

SUMMARY OF PROJECTED CLIMATE CHANGES FOR THE FAIRBANKS NORTHSTAR BOROUGH

Climate variable	General change expected	Specific change expected and reference period	Size of expected change compared to recent changes	Information about seasonal patterns of change	Confidence	Source(s) and context
Temperature	Increase	Annual mean increase of 3.9 degrees F for 2030s, 7.7 degrees F for 2060s, and 9.9 degrees F for 2090s compared to mean of 26.9 for 1961-1990 data (based on Fairbanks data)	Changes are much greater than those already experienced, and would put many years outside the historical range (21.26-31.97); increases thus far above baseline are roughly 2 degees	Increase is greatest in the winter, moderate in the spring and fall, and least in the summer, although increase is predicted across all seasons.	High confidence that FNSB will warm (all models predict warming, and warming is already occurring). Confidence is lower for more distant time periods than for the near future.	Mean values from the five IPCC models that showed the most accurate performance for Alaska and other northern regions, as measured by John Walsh et al (in press)
Precipitation	Increase	Annual mean increase of 2.92 inches for 2030s, 5.01 inches for 2060s, and 6.07 inches for 2090s compared to mean of 11.89 inches for 1961-1990 data (based on Fairbanks data)	Changes are greater than those already experienced, and would put some years outside the historical range (5.55-18.52 inches); increases thus far above baseline are 1-2 inches	Increase is greatest in the summer, moderate in the winter, and least in the spring, although increase is predicted across all seasons.	High confidence that precipitaiton will increase, but uncertainty about overall water balance; increases in evapotranspiration may more than offset higher precipitation. Drought stress might occur in spring.	
Sea Level	Fairbanks is not close enough to oceans to be affected by changes in sea level	N/A	N/A	N/A	N/A	N/A
Heavy Rainfall Events	Unknown	I'll try to fill in these areas after talking to John and others				
Wind Storms	Unknown					