China’s participation in the international scientific cooperation in the Arctic

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Abstract. The article analyzes the role of China in the most important areas of international scientific cooperation in the Arctic, in which non-Arctic players are involved along with the Arctic countries. The legal basis for scientific cooperation in the Arctic is the 1982 UN Convention on the Law of the Sea, the other is the Arctic Council. In 2013, China became the official observer state of the Arctic Council, thus taking an important step towards participating in Arctic international cooperation. Despite the fact that China is a non-Arctic country, factors such as climate change in the Arctic, the prospects for the development of the region’s resources and the Arctic Channel contribute to China’s interest in the Arctic and its policy towards the region. Taking into account the interests of China in the Arctic, as well as the legal framework and responsibility in the Arctic, under the existing mechanisms of international cooperation in the Arctic, China is involved in a number of Arctic international scientific research, mainly in the field of natural sciences. At the same time, China introduced its new platform for international cooperation in the Arctic – the Polar Silk Road, which is making some progress in international scientific cooperation.

1. Legal Framework and Mechanisms for International Scientific Cooperation in the Arctic

Today, the Arctic is a region of great interest to the world community. The Arctic is a physiographic area of the Earth adjacent to the North Pole, including the Arctic Ocean and its islands, covering the northern outskirts of Europe, North America, Asia. As a rule, the Arctic Circle (latitude 60°33’ parallel to the north) serves as the dividing line between the Arctic and other regions, and countries within the Arctic Circle as a whole become Arctic states [1]. The coasts of Russia, Canada, the United States, Norway and Denmark overlook the Arctic Ocean, here these states have areas of their internal sea waters, territorial sea, exclusive economic zone and continental shelf, respectively. These countries are called the Arctic Five. In addition to so-called the Arctic Five, Finland, Iceland and Sweden the territory of which is crossed by the Arctic Circle are also included here. As stated in the 1996 Declaration on the Establishment of the Arctic Council, these 8 states are the members of the Arctic Council.

The Arctic is a promising continent. According to the United States Geological Survey on the potential for storing natural resources, 13% of the world’s unexplored oil reserves and 100 billion barrels of oil as well as 30% of the world's natural gas reserves are located in the Arctic [2]. Arctic oil is mainly distributed on the Beaufort continental shelf on the northern coast of Alaska, the Canadian Arctic islands and the continental shelf on the northern coast of Eurasia. Natural gas is distributed mainly in the north of Russia. In terms of minerals, about 50% of the coal on earth is also stored in the
Arctic [3]. As the global warming and glaciers melting, the development of the Arctic also shows two sides. On the one hand, there is great assistance in the development of Arctic resources, the geological study of species, the opening of sea routes, and economic cooperation. On the other hand, the melting of glaciers can cause the loss of global freshwater resources and sea-level rise. The increasing geopolitical value and related problems in the Arctic have both regional and global dimensions. This forced Arctic and non-Arctic countries to focus on the development of the Arctic, to implement appropriate policies and to establish relevant cooperation.

Legal support for the Arctic at the modern international level is the UN Convention on the Law of the Sea (hereinafter – the Convention), adopted by the United Nations in 1982. Article 238 of Part 13 of the Convention states: All States, irrespective of their geographical location, and competent international organizations have the right to conduct marine scientific research, subject to the rights and duties of other States as provided for in this Convention [4].

The other international cooperation is the Arctic Council. With the development of globalization global problems become more and more obvious, the Arctic goes beyond geographical borders and is taking increasingly global importance. Therefore, today the Arctic is not only the cooperation of the Arctic states, but the interest and participation of non-Arctic countries and non-state actors as well, which makes the Arctic global in significance. The Kiruna Declaration was signed on May 15, 2013 at the Arctic Ministerial Conference in Sweden, which granted China, India, Italy, Japan, South Korea and Singapore the status of official observer countries. After it China as a non-Arctic state was approved by the Arctic Council as an official observer country, and received the right to participate in Arctic affairs.

Although the 1982 Convention and the Arctic Council are the most influential mechanisms for cooperation in the Arctic, and they play an important role in the development of international cooperation in the Arctic, each of them has its own disadvantages.

The provisions of the Convention on Cooperation in the Arctic have ambiguous expressiveness and lack of authority [5]. At the same time, the United States, as an Arctic country, has not yet acceded to the Convention, and the entire US maritime power was based only on the 1958 Geneva Convention on the Law of the Sea. As a result, various parties faced different obstacles in resolving disputes and conducting of affairs in the Arctic, while the Arctic Council, as a high-level forum for intergovernmental cooperation, has problems that exclude extraterritorial states and internal conflicts that are difficult to resolve. In 2008, the EU Arctic Forum adopted a resolution on the Arctic, stating that the future international governance mechanisms in the Arctic should take into account the views of more countries as well as indigenous peoples in the region, and should participate in the Antarctic Treaty to develop the Arctic Treaty [7].

Based on legal mechanisms, a number of international projects related to scientific research and international cooperation have been formed in the Arctic at present. These organizations and projects include the International Maritime Organization (IMO, 1958), the International Arctic Science Committee (IASC, 1991), which promotes advanced multidisciplinary research. The IASC also hosts the International Polar Year (IPY). The IPY’s research includes international research on climate change and the environment, observations of the Arctic, and assessment of climate impacts on the Arctic [8]. The first IPY was in 1882-1883, which also indicates that the international community has officially started scientific cooperation in the Arctic. The IPY was last held in 2007-2008, with 51 countries participating [9]. One of the research projects on the agenda of the Arctic Council is the University of the Arctic (UArctic, 2001). UArctic is a consortium of scientific research organizations [10].

2. Motivation for China’s Participation in International Scientific Cooperation in the Arctic

With the development of Chinese society, China's attention to the Arctic is increasing.

In terms of its natural geographical position, China is a non-Arctic country – China does not have territorial and sovereign waters in the Arctic. But in China’s Arctic White Paper, published in January 2018, China officially declared itself to be a “Near-Arctic country” [11]. According to research by
Chinese scientists, there are three criteria for the Arctic countries: geographical distance, transport links and mutual influence [12]. Firstly, the most northern part of China is located at a distance of more than 1,000 km from the Arctic Circle, and China is adjacent to the largest Arctic country – Russia. Secondly, the Ob River (Russia), which flows into the Arctic Ocean, originates mainly in Xinjiang, China. The coastline of China is connected to the Arctic coast as a whole and is a migratory route for birds in the Arctic. Thirdly, with regard to climatic conditions (global warming) the rising of sea levels in the Arctic directly affects the eastern coastal regions of China. Scientific studies show that reducing seawater in the Arctic is an important incentive for China, which in recent years has caused frozen rains, heavy snow, and severe frost in eastern China [13].

The China White Paper on the Arctic states that “a champion for the development of a community with a shared future for mankind, China is an active participant, builder and contributor in Arctic affairs who has spared no efforts to contribute its wisdom to the development of the Arctic region” [14]. From an economic point of view, China is a global trading power and energy consumer, and the development and use of Arctic Channel and resources in the Arctic can have a huge impact on China’s energy strategy and economic development.

Energy in the Arctic has potential for China. In 2018, the volume of oil imports to China amounted to 501 million tons, and the external dependence was 56%. In the same year, natural gas consumption in China reached 310 billion m³ [15]. Therefore, the gradual development of international cooperation in energy research with the countries of the Arctic region is important for ensuring energy security and sustainable economic growth in China in the future.

The Arctic Channel is also of great importance for the development of China. Traditionally, trade routes between China and North America passed through the Pacific Ocean and through the Panama Canal to the eastern ports of North America, and trade with Europe was carried out through the Strait of Malacca and through the Suez Canal to the Atlantic Ocean. Oversized vessels could not get through the Panama and Suez Canals, while in the Strait of Malacca the pirates flourished. There is no such problem on the Arctic Channel. According to statistics, two arctic canals (northeast and northwest) will reduce the distance between China and the east coast of Western Europe and North America by 20-30% [16]. In addition to the aforementioned interests, China has the corresponding legal legitimacy and responsibility in the Arctic region as well.

Such as mentioned above, Article 238 of Part 13 of the Convention states: “All States, irrespective of their geographical location, and competent international organizations have the right to conduct marine scientific research subject to the rights and duties of other States as provided for in this Convention” [17]. China, as a state-party of the Convention, naturally enjoys the rights provided by the Convention.

China is also responsible for the exercise of its rights. China is a permanent member of the UN Security Council and has an important mission to jointly maintain peace and security in the world in general and in the Arctic in particular. Chinese financing, technology, markets, knowledge and experience can play an important role in providing the public good for the economic development of the Arctic. China, as an emerging economy, should cooperate with the Arctic and other interested countries for further understanding, protection and sustainable development of the Arctic.

3. International Scientific Cooperation in the Arctic within the Framework of the Existing Mechanism of Cooperation in the Arctic and within the Framework of the Polar Silk Road Cooperation Mechanism

3.1. Collaboration under the Existing Mechanism

Based on its responsibilities and related interests, China is actively involved in cooperation projects in the Arctic under the existing mechanisms for international cooperation in the Arctic.

At the international level, 15 non-Arctic countries are members of IASC today. China joined IASC in 1996. In 2005, the annual meeting of the International Arctic Scientific Council, which was first held in Asia since its inception in 1991, was held in Kunming (China) [18].
In 2007, the international scientific cooperation International Polar Year 2007-2008 was launched. Out of 120 program proposals submitted by scientists from different countries, the main programs and research projects in 170 disciplines were selected: these projects cover 30 Antarctic regions, 88 Arctic regions and 42 Polar Regions. Despite the fact that in 1984 China conducted its first expedition to Antarctica, it took part in the 125-year international Polar Year for the first time, and the proposal of the Chinese program was accepted [19].

At the 16th meeting of the Council of the Arctic University in 2013, Ocean University of China became an associate member of the Arctic University, unanimously elected, becoming the first scientific and educational institution in China to join the Arctic University. Ocean University of China becomes an associate member of the Arctic University, which, on the one hand, can expand the space for the development of special disciplines of Arctic research in schools, create more academic exchanges and cooperation in the Arctic region to help schools make full use of the scientific resources of the Arctic countries for training personnel in the Arctic affairs of China; on the other hand, it may provide more opportunities for participation in Arctic affairs as a Chinese scientific community.

In 2019, Harbin Institute of Technology together with the Arctic University, founded the Alliance of Arctic Universities – the Training Center of the Harbin Institute of Technology, the first consortium of Arctic universities created outside the Arctic countries, open to all students, teachers and researchers of Chinese universities and research institutes, interested in knowledge and research in the Arctic.

3.2. International Scientific Cooperation in the Arctic within the Framework of the Cooperation Mechanism Polar Silk Road

The 2018 White Paper of China on the Arctic says: “Cooperation is an effective mean for China’s participation in Arctic affairs”. It means establishing a relationship of multilevel, multidimensional and wide-ranging cooperation in this area through global, regional, multilateral and bilateral channels, including all parties (states from both inside and outside the Arctic, intergovernmental organizations, and non-state entities). China will participate in Arctic affairs in accordance with the basic principles of “respect, cooperation, mutually beneficial result and sustainability” [20; 21].

The Arctic channel in the Arctic is the connecting link of the Polar Silk Road, connecting all sides, both Arctic and non-Arctic countries. The scope of cooperation is from the economy and culture to the military-political sphere. But at present, taking into account the special strategic position of the Arctic, the Polar Silk Road project of China is being promoted mainly in the economic sphere, for example, in 2017, the Yamal LNG Russian-Chinese liquefied natural gas project was implemented [22].

In addition to the above-mentioned cooperation in the economic field, under the mechanism of Polar Silk Road, scientific cooperation in the Arctic has also begun. In 2018, Finland signed an agreement on cooperation in the field of joint research in the Arctic between China and Finland [23]. The agreement provides for the creation of an international platform for open cooperation in the field of observations and scientific research in high mountain regions. The agreement includes: observing the Arctic space, promoting data collection, fast data processing, etc. After the construction is completed, the platform will be used to provide information services on climate research, environmental monitoring and navigation in Arctic waters. In 2018, the Sino-Icelandic Arctic Scientific Expedition Station (CIAO), established in the northern Icelandic city of Karholl, was officially put into operation [24]. The expeditionary station can carry out observation missions in atmosphere, ocean, glacier, geophysics, remote sensing and biology. This platform is a combined platform jointly organized by China and Finland, and is open to researchers from other countries.

4. Conclusions

Scientific research of the Polar Regions began in the late 19th century. The current legal framework is based on the UN Convention on the Law of the Sea, to which both Arctic and non-Arctic countries are
parties. The content of the Convention ranges from geographical studies of the natural environment of the Arctic to sociocultural studies.

China’s cooperation in the Arctic is motivated by three reasons. Firstly, China’s interests in the Arctic, both in energy and shipping, will greatly support the country’s economic development. Secondly, China has its right to research in the Arctic in accordance with the Convention. And finally China as a state entity is responsible and able to contribute to the development of the Arctic.

Thus, China, on the one hand, follows the existing mechanisms for international cooperation in the Arctic region, and both intergovernmental and non-governmental cooperation projects can see China’s participation. On the other hand, China is actively advancing along the Polar Silk Road – a new platform for cooperation in the Arctic proposed by China. From the point of view of the content of cooperation, both within the framework of existing mechanisms and within the framework of recently proposed international mechanisms, China’s international scientific cooperation in the Arctic is mainly associated with natural research, including environmental monitoring, resource exploration, etc. Scientific-research projects on international cooperation in the field of socio-political and Arctic policy of the Arctic countries did not arise. With regard to cooperation mechanisms, China’s international cooperation within the framework of existing mechanisms for Arctic cooperation is multilateral and global. And within the framework of the mechanism of the Polar Silk Road there is only bilateral cooperation, the forms and objects of which are relatively uniform.

References
[1] Qingming Y 2008 US Geological survey to release Arctic oil treasure map For. Well Log. Technol. 4 77-81
[2] Donald L G and Kenneth J and Bird R R 2009 Assessment of undiscovered oil and gas in the Arctic Scienc. 324 1177-1179
[3] United Nations Convention on the Law of the Sea. Available at: https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf [Accessed 20 November 2019]
[4] Xiaoguang X and Xinbo C and Peigun L 2019 Reconstruction of the international cooperation mechanism in Arctic under the construction of the Ice Silk Road Journ. of Oc. Univer. of China 2 13-25
[5] Qian W and Bo H 2015 U.S. law of the sea policy and its direction—from the perspective of the United States’ refusal to join the United Nations Convention on the Law of the Sea Journ. of Heilongj. Prov. Admin. Cad. 6 7-9
[6] Yugang C and Tpingguo Q 2011 The Arctic Council and international cooperation of Arctic issues Intern. Observ. 4 33-40
[7] Baozhi C 2013 Summary of International Academic Research Symposium on Arctic Security and International Cooperation Intern. outlook 4 41-45
[8] Lianmei Y 2007 Scientific activities of the International Polar Year Des. and Oas. Weath. 1 60-61
[9] Yang X 2019 Arctic Scientific Cooperation: institutional discrimination and monopoly Intern. For. 1 17-24
[10] State Council Information Office 2018 China’s Arctic policy People’s Publ. House 7
[11] Junyuan L and Xia Z 2016 Research of China’s Arctic rights and policy Cur. Aff. Press 7 379
[12] Junyuan L 2010 Arctic geopolitics and the response for China Cur. Aff. Press 8 297
[13] Hongman L and Xingchen L 2018 Duration of China's energy import Tr. Res. Scien. 7 3-9
[14] Xia Z 2009 Evaluation of the shipping potential of the Arctic routes and its strategic significance to China’s economic development China Soft Scien. 4 89
[15] Zewei Y and Dan L and Guanwei W 2019 United Nations Convention on the Law of the Sea and China Journ. of Ocean Un. of China 05 91-97
[16] Liqi C 1996 The Arctic is calling – China joins the International Arctic Scientific Commission Ocean Wor. 7 3-10
[17] Dahe Q 2005 Scientific Program of the International Polar Year: 2007-2008 Sci. China. 10 6-11
[18] Hongfeng X and Jiamin S 2018 Summary of China-Russia energy cooperation Russ. Acad. Journ. 6 86-95
[19] Shi Q 2018 China and Finland sign cooperation agreement on Joint Arctic Space Observation Research Center China Scien. Daily 4 19-20
[20] Peiqing G and Qi Z 2019 “Sustainable development” becomes the core of Arctic affairs Soc. Scien. in China 7 91-94