

THE WEATHER AND SEASONAL CONDITIONS OF THE 1972 CONDITIONS OF THE 1972 ANDES PLANE CRASH AND TRAGEDY

Maximiliano Viale¹

maxiviale@mendoza-conicet.gob.ar. Autor/a correspondiente.

¹Instituto Argentino de Nivología, Glaciología y Ciencias Ambientales (IANIGLA CCT CONICET Mendoza)

Key words: mountain extreme weather, snowy season, late season snowstorms

1) INTRODUCTION

On October 13, 1972, Uruguayan Air Force flight 571 crashed in the middle of the Andes around 35°S. Onboard travelled an Uruguayan rugby team, along with friends and relatives. Sixteen out of the forty-five passengers survived, and their story of struggle in the high mountains during 72 days became the subject of many books and films. However, the sequence of bad weather events and the snowy seasonal conditions has not been told in details. This work describes the sequence of bad weather events, and the seasonal conditions of one of the snowiest seasons in records that make the long survival in the Andes even more extraordinary. In the year of the 50th anniversary of the tragedy, the intention of this mountain weather work is to provide further evidences of the extreme difficulties the survivors overcame, becoming an example of fortitude and self-survival worldwide.

2) DATA AND METHODS

Surface meteorological data from the key mountain station of Valle Hermoso was used. It is located 45km apart from the crash site, both on the eastern slopes of the Andes. Three times a day information of weather conditions recorded by observer in situ in Valle Hermoso allowed to evaluate how the weather and seasonal conditions influence the survivors' decisions, and the facts during the 72 days lasted the tragedy. Radiosonde data from the Quinteros on the Chilean coast at around 32.5°S, and then moved to Santo Domingo on the coast at ~33°S, were also used to analyze the high-level winds during the crash and its deviation from climatology, as well as ERA5 reanalysis to examine weather charts and seasonal conditions.

3) PRELIMINARY RESULTS

The sequence of bad weather events is introduced in the Figure 1 and will be explained in more details during the presentation. Three main bad weather event were decisive in the Tragedy. One is a late-season, intense snowstorm during the plane crash associated with an deep cyclone and strong atmospheric river impacting against the Andes. A later intense snowstorm associated with other atmospheric river storm caused an avalanche the cover the wreckage of the plane where survivors where resting, resulting in 8 of them dead. A late-season cold air incursion by middle November changed the plan and route

during the first-planned trekking expeditions to obtain help. Then survivors made the final trekking expedition in middle December through the harder direction crossing the crest of the Andes. Further details about how the snowy seasonal influence the decision and facts will be explain in the conference.

Decisive bad weather Events

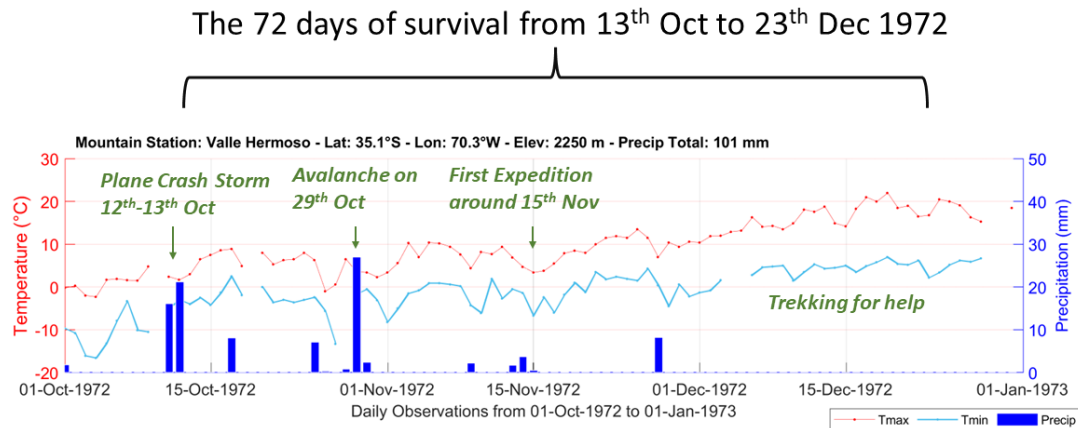


Figure 1: Metograms of maximum and minimum temperature snowfall during the 72 days tragedy period recorded at Valle Hermoso 2250m and 45km apart from the plane crash site.

REFERENCES

Read, Piers Paul, 1974: ¡Viven!. Libro publicado por editorial Lippincott Williams and Wilkins