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*Hyperborean History*

The purpose of this project was to find the effect of the summer and annual temperatures on the Larsen C Ice Shelf in Antarctica for the past ten years on the melt layers of two firn cores from the same area. If the ice shelf melted when the air temperature was warmer, then the correlation between the temperature and melt layer frequency and width would increase with a greater air temperature.

Temperatures of the past ten years of the Larsen C Ice Shelf were acquired, and yearly summer and annual temperature averages were calculated using the data. All of the temperatures above zero were compiled into a list and each day the temperature was above zero corresponded to a melt layer. Approximations of where each year started and ended were found using the temperature data. The snow water equivalent of each year was calculated, along with the snow water equivalent of each of the melt layers added together. Using this information, annual melt percentages were calculated and correlations between annual melt percentages and temperatures were calculated.

The correlations between the annual melt percentages of the two cores and the summer temperatures were high positive correlations, while the correlations between the two cores and the annual temperatures were very low negative correlations.

The annual melt percentages of firn cores can give an accurate representation of how the summer temperature has changed over the years, but finding annual melt percentages will not show how the annual temperature has changed over the years.