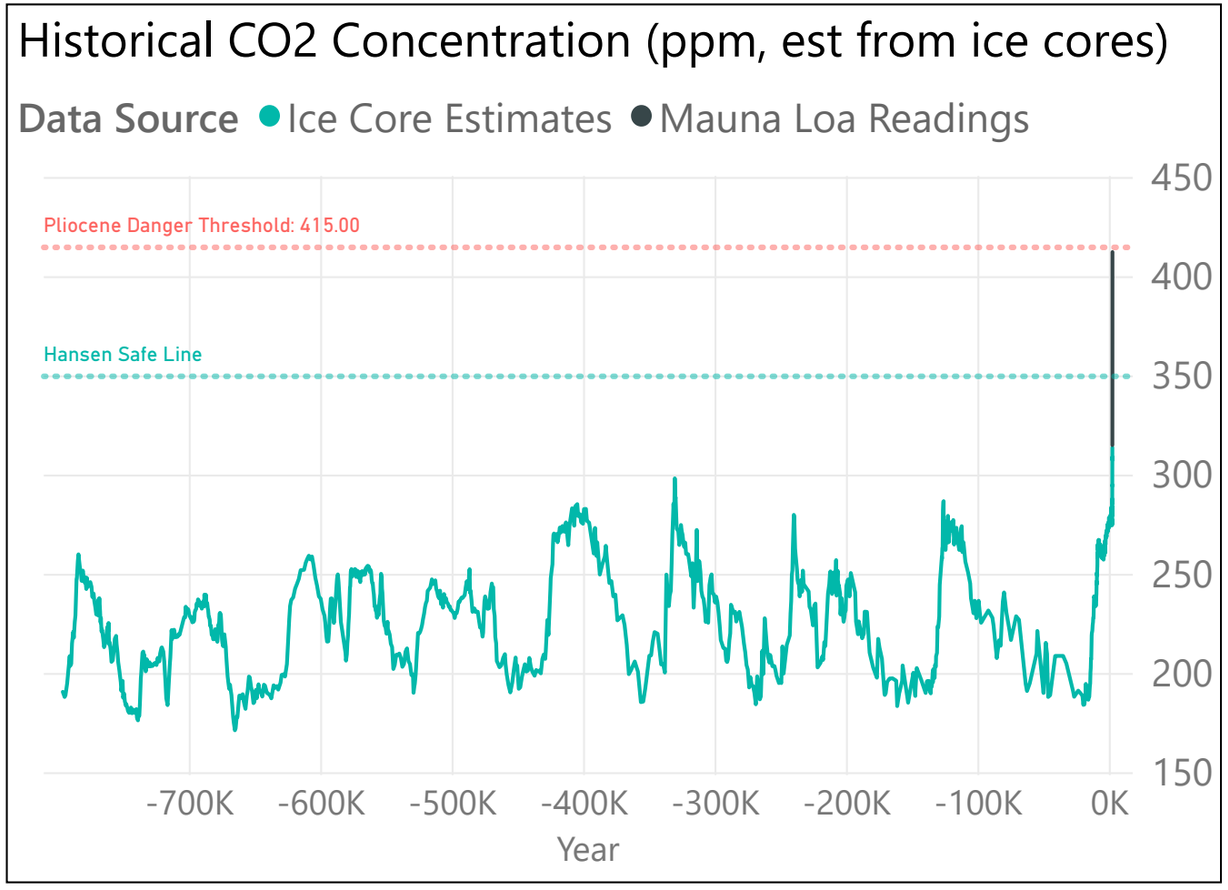
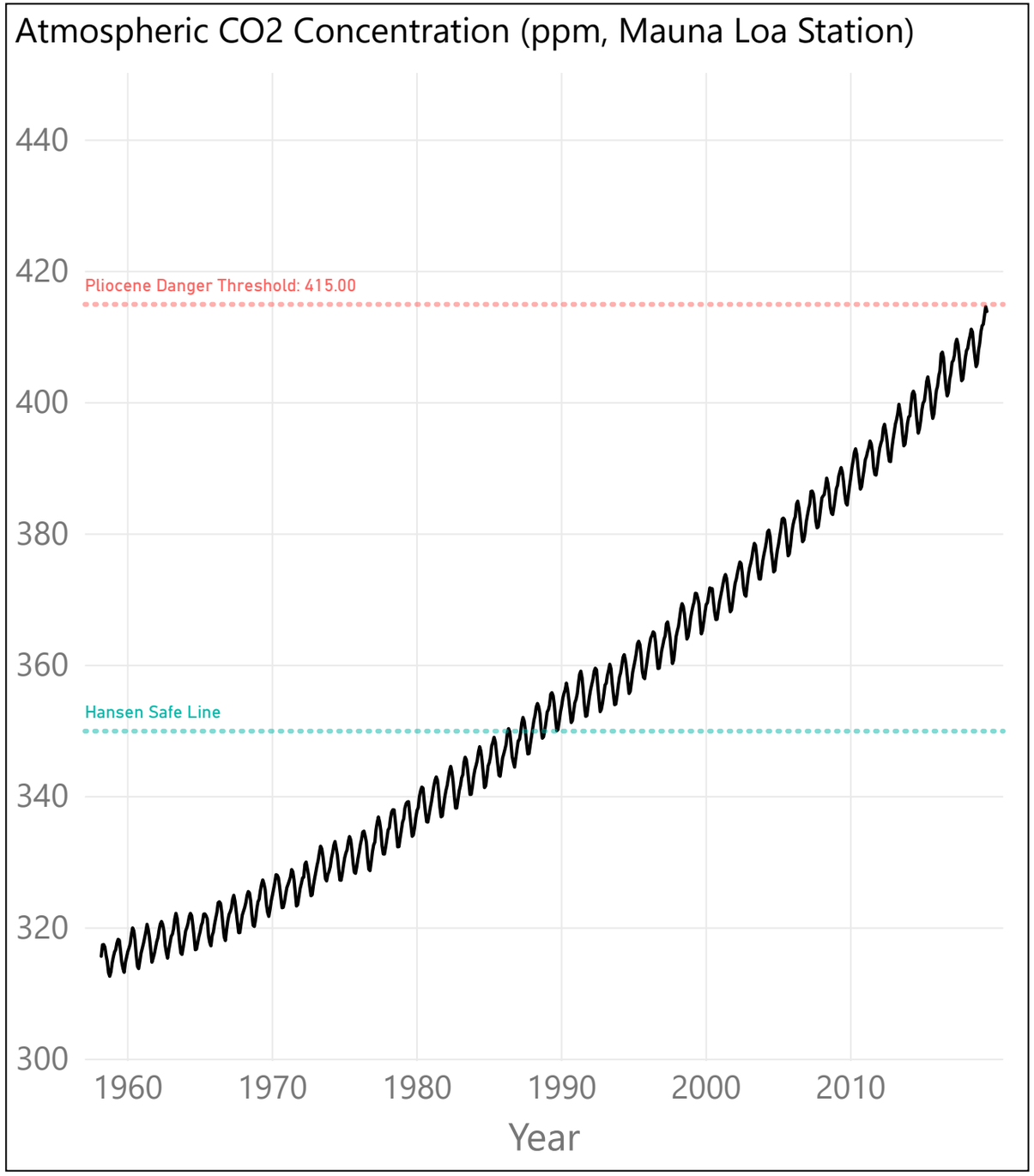
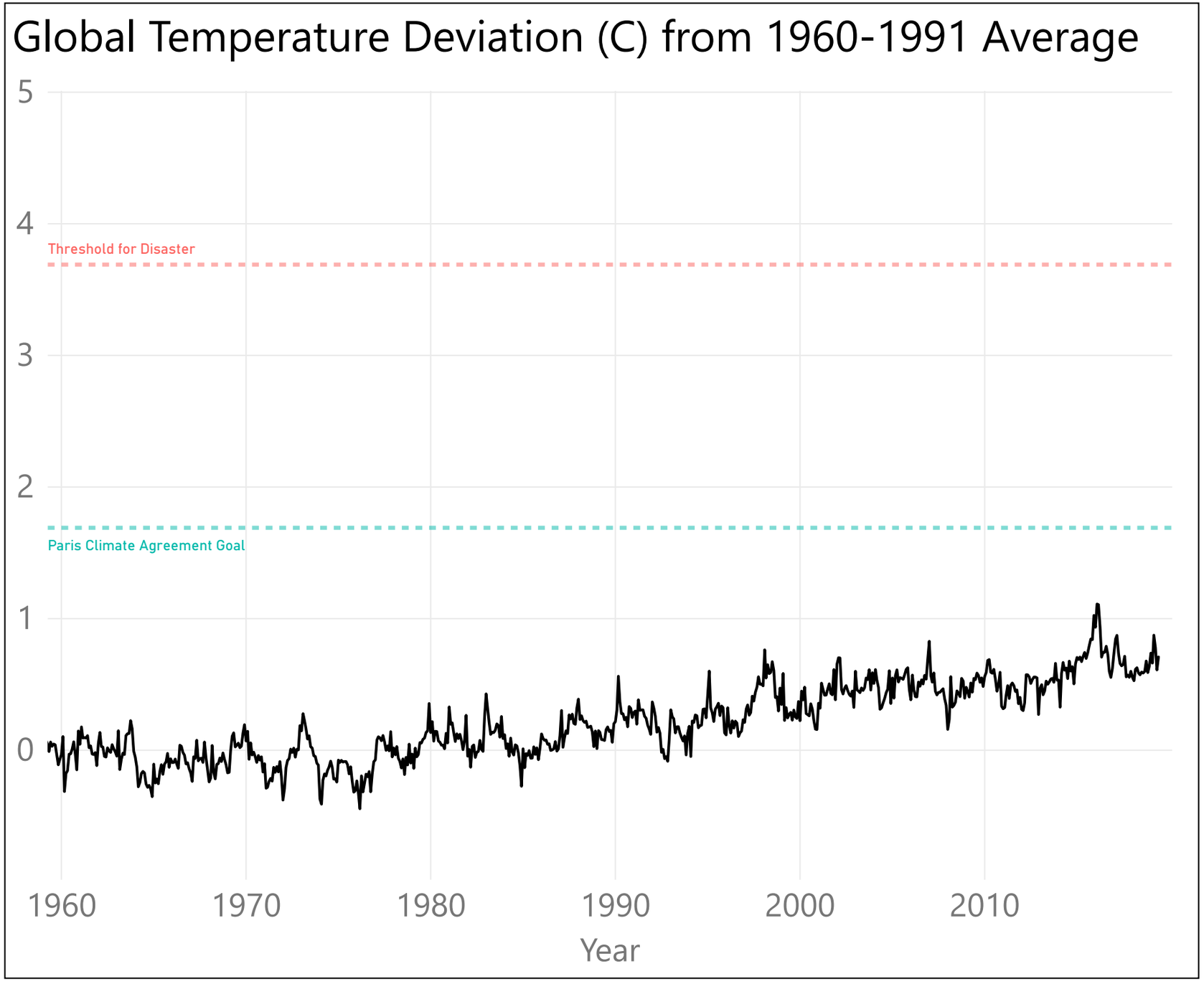


CO2 Levels

350 ppm: Proposed by James Hansen as a safe level of CO2 that avoids the worst ravages of climate change

415 ppm: A concentration not seen on Earth in 4.5 million years, which was during the Pliocene. The Pliocene was characterized by tropical and subtropical sea life along the US East Coast, forests on Ellesmere Island in the Canadian Arctic, mass extinction of coral, and a sea level ranging from 5 to 40 meters above current levels.





Temperature Deviations

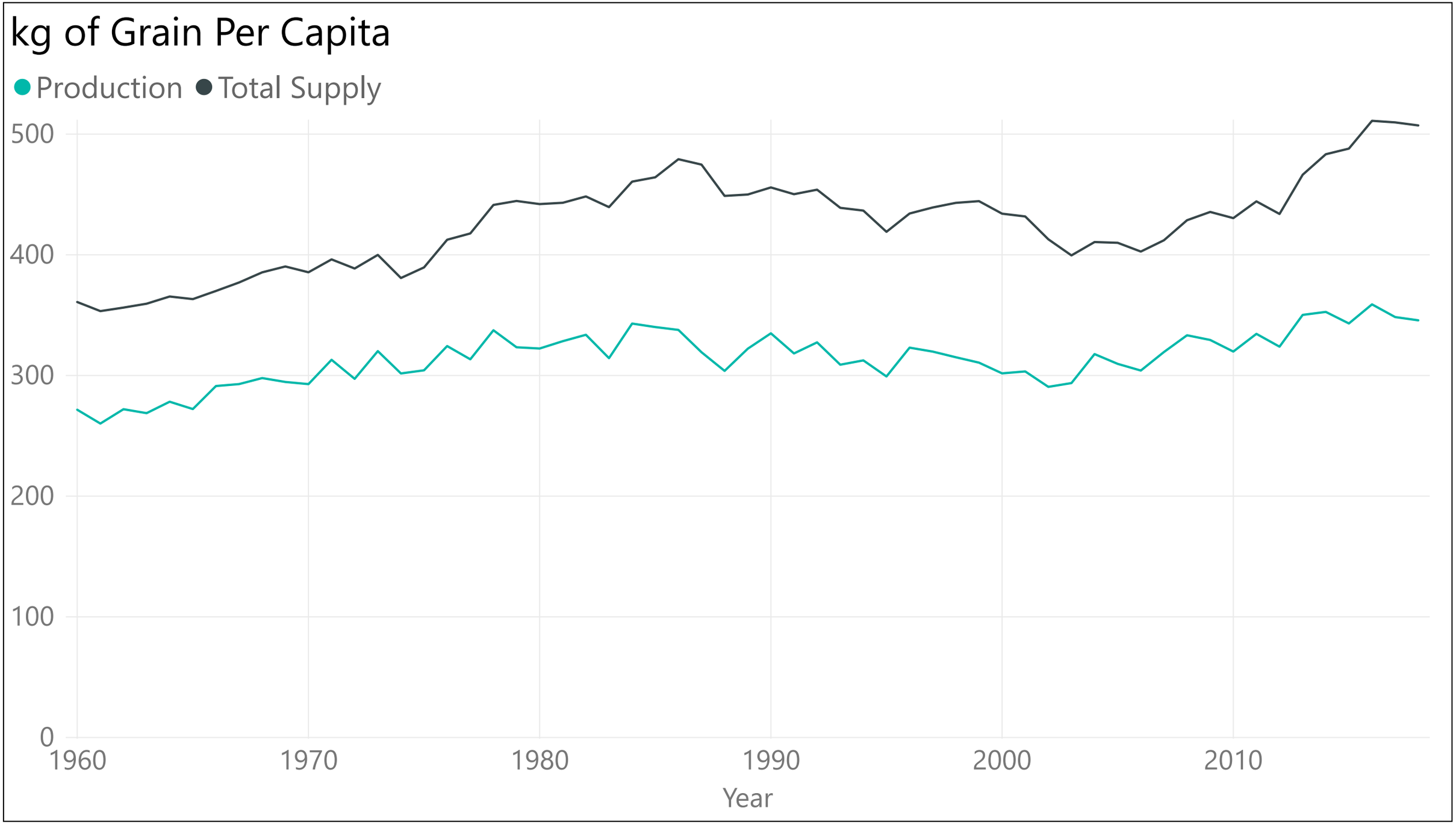
Deviations are measured compared to the 1960-1991 average. The median deviation from 1850-1900 is -0.31 C, which we will set as "pre-industrial"

+1.69°C: The goal of the 2016 Paris Climate Agreement is to limit the increase of temperature to 2C above pre-industrial levels

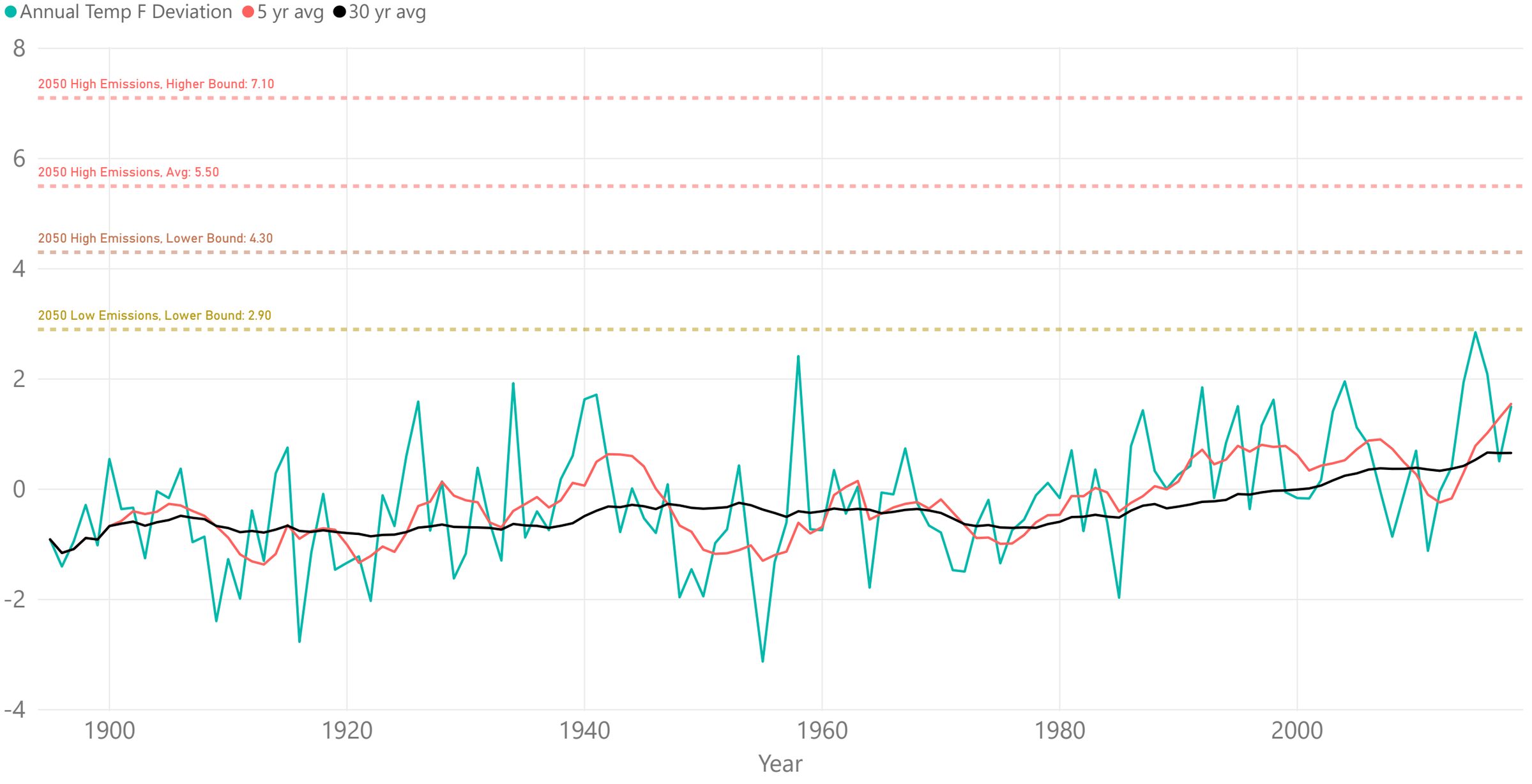
+3.69°C: Equivalent to 4C above preindustrial levels. Anticipated rise by 2100 with no reduction of emissions and is considered by many scientists to be disasterous, due to adverse effects such as a 1 m rise on ocean levels by 2100, more frequent floods and droughts, significantly decreased agricultural production, and the 2010 Russian heat waves becoming their normal summer (55,000 people died, 25% of crops failed, and 1 million hectares of land burned)

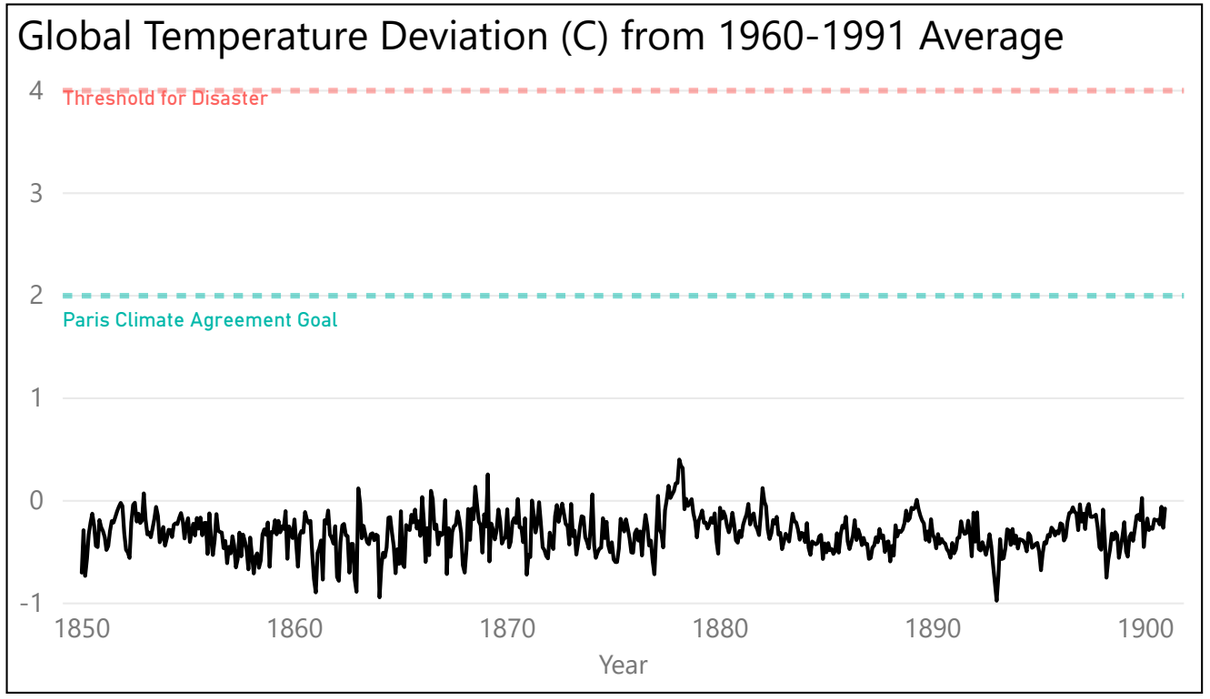
+8°C: The last time the Earth was this hot was in the mid-late Eocene about 40 million years ago.

+12°C: Equivalent temperature to the early Eocene (50 mya), during which palm trees grew in Alaska and N. Europe.


kg of Grain Per Capita
Production
Total Supply
500
400
300
200
100
0
1960
1970
1980
1990
2000
2010
Year

Puget Sound Temperature Deviation (F) From 1970-1999 Avg





Latest Date for CO2 Data

June 1, 2019

Latest Date for Grain Data

July 1, 2019

Latest Year for Population

2018

Global Temperature Deviation (C) from 1960-1991 Average

-0.31

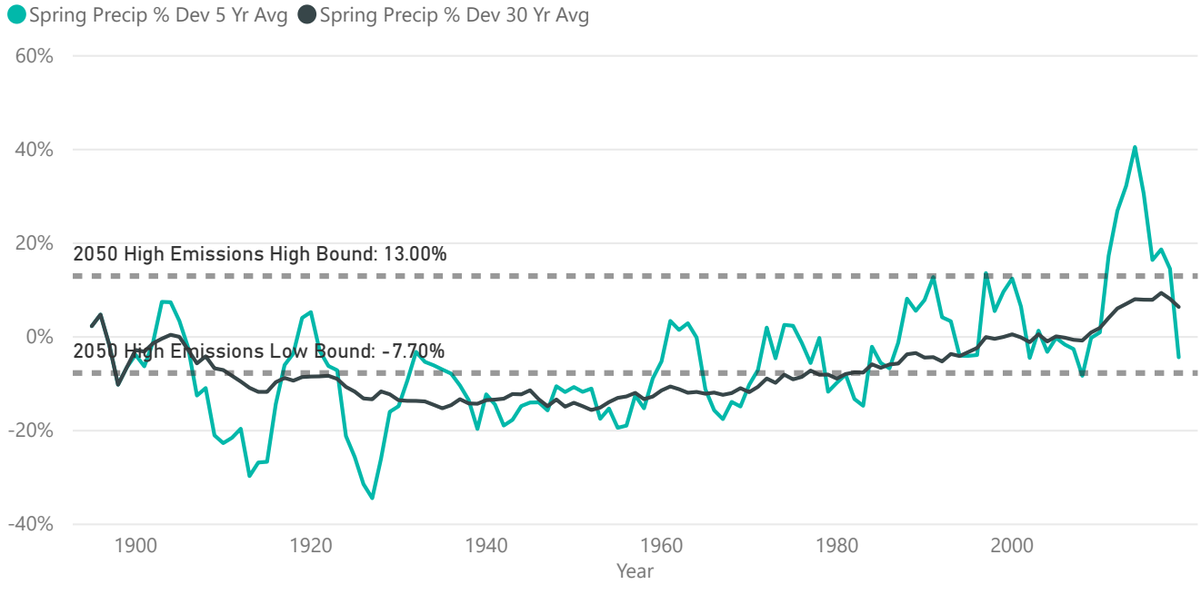
Median of Median Global Temp C Deviation

See https://github.com/SummerIsHere/apocalypse-status/wiki for full documentation.

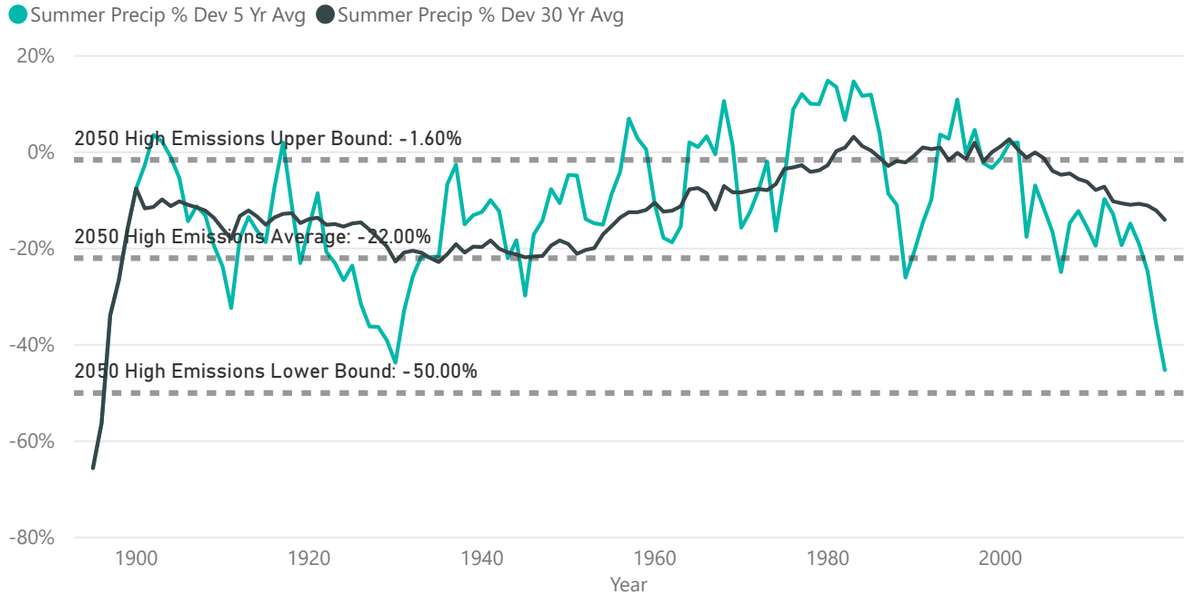
URL

https://github.com/SummerIsHere/apocalypse-status

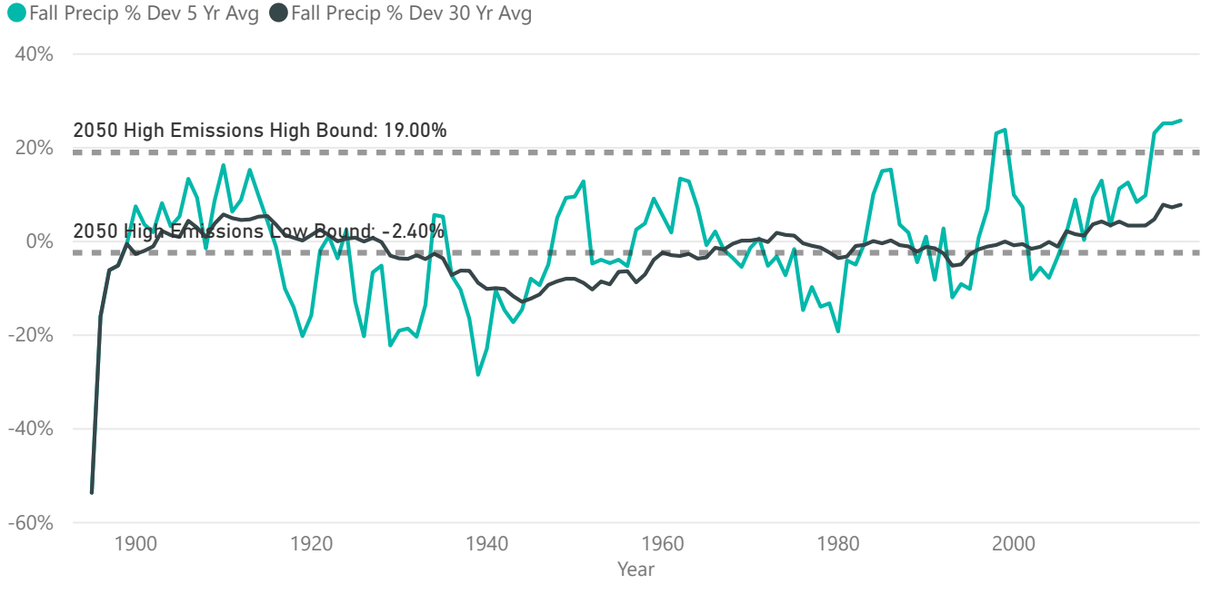
Puget Sound Spring Precip % Dev From 1970-1999 Avg



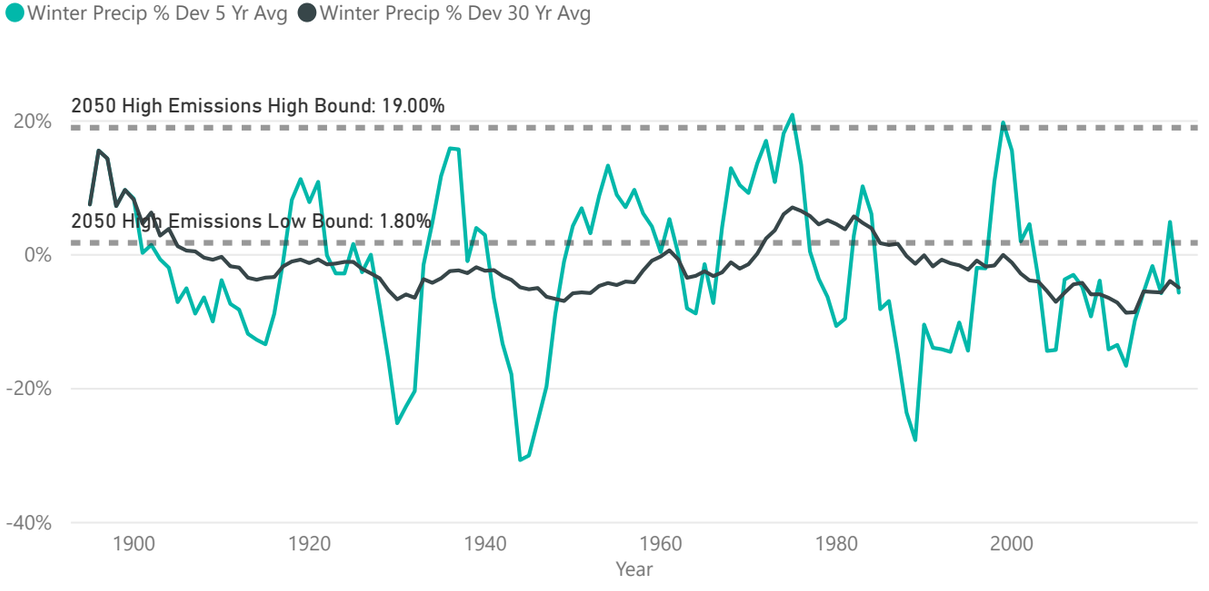
Puget Sound Summer Precip % Dev From 1970-1999 Avg



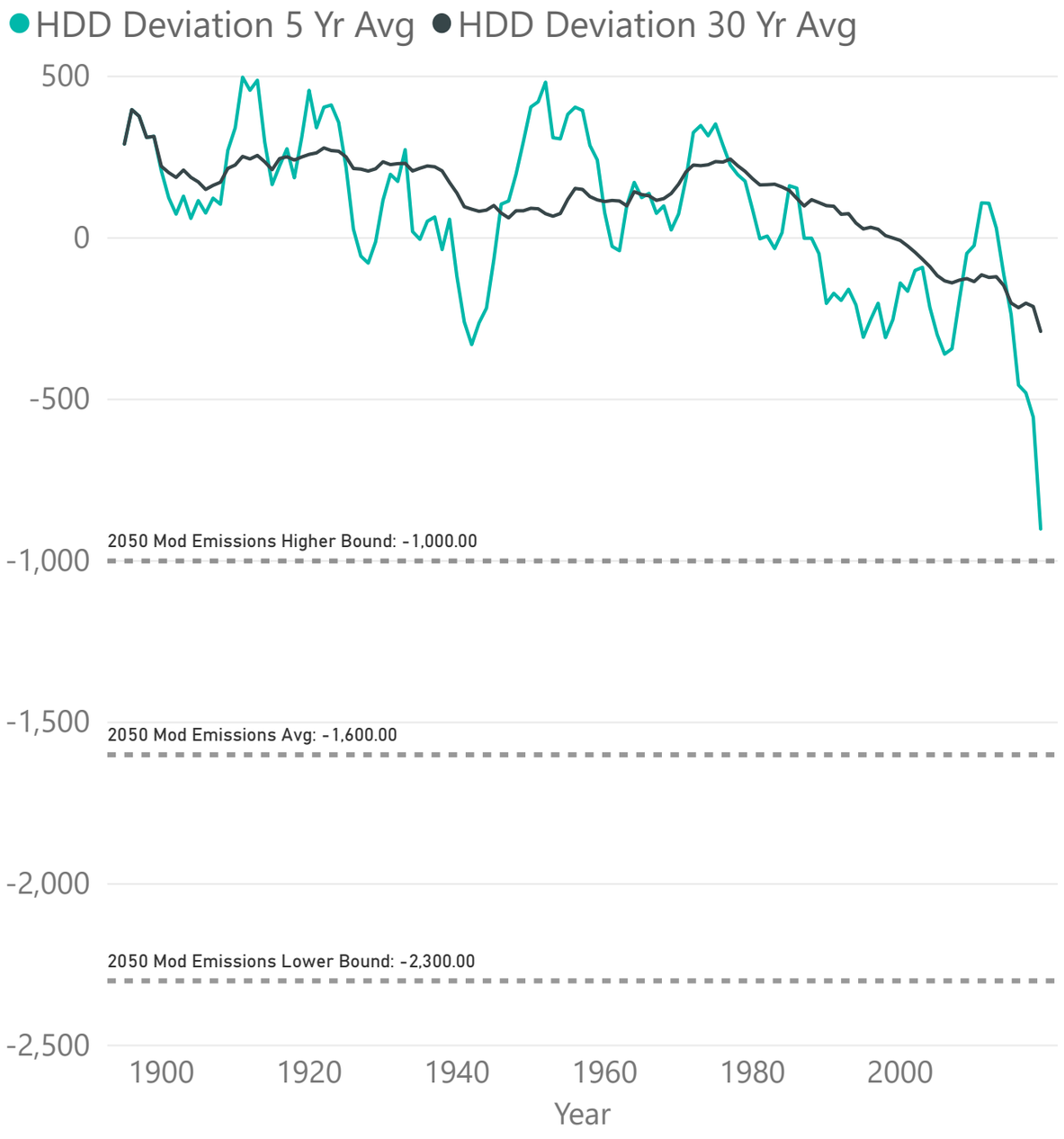
Puget Sound Fall Precip % Dev From 1970-1999 Avg



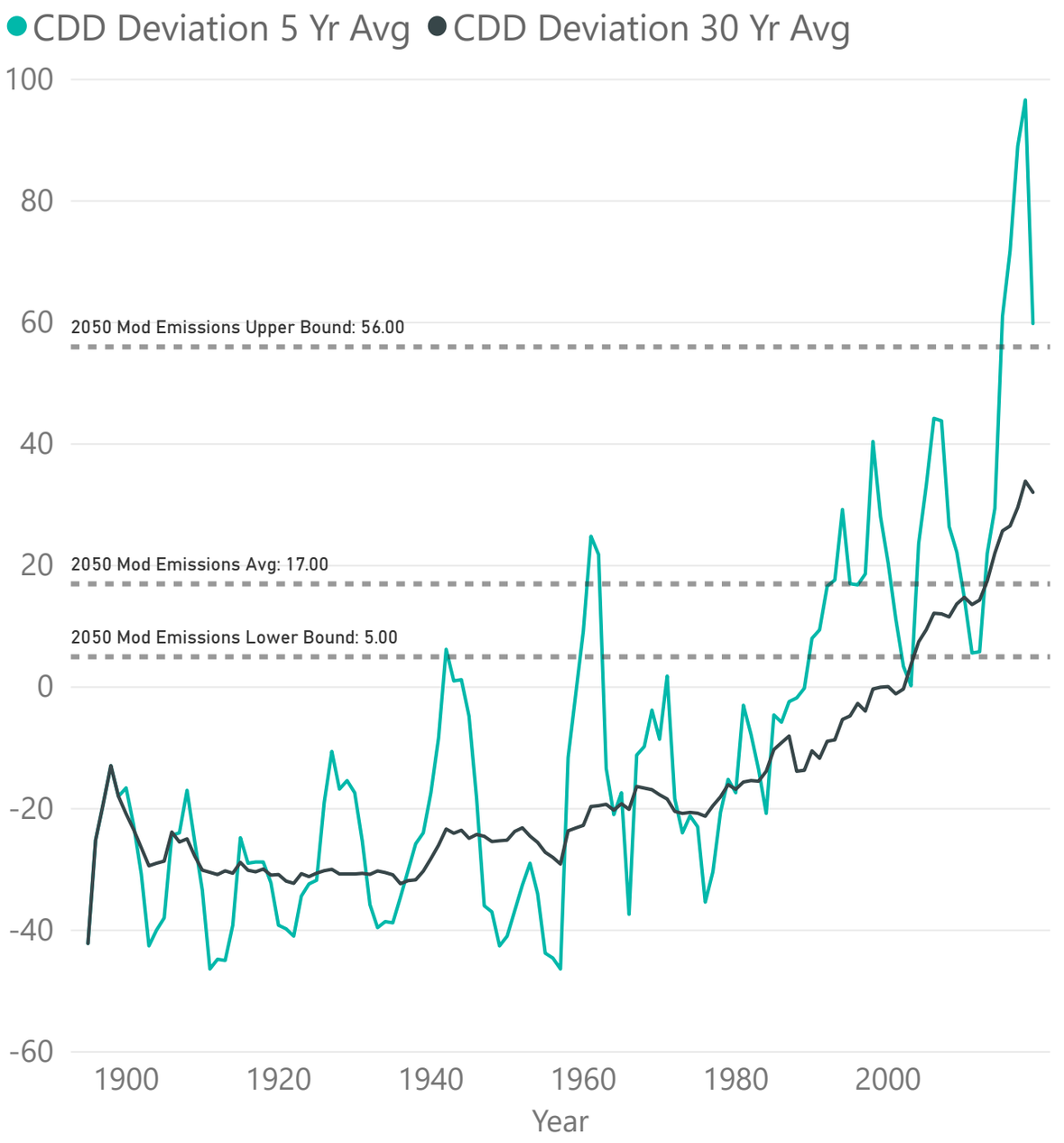
Puget Sound Winter Precip % Dev From 1970-1999 Avg



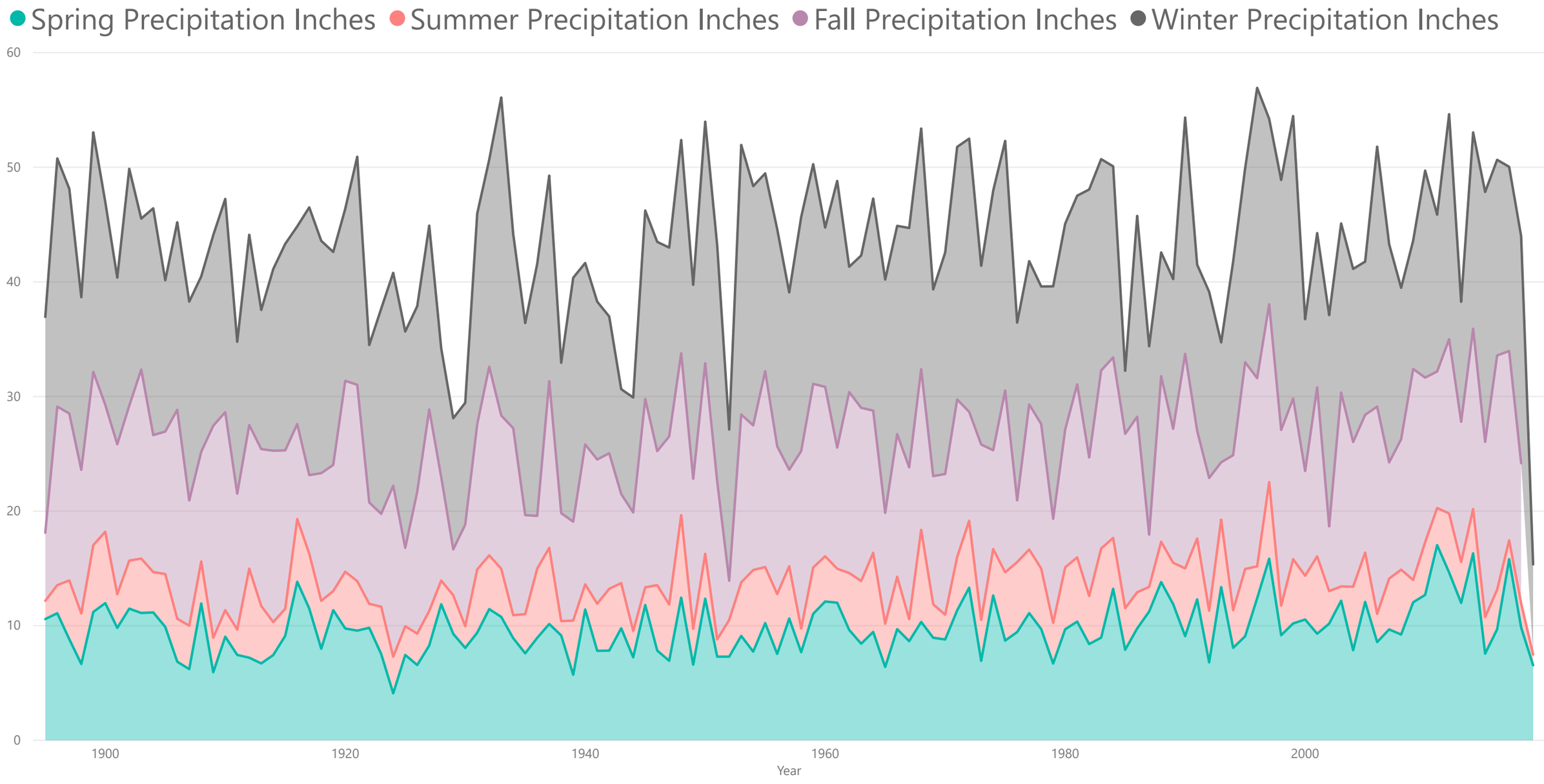
Heating Degree Days Deviation From 1970-1999 Avg



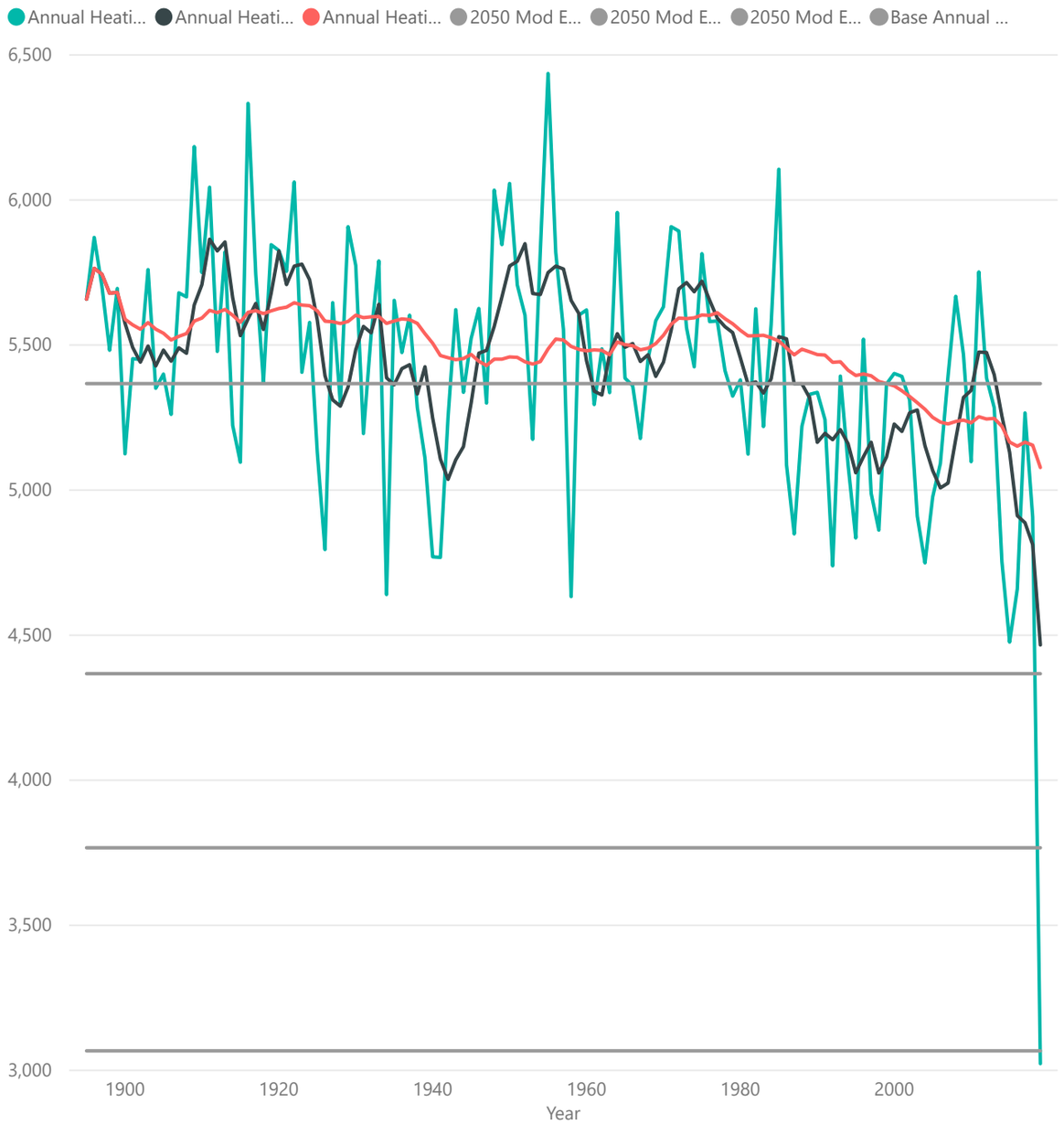
Cooling Degree Days Deviation From 1970-1999 Avg



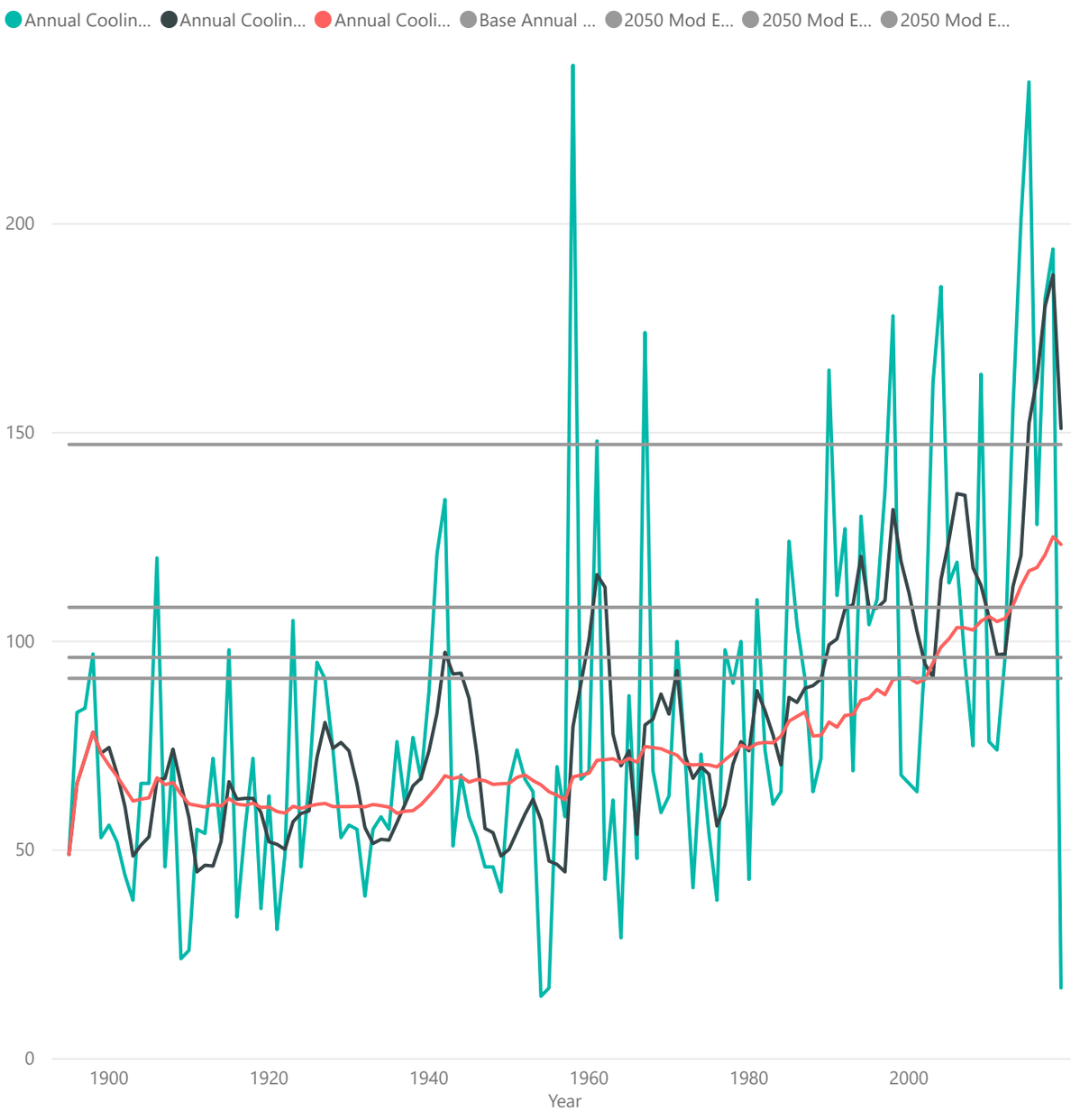
Puget Sound Annual Precipitation



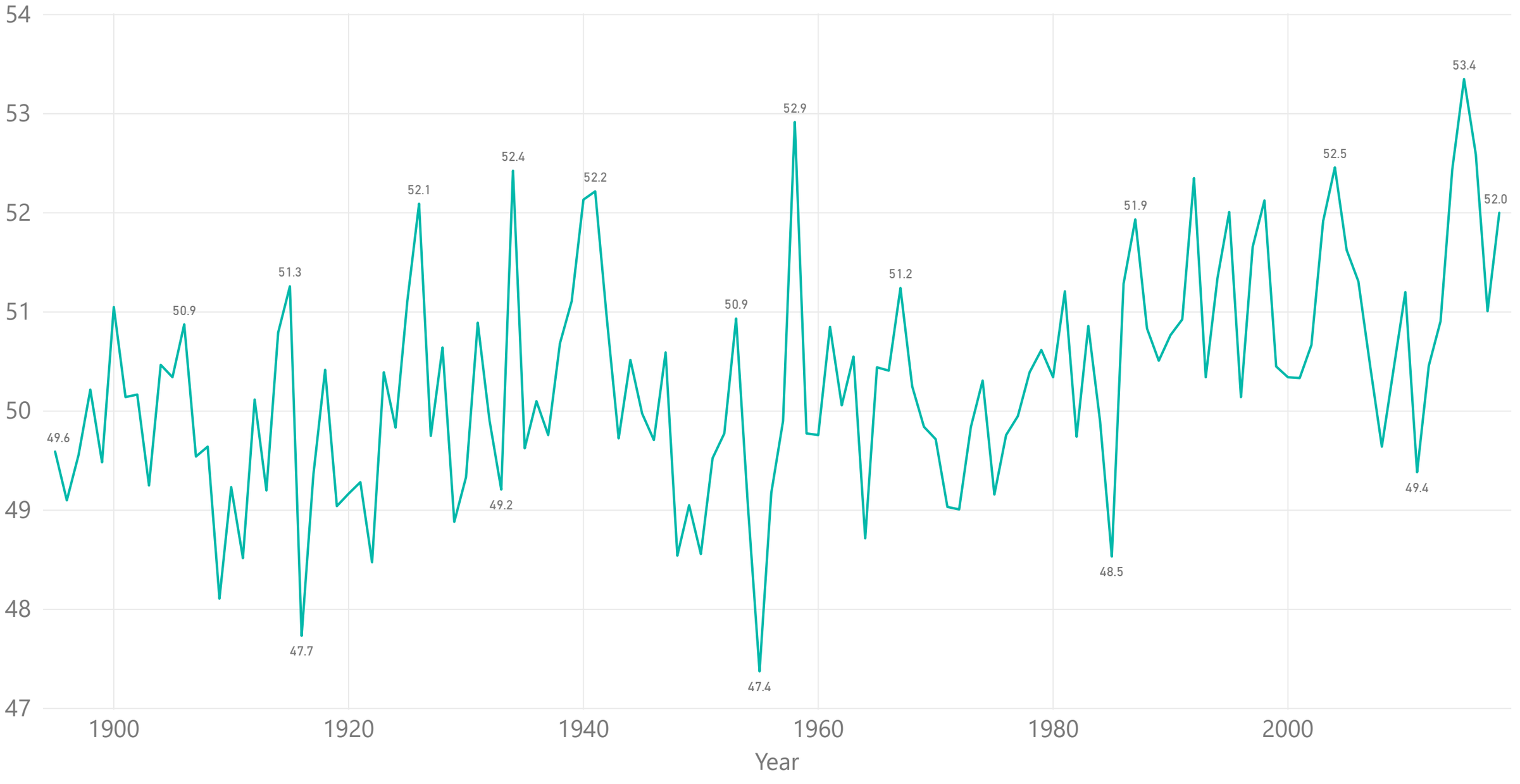
Annual Heating Degree Days



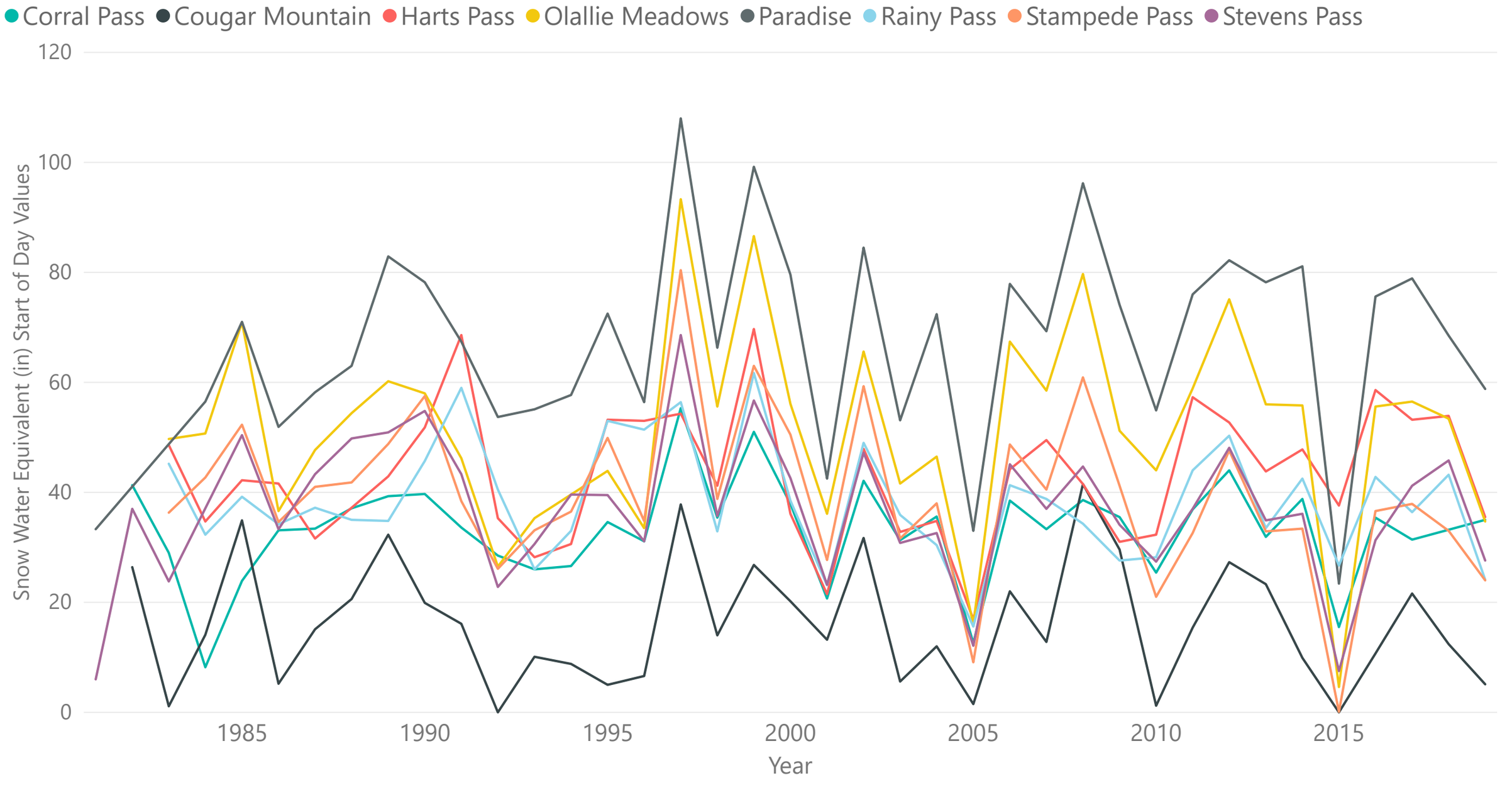
Annual Cooling Degree Days

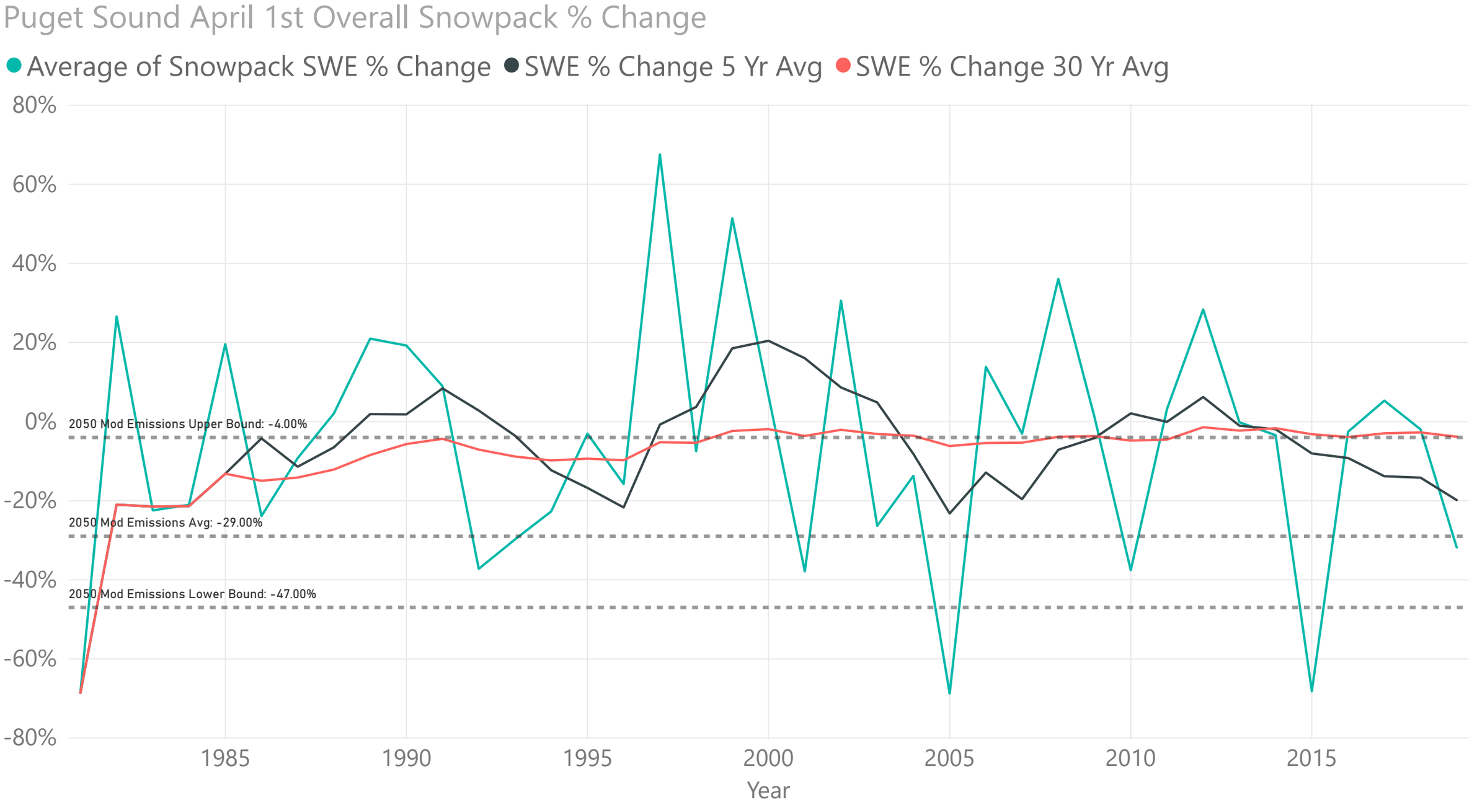


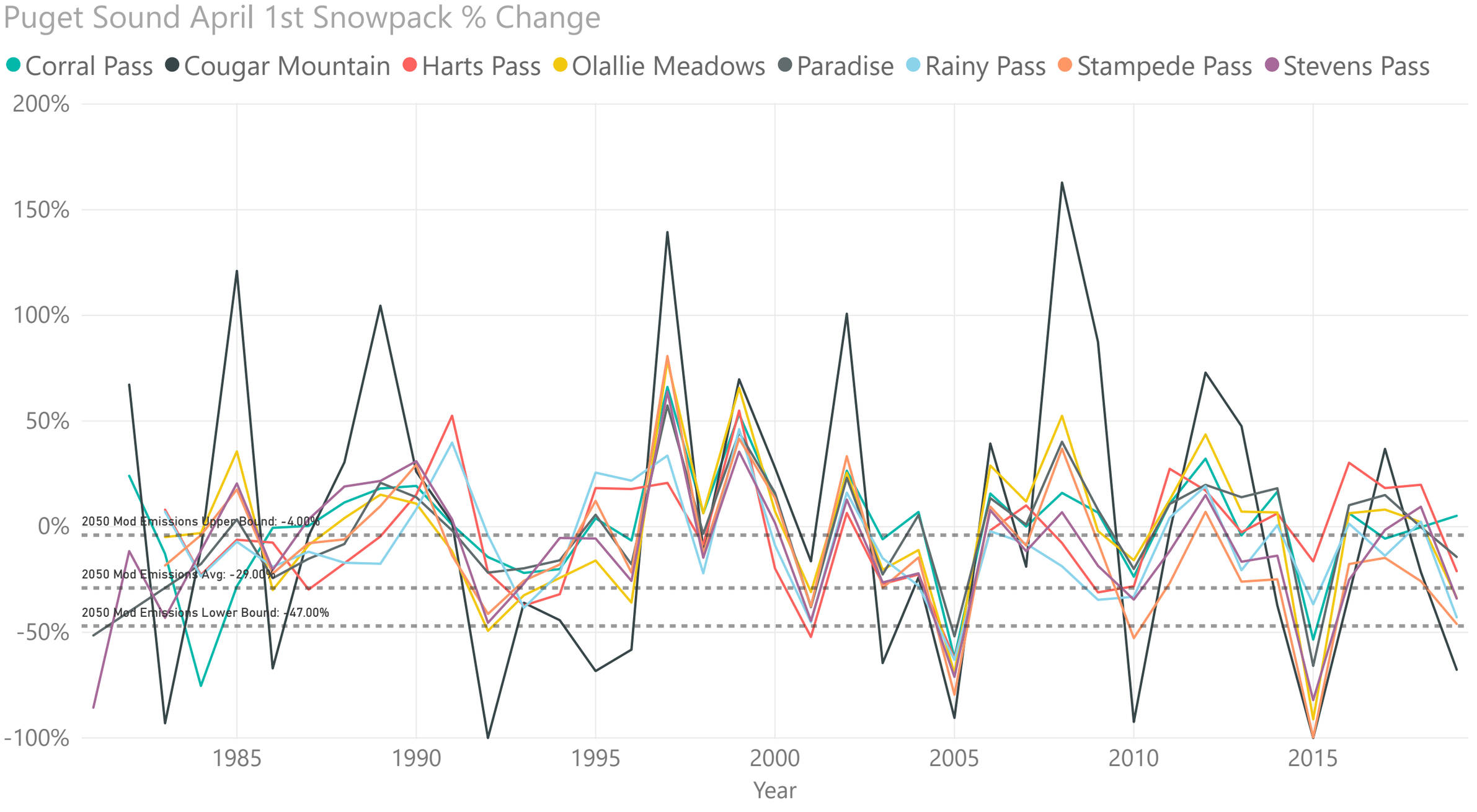
Puget Sound Annual Air Temp

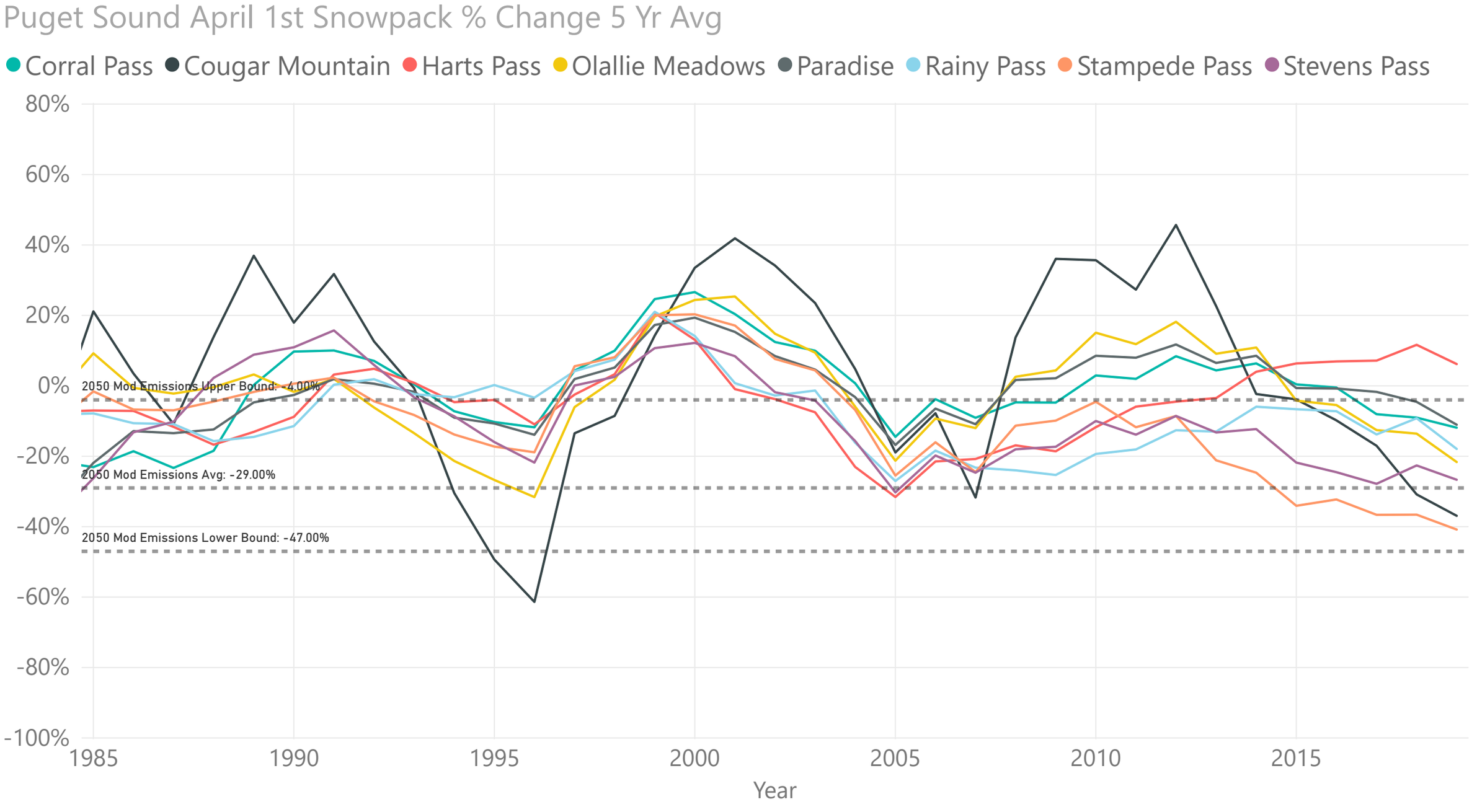


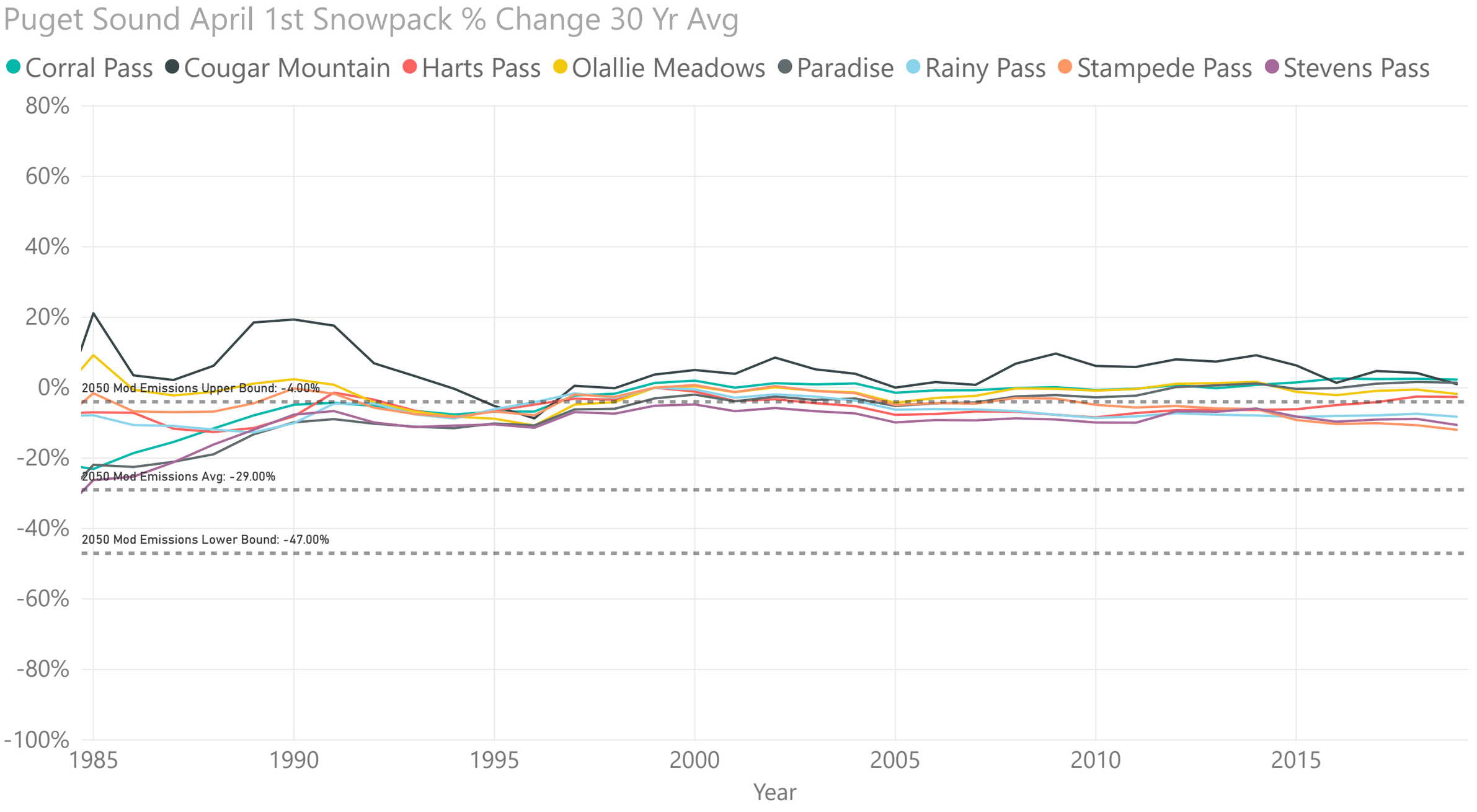
Puget Sound Snowpack Levels on April 1st



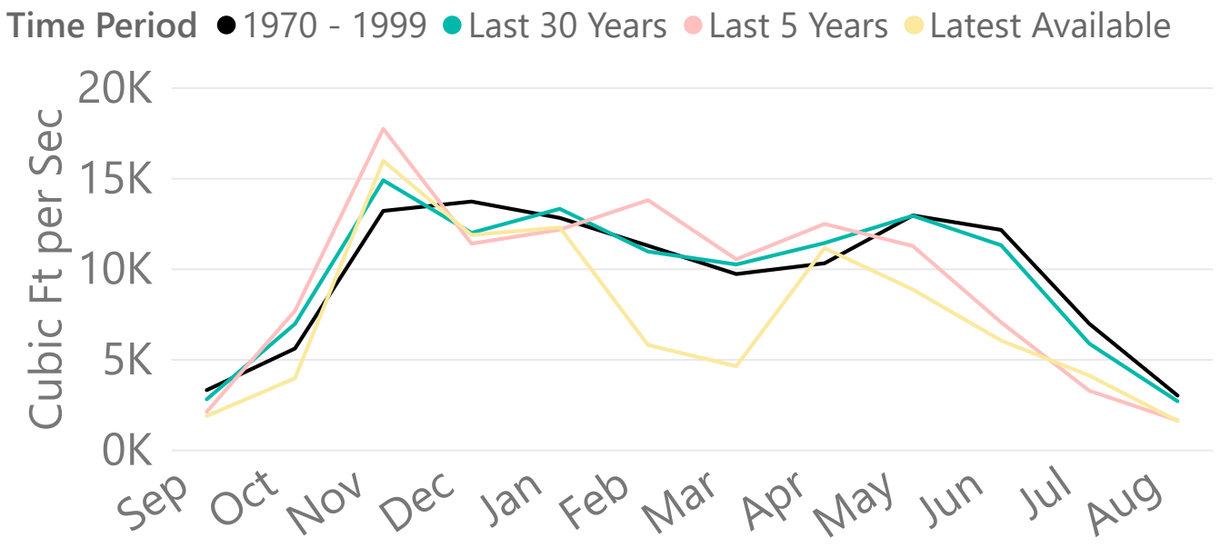

Puget Sound April 1st Overall Snowpack % Change
Average of Snowpack SWE % Change
SWE % Change 5 Yr Avg
SWE % Change 30 Yr Avg
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
2050 Mod Emissions Upper Bound: -4.00%
2050 Mod Emissions Avg: -29.00%
2050 Mod Emissions Lower Bound: -47.00%
1985
1990
1995
2000
2005
2010
2015
Year


Puget Sound April 1st Snowpack % Change
Corral Pass
Cougar Mountain
Harts Pass
Olallie Meadows
Paradise
Rainy Pass
Stampede Pass
Stevens Pass
200%
150%
100%
50%
0%
-50%
-100%
2050 Mod Emissions Upper Bound: -4.00%
2050 Mod Emissions Avg: -29.00%
2050 Mod Emissions Lower Bound: -47.00%
1985
1990
1995
2000
2005
2010
2015
Year

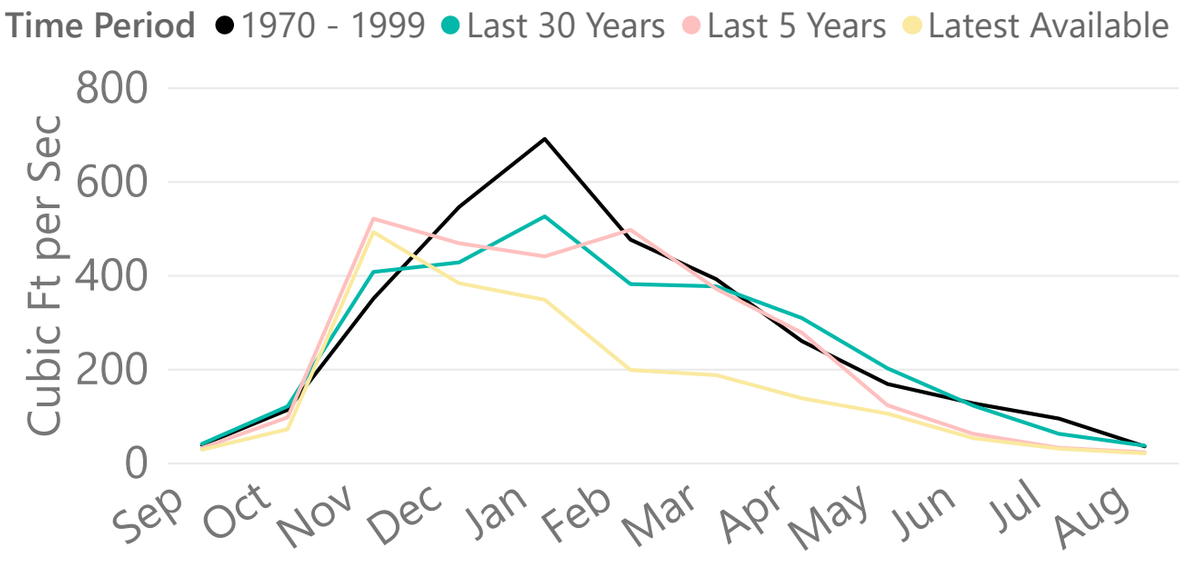

Puget Sound April 1st Snowpack % Change 5 Yr Avg
Corral Pass
Cougar Mountain
Harts Pass
Olallie Meadows
Paradise
Rainy Pass
Stampede Pass
Stevens Pass
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
2050 Mod Emissions Upper Bound: -4.00%
2050 Mod Emissions Avg: -29.00%
2050 Mod Emissions Lower Bound: -47.00%
1985
1990
1995
2000
2005
2010
2015
Year


Puget Sound April 1st Snowpack % Change 30 Yr Avg
Corral Pass
Cougar Mountain
Harts Pass
Olallie Meadows
Paradise
Rainy Pass
Stampede Pass
Stevens Pass
80%
60%
40%
20%
0%
-20%
-40%
-60%
-80%
-100%
2050 Mod Emissions Upper Bound: -4.00%
2050 Mod Emissions Avg: -29.00%
2050 Mod Emissions Lower Bound: -47.00%
1985
1990
1995
2000
2005
2010
2015
Year

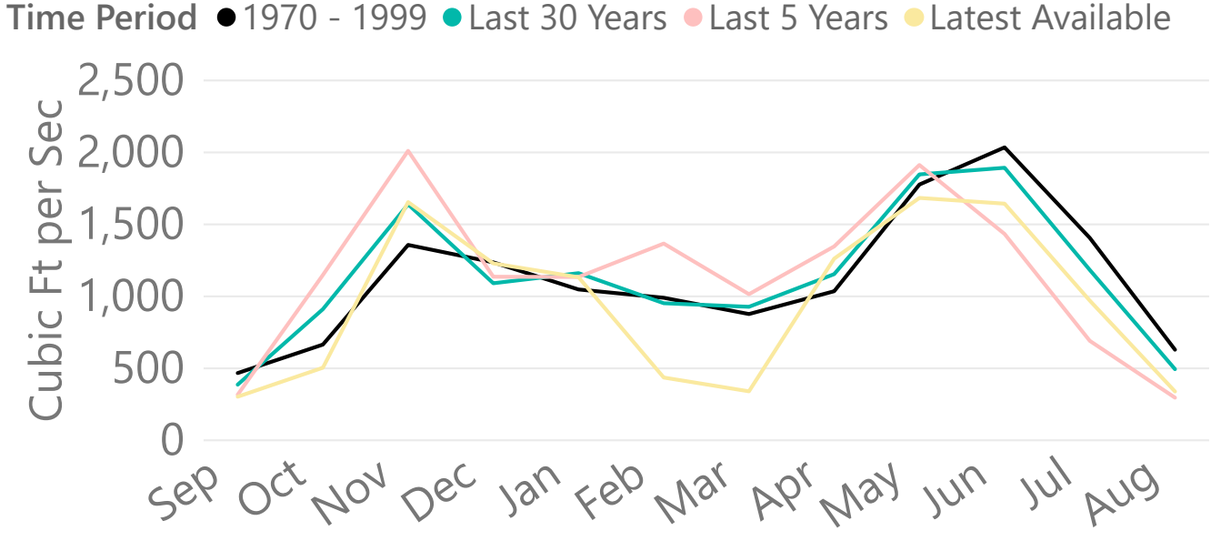
Snohomish River Streamflow by Month



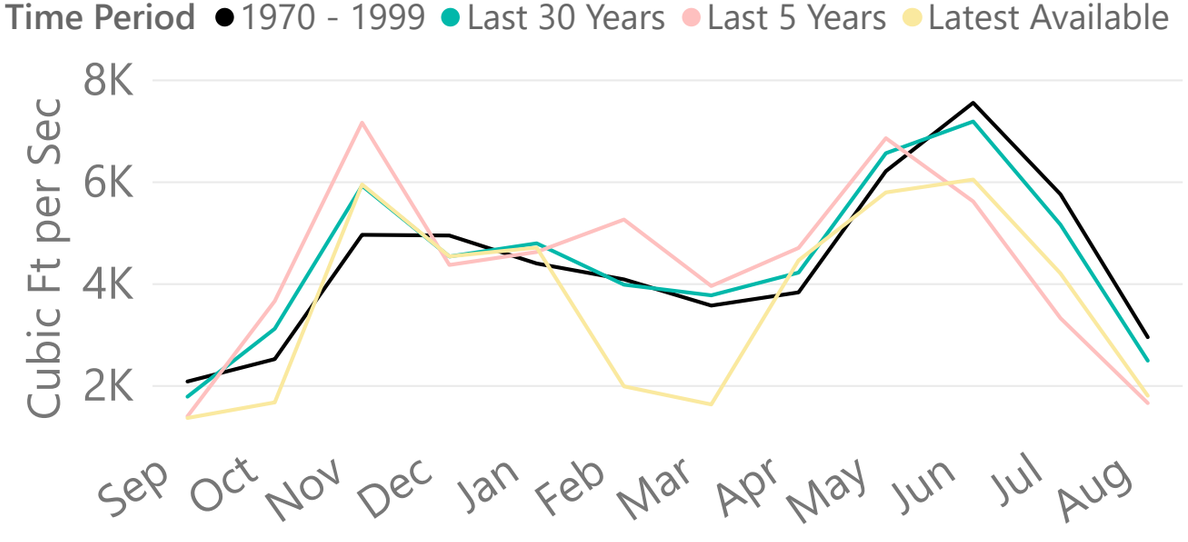
Samish River Streamflow by Month

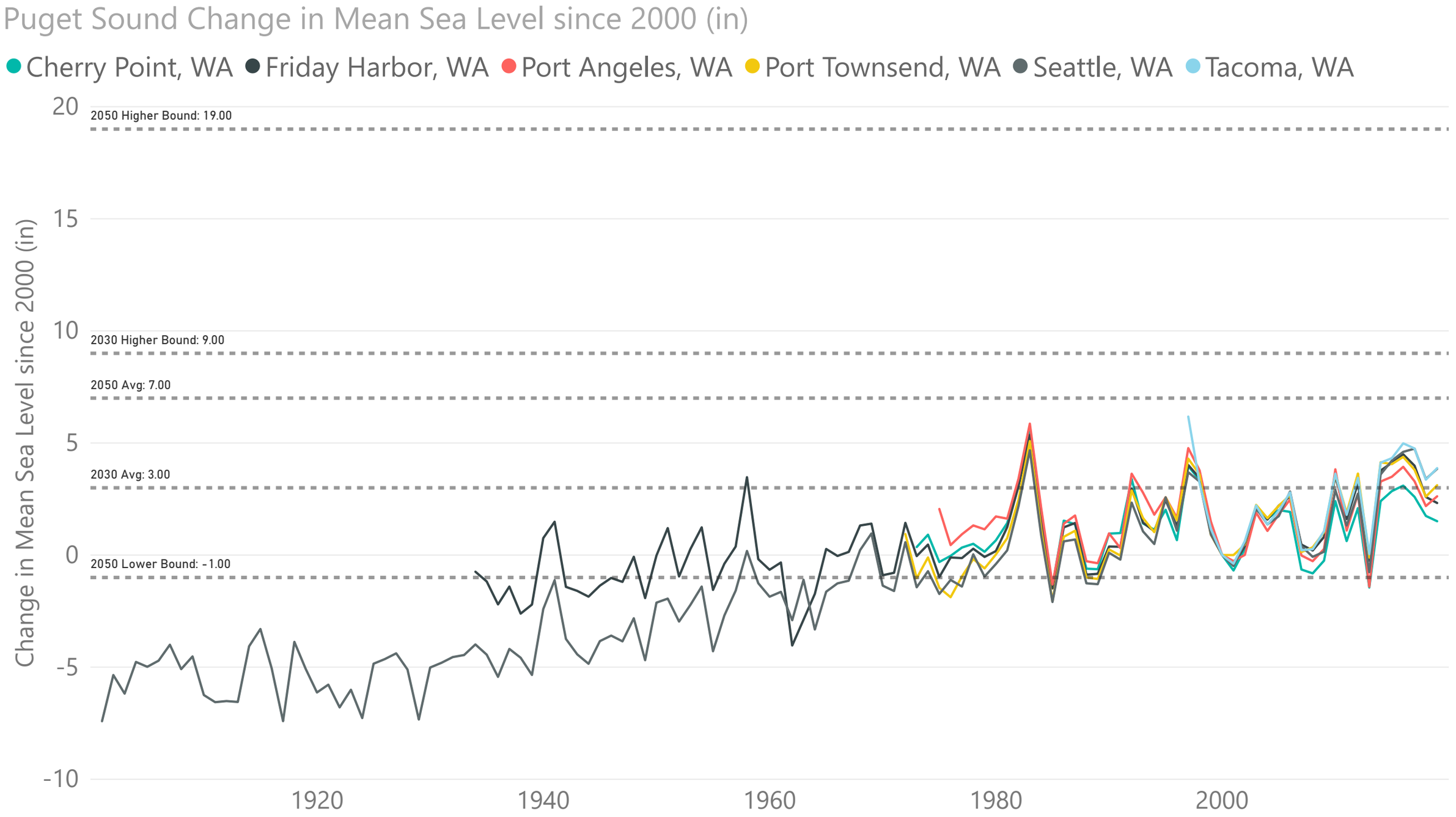


Sauk River Near Darrington by Month



Sauk River Near Sauk by Month




Puget Sound Change in Mean Sea Level since 2000 (in)
Cherry Point, WA
Friday Harbor, WA
Port Angeles, WA
Port Townsend, WA
Seattle, WA
Tacoma, WA
Change in Mean Sea Level since 2000 (in)
20
15
10
5
0
-5
-10
2050 Higher Bound: 19.00
2030 Higher Bound: 9.00
2050 Avg: 7.00
2030 Avg: 3.00
2050 Lower Bound: -1.00
1920
1940
1960
1980
2000

Puget Sound Change in Mean Sea Level since 2000 (in)