experience*

From the practices of the United States and the European Union, it is clear that strengthening the protection of marine data property rights requires efforts in formulating comprehensive legal systems, establishing sound administrative management and sharing mechanisms, and enhancing international cooperation and exchange. These international experiences provide valuable references and insights for improving the administrative law protection of marine data property rights in China.

#### **5. Countermeasures for Improving the Administrative Law Protection of Marine Data Property Rights in China**

##### *5.1 Enact Specific Laws and Regulations for Marine Data Property Rights Protection*

To strengthen the protection of marine data property rights, China should quickly enact specific laws and regulations for this purpose. These laws and regulations should clearly define the concept of marine data property rights, including the subjects, objects, and content of the rights, providing a clear legal basis for their protection. Additionally, they should stipulate systems for the registration, trading, and licensing of marine data property rights to promote their effective utilization and value realization.

##### *5.2 Establish a Sound Administrative Management System for Marine Data Property Rights*

To enhance the administrative management of marine data property rights, China should establish a sound administrative management system. First, it is necessary to clarify the responsibilities and authorities of different departments and institutions in the protection of marine data property rights to avoid issues such as unclear responsibilities and poor coordination. Second, a cross-departmental coordination mechanism should be established to strengthen communication and cooperation among different departments and institutions, forming a united effort to advance the protection of marine data property rights. Additionally, supervision and evaluation of marine data property rights protection efforts should be strengthened to ensure the effective implementation of policies and measures.

##### *5.3 Develop a Comprehensive Marine Data Sharing Mechanism*

To promote the effective utilization and value

realization of marine data, China should develop a comprehensive marine data sharing mechanism. First, a unified national marine data sharing platform should be established to facilitate the sharing and exchange of marine data among different departments and institutions. Second, standards and norms for marine data sharing should be formulated to clarify the scope, methods, and procedures for data sharing. (Xu Xiaoqing, 2024) Furthermore, supervision and evaluation of marine data sharing efforts should be strengthened to ensure the effective advancement of this work.

#### *5.4 Strengthen Enforcement of Marine Data Property Rights Protection*

To effectively curb the occurrence of marine data property rights infringements, China should strengthen enforcement efforts. First, the crackdown on marine data property rights infringements should be intensified, with legal liabilities being pursued against infringers. Second, publicity and education efforts regarding the protection of marine data property rights should be enhanced to raise public awareness and degree of attention. Additionally, technical support and strength of guarantee should be increased to improve enforcement efficiency and accuracy.

#### *5.5 Promote International Cooperation and Exchange*

To contribute to the establishment and improvement of a global marine data property rights protection system, China should actively promote international cooperation and exchange. First, China should participate in the formulation and improvement of international rules for marine data property rights protection, contributing Chinese wisdom and strength. Second, cooperation and exchange with other countries and regions in the protection of marine data property rights should be strengthened to jointly promote the development of global marine data property rights protection. Additionally, research and analysis of international trends and dynamics in marine data property rights protection should be enhanced to provide beneficial references for China's efforts in this area.

### **6. Case Analysis**

#### *6.1 Case 1: Marine Data Infringement by a Research Institute*

**Case Summary:** A research institute used marine data collected by a company for scientific

research without authorization and published the research results publicly. The company discovered this and filed a complaint with the relevant departments, demanding compensation for losses.

**Case Analysis:** This case involves the infringement of marine data property rights. The research institute's unauthorized use of the company's marine data for scientific research and public dissemination of the results infringed upon the company's marine data property rights. This case highlights the imperfections in China's marine data property rights protection mechanisms, particularly the lack of supervision in data collection and utilization. To strengthen the protection of marine data property rights, China needs to establish a more comprehensive legal system and enhance enforcement efforts.

#### *6.2 Case 2: EU EMODnet Marine Data Sharing Platform*

**Case Summary:** The European Union established the European Marine Observation and Data Network (EMODnet) marine data sharing platform, which promotes the sharing and exchange of marine data among different countries and regions. The platform covers data resources in multiple aspects of the marine environment, resources, and ecology, providing strong support for scientific research, policy-making, and public services.

**Case Analysis:** The collection and management of marine environment field measurement data are the basis for monitoring marine environmental changes, marine environmental protection, marine resource development, marine disaster prevention and mitigation, marine engineering construction, and marine national defense security. This case demonstrates the European Union's successful experience in marine data sharing. (Yu Ting, Wang Haibo & Dong Mingmei, 2013) By establishing a comprehensive marine data sharing mechanism and management system, the EU has promoted the sharing and exchange of marine data among different countries and regions, enhancing the effective utilization and value realization of marine data. This case provides valuable insights for China to improve its marine data sharing mechanism.

### **7. Conclusion**

The administrative law protection of marine data property rights is an important safeguard for promoting the high-quality development of

the marine economy. However, China's current protection of marine data property rights still faces issues such as an imperfect legal system, an incomplete administrative management system, the lack of a data sharing mechanism, and frequent infringements. To strengthen the protection of marine data property rights, China should take efforts in enacting specific laws and regulations for marine data property rights protection, establishing a sound administrative management system, developing a comprehensive marine data sharing mechanism, strengthening enforcement efforts, and promoting international cooperation and exchange. Through the implementation and improvement of these measures, China will be able to better protect the legitimate rights and interests of marine data property rights holders and promote the sustainable and healthy development of the marine economy.

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