Antarctic Communication and Education in a Pandemic Year

English version provided by the author

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**Abstract**

The work of the Chilean Antarctic Institute in education and dissemination of polar knowledge during the year 2020, marked by the Covid-19 pandemic, is presented here. Outreach activities since the declaration of pandemic alert in Chile (March 16, 2020), have ceased to be face-to-face and have turned to virtual formats. In this period, INACH has published 3 magazines, several educational sheets, a book, has organized trainings for kindergarten educators and a virtual meeting on polar science for young people, has produced the digital exhibition "Antarctica, witness of time" and a podcast program with Antarctic content, and has promoted the use of its social networks to disseminate polar activities.

**Background**

During 2020 and in the context of the Covid-19 pandemic, an increase in the use of social networks was observed, which in the case of the Chilean Antarctic Institute (INACH) implied an increase in its followers. For example, in 2016, we had 5,609 followers on Facebook and in 2021 we reached 20,865. On Instagram in 2016 we had 116 followers and in 2021 we have reached 8,061.

INACH published in 2020 two issues of the "Chilean Antarctic Bulletin": one with a special dedicated to Marine Protected Areas and the other with a special dedicated to the 40 years of life of this Antarctic outreach magazine, one of the oldest of the Chilean Ministry of Foreign Affairs. An issue of the English-language magazine "ILAIA, Advances in Chilean Antarctic Science" was also published, with a special issue devoted to Antarctic social sciences and culture.

In the context of the Conference of the Parties (COP 25) chaired by Chile and held in December 2019 in Madrid, and more specifically in the Cryosphere Pavilion built to address the frozen areas of the Earth, INACH presented the bilingual illustrated book "Cambio Climático en Cifras" ("Climate Change in figures"). It brings together in an entertaining and graphic way the most significant figures on the causes, effects and mitigation actions of this global problem. There are 80 questions that are answered in this 172-page publication. Its illustrations are totally unpublished, made by INACH's Art Director, Pablo Ruiz. The book can be downloaded at: http://www.inach.cl/cambioclimaticoencifras/.

Delivering updated information on the environment, regional biodiversity and the White Continent, were just some of the objectives of INACH's partnership project with the Magellanic newspaper "La Prensa Austral" to provide the community with weekly educational sheets for three months. These address various areas of knowledge, such as: climate change, the latest paleontological discoveries, Antarctic historical milestones, marine protected areas, among other relevant aspects. The images and graphics of these educational sheets were created by Pablo Ruiz and are available at: https://www.inach.cl/inach/?page\_id=8680.

On the International Day of Women and Girls in Science (February 11), the Explora Magallanes Program, part of the Chilean Ministry of Science and Innovation, unveiled its new science outreach product. It is the illustrated book "Charly and the Rov". This story is aimed at children from 4 to 7 years of age and seeks to approach the technology of underwater robotics through the story of a girl named Charly, who dreams of becoming a scientist and being able to travel to Antarctica. The creation of the story was supported by INACH in the first volume through the illustrations of the Institute's graphic designer, René Quinán, and by Océana Chile throughout the process. The three volumes of the collection are available at: https://www.inach.cl/inach/?page\_id=8680.

One of INACH's most emblematic educational initiatives has been the Antarctic School Fair (FAE), where high school students from all over the country have had a space to think about Antarctica from the point of view of scientific method. The FAE 2020 ended with great success on November 5 and was held for the first time in virtual format due to the pandemic; even so it had a large number of participants from 12 regions of Chile, receiving 85 proposals. Given this new format and the suspension of classes in most schools in the country, INACH created the Virtual Antarctic Station to accompany and advise students scientifically. In each session of the Virtual Antarctic Station, attendees were able to listen and interact with professionals from the White Continent, who answered questions during live broadcasts and later through a Virtual Classroom, where they were also able to access bibliography to support the preparation of a research article, a requirement of the contest. The presentations and dialogues with 15 INACH researchers and professionals were transmitted through INACH's social networks: Facebook Live, Instagram Live and YouTube, reaching a little more than 55,000 people on Facebook; 1,500 reproductions on YouTube; 7,000 reproductions on Instagram and with an average of 200 people live per session.

The training program for kindergarten educators that INACH has maintained since 2010 also continued. The call, which was traditionally face-to-face and restricted to the region of Magallanes, was extended to all regions of Chile and in digital format due to the pandemic. This cycle of workshops had the collaboration of the Explora Program of the Ministry of Science, Technology, Knowledge and Innovation, and a total of 794 kindergarten educators and elementary school teachers who live and work in different cities of Chile participated. In these sessions, the participants were able to learn about general aspects of Antarctica and the teleconnections that this continent has with the different areas of Chile.

The celebration of the Winter Solstice 2020 was carried out through a radio program (podcast) that was made available on Saturday, June 20, with a historical special that had as its main focus the commemoration of the 500th anniversary of the passage of Hernando de Magallanes through the strait that bears his name and the first circumnavigation of the world.

To commemorate the 61st anniversary of the signing of the Antarctic Treaty (December 1, 2020), two online events were held: the presentation of the results of a citizen survey applied to the inhabitants of the gateway cities to Antarctica, and the official launch of the science outreach podcast "Audible Antarctica". The first event "What do citizens think about Antarctica? Perceptions of the inhabitants of the five gateway cities to Antarctica" presented the results of a citizen survey applied to the inhabitants of the gateway cities to Antarctica: Punta Arenas (Chile), Ushuaia (Argentina), Cape Town (South Africa), Hobart (Australia) and Christchurch (New Zealand), within the framework of the project "Antarctic Cities and Common Heritage: rethinking the role of gateway cities". The second event was the official launching of the scientific outreach podcast "Audible Antarctica", a product that makes available to a wide audience contents in Spanish on different areas of national scientific research in Antarctica.

The only activity that INACH was able to carry out in person was the presentation in Puerto Williams of the exhibition "Antarctica, witness of time", which deals with the evolution of the natural history of Antarctica. This exhibit was successfully reconverted and now visitors can virtually access the contents of the exhibition on the different environments of Antarctica through millions of years (https://www.inach.cl/testigodeltiempo/). It should be noted that virtual visitors will be able to access the content of the exhibition, as well as its assembly in a 3D environment, an audiovisual in virtual reality (VR) about the different environments of Antarctica through millions of years, 360° photography, coloring books and sheets, as well as a coloring application to exercise the skills of preschool children. The main themes are paleontology and glaciology.

**Conclusion**

Chile through the Chilean Antarctic Institute has continued its work of education and dissemination of polar knowledge, despite the limitations imposed by the Covid-19 pandemic. The use of social networks and virtual media for education and dissemination of knowledge have been crucial to achieve this goal and open new doors for further dissemination of knowledge of Antarctica to the general public.