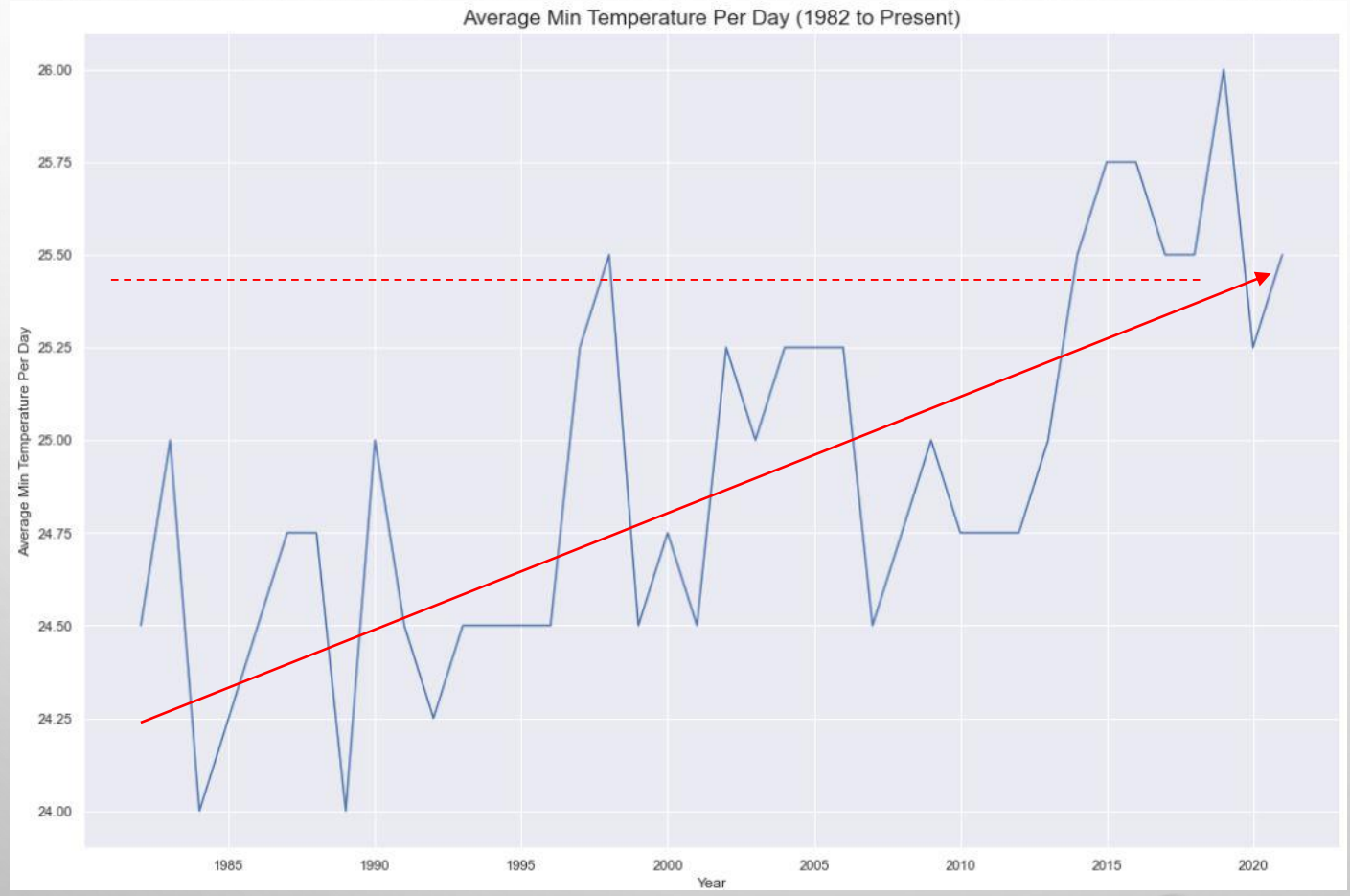
WEATHER TREND OF SINGAPORE

INSIGHTS AND APPLICATION

SOURCE OF DATA:

HTTPS://DATA.GOV.SG/DATASET?Q=WEATHER

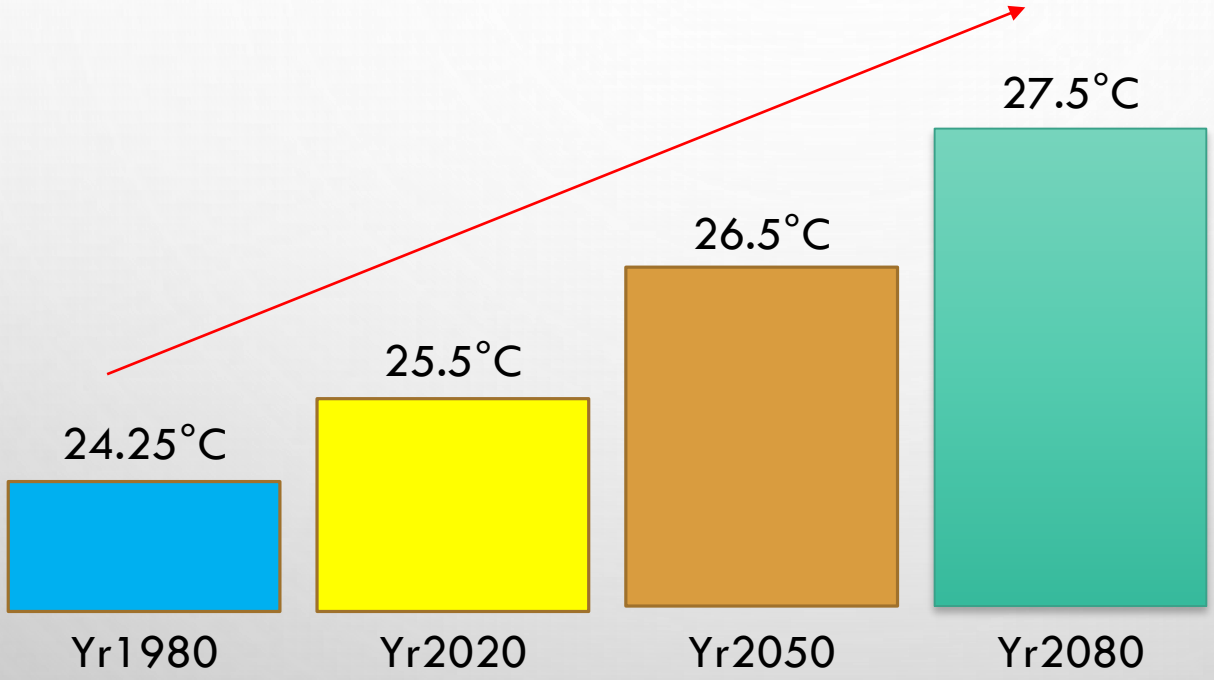
INCREASE IN AVERAGE MINIMUM TEMPERATURE FROM YR 1982 TO YR2020



Increase 1.25°C

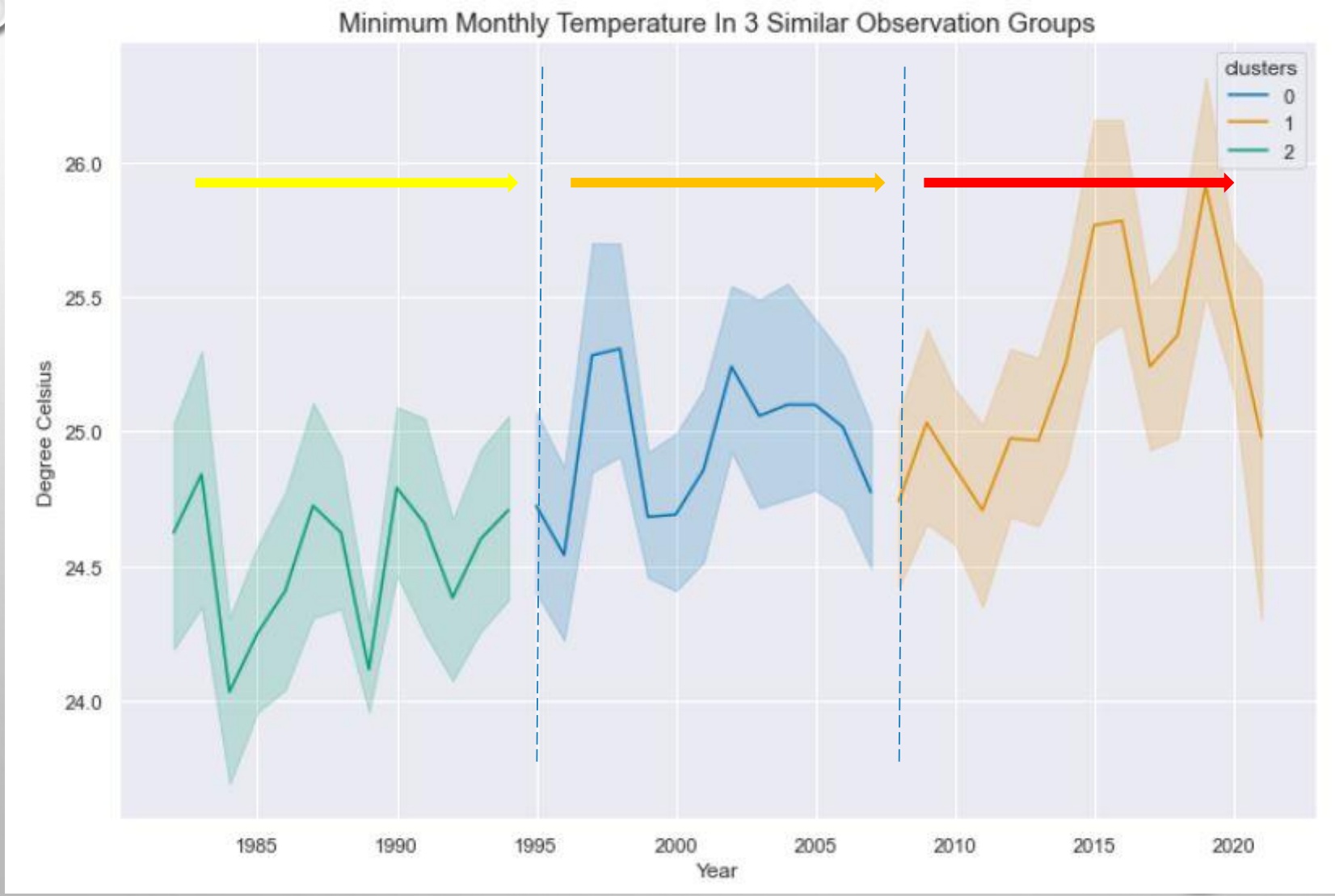
- Average Minimum Temperature has increased by 1.25°C in the last 30 years.

PREDICTION OF AVERAGE MINIMUM TEMPERATURE BEYOND YR 2020



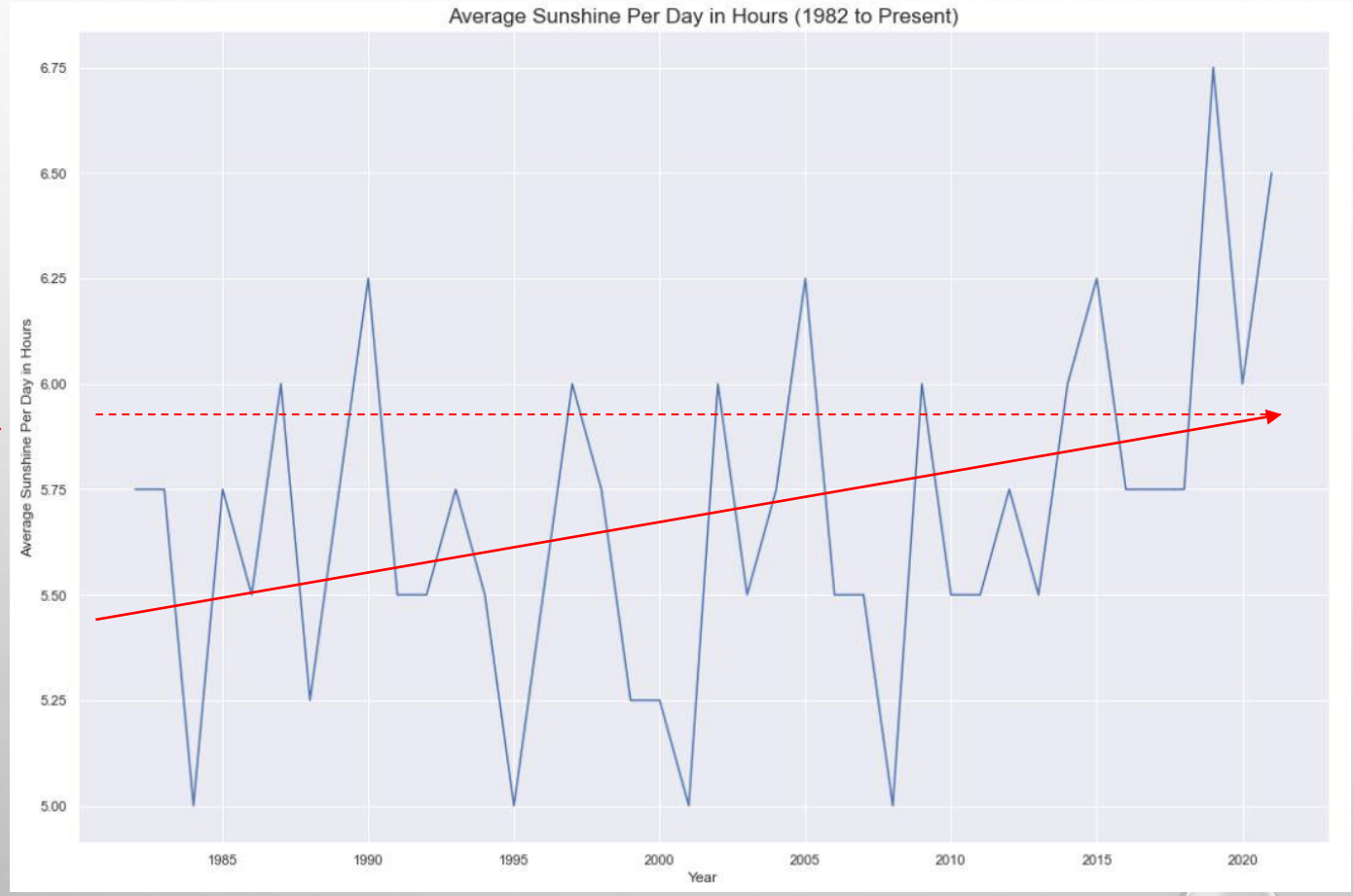
- Average Minimum Temperature will continue to increase by at least 1°C every 30 years.

CHANGES IN AVERAGE MINIMUM TEMPERATURE



- The change of minimum temperature can be visually grouped into 3 clusters.
- Each cluster represents a new phase in temperature increase.
- The last group is from 2008 till 2020.

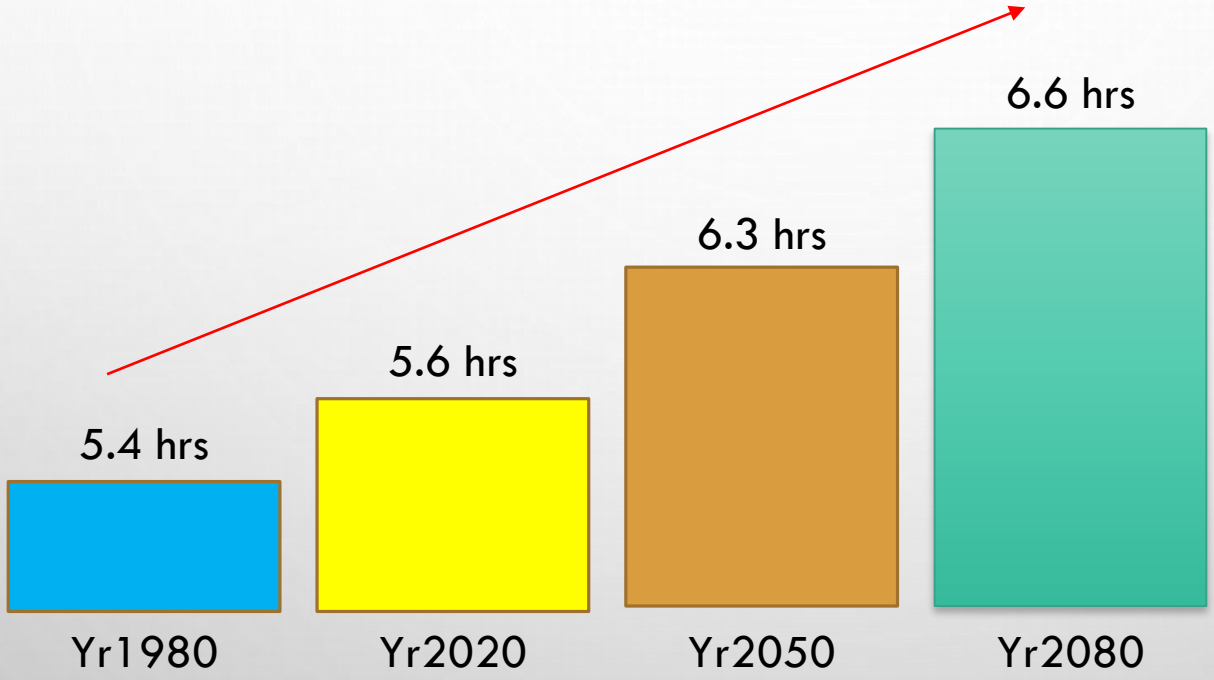
INCREASE IN AVERAGE SUNSHINE DURATION FROM YR 1982 TO YR2020



Increase Sunshine duration by 35mins

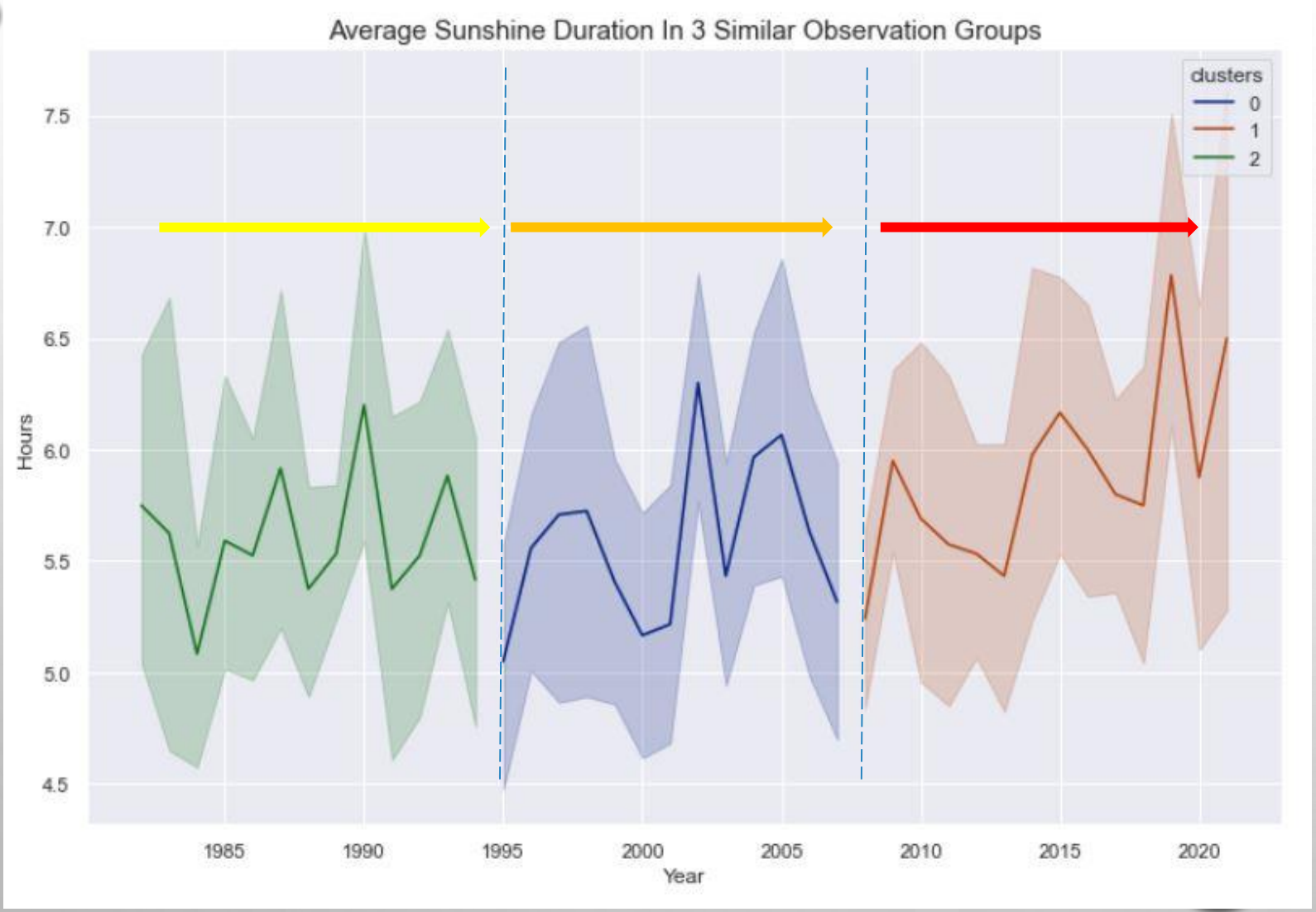
- Average Sunshine Duration has increased by 36min over the last 30 years.

PREDICTION OF AVERAGE SUNSHINE DURATION BEYOND YR 2020



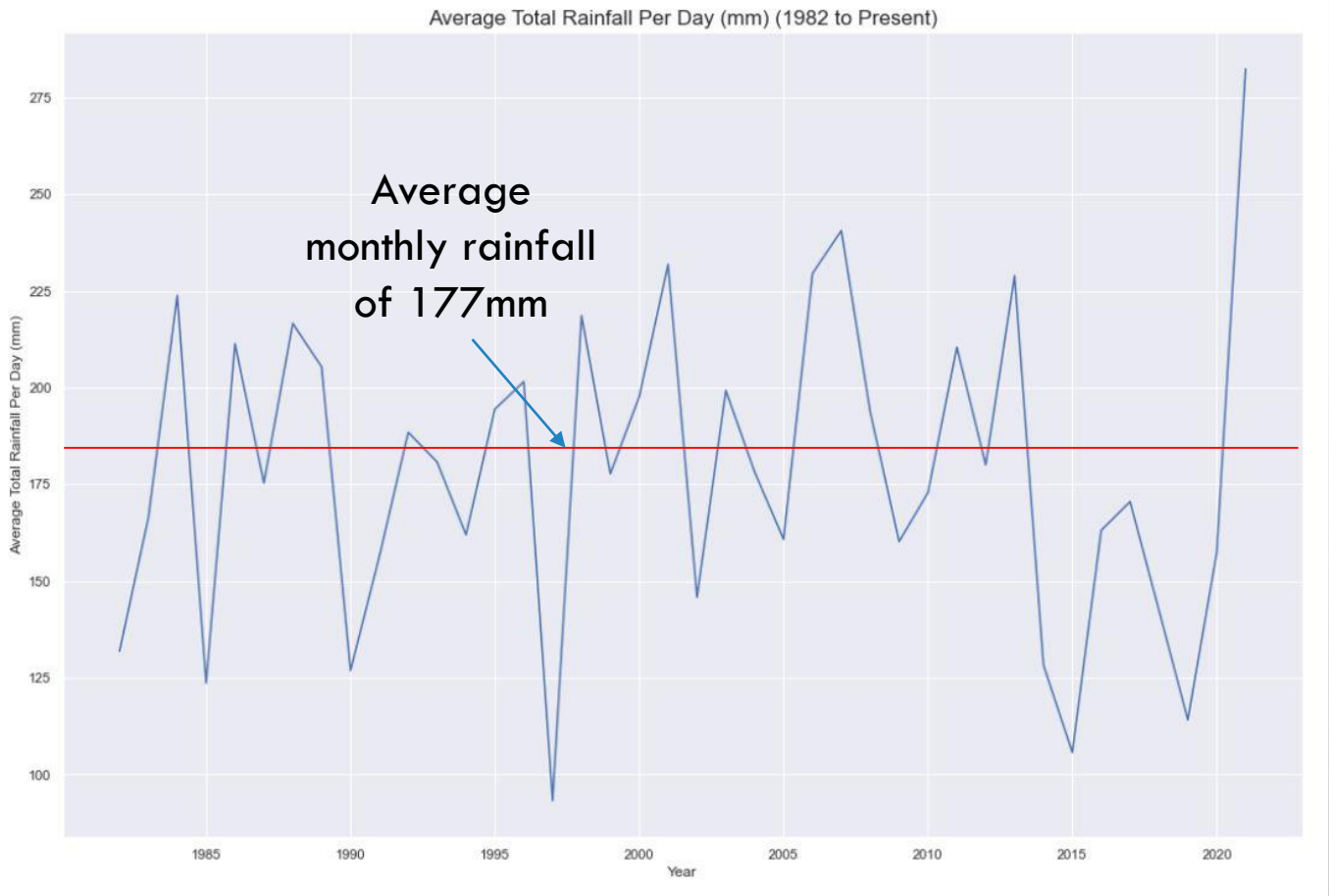
- Average Sunshine Duration will continue to increase by at least 30mins every 30 years.

CHANGES IN AVERAGE SUNSHINE DURATION



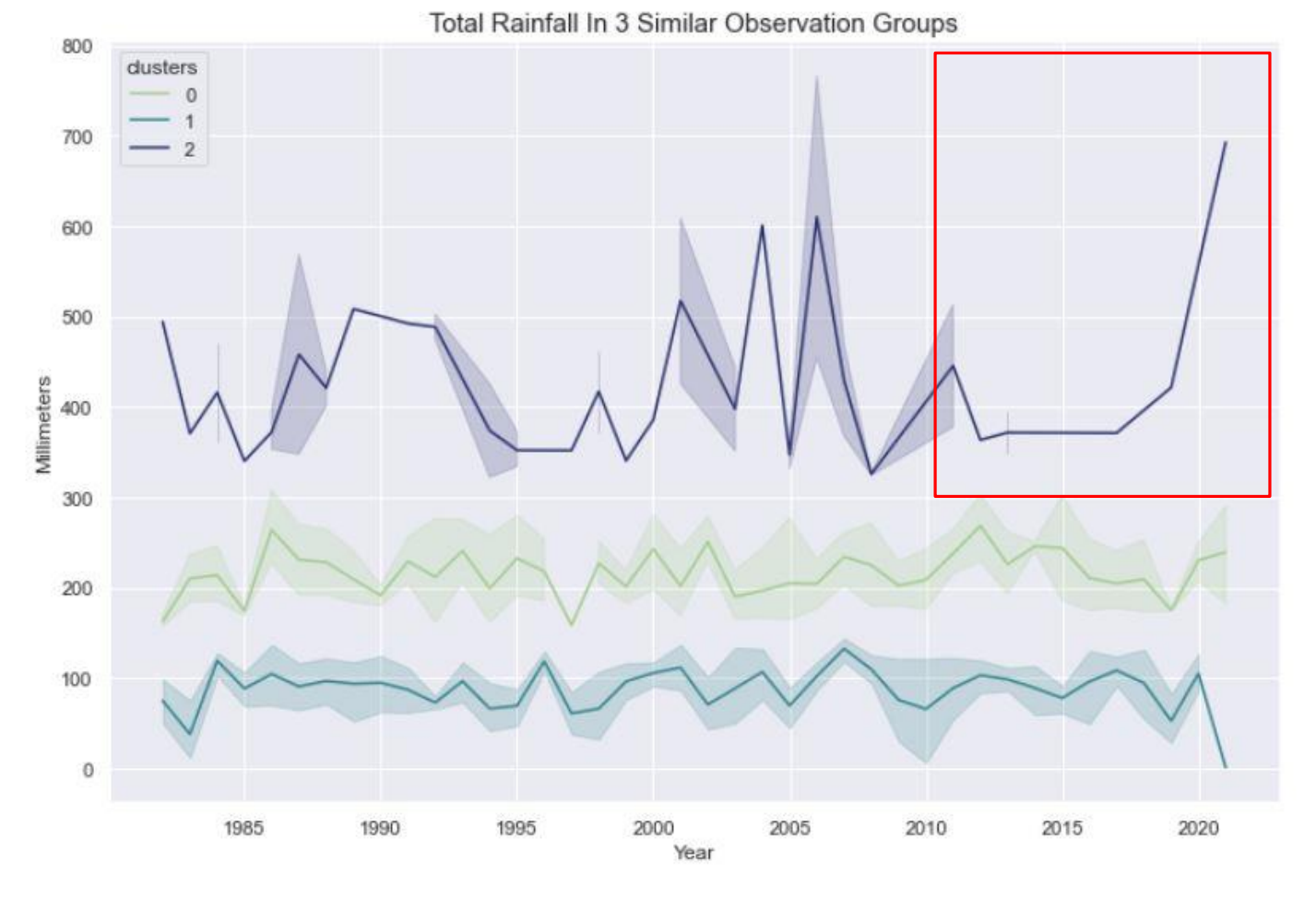
- The change of Average Sunshine Duration can be visually grouped into 3 clusters.
- Each group represents a new phase in Sunshine Duration increase.
- The last group is from 2008 till 2020.

CHANGES IN RAINFALL



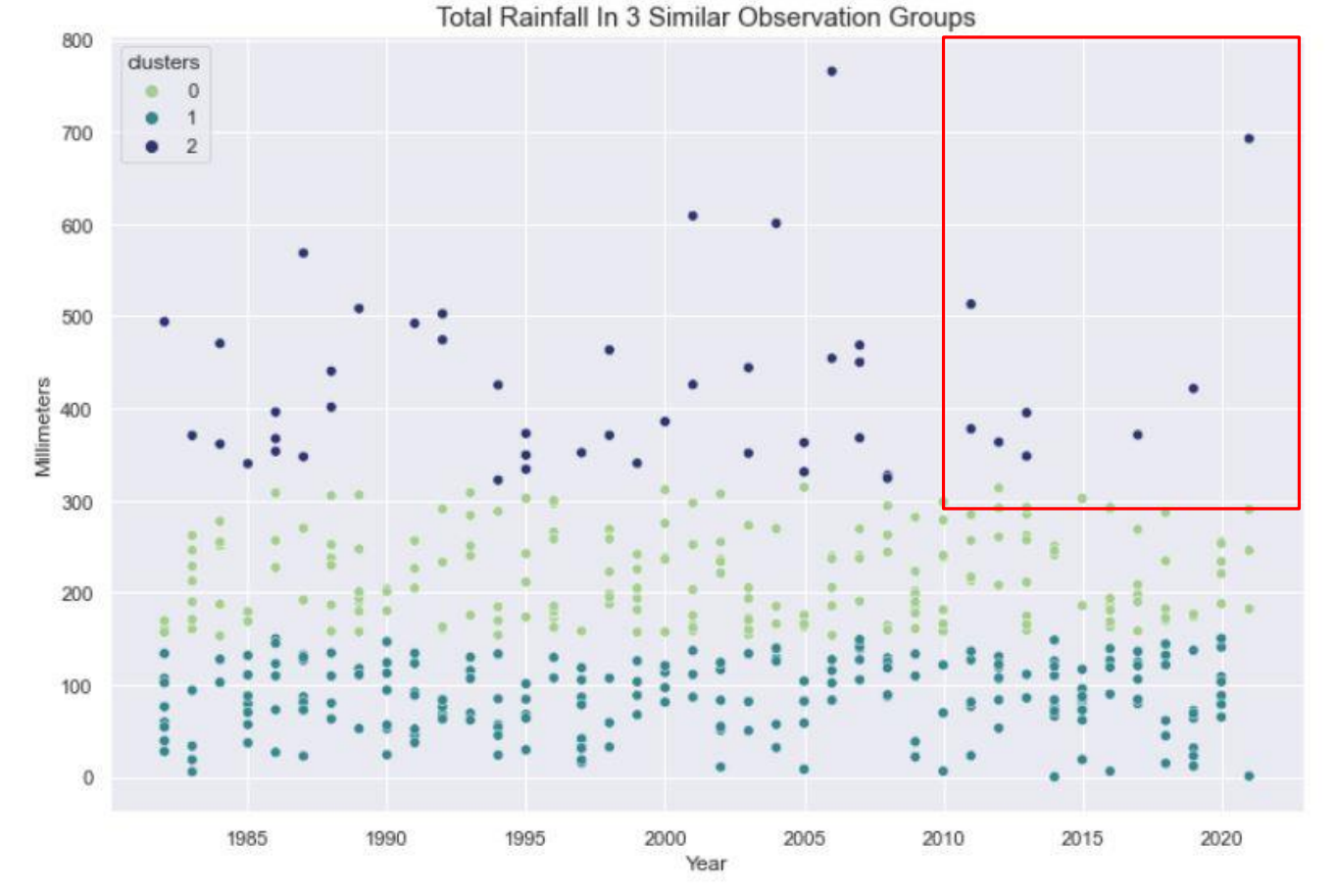
- No changes in average rainfall is observed since the low rainfalls are mitigated by the highs.
- Over the long run, no major changes in average total rainfall is expected.
- However the pattern between the low, medium and high rainfalls will change.
- This may have an impact on average total rainfall in the future.

CHANGES IN RAINFALL PATTERN



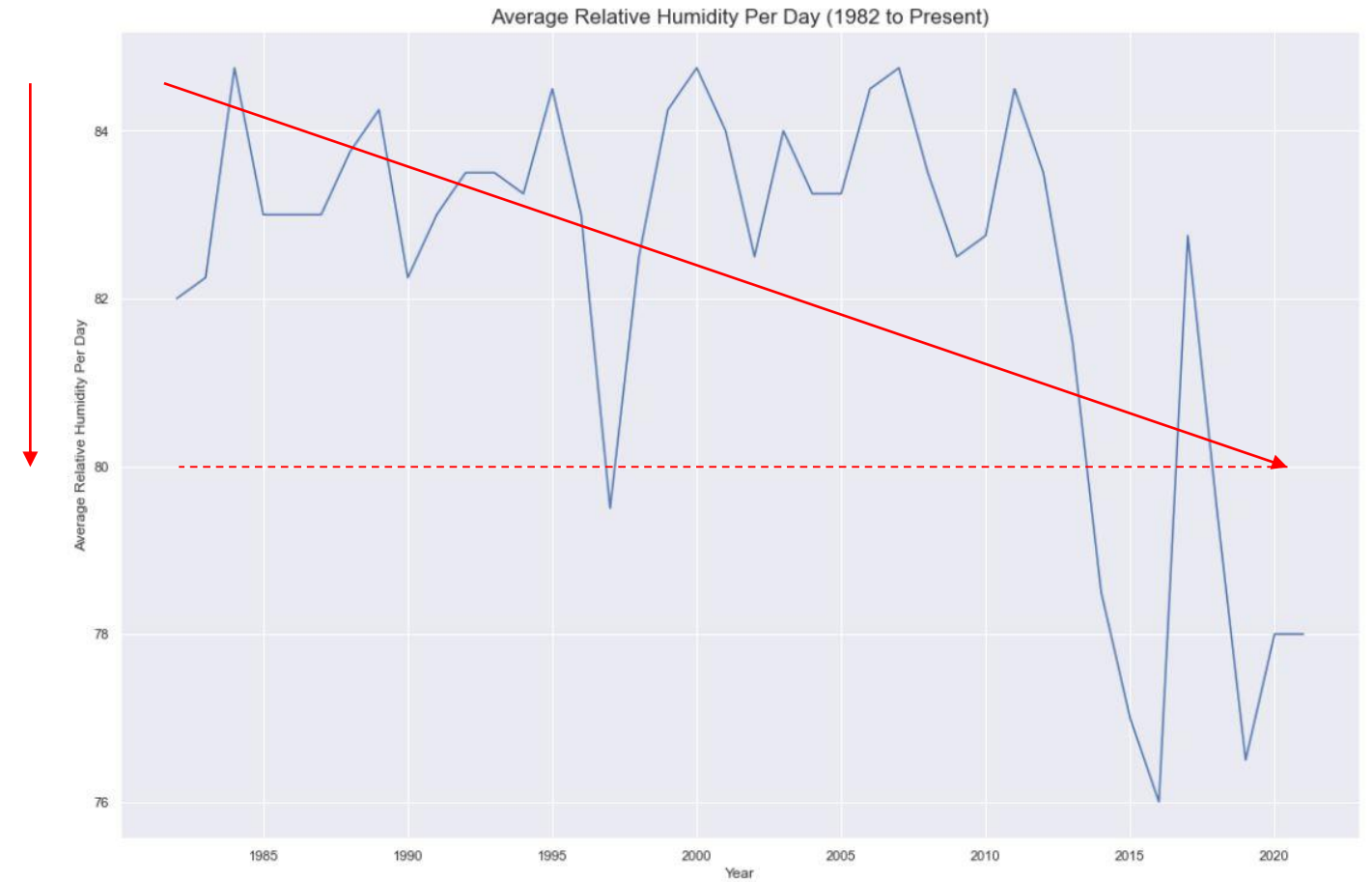
- The change of Average Sunshine Duration can be visually grouped into 3 clusters.
- Cluster 2 represents the cluster with the highest rainfall.
- From 2010 to now this cluster shows that the highest rainfall has dropped drastically (as indicated by the "RED" box. The absence of shade on the line shows little rain.

CHANGES IN RAINFALL PATTERN (CON'T)



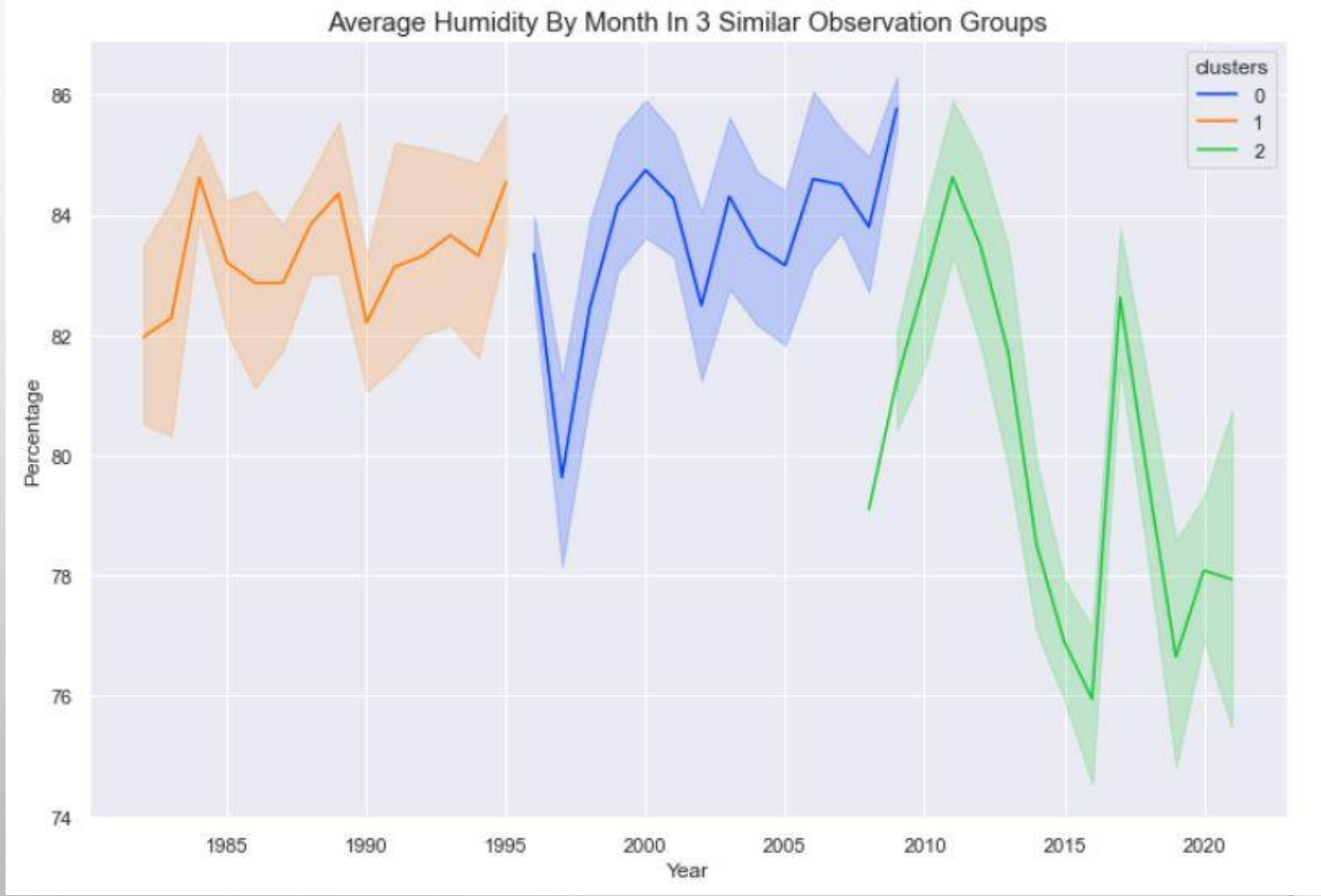
- Every point in this chart represents a value of the total average rainfall of a particular month.
- It is grouped into 3 clusters to show low (cluster 1), medium (cluster 0 and high (cluster 2) rainfall.
- Within the "RED" box are dots which represents high rainfall. You can see there are less dots as compared to before 2010.

CHANGES IN HUMIDITY



- Although the trend shows that humidity has dropped, it is only an incremental decrease of 6%.
- Anywhere above 60% is considered very humid.

CHANGES IN HUMIDITY



- The change of Average Humidity can be visually grouped into 3 clusters.
- Cluster 2 represents the cluster with the lowest humidity.
- As you can see, there are 3 distinct clusters. This shows that weather patterns consist of 3 periods.
- 1980 – 1996
- 1996 – 2010
- 2010 - now

SUMMARY AND CONCLUSION

- AVERAGE MINIMUM TEMPERATURE WILL CONTINUE TO RISE AT A RATE OF AT LEAST 1°C EVERY 30 YEARS.
- AVERAGE SUNSHINE DURATION WILL CONTINUE TO INCREASE AT THE RATE OF 30MIN EVERY 30 YEARS.
- ALTHOUGH AVERAGE TOTAL RAINFALL HAS NOT SEEN ANY DRASTIC CHANGES, HEAVY RAINFALL HAS DECREASED DRASTICALLY SINCE 2010 AND WILL BE MITIGATED BY LOW AND MEDIUM RAINFALLS.
- THE CHANGES IN TEMPERATURE, SUNSHINE DURATION AND HUMIDITY CONSIST OF 3 DISTINCT PERIODS OF DRASTIC TRANSITIONS, WHICH ARE:
  - 1980 – 1996
  - 1996 – 2010
  - 2010 - NOW