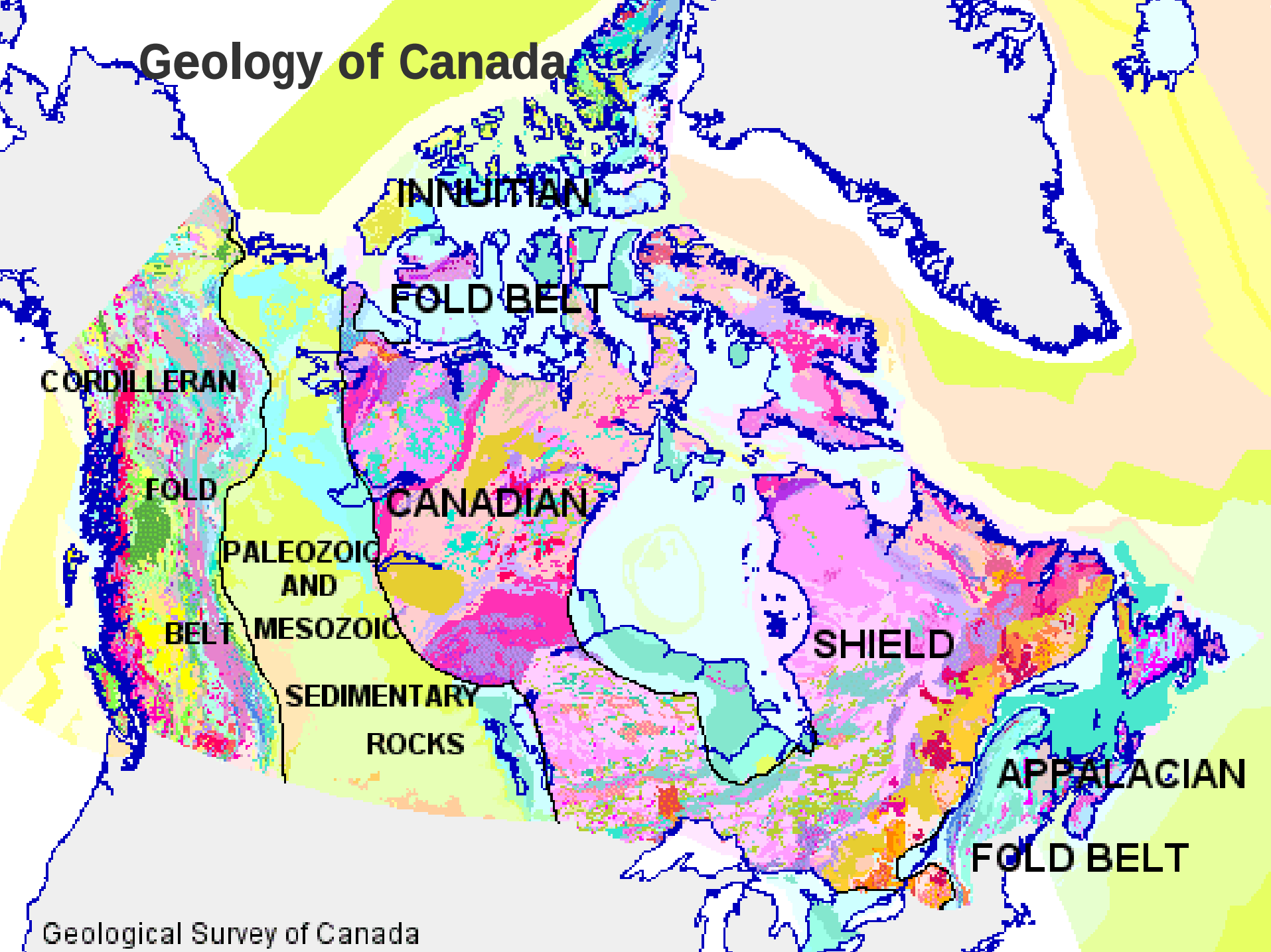
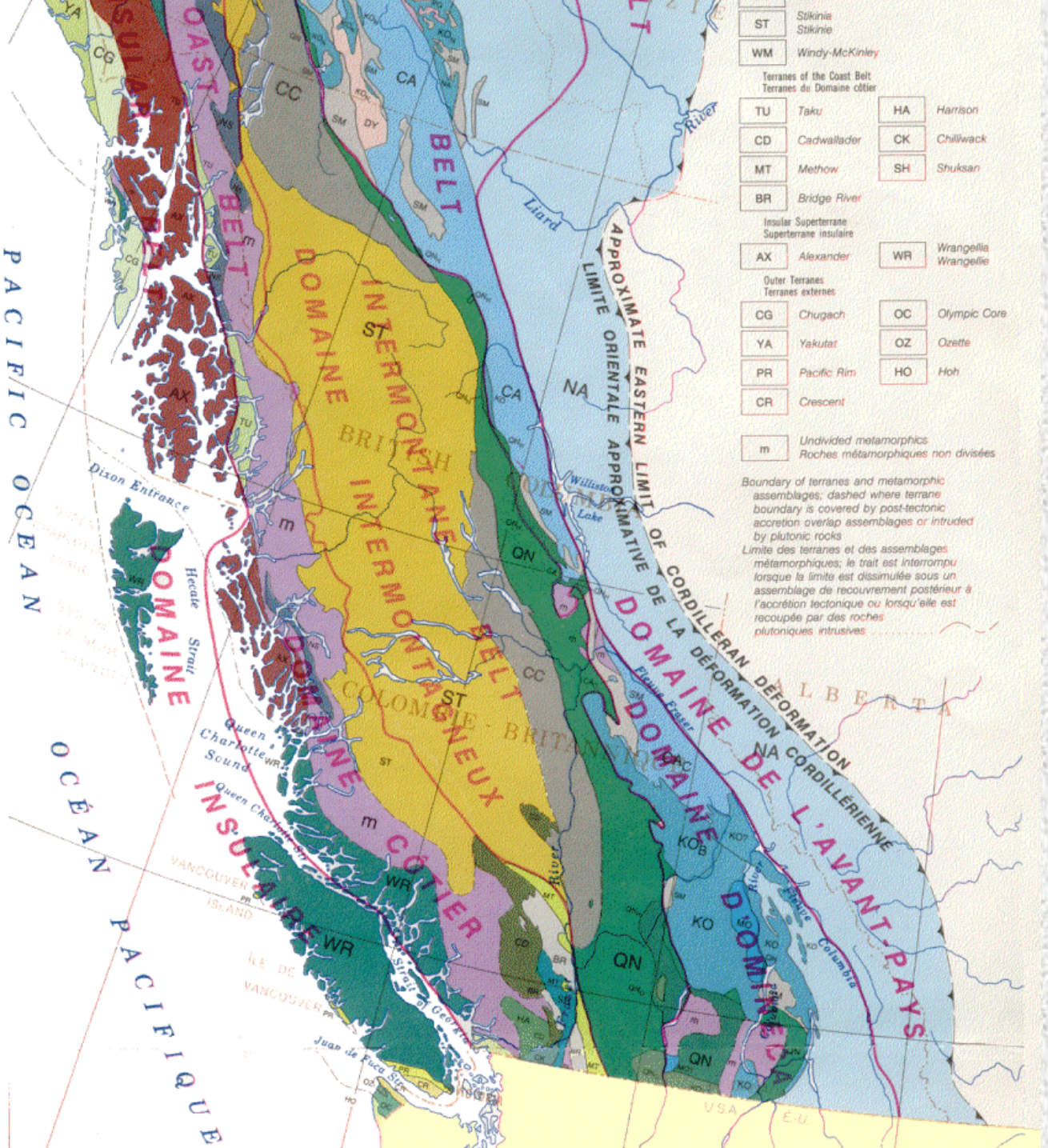
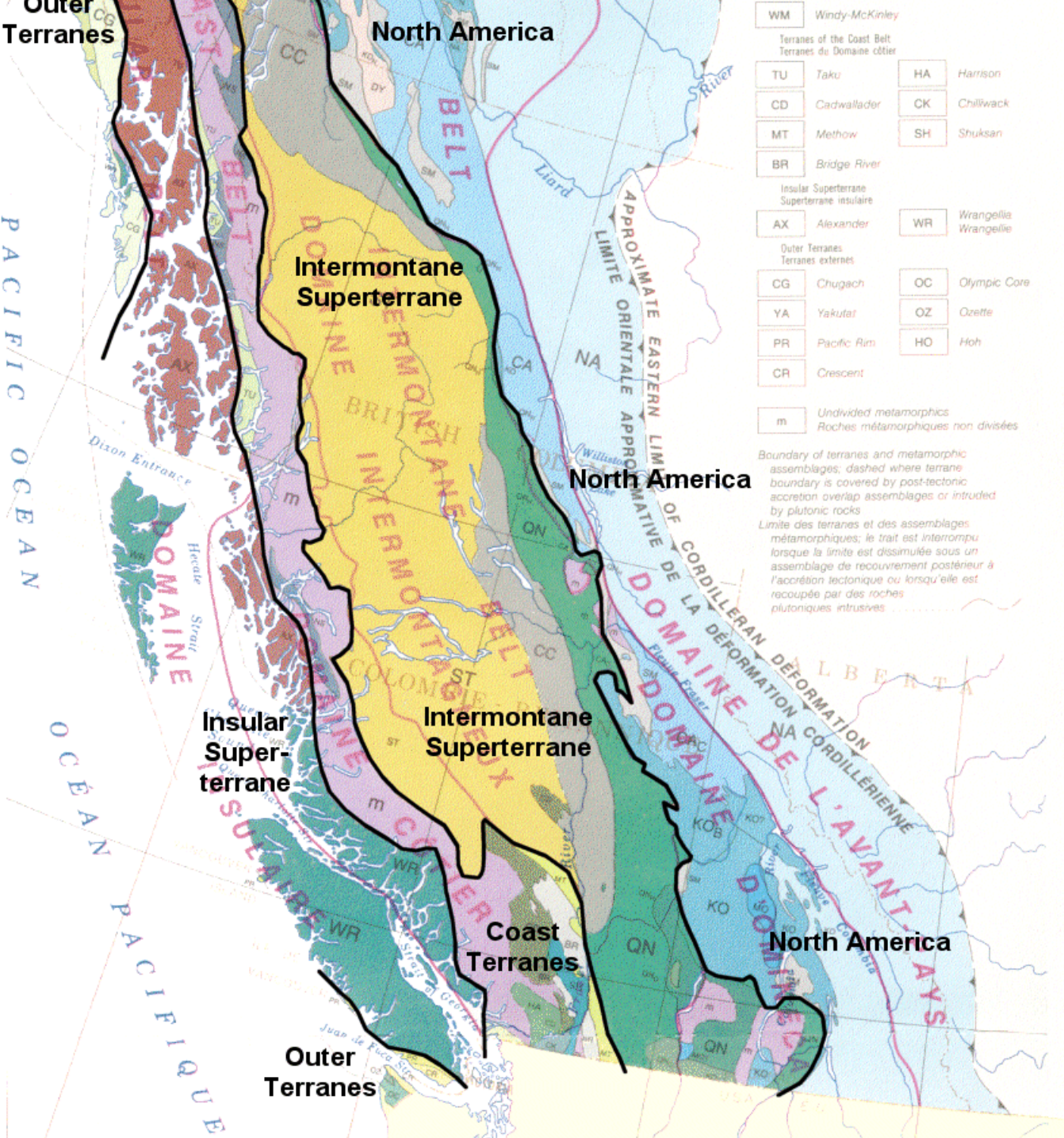
The Geological History of British Columbia


Geology of Canada
INNUITIAN
FOLD BELT
CORDILLERAN
FOLD
BELT
PALEOZOIC
AND
MESOZOIC
SEDIMENTARY
ROCKS
CANADIAN
SHIELD
APPALACIAN
FOLD BELT
Geological Survey of Canada

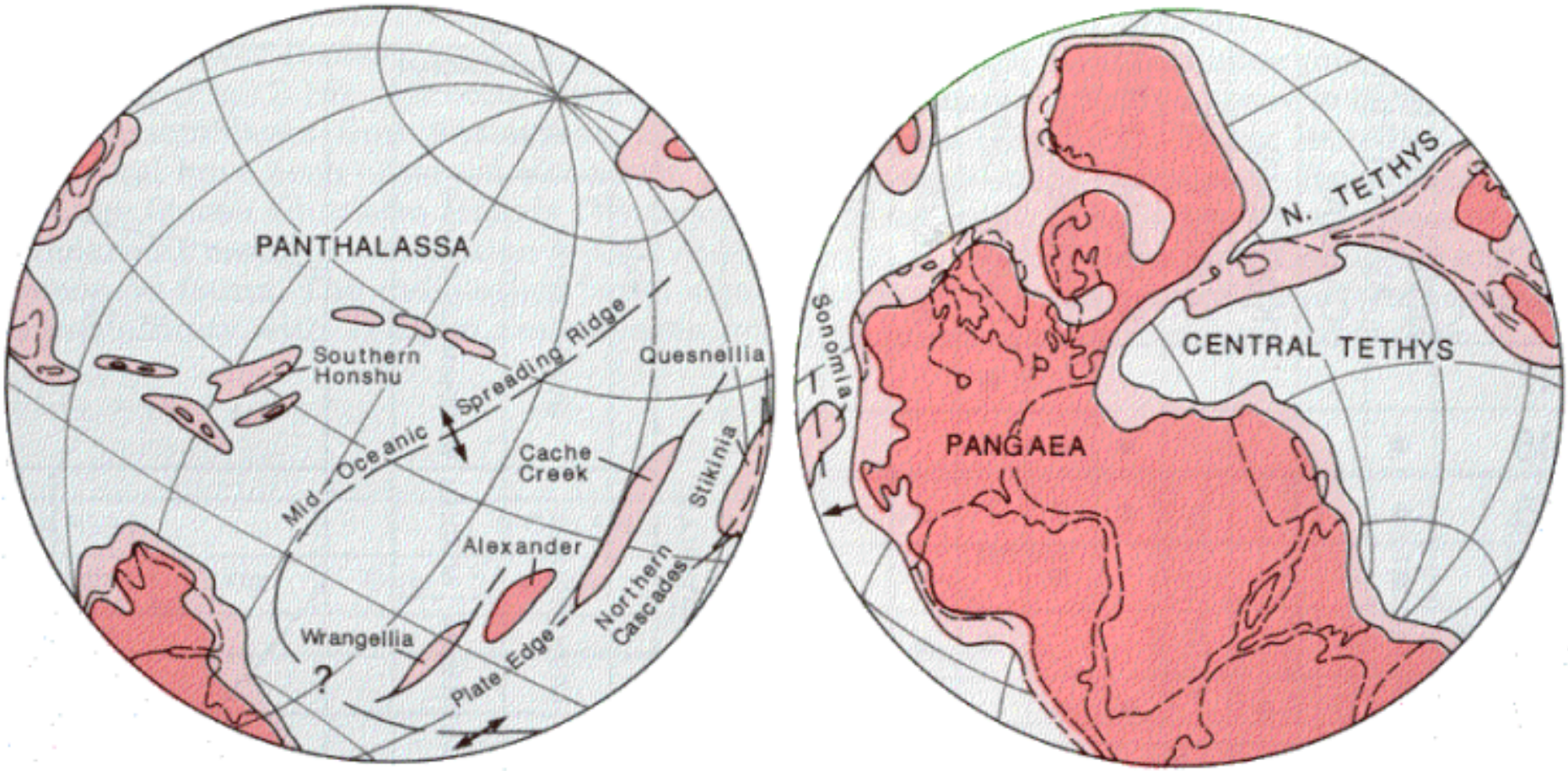
Tectonic belts of British Columbia





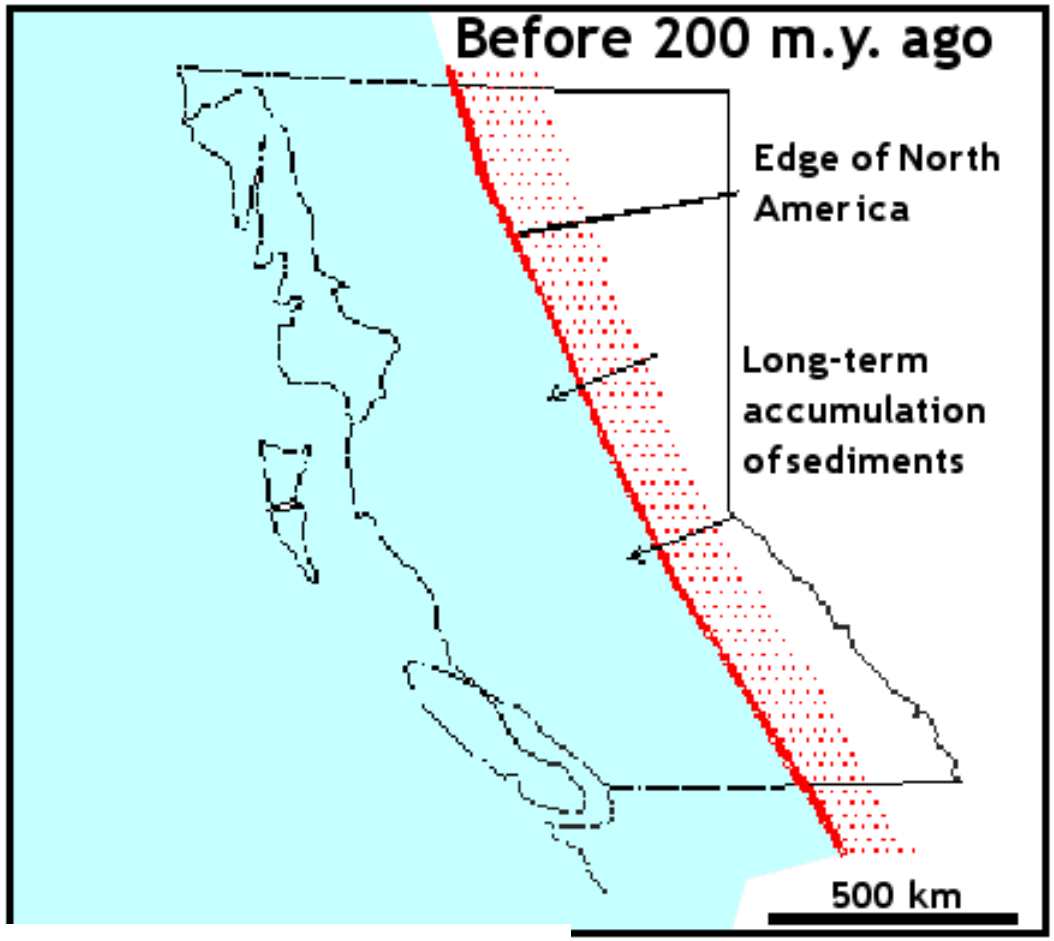
Terrane boundaries

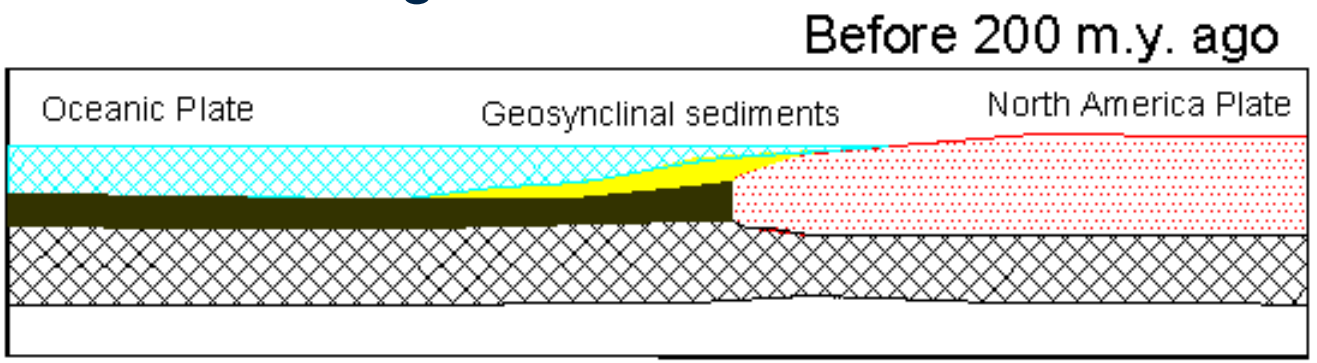
Possible locations of various Cordilleran terranes during the Permian (ie. prior to 250 m.y.)



Passive margin

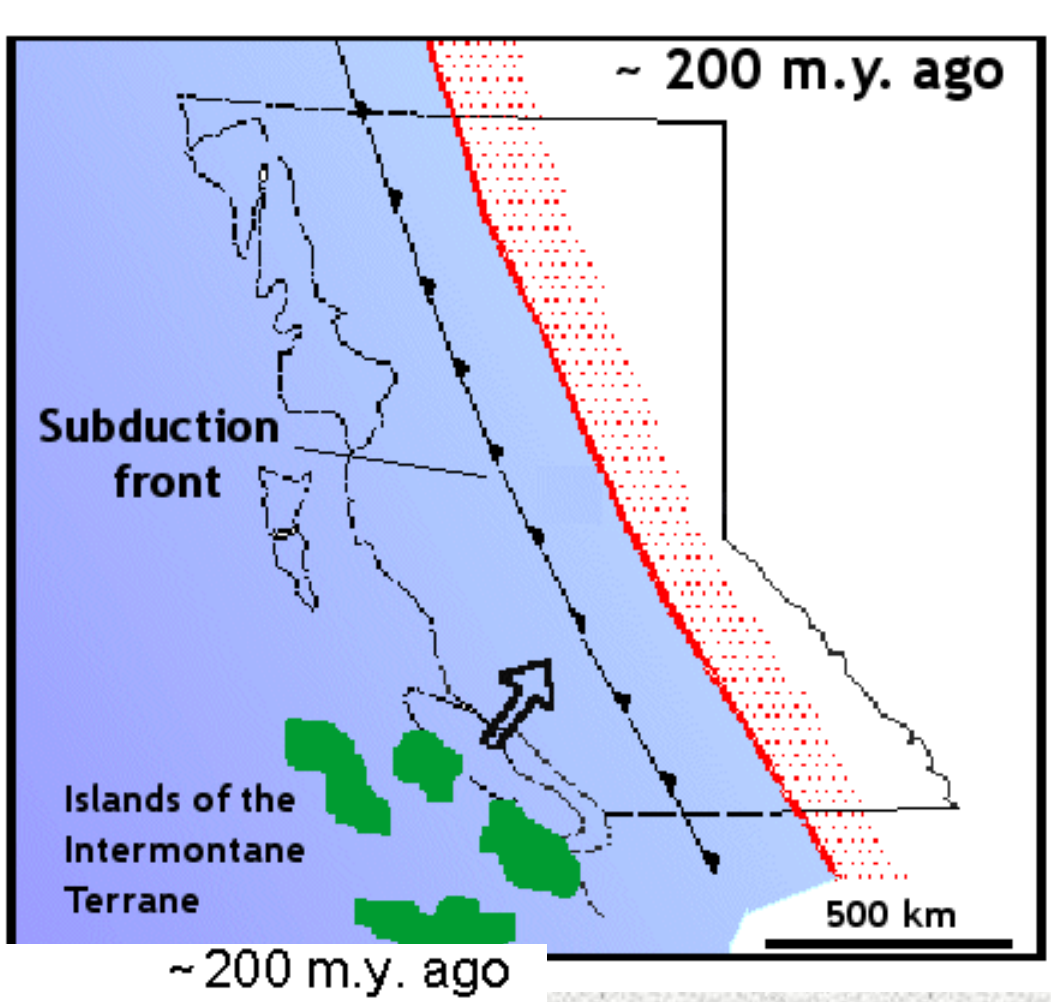
A passive ocean-continent margin existed from around 700 m.y to around 200 m.y. ago. A thick sequence of sediments–clastic rocks and limestones–accumulated along the continental margin during this time.

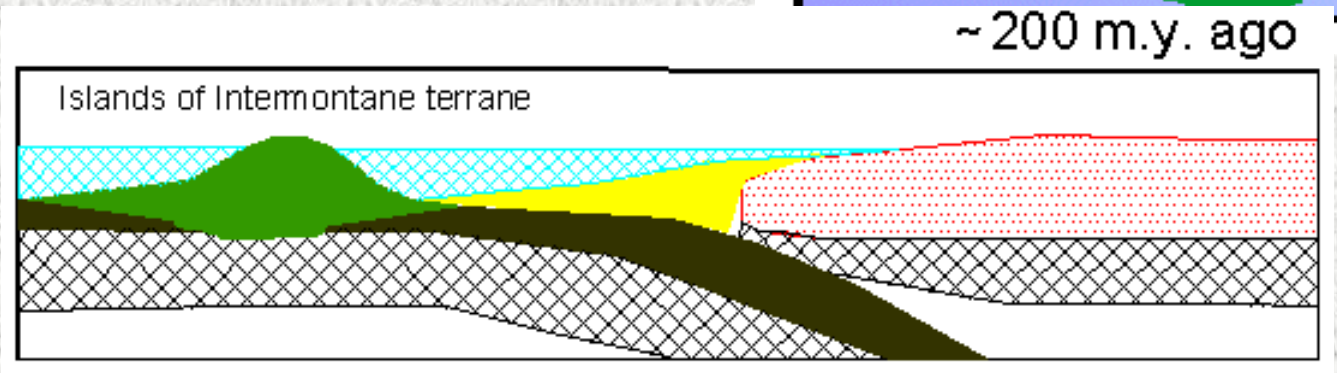




Subduction

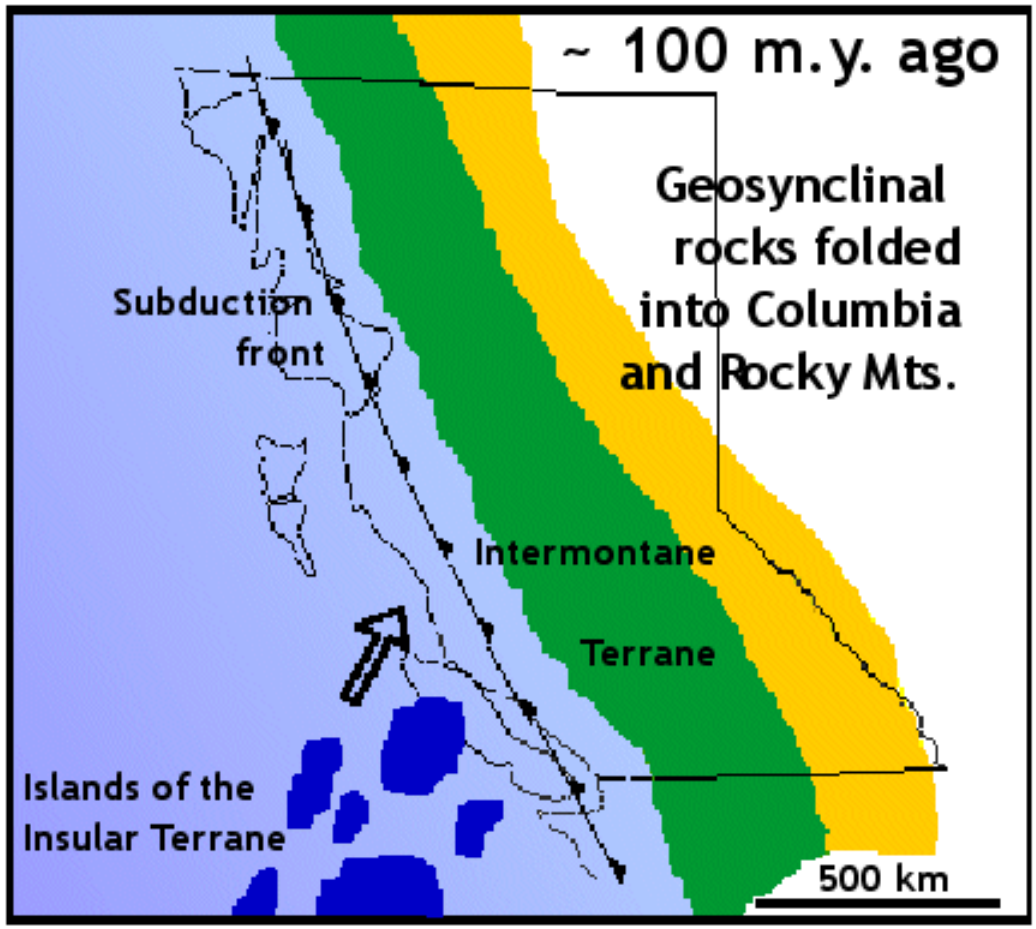
Subduction of oceanic plate beneath North America. Subduction-related volcanism existed. Approach of micro-continents from the southwest.

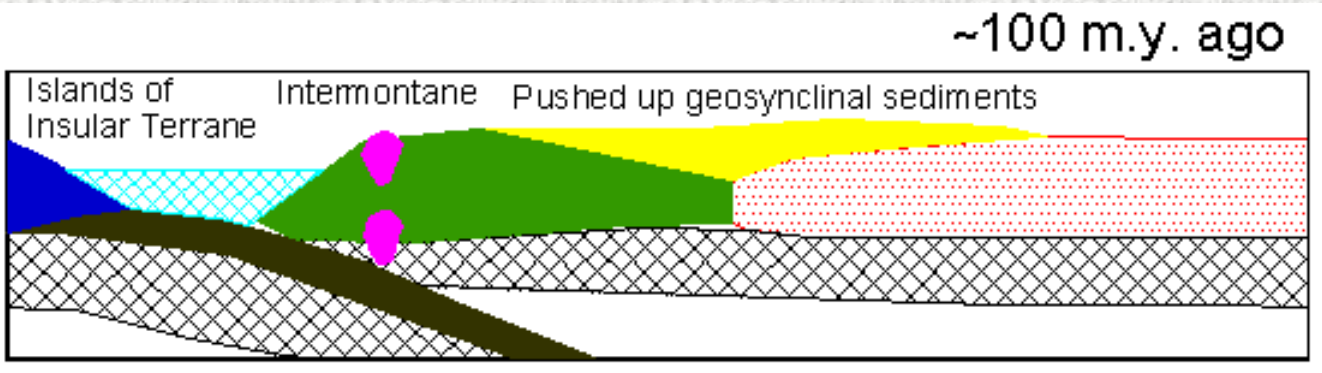




Intermontane Super-terrane

Accretion of the Intermontane Super-Terrane and consequent thrusting and folding of existing sedimentary rocks into the Rocky Mountains. Approach of more micro-continents. Subduction related volcanism and intrusive bodies.



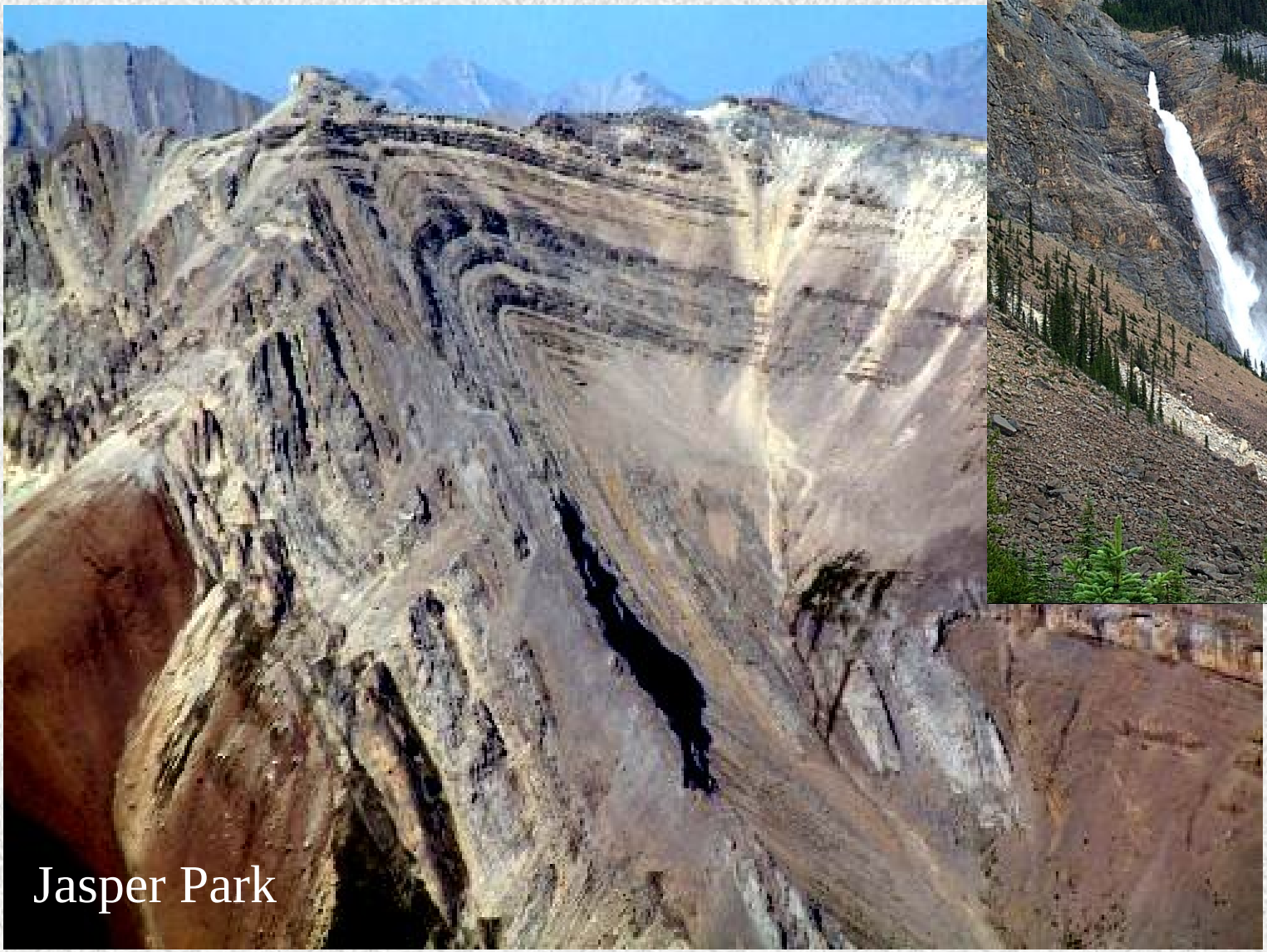


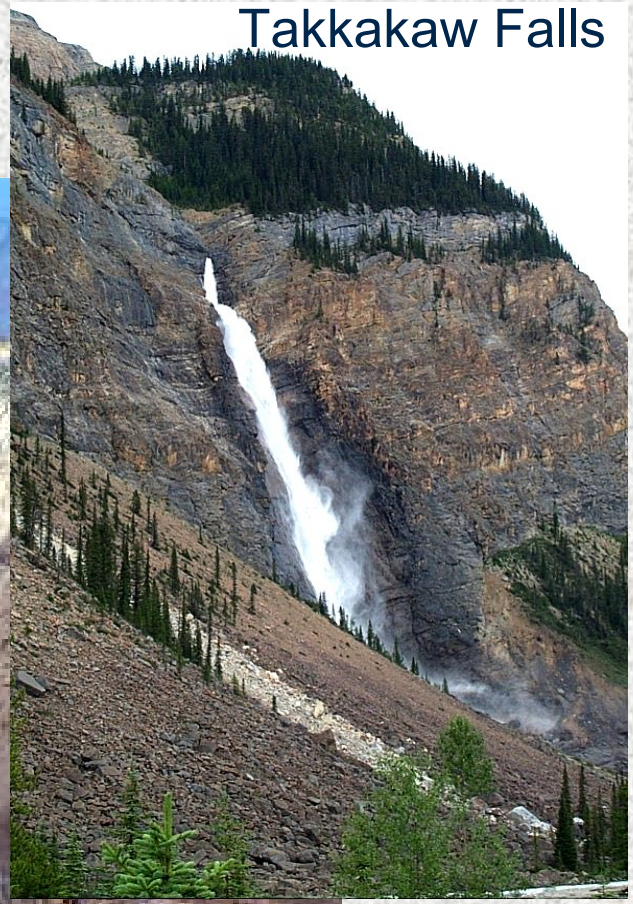
The Intermontane terrane is mostly volcanic and sedimentary rocks that formed a long way away.

Rocky Mountains

Rocky Mountains

Rocky Mountains





Castle Mountain

McConnell Thrust – Mt. Yamnuska

Ramparts Creek – Devonian Limestone

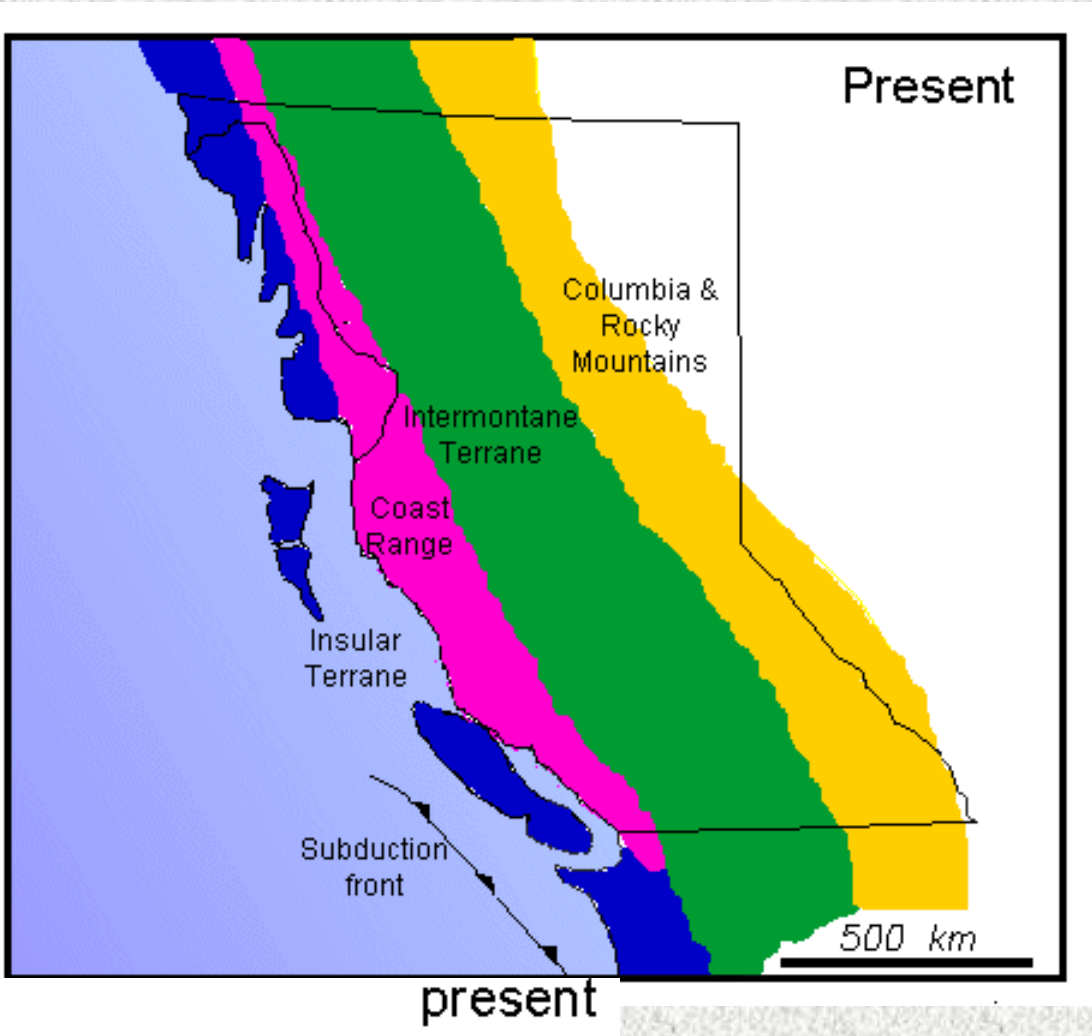
Omineca Belt – Toby conglomerate

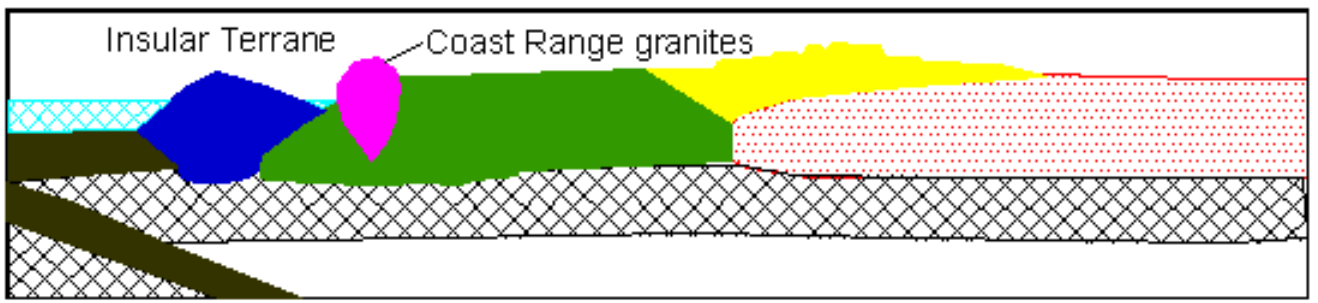
Ancient basement rocks at Skaha Lake

Intermontane Terrane – Afton Mine

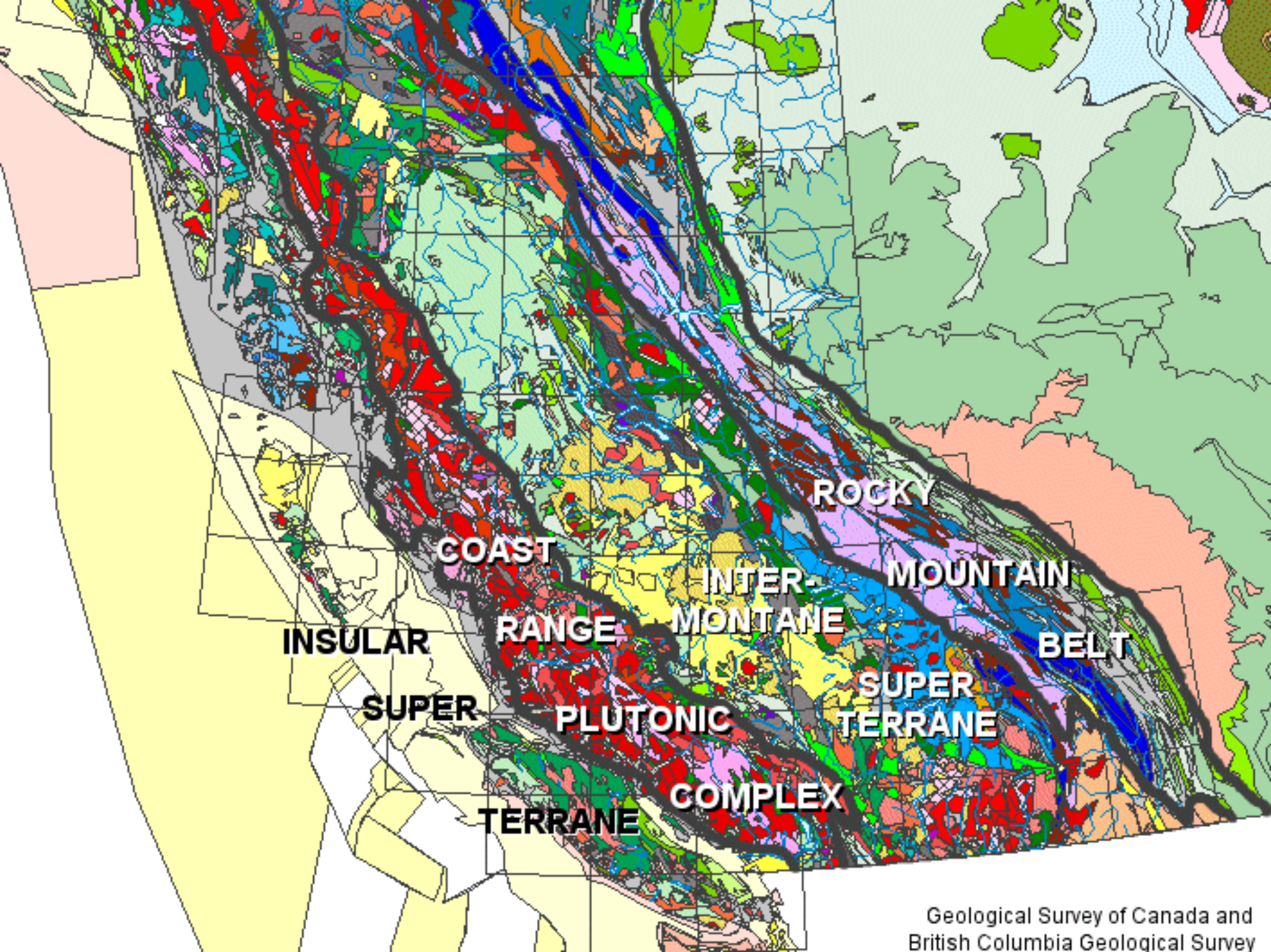
Coast range plutonic complex

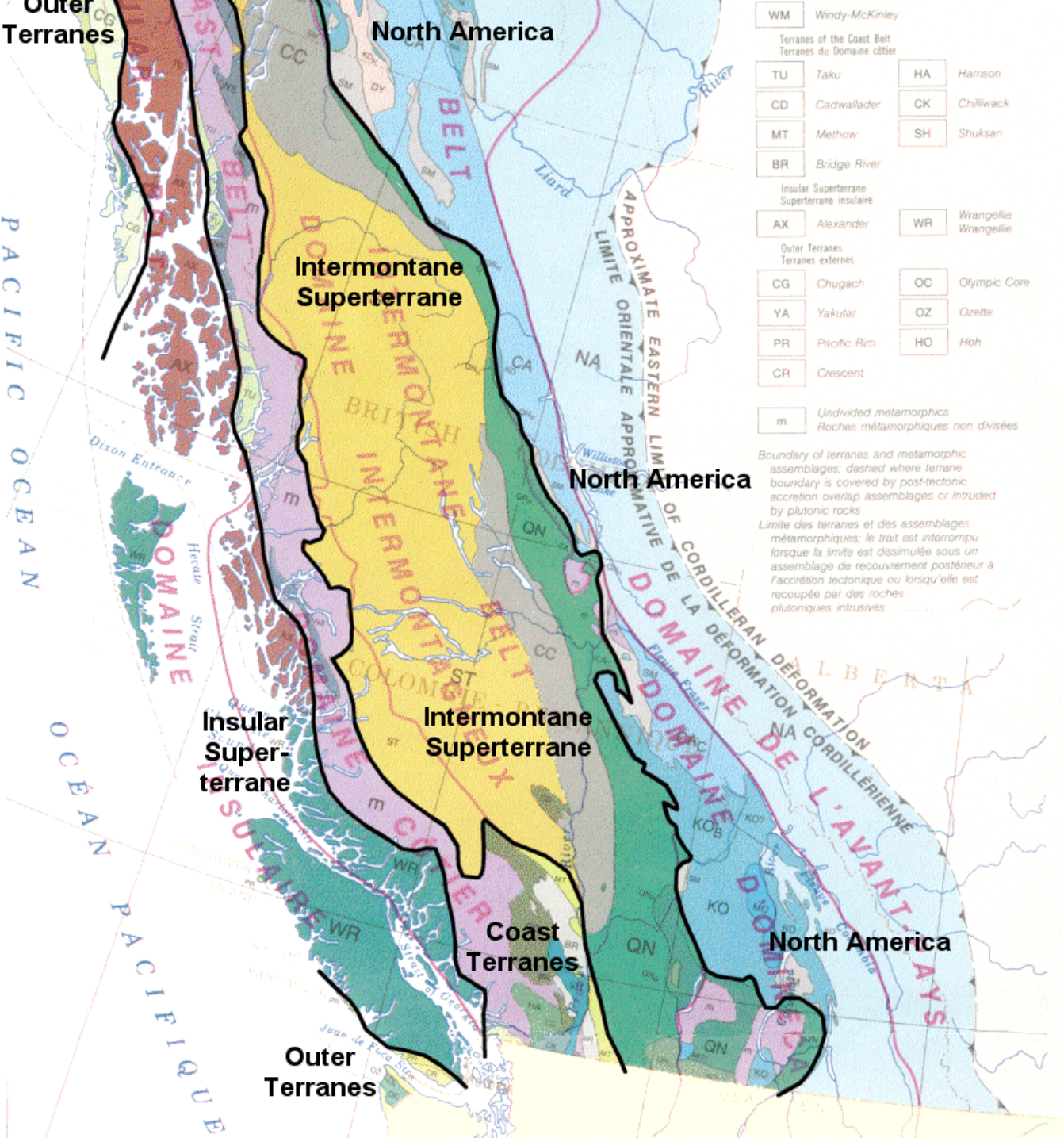
Formation of the Coast Range Plutonic Complex. Accretion of the Insular Super Terrane. Ongoing subduction of the Juan de Fuca Plate beneath B.C., Washington and Oregon. Further uplift of the Rocky Mountains.





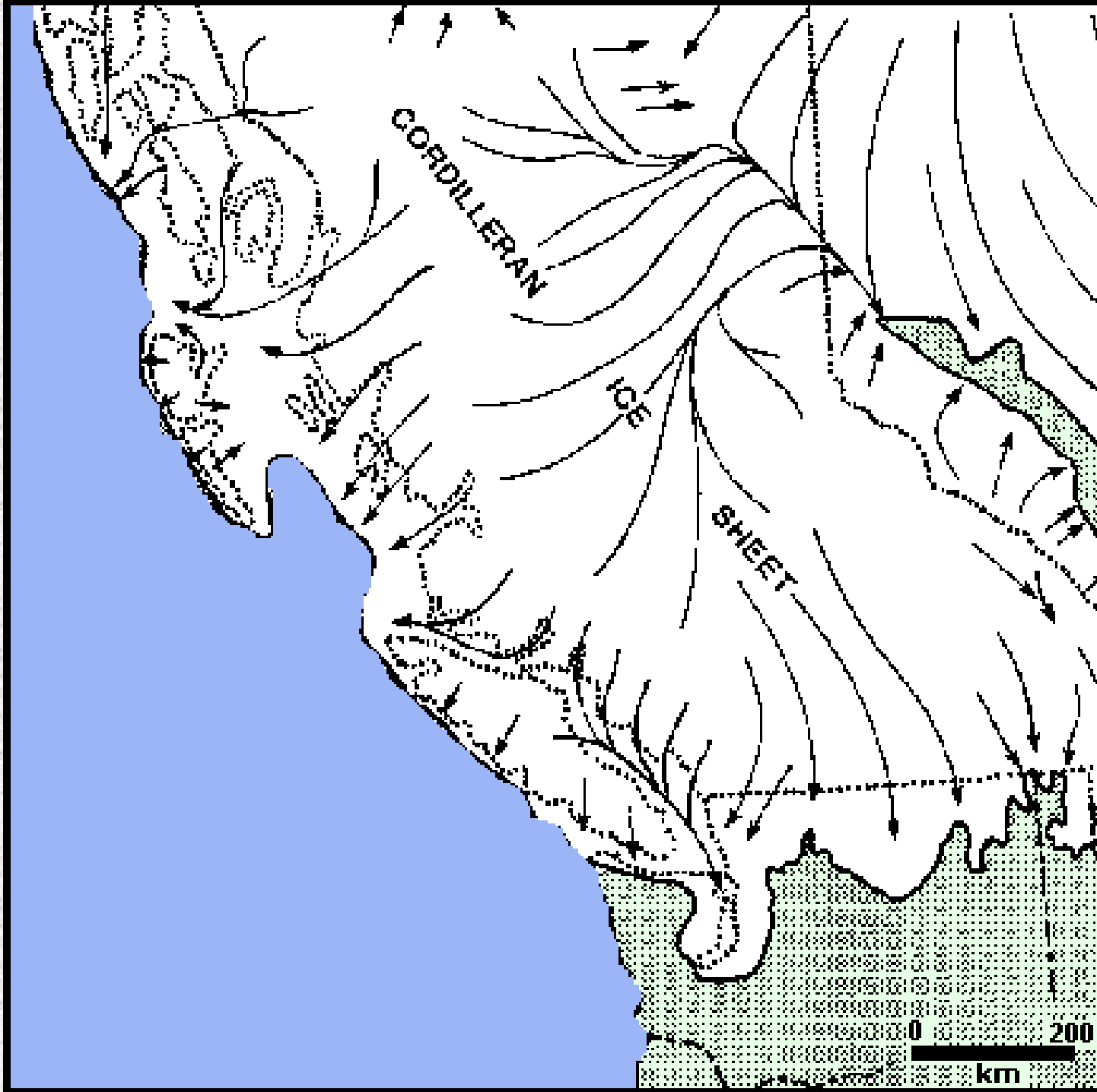

Coast Range Plutonic
Complex


ROCKY
MOUNTAIN
BELT
COAST
INTER-
MONTANE
RANGE
INSULAR
SUPER
TERRANE
SUPER
PLUTONIC
COMPLEX
TERRANE
Geological Survey of Canada and
British Columbia Geological Survey


Outer Terranes
North America
Intermontane Superterrane
North America
Insular Super-terrane
Intermontane Superterrane
Coast Terranes
North America
Outer Terranes
PACIFIC OCEAN
OCEAN PACIFIQUE
APPROXIMATE EASTERN LIMIT OF CORDILLERAN DEFORMATION
LIMITE ORIENTALE APPROXIMATIVE DE LA DÉFORMATION CORDILLÉRIENNE
DOMAINE DE L'AVANT-PAYS
Dixon Entrance
Hecate Strait
Liard River
Fleuve Fraser
ALBERTA
WM Windy-McKinley
Terranes of the Coast Belt
Terranes du Domaine côtier
TU Taku
HA Harrison
CD Cadwallader
CK Chilliwack
MT Methow
SH Shuksan
BR Bridge River
Insular Superterrane
Superterrane insulaire
AX Alexander
WR Wrangellia
Wrangellie
Outer Terranes
Terranes externes
CG Chugach
OC Olympic Core
YA Yakutat
OZ Ozette
PR Pacific Rim
HO Hoh
CR Crescent
m Undivided metamorphics
Roches métamorphiques non divisées
Boundary of terranes and metamorphic assemblages; dashed where terrane boundary is covered by post-tectonic accretion overlap assemblages or intruded by plutonic rocks
Limite des terranes et des assemblages métamorphiques; le trait est interrompu lorsque la limite est dissimulée sous un assemblage de recouvrement postérieur à l'accrétion tectonique ou lorsqu'elle est recoupée par des roches plutoniques intrusives

Wide-spread glaciation started around 2.5 m.y. ago

Extent of ice cover at the height of the last glacial advance (ca. 14,500 years b.p.). Ice was up to 3000 m thick in central B.C., 2000 m on Vancouver Island

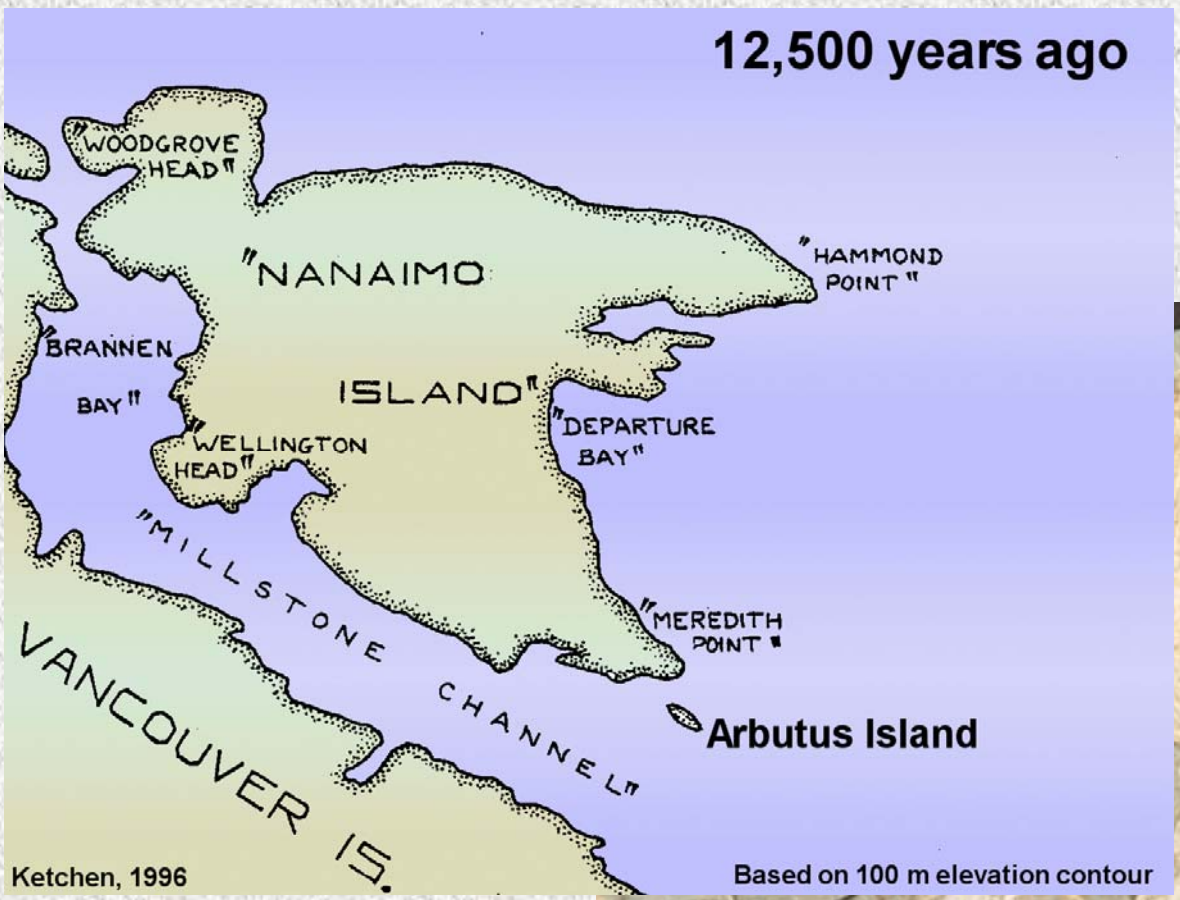


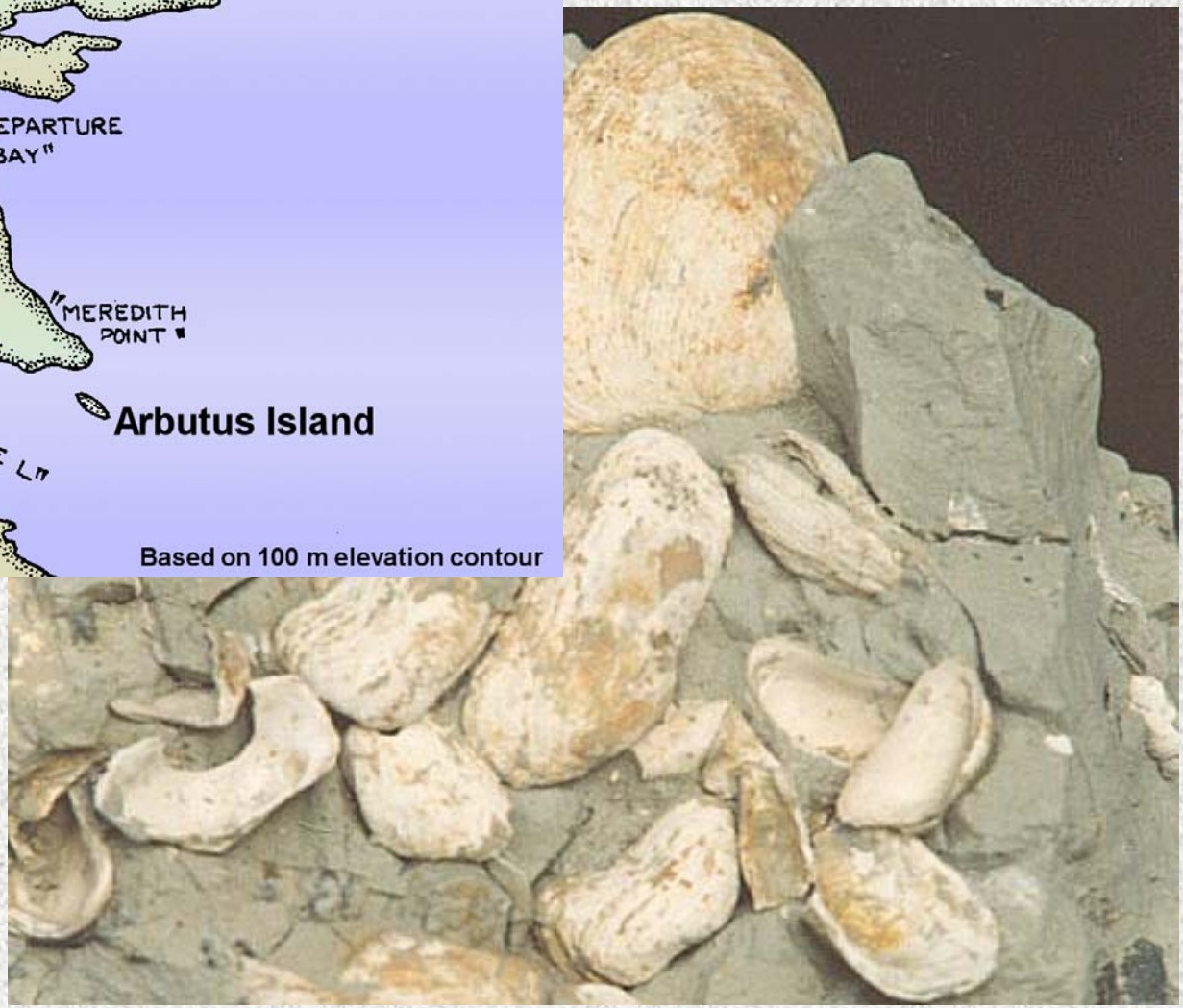
Glacial till exposed at Malaspina University College

Glacio-fluvial deposits in Cedar

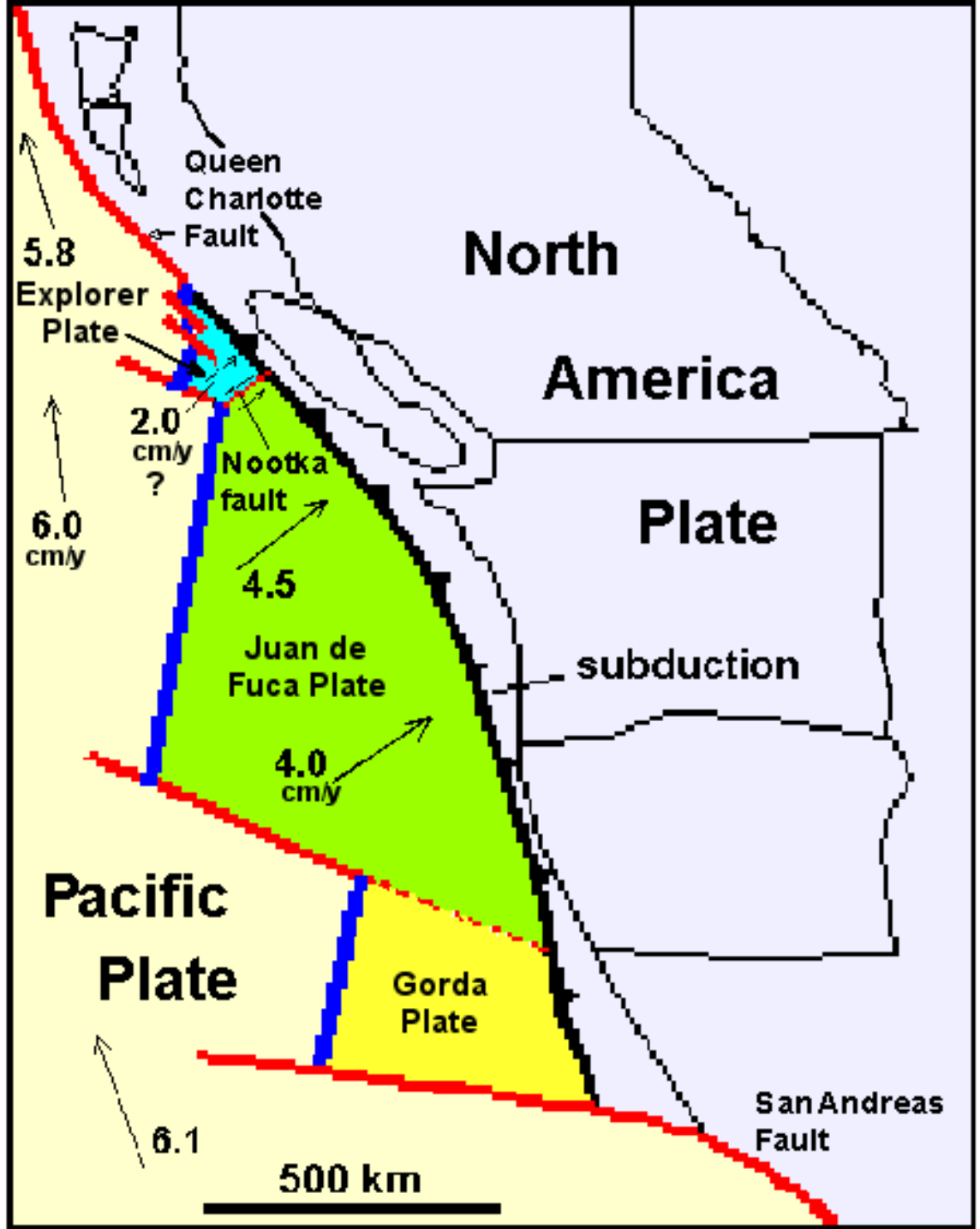
Glacial striae

Post-glacial sea-level rise



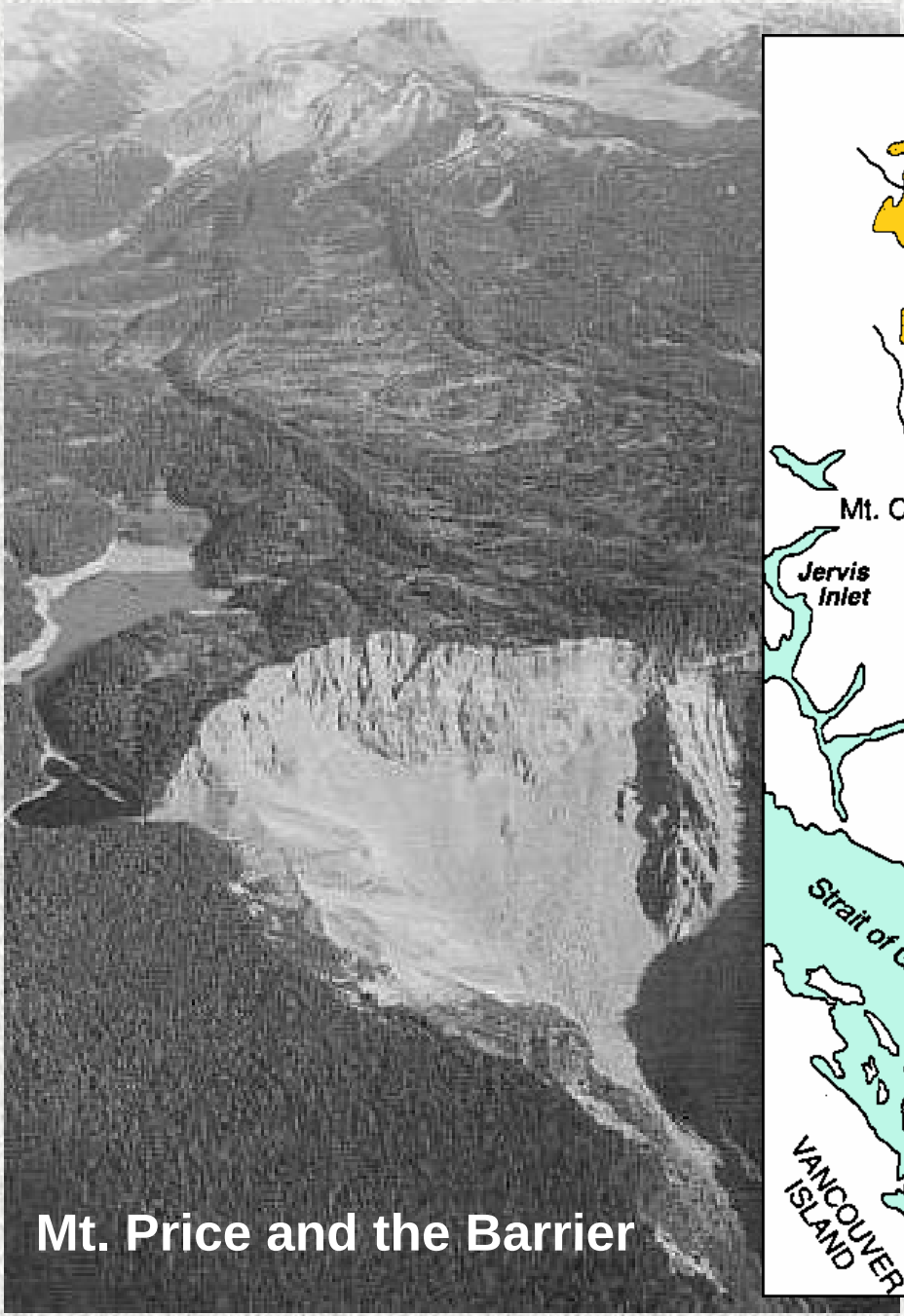


Present-day plate distribution along the western coast of the US and Canada

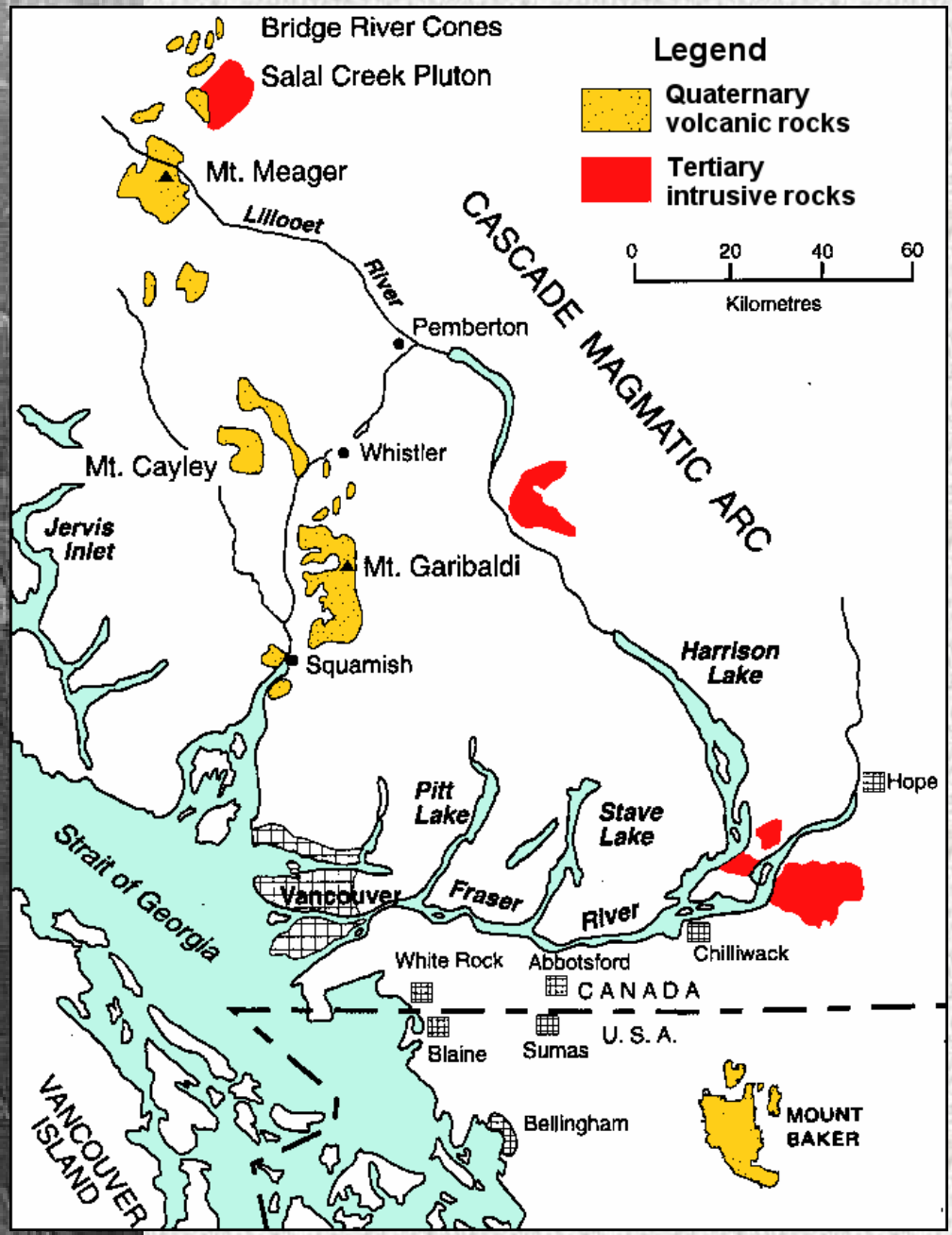


Volcanism in BC

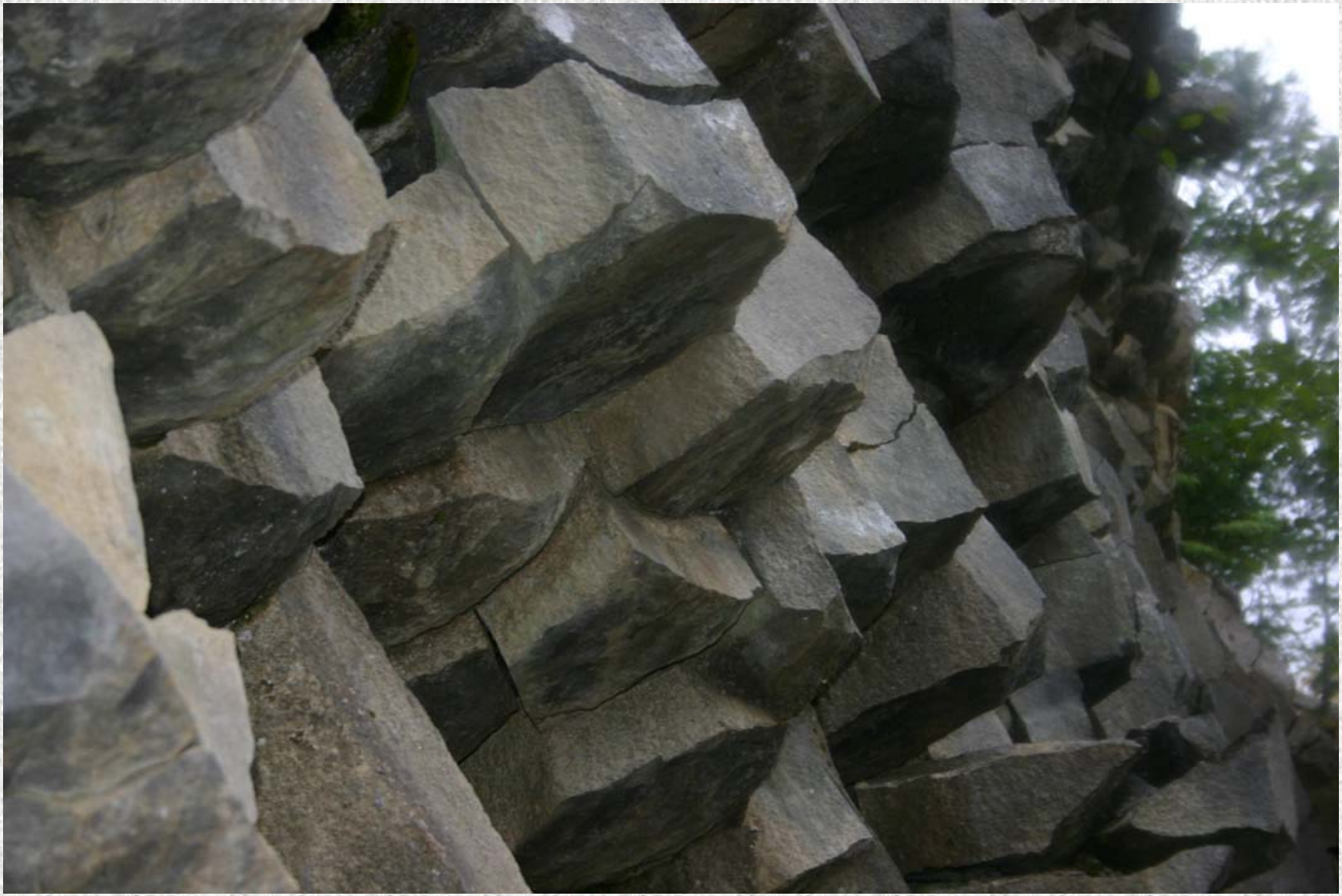

Mt. Garibaldi



Mt. Price and the Barrier



BC Rail quarry - south of Whistler



Nazco Cone

Tseax River Cone

Eve Cone, Edziza area