



ALPINE CRYOSPHERE NEWSLETTER

A Monthly Newsletter from the APECS Working Group

PHOTO OF THE MONTH

By Johanna Grabow

International Mountain Day 2020



ABOUT APECS ALPINE CRYOSPHERE GROUP

The Alpine Cryosphere Group is one of the multiple internal groups within APECS, supporting early-career scientists working on alpine and cryospheric environments, to connect with each other, and providing resources about graduate programs, job opportunities, summer schools, and short courses.

The Alpine Cryosphere Group at the Association of Polar Early Career Scientists (APECS) was created in 2016, since then, it has provided resources to early-career scientists who are interested in research and education on mountainous environments.



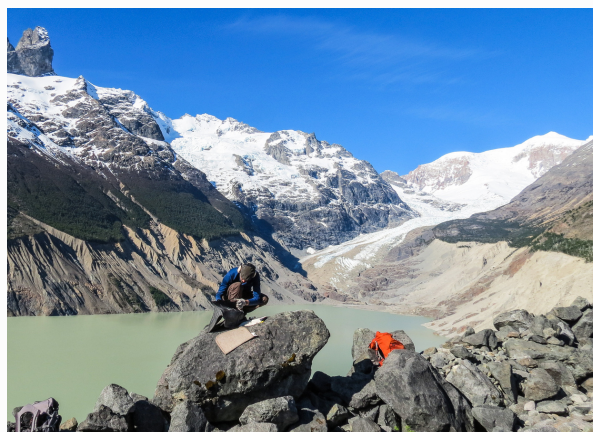
MEET THE COMMUNITY

Hi everyone! My name is Rodrigo L. Soteres and I am a geographer graduated from the Pontificia Universidad Católica de Chile.

I have been collaborating with the Alpine Cryosphere Groups of APECS since 2017. My research is focused on the reconstruction of past climate changes by dating glacial landforms, especially moraines. Most of my work has been conducted in the Patagonian Andes of Chile and Argentina and the central mountains of Spain, but I am starting new projects on the arid Andes as well.

Currently, I am a postdoctoral researcher at the Núcleo Milenio Paleoclima (Chile), where I can share my research on mountain glaciers with colleagues dedicated to paleoecology and numerical modeling.

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UPCOMING EVENTS!



APECS INTERNATIONAL POLAR WEEK

A celebration for everyone who has an interest in the coldest regions of our planet!

Date: 19-25 September 2021

<https://www.apecs.is/upcoming-event-highlights/apecs-international-polar-week-september-2021.html>

CRYOSPHERE FORUM 2021

Status of Research on changing permafrost and associated impacts in the Hindu Kush Himalaya

Conference: 20-23 September 2021

Submissions deadline: 3 September 2021

SUMMER FIELD SCHOOL (ONLINE): MOUNTAIN ECOSYSTEMS AND RESOURCE MANAGEMENT

Date: 19-28 September 2021

Registration deadline: 10 September 2021

<https://www.grassrootsglobal.net/mer2020/>

PREMIO ANTÁRTIDA / DIARIOS DE VIAJE

PRÊMIO ANTÁRTICA / DIARIOS DE VIAGEM

Para: Argentina, Brasil, Chile, España y Uruguay.

<https://oei.int/oficinas/argentina/premioantartida/presentacion>



COTOPAXI VOLCANO, ECUADOR

By Hans Fernández Navarro

SHARE YOUR PHOTO



ARJEPLOG, NORBOTTEN IÄN, SWEDEN
By Vanessa Schreiber

*A peaceful lake in the Swedish mountain tundra
during the summer of 2019.*



RECOMMENDED READING

KNOWLEDGE IS POWER.



FAO. 2021. Mountain Partnership Secretariat – Annual Report 2020. Rome.

"The future of mountains is in the hands of mountain youth."

Pradeep Mehta, Chairman of CHINAR

"Mountains and their biodiversity provide food and medicine, as well as climate, water, soil, and air quality regulation to humankind."

IMD key message

Link access: <http://www.fao.org/3/cb5476en/cb5476en.pdf>

WHY MOUNTAINS MATTER?

Guillermina Elias

PhD candidate

Argentine Institute of Nivology, Glaciology
and Environmental Sciences (IANIGLA) –
CONICET, Argentina

**"A MOUNTAIN IS NOT LIKE
MEN. A MOUNTAIN IS
SINCERE."**

WALTER BONATTI

Every August 5, Mountaineer Day is celebrated, coinciding with the commemoration of Our Lady of the Snows, patron saint of mountain activities and water in many countries with christian traditions.

In this sense, International Mountain Day is celebrated annually on December 11 – declared by the United Nations (UN) General Assembly – to create awareness about the importance of mountains to life, to highlight the opportunities and constraints in mountain development, and to build alliances that will bring positive change to mountain peoples and environments around the world.

The history of man and the mountain dates back to the beginning of time. However, mountaineering as an activity is much more recent. There is no single criterion about its origin, but there is quite a consensus in considering as a starting point the first ascent to Mont Blanc made by Michel-Gabriel Paccard and Jacques Balmat in 1786. This would be the kick for man to endeavor to discover the challenging peaks of the world, achieving in 1953, with the help of Edmund Hillary and Sherpa Tenzing Norgay, to summit the highest of all: Everest.



Mount Aconcagua, Argentina (6,962 meters above sea level – 22,840 feet). PH: G. Elias

In Argentina, the beginnings of mountaineering were written by European mountaineers. The mountain tops of Mendoza and Patagonia were the most sought after. In January 1897, the Swiss Matthias Zürbruggen reached the summit of Mount Aconcagua; while, just in 1934, Nicolás Plantamura would become the first Argentine to reach the summit of the Colossus of America. All of them and many more, even today continue to pave the way to new peaks in the world (Cultura de Montaña, 2014).

According to the Food and Agriculture Organization of the United Nations (FAO), mountains are the main reservoirs of freshwater that sustain life on Earth. Mountains provide between 60% and 80% of all freshwater resources, host 25% of terrestrial biodiversity, and 28% of the planet's forests. However, despite their immense ecological and socio-economic value, they are coming under increasing pressure from human activities and climate change, increasing their fragility.

Mountains occupy 12% of the planet's surface, providing essential ecosystem services for the livelihoods of one billion people, such as water, food, and clean energy. In addition, they are home to ancient native peoples, with a great wealth of knowledge accumulated over generations, and who have developed traditional techniques to adapt and cope with climate variability.

The increasing demand for water and other natural resources, the consequences of global climate change, the growth of tourism, and the pressures of some industries, threaten the extraordinary network of life that the mountains support and the environmental services that they offer. These threats are causing rapid – and in some cases irreversible – changes in mountain environments and populations, which are already among the most vulnerable and poorest in the world.



WHY MOUNTAINS MATTER?

In this sense, countries must intensify their efforts to increase attention to mountain ecosystems. The integration of efforts and integrated management through an ecosystem approach will make it possible to strengthen the conservation, management, and sustainable use of natural resources and biodiversity in the mountains, to improve the quality of life of their populations.

The recurring, and well-known, melting of glaciers in the world's mountains affects freshwater supplies for millions of people. In the Central Andes of Mendoza, the retreat of glaciers and the accompanying crisis of water resources, which has become a water emergency since 2010, is accompanied by winters that are increasingly poor in terms of snowfall. Scientists from the Argentine Institute of Nivology, Glaciology and Environmental Sciences (IANIGLA) of our province associate this increase in the loss of glacial mass in the central region of the Andes with the mega-drought that the region has suffered in recent times. The problem is, according to the scientists, that if the glaciers continue to shrink, in the future we will not have that 'savings box' from which to draw water, which are the glaciers (Dussailant, Masiokas, Pitte, Ruiz et al.; 2019). This phenomenon is alarming considering that the water that irrigates 3% of the tiny oasis of Mendoza is exclusive of snow origin.

I. Dussailant, E. Berthier, F. Brun, M. Masiokas, R. Hugonnet, V. Favier, A. Rabatel, P. Pitte and L. Ruiz. 2019. Two decades of glacier mass loss along the Andes. *Nature Geoscience* 12: 802-808



CONTACT THE AUTHOR !



Horcones, Aconcagua Provincial Park. PH: G. Elias

Our mountains are vital for the supply of ecosystem goods and services, a source of freshwater, energy, food, and resources that will become increasingly scarce in the future, and therefore we must act to protect them. Currently, we have the challenge of promoting dialogue, the exchange of information and experiences between national, regional, and international actors. At the same time, it is necessary to resort to technical-scientific knowledge on the successes and challenges in mountain management and transfer them to decision-makers, with the aim of sustainable management of these ecosystems, both in The Andes and throughout the world; and in synergy with comprehensive risk management and environmental education programs, to build more responsible communities.

Guillermina Elias



Guillermina at Horcones, Aconcagua Provincial Park, Andean Range, Mendoza, Argentina. PH: G. Elias

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SEARCH APECS WEBSITE



<https://www.apecs.is/>

The APECS Alpine Cryosphere Newsletter was created by Carla Tapia Baldis and Rodrigo Paidano Alves. Please contact APECS Executive Committee (info@apecs.is) with comments or questions about the newsletter.

We are always looking for contributions, so if you have a story on alpine polar research to share, please send us an email. The next edition of the APECS Alpine Cryosphere Newsletter is expected to be out in October 2021.