Climate Change in Yukon:

Physical Impacts

Increased Variability in Precipitation and Storms

Precipitation patterns in Yukon are changing. Some areas are drying out. Some areas are getting wetter. In June 2005, the Yukon set a record for highest precipitation in a single storm. We also saw the first funnel cloud on record. Storm events, including thunderstorms, are now more frequent.

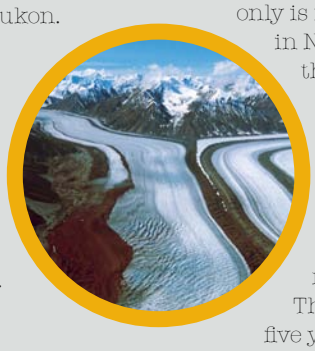
Hydrological Shifts

Lakes and rivers are changing. Freeze-up is arriving later and break-up comes sooner. As flow changes due to precipitation change or melting glaciers and permafrost, so do sediment and silt concentrations. For example in the region around Old Crow, lakes that were previously held in place by permafrost are disappearing as the land melts.

Sea Ice Melt and Coastal Exposure

Although Yukon has little coastline and it is sparsely populated, serious changes are happening to that coastlines across the North. Because of the rapid temperature increase the Beaufort Sea, now remains ice-free for much of the year. Coastlines are washing away into the sea at a rapid rate. This is because the ocean is no longer frozen and the storm waves beat against the fragile shores. The water levels in the Beaufort Sea are also rising due to rapid warming and expansion of the water. This increases coastal erosion.

Permafrost Melt



Permafrost exists in patches and regions all over Yukon. As temperatures increase, permafrost melt. This melt can happen on the top layers or through the entire permafrost block.

Glacier Melt

The St. Elias mountain range falls within the Kluane National Park boundaries in southwest Yukon. Not only is it home to the highest peaks in North America, it contains the third largest land-based ice field in the world after Antarctica and Greenland. It contains approximately one percent of the world's frozen fresh water. All of the glaciers in the region are melting and the rate of recession is increasing. The amount of melt in the last five years already exceeds the melt of the ten years previous. This ancient water ultimately ends up in the oceans where it is raising sea levels and influencing global ocean currents. Climate change will alter the flow of all glacier-fed lakes and rivers in the North and around the world.

Forest Fire

Increased temperatures, chages in precipitation and the onset of thunderstorms increase the chances of forest fires. Yukon's 2004 fire season was the largest on record, doubling the previous record.

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Yukon Environment