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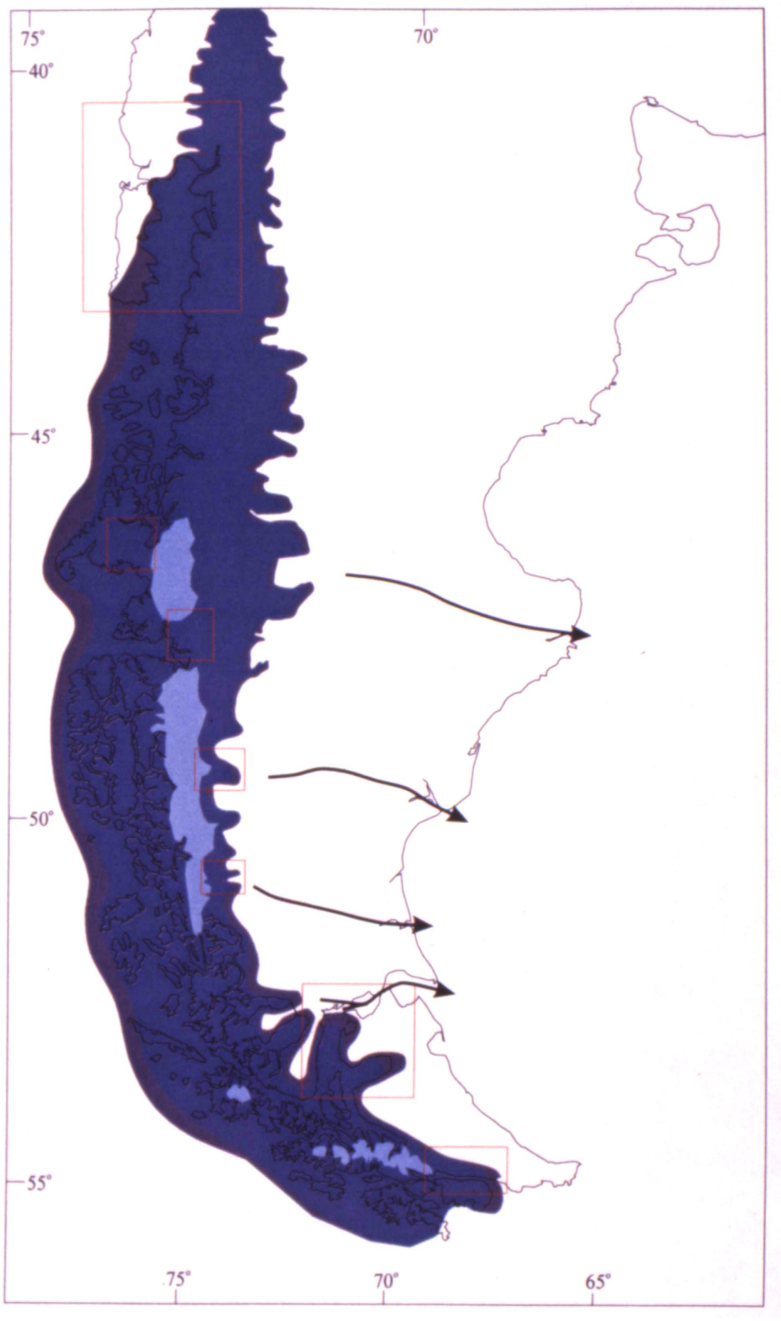
Publications

Key Conclusions

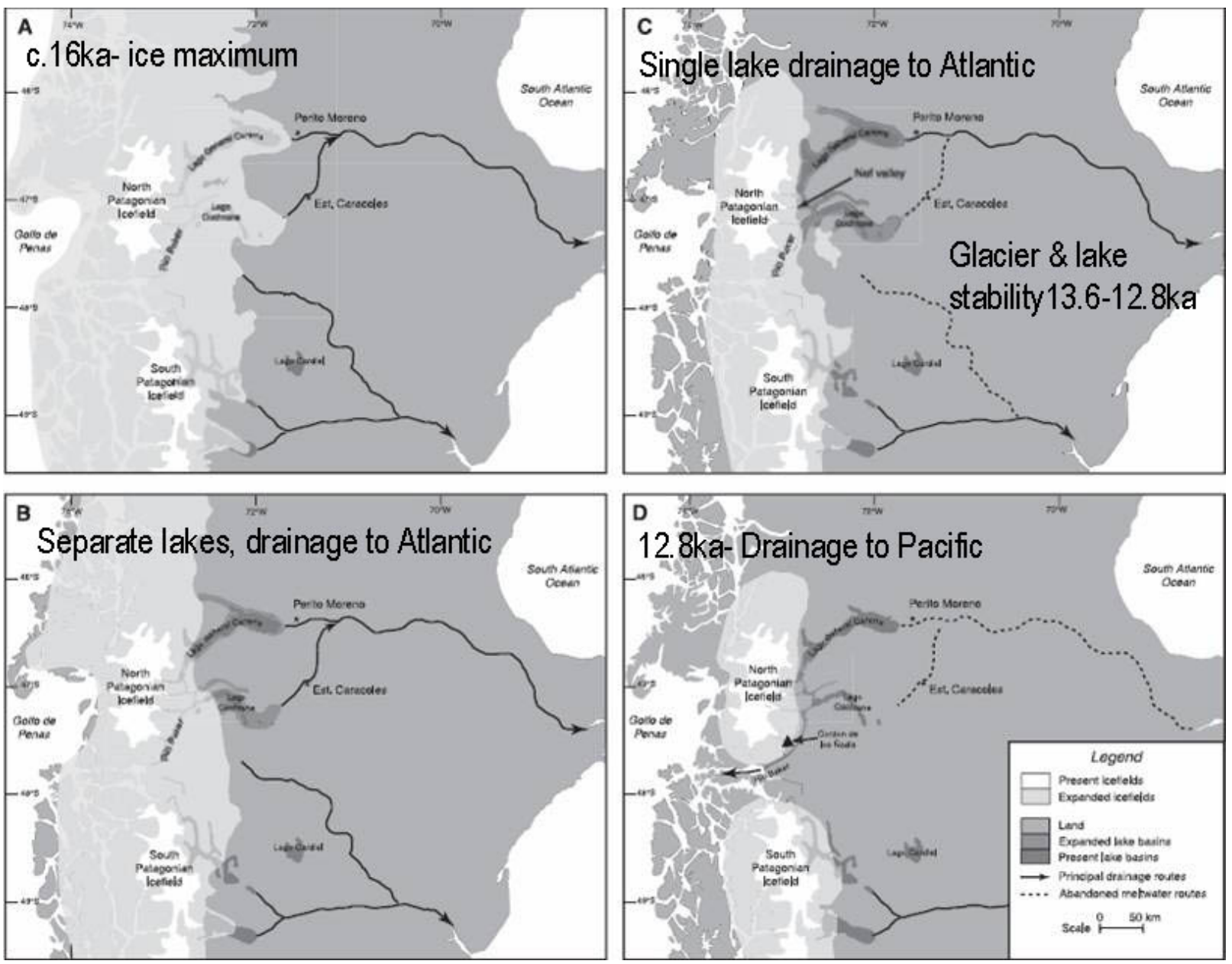


- There is synchrony between glacier fluctuations in southernmost Patagonia and those in the northern hemisphere on orbital time scales, but antiphase behaviour on a millennial-scale during the last glacial/interglacial transition.

- *(in phase)*Patagonian glaciers were most extended as 23-25 thousand years ago at the peak of the last Ice Age, they began their retreat around 17.5 thousand years ago at the same time as those in the northern hemisphere, and the present interglacial commenced at the same time as that in the northern hemisphere around 11.4 thousand years ago.

- *(out of phase)* During the transitional period between 17.5 and 11.4 thousand years ago, southernmost Patagonian glaciers were out of phase with those in the northern hemisphere, but fluctuated in line with temperature changes apparent in Antarctic ice cores. There was a prolonged advance in southernmost Patagonia coinciding with the Antarctic Cold Reversal at 15.3- 12.2 thousand years ago at a time that the North Atlantic arena was warm.

- Although limited by the resolution of radiocarbon dates, we conclude that the final stage of warming and deglaciation in southernmost Patagonia began during the Younger Dryas interval, a time of sharp cooling in the north. During the period of transition, southernmost Patagonia exhibits an Antarctic record of climate change. Indeed, in one paper we show that we can simulate Patagonian glacier retreat effectively using a glaciological model driven by the temperature record from Antarctic ice cores.



Four distinct stages of evolution.