Yellow cedar response to climatic shifts at Cedar Lake: Juneau, Alaska

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**Introduction**

Yellow cedar (Chamaecyparis nootkatensis) is an ecologically and economically important and is highly significant to the indigenous people of the area. The species has experienced widespread mortality throughout its extensive range. Previous research has shown that yellow cedar mortality is associated with increased spring temperatures and decreased winter snowpack. The dendroclimatic approach uses tree rings as a proxy for the environment. This method has been used to study the climate impacts on various species and has been successful in linking climate change to tree growth and mortality. The well-replicated master chronology was standardized using a conservative negative exponential detrending curve.

**Results**

**Climate Correlations**

We used remotely-sensed data, climate indices, and regional averages to investigate the climate signals on tree rings. The data were obtained from KNMI Climate Explore. There is a significant shift at the year 1950 which prompted further investigation.

**Discussion**

**Blue Intensity**

Blue intensity (BI) is a novel approach to measure tree ring density. It was recently developed to quantify low frequency changes in tree ring density. BI provides a way to detect changes in tree ring density that may not be visible using traditional methods.

**Methods**

**Cladolithology**

Growing season climographs were used to study the yellow cedar responses. Growing season climographs were used to study the yellow cedar responses. Growing season climographs were used to study the yellow cedar responses. Growing season climographs were used to study the yellow cedar responses.

**Pacific Decadal Oscillation**

Pacific Decadal Oscillation (PDO) is a pattern of climate variability similar to El Niño. Large-scale trends in tree growth were associated with PDO (1980-2010). PDO was related to regional climate conditions such as temperature, precipitation, and sea level pressure.

**Cedar Lake Master RW Chronology**

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