

POTENTIAL GEOLOGIC HAZARDS

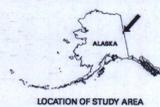
This map is derived electronically from the geologic map of the area. Potential geologic hazards directly relate to surficial geologic units because 1) the processes that form the surficial units are hazardous and 2) conditions (like ground ice) in the surficial deposit present hazards. In general, our main concerns in lowland areas are natural hazards related to a lack or loss of bearing (shear) strength (saturated, organic-rich swamp deposits and thawing of ice-rich permafrost) and seasonal flooding. In highlands, mass movements are locally a serious concern. Local, unevaluated factors affecting mass movement (rock avalanches, landslides, and debris flows) include textures of sediments, bedrock structures, and water content. Although there are no known active faults in the area, faulting and related earthquakes can produce sudden displacements by shaking and impacts and may cause liquefaction and mass movements in both highlands and lowlands. It must be stressed that the hazards classification presented below is intended only as a general guide to some common hazards that might possibly be present at given localities, and does not preclude the presence of other unevaluated or site-specific hazards.

EXPLANATION OF MAP UNITS

- CLASS 1
Significant ground-ice content
- CLASS 2
Rapid mass movements and snow avalanching on steeper slopes
- CLASS 3
Significant liquefaction potential and significant ground-ice content
- CLASS 4
Significant liquefaction potential and seasonal flooding
- CLASS 5
Significant ground-ice content and seasonal flooding
- CLASS 6
Significant ground-ice content; rapid mass movements and snow avalanching on steeper slopes
- CLASS 7
Seasonal flooding; rapid mass movements and snow avalanching on steeper slopes

Base modified from U.S. Geological Survey D-1 (1956)
1:63,360 Quadrangle, Alaska. Universal Transverse
Mercator Projection, 1927, North American Datum.
Scanned and rectified for use in ARC/INFO GIS system.

Based on field investigations in June 1995 and supplemented by
interpretation of 1:63,360-scale false-color aerial photographs
taken in 1982 and 1986 and 1:45,000-scale black and white aerial
photographs taken in 1955. Bedrock geology by J.G. Clough, R.R.
Reifenstuhel, C.G. Muir, S.A. Liss and G.M. Laird. Surficial geology
by D.S. Pinney. Supported by the U.S. Geological Survey,
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LOCATION OF STUDY AREA



SCALE 1:63,360

GEOLOGIC HAZARDS MAP OF THE CHARLEY RIVER D-1
QUADRANGLE, EASTCENTRAL ALASKA

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Geologic Data Modeling System