

Summer-like heatwave in the Andean winter

Sentinel-3 SLSTR RBT acquired on 13 July 2023 from 13:36:39 to 15:08:38 UTC

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Sentinel-3 SLSTR RBT acquired on 08 August 2023 at 14:55:52 UTC

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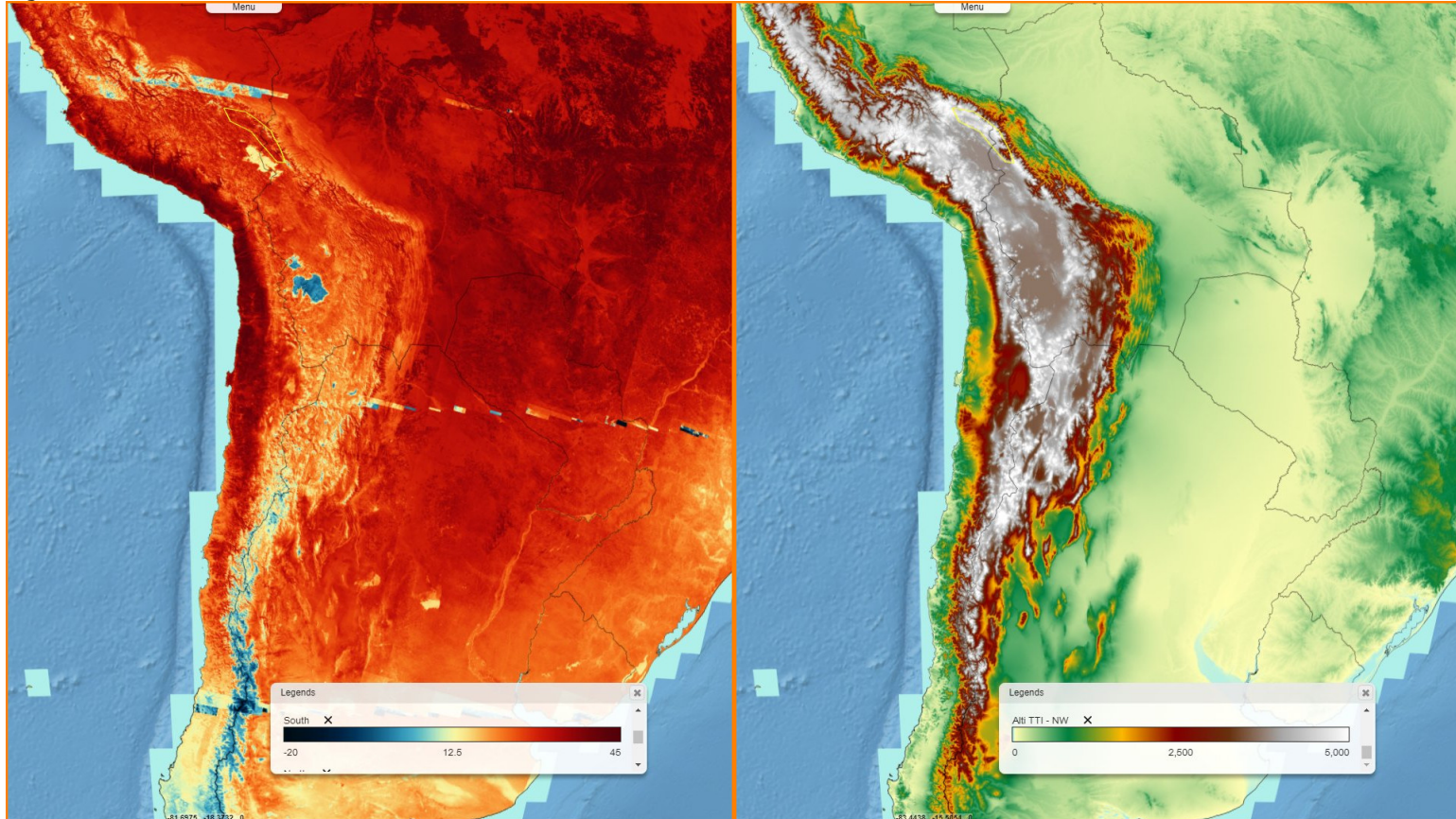
Keyword(s): Climate change, heatwave, glacier, cryosphere, snow, ice melt, Argentina, Chile, Bolivia, Peru, mountain range, Andes Cordillera



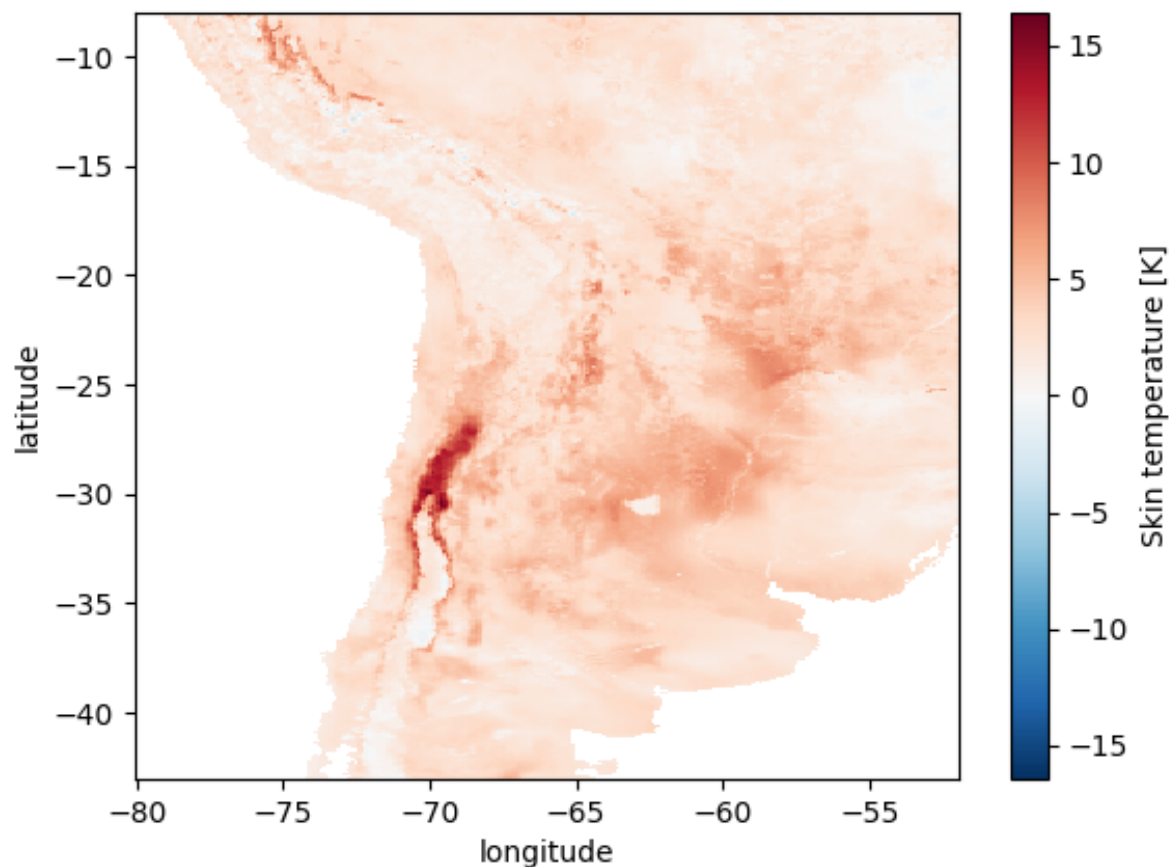
[2D Layerstack](#)

Fig. 1 - S3 SLSTR (17.07.2023-07.08.2023); COP-DEM - A severe heatwave has hit South America for several weeks.

[3D view](#) [3D view](#)

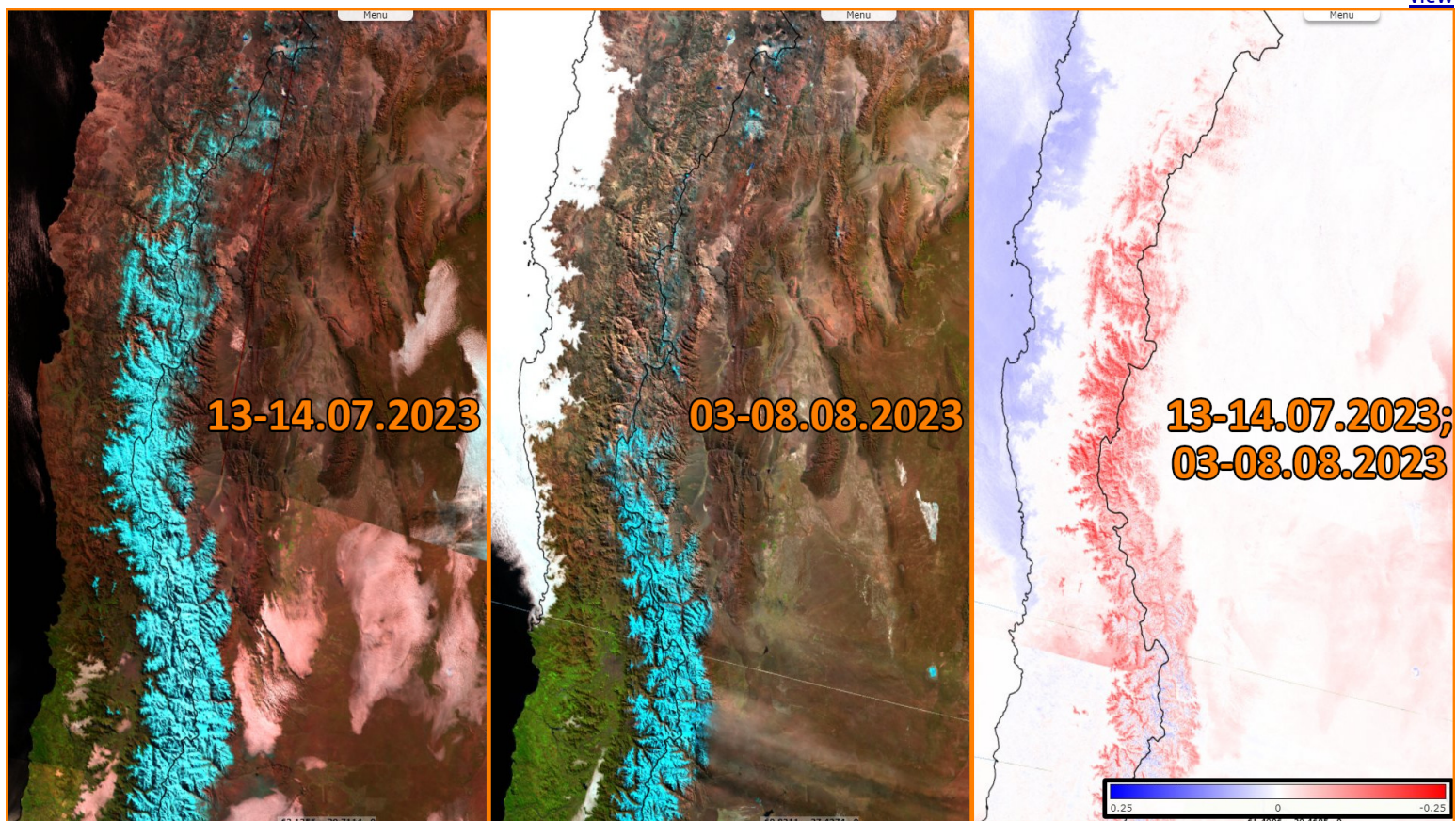


Multiple spells of heatwave affected South America in recent weeks in the middle of what is supposed to be its winter.



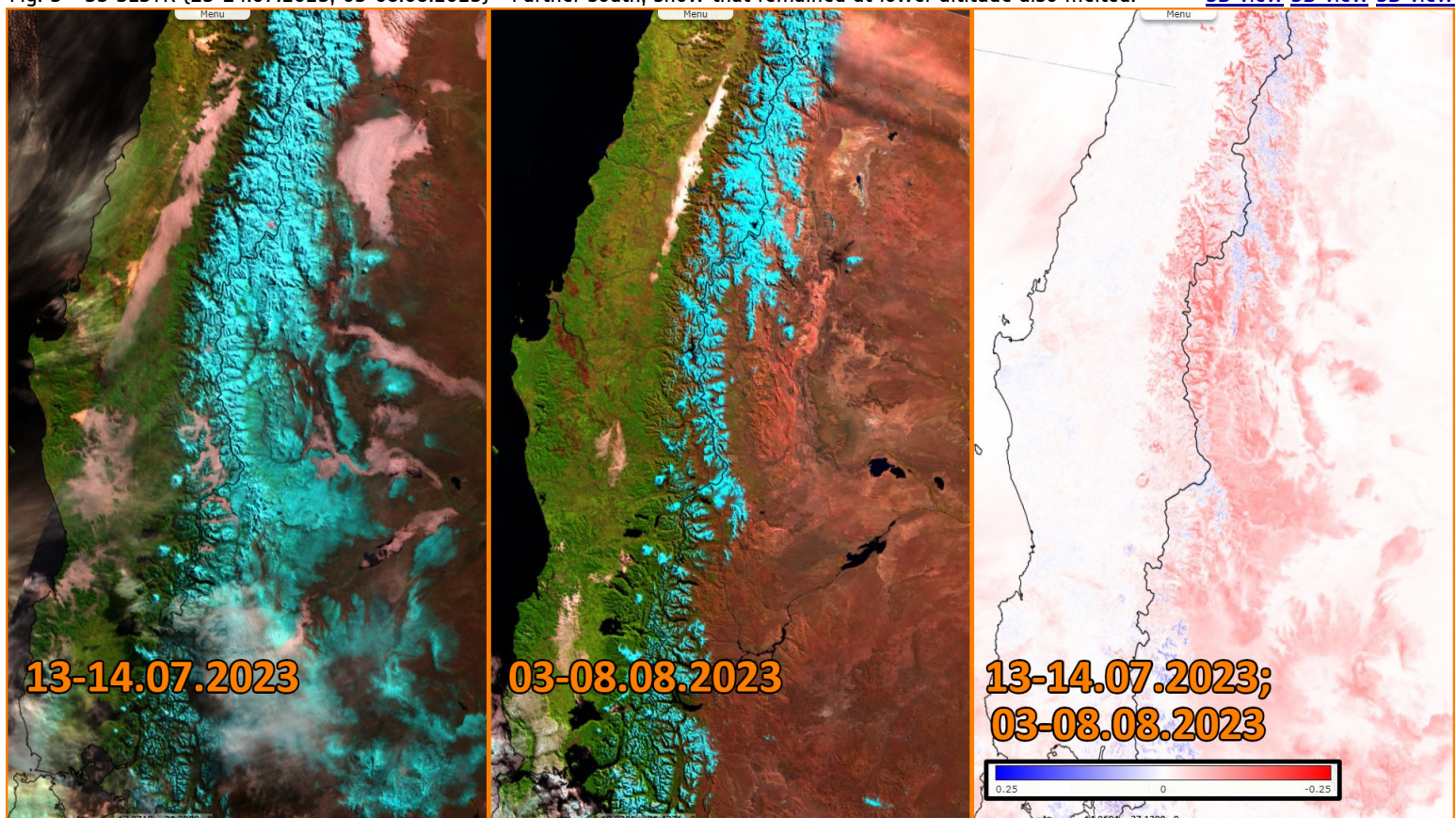
Soil Surface Temperature - Max [17 July - 7 August] - 2023 vs 1950-1980 mean - The maximum of the anomaly shows in the part of the Andes south of the Altiplano, between Chile and Argentina.

Fig. 2 - S3 SLSTR (13-14.07.2023; 03-08.08.2023) - In the mid of winter, snow regressed in large portions of the Andes (red). [3D view](#) [3D view](#) [3D view](#)



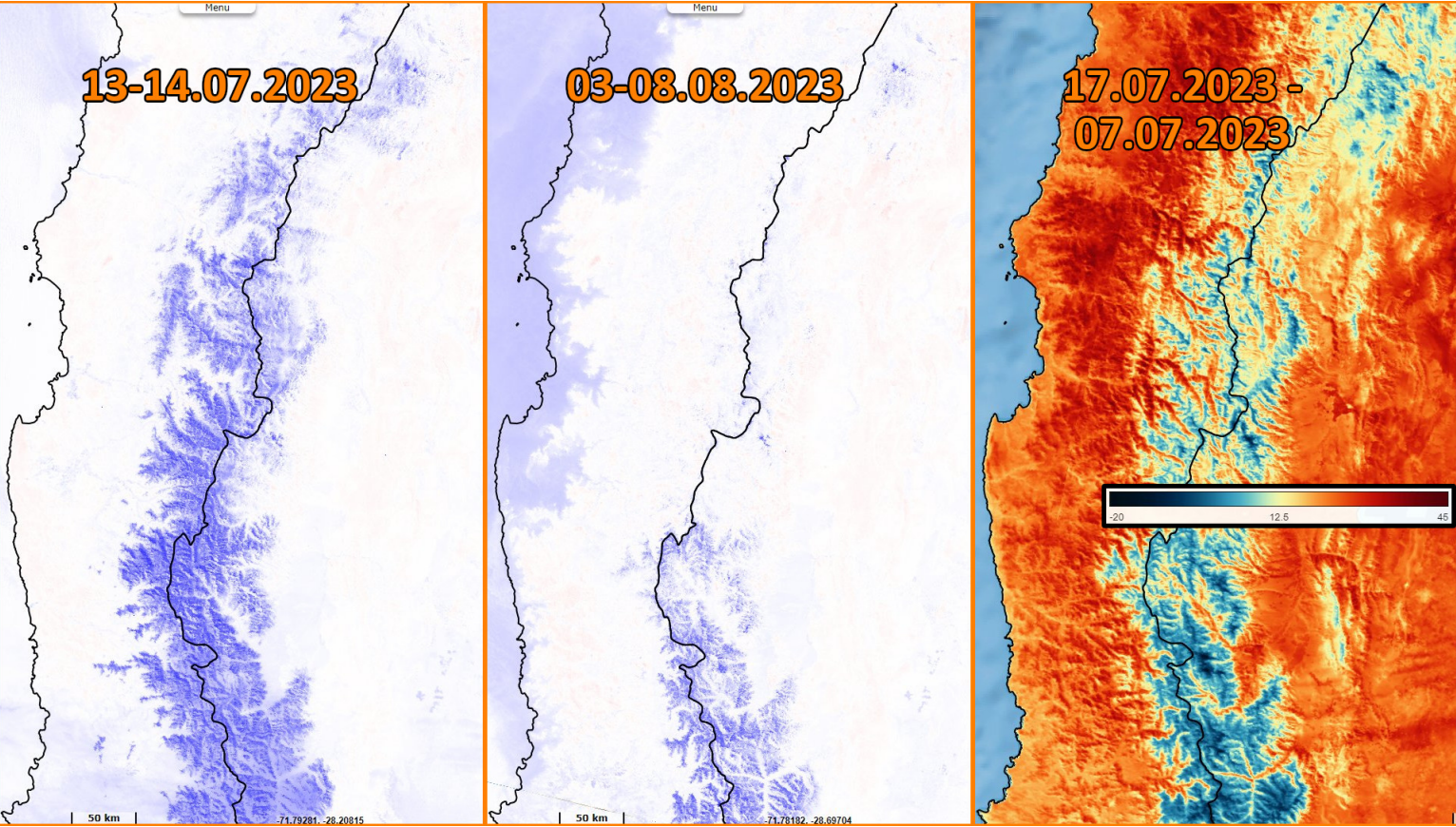
Temperatures Tuesday rose past 35 Celsius in numerous locations, including at elevations of 1000-1500m high in the Andes foothills and up to 38.9C in the Chilean Andine. This is between 10C and 20C above what is normal for this time of year in parts of Chile and Argentina. Some places beat the previous daily record by more than 5°C, sometimes reaching all-time maximums, even though it is winter.

Fig. 3 - S3 SLSTR (13-14.07.2023; 03-08.08.2023) - Further south, snow that remained at lower altitude also melted. [3D view](#) [3D view](#) [3D view](#)



Lack of orthorectification in L1 Sentinel-3 images also explains part of the difference in the snow index in central higher altitude areas.

Fig. 4 - S3 SLSTR (13-14.07.2023; 03-08.08.2023; 17.07.2023-07.08.2023) - Some places even broke their summer temperature record. [2D view](#) [2D view](#)



Meteorologists explain it comes from the addition of a heat dome combined with foehn winds, the return of weather system El Niño this year and human-made climate change.

*The views expressed herein can in no way be taken to reflect the official opinion of the European Space Agency or the European Union.
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