

Hazards Classification Map Faro, Yukon (1:20 000 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 "Faro 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, flooding, steep slopes).

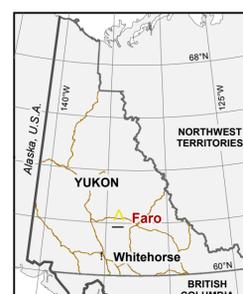
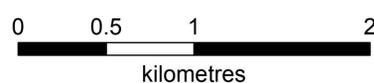
Polygon number	Surficial Geology	Hazard ranking	Hazard risk description
1-3*	Morainal (till) (M)	Low	
4	Morainal (till) (M)	High	Ice-rich permafrost potential, poor drainage
5-10*	Morainal (till) (M)	Low	
11	Glaciofluvial (FG)	Low	Ice-rich permafrost potential, wetland
12-13	Morainal (till) (M)	Low	Ice-rich permafrost potential, poor drainage
14	Morainal (till) (M)	Moderate	drum in sideslope and/or unmapped drumlins
15-27*	Morainal (till) (M)	Low	
28-29	Morainal (till) (M)	High	Ice-rich permafrost potential, poor drainage
30	Organic (O)	High	permafrost; thermokarst
31	Glaciolacustrine (LG)	Moderate	Ice-rich permafrost potential
32	Morainal (till) (M)	Low	
33	Morainal (till) (M)	Moderate	drum in sideslope and/or unmapped drumlins
34	Bedrock (R)	Low	
35	Colluvium (C)	High	landslides, debris flows, permafrost
36	Morainal (till) (M)	Low	
37	Colluvium (C)	Moderate	slope movement
38	Fluvial (F)	High	flooding
39	Colluvium (C)	High	gully
40	Morainal (till) (M)	Low	
41	Colluvium (C)	Moderate	slope movement
42	Fluvial (F)	High	flooding
43	Glaciofluvial (FG)	Low	
44-46	Fluvial (F)	High	flooding
47	Bedrock (R)	Moderate	moderate-steep slopes
48	FluvialActive (FA)	High	flooding
49	Morainal (till) (M)	Moderate	drum in sideslope and/or unmapped drumlins
50	Bedrock (R)	Moderate	moderate-steep slopes
51	Organic (O)	High	Ice-rich permafrost potential, poor drainage
52	Bedrock (R)	Low	
53	Morainal (till) (M)	High	Ice-rich permafrost potential, poor drainage
54	Organic (O)	High	permafrost; thermokarst
55	Morainal (till) (M)	Low	
56	FluvialActive (FA)	High	flooding
57	Organic (O)	High	permafrost; thermokarst
58	Morainal (till) (M)	Low	
59	Morainal (till) (M)	High	Ice-rich permafrost potential, poor drainage
60	Morainal (till) (M)	Low	
61	Colluvium (C)	Moderate	slope movement
62	Morainal (till) (M)	High	Ice-rich permafrost potential, poor drainage
63	Morainal (till) (M)	High	permafrost; thaw flows
64	Morainal (till) (M)	Moderate	drum in sideslope and/or unmapped drumlins
65	Morainal (till) (M)	High	Ice-rich permafrost potential, poor drainage
66	Bedrock (R)	High	landslides
67	Bedrock (R)	High	rockfall
68	Morainal (till) (M)	Low	
69	Organic (O)	High	permafrost; thermokarst
70	Fluvial (F)	High	flooding
71	Colluvium (C)	Moderate	slope movement
72	Morainal (till) (M)	Low	
73	Morainal (till) (M)	Moderate	drum in sideslope and/or unmapped drumlins
74	Glaciolacustrine (LG)	High	Ice-rich permafrost potential
75	FluvialActive (FA)	High	flooding
76	Morainal (till) (M)	Moderate	drum in sideslope and/or unmapped drumlins
77*	Morainal (till) (M)	Low	
78	FluvialActive (FA)	High	flooding
79	Morainal (till) (M)	High	permafrost; thermokarst
80	Morainal (till) (M)	Low	
81	Morainal (till) (M)	High	Ice-rich permafrost potential, poor drainage
82	Morainal (till) (M)	Moderate	drum in sideslope and/or unmapped drumlins
83	Glaciofluvial (FG)	Low	
84	Glaciolacustrine (LG)	High	gully, Ice-rich permafrost at depth
85	Morainal (till) (M)	Low	
86	Glaciofluvial (FG)	Moderate	potential permafrost at depth
87	Colluvium (C)	Moderate	slope movement
88	Glaciofluvial (FG)	Low	
89	Fluvial (F)	High	permafrost; thermokarst
90	Bedrock (R)	Moderate	moderate-steep slopes
91	Colluvium (C)	High	gully
92	Fluvial (F)	High	flooding
93	Colluvium (C)	Moderate	slope movement
94	Colluvium (C)	High	gully
95	Morainal (till) (M)	High	permafrost; poor drainage
96	Colluvium (C)	Moderate	slope movement
97	Colluvium (C)	Moderate	slope movement
98	Colluvium (C)	High	permafrost; debris flows
99	Colluvium (C)	High	landslides, permafrost
100	Glaciofluvial (FG)	Low	
101-102	Colluvium (C)	Moderate	slope movement
103	Morainal (till) (M)	High	landslides, permafrost
104	Colluvium (C)	High	debris flows, tension cracks
105	Morainal (till) (M)	High	permafrost; thermokarst
106	Colluvium (C)	High	gully
107	Glaciofluvial (FG)	Low	
108	Glaciofluvial (FG)	Low	
109	Morainal (till) (M)	Low	
110	Glaciofluvial (FG)	Moderate	potential permafrost at depth
111	Fluvial (F)	High	fluvial fan
112	Glaciofluvial (FG)	High	Ice-rich permafrost potential
113-114	Colluvium (C)	Moderate	slope movement
115	Fluvial (F)	High	flooding
116	Colluvium (C)	High	landslide, slumping
117	Organic (O)	High	permafrost thaw settlement
118	Organic (O)	High	permafrost
119	Colluvium (C)	High	gully
120	Glaciofluvial (FG)	Low	
121	Glaciofluvial (FG)	Low	
122	Colluvium (C)	Moderate	gully
123	Morainal (till) (M)	High	permafrost
124	Organic (O)	High	permafrost
125	Morainal (till) (M)	Low	
126	Morainal (till) (M)	Low	
127	Morainal (till) (M)	High	Ice-rich permafrost potential, poor drainage
128	Morainal (till) (M)	High	permafrost; thermokarst
129	FluvialActive (FA)	High	flooding, permafrost
130-131	Glaciofluvial (FG)	High	drum in sideslope and/or unmapped drumlins
132	FluvialActive (FA)	High	permafrost; thermokarst
133-142	Morainal (till) (M)	High	drum in sideslope and/or unmapped drumlins
143*	Morainal (till) (M)	Low	
144	Bedrock (R)	Moderate	moderate-steep slopes
145	Morainal (till) (M)	High	Ice-rich permafrost potential, poor drainage
146-156*	Morainal (till) (M)	Low	

*denotes polygons that are associated with drumlinoid ridges



HAZARDS CLASSIFICATION MAP FARO, YUKON

SCALE 1:20 000



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. Faro Landscape Hazards: Geoscience Mapping for Climate Change Adaptation Planning. Northern Climate Exchange, Yukon Research Centre, Yukon College 130p. and 2 maps.
The report and maps are also available for download from yukoncollege.yk.ca/research.