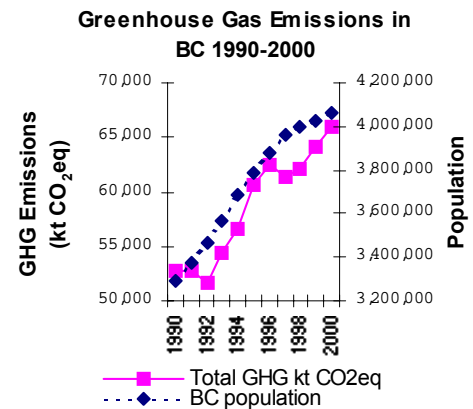


Global Warming in the Fraser River Basin

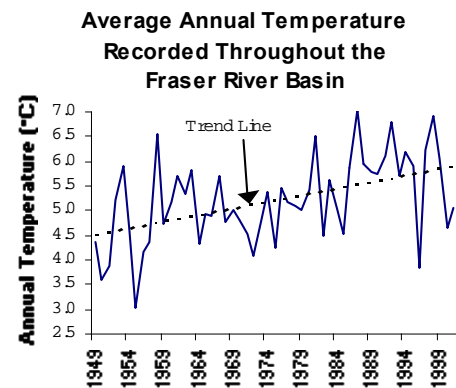
Greenhouse Gas Emissions

- Greenhouse gases such as carbon dioxide and methane are known to accumulate in the atmosphere and trap solar energy in, thereby converting the planet into a 'greenhouse' where sunlight passes through, but heat does not escape. Burning of fossil fuels through energy production and vehicle emissions are the largest sources of greenhouse gases.
- Greenhouse gas emissions in BC have increased 25% between 1990 and 2000^a, slightly higher than the 23% population growth of BC during this same time period.
- In 2000, Carbon Dioxide (CO₂) accounted for 80% of greenhouse gas emissions in BC, methane (CH₄) 15%, and Nitrogen Dioxide (NO₂) 5%^a.



Air Temperature

- Average annual temperature within the Fraser River Basin increased at a rate of 0.3°C/10yrs between 1949 and 2001^b. Averages are based on 9 Environment Canada monitoring stations located throughout the Fraser River Basin that have recorded temperature data during this time period.
- Increased temperatures affect many aspects of the ecosystem, including snowmelt, evaporation, water temperature, species composition, etc.

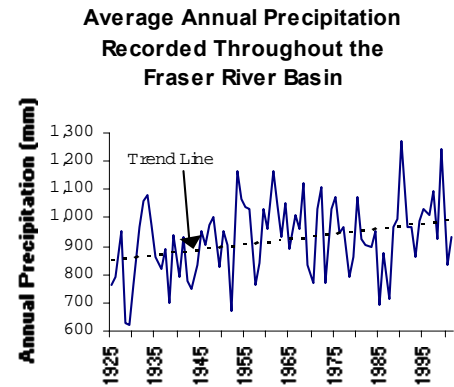


Annual Precipitation

- Average annual precipitation within the Fraser River Basin increased at a rate of 1.9 mm/year between 1925 and 2001^b. Averages are based

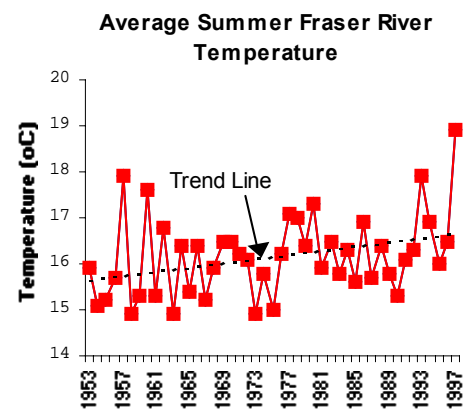
on 21 Environment Canada monitoring stations located throughout the Fraser River Basin that have recorded precipitation data during this time period.

- Increased precipitation is a likely result of warmer air and water temperatures.



Water Temperature and Timing of Flow

- There is an increasing trend in the average Fraser River summer water temperature, which has shown an increase of 1.1 °C between 1953 and 1998^c. This has potential impacts on many aspects of the ecosystem, including salmon survival and spawning success.
- Peak flows along the Fraser River occur earlier in the year now than in the past, at a rate of approximately 11 days per century^c. This indicates warmer spring temperatures and earlier snow melt throughout the Fraser River Basin.



Source:

- Environment Canada, Greenhouse Gas Division. *National Pollutant Release Inventory National Database*. http://www.ec.gc.ca/pdb/npri/npri_dat_rep_e.cfm
- Historical Canadian Climate Database. *Climate Monitoring and Data Interpretation Division, Meteorological Service of Canada*. <http://www.cccma.bc.ec.gc.ca/hccd/>
- BC Ministry of Water, Land and Air Protection, 2002. *Environmental Trends in British Columbia 2002*. Victoria, BC. <http://wlapwww.gov.bc.ca/soerpt>