

Hazards Classification Map Ross River, Yukon (1:12 000 scale)

This hazards risk map was prepared as a guide for planning. It can be used as a tool for identifying areas for future development, which will then undergo subsequent site-scale investigations (which may include geotechnical and/or engineering assessments).

A qualitative approach was used to create this map, which involved identifying and compiling contemporary and potential future geological, permafrost and hydrology-related hazards. An individual polygon may contain areas of both higher and lower risk, reflecting natural landscape variability. A precautionary approach was used when evaluating risk, whereby a category of higher risk was applied where confidence in lower categories was lacking. This has resulted in a projected risk ranking that will require geotechnical and/or engineering analyses on a site-specific basis to quantify.

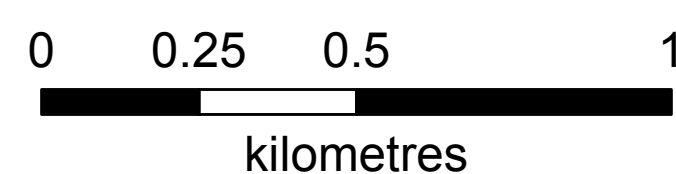
This map should serve as an initial guide for planning purposes, and detailed site investigations should be carried out as part of subsequent planning processes. See the report "Ross River Landscape Hazards: Geoscience Mapping for Climate Change Adaptation Planning" for more details about this hazard risk assessment.

HAZARD RISK RANKING

- **Low** risk of hazards following permafrost degradation, **low** risk of geomorphic hazards.
- **Moderate** risk of hazards following permafrost degradation (e.g., moderate thaw settlement) **OR moderate** risk of geomorphic hazards.
- **High** risk of hazards following permafrost degradation (e.g., high thaw settlement, water ponding, and slow to rapid mass movement on slopes) **AND/OR high** risk of geomorphic hazards (e.g., gully, gully, flooding, steep slopes).

Polygon number	Surficial Geology	Hazard ranking	Hazard risk description
1	Morainal (till) (M)	High	gully
2-6	Morainal (till) (M)	Low	
7	Fluvial (F)	Moderate	inactive floodplain
8	Morainal (till) (M)	High	gully
9	Morainal (till) (M)	Low	
10	Glaciolacustrine (LG)	High	gully
11	Colluvium (C)	High	debris flows
12-13	Morainal (till) (M)	Low	
14	Morainal (till) (M)	High	gully
15	Fluvial (F)	Moderate	inactive floodplain
16	Fluvial (F)	Moderate	ice-rich permafrost
17	Fluvial Active (FA)	High	flooding; shifting channels
18	Morainal (till) (M)	Low	
19	Fluvial (F)	High	flooding; thermokarst
20	Colluvium (C)	Moderate	active slopes
21	Morainal (till) (M)	High	gully
22	Fluvial (F)	High	flooding
23	Morainal (till) (M)	Low	
24	Organic (O)	High	flooding; ice-rich permafrost
25	Bedrock (R)	Low	
26	Morainal (till) (M)	Low	
27	Glaciolacustrine (LG)	Moderate	ice-rich permafrost
28	Morainal (till) (M)	Low	
29	Morainal (till) (M)	High	gully
30	Morainal (till) (M)	Low	
31	Morainal (till) (M)	High	gully
32	Morainal (till) (M)	Low	
33	Fluvial (F)	Moderate	inactive floodplain
34	Colluvium (C)	High	debris flows
35	Glaciofluvial (FG)	High	gully
36	Morainal (till) (M)	Low	
37	Morainal (till) (M)	High	flooding; thermokarst
38-40	Morainal (till) (M)	Low	
41-42	Fluvial (F)	Moderate	inactive floodplain
43	Colluvium (C)	High	debris flows
44	Glaciofluvial (FG)	Low	
45	Morainal (till) (M)	High	gully
46-47	Morainal (till) (M)	Low	
48	Colluvium (C)	Moderate	active slopes
49	Morainal (till) (M)	Low	
50	Morainal (till) (M)	Moderate	moderate-steep slopes
51	Organic (O)	High	flooding; thermokarst
52	Morainal (till) (M)	High	gully
53	Organic (O)	High	flooding; ice-rich permafrost
54	Fluvial (F)	Moderate	inactive floodplain
55	Anthropogenic (A)	Moderate	mine pit walls
56-58	Morainal (till) (M)	Low	
59	Colluvium (C)	Moderate	active slopes
60-61	Morainal (till) (M)	High	gully
62	Organic (O)	High	flooding; thermokarst
63	Morainal (till) (M)	High	gully

HAZARDS CLASSIFICATION MAP ROSS RIVER YUKON SCALE 1:12 000



This map accompanies the following report:
Benkert, B.E., Fortier, D., Lipovsky, P., Lewkowicz, A., Roy, L.-P., de Grandpré, I., Grandmont, K., Turner, D., Laxton, S., and Mooto, K. (2015) Ross River Landscape Hazards: Geoscience Mapping for Climate Change Adaptation Planning. Northern Climate Exchange, Yukon Research Centre, Yukon College. 116 p. and 2 maps.
The report and maps are also available for download from yukoncollege.yk.ca/research.