CPSC 547 - Project pitch

Visualizing historical canadian avalanche ratings

About myself

- Niels Sole Semb

- Msc Cybernetic and Robtoics back at NTNU, Norway

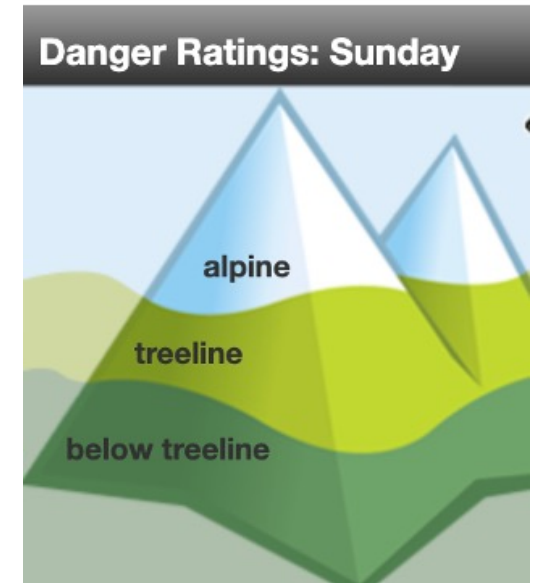- Have ski mountaineering as main hobby beside my studies

About

- North American Public Avalanche Danger Scale

- Goes from 1-"generally safe avalanche conditions" to 5-"Avoid all avalanche terrain"

- Avalanche danger is determined by the likelihood, size and distribution of avalanches
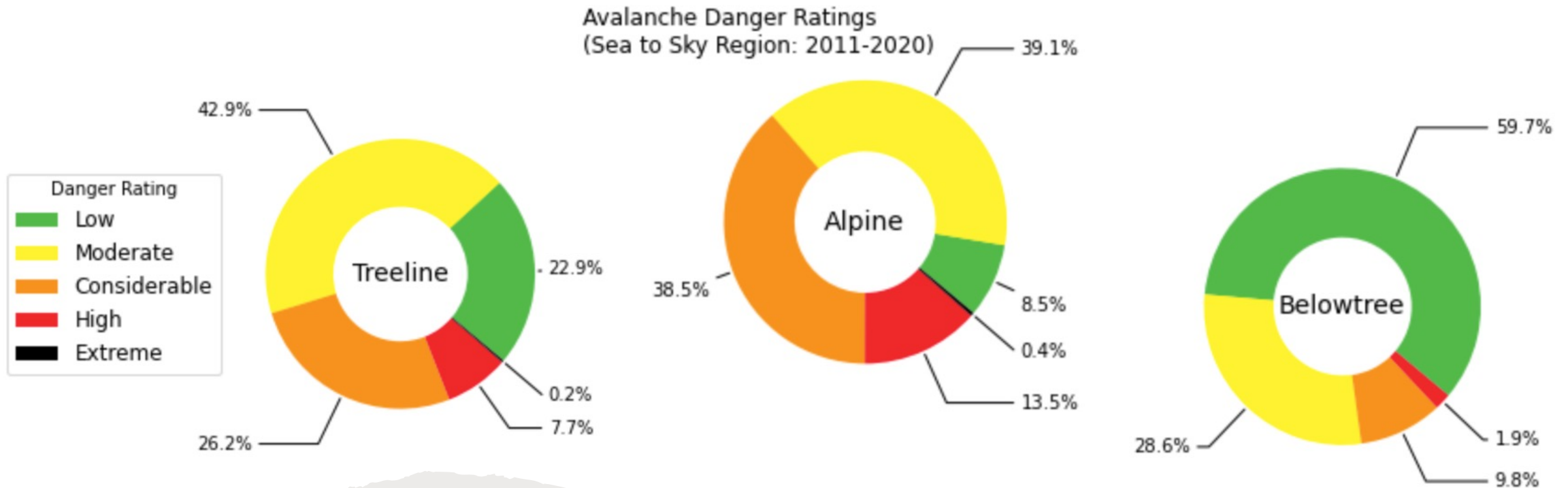
Dataset Available

- Historical avalanche ratings for the last 10 years in different regions
  - Dates
  - Ratings for Alpine, Treeline and Below treeline

1	date_valid	alpine_status	alpine_status_code	treeline_status	treeline_status_code	belowtree_status	belowtree_status_code
1289	2020-03-17	Moderate	2.0	Moderate	2.0	Moderate	2.0
1290	2020-03-18	Moderate	2.0	Moderate	2.0	Low	1.0
1291	2020-03-19	Moderate	2.0	Moderate	2.0	Low	1.0
1292	2020-03-20	Low	1.0	Low	1.0	Low	1.0
1293	2020-03-21	Low	1.0	Low	1.0	Low	1.0
1294	2020-03-22	Low	1.0	Low	1.0	Low	1.0
1295	2020-03-23	Moderate	2.0	Moderate	2.0	Low	1.0

Danger Ratings: Sunday
alpine
treeline
below treeline

Todays visualization

Avalanche Danger Ratings
(Sea to Sky Region: 2011-2020)

Danger Rating
- Low
- Moderate
- Considerable
- High
- Extreme

Treeline
42.9%
22.9%
26.2%
7.7%
0.2%

Alpine
39.1%
38.5%
8.5%
0.4%
13.5%

Belowtree
59.7%
28.6%
9.8%
1.9%

The aim of this study

- Give the user a good understanding of how the historical avalanche ratings have been in a certain region

- Comparing regions

- How it differs in the different elevation

- Findings trends

- +++

Extensions

- Add dataset of avalanche fatalities

DATE	LOCATION	PROVINCE	ACTIVITY	INVOLVEMENT	INJURY	FATAL	
2021-05-30	Mount Andromeda-Skyladder	AB	Mountaineering	2	0	2	view
2021-04-05	Haddo Peak	AB	Skiing	2	0	1	view
2021-03-29	Eureka Peak	BC	Snowmobiling	1	0	1	view
2021-03-04	Reco Mountain	BC	Snowmobiling	1	0	1	view
2021-02-23	Swift Creek	BC	Skiing	3	0	1	view
2021-02-20	Hasler	BC	Snowmobiling	1	0	1	view
2021-02-13	Brandywine Bowl	BC	Skiing/Snowboarding	1	0	1	view

Next steps

- Refine research question
- Choose a techonology stack (D3.js?)

Lookin for a group

- Reach out if you are interessted
  - Piazza
  - Email (nielssolesemb@gmail.com)