Proposed Recreational Sites For Jumbo Glacier

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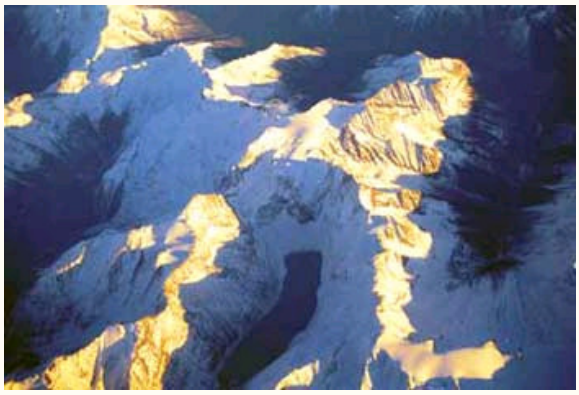
Abstracts

This project is a study and analysis of the proposed recreational sites for Jumbo Glacier, which is located in the Kootney's nearby to Invermere, British Columbia. The classification for the potential recreationals sites would be based on whether on not there is accessiblilty. Also, another classifaction would be whether or not there is bodies of water making it possible for fishing to take place. When locating the potential recreational areas slope is an important factor because do not want elevations that are to high. Another important classification that is required for the assessment and analysis of potential recreation sites the need for somewhat close proxmity to buildings.

Introduction

- The Jumbo Glacier Proposed Resort in the Jumbo Creek Valley, located about 55km west of Invermere, BC. The Jumbo Glacier can be found in the Kootney's and has lat-long corridinates of 50 degrees 25' 00" N and 116 degrees 25' 00" W. This area of the Kootney's provides excellent accesiblitly to the surrounding Purcell Mountain Ranges. It has been proposed that a year round ski resort be put in place by Glacier Resorts Ltd.
- A problem that arose while conducting this studying was first locating the general area to help out to discover which trim tiles were need as well there was a lack of data available for Trim II data of the area. Also, some of the glaciers were not perfect polygons and needed to be closed before they could be build as polyons or some of the glacier would be missing.
- The hypothesis of this project was to find where there was other potential recreation sites in the surrounding area.
- This is a location reference to Jumbo Glacier



Jumbo Glacier and the Lake of the Hanging Glacier

Data Source

- The data required for this project was Trim I data as well as Trim II data.
- 4 Trim I data sheets were obtained such as including **82k037, 82k038, 82k047, and 82k048**
- There was only 2 Trim II data sheets available such as **82k038 and 82k048**
- Road data for Trim I was a required as well.
- All the datasets for this projects can be found at N:\pirillo\geog413\project\data (Trim I datasets) and N:\pirillo\geog413 \project\data2 (Trim II datasets)
- The datasets for Trim I and Trim for the Jumbo Glacier area were provided by the instrustor of this course.
- All the Trim I and Trim II datasets were WinRaR zip files
- All Trim I and Trim II data needed to be unzipped and extracted to my local home directory as well as imported from interchange files to coverages
- The road data for Trim I was originally were saif files and changed to WinRar zip files
- The dem dataset can be found at N:\data\gisdata\temp\82k\elevation (UTM corridinates)
- The dem dataset need to be unzipped and extracted to my local home directory and the subfolder data. This dataset needed to be converted into a raster grid

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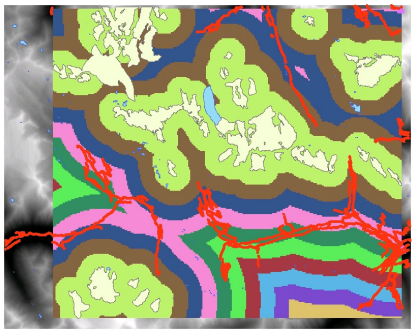
Data Manipulation

All the data required for this project needed to be unzipped and extracted to my local directory. Once the extracting and unzipping was completed they needed to my imported from interchange files to coverages to be able to be visible in ArcMap. Once all the datasets were converted some appending was required. All the data from water coverages were attending together combine the data from tiles **82k037, 82k038, 82k047, and 82k048** making querying a lot easier and less time consumiung.appending allowed all the data of water to be classified together. The same prodcedure of appending together all buildings as a set of point classes, coverages as set of line classes, contours as a set of line classes. Once all the appending was completed than some querying could be done to discover which were glaciers found in the water data.. I first needed to aquire the Fcode pertaining to glaciers. By conducting a query the glaciers were selected and then I was able to export the daya and creating glaciers as their own layer. The new glacier needed to be converted from a shapefile to a coverage before any topology could be build. The Fcode pertaining the lakes were aquired to make lakes separate from the water layer. The breakdown of the lakes the same steps were completed as needed for glaciers layer. For better analysis the rocks needed to be removed from all the glaciers which required the indivicual selection of all rocks; therefore, once are the rocks were located thatn could do a query to remove rocks from the glacier layer. A dem was clipped to the exent of the coverage layer of the area and the exent of the water. Clipping of the raster grid was done by using command line.

Spatial Analysis Methods

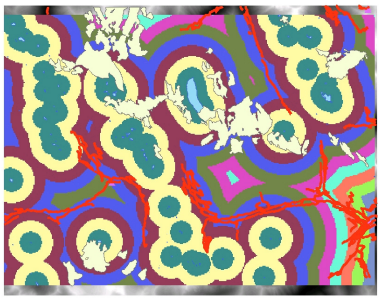
After all the datasets were ready for further analysis a dem was aquired and then clipped to show just my area of study. By using the spatial analyst extension a distance allocation map of a straight line for the lakes layer as well as another distance allocation map using the glacier layer were generated. The roads layer was brought in aiding as visual to see if the area would be accessible for a potential site for recreation or not. Also the dem aids as a visual of the areas of high and low elevations.

- This is an illustration of the allocation distance map of the glacier layer



jumbo_rec.jpg

- The lightest green and brown areas have the best potential for recreational sites
- The tan colored and purple have the least likely potential for recreational sites
- Note: the pink triangles are buildings, the blue polygons are lakes, the red lines are roads and then white to yellow colored are glaciers
- This is an illustration of the allocation distance map of the lakes layer

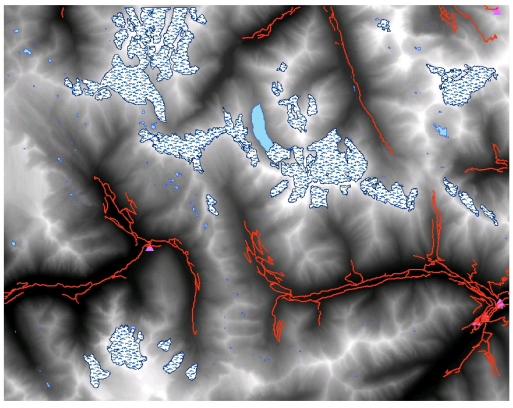


jumbo_lakes.jpg

- The most likely potential areas for recreational sites would be around the teal and light yellow colored areas as well as the dusty rose colored areas.
- The least likely would around the light purple, light green and peach colored areas.

- Note: the pink triangles are buildings, the blue polygons are lakes, the red lines are roads and then white to yellow colored are glaciers

- This is an illustration of the dem clip of the study area

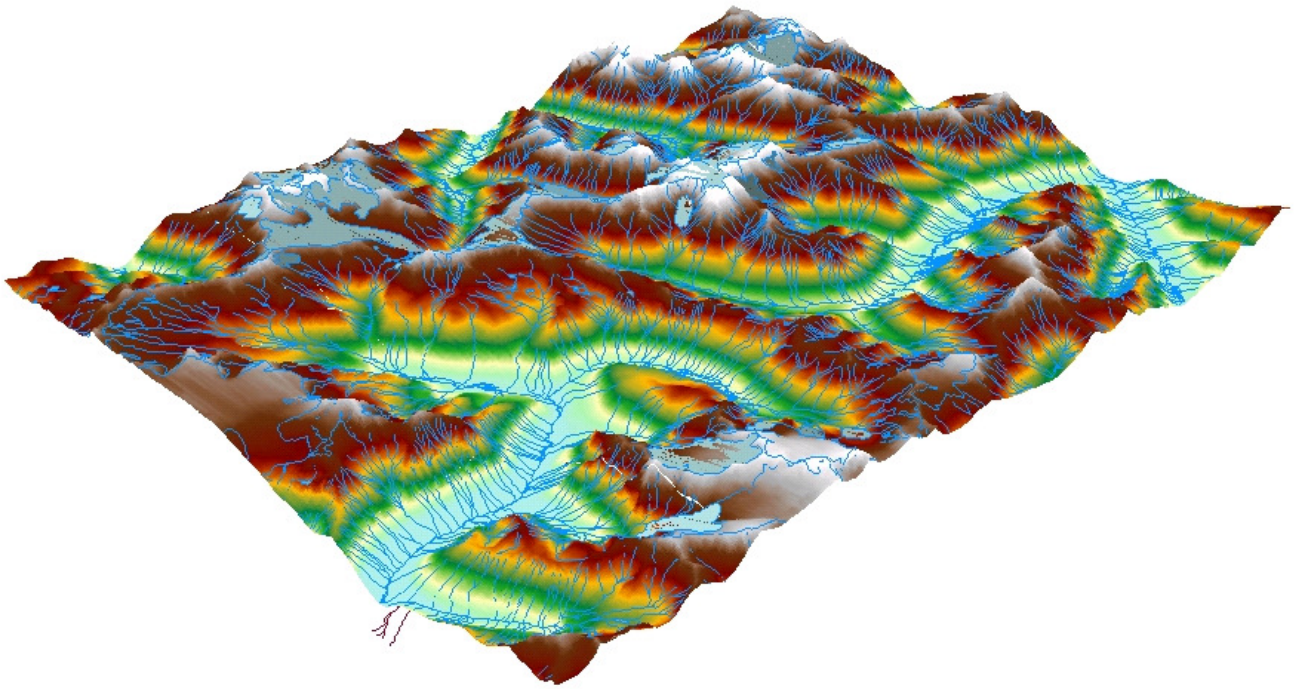


dem_clip.jpg

- Note: the glaciers in this illustration are the blue speckled polygons and then background is the dem clipped layer my study area. High is black and white to gray is low elevations

Analysis Results

- Some of the results of this project are the areas of protential recreational sites are located around the lightest green and brown areas as shown on the allocation distance map of glaciers and the least likely locations would be the tan colored and purple colored areas.
- The best potential areas for recreation sites close to lakes would be the teal, light yellow and dusty rose areas and the least areas of potential for recreation would be around the light purple and light green areas.



- This is an illustration in a 3d perspective of the final look
- Note: the blue lines are rivers, the gray blue to gray colored areas are glaciers, and then darker blue is the lakes. Also the aqua colored blue are areas of low elevation (1041) and then brown areas are high elevations (3478)

Conclusions

- For potential recreational sites it is best to have accessibility to the place
- There should be water bodies around the areas
- Elevations should not be too steep
- Also it helps to have building nearby.

Future Developments / works

- Due to some time contraints there could be further work done on this project such as determining the actual degree slope

around some of the potential areas.

References

- http://www.eoo.gov.bc.ca-news-website-homepages-jumbo-jumbo-decision-assessment-report.pdf
- http://srmwww.gov.bc.ca/bmg/
- http://www.maps.rcan.gc.ca/search/namequery.html
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