



ANTARCTICA, PRESENT AND FUTURE: COMMEMORATION OF THE 30TH ANNIVERSARY OF THE MADRID PROTOCOL MADRID, SPAIN, 4 OCTOBER 2021

Convened by the Spanish Government, the conference “Antarctica, Present and Future: Commemoration of the 30th Anniversary of the Madrid Protocol”, took place in Madrid, Spain on 4 October 2021 at the National Museum of Archaeology. It brought together around one-hundred participants in person and many more virtually, representing governments, research institutions, non-governmental organizations, media and civil society. Participants addressed the environmental challenges facing Antarctica and the Southern Ocean presently and in the future, and the important roles played by Antarctica for the planet. Quico Taronjé, a Spanish television presenter, served as Master of Ceremonies (MC), noting that thirty years ago on that day the Madrid Protocol was signed to provide international protection to the Antarctic continent.

OFFICIAL OPENING

The official opening included addresses by President Pedro Sánchez (Spain), Prime Minister Jacinda Ardern (New Zealand), and Prime Minister Scott Morrison (Australia) who celebrated the thirty years of international protection of Antarctica provided by the Madrid Protocol.

Each noted the Protocol’s dedication of Antarctica to peace and science and the ban on minerals activities enshrined in the Madrid Protocol, acknowledging the roles of scientists and civil society in finalizing the Protocol. They committed themselves to ensuring that Antarctic science remains world-leading, and that it is imperative for Antarctic Treaty members understand the impacts of human actions in Antarctica so that increasing human presence doesn’t pressure its status as a natural reserve. They expressed their full and enduring commitment to the Madrid Protocol, agreeing that the Antarctic Treaty System is an important pillar of global security, noting that nations must commit to face the challenges of climate change, and that they have a duty to work together to protect the region. Antarctica’s role in informing us about human impacts globally is crucial. Research needs to be based on mutual trust and cooperation, to strengthen multilateralism. Antarctica is a shared asset, and the shared responsibility of all Antarctic Treaty member countries. All three emphasized that Marine Protected Areas (MPAs) are an important tool to support the resilience of the region, stressing the need to create more MPAs. We have only one planet.

His Serene Highness Prince Albert II of Monaco addressed the conference via video, stating that the Protocol is of particular importance to the global community, a model of looking ahead and focused on an area not under national jurisdiction. He commended the Parties for creating in 2016 the world’s largest MPA in the Ross Sea, urging that Governments agree this year on designating MPAs in the Weddell Sea, East Antarctica and the Antarctic Peninsula. He said that peace and

science help reconcile human beings, and that we need to ensure political affirmation of science in the face of demagogues. In conclusion he stressed the need to anticipate the Protocol's review in 2048 and urged that we should start thinking about that now.

Dr. Sylvia Earle (Mission Blue) delivered the keynote speech via video link. She expressed thanks to those who negotiated the Protocol in 1991, as well as those who have helped implement it. Stressing that Earth operates as a tight bio-geo-chemical system, she noted that as far as we know, there is nothing like the blue planet. The "blue carbon" in Antarctica helps protect the planet, with whales estimated to have a value of \$1 trillion in capturing carbon dioxide. Dead whales and harvested krill have a small value in comparison. The nutrients from Antarctic species are transmitted around the world. She asked why we think of sea creatures as something to be used, suggesting that we need to think differently about life everywhere. Regarding legally subsidized fishing operations, she stressed that we have choices, and that more must be done to protect the rest of the Antarctic Ocean, which is recovering from two-hundred years of human impacts. If we want to reach the goal of at least 30% of land and sea being protected as proposed before the 15th Conference of the Parties to the Convention on Biological Diversity (CBD), more MPAs around Antarctica must be designated. Our lives depend on protecting the natural systems that make Life possible. The Precautionary Principle, a key element of the Protocol, should be applied.

A Brief History of the Madrid Protocol

The first global framework to regulate human activities in Antarctica started with the adoption of the **Antarctic Treaty**, signed in Washington DC, USA on 1st December 1959, with the main purpose of ensuring "in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord". It also provides for: freedom of scientific research in Antarctica and cooperation to that end; the exchange of and free access to scientific observations and results from Antarctica; the prohibition of military activities; and an inspection regime. The Antarctic Treaty entered into force in 1961 and to date the total number of Parties to the Treaty is fifty-four.

"Preservation and conservation of living resources in Antarctica" is one of the Treaty obligations. Accordingly the Convention for the **Conservation of Antarctic Marine Living Resources (CCAMLR)** was adopted in May 1980, in response to concerns over increasing unregulated catches of krill and other species in the Southern Ocean.

The Wellington Convention on the Regulation of Antarctic Mineral Activities (CRAMRA) was also signed in Wellington in June 1988, but between May and August 1989, the then Australian Prime Minister Robert Hawke and the then Prime Minister of France Michel Rocard announced jointly their countries' opposition to mining in Antarctica which they considered incompatible with the obligation to protect the Antarctic environment, and rejected the Wellington Convention which never entered into force because the Antarctic Treaty requires consensus. Instead, the two Prime Ministers called for a comprehensive regime of environmental protection.

The Madrid Protocol on Environmental Protection to the Antarctic Treaty was negotiated as a result during four sessions of the 11th Antarctic Treaty Special Consultative Meeting, and adopted on 4 October 1991 in Madrid, under the Presidency of the Government of Spain. It entered into force in 1998. The Protocol designates Antarctica as a "natural reserve devoted to peace and science", and sets forth basic environmental principles applicable to human activities in Antarctica,

established an Environmental Protection Committee, and prohibits all activities relating to Antarctic mineral resources except for scientific research. Efforts to designate **Marine Protected Areas** have been on-going for many years within CCAMLR. In October 2016, after several years of discussions, CCAMLR agreed to designate a 1.55 million km² area of the Ross Sea as a MPA. CCAMLR Parties have also committed to establishing a network of MPAs in the Southern Ocean, but so far proposals tabled in 2017 for the designation of MPAs in East Antarctica, the Weddell Sea and the Antarctic Peninsula have not received the unanimous support required for the adoption of these proposals.

MINISTERIAL DIALOGUE

Prior to the Ministerial Dialogue between Teresa Ribera, Spain's Vice-President and Minister for the Ecological Transition and the Demographic Challenge, and Secretary John Kerry, President Biden's Special Climate Envoy, Genevieve Pons, Jacques Delors Institute and Antarctica 2020, was invited to present a petition signed by 1.5 million people around the world. She explained why Antarctica 2020 was created – to bring together global influencers to encourage governments to designate new Antarctic MPAs, noting that the Russian Federation and the Peoples' Republic of China so far have not joined the consensus required for the designation of these MPAs. The petition was presented to President Pedro Sanchez.

The dialogue between Minister Ribera and Secretary Kerry elicited strong support for more research in Antarctica to guide us in keeping Antarctica safe. The Madrid Protocol has been a success in protecting this unique ecosystem, a model of international scientific cooperation and environmental governance. Understanding the value of providing full protection to key areas in the face of the evidence about our impacts on climate is key. Each 0.1 degree Celsius of temperature brings more harmful impacts, and we need to meet the 1.5° degree Celsius challenge enshrined in the Paris Agreement of 2015, but it is not going the right way at present. Regarding fisheries John Kerry explained that there still is strip-mining of the ocean, and vast areas of the ocean are also polluted. We face an enormous problem of acidification due to increased CO₂ concentrations, which is changing the ocean faster than in millions of years and is especially harmful to shellfish and crustaceans, thus playing with the future of the ocean. There are three tipping points – the Arctic, Antarctic and coral reefs. Antarctica gives us a unique opportunity to protect the ocean as it is the most important effort right now. We cannot take for granted what we have successfully achieved; we must nurture it, because we face risks with severe global impacts.

Responding to a question from Minister Ribera regarding to the difficulty to reach consensus on the designation of new Antarctic MPAs, Secretary Kerry said that in diplomacy, there is a question of 'ripeness'. Recently India, South Korea and Ukraine all agreed to support the proposed MPAs, and it is hoped that China and Russia will soon come aboard, because there is clear logic in leaving aside some areas without exploitation. Overall, moving quickly to a different energy future will have profoundly positive implications – less acidification, fewer intense storms, less flooding. The largest economies are responsible for 80% of CO₂ emissions, and they need to take collective action. Gaining approval of the three Antarctic MPAs will be a giant step forward for the world.

Regarding the mining code currently drafted by the International Seabed Authority, both agreed that the precautionary principle should be applied, drawing on the Madrid Protocol's indefinite moratorium on mining for inspiration. Success in protecting the ocean depends on a few human

beings making wise decisions. When we exercise good stewardship, productivity increases. The ocean is needed as a carbon sink, but if we can't control, reduce and eliminate CO2 emissions, marine ecosystems will be degraded further and won't function correctly. Noting that we must avoid the activities with adverse effects on key marine areas, they called for the draft legally-binding instrument on the sustainable use and conservation of Marine Biodiversity Beyond National Jurisdiction (BBNJ) currently under negotiations in New York to be concluded in 2022.

MC Taronjı thanked the Ministers, concluding that the environment needs success stories that can inspire people and help them understand that environmental action is not in vain. This is the whole point of commemorating the Madrid Protocol today, on the day of its 30th anniversary.

ROUNDTABLE 1: ADAPTATION AND MITIGATION OF CLIMATE CHANGE

Antonio Quesada, Secretary of the Spanish Polar Committee. Professor on Plant Physiology. Autonomous University of Madrid, moderated this roundtable. Noting that the North and South poles are experiencing climate change the fastest, the consequences of the melting of the polar ice-sheets and their effects on sea-level rise will be dire. He introduced Carlota Escutia Dotti, University of Granada, Spain, an expert on the global role of the Antarctica ice sheet; Dr. Hans Otto Pörtner, Co-Chair of IPCC Working Group II and co-author of the IPCC Special Report on the Ocean and the cryosphere in a Changing Climate; Geneviève Pons, Director General of the Delors Institute and Co-Chair of Antarctica 2020; Monica Araya, an international climate policy expert from Costa Rica, Special Adviser to the U.K. High Level Champion for Climate Action; and Pascal Lamy, former Director General of the World Trade Organization, President Emeritus of the Jacques Delors Institute, Chair of the EU "Starfish" Mission and Co-Chair of Antarctica 2020.

In opening the session, Lamy informed the conference that the EU Starfish Mission project will invest millions of euros in understanding of ocean and steps toward action to protect it, including a large educational component. The ocean matters a lot for climate; Antarctica means a lot for the ocean and therefore, for climate. In 1961 the Antarctic Treaty was agreed; thirty years later in 1991 the Madrid Protocol was concluded; now in 2021 it is time another thirty years later to agree on the three Antarctic MPAs on the table. During the next decade we will have to do much, much more - we have to go beyond protection, to restoration as we transit to a zero-carbon economy. We need to walk the talk and accelerate action. Unless the proposed MPAs in the waters surrounding Antarctica are designated, there is no chance of achieving the 30x30 MPA target envisaged in current discussions within the Convention on Biological Diversity.

Quesada thanked Lamy for setting the scene, noting that Antarctica and the Arctic have been the main thermostats of our planet, but now the thermostats are broken just when we need them most. He asked Escutia if the scientific community is playing the role it should in order to promote a fast, effective impact on decision-makers.

Escutia replied that what concerns scientists the most is the pace at which changes are taking place, which we have never seen before. Our energy-intensive economies are causing rapid fresh-water melting in the Arctic and Antarctic. The rate of change is crucial – the record of the past forty years hasn't been seen in tens of thousands of years, while global temperature has risen more than in millions of years. One of the main uncertainties about climate change is predicting the future of the ice sheets of Antarctica; if they melt the effects will be catastrophic. What is

needed is protection both locally (controlling tourism, invasive species) and globally to slow down dangerous climate change. Urgent action is needed on both levels.

Quesada thanked Escutia. Noting that the global role of ice sheets was at the heart of the IPCC's Special Report on the Ocean and Cryosphere in a Changing Climate in September 2019, he asked Hans-Otto Pörtner about his message to decision-makers on Antarctica.

According to Pörtner, a precondition for decision-makers is to accept the findings of IPCC experts on cryosphere and the ocean. Protection of Antarctica can be a model for how to work around the rest of the world, providing the opportunity to develop unifying principles for the entire global ocean. We are facing mass extinctions of species because of human activities, and invasive species are already moving into Antarctica, which will change the benthos and impact all polar fauna. We have entered the decisive decade if we hope to keep warming to 1.5 degrees. Antarctica is a huge source of blue carbon, and we need a governance system for the ocean that acts globally as we face three interdependent crises: climate change, biodiversity loss and a societal crisis. We have to move away from a siloed approach and develop strategies for societies to address these crises in time through mitigation and adaptation. In Pörtner's view, in order to overcome short-term obstacles, international agreements on the principles to be followed are more important than percentage targets.

Quesada welcomed the attention paid by the IPCC to the cryosphere and the ocean, including Antarctica and the Southern Ocean, thanking Pörtner for his dedication. He asked Mónica Araya about her thoughts and expectations on the role of Antarctica as an engine for climate action. How can Antarctica be used as a flagship to promote climate action with the public?

Araya's main recommendation consisted in focussing more on emotion. Love for Antarctica should be the message, coupled with a deeper and more powerful story of the exemplary collaboration that is taking place in Antarctica, because we won't solve global problems without more collaboration. Climate negotiations used to stand apart from biodiversity and ocean which were both considered in separate silos, but this is changing now thankfully, and we need to go much further. Broadly speaking, humans have to learn how to exercise self-restraint, because some resources will have to stay in the ground. Araya said also that it is perhaps worth thinking more about silence as a value: Most of our societies are overwhelmed with noise, but in Antarctica there is a silence which is profound and which we can use as an educational tool.

Quesada thanked Araya, noting that Minister Ribera and other ministers will find her remarks useful as they are preparing for COP26. He then asked Geneviève Pons to explain why Antarctic Marine Protected Areas are relevant to climate change.

Pons reminded participants that Dr. Sylvia Earle outlined in her keynote speech the profound interactions between the ocean and climate change. The Ocean represents 70% of the surface of the planet while the Southern Ocean represents only 10%. However the Southern Ocean's CO₂ absorption is twice as large as other parts of the global ocean. Antarctic MPAs will help enhance the ocean's climate change mitigation role, as well as providing resilience for species in the region. It is thus crucial for governments to continue developing a large network of MPAs in the Southern ocean.

Quesada thanked the panellists, noting that everyone is looking forward to further progress in the next few weeks, in the context of the Commission for the Conservation of Marine Living Resources (CCAMLR), COP26 of the UN Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD) and the UN process on Biodiversity Beyond National Jurisdiction (BBNJ). He summarized take-to-the-ministers messages from the panel as follows:

- Time for Action is now on Antarctic MPAs, and an opportunity to break the silos that have separated climate and ocean action
- Listen to the science to take science-based decision-making
- Try new ways to better motivate people and the general public

ROUNDTABLE 2: NATURAL RESOURCES & HUMAN ACTIVITIES

MC Taronj introduced the second roundtable facilitated by Albert Llubers, Executive Secretary of the Antarctic Treaty headquartered in Buenos Aires. Noting that the Madrid Protocol was signed out of concerns about the near reality of Antarctic mineral resources exploitation, he said that the ban on minerals' exploitation enshrined in the Madrid Protocol is part of what we are remembering and celebrating today. He asked the panel what lessons can be learned for the present and the future.

Llubers said that the Madrid Protocol was and remains a success story, which we are celebrating on the day of its signature 30 years ago with the same spirit the Parties to the Antarctic Treaty celebrated the 60th anniversary of the Treaty signed on 23 June 1961. On 23 June 2021, during the 43rd Consultative Meeting hosted by France, the Parties adopted the Paris Declaration to reaffirm their commitment to the principles and objectives of the Treaty and the Madrid Protocol, committing governments to safeguarding the ecosystems of the region, and to working together to mitigate dangerous climate change. Llubers noted that since 1991, the intensity of human presence and activities in Antarctica had increased dramatically, with a projected growth of tourism and non-governmental activities and the potential related environmental impacts, thus bringing a whole new set of challenges which are addressed in the Paris Declaration. He introduced H.E. Santiago Cafeiro, Minister of Foreign Affairs, International Trade and Worship of Argentina, who provided opening remarks for the roundtable.

Santiago Cafeiro expressed the view that the Antarctic Treaty and the Madrid Protocol do not cover everything under discussion today, outlining that CCAMLR is also very important. He acknowledged the Madrid Protocol deepened regulations applied to many activities including waste disposal, the creation and management of protected areas and banning minerals exploitation. Minister Cafeiro recalled that Argentina has adapted its activities to be in line with the Madrid Protocol and with CCAMLR, and that now the biggest challenge consists in mitigating climate change impacts. Other concerns are fisheries management and tourism.

Llubers thanked Minister Cafeiro and introduced the panellists. Csar Crdenas, a marine biologist with the Chilean Antarctic Institute, specialized in the study of benthonic marine organisms and sponges, who worked on the joint proposal by Chile and Argentina to designate a new marine protected area around the Antarctic Peninsula; Andrs Barbosa, Polar Research Coordinator at the National Museum of Natural Sciences in Madrid; Claire Christian, Executive Director of ASOC, the Antarctic & Southern Ocean Coalition, which has participated in the

Antarctic Treaty for many decades; and Rémi Parmentier, Varda Group, who has helped the Spanish Ministry for the Ecological Transition and Demographic Challenge put together today's event and was involved in the 1980s and 1990s with the NGO campaign in support of what became the Madrid Protocol. He asked Cárdenas to give a snapshot of contemporary challenges concerning the conservation of Antarctic marine living marine resources and to explain what led Chile to propose an MPA in the vicinity of the Antarctic Peninsula.

Cárdenas said that MPAs have been included on the agenda of CCAMLR for many years, and that changes around the Peninsula have been detected in recent years as temperatures rise, including effects on krill and penguin populations. Two years ago CCAMLR decided to change how it manages the krill fishery, and last year there was a record catch around the Peninsula. Agreeing on protection areas is therefore key; it will be beneficial to fishers and help address the impacts of both fishing and climate change. The Madrid Protocol shows the way forward for collaboration to protect Antarctica, using the precautionary approach which is especially important given that the Southern Ocean is data-poor.

Lluberá thanked Cárdenas and asked Andrés Barbosa about conservation on land, including pressures from tourism and alien species, reminding that the Paris Declaration commits Parties to cooperate in the planning and conduct of all activities in the Antarctic Treaty Area.

Barbosa highlighted mining as one of the most destructive activities, asking people to imagine if mining had been allowed and not ruled out thirty years ago by the Madrid Protocol. The Protocol has blocked mining activities, and this should be continued beyond 2048. Spain studies invertebrates and all parts of the ecosystem. Tourism numbers are now up to 60,000 people a year, and scientists also have an increasing footprint, especially in the most visited places. The risk of invasive species through human introduction, including micro-organisms, is growing. Micro-plastics and persistent organic pollutants (POPs) have also been found in the diets of penguins and other animals and we cannot wait 30 years to solve these problems. The Madrid Protocol has been and continues to be useful, but there are ongoing and new challenges that call for its reinforcement.

Lluberá thanked Barbosa. He noted that the Antarctic Treaty System has a long tradition of working with NGOs whose role as invited experts is widely welcome. He noted the presence within the audience of several NGO representatives, including Jim Barnes who founded ASOC in 1978, and invited Claire Christian, Executive Director of ASOC, to express her views as the expert Antarctic NGO coalition.

Christian said that ASOC is proud of the role it has played and continues to play, because Antarctica faces large threats. The Madrid Protocol and CCAMLR contain principles which can guide action – but she expressed concern that very few new actions have been agreed in recent years. She noted that Annex V lays out a process for designating protected areas on land and coasts, but it is barely used. MPAs have been on the table for years at CCAMLR. In short, the science is there, but politics is blocking decisions. Tourism is growing rapidly, but so far unconstrained, essentially only self-regulated by the industry. According to ASOC, what is needed is a renewal of inspiration. She said that the Protocol should be a living document, because extraordinary places require extraordinary protection. Christian said that the Antarctic Treaty

System can make a huge difference for the future, that it is time to demonstrate leadership again so we have a lot to celebrate in 30 years, wishing that the best days of the Antarctic Treaty System still lie ahead.

Lluberá thanked Christian, noting that all participants at this celebration appreciate ASOC's role as an independent non-governmental organization with a scientific and technical interest in Antarctica. Introducing Rémi Parmentier, who was involved with ASOC's and Greenpeace's Antarctic campaigns in the 1980s and early 1990s, he reminded the conference that Rémi is the Secretary of the Because the Ocean initiative on ocean and climate change, a coalition of thirty-nine countries. In a recent thought-provoking essay, *Blue Food for Thought*, Rémi articulated four new proposals for protecting the ocean in which he looks back to the past to draw lessons for the future.

Parmentier said that the campaign leading to the Madrid Protocol had been one of the highlights in the history of Greenpeace. He expressed gratitude to Minister Ribera for rescuing the collective historic memory. He noted "a clamour" in support of Antarctic MPAs but in terms of motivating ministers and the general public, he proposed to replace the CCAMLR acronym, for example using "Antarctic Life Summit" or an equivalent instead. Regarding the consensus building for the 30x30 campaign, he outlined the case for making protection the rule rather than the exception and reversing the burden of proof – those wanting to exploit should have to prove it is safe, instead of only those wanting to protect proving it is feasible. He said that would make environmental impact assessments more effective, such as those envisaged in the draft BBNJ agreement. He drew a parallel between the tension in 1988-1989 with the Wellington Convention, which would have opened Antarctica to minerals exploitation and which was ruled out by the Madrid Protocol, and the current draft Mining Code now under consideration at the International Seabed Authority. He welcomed the recent call for a moratorium on deep seabed mining adopted by the IUCN's World Conservation Congress in Marseille.

Lluberá thanked Parmentier and introduced the interactive part of the session.

Interactive dialogue: Participants agreed that we need to work more closely together to obtain the protection of the ocean that is required for the long term. There is a great need for more science about impacts of micro-plastics on marine ecosystems, and long-term reference studies. We barely know what microorganisms are in Antarctica now, so we can't know what is new and/or introduced. A key question is when there is enough information to make decisions. That often provides an excuse for some governments to block or delay decisions, even if there is plenty of science to make decisions now. Countries should invest in training more scientists in order to address present and future challenges. Without the political will to make decisions, nothing happens. It is dangerous to see science being used as a weapon. Every country and NGO should invest their political resources to encourage the MPA-sceptic countries to change their minds and join the ranks.

Almost thirty years ago, the Rio Declaration endorsed the precautionary principle by consensus. That represents the paradigm. Reversing the burden of proof would be applying the precautionary principle: Protection becomes the rule rather than exception.

Regarding Antarctic tourism, which is largely unregulated, the Madrid Protocol contains everything needed. The Antarctic Treaty Contracting Parties should be setting the rules in the growth context. The Treaty's committee on Environmental Protection (CEP) should discuss limits on tourism, because no tourism activities are banned at present, and everyone who visits Antarctica has an impact.

Regarding the protected areas system on land and along the coasts it was noted that Annex 5 calls for establishing a representative system of protected areas, which at present are few in number, small in size, and there are no "reference zones" as the Annex calls for.

Regarding deep seabed mining, it was noted that if nothing is done by the International Seabed Authority, mining will start in two years. In contrast, thirty years ago there would have been a huge clamour against among NGOs and conservation-minded governments leading the effort for a moratorium.

In closing, Lluberas outlined several "take-home" messages and key ideas arising from the discussion:

- Act in the common good
- Collaboration is required to agree on new MPAs, which are necessary to understand the drivers of climate change and protect Antarctic species
- Maintain vigilance about emerging threats in order to take timely action
- Consider reversing the burden of proof in line with the Precautionary Principle
- Encourage non-members to join the Antarctic Treaty System
- Consider a moratorium on deep seabed mining as proposed by the IUCN World Conservation Congress, and following the model of the Madrid Protocol

MC Taronjé thanked Lluberas and the panellists, and introduced the third roundtable, facilitated by Jakob Granit, General Director of the Swedish Marine and Water Agency and Chair of CCAMLR in 2021.

ROUNDTABLE 3: RESEARCH & TECHNOLOGICAL INNOVATION

Granit said that several previous speakers had already referred to CCAMLR, the Commission for the Conservation of Marine Living Antarctic Resources, which he chairs this year, mentioning the mounting momentum to add three new marine protected areas within the maritime region regulated by CCAMLR. He introduced H.E. Andrés Allamand, Minister of Foreign Affairs of Chile, who he noted is one of the MPA proponents, deliver opening remarks.

H.E. Andrés Allamand said his country is a proponent of all three MPA proposals as part of a network that the CCAMLR members and Antarctic Treaty Contracting Parties endorsed years ago. In Chile's view there is a great need for international scientific cooperation to study changes in Antarctica without damaging it. The Antarctic Treaty and its Protocol along with CCAMLR have the responsibility of protecting this very large area of the planet.

Granit thanked Minister Allamand, noting that everyone will welcome Chile's focus on the conservation and protection of the marine environment as a tool to increase resilience to climate change impacts. Research and Innovation, the topic for this Roundtable is broader. Granit

presented a slide of the Antarctic region which comprises the continent, island territories and the seascape of the Antarctic Convergence. Antarctic Specially Protected Areas, Antarctic Specially Managed Areas and Historic Sites and Monuments designated under the Madrid Protocol along the coastline of Antarctica were identified on the map, as well as the Ross Sea Marine Protected Area agreed by CCAMLR in 2017, and the South Orkney Islands Southern Shelf MPA.

With the signature of the treaty in 1959 Antarctica became the first declared nuclear weapon-free zone. The management regime of the Southern Ocean is continuing to develop, and three new MPA proposals, totalling 3 million km², have been tabled and discussed in the last few years for the Weddell Sea, East Antarctica and the Antarctic Peninsula. The Antarctic Treaty system constitutes a solid regime for protecting the continent and the Southern Ocean as a global public good, with management decisions based on the best available science provided by scientists like those around this roundtable.

He introduced the panellists, all scientists who have worked in Antarctica: Jerónimo López, Professor of Geodynamic at the Autonomous University of Madrid and former Chair of SCAR, the Scientific Committee on Antarctic Research; Anna Cabré, a climate physicist with a PhD in cosmology; Samuel Buisán Sanz, Coordinator of the Antarctic Group at Spain's State Meteorological Agency; and Birgit Njåstad, Head of the Antarctic Programme at the Norwegian Polar Institute and Chair of the Madrid Protocol's Environmental Protection Committee. Granit asked the panellists whether they would agree that the current governance and management regime is worth protecting as a whole just as much as the environment itself, and what would they suggest to decision-makers to reinforce and safeguard it.

López said that the current regime must be protected. Noting SCAR's role in the Antarctic Treaty System since the beginning in 1961, he praised the extensive cooperative international science taking place in the Antarctic. SCAR plays an important role in coordinating and promoting it. López said he would like to see even more collaboration among scientists, and between SCAR and the CEP.

After thanking López, Granit asked Anna Cabré to expand on the role of science and innovation for the global community – both physical sciences and social sciences – as someone who tries to reach out to the general public through popular books that complement her scientific work.

Cabré reminded the meeting that there is only one ocean, which is connected by Antarctica's Southern Ocean. Thus we are not immune to what is happening there – melting glaciers and ice sheets will raise sea level, and increasing sea temperatures reduce the ocean's ability to absorb CO₂. She said that we need to think centuries ahead, and realize that the science being done in Antarctica is important to the world. She underscored that we protect Antarctica also for peace, and silence. Climate change, ocean protection and preserving biodiversity are big challenges facing society; Antarctic science and policy help us address these issues for future generations to thrive.

Granit thanked Cabré and introduced Birgit Njåstad, looking forward to her 'out-of-the-box' ideas.

Njåstad said that for her, as Chair of the Committee on Environmental Protection, the role of science is critical to the mission of protecting Antarctica and dependant ecosystems. A key principle is that no activity should harm the environment, and that decisions must be based on informed judgment, which requires knowledge and research. We thus need much more regular monitoring, both short and longer term. In order to respond to changes and help the Parties make informed judgments as there are more and different human activities. We need an active,

engaged scientific community, with synergies among national and international programmes and institutions. She said that in this context, the dialogue between scientists and managers needs to be strengthened, because we must produce the science needed for management.

For Njåstad, Antarctica is so huge that there are large information gaps. But we cannot let the absence of knowledge prevent informed decision-making based on the best available science. Using modern technology is essential, which also lowers our human footprint.

Granit thanked Njåstad, and asked Samuel Buisán Sanz (Spain's State Meteorological Agency) about the role of the UN Framework Convention on Climate Change and the Convention on Biological Diversity. As we hear more and more of the "climate, ocean and biodiversity nexus", breaking the silos is a phrase that has become common. So what role is there for research and innovation to break the silos?

Buisán Sanz said that today's impacts are detrimental for some species, while opening up opportunities for others. We thus need a long-term perspective, which can be helped by transferring old data to a modern format. There is also a need to ensure that all programmes use the same data format so that they can be combined and analysed collectively. It is in addition crucial for people with good communications skills to communicate to the public the importance of protecting Antarctica and what the research is.

Interactive dialogue: The panel agreed that scientists and managers should discuss together what questions need to be answered in the next decade or two, to help guide research and development. It is also crucial to involve people – the public – in order to gain popular support for protecting Antarctica. Scientists must deepen collaboration on specific objectives, including within the CCAMLR Scientific Committee and meetings of the CEP.

Governments and scientific institutions should invest more in international organizations and projects, and increase capacity building activities to enhance that cooperation. Scientists should be rewarded for interacting with policy-makers, which often is not part of their regular jobs. There is also a great need of more interdisciplinary projects that are long-term and large-scale.

The Madrid Protocol represents a good platform for moving forward, but a continued focus on implementing it is crucial. We should nurture the governance system we have. As we learn more about problems, impacts and solutions, bringing forward the best science and communicating it to everybody will help drive good solutions.

The panel stressed that Antarctica is fragile, and that this needs to be better communicated to the general public and decision-makers audiences in order to build consensus and action. This is especially important in the near term about MPAs.

Granit thanked the panel for a rich dialogue. He said that for him, as Chair of CCAMLR this year, it had been quite useful, and hoped also to the ministers present. He noted that the panel identified some key ideas that may stimulate ministers:

- The importance of innovation in governance and management
- The use of technology to gain more knowledge about ecosystem processes and impacts of human activities
- New approaches in communicating scientific findings and the importance engaging with various audiences on protecting Antarctica
- The growing consensus on new MPAs and also protected areas on the continent

MINISTERIAL MEETING ON THE FUTURE PROTECTION OF THE ANTARCTIC PROJECT

Minister Teresa Ribera opened the discussion, welcoming ministers and representatives from 31 countries. Ministers and representatives from the following countries took the floor: People's Republic of China, Belgium, Argentina, Chile, France, Germany, Sweden, Finland, Portugal, Ukraine, Bulgaria, Norway, Brazil, New Zealand, India, Netherlands, USA, UK, Czech Republic, Turkey, Colombia, Poland, Uruguay, South Africa, Peru, Italy and Switzerland.

The speakers offered the following views:

China (Dr. Zhang Zhanhai, Chief Engineer of the Ministry of Natural Resources): The Madrid Protocol is the most comprehensive international instrument governing areas beyond national jurisdiction. We endorse its principles, have incorporated them into our Antarctic stations and believe science should underlie all decisions. Regarding MPAs, our approach is to use science. We uphold the freedom of scientific research, which is important for understanding climate change.

Belgium (Zakia Kattabi, Minister of Climate and Environment): A lot remains to be done, with Antarctica experiencing numerous threats. We share the goal of protecting it for future generations, and to this end we should agree on protected areas on both land and sea. The proposed new MPAs should be approved this year. Science-based decision making is the core of the Antarctic Treaty System, and the Precautionary Principle must be applied. It is important to think of global common goods in making decisions.

Argentina (Deputy, on behalf of Foreign Minister Santiago Cafeiro, who had to step out). Our 100 years of presence in Antarctica allow us to see what is happening. Implementation of the Madrid Protocol is important for our country. Our main concerns are illegal fishing, tourism and climate change, and we should work together to stop invasive species from entering the region.

Chile (Andres Allamand Zavala, Minister of Foreign Affairs): Chile participated actively in negotiating the Protocol to protect Antarctica as a natural reserve devoted to peace and science. Climate change is a shared global challenge. At this year's CCAMLR meeting we hope significant progress can be made on MPAs in the Weddell Sea, East Antarctica and the Antarctic Peninsula where there is highest concentration of human activities. Annex VI and VII should be fully implemented. Together we must redouble our efforts to maintain Antarctica as the last pristine area on the planet.

France (Barbara Pompili, Minister for the Ecological Transition): At the recent Antarctic Treaty Consultative Meeting we celebrated the 60th anniversary of the Antarctic Treaty and agreed to a joint statement. Antarctica is vulnerable to climate change and other human activities, and we must collaborate to understand what is happening and take action to ensure protection. The MPAs on the table are increasingly supported by member countries – India, Ukraine and South Korea are the latest co-sponsors. In addition, France will host the One Ocean Summit in January 2022, to mobilise the international community on ocean protection.

Germany (Norbert Gorissen, Deputy Director-General for International Policy, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety): It is time to put Antarctic protection front and centre. We all know climate change is happening now, and we must limit warming to 1.5C as the upper limit. The upcoming Glasgow COP is thus crucial. We also support MPAs in the Southern Ocean, which are important for climate and biodiversity. Reaching agreement will help

us all meet our international targets. We should apply the precautionary principle to limit harm to Antarctica, including limiting the impacts of tourism, and study noise pollution. Germany looks forward to welcoming participants to the Antarctic Treaty Consultative Meeting in Berlin next year.

Sweden (Anders Mankler, State Secretary): There is a need to strengthen cooperation on illegal, unreported and unregulated (IUU) fishing and MPAs, which provide resilience in the Southern Ocean. Agreement on the three Antarctic MPAs will be one of the boldest moves for environmental protection in our time. We also endorse the global 30x30 goal, as well as an ambitious treaty on marine biodiversity in areas beyond national jurisdiction, which is an important step for achieving the 30x30 target. Science-based decision-making must be brought to the forefront. The Madrid Protocol is a shining example of multilateral collaboration, and an inspiration for other fora. We thus fully support the Declaration of Madrid.

Finland (Terhi Lehtonen, State Secretary): We are fully committed to protecting the Antarctic and support the work of the CEP. The Arctic and Antarctic both suffer badly from climate change, and the latest IPCC report indicates strong impacts on the Antarctic Peninsula. We thus need to work with nature and find synergies to help us protect ecosystems. We shall host the next meeting of CEP in Finland. Our future depends on the ability to understand what is going on and to take action.

Portugal (Ricardo Serrao Santos, Minister of Maritime Affairs): We are called on today to celebrate the Madrid Protocol and to act. We don't have 30 years to take action to deal with climate change. We have to change the status quo – if governments fail to act, science won't save us. The climate emergency is the result of inaction. The global ocean is part of the climate nexus and Antarctica is part of the ocean nexus. The IPCC report on the Ocean and Cryosphere shows what is at stake. We want to meet the 30x30 target. Minister Santos reminded the meeting that Portugal will host the High level UN Ocean Conference on SDG14 in Lisbon in June 2022.

Ukraine (Iryna Stavhuk, Vice-Minister for Environmental Protection): We've been involved with Antarctic research for many years. Recently we joined as a sponsor of the three pending MPA proposals, including scientific research in the relevant areas. We are also working on a protected area around our station on the Peninsula.

Bulgaria (Ambassador Aleksey Amdreev): Bulgaria has been active in Antarctica since the 1980s. We strongly support scientific cooperation and more than twenty countries' scientists have worked at our station. Cooperation is key for us. We are concerned about impacts of all human footprints in Antarctica.

Norway (Mathias Fischer, State Secretary): Ensuring that all activities are carried out safely without environmental impacts is our goal. The Protocol ensures that protection is a living part of all activities carried out within the Antarctic Treaty Area. It is a high priority to maintain the pristine status of Antarctica, focusing on science, cooperation and environmental protection. The Madrid Protocol will continue to play a pivotal role as a pillar to build on in the future.

Brazil (André Germanos, Vice-Minister for Protected Areas): All activities should follow strict environmental measures. The establishment of MPAs throughout the region is very important to the mission of protecting Antarctica for present and future generations. We should use what has been learned in the past thirty years to deal with emerging problems now.

New Zealand (Renee Heal, Deputy Ambassador to Spain): We are dedicated to the Madrid Protocol, and hope there will be high aspirations going forward. Antarctica is unique, and whatever happens there, it happens to all of us. We can be proud of the Protocol but are acutely aware of current pressures. We have to act now to lessen climate change impacts. The Protocol is strong, but we need to provide additional protection for Antarctica and the Southern Ocean. Carrying out more research to understand the past and take action for the future. We must be forward-looking. New Zealand's commitment is full and enduring.

India (Jitendra Singh, Minister of Science and Technology): India was honoured to sign the Madrid Protocol in 1998. We've endorsed a green environmental initiative in Antarctica as part of our efforts to maintain it as a science reserve and a region of peace. Our guidelines call for shared logistics. We are very worried about IUU fishing. India approves the Declaration of Madrid.

Netherlands (Jan Versteeg, Ambassador to Spain): The CEP has provided a steady flow of advice to governments. We urge everyone to ratify Annex VI. The Netherlands thanks SCAR, COMNAP, ASOC and IATTO for their collaboration. The Protocol is not future-proof: we need to compromise in order to make progress. Regarding the most pressing threat – climate change – we would like to see more cooperation to provide advice to the global community based on Antarctic research. All the CCAMLR Parties agreed on establishing a network of MPAs years ago, and it's time to meet that commitment by agreeing on the three pending proposals. We also need to honour Annex V by creating more and larger Protected Areas. Last, management of tourism is crucial; we call on all Parties to do a health check of the Protocol to ensure that tourism complies. We are launching a new programme to study its impacts, funded with EUR 4.5M through the Dutch Resource Council.

United States (Constance Arvis, Acting Deputy Assistant Secretary for Oceans, Fisheries and Polar Affairs): The US has a long history of supporting Antarctic science, and reserving the region for peace and science. CCAMLR and the Protocol lay out how to implement maintaining it as a zone of peace and science. The CEP is invaluable to our work in implementing the Protocol. MPAs are a key tool and we fully support the three present proposals. The science is clear that designating them will enhance our understanding of the areas and permit climate resilience. We call on all members to support them, and to keep working together to meet our shared commitments to protect Antarctica.

United Kingdom (Sarah Boschi, Deputy Ambassador): The CEP makes decisions for the best interests of the Antarctic. The Protocol was designed to be flexible enough to address new challenges. Climate change is the most serious threat and we all should do everything possible to stop its impacts. The CEP is developing an action plan on climate mitigation, and we ask every party to participate. We ask all Parties to come with bold commitments towards zero-emissions at the Climate COP in Glasgow. That is the best way to protect Antarctica.

Czech Republic (Ivan Jancaerek, Ambassador to Spain): We are close to ratifying Annexes V and VI. Our new station promotes international cooperation. We appreciate the Antarctic Treaty System as a unique international legal instrument covering all activities in Antarctic. We hope that it will be preserved for future generations.

Turkey (Dra Burcu Ozsoy, Director of the Institute for the Research for the Poles): Turkey has carried out research in Antarctica for decades. As a recent ratifier, we endorse all Protocol measures. We know that fishing has the most impacts of human activities there, but are working on all issues. We have a collective duty to present a habitable planet to future generations.

Colombia (Francisco Echeverri Vice-Minister External Affairs): The Protocol is a collective tool for preservation of Antarctica. We support the Declaration of Madrid.

Poland (Karinya Wegrzynowska, Business Attaché): The Protocol is unique, providing overarching commitments to protection, and rules to guide all activities. It is a remarkable example of States with different goals coming together to protect the fragile Antarctic for future generations.

Uruguay (Paula Repetto, Deputy Ambassador in Madrid): We praise the Protocol for its extraordinary spirit of cooperation and look forward to meeting the challenges ahead given the fragility of Antarctica.

South Africa (Radia Razack, Chief Director Coastal Conservation Strategies at Department of Environmental Affairs): The spirit of the Madrid Protocol should guide us. We are committed and stress the need for evidence-based assessment of all activities.

Peru (Augusto Arzubiaga, Director General Sovereignty, Limits and Antarctic Affairs): We praise the Protocol and look forward to working together on the challenges ahead.

Italy (Nicola Corboni, Diplomatic Attaché): Thanked Spain for organizing the event and expressed support for the proposed Declaration of Madrid.

Switzerland (Daniel Haener, Deputy Head of Mission to Spain): Expressed support to the Madrid Protocol and associated his country to the Declaration of Madrid.

In closing, Minister Ribera thanked all delegations for their contributions. She said that we must not forget the crucial role that the polar regions play on our living conditions. Introducing the Declaration of Madrid, a reminder of the principles that have driven action until now, she noted that it is supported by thirty-one countries. These are the following, in alphabetical order:

Argentina, Australia, Belgium, Brazil, Bulgaria, Chile, China, Colombia, the Czech Republic, Finland, France, Germany, India, Italy, Japan, the Netherlands, New Zealand, Norway, Peru, Poland, Portugal, Romania, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, the United States and Uruguay.

After closure of the official proceedings, a dinner was offered at the Thyssen Bornemisza National Museum in Madrid.

ANNEX: DECLARATION OF MADRID

The representatives of the countries participating in the High-Level Meeting held in Madrid on 4 October 2021, on the 30th anniversary of the signature of the Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol), recognise the importance of the Protocol as an integral part of the Antarctic Treaty System and global environmental conservation, setting an example for international standards and note and support the recent declarations adopted during the Antarctic Treaty Consultative Meetings held in Santiago 2016 and Paris 2021 which emphasise this importance.

Recognize that the international cooperation at all levels and the scientific basis for decisions, which are taken by consensus, guide the responsible management of Antarctica. Scientific activity shared among the Parties has resulted in much better understanding of the functioning of Antarctica and its environmental protection needs and its role in the global climate system.

The Protocol has played a fundamental role in maintaining Antarctica as a natural reserve dedicated to peace and science, but we must work closely together to overcome the new challenges faced by this continent. As such, future efforts should take into account the importance of the following:

Peaceful use. Antarctica is a natural reserve devoted to peace and science, where measures of a military nature are prohibited, and military personnel and equipment may be used only for scientific research or other peaceful purposes.

Importance of inter- and multidisciplinary scientific research, the monitoring of ecosystems, and the exchange of scientific information. In order to generate the greatest scientific knowledge and therefore anticipate and prevent environmental damage before they occur, in accordance with a precautionary approach informed by the best available science.

Urgency of combatting climate change. Given our concern for the profound and often irreversible impacts of climate change, we stress the need to work in an active and coordinated manner to undertake initiatives intended to mitigate and adapt, in order to lessen the effects of climate change and the impacts of human activities, occurring in Antarctica and surrounding waters within the CCAMLR Convention area.

Ensuring that the planning and conduct of all activities in Antarctica considers protection of the Antarctic environment and dependent and associated ecosystems.

Responsibility and accountability. Importance of performing environmental impact assessments in the planning and conduct of activities so as to limit adverse impacts on the Antarctic Environment and its dependent and associated ecosystems.

The need to increase biodiversity-protection initiatives, paying particular attention to the conservation and protection of wildlife, marine biological diversity, the functioning of Antarctic ecosystems and the further elaboration of the Antarctic Protected Areas System.

Encouraging further progress to implement the long-standing commitment of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) based on the best available scientific evidence, recognizing that Marine Protected Areas (MPAs) can serve as a powerful tool for protecting sensitive ecosystems representative of the Convention Area.

Commitment to reinforcing international cooperation between Protocol Parties, with the aim of overcoming the environmental challenges faced by Antarctica, and enhancing its value as a nature reserve for future generations, including by maintaining the prohibition contained in Article 7 of the Protocol regarding any activity relating to mineral resources, other than scientific research.

Underscore and support the important work of the Committee for Environmental Protection in providing advice and recommendations to the Antarctic Treaty Consultative Meetings on the implementation of the Environmental Protocol.

The Protocol on Environmental Protection to the Antarctic Treaty has served the Antarctic Treaty system well as its environmental pillar for the last 30 years. We believe that it will and should continue to play a pivotal role in the future management of Antarctica on the basis of its comprehensiveness, its knowledge- and ecosystem-based approach to management, its holistic approach to both terrestrial and marine environments and its call for international cooperation and collaboration to that end.

Madrid 4 October 2021