

LANDFORMS OF MT. VECHERNYAYA, NEAR SOVIET
MOLODEZHAYAYA STATION,
EAST ANTARCTICA (ABSTRACT)

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The Mt. Vechernyaya (272 m above the surrounding sea level) area covers several square kilometers and the exposed bedrock area can be divided into western and eastern sections by an ice/snow body running north-south in the middle.

The present landforms of the study area are primarily the results of selective erosion by the ice sheet, which was influenced by geologic factors such as joints, gneissosity and rock types. The joint-controlled linear trends in topography are very evident. Another characteristic of the area is step-like topographies. In the western section, five levels of relatively flat surfaces can be recognized, while in the eastern section, four levels can be distinguished. Steps are interpreted as the results of selective/differential erosion along the old faults, joints and geologic contacts, coupled with different lithologies.

Tills are widespread, particularly in the lower area of the eastern section, although the cover is thin. Erratics are relatively small, typically less than 30 cm in long axis and usually subangular to subround with relatively fresh appearance. Development of tafoni on erratics is very good, and so is development of sorted patterned grounds (chiefly polygons) on the tills. At present, it appears that periglacial processes such as freeze and thaw, gelifluction and nivation are strongly working in this area.

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