

**ENGG233 Final Project  
Calgary Weather Analyzer  
Milestone 1**

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**Lecture:** Lecture #2

**TA Group:** Group Blue

## 1- Get Minimum Temperature of 1990-2019

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1- Get Minimum Temperature of 1990-2019
2- Get Maximum Temperature of 1990-2019
3- Get Minimum Temperature of 1990-2019 Annually
4- Get Maximum Temperature of 1990-2019 Annually
5- Get Average Snowfall between 1990-2019 Annually
6- Get Average Temperature between 1990-2019 Annually
7- LineChart Minimum Temperature of 1990-2019 Annually
8- LineChart Maximum Temperature of 1990-2019 Annually
9- BarChart Average Snowfall between 1990-2019 Annually
10- BarChart Average Temperature between 1990-2019 Annually

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Pick a number from the menu: 1

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The min Temperature between 1990 to 2019 is: -15.9

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According to provided Calgary weather data, the minimum temperature between the years 1990 and 2019 was -15.9 temperature. This is the lowest temperature ever recorded in 30 years.

## 2- Get Maximum Temperature of 1990-2019

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Pick a number from the menu: 2

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The max Temperature between 1990 to 2019 is: 23.5

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Pick a number from the menu: █
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According to provided Calgary weather data, the maximum temperature between the years 1990 and 2019 was 23.5 temperature. This is the highest temperature ever recorded in 30 years.

### 3- Get Minimum Temperature of 1990-2019 Annually

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Pick a number from the menu: 3
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The min Temperature between 1990 to 2019 Annually is: [[1990.    -15.84]
[1991.    -15.71]
[1992.    -15.9 ]
[1993.    -15.67]
[1994.    -15.66]
[1995.    -15.77]
[1996.    -15.63]
[1997.    -15.56]
[1998.    -15.61]
[1999.    -15.66]
[2000.    -15.14]
[2001.    -15.03]
[2002.    -14.62]
[2003.    -14.34]
[2004.    -14.32]
[2005.    -14.15]
[2006.    -14.19]
[2007.    -14.04]
[2008.    -13.91]
[2009.    -13.72]
[2010.    -13.49]
[2011.    -13.21]
[2012.    -13.41]
[2013.    -12.93]
[2014.    -12.92]
[2015.    -12.92]
[2016.    -12.81]
[2017.    -12.95]
[2018.    -13.08]
[2019.    -13.02]]
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Pick a number from the menu: █
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According to the analysis that we have done on Calgary Weather data between 1990 and 2019. The annual minimum temperature shows a slight increase in 30 years and the highest temperature recorded was -12.81 in the year 2016. The lowest temperature recorded was -15.9 in 1992.

#### 4- Get Maximum Temperature of 1990-2019 Annually

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Pick a number from the menu: 4

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The max Temperature between 1990 to 2019 Annually is: [[1990.    23.36]
[1991.    23.21]
[1992.    23.2 ]
[1993.    23.09]
[1994.    22.93]
[1995.    22.92]
[1996.    22.85]
[1997.    22.9 ]
[1998.    22.86]
[1999.    22.9 ]
[2000.    22.86]
[2001.    22.85]
[2002.    22.88]
[2003.    23.08]
[2004.    23.12]
[2005.    23.12]
[2006.    23.05]
[2007.    23.11]
[2008.    23.26]
[2009.    23.25]
[2010.    23.18]
[2011.    23.15]
[2012.    23.21]
[2013.    23.28]
[2014.    23.24]
[2015.    23.24]
[2016.    23.22]
[2017.    23.29]
[2018.    23.45]
[2019.    23.5 ]]

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Pick a number from the menu: █
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According to the analysis that we have done on Calgary Weather data between 1990 and 2019. The annual maximum temperature shows a slight increase in 30 years and the highest temperature recorded was 23.5 in the year 2019. The lowest temperature recorded was 22.85 in 1996 and 2001.

5- Get Average Snowfall between 1990-2019 Annually

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Pick a number from the menu: 5
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The average snowfall between 1990 to 2019 Annually is: [[1990.      11.29333333]
[1991.      11.265      ]
[1992.      11.02916667]
[1993.      11.09083333]
[1994.      10.89916667]
[1995.      10.81833333]
[1996.      10.69416667]
[1997.      10.85416667]
[1998.      10.7575      ]
[1999.      10.74833333]
[2000.      10.65        ]
[2001.      10.55916667]
[2002.      10.44416667]
[2003.      10.31333333]
[2004.      10.565        ]
[2005.      10.5525      ]
[2006.      10.23166667]
[2007.      10.26833333]
[2008.      10.4975      ]
[2009.      10.6625      ]
[2010.      10.76916667]
[2011.      10.7275      ]
[2012.      10.88         ]
[2013.      10.85166667]
[2014.      10.9475      ]
[2015.      11.14416667]
[2016.      11.10916667]
[2017.      10.99333333]
[2018.      11.21083333]
[2019.      10.99363636]]

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Pick a number from the menu: █
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According to the analysis that we have done on Calgary Weather data between 1990 and 2019. Generally, the annual average snowfall shows a slight decrease in 30 years and the highest average snowfall recorded was 11.29333333 in the year 1990. The lowest average snowfall recorded was 10.23166667 in 2006.

6- Get Average Temperature between 1990-2019 Annually

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Pick a number from the menu: 6
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The average temperature between 1990 to 2019 Annually is: [[1990.          3.82375  ]
[1991.          3.83833333]
[1992.          3.84958333]
[1993.          3.86875   ]
[1994.          3.84208333]
[1995.          3.86583333]
[1996.          3.9       ]
[1997.          3.87583333]
[1998.          3.90333333]
[1999.          3.95083333]
[2000.          4.03875   ]
[2001.          4.05875   ]
[2002.          4.11458333]
[2003.          4.17      ]
[2004.          4.19666667]
[2005.          4.22375   ]
[2006.          4.295     ]
[2007.          4.29666667]
[2008.          4.32041667]
[2009.          4.38041667]
[2010.          4.40291667]
[2011.          4.42083333]
[2012.          4.36416667]
[2013.          4.4475    ]
[2014.          4.46875   ]
[2015.          4.4725    ]
[2016.          4.555     ]
[2017.          4.58625   ]
[2018.          4.53166667]
[2019.          5.50045455]]

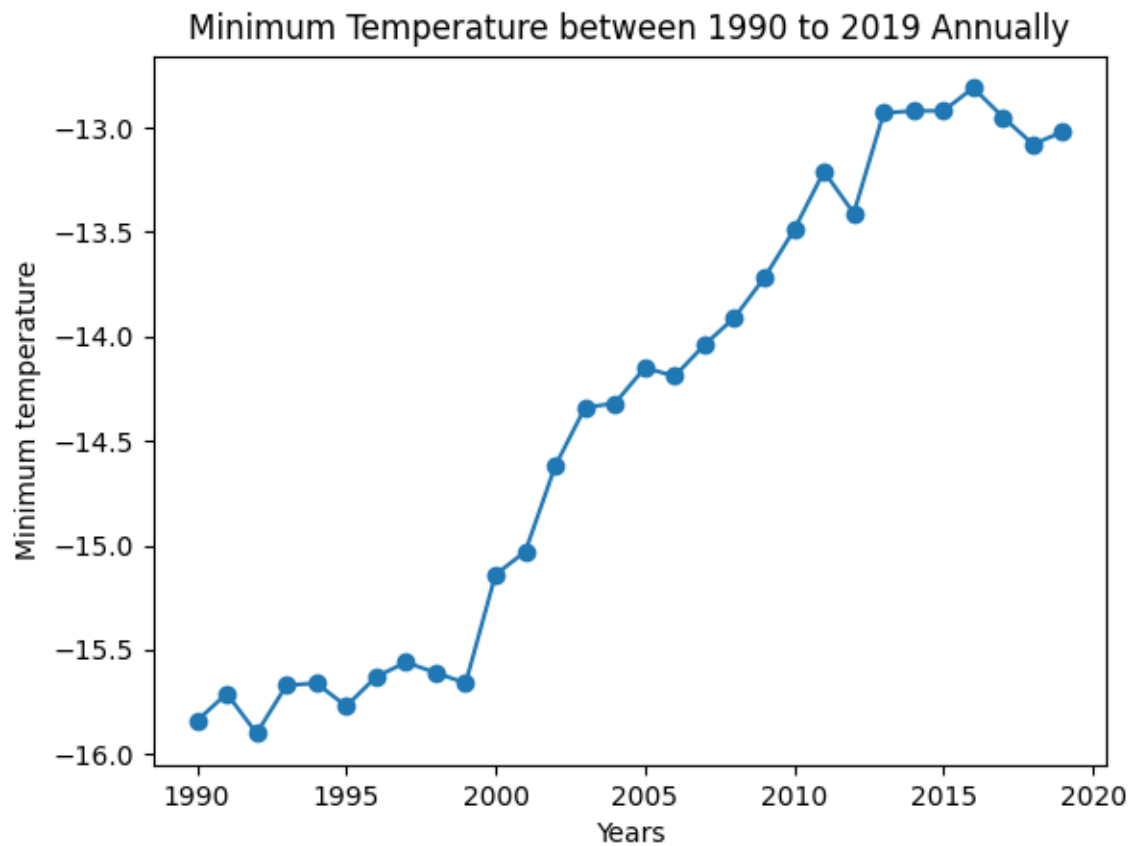
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Pick a number from the menu: █
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According to the analysis that we have done on Calgary Weather data between 1990 and 2019. Generally, the annual average snowfall shows a slight increase in 30 years and the highest average temperature recorded was 5.50045 in the year 1990. The lowest temperature recorded was 3.82375 in 1990.

## 7- LineChart Minimum Temperature of 1990-2019 Annually

Pick a number from the menu: 7

LineChart of minimum Temperature between 1990 to 2019 Annually is:

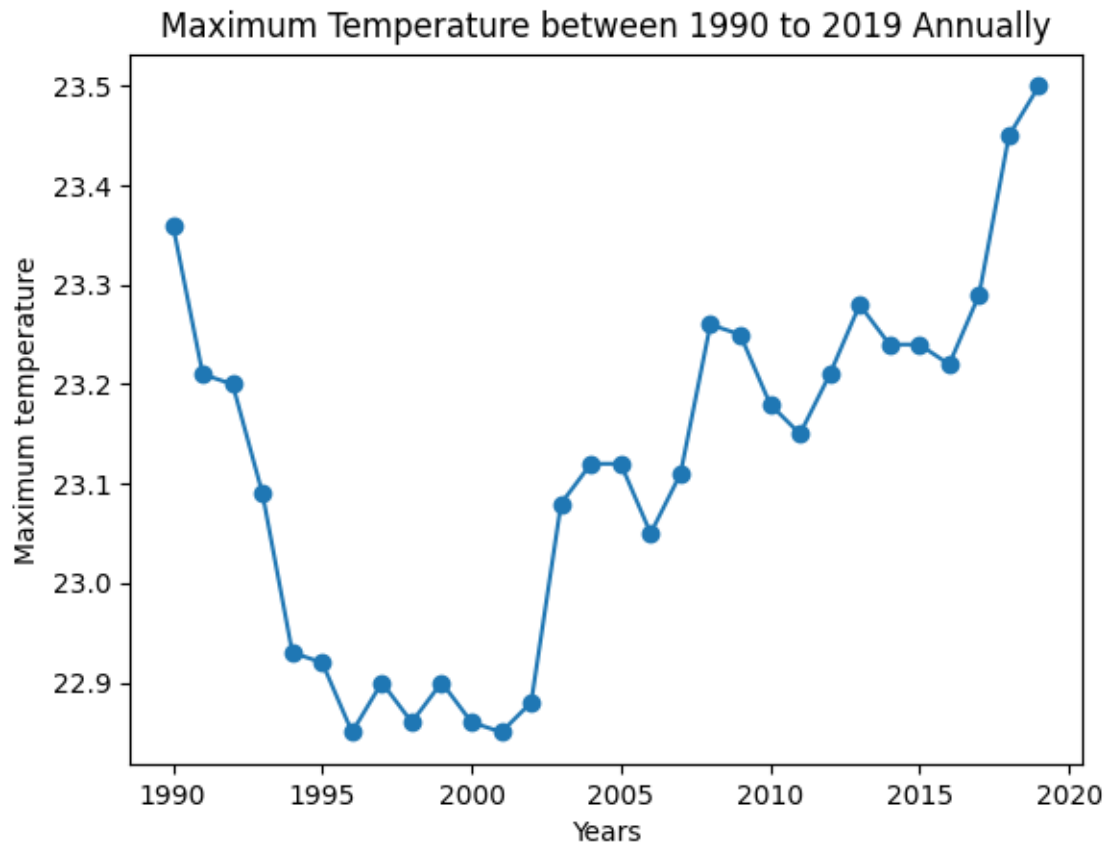


According to the visualization that we have done on Calgary Weather data between 1990 and 2019. Always the temperature is lower than -12 degrees. Calgary has experienced the lowest temperature in 1992 year which was -15.9 degrees.

8- LineChart Maximum Temperature of 1990-2019 Annually

Pick a number from the menu: 8

LineChart of maximum Temperature between 1990 to 2019 Annually is:



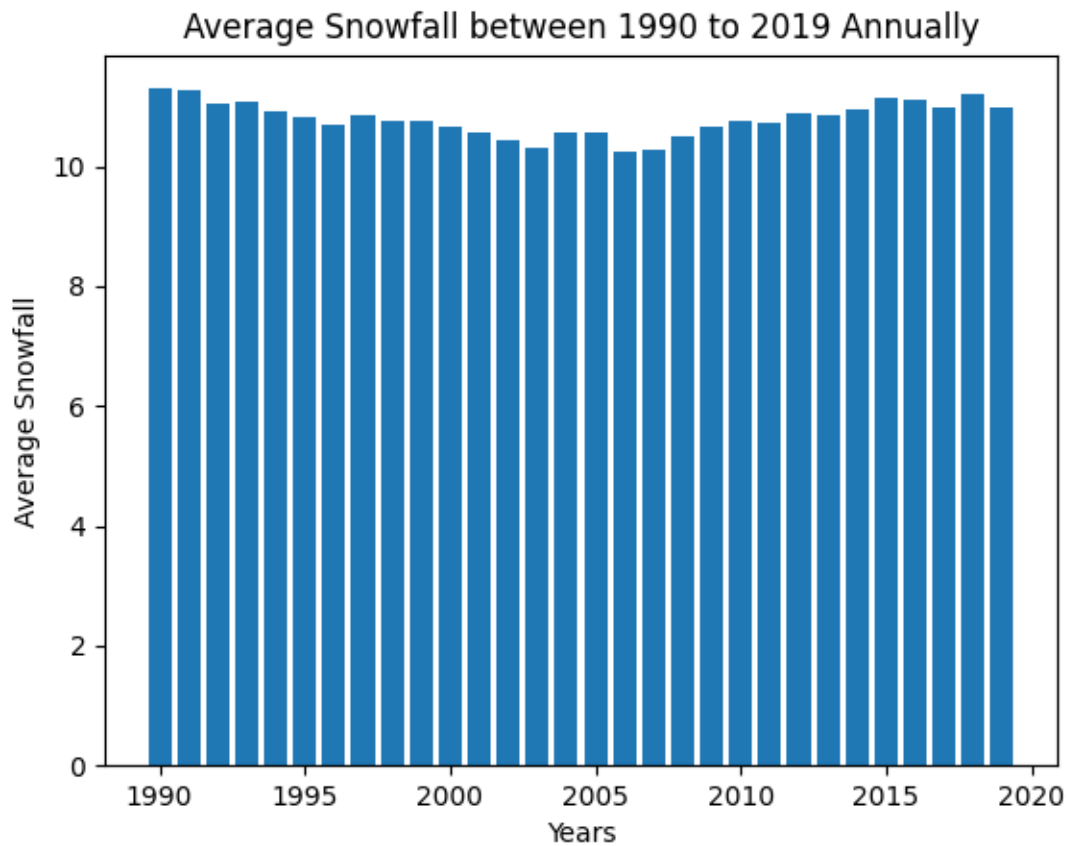
According to the visualization that we have done on Calgary Weather data between 1990 and 2019. Always the temperature is lower than 23.5 degrees and higher than 22.8 degrees. Calgary has experienced the highest temperature in was 23.5 degrees in the year 2019.



9- Bar Chart Average Snowfall between 1990-2019 Annually

Pick a number from the menu: 9

BarChart of Average Snowfall between 1990 to 2019 Annually is:



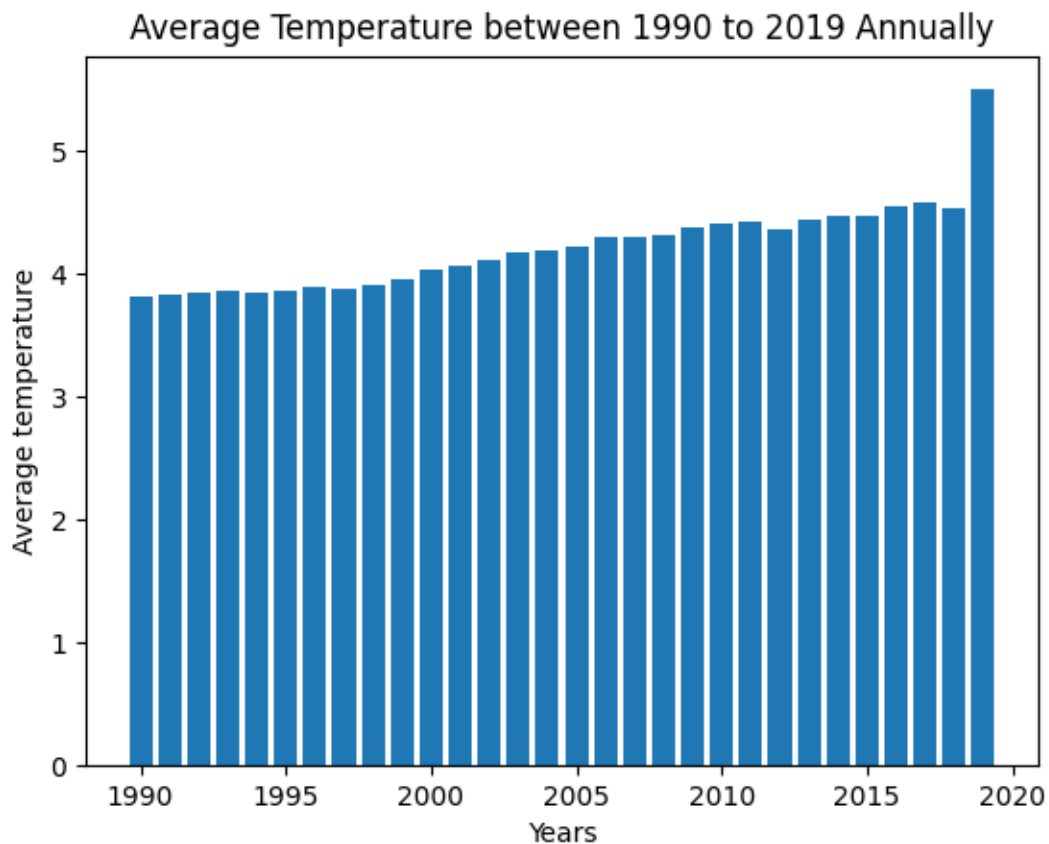
According to the visualization that we have done on Calgary Weather data between 1990 and 2019. Always the average snowfall is lower than 12. Calgary has experienced the highest average snowfall recorded was 11.29333333 in the year 1990. The lowest average snowfall recorded was 10.23166667 in 2006.

## 10- Bar Chart Average Temperature between 1990-2019 Annually

Pick a number from the menu: 10

BarChart of Average Temperature between 1990 to 2019 Annually is:

Pick a number from the menu: 1



According to the visualization that we have done on Calgary Weather data between 1990 and 2019. Always the average temperature is lower than 5.6 degrees. Calgary has experienced the highest average temperature recorded was 11.29333333 in the year 1990. The highest average temperature recorded was 5.50045 in the year 1990. The lowest temperature recorded was 3.82375 in 1990.