

# South West Coast Mountains Flight Report

## DATE OF FLIGHT:

Mar 04, 2013

## BY:

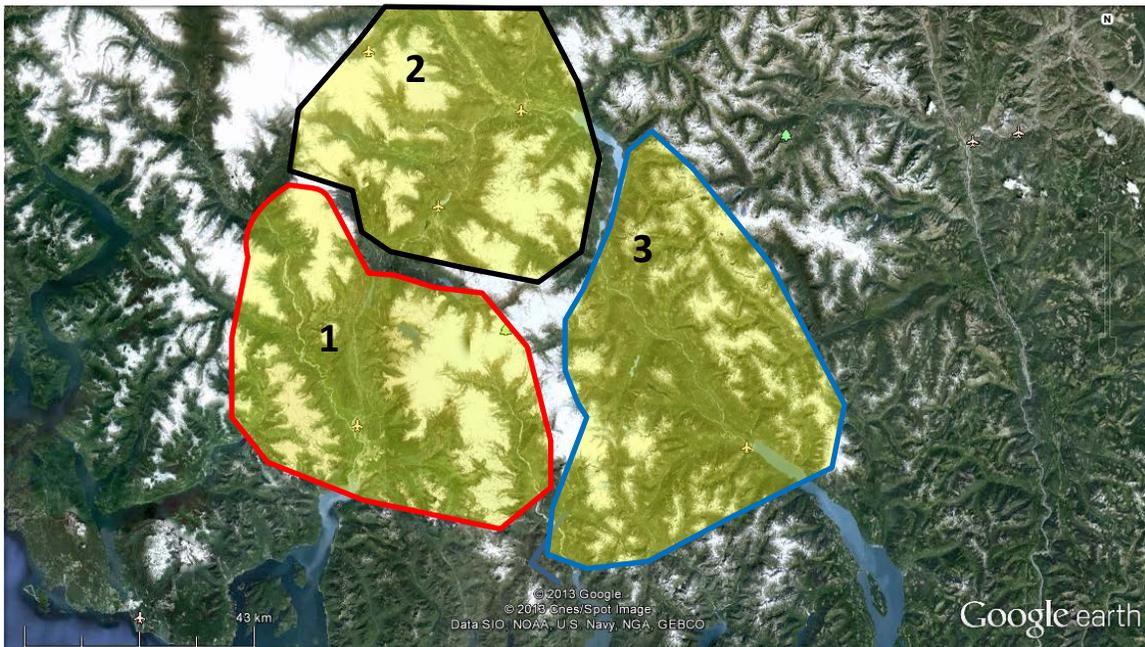
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## GOAL:

The goal of the flight today was to evaluate the avalanche cycle of March 1-2 and to see how high the freezing levels were during the storm. The other principal objective of the flight was to document avalanches within the operating zone.

## FINDINGS:

Three distinct zones were notable in the flight.



**Zone 1: This area includes the Tantalus, Brandywine and the southern half of Garibaldi Park over to the Pit River.**

This area got 15-30cm of snow on Thursday, Feb 28 as low as 100 m above sea level before the temperatures started to rise. As the temperature climbed it produced many slides at and below treeline that ran to valley bottom up to size 2.5. Over 175mm of precipitation fell in this area during the storm which culminated with a widespread cycle to size 4.5 in the alpine (slides in Squamish/Elaho Valley 2km wide, 2m deep 4000 m long, 2500 m vertical). Many of the avalanches have not run as far in 10 years but very few exceeded historical runouts.

Late in the storm the freezing level climbed to about 4500ft and load at treeline and above caused most eligible slopes to slide. Avalanches were observed as low angle as 30 degrees, with crowns up to approximately 200 cm. Most avalanches did not travel far. It is suspected that most avalanches occurred on Feb 13 and Feb 20 layers.

**Zone 2: Calaghan, Rutherford, Miller, Samsom, Surfusion, Goat Creek, Hurley, Hope, Noel Creek, and Northern Garibaldi Park**

The temperatures appeared to be colder in this zone during the storm. The freezing level was slightly lower than to the south. Avalanches were not quite as wide spread leaving a few pockets here and there for future consideration. The slides that did occur were up to size 3.5 or small sz 4 but ran fast and far, at times exceeding historic run-outs. The crowns were in the 80-150cm range likely on the Feb 20 layer. Precip gauges in this area recorded between 70-120mm of precipitation during the storm.

Most interesting was the boundary between area 1 and 2 where evidence of at least 6 snowmobile accidental avalanches were observed. These were between sz 2 and sz 3.5. Avalanches releasing sympathetically around snowmobilers could have numbered in the hundreds but it is hard to tell the timing of the slides. The pilot I was with said he observed two small size 3 snowmobile triggered avalanches (one on Bromh, one in Brandywine) on Sunday.

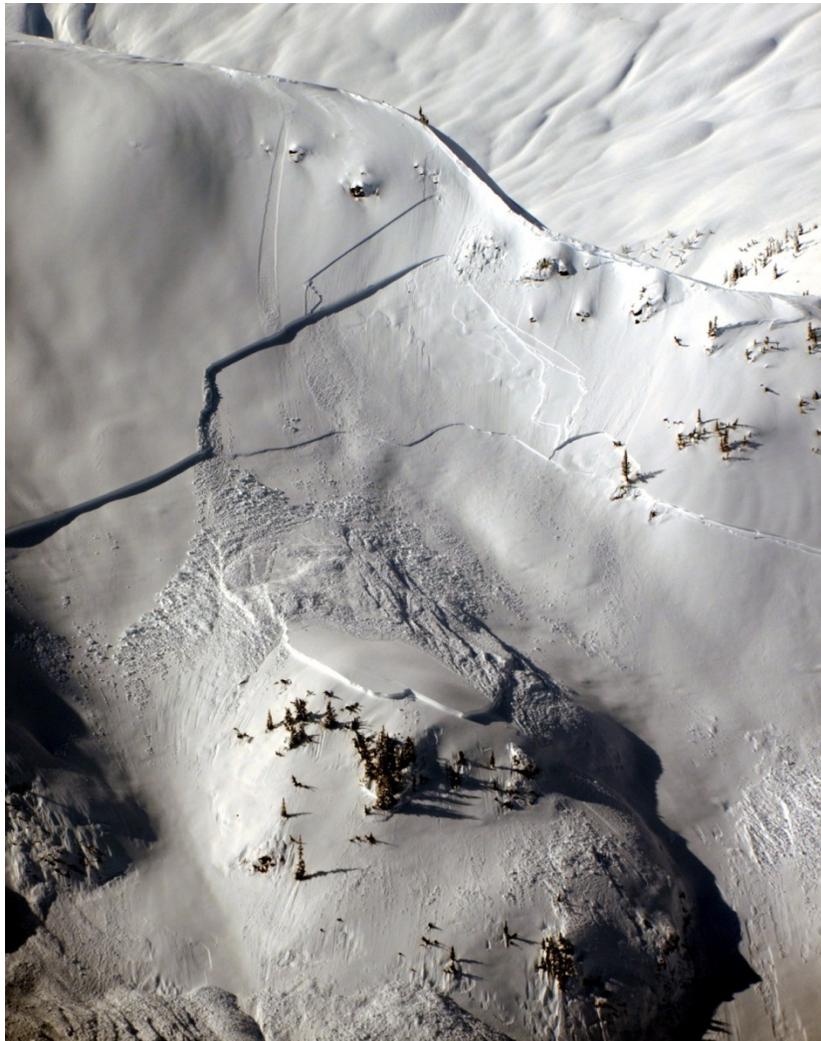
**Zone 3: Upper Stave, Misty Icefields**

In these areas gauges recorded about 160-200mm of precipitation over the 48 hour storm period. It rained to about 5500 feet, higher than most other areas. There were many slides here too, but most ran earlier in the storm. Avalanches were generally smaller in this area but only because the mountains are lower in elevation. The few larger peaks (i.e. Robbie Ried, Judge Howay) produced one or more sz 4's and start zones were reloaded.

The northern part of this zone (Stein headwaters, Joffre Park, NE Garibaldi Park) appeared to have a much more complex snowpack. In several of the start zones the crowns stepped down multiple times. Debris of different colour and consistency often overlapped other slides indicating that the same paths slid a few times during the storm. Many features in this area did not slide with the storm.

## **SUMMARY**

One of the largest avalanche cycles in the last couple of years produces wide spread avalanches from size 2- size 4 within the operating area. In the Sea to Sky corridor there several avalanches paths exceeded their 10 year return run-outs, but none were observed superseding extreme run-outs. Further north the avalanches were not as deep but slid farther and faster, in a few cases taking out old timber. In the southeast of the operating area avalanches occurred earlier in the storm and bed surfaces can be covered with as much as a meter of snow. The freezing level was almost 2000 feet higher during the storm over the Misty Icefields than over northern Garibaldi Park.



**Stepping down multiple times is evidence of the more complex snowpack of Northern Garibaldi and Joffre areas**