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Da: **Jay Pasachoff** <jmp@williams.edu>

Date: dom 19 dic 2021 alle ore 15:58

Subject: our eclipse coverage with image and enhanced article

Cc: Jay Pasachoff <jmp@williams.edu>

To: Working Group on Solar Eclipses, IAU
www.eclipses.info

Yes, we went to Chile for the Dec 4 total solar eclipse. In spite of our worries, it worked out well. (Getting PCR tests going and coming back was a main worry.)

I was on one of two planes at 12,500 m east of Punta Arenas, Chile, and we had equipment with colleagues at two sites on Union Glacier, Antarctica.

Jay Pasachoff

Following are links.

Jay

An image taken by Jay Pasachoff from 41,000 feet on a Boeing 787 Dreamliner. Williams College Eclipse Expedition (Jay Pasachoff, David Sliski, Peter Knowlton, Anna Tosolini, Emma Sobel, Muzhou Lu, Aris Voulgaris, Nicole Massetti, Naomi Pasachoff; support from Williams College (Williamstown, MA), and NSF Atmospheric and Geospace Sciences Division *Photo by Jay Pasachoff / Williams College Eclipse Expedition / NSF Atmospheric and Geospace Sciences Division*

current postings:

Pasachoff, Jay M., 2021/2022, "Totality From Above the Clouds," *Sky and Telescope*, online and pending in print.

<https://skyandtelescope.org/astronomy-news/total-solar-eclipse-reports-from-antarctica/>

Theo Boris, Christian A. Lockwood, David Zimmerman ([JM Pasachoff Antarctic Expedition](#)), 2021 (Dec. 9), "A Total Eclipse of the Sun,"

<https://apod.nasa.gov/apod/ap211209.html>

Here's the NASA press release we were hoping for.

<https://www.nasa.gov/feature/goddard/2021/scientists-use-nasa-data-to-predict-corona-of-dec-4-antarctic-eclipse/>

cited in *Forbes* article: <https://www.forbes.com/sites/jamiecartereurope/2021/12/04/in-photos-and-video-antarcticas-exclusive-eclipse-of-the-sun-attracts-intrepid-travelers-and-humpback-whales/?sh=305334b44730>

Wall Street Journal: some photos from others on Antarctica:

<https://www.wsj.com/story/a-total-solar-eclipse-as-seen-from-antarctica-e71f1988?page=1>

Wall Street Journal pre-eclipse, citing eclipse traditions (such as my orange pants; enhanced version with additional photos available from me on request):

<https://www.wsj.com/articles/total-solar-eclipse-chasers-travel-antarctica-11637793627?page=1>

Pasachoff, Jay M., Christian A. Lockwood, David Sliski, Aristeidis Voulgaris, Glenn Schneider, Peter F. Knowlton, Anna S. Tosolini, Theo Boris, Muzhou Lu, Thanasis Economou, 2022, abstract 2240, 239th AAS meeting, "First Report on the December 4, 2021, Solar Eclipse Antarctic Expeditions," Salt Lake City, January 2022.

We give a first report on results gathered on our three successful expeditions to the December 4, 2021, total solar eclipse whose totality passed over Antarctica and adjacent ocean. One of our groups was on a chartered LATAM Boeing 787 Dreamliner that flew eastward from Punta Arenas at 41,000 ft (a second 787 was 1000 feet lower), near the southernmost part of Chile, turning southwest for the totality run, the upper of two planes with paths plotted by Glenn Schneider to observe totality a few degrees above the horizon out the left-hand windows from near the sunrise point. Our group carried cameras with telephotos and 3 spectrographs from Voulgaris, and observed about 1 m 54 s of totality. A separately chartered airplane took four people including Boris, Lockwood, and equipment, to Union Glacier, on the Antarctic continent (Latitude -79.76, Longitude -82.85), using the services of ALE (Antarctic Logistics & Expeditions), the standard airplane servicer that is also responsible for opening the runway, which was not used in the previous Antarctic summer but that did provide a difficulty. In addition to astronomical equipment to image totality at an altitude of about 14° above the horizon, they sent back a livestream to [NASA.gov](https://www.nasa.gov) and the NASA YouTube channel. Rojo, a professor of astronomy at the University of Chile, joined the official expedition carried by the Chilean Air Force to spend two weeks on Union Glacier, Antarctica, conducting that expedition's only astronomical observations. He carried Celestron and Nikon telephotos and Nikon cameras from Williams College, with filters by Questar and Thousand Oaks Optical.

In addition, efforts by the AAS Eclipse Task Force's Formal Education working group are ongoing, in preparation for the annular 2023 and total 2024 solar eclipses. This working group aims to promote and coordinate networks and resources for meaningful student eclipse experiences and for building capacity in formal education (K-12 and Higher Ed) to address solar science and the eclipse.

JMP's current research about eclipses is sponsored by grant AGS-1903500 of the Solar Terrestrial Program, Atmospheric and Geospace Sciences Division of the NSF, succeeding AGS-1602461 from the period of the 2017 eclipse. We thank Williams College for additional student expeditionary support from the Freeman Foote endowment. We thank Tim Todd of TEI Tours and Travel, Pleasant Hill, California, for his excellent travel arrangements.

above: from 2017 eclipse with traditional orange pants (photo by D Cooke); below: boarding the plane in Punta Arenas, Chile, for the 2021 eclipse near Antarctica