

UNBC Slope and Aspect Analysis of the Berg Lake Trail in Mount Robson Provincial Park

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The study area was a 760 square kilometre area centered on the Berg Lake Trail in Mount Robson Provincial Park. It is contained in 1:20 000 mapsheets 83E004, 005, 014, 015, 024, and 025. The data used came from TRIM II Precision, TRIM II DEM, and NTDB. The dataset was created by appending TRIM II precision layers and the TRIM II DEM layers into one coverage for a particular feature (e.g. lakes) using Arc/Info. The large size of the dataset limited the types of analyses that could be done on the data. The project looked at the slope and aspect of the Berg Lake trail in Mount Robson Provincial Park and determined the best part of the trail to hike if a hiker was looking for the easiest part of the trail to follow. The final output of the analyses was four maps, showing the slope of the trail, the aspect of the trail, the best place to hike, and a hillshade of the study area.

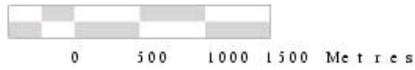
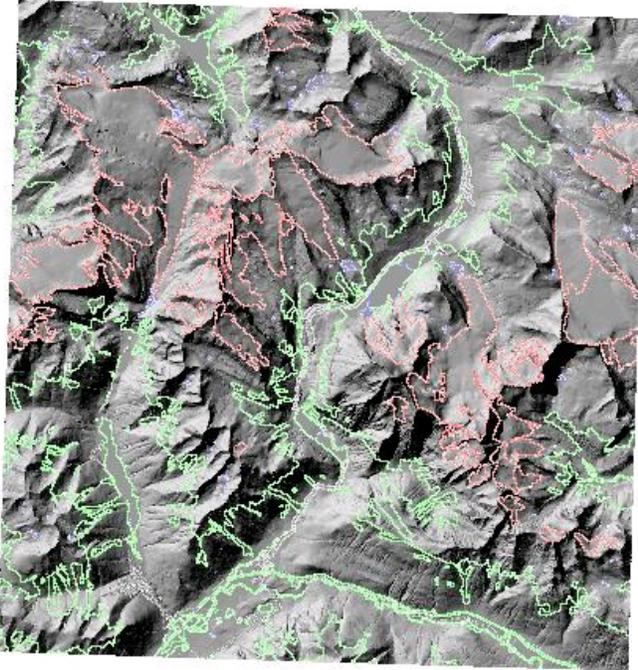
Mount Robson Provincial Park is located in the Rocky Mountains of eastern B.C., adjacent to Jasper National Park. Its eastern border is marked by the Alberta provincial border. The park covers an area of 224 866 hectares (B.C. Parks no date given). It is home to the largest peak in the Canadian Rockies, Mount Robson (3954 metres). The Berg Lake trail is approximately 23 kilometres in length and has an elevation change of approximately 800 metres.

The main objective of the project was to create a dataset, perform some spatial analyses of the dataset, and output the results of the analyses into maps. Secondary objectives were to learn more about the capabilities of GIS and to improve my GIS skills.

The data set had a few holes in the trail coverage that could not be filled. In some locations, it is known that there is a bridge located there but none of the datasets had the pedestrian bridges located in them; they only contained the vehicle bridges.

Four maps were generated in this project. The first map shows the hillshade of the park with the trails, roads, glaciers, wooded areas, and lakes drawn over top. The second map shows the slope of the buffered trail.

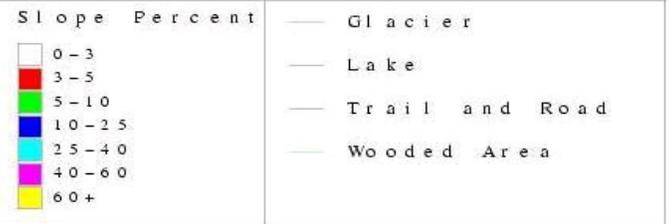
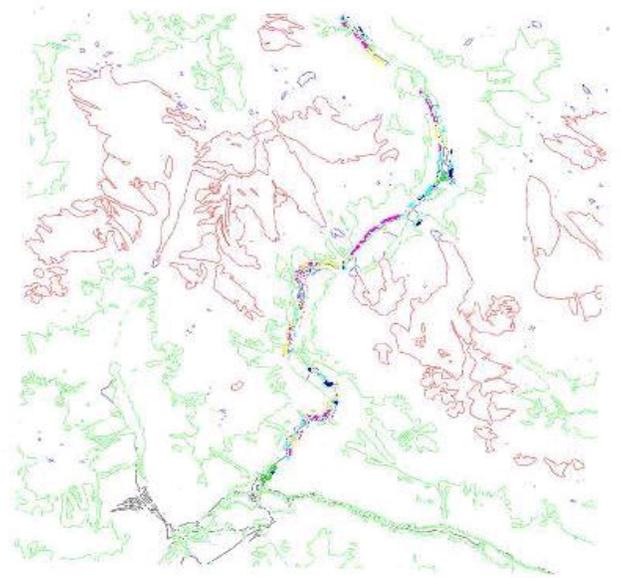
Mount Robson Provincial Park
Berg Lake Trail



M. Hughes

Map 1

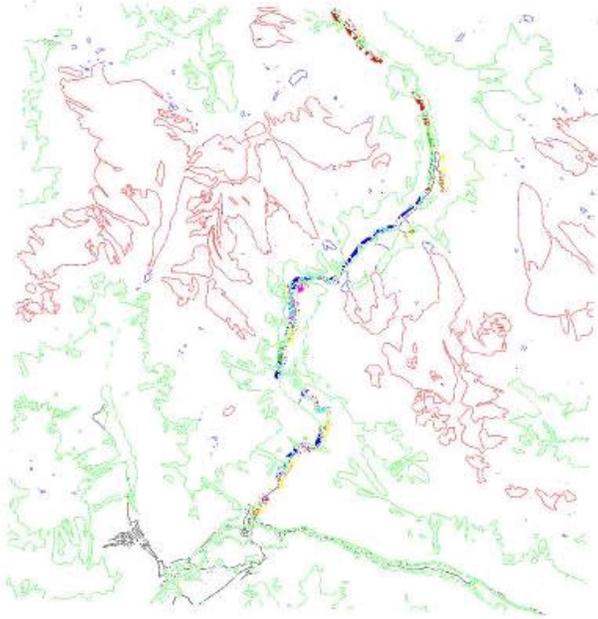
Slope Classification
of the Berg Lake Trail



Map 2

The third map shows the aspect of the buffered trail. The fourth map shows the degree of difficulty of the trail based on its slope.

Aspect Classification
of the Berg Lake Trail

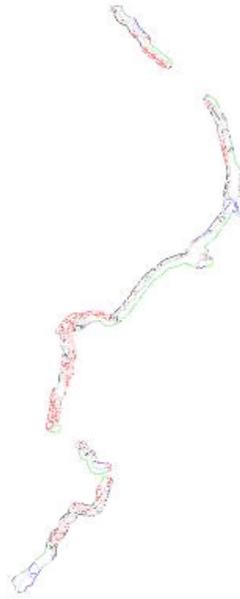


Aspect	
0-22.5 / 337.5-360	— Glacier
22.5-67.5	— Lake
67.5-112.5	— Trail and Road
112.5-157.5	— Wooded Area
157.5-202.5	
202.5-247.5	
247.5-292.5	
292.5-337.5	

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Map 3

Trail Classification of
the Berg Lake Trail



Trail Difficulty	
— Best	
— Getting more difficult	
— Borderline Spiderman	
— Spiderman	

M. Hughes  0 500 1000 1500 Metres

Map 4