



## **The 3-D Geometry of the North Patagonian Icefield from Glacial to Interglacial Conditions.**

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The North Patagonian icefield, located at 47°S in the Southern Andes, is a highly dynamic low-elevation ice mass and home to the World's second fastest glacier. Recent geomorphological mapping together with cosmogenic exposure ages show that the icefield expanded over 100km to the east during two separate glacial periods and was in-excess of 2km thick. The evidence comes from moraine deposits identified on Sierra Colorado in Argentina which have been mapped and then dated using cosmogenic nuclides  $^{10}\text{Be}$  and  $^{26}\text{Al}$ . This data shows two upper-limits to the icefield, one at 1200m with a mean age of 19.5ka, and another at 1300m dated to 120ka. Following the onset of deglaciation and during the transition to interglacial conditions there is evidence from geomorphological mapping for three re-advances or still stands. Chronological constraints for these landforms indicate that fluctuations in the ice margin occurred at around the time of the Antarctic Cold Reversal. This suggests that the influence of the Antarctic climate regime on South America, during the transition from glacial to interglacial conditions, extended at least as far north as 47°S.