National Polar Research as a Manifestation of Turkey’s Soft Power*

Ebru Caymaz**
Y. Barbaros Büyüksağnak***
Burcu Özsoy****

Abstract
In the global economy of the 21st century, the production of information and technology and the process of its transformation into economic benefit have become the most important parameter in the relative distribution of power among states. Intending to have a larger share of the global economic pie, Turkey has been trying to conduct an efficient public diplomacy process. Turkish Polar Scientific Expeditions and Researches, which are conducted with national and international academic partnerships, are examined in the context of soft power and public diplomacy. The aim of this study is, as a successful public diplomacy case, to present the prospective contributions of these researches to Turkey’s soft power capacity from science diplomacy perspective.

Keywords
Science diplomacy, education diplomacy, public diplomacy, Turkish Polar Scientific Expeditions, soft power.

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** Asst. Prof. Dr., Canakkale Onsekiz Mart University, Emergency and Disaster Management – Canakkale / Turkey
ORCID: 0000-0002-9119-7659
ebru.caymaz@comu.edu.tr

*** Lecturer, Piri Reis University, Maritime Higher Vocational School, Department of Management & Organization – Istanbul / Turkey
ORCID: 0000-0003-1951-2121
ybbuyuksagnak@pirireis.edu.tr

**** Prof. Dr., TUBITAK MAM Polar Research Institute; Istanbul Technical University, Maritime Faculty – Istanbul / Turkey
ORCID: 0000-0003-4320-1796
burcu.ozsoy@tubitak.gov.tr
Introduction

The concept of power stands out as one of the most important factors triggering inter-state competition in the international arena. Upon the increasing legitimacy and significance of soft power, it is seen that states aim to increase their power potential and activities in the field of public diplomacy by allocating large budgets to new institutions and practices with the intention of managing their international image successfully.

In order to reveal their intense efforts, the following cases can be given as examples; the budget allocated for public diplomacy in the People’s Republic of China (PRC) is more than $9 billion, the annual budget is $1 billion for the international news channel CCTV (Wang 7), starting its activities in 1920, BBC’s broadcasting in all European languages as well as Arabic within the next ten years (Nye, Yumuşak Güç 146), the use of Voice of America to the USA (VOA) for propaganda against the Soviet Union in many different languages especially during the Cold War (Nye, Yumuşak Güç 148), Russia’s Russkiy Mir, South Korea’s public diplomacy institutions such as Sejong-hakdang. In addition to these nations, it is noteworthy that rising powers such as Brazil and India are also strengthening their foreign aid programs and investing heavily in private media companies.

In this study, in parallel with the perspective given above, the Turkish Polar Scientific Expeditions are examined within the context of soft power. The aim of this study is to present the potential contributions of polar scientific research to Turkey’s soft power capacity as a successful public diplomacy case.

Transformation of the Power Concept and Emergence of Soft Power

The concept of soft power is one of the most discussed topics although there are still different perspectives regarding its definition, use, and operation in the discipline of international relations. According to Machiavelli (12), sovereignty should be supported by military capabilities as the basis of sovereignty, whereas according to Weber (54) the basis of power is not necessarily to be based on brute force alone. While Gramsci (235) explains the concept of power in the context of state and civil society relations, Carr (108) classifies three types of power: military, economic, and intellectual. According to Waltz (240), who examines power through a structural perspective, if power is used as a tool, the result will always be ambiguous. The concept of polit-
Political power is generally defined as imposing sanctions, pressure, domination and/or making things against their consent through the democratization processes along with modernization (Dahl 287). In the 1960s, the second dimension of power was included in the discussions. While examining the second dimension of political power, especially Bachrach and Baratz’s (952) allegation of capacity to determine the agenda attracted great attention. In the 1970s, the third dimension of power began to be discussed under the leadership of Lukes (25). In this context, superstructure elements which shape people’s preferences and beliefs such as culture and social norms are also included in the analysis.

Upon the dissolution of the Soviet Union, the concept of “soft power” was introduced into the literature while active actors of global politics were looking for new power tools in order to gain a more advantageous position in the international arena. In the most basic terms the concept of soft power, which is expressed as directing other states or actors to an approach, position, or decision in line with their own way of thinking in order to achieve the national interests and foreign policy objectives of a state, is based on three sources: culture, political values and foreign policy (Nye, Public Diplomacy and Soft Power 86). The ability to persuade without force and direct other actors to act according to their own interests is particularly underlined in the use of soft power.

Subsequent to the increasing legitimacy of soft power tools in global politics, cultural dynamics, moral values, and perception management elements have started to gain importance while classical coercive methods relatively lose their importance. According to Lee (205), soft power strategies are as the following:

- States creating their own images within the international platform,
- By damaging the image of enemy states in third countries, creating an environment in favour of themselves,
- Putting soft power into practice to spread a state’s norms to other states,
- Using the heroes and celebrities on television and through other means of communication subconsciously and/or explicitly to leave the desired effects on the target audience.
Table 1
Soft Power Sources, Tools and Target Audience

<table>
<thead>
<tr>
<th>Soft Power Sources</th>
<th>Tools</th>
<th>Target Audience</th>
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<tbody>
<tr>
<td>Foreign Policy</td>
<td>Governments, Media, NGOs, International</td>
<td>Other governments and societies</td>
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<tr>
<td></td>
<td>Organizations</td>
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<tr>
<td>Domestic Political</td>
<td>Media, NGOs, International Organizations</td>
<td>Other governments and societies</td>
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<td>Values and Policies</td>
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<tr>
<td>High Culture</td>
<td>Media, NGOs, International Organizations</td>
<td>Other governments and societies</td>
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<td>Popular Culture</td>
<td>Media, Market</td>
<td>Other societies</td>
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Sources of soft power, tools, and target audience can be seen in Table-1. In the next part of the study the concept of public diplomacy, which has recently become prominent as a new area of soft power use, will be discussed in more detail.

Public Diplomacy

Public diplomacy has emerged as a new area of power use in the changing world order due to the regulatory role of international law. This concept is defined as the communication process of the government which aims to explain a nation’s thoughts and ideals, institutions and culture, national goals, and current policies related to other societies (Tuch 3). In line with this view, Ibrahim Kalin (2), Presidential Spokesperson of Turkey, states that public diplomacy is a communication tool which affects national strategies and he emphasizes its importance by underscoring this concept as understanding, informing and influencing the process of the society. The basic difference between public diplomacy and traditional foreign policy bureaucracy can be asserted that communication between diplomats and foreign public opinion is directly with the public of that state rather than through the official channels of foreign states (Hartig 256). Therefore, rather than communication between two states, it is a type of diplomacy based upon delivering messages to the target public. In this context, non-state actors such as universities, non-governmental organizations (NGOs), research
centres, student exchange programs, press, and opinion leaders are actively involved in the diplomacy process.

In the period between the two world wars, subsequent to the long-wave radio broadcasts that started under the leadership of the great states and the rapidly spreading cinema industry, public diplomacy began to affect daily life (Rosenberg 209). Nye’s thoughts on this issue are quite remarkable. According to Nye (Dünya Siyasetinde Başarınin Yolu: Yumuşak Güç 54), the Berlin Wall was destroyed by television and cinema even before 1989. Hammers and bulldozers have lost their importance in the face of the images that convey the popular culture of the West.

The most comprehensive classification regarding public diplomacy belongs to Cull. According to Cull’s (33) view, there are five basic public diplomacy tools:

1. Listening to the problems of foreign public opinion,
2. Advocacy of international problems such as global warming or problems of a country,
3. Cultural diplomacy,
4. Student exchange programs,
5. Broadcasting in different languages within the international area.

Following the soft power and successful public diplomacy activities of the USA, other states have also started to make serious investments in activities in this field. In particular, states standing out in world politics use an innovative and inclusive language with image enhancement. For instance, the PRC spent 7 billion dollars only in 2009 to display a better global image while Russia spent 1.4 billion dollars in 2010 (Dale et al. 6). As one of the leading names in the field of political science, Shambaugh (67) states that Beijing’s public diplomacy policies were prepared comprehensively with great attention. Various visual and written media tools broadcasting in foreign languages have been put into operation in countries such as India, Brazil, Russia, and South Africa. International award ceremonies such as ‘Nobel’ and ‘Oscar’, cultural and language education centres, higher education gaining an international dimension, determination of quality standards in education, and educational scholarships are important activities in this context (Dale et al. 6). In the next part of the study, the historical trans-
formation process of Turkish foreign policy and diplomacy as well as the development of public diplomacy will be discussed in detail.

Transformation of Turkish Foreign Policy and Diplomacy Approach

Turkish diplomacy is a continuation of the Ottoman Empire both in institutional and methodological terms. In the last period of the 18th century, modern diplomacy began to develop with the foundation of Babiali. Upon the establishment of the Ministry of Foreign Affairs in 1836 and the Treaty of Paris in 1856, the Ottoman Empire accepted the European Law of Nations (Akyılmaz 58).

During the period from the first years of the Republic until today, the understanding of Ottoman diplomacy is dominant within organization and bureaucracy as well as manner and practice of foreign policy (Yurdusev 49). It can be asserted that the transformation process of Turkish diplomacy accelerated upon the sending of workers to the Federal Republic of Germany and the increasing numbers of people visiting abroad following the end of the Cold War. In addition to initiations of changes in the structure of diplomacy, sharing international interactions and experiences has also been effective in the modernization process. Following the collapse of the Soviet Union, Turkic Republics’ declaring independence in the 1990s, international people, goods, and capital flows have led to changes both in the domestic and foreign policy of Turkey. Accession and integration negotiations, which started after the full membership application to the European Union (EU), are particularly important in this transformation process. On the other hand, the increasing quality of life and welfare of Turkish citizens in parallel with the increasing education level has increased the active participation of many groups in politics by fulfilling the self-confidence of many segments of the society. The most remarkable development in this process is the opening of diplomacy to the participation of new actors and practitioners (Purtas 7).

Apart from the developments in the Black Sea basin and the Balkans, TIKA (Turkish Cooperation and Development Agency) was established under the Ministry of Foreign Affairs after the Turkic Republics gained their independence in 1992. In addition to the development assistance, many social and cultural projects were also implemented within the body of TIKA, which
was affiliated to the Prime Ministry in the following periods and restructured as the Turkish Cooperation and Coordination Agency in 2012.

In the 1990s, local governments initiated an active diplomacy process both at town and city scales in Turkey. Mass circumcision feasts, Ramadan activities, and health screenings in the Balkans and Turkic Republics are the first examples in this context. In the following years, sister city relations were carried out through the restoration of cultural heritage, vocational courses, and humanitarian aid activities. Television productions that acquire a large audience abroad, increasing numbers of tourists and international student mobility have played a major role in changing perception towards Turkey and supported Turkey’s soft power in this way (Purtas 11).

Turkey has become a global player in cultural diplomacy upon leading the United Nations Alliance of Civilizations in 2005. Institutions such as Turkish Red Crescent, TIKA, Yunus Emre Institute, Turkish World Research Foundation are important elements which contribute to Turkey’s soft power in the international arena. In the next part of the study, the function of international educational collaborations and scientific researches, which have become increasingly important in public diplomacy especially after the 2000s, will be discussed in more detail.

The Role of Education and Science in Public Diplomacy

In the soft power perspective, education is put forward as one of the three most important factors (Nye, *Yumuşak Güç* 59); it is shaped by dynamics such as globalization, new technologies, information society, population growth, and neoliberal state policies. The continuous increase in demand for higher education, the reshaping of the market economy as well as the increasing competition and the dominance of English in the world of science are among the important dynamics affecting education (Eren and Aydın 227).

In British Council’s Connecting Futures Project, it is aimed to prepare a common understanding and dialogue ground for young people from different cultures such as Pakistan, Egypt, Nigeria, and Turkey through knowledge and education and by the use of new communication technologies (Leonard 20). Another successful example is the USA’s Fulbright scholarship programs. Similarly, the JET educational exchange program initiated
by Japan in 1987 provides communication opportunities for 5500 participants from 44 countries (Ogawa 270). Confucius Institutes, 44 of which were established in Europe, 42 in Asia, and 18 in the USA with the initiative of the PRC, were established in Africa and the Middle East in the following years. The purpose of these institutes is not only to teach Chinese but also to lead the successful spread of Chinese culture and traditions. Besides, events and institutions such as the Year of China, Chinese Festivals, and Chinese Centers stand out as purposeful diplomatic activities that play an active role in the construction of inter-societal relations (Lawnczak 377).

When Turkey is examined as a case, international projects launched by the Ministry of Education come forward as successful cultural diplomacy events. Initiated in 1992 with the aim of funding ten thousand students from Turkic republics, it has evolved into an international funding platform in which more than 100,000 students from 183 countries apply in recent years. Education diplomacy has gained a more institutional character in time. Internationalization of education is also listed among the priority issues in the 10th Development Plan covering the years 2014-2018 (Cetinsaya 29).

Science Diplomacy

The concept of science diplomacy, which includes various public diplomacy activities such as research, science, and culture, is closely related to the use of soft power by states (Fedoroff 9, Vaxevanidou 55). Although the conceptual framework of science diplomacy is relatively new, the relationship between technology, science, and politics has deep roots throughout history. Therefore, the concept of science diplomacy focuses on the process of building aforementioned relationship on solid foundations.

Science diplomacy, which is defined as the use of scientific cooperation between states to address common problems faced by humanity in the 21st century and to establish constructive international partnerships, has been discussed conceptually in the international arena after the 2000s (Fedoroff 10). The scope of science diplomacy first introduced into the literature by Fedoroff (9) and further expanded by the European Commission (3), expressed as the use of science to prevent conflicts and crises, to support policymaking, and to improve international relations in areas of conflict where
the universal language of science can open new communication channels and build trust.

The first important step in the institutionalization process of science diplomacy is the establishment of the Center for Science Diplomacy in the USA-based American Association for the Advancement of Science (AAAS) in 2008. AAAS published the first magazine in the field “Science & Diplomacy” in 2012 (Turekian and Neureiter 2). The first book on science diplomacy was written within the scope of the Antarctic Treaties Summit in 2009 and inclusive, international and interdisciplinary practices were emphasized (Berkman et al. 5). The “New Horizons in Science Diplomacy” meeting organized by the United Kingdom also in 2009, 200 delegates from the Middle East, Africa, Asia, Europe, North, and South America attended and contributed. The documents published after the meeting accelerated the institutionalization process of the concept (The Royal Society 4).

Science, as a source of soft power, interacts with traditional diplomacy, public diplomacy, and cultural diplomacy. Based on previous studies related to the subject, a triple taxonomy has been developed for science diplomacy: “science in diplomacy”, “diplomacy for science”, “science for diplomacy” (National Research Council 2). The use of science in diplomacy means providing scientific consultancy and using science while making foreign policy decisions. What is meant by diplomacy for science is the use of diplomacy to establish new scientific partnerships and facilitate international scientific collaborations. What is meant by science for diplomacy is the use of science to establish stable and lasting relationships with the international community through scientific and technological partnerships (The Royal Society 4). However, this taxonomy is criticized due to its solely academic expansions and being limited in practice (Gluckman et al. 2). It is therefore recommended to use holistic approaches when developing a new taxonomy of science diplomacy based on actions to protect cross-border interests, meet global needs and overcome challenges. In line with this view, science diplomacy has been defined as a “torch” that guides by illuminating the way when other types of politics and diplomacy fail (Moedas 64).

In addition to the definitions given above, science diplomacy also has roots in knowledge-based decision-making theory methods, and its primary contribution is the creation of common interests. Building mutual interests are
particularly important for balancing national and common interests globally. A holistic approach to science diplomacy balances the interests of stakeholders while using data from governance mechanisms to develop options during decision-making processes (Gluckman et al. 7).

Scientific activities, which have recently become an important element of foreign policy with the importance of public diplomacy, have been aimed to move to a higher level with the encouragement of Western states, and it has been sought to make more use of diplomatic channels in this process. With the new trends in the fields of science and diplomacy, the institutionalization process of the science diplomacy concept has started to gain momentum. Science diplomacy contributes to the development of relations by encouraging civil society interaction through partnership in science and technology between states even with limited official relations (TASAM 2) as can be seen in the example of scientific expeditions to polar regions.

The main purpose of science diplomacy is to strengthen the symbiotic relationship between the interests and motivations of the scientific and foreign policy communities. In terms of interests, international cooperation often stems from a desire to access the most successful experts, research facilities, or sources of funding. In terms of motivation, science offers useful networks and communication channels that can be used to support broader policy objectives (The Royal Society 2). Although science diplomacy is relatively a new concept, it has gained great importance in a short time. All of the important issues such as climate change, food security, poverty reduction, and non-proliferation of nuclear weapons, which are the main challenges facing the world in the 21st century, have scientific dimensions. It is a well-known fact that no state can solve these problems on its own. The tools, techniques, and tactics of foreign policy ought to adapt to a world of increasing scientific and technical complexity. During the Cold War, scientific organizations played an important role in the informal discussion of nuclear issues between the US and the Soviet Union. When British Prime Minister Gordon Brown (1) called for a new role for science in international diplomacy, this call was made into a report describing how scientists, diplomats, and politicians could work together in practice. It is also known that today’s Western world seizes alternative negotiation opportunities with the states such as Iran, Saudi Arabia, and Pakistan through scientific studies.
Over the next thirty years, foreign policy will increasingly have to operate in conjunction with the challenges of global sustainability (Lee 1101). It is critical to use the soft power of science to overcome these problems. In addition, the priority of science in diplomacy has been expressed as ensuring that high-quality scientific advice is understood effectively by politicians (NAS 4). On the other hand, the scientific community is obliged to share up-to-date and dynamic information on the world’s natural and socio-economic systems with politicians. They also ought to report where the uncertainties are or where the evidence is insufficient. The Intergovernmental Panel on Climate Change (IPCC), which was established in 1988 by the World Meteorological Organization (WMO), and the United Nations Environment Program (UNEP) announce the current situation and potential environmental and socioeconomic consequences of climate change to the whole world with a clear and complete scientific accuracy is one the best examples of the support that the scientific community offers to politicians (IPCC 1).

Similar to the Antarctic case, the Arctic Region has also become a scientific cooperation zone supported by science diplomacy (Berkman et al. 596). In the next part of the study the Arctic Region, which stands out as an international competition area owing to its geostrategic importance and natural
resources, and where peace and stability are tried to be maintained through international scientific cooperation, will be examined in detail.

**Increasing International Competition in the Arctic Region**

As a result of global climate change, the Arctic region has turned into a very dynamic socio-ecological system due to the average temperature increase of 2 °C, thinning of sea ice, and the melting of glaciers (Young 164). When the aforementioned biophysical changes are combined with globalization, it is envisioned that many economic opportunities will emerge in the coming years and the number of actors aiming to take advantage of these opportunities will increase (Anderson 2). Herein, economic opportunities mean that in the Arctic basin, which is more accessible and convenient for ships to navigate due to sea ice decline, increase in the potential of access to oil, natural gas, and other rare mines, the emergence of new commercial fishing areas and tourism, especially cruising in the whole region is becoming widespread. The predictions that these developments will shift the geopolitical centre of gravity of the world from the Middle East to the Arctic Region are also included in the report titled “Global Trends 2030: Alternative Worlds” published in 2012 by the US National Intelligence Commission (NIC 1). In line with these predictions and expectations, the states in the Arctic have started to discuss various governance models in line with the sensitivity of the region (Young 1; Humrich and Wolf 3; Koivurova and Molenaar 2; Ebinger and Zambetakis 1215).

In the Arctic Council, which was established with the participation of Norway, Canada, the USA, Russia, Denmark, Sweden, Iceland, and Finland in 1996 while 8 of the states are “permanent members” and 6 organizations representing the indigenous peoples of the region are in the “permanent participant” status. The representation status of other applicants is either evaluated as “permanent observer member” or “ad hoc observer” (https://arctic-council.org/en/).

Non-Arctic states with different political and economic dynamics such as PRC, Japan, South Korea, and India would like to take part actively in the Arctic governance as well. Following the PRC, which attempted to obtain permanent observer member status in 2006, the applications of South Korea in 2008, Japan in 2009, and Singapore with India in 2012 were approved at
the council meeting held in 2013. As of 2020, there are 8 permanent states, 6 organizations representing the peoples of the region, 6 working groups, and 38 observer members within the Arctic Council. Legally, only 8 permanent states have voting rights (https://arctic-council.org/en/). The Arctic Council’s statement that the final decision-making authority belongs solely to its principal members, although it is not an organization established by an international treaty and holds no legal status (Takei 353), is criticized by non-littoral states (Rainwater 143). The aforementioned structure is a formation established with reference to the United Nations Convention on the Law of the Sea (UNCLOS) in order to protect the common interests of the states of the region, and it does not have a legally binding basis (Humrich and Wolf 2).

According to a recent study, the Arctic states do not welcome the global discourse of non-Arctic states and even perceive this situation as a security problem for their sovereignty. Therefore, in order to strengthen the sovereignty areas in the region, the cooperation of the permanent members has been limited only within the framework of the Council (Bennett 645). The majority of discussions for non-Arctic states that have applied for permanent observer member status are focused on the PRC.

Identifying itself with “Near Arctic State” in the White Paper titled “PRC Arctic Policy” published on January 26, 2018, stating that its interest in the region is not only based on economic factors and presenting its aim to take place in the regional policies by defining itself as “Major Responsible Country” drew great attention at a global scale (PRC State Council 1; DOD 4). In addition to their assertive statements, the Russian Federation, which is under the embargo of the West due to the Ukraine crisis, has also brought its bilateral relations with the PRC into the field of energy cooperation and the PRC’s contribution to the Polar Silk Road initiative has been questioned in terms of its real purpose in the project (Buyuksagnak 2).

On the other hand, the Arctic Region is located in a special region where the regional states have sovereign rights in the context of the borders and conditions granted to them by international law and the international areas where no state can legally claim sovereignty (Xinzhen 48). In its Arctic Strategy Document, the PRC strives to gain legitimacy by emphasizing that the states that are not located in the open seas and international seabed ar-
eas, whose boundaries are determined within the framework of legal rules, have the freedom to conduct scientific research, engage in commercial activities and navigation, as well as other freedoms provided by international law (PRC State Council 1).

Due to the global effects of climate change, the challenges pertaining to the Arctic Region have also gained a global dimension and several international scientific research activities have been organized by different states (Nanda 2). Norway is one of the leading states which provides the necessary infrastructure and coordination for bilateral and multilateral scientific cooperation in the region. Owing to its unique location and status, Norway allows scientists from many different countries to conduct scientific research at the stations of their own states on the Svalbard Archipelago. In addition to scientific infrastructure facilities in Ny-Ålesund, Longyearbyen, Barentsburg, and Hornsund, which are important settlements of the islands, the four major research programs initiated by the international community in Ny-Ålesund, the Svalbard Science Center established in Longyearbyen, the administrative center of the islands, the scientific research portal and Svalbard University Center (UNIS), which has been providing applied higher education opportunities to students from all over the world since 1993, can be cited as Norway’s successful initiatives in the field of science diplomacy. Scientific activities in the Ny-Ålesund region, where there are only 35 researchers in winter and 180 in summer, play an important role. The research station is uniquely positioned to observe the effects of climate change and to conduct research into how these changes affect physical environments and resident plants and animals both regionally and globally. Ny-Ålesund is also an important center for various national and global monitoring programs that provide data on international agreements and conventions (The Research Council of Norway 1).

In the light of the information provided in this title, it can be concluded that the investments made by the states which stand out in global cultural practices have great importance and necessity in terms of communicating with the target audience and providing determination in politics with global conjunctural development. In this context, polar expeditions for scientific purposes can be listed among the most successful examples of Turkey’s science diplomacy process. Although starting with relatively small numbers
within the scope of other states, Turkish scientists participated in scientific studies in Antarctica, where both transportation and living conditions are very difficult in the process dating back half a century. In the next part of the study, information about the Turkish Polar Scientific Expeditions as a successful public diplomacy case will be given in more detail.

**Turkish Polar Scientific Expeditions as a Successful Public Diplomacy Case**

While the famous cartographer, geographer, and sailor, Piri Reis drew the first map depicting the terrains of South America as the closest point to Antarctica in 1513, it was not until the 1800s that Antarctica was defined as a continent by the western world. Turkish scientists’ Antarctic initiatives date back to the 1960’s. The first Turkish scientist to set foot on Antarctica for carrying out research activities was Atok Karaali who stayed at the Plateau Station of the USA in 1967. In honour of ionosphere physicist Karaali, the Antarctic Place-Names Consultative Board named the rocks on the eastern side of the Coulter Hills on Marie Byrd Island as “Karaali Cliffs”. He also received the Antarctic Service Medal in 1974. After being nine times on Antarctica for different researches of another Turkish geophysicist Umran Inan between 1980 and 1994, a hill on Mount Kempe on Victorian Island was named after him as “Inan Hill” in 1993. The third research scientist is Serap Tilav who was awarded a geographical feature called “Tilav Cirque” in Antarctica in 2005 for her services to Antarctic science. Following the 2000s, there has been more intensive participation in the scientific activities in Antarctica in the light of technological developments as well as changes in Turkey’s vision.

The process of institutionalization of scientific researches pertaining to the polar regions began with the establishment of the APECS (Association of Polar Early Career Scientists) Office in Turkey in 2013. Performing the Antarctic Science Program Workshop in collaboration with Turkey and the Federal Republic of Germany and with the TUBITAK budget in 2014, conducting the marine researches in the polar regions has been encouraged in the Turkish Marine Research Strategy Paper. In this respect, the first institutional attempt in terms of polar sciences, the Polar Research Center of Istanbul Technical University (ITU PolReC) was established with the regulation published in the Official Gazette dated 17 January 2015, and a multinational project towards the polar regions was developed within the
scope of the Horizon 2020 program. In addition to these developments, Polar Oceanography was added to the subjects of the Oceanography Department by Middle East Technical University (METU) Institute of Marine Sciences in 2015.

In 2016, it is seen that the national project titled *Determination of Environmental Factors in the Framework of the Protocol on Environmental Protection to the Antarctic Treaty and Membership to the Arctic Council and Creating a Model for the Development of Maritime Policies* has been accepted (http://www.polarresearch.center/projeler/). Also, in cooperation with the National Antarctic Science Center in Ukraine, the first interdisciplinary Antarctic Survey Expedition was held in 2016 with the participation of 13 Turkish scientists from 7 different universities and TUBITAK. Until 2017, there have been 40 Turkish scientists who stayed and found the opportunity to conduct researches in other nations’ stations through their attempts.

In 2017, taking the project of *Establishment of a Science Base in Antarctica* under the auspices of the Presidency of the Republic of Turkey accelerated the institutionalization process of scientific expeditions. The first National Antarctic Scientific Expedition (TAE-I) between the 24th of February and the 4th of April 2017 has been organized with solely national capabilities and registered as Turkey’s first national polar expedition. Within the scope of the expedition in which 9 researchers participated, 4,000 kilometers were travelled on the white continent, 17 topographic land measurements were carried out in 38 different areas, all within 6 projects including 2 physical sciences, 2 social sciences, 1 life science, 1 geoscience, along with feasibility studies for the Science Base on the western shores of the Antarctic Peninsula.

Turkey’s second expedition (TAE-II) was conducted with the participation of 28 researchers between March, 7th and April 24th, 2018. The priority objectives were the finalization of pre-feasibility studies initiated on TAE-I and carrying out the scientific studies on the continent. Founding the first camp area in Robert Island helped Turkey gain the experience of doing researches stationed at a point on Antarctica. Within the scope of TAE-II, in addition to the detailed researches on Horseshoe Island and its surroundings on land feasibility, the number of projects increased to 15 with a notable rise, including 6 life sciences, 6 geosciences, 2 physical sciences, and 1 social science. The team that participated in the expedition shot a documentary
in collaboration with TRT World Channel and the documentary was published in English. Broadcasting the documentary in English contributed significantly to the visibility of Turkey in the international arena which has the goal of becoming a major global actor in the context of science.

Within the scope of the project to establish a base in Antarctica, Turkey’s third National Antarctic Scientific Expedition (TAE-III) was organized between January 29\textsuperscript{th} and March 6\textsuperscript{th}, 2019 with the participation of 25 researchers, seven of them were scientists from Bulgaria, Czechia, Chile, Federal Republic of Germany and New Zealand. Hence, Turkey was getting the host position in Antarctic surveys on the continent where it was a guest for half a century. After the first participation in the meeting of the Council of Managers of National Antarctic Programs (COMNAP) in 2017 and the application for observer membership, Turkey began to be included in the meeting as an observer since 2018. A temporary base campus consisting of 3 modules and planned to serve between 2019-2022 was established on Horseshoe Island. Additionally, scientific studies were carried out for 13 different projects including 7 life sciences, 5 earth sciences, and 1 physical science, and the establishment of an automatic meteorology station and bathymetric mapping around the island were achieved.

After three successful expeditions to the south, Turkish scientists headed north in the summer of 2019 with the first Turkish Arctic Scientific Expedition (TASE). Between 11-26 July, 7 researchers from various universities and a cinematographer participated in the expedition conducted in the cold waters of the Greenland Sea and the Arctic Ocean around the Svalbard Archipelago. During the expedition, microplastic, plankton, seawater, and sediment samples were taken from 14 sampling stations, and air quality and maritime meteorology measurements, sea ice, and glacier observations were made. Onboard the French-flagged vessel \textit{Anakena}, research activities were carried out for a total of 288 hours, including 130 hours at sea and 158 hours at the anchor or port. The total distance of 880 nautical miles was cruised in 24 hours of daytime conditions since the sun never went down in July.\textsuperscript{1}

Parallel to the abovementioned developments and as the polar scientific research activities gained importance around the globe, the Institute of Polar Research (KARE) within TUBITAK Marmara Research Center (MAM) has
been established in 2019 in order to ensure the coordination and logistics of the future national polar expeditions. It is worth mentioning that one of the important goals of the Institute was to increase the competitive power of Turkey in science by representing it in the international arena. Correspondingly, the fourth National Antarctic Scientific Expedition (TAE-IV) which was organized under the newly established KARE and was held with 24 participants, two of them from Bulgaria and Belarus between 9 February-8 March 2020 (https://kare.mam.tubitak.gov.tr/en).

While activities such as the participation of a teacher selected to the expedition crew through the Cooperation for Supporting Educators for the Polar Regions (KEDI) Project, and the establishment of Polar Research Club with the participation of 300 students from 26 secondary schools ensure active participation of people in the process by increasing the domestic awareness, on the other hand, developing projects with international stakeholders within the scope of the biggest EU research and innovation programme, Horizon 2020 provide a major contribution to strengthening Turkey’s image and soft power in the global arena.

**Conclusion and Discussion**

Prepared by the Royal Society, one of Britain’s most established scientific research institutions, the *New Frontiers in Science Diplomacy* document includes the contributions of all three dimensions of science diplomacy and international case studies on how a state strengthens its international image as an effective source of soft power. Similarly, in line with the previous information, it is obvious that Polar Scientific Expeditions commencing in the ongoing national and international partnerships have the potential to provide a major contribution to Turkey’s global image. Aiming to be a global actor in polar research, the next objective of Turkey is to establish a sustainable scientific research base in Antarctica. In order to handle scientific studies and activities in a more systematic manner with the project management discipline, The National Polar Science Program (2018-2022) prepared by the Ministry of Science, Industry and Technology has accelerated the institutionalization process of scientific expeditions.

Since Turkey intends to take an active part in global politics, it has included global challenges such as combating global warming and climate change in
its foreign policy through conducting scientific research at both polar regions. Russia and Canada realize their economic and political goals for the Arctic Region, which has gained great importance over time, by enacting various laws based on international law. As an instance, it is noteworthy that Canada proposed legal regulation of the Arctic Ocean in 1969 to prevent pollution in the Arctic Region, and in this context, it controlled the number of ships and amount of cargo passing through the region according to the standards previously determined. Claiming sovereignty by making the waters surrounding the archipelago in the north as their inland waters through legal measures such as the *Arctic Waters Prevention Act* and the *Law on the Territorial Waters and Fisheries Protection* under the name of environmental protection, is a topic previously discussed in the literature (Ozturk 7).

When the states with scientific research bases in Antarctica are examined, it is possible to see the general framework more clearly. It is particularly noteworthy that in addition to the USA, the UK, RF and PRC, the states such as Germany, India, Finland, Poland, Uruguay, Chile, Argentina, Australia, Brazil, France, Italy, Japan, Spain, South Korea, Romania, Czechia, Belgium, Republic of South Africa also established bases as part of their extensive support for scientific activities (UN Environment Program 2). On the other hand, the infrastructure of the Svalbard Archipelago, which is located in the Arctic Region and its status was determined by a treaty signed in Paris in 1920 after the First World War, provides scientists opportunity to make research and observations as well as creating opportunities for university students to study in four different fields of Arctic sciences.

The establishment of the Arctic Council as a higher-level forum to increase interaction, cooperation and coordination among Arctic states is very critical in the context of the governance of the Arctic Region, which has different dynamics from the Antarctic case. However, the determination of the non-Arctic states to become permanent observers, efforts to gain legitimacy before the international community through established research stations, and scientific expeditions by various states are the important parameters for Turkey to take into consideration while directing its public diplomacy.

Similar to Antarctica, having determined to actively engage in the Arctic governance and aiming to protect the polar regions as its vision, it is thought that it would be appropriate for Turkey to sign the Svalbard Treaty and join
among the 46 signatory states, in terms of embodying its interest in the Arctic Region. The first Arctic Expedition around the Svalbard Archipelago in 2019 supports that view as well. If Turkey becomes a signatory to Svalbard Treaty, Turkish citizens will have property ownership rights and equal liberty of access to the fjords and ports of the islands as well as the opportunity to carry on all maritime, industrial, mining, and commercial activities. Additionally, the Treaty enables scientists to conduct scientific research at the stations to be established, and the students will be able to receive education in Arctic sciences at the university centre in Longyearbyen. Apart from all, it is very important to organize scientific expeditions to the polar regions within a plan, to be rewarded with successful results with wide participation and scientific knowledge production.

On the other hand, having the world’s 17th biggest economy and surrounded on three sides by the sea, Turkey has extensive potential with its dynamic manpower working in several institutions within the maritime industry and it can transform maritime issues into a state policy thanks to this great potential. Considering the economic opportunities emerging for the world maritime industry in parallel with the current developments in the Arctic Region, it is possible to create new opportunities for the Turkish maritime sector, which has sufficient infrastructure, owing to the awareness to be created in our society through scientific and diplomatic studies. It is envisioned that Turkey will eventually become an observer member at the Arctic Council as long as it could take the right steps in aforementioned issues. In the case of becoming an observer member, Turkey will increase its prestige as a global actor and be able to follow the developments and opportunities in the Arctic Region on time.

As a consequence, prepared with the contributions received from more than 50 institutions, National Polar Science Program (2018-2022) indicates that strengthening the achieved stability by further developing a comprehensive roadmap titled “2023 and Its Beyond Strategy” based upon the unique knowledge and technology formulation, will make a significant contribution to the visibility of Turkey and enable gaining a more distinctive place in the relative power distribution among states. Thus, effectively using soft power elements in foreign policy, Turkey will also reach its aim to increase the momentum. By examining studies, outlining the general framework,
and conducting trend analyses, keeping track of the achievements in all scientific activities organized for the polar regions within the international environment will contribute to the process of determining priority research areas and subjects as well as guiding the scientists in a more coordinated manner.

Notes

1 Aforementioned information about the polar scientific expeditions received from the book *Turkey's Journey to the White Continent-Antarctic Expeditions* released by the Anadolu Agency in 2019 and from the researchers who participated in the first Turkish Arctic Scientific Expedition conducted in 2019.

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Türkiye’nin Yumuşak Güç Tezahürü Olarak Kutuplara Yönelik Bilimsel Araştırmaları*

Ebru Caymaz**
Y. Barbaros Büyüksağnak***
Burcu Özsoy****

Öz


Anahtar Kelimeler

Bilim diplomasisi, eğitim diplomasisi, kamu diplomasisi, Türk Kutup bilim seferleri, yumuşak güç.

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Bu makaleyi şu şekilde kaynak gösterebilirsiniz:


** Dr., Çanakkale Onsekiz Mart Üniversitesi, Acil Yardım ve Afet Yönetimi Bölümü – Çanakkale / Türkiye
ORCID: 0000-0002-9119-7659
ebru.caymaz@comu.edu.tr

*** Öğretim Görevlisi, Pirî Reis Üniversitesi, Denizcilik Meslek Yüksekokulu, Yönetim & Organizasyon Bölümü – İstanbul / Türkiye
ORCID: 0000-0003-1951-2121
ybbuyuksagnak@pirireis.edu.tr

**** Prof. Dr., TÜBİTAK MAM, Kutup Araştırmaları Enstitüsü; İTÜ, Denizcilik Fakültesi – İstanbul / Türkiye
ORCID: 0000-0003-4320-1796
burcu.ozsoy@tubitak.gov.tr
Национальные полярные исследования как проявление «мягкой силы» Турции*

Эбру Джаймаз""
Й. Барбарос Бююксаанак """
Бурджу Озсой """""""""""""""""""""

Аннотация
В глобальной экономике 21 века производство информации и технологий и процесс их преобразования в экономическую выгоду стали наиболее важным параметром в относительном распределении власти между государствами. В стремлении получить большую долю мирового экономического пирога Турция пытается эффективно вести процесс публичной дипломатии. Турецкие полярные научные экспедиции и исследования, которые проводятся в рамках национальных и международных академических партнерств, рассматриваются автором в контексте «мягкой силы» и публичной дипломатии. Целью данного исследования является представление предполагаемого вклада этих исследований в развитие потенциала «мягкой силы» Турции с точки зрения научной дипломатии как успешного примера публичной дипломатии.

Ключевые слова
Научная дипломатия, дипломатия образования, публичная дипломатия, турецкие полярные научные экспедиции, мягкая сила.

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Ссылка на статью:

** Док., д-р, Университет Онсекиз Март - Чанаккале, Управление чрезвычайными ситуациями и стихийными бедствиями - Чанаккале / Турция
ORCID: 0000-0002-9119-7659
ebru.caymaz@comu.edu.tr

*** Преподаватель, Университет Пири Рейса, Морское высшее профессиональное училище, Департамент менеджмента и организации - Стамбул / Турция
ORCID: 0000-0003-1951-2121
ybbuyuksagnak@pirireis.edu.tr

**** Проф. д-р, Полярный научно-исследовательский институт TUBITAK MAM; Стамбульский технический университет, морской факультет - Стамбул / Турция
ORCID: 0000-0003-4320-1796
burcu.ozsoy@tubitak.gov.tr