Physiography of British Columbia

- Tectonic setting
- Geology/Glacial history
- Climate
- Vegetation/biogeography
- Soils
- Hydrology
- Human influence
Tectonic setting of BC
Geologic history of BC

Much of the rocks that underlie British Columbia formed elsewhere and were transported here in the distant geologic past. The margin of the North American continent has grown westward from the Alberta border by the addition of exotic fragments of the Earth's crust, which geologists call “terranes.” Wrangellia Terrane, which forms most of Vancouver Island, originated within what is now the Pacific Ocean and was transported northeasterly to collide with North America about 100 million years ago. The force of this collision crumpled North American rocks as far to the east as the Rocky Mountains.
Maximum extent of the Cordilleran ice sheet during the late Pleistocene

After Clague, GSC
Phases of a glacial cycle

**Interglacial** – small glaciers in high cirques, most subararial erosion accomplished by rivers

**Alpine glacier phase** – cirque glaciers grow, flow downvalley, tributaries coalesce

**Intense alpine phase** – ice caps form over high topography

**Mountain ice sheet phase** – glaciers, ice caps, ice fields coalesce. Flow is driven by topography

**Continental ice sheet phase** – extensive ice cover, ice flows radially from high interior

**Early deglaciation** -- retreat along periphery

**Late deglaciation** - Ice stagnation and lakes form in valleys, uplands ice free
Surficial Geology of BC

- Alluvial deposits
- Organics
- Glaciolacustrine
- Glaciofluvial
- Till veneer
- Till blanket
- Quaternary volcanics
- Alpine complex
- Colluvial blocks

http://webmap.em.gov.bc.ca/mapplace/minpot/bcgs.cfm