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Field evidence for Erosion by a cold-based Glacier in the Allan Hills, South Victoria Land, Antarctica

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Field studies in the Allan Hills, South Victoria Land, have provided evidence that cold-based glaciers are capable of erosion and deposition. An advance, most likely of LGM age, of the Manhaul Glacier has been mapped by plotting:

- mm scale scrapes of different types,
- m scale debris accumulations ranging from isolated boulders to ice-cored debris cones, and
- bedrock glaciotectonic structures ranging between several tens and more than 100 m^2

The observed features and observations of cold-based glaciers elsewhere have led to the development of models for the entrainment of boulders, for bedrock glaciotectonics and the formation of boulder trains. These models work best on a horizontally stratified, lithified sedimentary bedrock sequence as is present in the Allan Hills.

The presentation potential of all observed features is extremely small.