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Türkiye's milestones in Antarctica and main arguments in its motivation

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Abstract: This study aims to clarify the fundamental arguments underlying Turkish motivation regarding the Antarctic Continent. The article asserts that Türkiye's motivation is grounded in its scientific endeavors, aligned with the principles of the Antarctic Treaty. Study suggests that, upon achieving the status of a Consultative Party, Türkiye, acknowledged as a regional actor, has gained heightened attention for its objectives in Antarctica and its increasing efforts in this domain, particularly over the past decade. The article proposes that if Türkiye, driven by its scientific pursuits in harmony with the ethos of the Antarctic Treaty, attains Consultative Party status alongside its growing influence, it could potentially make substantial contributions to strengthen and perpetuate the Antarctic Treaty System in line with its current understanding.

Keywords: Antarctic, Türkiye's Antarctic Policy, the Antarctic Treaty System, Consultative Party Status.

Introduction

Despite the Ottoman Empire's historical significance as a formidable entity that held sway over three continents, its strategic emphasis on maritime and naval power (Albany 1994; Isom-Verhaaren 2021) was insufficient to establish dominance over Portuguese naval power in the Indian Ocean during the 16th century. Simultaneously, the Ottoman Empire failed to fully capitalize on the opportunities presented by geographical discoveries and advancements in ocean navigation (Casale 2010). Nevertheless, it would be inaccurate to assert that Ottoman scientists and decision-makers were entirely uninterested to the developments of the Age of Discoveries. While it is possible to come across studies in the literature (Bayatlı 2022) that Ottoman astronomers, geographers and sailors were interested in maps containing new continents. On the other hand in accordance with the spirit of the time, there are also sources containing unrealistic information, such as that strange creatures live in the poles, which are of interest to those who are far from positive science.

With the declaration of the Republic in 1923, Türkiye witnessed significant changes in many areas. Attaining the level of contemporary civilization was set as the primary goal (Mango 2010). In the new era, just like in all other fields, the training of human resources became a priority in scientific research as well (Kirişçi 2009). Shortly after the signing of the Antarctic Treaty in 1959, some of the Turkish scientists who had been trained participated in research activities on the Antarctic Continent. However, Türkiye's accession to the Antarctic Treaty came relatively late, in 1995 (Official Journal 1995). This delay indicates that there was indeed interest among Turkish scientists in Antarctica, but institutional interest developed much later. Interest in Antarctica initially emerged within civil society organizations in Türkiye. However, universities and government institutions quickly took the initiative, setting strategic goals through scientific research.

This study aims to provide a comprehensive analysis of Türkiye's Antarctic policy and determine the main arguments of its Antarctic motivation by scrutinizing Türkiye's perspective, goals and achievements concerning the Antarctic Continent. Türkiye's involvement in Antarctica was subjected to analysis using historical research methods, and its activities pertaining to the Antarctic Continent over the last decade were scrutinized through the application of qualitative scanning methods in this study. In this study, firstly, Türkiye's interest in the continent is examined by considering the pre-Republic era, *i.e.*, the Ottoman period

before 1923. Subsequently, the process following Türkiye's accession to the Antarctic Treaty was addressed, and the policy that became prominent in the last decade, marked by increased interest due to the commencement of scientific expeditions, was analyzed. The study concludes with an analysis of the policy that has manifested over the last decade, a period during which Türkiye's interest peaked with the initiation of scientific expeditions. Within the article, an evaluation is undertaken to discern the potential contributions that Türkiye, upon attaining Consultative Party status, could make to reinforce and perpetuate the Antarctic Treaty System (ATS) in accordance with its contemporary understanding.

Historical evolution of Türkiye's Antarctic engagement

The Ottoman Empire, the predecessor to modern Türkiye, emerged as a significant geopolitical entity, exercising dominance over three continents. Notably, the empire wielded naval power to control strategic waterways, including the Black Sea, Mediterranean, Red Sea, and Persian Gulf. In addition to its maritime influence, the Ottoman Empire engaged in power struggles for supremacy, notably contending with Portugal for dominance in the Indian Ocean. This historical context underscores the expansive reach and multifaceted geopolitical engagements of the Ottoman Empire (Gábor 2022).

The Ottoman Empire, since its establishment as a small state in Anatolia, has placed importance on maritime affairs. Turkish sailors, who gained dominance in the Black Sea during the reign of Mehmed the Conqueror, later began to establish dominance in the Mediterranean (Bostan 1997). However, with the descent into the Red Sea and the Persian Gulf after Yavuz Sultan Selim's campaign in Egypt, it became inevitable to venture into the Indian Ocean and encounter oceanic navigation. During this period, the Ottoman Empire not only refrained from participating in geographical explorations but also had to contend with the consequences of these explorations. In the 16th century, during the ongoing struggle with the Portuguese in the Indian Ocean, Ottoman sailors failed to establish systematic superiority over their rivals (Özbaran 2009). During the same period, in the 1620s, the expeditions of the corsairs based in Algiers, which was under the autonomous rule of the Ottoman Empire, extending to the islands of Iceland and the Faroe Islands in the Atlantic Ocean, were far from establishing systematic control and being within the knowledge of the administration in Istanbul (Lewis 2010). In parallel, it can be observed that the Ottoman Empire remained distant from geographical explorations and oceanic navigation.

Indeed, it is noteworthy that following the conquest of Istanbul in 1453 by Mehmet the Second, the famous Ptolemaic Atlas was captured and subsequently translated (Bayatlı 2022). One of the 53 copies of the Ptolemaic Atlas that has survived to the present day is the Codex Seragliensis Gi 57 copy located in the Topkapı Palace Library. This, known as the "Fatih Copy", was transferred to Fatih's library after the conquest of Istanbul by Mehmet the Conqueror. The preservation of this copy in the Library of the Topkapı Palace in Istanbul since that time may be regarded as an indication that Ottoman administrators and scientists were likely cognizant of the North and South Poles.

The depiction of the Antarctic Continent on a globe, showcased in a miniature-style painting (Fig. 1) dating back to 1581, is deserving attention. This portrayal is part of the work conducted in the observatory established by the renowned Turkish Astronomer Takıyüddin (Pulathaneli 2009) in 1577, situated in Istanbul, the capital of the Ottoman Empire.Additionally, it is asserted that the world map (McIntosh 2000) by Turkish sailor and geographer Piri Reis in 1513 included the Antarctic Continent as well. Piri Reis stated that *during the map's creation; he referred to by the Christopher Columbus' map, supplemented by diverse sources and various information he had gathered* (Akçura 1935). Despite the awareness among Ottoman decision-makers and scientists regarding the existence of the Antarctic Continent, it is notable that, unlike many other countries, the Ottoman Empire did not undertake expeditions to Antarctica during the 19th century. The study does not delve into a detailed analysis of the reasons for this absence, because it is beyond the scope of the study. But it is essential to bear in mind that the 19th century was characterized by the Ottoman Empire's involvement in wars and struggles for its existence (Palmer 2011). For all these reasons, following the dissolution of the Ottoman Empire and the declaration of the Republic in 1923, the Republic of Türkiye did not participate in the sovereignty race that characterized the first half of the 20th century among the first countries to set foot on the continent (Bilgiç 2021). During the Cold War era, as part of the International Geophysical Year (IGY), an international research program that lasted from July 1957 to December 1958, actively researching the continent, 12 countries were invited to the Antarctic Treaty Conference, which began in 1958 (Berkman 2011). Although, Türkiye did not participate in the Antarctic Treaty Conference,

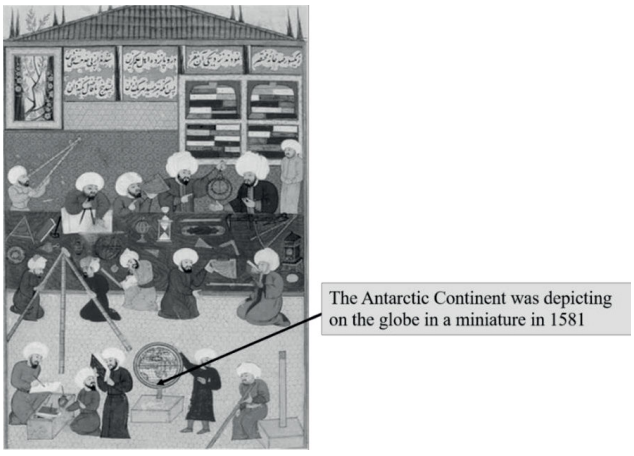

Fig. 1. Istanbul Observatory Miniatures (Seyyid Lokman, Şehinşahnâmesi, (cilt: 1), Istanbul University Library, No: F-1404)

Turkish scientists embarked on expeditions to Antarctica and commenced their engagement in scientific studies on the continent starting from the 1960s. The first Turkish scientist to take part in these studies was Atok Karaali, who participated in research at the Plato Station in the USA's Operation Deepfreeze project in 1967. In memory of these works, an area in the Marie Byrd region was named Karaali Rocks. A hill in the Victoria region located in the west of on the Ross Ice Shelf, was named Inan Peak by the Consultative Committee on Antarctic Names / US-ACAN in 1994, because of a scholar, Umran S. İnan of Stanford University, who has been conducting critical research on the upper atmosphere of Antarctica at Siple Station and Palmer Station since 1980. The name of Serap Z. Tilav (Composite Gazetteer 2023), a field team member of the United States Antarctic Program (USAP) who participated in cosmic ray studies at the Amundsen-Scott South Pole Station between 1991 and 2005, was given to a glacier area (Tilav Cirque) in the Cruzen Mountain Range in Victoria Land. Although these studies are the solid examples of Turkish scientists taking part in scientific studies after the introducing the Antarctic Treaty, these efforts remained at the individual level, but there was no institutional level approach towards the Continent by Türkiye until the 1990s. Only after the end of the Cold War, Türkiye took the first step to show its interest in the continent and decided to join the Antarctic Treaty in 1995 (Official Journal 1995). This decision was influenced by the efforts of the New Zealand Ministry of Foreign Affairs, through the Turkish Embassy in Wellington, to see Türkiye as a contracting party in the ATS. At the same time, the motivation was provided by the government's efforts to harmonize with the EU. So Türkiye's accession to the Antarctic Treaty took place on January 24, 1996, after Türkiye submitted the necessary documents to the United States, the depositary Government. However, progress in Antarctica-related efforts in Türkiye did not advance rapidly after 1996. The government's redirection of its focus to different issues, coupled with changes made within experienced institutional structures, led to a prolonged period of stagnation in the Antarctic-related processes in Türkiye (Algan 2013).

Antarctic road map led by non-governmental organizations

Osman Atasoy and Sibel Karasu (Atasoy 2012), who were the first Turkish team to reach the Continent by sea from Türkiye and set out on a 14-meter boat, were welcomed with enthusiasm upon their return. Antarctic Polar Scientific Research Center (TAKBAM), a non-governmental organization founded in 2012, has also played a significant role in raising awareness in Türkiye. TAKBAM soon contributed to the inclusion of one Turkish scientist in two scientific expeditions (Başlar 2015) organized between December 2013 and February 2014, although it is a non-governmental organization established as an association. One of the pioneering organizations in initiating the first scientific studies on Antarctica in Türkiye and raising the awareness of the scientific world, especially political administrators, is the Turkish Marine Research Foundation (TÜDAV). TÜDAV attracted attention as the organizer of the first meeting held on 23 February 2013 for the establishment of a Turkish research base in Antarctica, in which TAKBAM also participated. After the first meeting, where attention was drawn to Türkiye's lack of interest in scientific studies in Antarctica and the need to do something quickly, TÜDAV initiated a workshop held on April 30, 2013. In the workshop, which scientists from Türkiye and abroad attended, it has been criticized that although the Antarctic Treaty was signed in 1995, no attempt has been made so far to establish a Turkish science base in Antarctica in the intervening years, and that there is no state initiative, policy or research effort. These endeavors were limited to the research and theses conducted on this continent by the Turkish scientists on the individual basis, which contribute to the literature on behalf of other institutions and countries (Öztürk and Atasoy 2013). Although the interest of Türkiye, which signed the Antarctic Treaty in 1995, and the research of scientists did not have the expected effect, and even though the proposal of *establishing a Turkish Science Base in Antarctica in 2015* suggested in the workshop could not be implemented, the workshop attracted the attention of the Turkish scientific community, the public and most importantly public institutions. As a result of the awareness in this context, a draft law was prepared in 2014 for Türkiye to become a party to the Environmental Protocol, an important component of the ATS. However, the bill could not be discussed in the Turkish Grand National Assembly for a long time and it became law only three years later in 2017. On June 17, 2013, a workshop was held with intense participation, among the participants of which were representants of public institutions such as the Ministry of Foreign Affairs, the Ministry of Environment and Urbanization, the Ministry of Transport, Maritime Affairs and Communications, the Scientific and Technological Research Council of Türkiye (TÜBİTAK), Mineral Research and Exploration General Directorate and the Naval Forces Command. As of 2013, interest in Antarctica has begun to intensify (TÜDAV 2013a). Public institutions not only sent representatives but also provided support for the organization for the next workshop organized by TÜDAV under the name of *Turkish Antarctic Science Program Roadmap Workshop* on 18–19 November 2013. From now on, the increasing public interest in Antarctica has become more visible. There were Prof. Dr. Jeronimo Lopez-Martinez, President of Scientific Committee on Antarctic Research (SCAR); Prof. Dr. Kentaro Watanabe from the Japanese National Polar Research Institute; Prof. Dr. Alan Rodger Term President of British Antarctic Research, and Prof. Dr. Marcel Nicolaus from the Alfred Wegener Institute among the participants, drawing attention to the level reached. During the workshop, various perspectives were explored concerning the necessary steps for Türkiye to advance in Antarctic scientific research, along with deliberations on be-

coming a SCAR member. At the end of the workshop; issues such as establishing a long-term Antarctic scientific strategy and science program, TÜBİTAK providing priority and support to the Antarctic program, and Türkiye becoming a member of SCAR have been suggested (TÜDAV 2013b). Türkiye was now ready to move more decisively towards Antarctic work, with a concrete road map in hand. Most of the topics, suggested in this workshop, will be implemented gradually over time.

Goals, programs, regulations of Türkiye's Antarctic research

In Türkiye, it is seen that universities have started to take an active role in the interest in Antarctica, which was initially led by non-governmental organizations, since 2015 (Limon 2021). In this context, Istanbul Technical University's Polar Applications Research Center (ITU POLREC) has undertaken the responsibility of academically supporting Türkiye's polar research. The mission of ITU POLREC is stated as *ensuring that our country has a say and is visible about the future of the polar regions, and to act as an interface between researchers at ITU and other universities in Türkiye and relevant national and international science, research, development, industry and authoritative organizations* (ITU n.d.). From this statement, it is understood that ITU POLREC undertakes a kind of coordinator mission between researchers and other national and international organizations. The Center took on *de facto* responsibility for organizing scientific research expeditions. It is seen that a number of different structures related to planning, execution and financing activities are organized in coordination with each other in order to carry out policies in almost every country that is a party to the Antarctica Treaty, depending on that country's level of interest in Antarctica. Civilian, military, official or semi-governmental institutions and organizations can be included in these organizations, such as institutions related to scientific studies that form the main backbone of the activities, management structures where political decisions are made, expert organizations that provide logistical support, and institutes where the environmental impacts of the activities are evaluated (Watanabe 2014). In this context ITU POLREC is a significant actor in creating an institutional structure for Türkiye. Likewise, ITU POLREC has determined responsibilities for itself such as the integration of Türkiye into ATS, the establishment of the scientific research station in Antarctica, and the science ship project (Official Journal 2015). It seems that efforts have been made to draw a more planned road map after 2017, following the institutional support of the increasing interest near the poles and especially Antarctic research in Türkiye. In this direction, Türkiye has started to take more comprehensive steps since 2017 to create a coordinated structure towards the goal of becoming a Consultative Party.Since 2017, the Antarctic studies, which are held under the auspices of the Presidency of the Republic of Türkiye; are carried out under the responsibility of the Ministry of Science, Industry and Technology. Another initiative in line with the goal of becoming the Consultative Party was the organization of the Polar Sciences Workshop, hosted by Istanbul Technical University on 12–13 April 2017, with the participation of 120 Turkish scientists from 36 institutions, in order to determine the scientific research topics to be carried out in the poles. Based on the results of this workshop, Türkiye's first National Polar Science Program (2018–2022) was prepared. Thus, a serious study was initiated with a five-year road map. As preparing the 2018–2022 Program, scientific research on Antarctica was put in focus, and the vision of being among the leading countries with original scientific studies on polar sciences was taken as basis. Organizing national science expeditions, establishing a science base on the Continent, and ensuring cooperation and relations with other countries have been determined as the main objectives to be achieved. Since the plan covers all polar studies, it also includes the principles for creating Türkiye's road map regarding the future in the Arctic. It is envisaged that the program, which covers a five-year period, will be updated every five years. However, it is seen that there is a delay in the new term program after the program expires in 2022. Likewise, the new program, the planning of which started in 2022 and will cover the period 2023–2035, is expected to be announced to the public (TÜBİTAK 2023). The 2023–2035 program draft includes three main strategic goals, seven policies, 34 action suggestions and suggestions to achieve the goals. Türkiye's 11th Development Plan for the period 2019–2023, which is the last of the development plans since the proclamation of the republic, is important in terms of showing government support for Antarctic research. In the development plan, it is stated that Türkiye's international position is to be strengthened, institutional capacity is to be developed and preparatory work for establishing a base in Antarctica is to be completed. An important result of Türkiye's work on Antarctica is, of course, obtaining Consultative Party status. It requires that Türkiye is to complete a process as specified in the procedure guide for the Consultative Party status envisaged in the Antarctic vision. An important milestone in this context is Türkiye's participation in the Protocol on Environmental Protection to the Antarctic Treaty, which is an annex to the Antarctic Treaty, with Law No. 6774 on 14 February 2017 (Official Journal 2017). After this, work has begun to appoint responsible institutions that will carry out the necessary activities within the scope of the Protocol and to create the necessary legislation on this subject. In Türkiye, the top management authority within the scope of the Protocol is the Ministry of Environment and Urbanization.In 2018, the team participating in the Turkish scientific expedition stayed for one day at the Chilean research station on King George Island and received support from Chile as part of the expedition's logistics. Additionally, observations regarding the implementation of the Environmental Protocol and encountered issues were made in the field, and information was obtained from Chilean personnel (Eyüboğlu 2019). The Min-

istry of Environment and Urbanization used this information to develop Turkish domestic legislation. Another big step was taken by publishing the Regulation on the Implementation of the Protocol on Environmental Protection to the Antarctic Treaty (Official Journal 2020), prepared under the coordination of the Ministry, in the Official Journal dated 13 June 2020 and numbered 31154. Legislation development studies continued in the following period in order to determine the procedures and principles regarding all kinds of activities, studies, transactions and operations regarding the on-site conduct of Turkish Polar Science Expeditions in the Antarctic Treaty Region and the Arctic. In this context, *Procedures and principles concerning Türkiye's polar science expeditions and activities* were published and entered into force on September 15, 2020, thus it is ensured to move the activities forward more regularly (TÜBİTAK 2021). In 2019, the idea came to the fore that carrying out polar research carried out under the responsibility of Türkiye's Ministry of Industry and Technology and under the coordination of ITU POLREC was to be conducted by an independent institute with its own budget (Euronews 2019). For this purpose, the Polar Research Institute (PRI) affiliated with the Marmara Research Center (MRS) within the TÜBİTAK was established in 2020. Since then, PRI has assumed the responsibilities of ITU POLREC. In the first stage, PRI aims to support research and development and scientific research applicable to the polar regions, conduct National Polar Expeditions, operate the country's polar camps and base(s), plan and coordinate logistics, ensure inter-institutional communication, maintain international bilateral cooperation, develop and execute the polar strategy for stakeholders, create national awareness of the polar regions, provide national and international science diplomacy specifically for the polar regions, and enhance competitiveness and scientific power by representing our country in international arenas. The establishment of a scientific research base on the Antarctic Continent, a goal within the purview of the Institute, can be construed as arguably the most tangible manifestation of a nation's keen interest in the aforementioned region. Historically, the construction of research bases on the Continent dates back to the periods before the signing of the Antarctic Treaty. The oldest known permanent research base in Antarctica was established during a Scottish scientific expedition in 1902–1904. In 1895, when the 6th International Geographical Congress (London) was held, the interior of the Antarctic Continent and most of its coastline were completely unknown. During the Congress, a resolution was passed declaring Antarctica to be the greatest piece of geographical exploration yet to be accomplished within and around the Continent, and over the next 25 years, at least 16 major expeditions to Antarctica followed in an episode commonly referred to as the *Heroic Age of Antarctic Exploration* have been sent. Among the various national expeditions organized, the expedition led by William Bruce on the ship *Scotia* from Scotland gained importance with the construction of the first permanent research base on Laurie Island. The research station known as Omond House, which was transferred to Argentina in 1904, has served as an inspiration for the construction of an increasing number of research stations on the continent over the nearly 120 years since then (Stone 2018). During the National Antarctic Science Expeditions, which started in 2017, Türkiye started to conduct location studies regarding the research base. In fact, Türkiye's first comprehensive Antarctic research expedition was carried out between 29 March and 17 April 2016 by a research team consisting of 13 scientists from universities and TÜBİTAK. Within the scope of the protocol (Karatekin *et al.* 2023) signed between the National Antarctic Scientific Center (NASC) of Ukraine, İTÜ POLREC and TÜDAV in 2015, the team stayed at the Ukrainian base (Antarctic Treaty Secretariat n.d.).After the Antarctic base project started to be carried out under the auspices of the Presidency, the Ministry of Science, Industry and Technology and the coordination of Istanbul Technical University, the studies have shown systematic development. In this context, after 2017, scientific research expeditions started to be organized under the name Turkish Antarctic Expedition (TAE-I). The first expedition under this name was carried out between 26 February and 04 April 2017 with the participation of 9 academic scientists. Getting information about the preparations of the science base was the main goal of the first expedition. Although it was planned to carry out measurements and research at 35 locations for the location selection of the station before the TAE-I, data could only be collected from 17 of these sites, due to severe weather conditions (Şenel and Yavaşoğlu 2020). TAE-II, in which the feasibility studies of the Turkish science base will be completed and various scientific studies will be carried out within the framework of the National Polar Program, started on February 15, 2018 with 28 participants, 18 of which were ship crew and 10 researchers from different branches of science, and lasted for two months. Re-examinations were made on 17 possible locations identified during TAE-I. In addition to studies on the base location, the research team also conducted research on atmosphere, space, earth, sea, biology and glaciers research in Antarctica.TAE-III, coordinated by ITU POLREC, was held in the 2019 Antarctic summer between January 29 and March 6, 2019, with the participation of a total of 24 scientists, six of whom were foreign researchers. The establishment of a temporary Turkish science base on Horseshoe Island during the expedition referred to a new milestone for Türkiye. It is envisaged that the temporary base, consisting of three modules, will serve for three years and a permanent base will be established during this period. Turkish Antarctic Research Station (TARS) (Wenger 2021), which is planned to consist of prefabricated modules, is planned to serve 24 (maximum 50) researchers (Republic of Türkiye 2021).TARS, which is planned to be active throughout the year, reflects the importance Türkiye attaches to Antarctic research and also its efforts for achieving the Consultative Party status. One of the efforts to raise awareness among Turkish and international public opinion is that national athlete and world record holder Şahika Ercüment dived in

Antarctic waters during the expedition. Apart from these, two automatic meteorological observation stations, which data will be shared with other parties, have also been installed (Anadolu Ajansı 2019). As in previous expeditions, research was carried out in many areas from environmental DNA sampling to plant and heavy metal sampling, as well as meteorological and safety studies within the scope of scientific studies.TAE-IV, which was held between 9 February and 6 March 2020 with the participation of 24 personnel, is the first expedition after the establishment of TÜBİTAK MAM KARE for the coordination of polar activities. This expedition also includes an important activity in which Türkiye's first global navigation satellite system (GNSS) base station was established in Antarctica. The station (Cozzens 2020), which is Türkiye's first GNSS base station abroad, is located on Dismal Island, 73 kilometers away from Horseshoe Island, where the temporary Turkish science base is located. Because of the GNSS base station, it is aimed for marine vessels going to Horseshoe Island for scientific research to travel more safely. Recording the activities during the science fourth expedition through a documentary and its publication under the name *Black Box of the Planet Antarctica* has significantly raised social awareness. That documentary has been screened on many platforms to attract the attention of people of all ages.Türkiye continued its planned national science expeditions in the following years, demonstrating its interest in Antarctica. It is seen that there has been a significant and linear increase in the number of scientific studies on Antarctica since 2016, when scientists from Türkiye started participating in national expeditions. According to Web of Science, 94 research articles written in the 2016–2022 period compared to 21 articles written in the 2011–2015 period, demonstrating the increasing scientific involvement (Andrew and Hughes 2016). Türkiye ranks 7th in terms of research articles when compared to other Non-Consultative Parties in the 2016–2022 period. This ranking indicates that there are more significant scientific studies in Türkiye, as compared to many other Parties that have started studies before. The highest number of papers among all Non-Consultative Parties submitted by Türkiye to the Antarctic Treaty Consultative Meetings (ATCM) and the Committee for Environmental Protection (CEP) meetings since 2016 demonstrates that there is significant contributions made by Türkiye (Karatekin *et al*. 2023). From this perspective, it is not right to put the nationalist perspective at the center of Türkiye's increasing interest in Antarctica.The increase in scientific studies on Antarctica in Türkiye has brought about institutional memberships. Türkiye, an associate member since 2016, was accepted as a full member of the SCAR in 2021 (SCAR 2021). Shortly after full membership, the election of PRI Director Prof. Burcu Özsoy as SCAR Vice President for Capacity Building at the XXVVII SCAR Delegates' Meeting held online in India was an important development for Türkiye. Türkiye added another institutional link to its international cooperation by becoming an observer member in 2018 and a full member in 2021 in the Council of Managers of National Antarctic Programs (COMNAP), which was established in 1988 to improve international cooperation between national Antarctic programs around the world and *develop and promote best practice in managing the support of scientific research in Antarctica*. Cooperation and information sharing in scientific progress are of great importance for humanity and the planet. Türkiye has also signed cooperation agreements with various countries in order to act in accordance with the spirit of cooperation and information sharing envisaged in Articles 2 and 3 of the Antarctic Treaty. In this context, cooperation agreements have been signed so far with Chile, Brazil, Spain, Japan, Bulgaria, Ukraine, Belarus and the Czechia. However, apart from these countries, Türkiye has given various examples of mutual cooperation with other countries on the Continent.

Main arguments for the motivation of Türkiye's Antarctic policy

As of 2023, the Antarctic Treaty has been signed by 56 countries, including Türkiye. In fact, Türkiye, like the other 55 countries, has strong motivations for becoming a party to the Treaty. In this context, the first thing that comes to mind is climate changes due to global warming. For example, the possible effects that the glaciers in the eastern and central parts of Türkiye may be exposed to and the effects of climate change/shift that are beginning to be felt in the west and south make future projections of global warming necessary. Due to all these factors, scientific studies on understanding the global cryosphere, including the entirety of snow and ice cover on Earth, and the effects of global warming on the cryosphere attract the attention of the Turkish scientific world (Depledge *et al.* 2020). It is an obligation rather than a choice for Turkish scientists to show interest in global change and Antarctica's contribution to these studies, like their colleagues in the world. As a requirement of its development in scientific, economic and political fields, Türkiye established the Turkish Space Agency (TUA) in 2018 in order to prepare and implement the National Space Program (Official Journal 2018). Studies in Antarctica are also supposed to support the National Space Program. In this context, observations made from the Polar Regions provide great convenience for space sciences due to reasons such as low humidity, cold air, low infrared background radiation, and clear skies for very long periods of time. Technological progress in developing systems suitable for such difficult geographical features for research to be carried out in the poles will also contribute to space studies. A project was carried out by Atatürk University Astrophysics Research and Application Center (ATASAM) on the establishment of a remotely accessible scanning telescope and Sky Scanning Polar Observatory (GÖKKUT) with a diameter of 30–100 cm, the design and production of which will be done with domestic resources (Günam Atasam Polrec 2021). Citing its scientific studies in Antarctica, Tabak argues that Türkiye sees science as an element that contributes to global problem-

solving capacity (Tabak 2019). While certain aspects of Tabak's perspectives can be found partial concurrence, it would be inaccurate to assert that Türkiye's approach to the agreement is fundamentally incongruent with the spirit of the Antarctic Treaty. This determination elucidates the ramifications of scientific pursuits within the realm of science diplomacy in the context of international relations. In recent years, nations endowed with well-established diplomatic networks have notably heightened their focus on science diplomacy. From the perspective of Türkiye's historical and geographical background, Antarctica provides a strong motivation to be on Türkiye's agenda. Türkiye, situated in a region defined by the 1923 Treaty of Lausanne, holds a significant geopolitical position at the crossroads of civilizations. The Anatolian Peninsula, positioned at the center of the continents of Asia, Africa, and Europe, as delineated by the land domination theory of British geographer Halford John Mackinder, who argued that control over the "world island" would ensure dominance over the world (Mackinder 1943), underscores its strategic geopolitical importance. In this crucial central region, having an interest in both regional and global issues is a necessity. Therefore, Türkiye's interest in regional and global international political issues, including Antarctica, is not only dictated by its geography but also stems from the historical mission imposed by its past. Since 1959, additional 44 countries have joined the Antarctic Treaty. According to Article IX of the Treaty, in order for these countries to participate in the Consultative Meetings as Consultative Parties, they must demonstrate their interest in Antarctica by conducting significant research activities, establishing a scientific station, or conducting a scientific expedition, thereby proving their commitment to Antarctica and earning Consultative Party status. Additionally, in Article 22, Paragraph 4 of the Environmental Protocol, it is specified that a party applying for Consultative Party status must ratify this protocol. Thus, the process of becoming a Consultative Party has been tied to more detailed and clearer rules. According to the cornerstone of the ATS, the Antarctic Treaty, the decision-making process is a cumbersome structure. Decisions with legal binding can only be made unanimously by the Consultative Parties. In other words, the situation requires full agreement or no official objection, with no room for withdrawal or reservation. This can be interpreted as enhancing the political power of the Consultative Parties, thus elevating their status. Since 2017, Türkiye has initiated national scientific research expeditions, established temporary research station, and incurred significant costs as a country. Türkiye aims to derive both tangible and intangible benefits, such as moral, political, and scientific benefits, and aims to have a say in the governance of the continent, which is the fifth-largest in size, and in the Southern Ocean. This objective has been voiced by senior officials of the Republic of Türkiye on various occasions. However, as of February 2024, Türkiye has not yet applied for Consultative Party status. While no official explanation has been given for the delay in the application, it is expected that the international political atmosphere will be deemed suitable for elevating scientific research to a higher level, increasing bilateral and multilateral collaborations, and thus ensuring comprehensive support. Apart from these considerations, in the extant literature, scant attention is accorded to the conceivable positive influence of Türkiye's polar studies, undertaken while awaiting membership at the threshold of the European Union (EU), on Turkish foreign policy. Founded by the European Science Foundation in 1995, the European Polar Board (EPB) serves as a collaborative platform unifying polar science endeavors across European nations (TÜBİTAK MAM 2021; EPB n.d.). The EPB is dedicated to enhancing the coordination of Arctic and Antarctic research activities in Europe, with a focus on optimizing the utilization of polar research infrastructures. It actively fosters multilateral collaboration among its members, serving as a centralized point of contact for the global polar community and contributing to the advancement of collective knowledge on polar issues. Türkiye, intensifying its pursuits in polar sciences on both national and international fronts since 2017, has engaged in collaborative research initiatives with the EPB. Furthermore, there are plans to augment and strengthen this cooperative framework. Within this framework, Türkiye proactively sought membership in the EPB, successfully securing approval during the EPB Autumn 2020 General Assembly Meeting held on 15–16 October 2020 (TÜBİTAK 2023). The objective of Türkiye's polar studies aligns with those of the EU's polar research initiatives. Therefore, the pursuit of polar studies, may positively contribute to Türkiye's membership process, an integral component of Turkish foreign policy. Following Türkiye's accession, it can be asserted that there would be significant benefits accruing to the achievement of the EU's polar research objectives through Türkiye's active participation in polar studies. Formun ÜstüDespite the vision of preparing the National Polar Science Program (2018–2022), stated as *being among the leading countries in the world with original scientific studies on polar science*s, the 2019–2023 Strategic Plan of the Ministry of Foreign Affairs did not include any issues related to Antarctica or the polar regions. This situation can be construed as Türkiye not regarding the Continent as a primary focus in its foreign policy agenda but rather being motivated by a commitment to engage in scientific research. It is inherent for Türkiye to aspire to enhance its activity on the Continent, aligning with the trajectory observed in other states. Nevertheless, there exists a potential risk that this vision, seemingly prioritizing scientific research, could prompt interpretations, including underlying suspicions in the policies of nations such as China or Russia (Kökyay 2022). Türkiye aspires to reintegrate into the international system as a global actor, leveraging the benefits derived from its burgeoning economy, expanding industry, educated workforce, strategic geopolitical location, and historical legacy. Consequently, it is imperative to acknowledge the geopolitical significance of the polar regions within the context of this overarching vision. While Türkiye's growing interest in Antarctica can be attributed

to various factors, it can also be grounded in the pursuit of status.After the Second World War, Türkiye, as a member of NATO, began to play a more active role in its foreign policy and global status-seeking efforts, with increased involvement in the UN and G20 (Bilgic 2021). Geographically expanding its sphere of interest, particularly in the post-Cold War era, Türkiye's diversification of relations across the globe, supported by 260 diplomatic representations (MFA 2023), ranking it as the fifth-largest diplomatic network globally, signifies the country's ambitious pursuit of a global status. The enhancement of Türkiye's institutional structure and the intensified focus on scientific studies in Antarctica in recent years are characterized as manifestations of Türkiye's aspiration for status, particularly through scientific endeavors. It is both rational and imperative for Türkiye, as a candidate for global power status, to express interest in issues of global significance, encompassing global conflict risks, political tensions, climate change, and the preservation of glaciers, oceans, and biodiversity. Türkiye, endeavoring to extend its economic ties worldwide alongside political relations, and as a member of the G20 with a robust economy, reinforces its economic development through a robust scientific and technological infrastructure. Antarctica, being a globally significant area of interest, is a region where all major powers, including Türkiye, should sustain interest and endeavor to preserve the Continent's dedication to science, ensuring its transmission to future generations. In this regard, it is apt to assert that the Antarctic initiative is connected to the broader global efficacy goals of Turkish foreign policy. Generally, upholding peace and security in the Antarctic Continent is viewed as a shared security interest for humanity (Lord 2020).Through the Antarctic Treaty, consensus has been established that Antarctica, devoid of military competition, will persistently serve exclusively for peaceful purposes, ensuring its bequest to future generations (Antarctic Treaty Secretariat 1959). The ATS, which was formed together with the Antarctic Treaty and subsequent complementary regulations, has formed the basis of humanity's common commitment to a peaceful Antarctic Continent for a long time. However, changes in the international security environment and the pressures that may be created by the possible increase in global resource needs in the future pose potential risks for this system. Although it is currently the common goal for Antarctica to remain away from the consequences of international competition, the actors of the international system do not refrain from working to be prepared for any outcome. In parallel with the expansion of its area of interest and influence in Türkiye, it follows the developments in the context of protecting global interests in the strategic competition environment, and political calculations are taken into account as well as scientific research on Antarctica in terms of systemic impact.Türkiye's aspiration to attain Consultative Party status, thereby influencing the future of the Antarctic Continent, underscores this perspective. The alignment of Türkiye's Antarctic objectives with its broader foreign policy goals raises comparable considerations among other party countries. In this context, Türkiye's interest in the Continent reflects a sense of responsibility, aiming to safeguard the ATS against potential escalations in resource demands and ensuring the transmission of the Continent to future generations. As of today, all parties interested in the Continent, especially the 12 states that signed the Antarctic Treaty in 1959, are interested in various aspects; investigating the impact of Antarctica on the planet, examining the impact of global climate change on the Continent, demonstrating scientific and logistical capabilities, securing access to resources; to some extent, it explains the costs incurred for Antarctic operations beyond scientific research projects, in which they have varying degrees of interest, *e.g.*, taking control, exercising political dominance, maintaining sovereignty claims, supporting ATS obligations, gaining Consultative Party status. In the year 2023, a total of 56 nations have acceded to the aforementioned Treaty, which came into effect in 1961. Among these, 29 nations hold the designation of Consultative Party, while the remaining 25 bear the status of Non-Consultative Party. While the Consultative Party status is held by merely 29 out of the 193 member countries within the United Nations, it is imperative to recognize that these nations wield significant influence within the international system. It is thought that there is a connection between the acceptance of Consultative Party status and the political weight of actors such as Germany (1981), India (1983), Brazil (1983), China (1985) and Italy (1987), which were important economic and political actors after 1980 (Dodds *et al.* 2010). It should also be noted that during this period, some countries were granted Consultative Party status after the debate initiated by Malaysian Prime Minister Mahathir Mohamad at the United Nations General Assembly regarding the status of the Continent, arguing that the Continent belongs to the international community and the UN should administer the region (Hayashi 1986; Hamzah 2011). The link between Consultative Party status and influence in the international system is actually an element that will contribute to the protection of the ATS. In this context, one may contend that Türkiye's expanding international engagement serves as a mechanism conducive to the safeguarding of the ATS through its potential accession as a Consultative Party. Upon acquiring Consultative Party status, Türkiye is not only poised to assume a more proactive role in Antarctic governance but is also poised to foster greater integration within the broader international system.In contrast to the aforementioned motivational factors, Yanık and Karaoğuz (2021) suggest that Türkiye's Antarctic strategy is characterized by banal nationalism. This assertion is grounded in their observation of the utilization Turkish flag as part of the sovereignty and status performances in the discourses of actors from the political and scientific worlds. It serves as a proclamation that Türkiye is an active participant in Antarctic affairs. Indeed, the injection of popular nationalist discourses into each progressive endeavor toward the Antarctic Continent runs counter to the ethos of the Antarctic Treaty. Recognizing the paramount significance of scientific investigations in

Antarctica, such discourses are commonly employed by all involved parties as integral components of their domestic political messaging. Hence, the endeavor to establish a research base in Antarctica by Türkiye is to be interpreted within the framework of nationalist discourses. In parallel with this goal, Türkiye appears to be navigating towards engaging with global realities that are of collective concern to humanity at large.

Conclusions

Grounded in the explicated findings, the evolution of Türkiye's motivations for engagement in the Antarctic region emerges as a nuanced trajectory shaped by distinct strategic geopolitical considerations. These encompass, notably, international collaboration, the pursuit of national prestige and recognition, the strategic impetus of scientific research initiatives, inclusive of the establishment of the Polar Research Center, dedication to environmental conservation, and a commitment to the peaceful utilization of the Antarctic realm. Türkiye's commitment to scientific research within the designated motivation is at a high level. However, Antarctica still requires conservation and collaboration for scientific endeavors. Therefore, Türkiye not only aims to increase its scientific research but also endeavors to initiate projects that enhance cooperation. The continuity of work conducted in challenging environments like Antarctica holds even greater significance. Given the high demands such as substantial costs, skilled manpower, and advanced technology required for conducting research on the continent, Türkiye needs to maintain its willingness to collaborate with the international community in preserving Antarctica.Türkiye's aspiration to attain Consultative Party status is a pivotal instrument in the realization of its overarching strategic geopolitical objectives. The attainment of Consultative Party status within the Antarctic Treaty System holds paramount significance as it furnishes Türkiye with the authority to actively engage in decision-making processes pertinent to the governance of Antarctica. This status is integral to the facilitation of Türkiye's comprehensive involvement in shaping policies and regulations concerning the Antarctic region.Because of this, Türkiye holds a favorable position relative to other parties, notably bolstered by its scientific endeavors post-2016 and the declarations it has presented to the Antarctic Treaty Consultative Meetings. Consequently, attributing Türkiye's Antarctic motivation solely to a nationalist perspective appears inappropriate. The concept of Antarctic nationalism, rooted in notions such as asserting sovereignty claims, exploiting economic resources, establishing strategic dominance through settlement, and safeguarding the Continent and its resources from other parties, has the potential to precipitate the militarization of Antarctica. Türkiye's commitment to scientific research and collaborative initiatives, therefore, stands as a mitigating force against this risk, contributing to the collective efforts aimed at averting the militarization of the region. Türkiye asserts its position within the international system as an efficacious actor, leveraging the advantages derived from its strategic geopolitical location, historical background, a highly educated and qualified young population, and a burgeoning economy. This objective openly embraced by Türkiye is an outcome of its organic development. It is imperative to acknowledge that the polar regions, hold strategic significance within the framework of this vision as vital geopolitical areas. Türkiye's interest in Antarctica, which includes a pursuit of status among other motivations, should be contextualized within the broader perspective of its natural progression towards increased international standing. Nevertheless, it is imperative for Turkish policymakers to disengage from political discourses that relegate Türkiye's ambitious scientific endeavors and commitment to the preservation of the continent to a secondary position. After the tension created by the struggles for sovereignty on the continent, the Antarctic Treaty was signed in 1959 and despite the system developed for the governance of the Continent, from time to time the motivation of all parties interested in the Continent can be scrutinized from various angles and risky approaches can be put forward. Despite this, maintaining the peace and security of the Antarctic Continent and evaluating the ATS within the scope of common security for humanity has been the dominant idea until today. With its expanding field of interest and high-level scientific research, Türkiye attaches importance to the goal of becoming a Consultant Party in order to protect the Continent in this sense according to philosophy of the ATS.

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