

The newly found ice surfaces are included within the first glacier inventory of Cordillera Darwin. The CECs glaciology team also made precise measurements of glacier retreat at this icefield, located in Chile's Southern Austral region.

The published work by CECs glaciologists [Francisca Bown](#) , [Andrés Rivera](#) y [Claudio Bravo](#) , together with Pablo Zenteno and Fiona Cawkwell, provides a cadastre of glaciers of the major mountain centres south of the Strait of Magellan (54°S). This includes Cordillera Darwin and Monte Sarmiento (both on the main island, Isla Grande of Tierra del Fuego), Santa Inés Island and Hoste Island.

A total of 1,681 glaciers were accounted in the inventory, amounting to a total ice cover of 3,289.5 km². Previous estimates in this region indicated an ice cover of only 2,500 km², which implies an additional finding of 789 square kilometres of glaciers. This is not attributable to glacier advance, but is a result of more precise glacier delineation as explained in this research, published as book chapter in “ [GLIMS: Global Land Ice Measurements from Space](#) ”, which is based on modern satellite images unlike previous studies where former data collection techniques were employed. Satellite imagery also reveals glacier trends in this region. A striking example is Marinelli Glacier (Figure 1) which has undergone a 15 km-retreat since 1913. Retreats are also registered for Conway and Schiaparelli glaciers, which were photographed by young Charles Darwin during his voyage onboard the HMS Adventure and Beagle between 1826 and 1836.

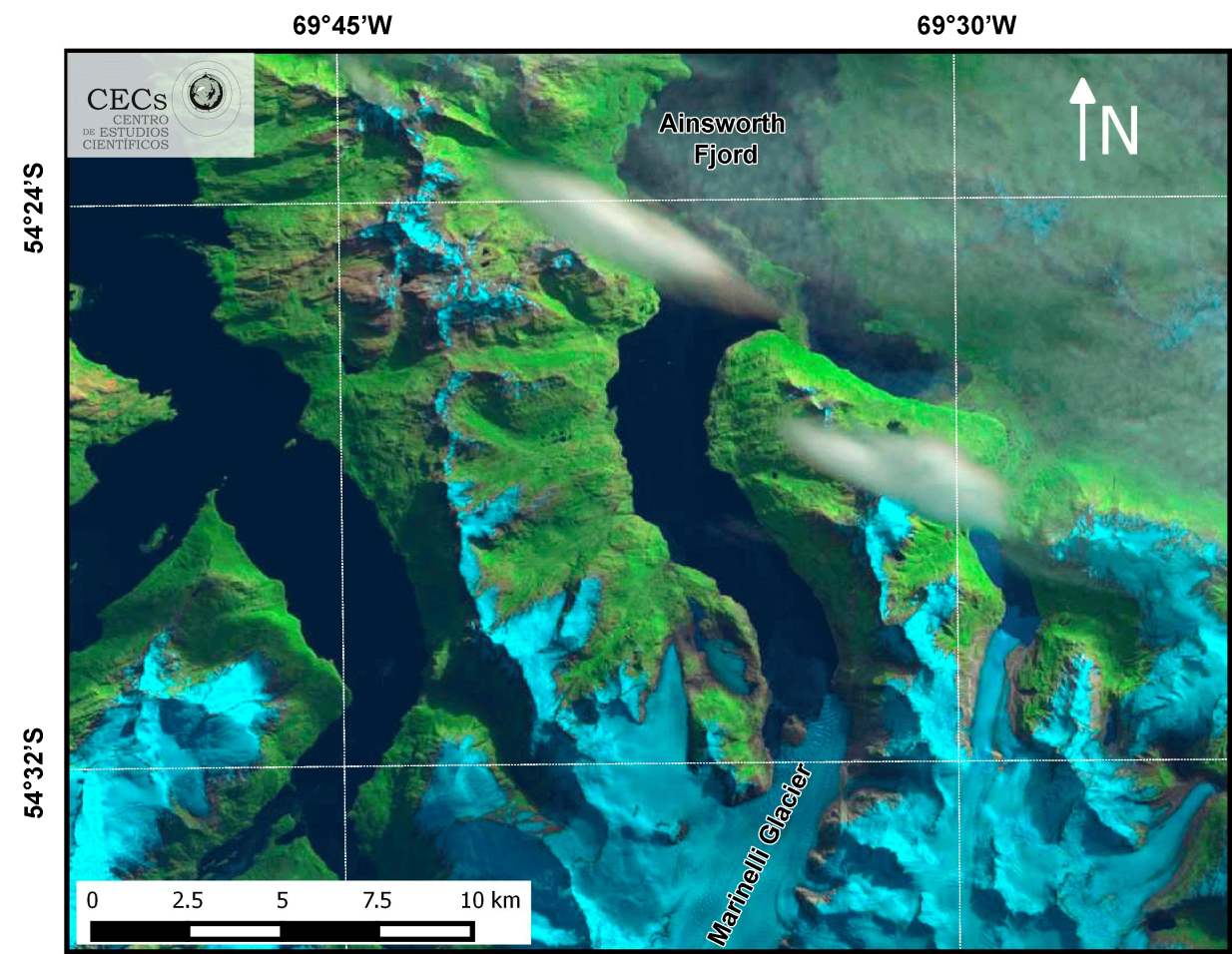


Figure 1. Full-resolution map of the Marinelli Glacier system in Antarctica, showing the glacier's extent and surrounding terrain. The map is based on data from the European Space Agency's Sentinel-1 satellite. The map shows the glacier's extent, with labels for 'Ainsworth Fjord' and 'Marinelli Glacier'. A scale bar at the bottom left indicates distances from 0 to 10 km. A north arrow is located in the top right corner. The map is overlaid with a grid showing coordinates: 69°45'W and 69°30'W along the top, and 54°24'S and 54°32'S along the left. The CECs logo (CENTRO DE ESTUDIOS CIENTÍFICOS) is in the top left corner. The map uses a color-coded system to represent different features, with blue and green tones dominating the glacier and surrounding areas.