

**Science advice as a tool to solve a contradiction:  
The case of Costa Rica and the Antarctic Treaty**

Marino Protti  
Costa Rica Volcanological and Seismological Observatory  
National University  
OVSICORI-UNA

In this essay, two areas will be addressed: a small tropical country, and a large polar continent. What do they have in common?

**Costa Rica**

Costa Rica is a small country internationally known for its leadership in peace and environmental conservation. With no army since 1948 and therefore not involved in any armed conflict since that time, it has become a model for other countries. Located in the tropics between the Pacific Ocean and the Caribbean Sea, it constitutes, together with the rest of Central America, a land bridge between North and South America. This condition, on the path of thousands of migratory species, makes it a country with one of the richest biodiversity in the world.

The money Costa Rica saves in defense has been invested in education and healthcare. These conditions have produced a well-educated and healthy population, which has incorporated the promotion of both, peace as well as conservation and the study of flora and fauna, in their day-to-day life. Costa Rica has learned to cultivate peace and conservation and exports these concepts as part of its foreign policy. Actively participating in international forums and discussions at the highest level, Costa Rica has gained international recognition as a leader in the promotion of regional and global peace and for its work in ecological conservation. While most countries that signed the Paris Protocol aim for 2050 as the target year to become carbon neutral, Costa Rica has its own goal of 2021. A clear example of how Costa Rica is moving forward towards this achievement is that over 90% of all electricity in the country for the last three years has come from renewable sources.

Since the second half of the 20th century, Costa Rica has pushed for international treaties as a peaceful and efficient way to interact with other countries. It is precisely because of its pacific past that it has been a permanent advocate for soft power. Due to its moral authority in questions of peace and conservation, Costa Rica can also apply this soft power over other countries, including those that are more developed.

## **Antarctica**

Antarctica is the fifth largest continent and only began to be explored in the early 20<sup>th</sup> century. It was, before 1959, the epicenter of a multinational conflict for territorial claims, some of them overlapping. Seven countries had filed territorial claims of the Antarctic continent: Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom.

It was a scientific initiative, the International Geophysical Year (IGY), from 1957 to 1958, which triggered one of the most transcendental conditions that could have happened to that continent and became one of the best examples of initiatives in science diplomacy. Before the IGY, all interaction between countries in Antarctica were in a strictly realist context. All expeditions to Antarctica before the end of the 50s occurred in a realist context that had as an objective to impose supremacy and territorialism over the continent. The various governments financed these expeditions and many territorial claims overlapped. There was no cooperation.

The IGY was called in 1952 by the International Council of Scientific Union and consisted of a systematic study of Earth and space, part of which was carried out in the Antarctic continent by scientists from eleven countries. For the Antarctic studies Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, United Kingdom, United States and the USSR agreed on a moratorium to relieve the existing tensions due to overlapping territorial claims, and established a set of rules for the

investigation, which included sharing all infrastructure, logistics, personnel and all data collected in Antarctica. This scientific collaboration, as part of IGY, allowed the freezing of political tensions and a close personal relationship among scientist from countries with very different cultures and political ideologies.

The IGY experience in Antarctica was so successful that scientists requested their governments to extend the moratorium after the IGY for a few more years so they could continue and complete their research projects there. To the surprise of many, the governments of those eleven countries went above and beyond and in 1959, during the rise of the cold war, decided, together with South Africa, to sign an international treaty which preserves the whole continent for conservation and scientific research, and isolates it from any military action.

### **The Antarctic Treaty**

The Antarctic Treaty (TA) was signed on December 1<sup>st</sup>, 1959 and became effective in 1961, after it was ratified by all twelve signatory nations. These nations agreed, among other things, that Antarctica was going to be exclusively used for peaceful actions, that freedom of scientific research and cooperation in Antarctica was going to continue, that no new territorial claims were going to be accepted nor extensions of the previous ones acknowledged while the treaty is active, and that nuclear and radioactive activity and waste are completely prohibited.

Currently all international relations related to Antarctic issues are regulated by an international system, the Antarctic Treaty System (ATS). In addition to the original Antarctic Treaty, the ATS includes the Convention for Conservation of Antarctic Seals from 1972, the Convention for the Conservation of Antarctic Marine Living Resources from 1980 and the Protocol on Environmental Protection to the Antarctic Treaty from 1991.

It was in this way that science and scientific research became the reason and mechanism to ensure peace in a continent that came close to becoming the scenario of political and armed confrontations. The way the IGY, an entirely scientific initiative, advocated for and stimulated the diplomatic negotiations and international policy between nations with different ideologies, moving them to sign the AT, is a clear example of the potential the scientific community has to transform the world in a political sense.

This also shows the efficiency that science diplomacy has by successfully joining countries through science and promoting scientific cooperation as an instrument of international solidarity and peace. In scientific diplomacy, relations are more transparent and as such alleviate the concerns over possible hidden agendas, allowing for freer interactions between the participants.

Since its signing, 42 other countries have joined the Antarctic Treaty, for a total of 54 participating countries as of May 2019. There are three kinds of participants in the treaty: signatory States (the original 12), consultative members, including the 12 signatories, which, with the right to vote at the yearly consultative meeting, make the fundamental decisions on Antarctic issues; and non-consultative members with a voice but no vote at the treaty meetings. There are 29 consultative members and 25 non-consultative. There's no doubt that the Antarctic Treaty and all its components have avoided political and armed conflict in Antarctica, primarily because the actors of all potential armed actions in the region are all members of the treaty. Even when there are disputes between countries that are a part of the AT and those that are not, these disputes have been reduced with the incorporation of more countries into the AT. That is why it is surprising that after over half a century of the treaty's existence, and Costa Rica being hailed as a model for peace and conservation, this small Central-American country has still not joined the Antarctic treaty.

## **The contradiction**

Antarctica as a continent for peace and conservation and Costa Rica as a global promoter of peace and conservation have not merged yet, and that is contradictory. Costa Rica is not part of the ATS and has not played any role in the negotiations of the treaty. There have also been, as of early 2017, no national efforts by the political or academic communities, to be part of this international regime. Though lacking a political role on the continent, Costarrican researchers have taken part in scientific expeditions to Antarctica, with other nations without being part of the treaty. As a part in the treaty, Costa Rica could potentiate even more the contribution of its scientists in the understanding of Antarctic endogenic and exogenic processes, and it could become an excellent stage to continue its global significant addition to environmental conservation and world peace.

Given its peaceful image, its intense environmental conservation involvement, its fomentation of scientific research, and especially for its international leadership in these issues, Costa Rica could be a worthy part of the Antarctic Treaty. Costa Rica not only has all the merits and moral authority to be a part of the treaty, but to be consistent with its foreign policy, it should adhere to the treaty. It is the lack of information what has kept Costa Rica away from the Antarctic Treaty thus far.

The AT and its consulting meetings could be an excellent stage for Costa Rica to continue to prove itself as a leader in peace and conservation efforts on a global scale. Being part of the system would avoid unnecessary criticisms of Costa Rica's inert position with regards to the future of an entire continent in which it could exert an important influence. Given the successful and effective participation Costa Rica has had in the international arena with an idealist rather than realist position, being part of another international regime as important as the ATS would open new fields of action to exercise external policy, cooperation and international scientific investigation.

## **Scientific advice and science diplomacy to solve the contradiction**

Science diplomacy and scientific advice to governments are excellent mechanisms for developing countries, such as Costa Rica, to have the opportunity to contribute to research projects in Antarctica. The scientific and academic potential of these developing countries, particularly their ability to innovate, is a valuable resource that can be potentiated, with the interaction of scientists from other countries, to advance the understanding of natural processes that occur in Antarctic regions. The lack or limitation of economic resources should not be a barrier for researchers from developing countries to contribute to the knowledge generated in Antarctica and for the transfer to their countries of that knowledge; those limited resources can be overcome through efficient science diplomacy and scientific advice.

Given all of the above, not only is it necessary to create a motive and justification to encourage the Costa Rican government to join the Antarctic Treaty, but it is also important to study whether there is an interest in the national scientific community to partake in scientific investigation in Antarctica, and identify specific areas of study and their importance to the country. It would also be advantageous to reach out to the embassies in Costa Rica of those countries that are consulting members of the treaty, to inquire about the possibility of Costa Rica participating in joint expeditions to Antarctica in the name of international scientific cooperation.

In this context, as an established seismologist who has worked at the National University for over 30 years, this Costarrican scientist started, in 2011, a master's program in International Relations and Diplomacy to find ways to divert funds from the Official Aid for Development to science and technology. Through participation in two expeditions to the Antarctic continent, in 2013 and 2016, exposure was gained on the Antarctic Treaty. Then, for the master's thesis, a study of this clear contradiction between a treaty that so aptly fits his country's images in the international arena and the inert position that Costa Rica has had with respect to Antarctica was developed. This thesis served as a contribution to solve that contradiction by providing the scientific and political criteria that could motivate

government authorities and legislators to join the Antarctic Treaty. Even if, due to political reasons or party rivalry, that does not happen, this thesis is already contributing to reduce the lack of information that exists in Costa Rica with respect to one of the most important international treaties signed during the Cold War.

It wasn't until February of 2017 and as a result of this work that the Ministry of Foreign Affairs of Costa Rica took the first step to consider the potential inclusion of Costa Rica to the Antarctic Treaty. Through an email on February 24<sup>th</sup>, 2017, this Ministry formally requested Dr. Roman Macaya H., Ambassador of Costa Rica in Washington D.C., to carry out the necessary actions to obtain a certified copy of the 1959 Antarctic Treaty in Spanish. Vice-chancellor Alejandro Solano O. brought the aforementioned copy to the country at the beginning of April 2017 after an official visit to Washington.

As part of the study, it was found that in Costa Rica there is both political and scientific interest to be part of the treaty and that the indifference towards Antarctica was only due to lack of information. Although this information gap has been partially filled with this work, a more structural education initiative is recommended to provide officials and citizens with critical information regarding Antarctica, the Antarctic Treaty and the advantages of joining the treaty. If Costa Rica joins the treaty, it will be important to add Antarctica as a subject of study in elementary and secondary school curricula. This will stimulate curiosity and interest in children and teenagers to become future Antarctic explorers for Costa Rica.

Political backing was sought towards the initiative of adding Costa Rica to the Antarctic Treaty on the 1st of June, 2017, in a meeting with the President of Costa Rica Mr. Luis Guillermo Solis R., the Minister of Environment and Energy Mr. Edgar Gutierrez E., the vice-minister of Waters, Seas, Coasts and Wetlands Mr. Fernando Mora R., and the chancellor of the National University Mr. Alberto Salom E., The Minister and vice-minister both showed a sincere interest in backing this initiative and collaborating in the drafting of a Bill of Law for Costa Rica to join the treaty.

The inclusion of Costa Rica in the Antarctic Treaty has to be approved as law by the Congress of Costa Rica. Authorities of the Ministry of Foreign Affairs, the Ministry of Environment and the Ministry of Science and Technology already have a draft of the Bill of Law, prepared as part of the thesis. In that regard, the gears have begun to turn. All that is needed now is for the political side to fulfill their responsibilities in the effort, and Costa Rica will be well on its way to joining the Antarctic Treaty.