

Vancouver Island Mountains

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Introduction to the VI Mountains

- Part of the **Insular Mountains**
- Includes the **Vancouver Island Ranges**, which extend the length of Vancouver Island and are divided into many sub mountain ranges
- Also includes the **Alberni Basin** and **Estevan Coastal Plain**



Golden Hinde

Some Vancouver Island sub-ranges

1. Refugium Range
2. Sophia Range
3. Genevieve Range
4. Karmutsen Range
5. Hankin Range
6. Franklin Range
7. Bonanza Range
8. Sutton Range
9. Newcastle Range
10. Prince of Whales
11. Halifax Range
12. Beaufort Range
13. Pelham Range
14. Somerset Range
15. Seymour Range
16. Gowland Range
17. Pierce Range
18. Haihte Range



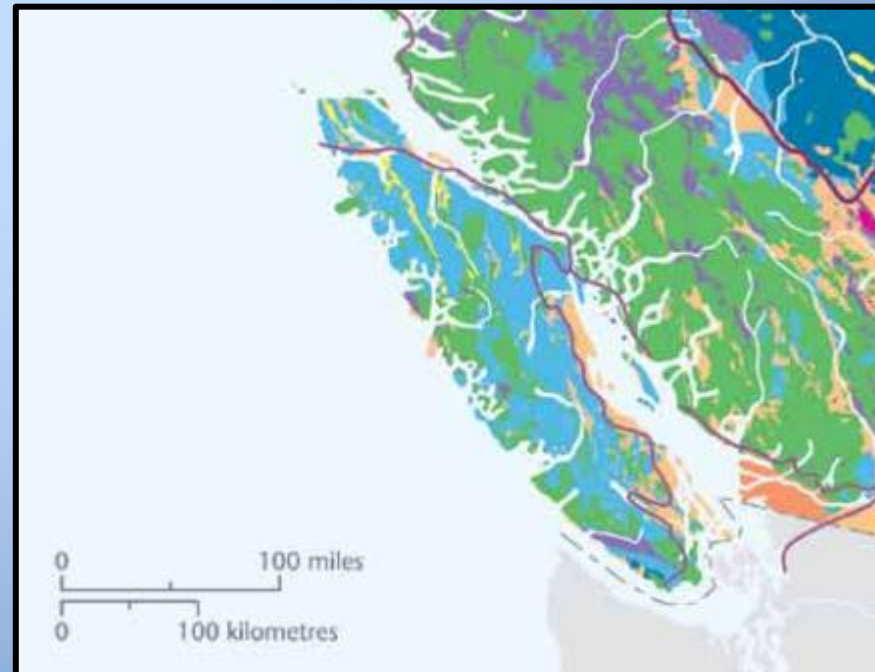
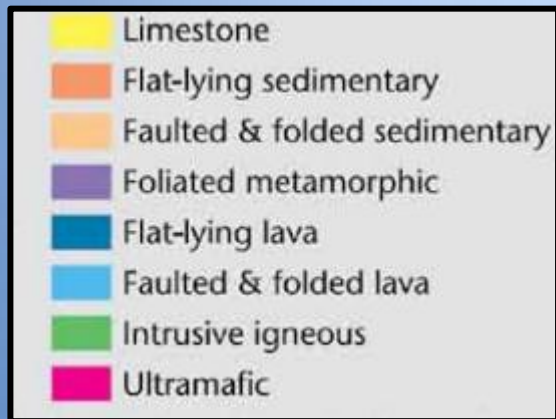
Highest Peaks

- Golden Hinde (2201m)
- Elkhorn Mountain (2195m)
- Victoria Peak (2163m)
- Mount Colonel Foster (2134m)



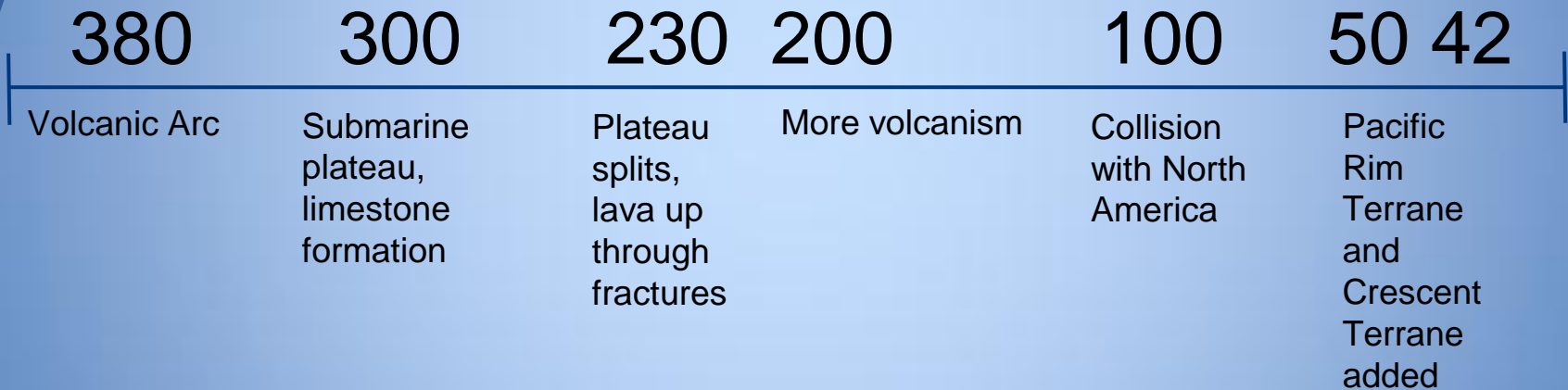
Geology

- Mountains are composed of sedimentary and volcanic rocks, intruded by granite batholiths



Formation of Vancouver Island

Timeline in millions of years



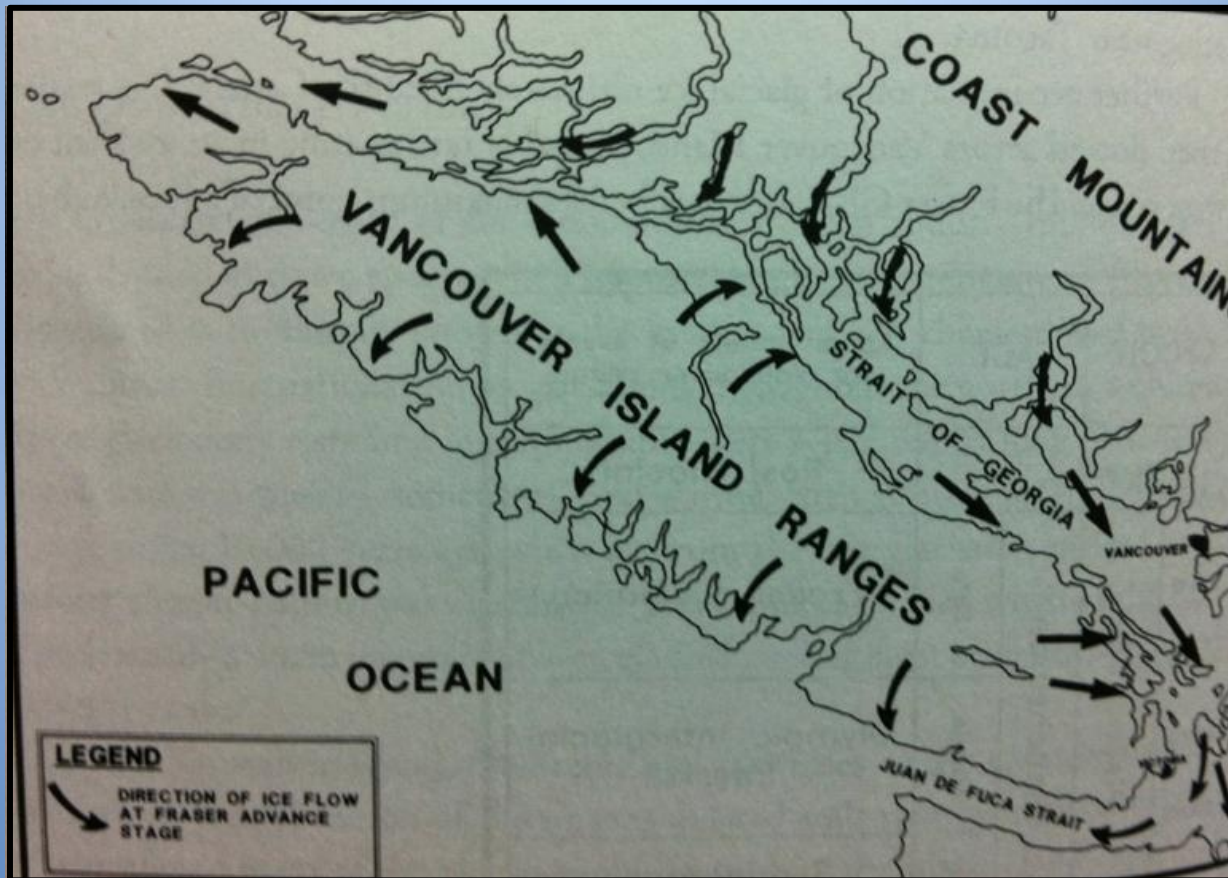
Downcutting of Vancouver Island Mountains

The accretion of the Pacific Rim and Crescent Terranes was followed by a period of uplift and subsequent pre-pleistocene erosion



Then came the glaciers

Pleistocene glaciation of Vancouver Island helped form the landscape of today over the course of about 20 000 years



Topographic Description

The Vancouver Island Mountains are characterized by steep relief and sharp peaks in the high alpine, but generally lower relief and smoother summits at lower elevations



Steep relief at higher elevations (left), smoother summits at lower elevations (right)

High alpine vs subalpine



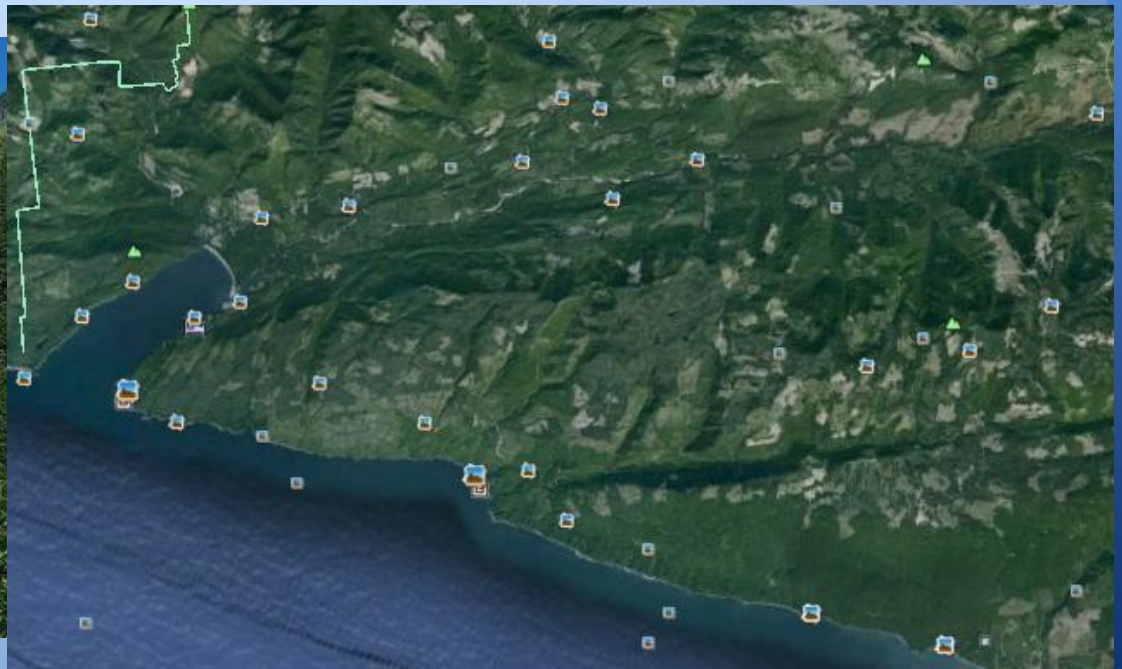
Mt. Colonel Foster



Mt. Allan Brooks(?)

Ice movement

The movement of ice had differing effects on the landscape depending on the relative orientation of valleys and ridges



Climate

- Coast of BC is the wettest part of the province
- Moisture laden air from the westerly winds drops rain or snow as it is forced over the mountains
- Drier on the east side of the mountains



Climate continued

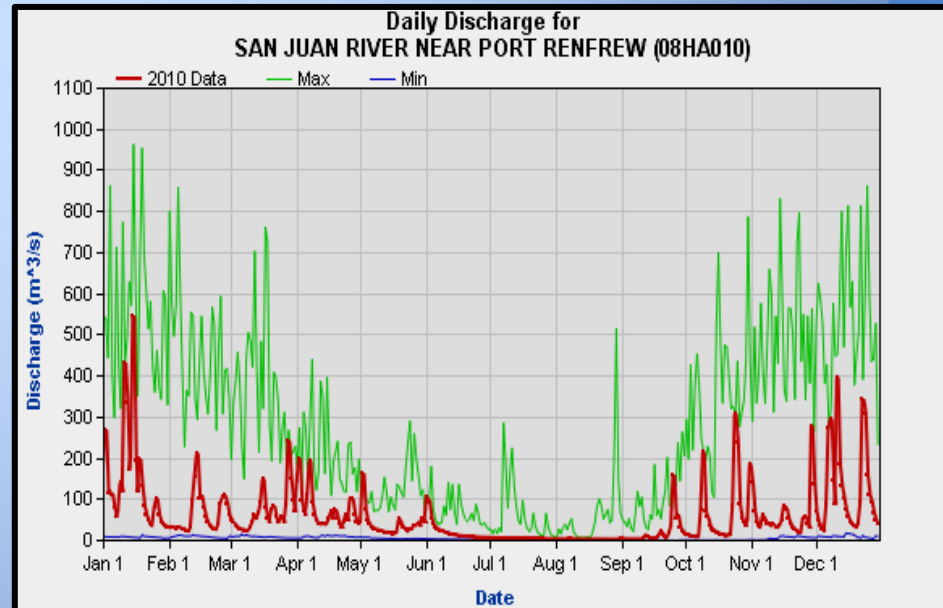
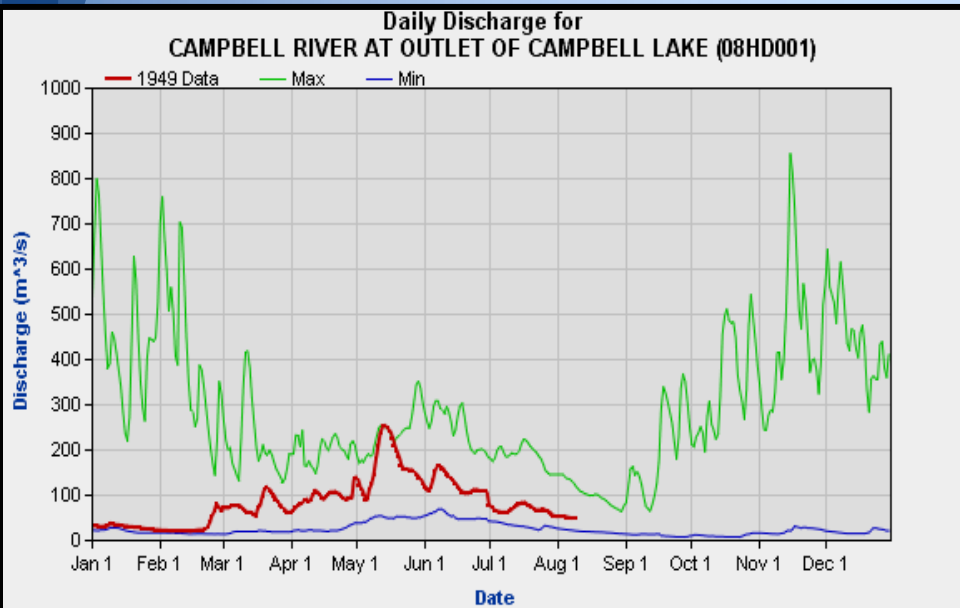
Examples of temperatures at different elevations (°C)

	Golden Hinde 1880masl	Gold River 152masl	Victoria 17masl
December max T	-3.9	2.8	7.6
December min T	-8.7	-0.5	2.6
August max T	19.2	24.9	22
August min T	8.3	11.3	11.5

Data from ClimateBC, 1981-2009

Hydrology

Two main flow regimes: Snow dominated and rain dominated



Main Rivers

Snow dominated

Nimpkish, Campbell,
Puntledge, Stamp

Rain Dominated

San Juan River, Cowichan



Cowichan River



Della Falls: Highest waterfall
in Canada

Major Lakes

North

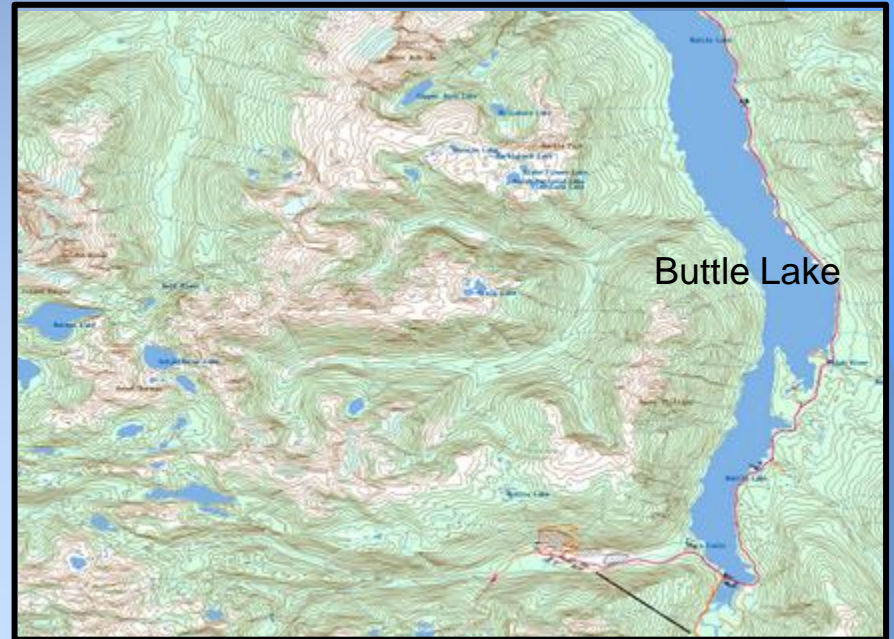
Woss/Nimkish

Central

Buttle/Upper Campbell, Comox, Great
Central/Sproat, Kennedy

South

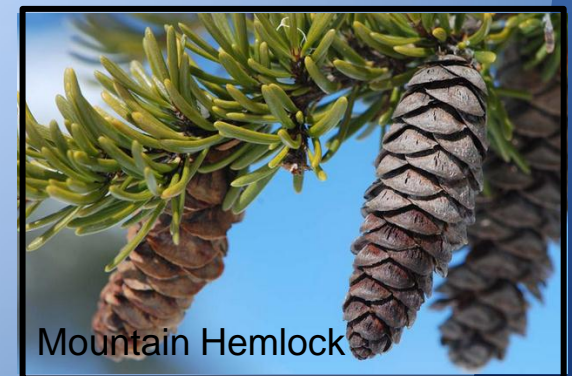
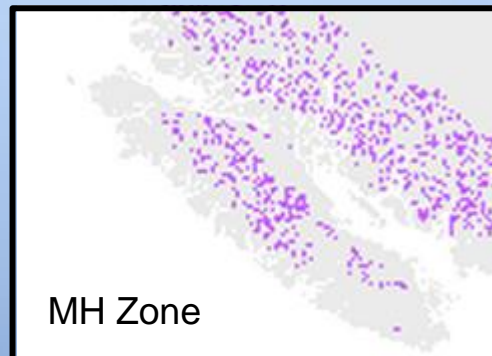
Nitinat, Cowichan



2 Dominant Biogeoclimatic Zones

1. Mountain Hemlock zone

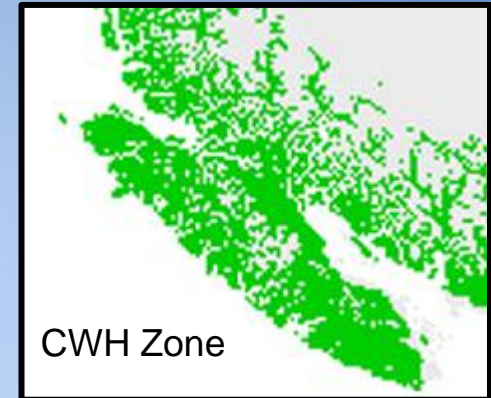
- dominates elevations of 900-1800m
- average temperature 0-5°C
- precipitation ranges from 1700-5000mm
- commonly found vegetation: mountain hemlock, yellow-cedar, & Amabilis fir trees, blue-leaved huckleberry, pink/white/yellow mountain-heather shrubs



Biogeoclimatic Zones continued

2. Coastal Western Hemlock zone

- elevations up to 900m
- average temperature about 8°C
- precipitation ranges from 1000-4400mm
- common vegetation: western hemlock, Douglas fir, Amabilis fir, yellow-cedar, lodgepole pine, grand fir, & bigleaf maple trees, Alaskan blueberry, red huckleberry, and salal shrub layers, and a well-developed moss layer



Other features of interest...

Karst landscape is a remnant of marine life accumulated during the earliest formative periods of Vancouver Island



Horne Lake Caves

References

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Climate data: Moore, R.D., Spittlehouse, D.L., Whitfield, P.H., Stahl, K. Weather & Climate
ClimateBC

Biogeoclimatic zones: BC Ministry of Forests

Coastal Western Hemlock zone: <http://www.for.gov.bc.ca/hfd/pubs/docs/srs/Srs06/chap6.pdf>

Mountain Hemlock zone: <http://www.for.gov.bc.ca/hfd/pubs/docs/srs/Srs06/chap7.pdf>

Victoria CRD site: Various documents

BC Parks

Geological Survey of Canada

River discharge data: Environment Canada