

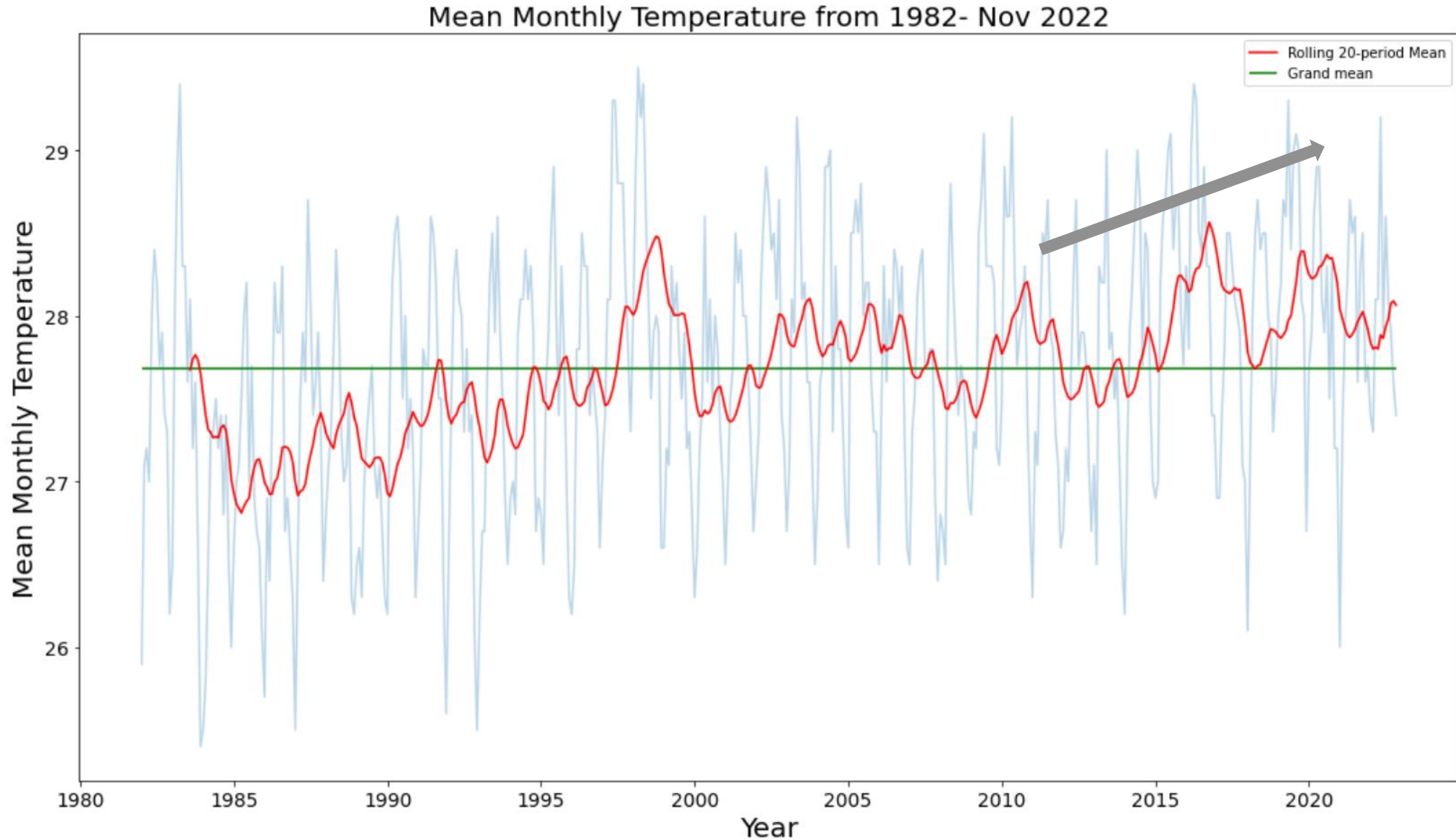
# Project 1: Data Analysis of Singapore Rainfall

## **Problem Statement:**

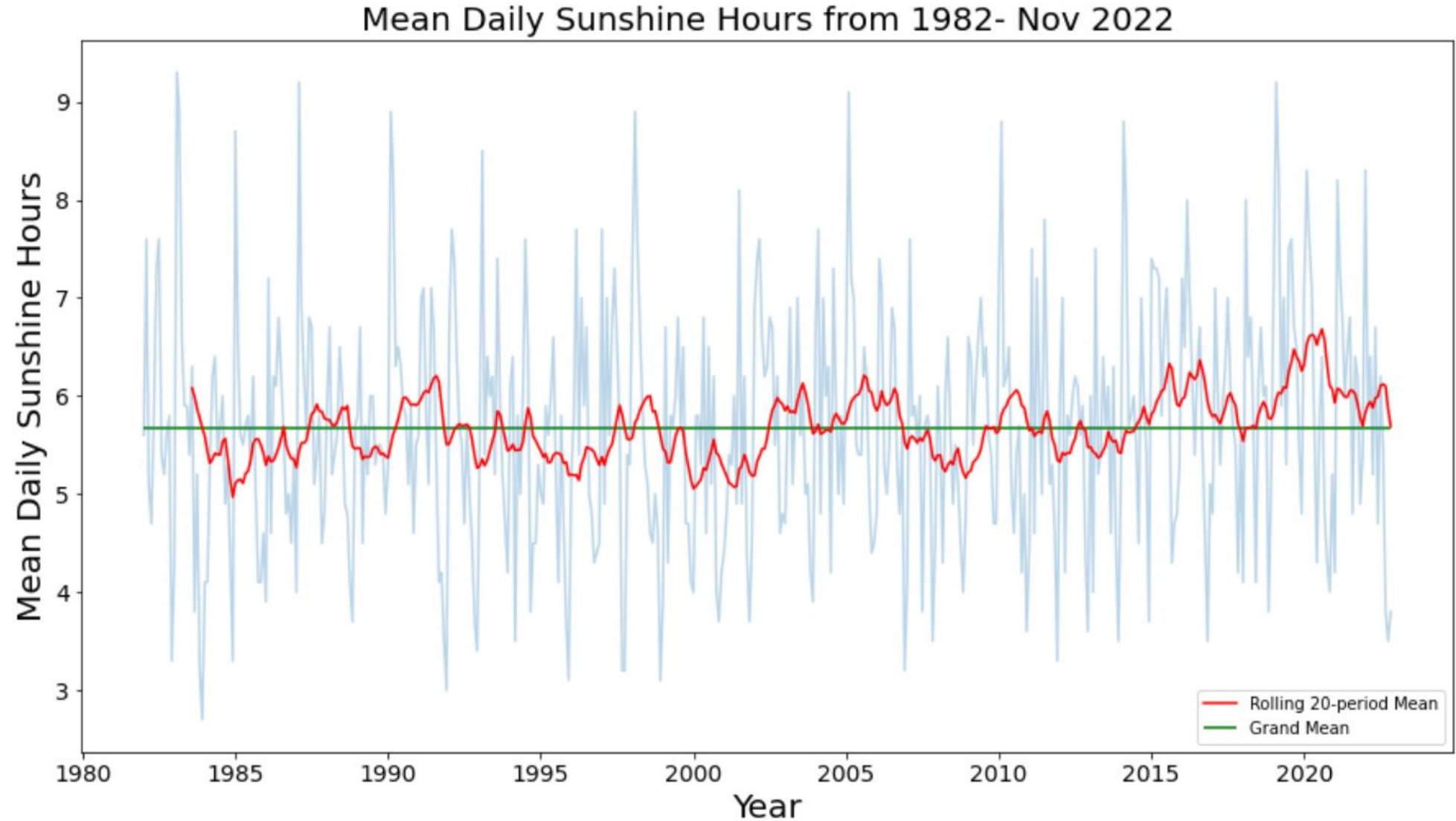
**One of the biggest headache with outdoor tennis is that we are mostly at mercy of the weather. We book the court, it rains, and we either have to forgo the booking or go through the troublesome process of seeking a refund.**

**The objective of this research is to give tennis players a better idea to plan their court bookings in Singapore.**

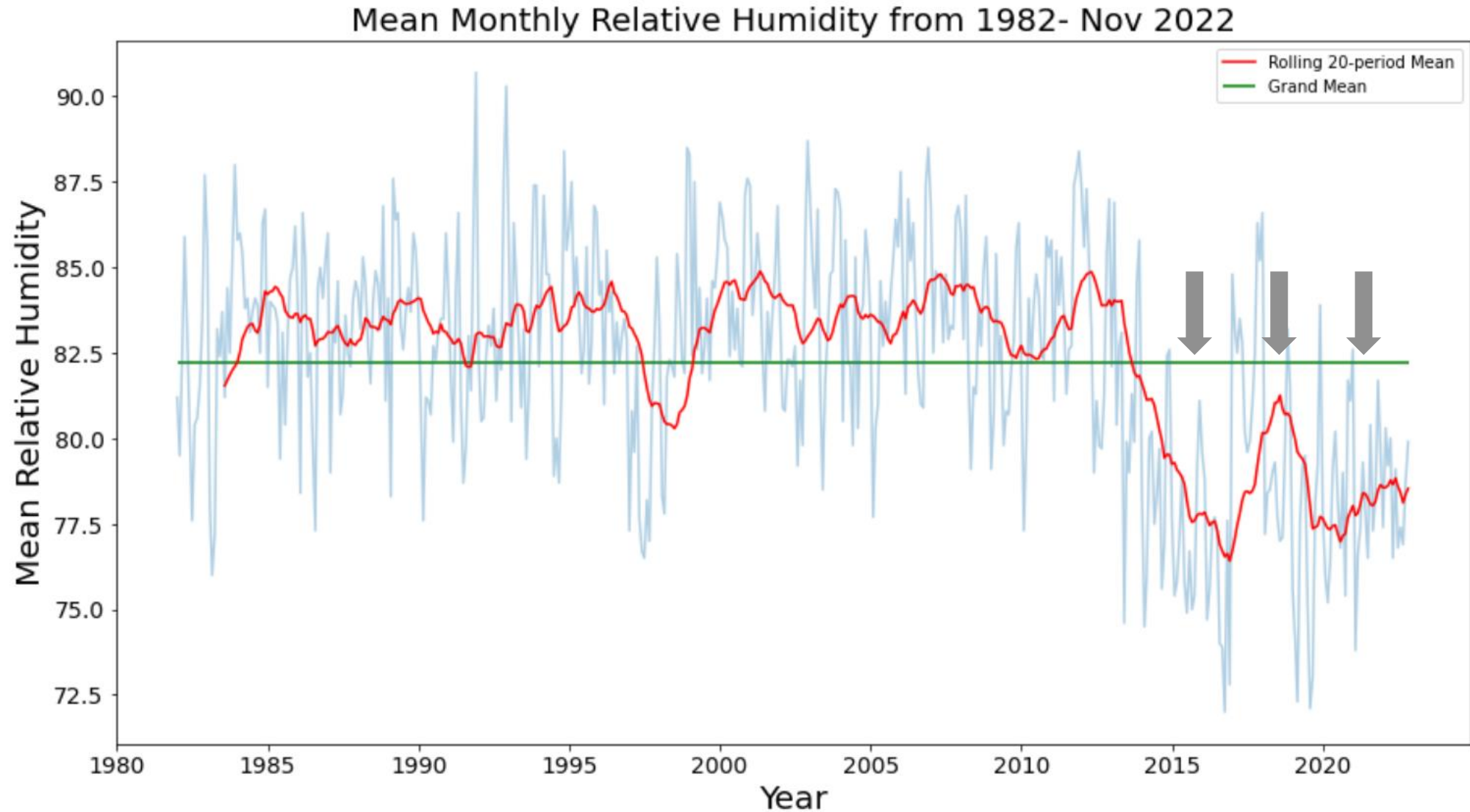
# Surface air temperatures have been rising over the last decade



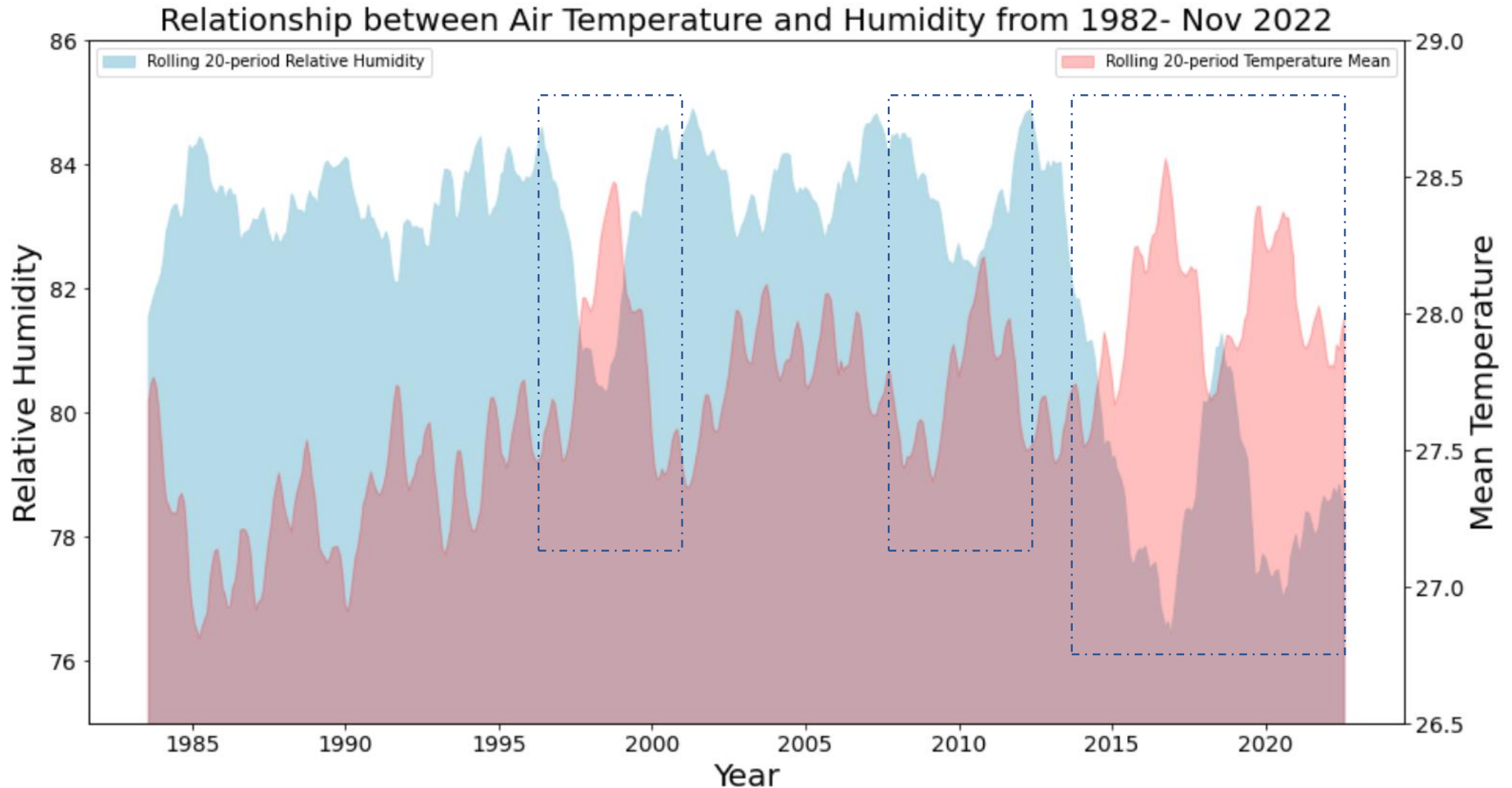
But daily sunshine hours hardly increased much



Air humidity has dropped drastically over the same period

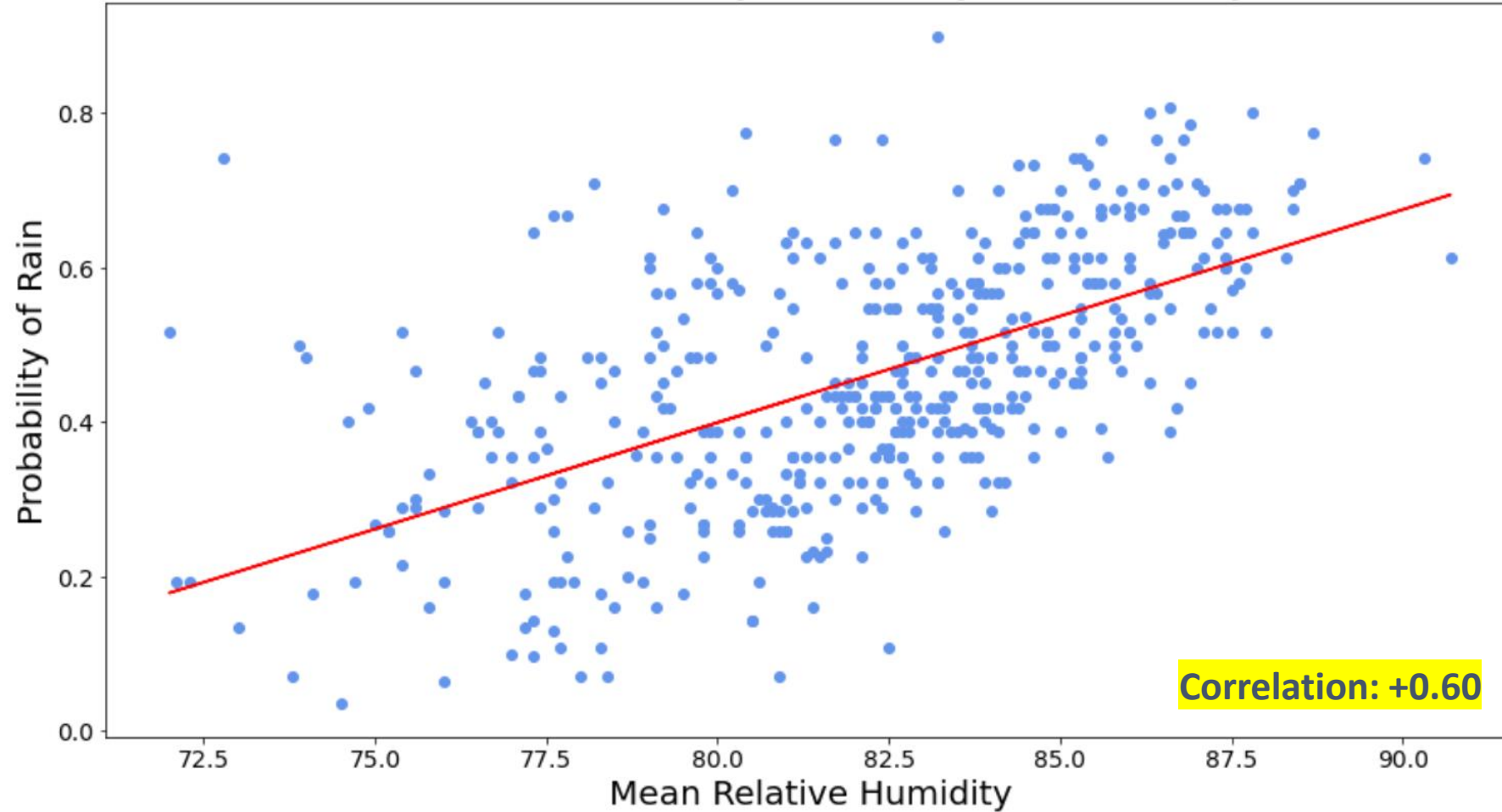


Each time air temperatures spiked significantly, humidity fell sharply

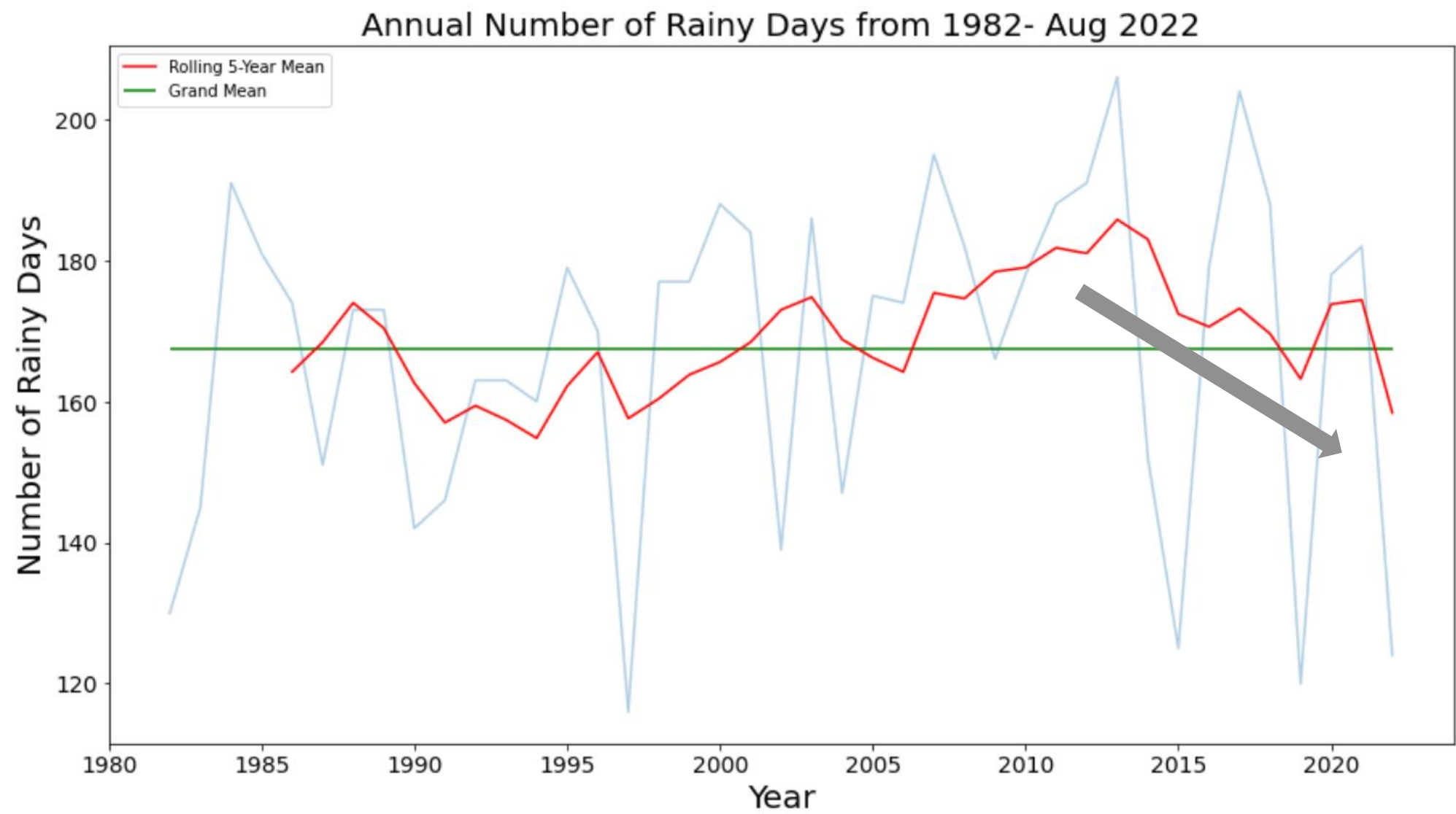


The more humid air is, the higher the probability of rain

Correlation between Mean Relative Humidity and Monthly Rain Probability from 1982- Aug 2022

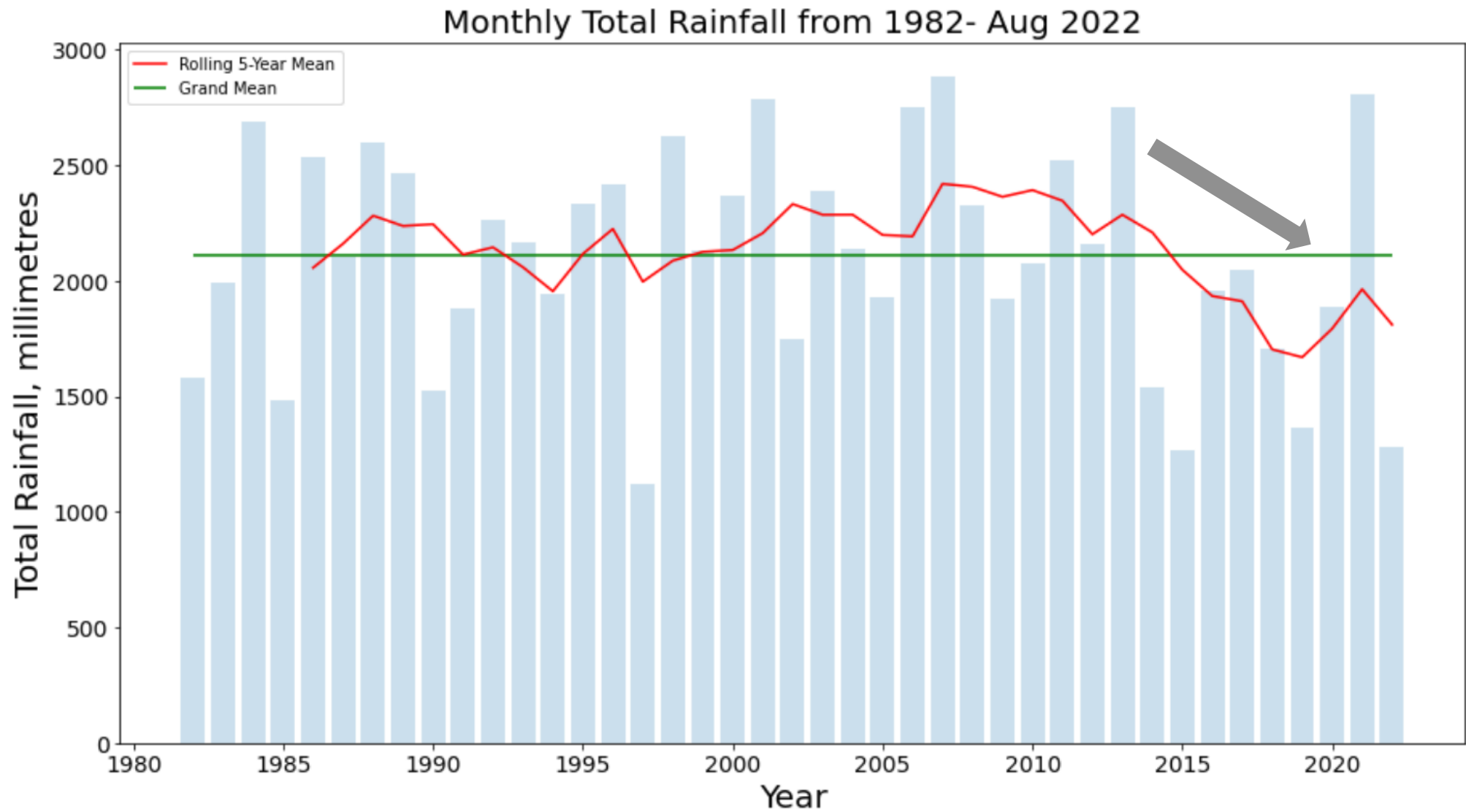


On average, we are starting to see less rainy days over the past seven years



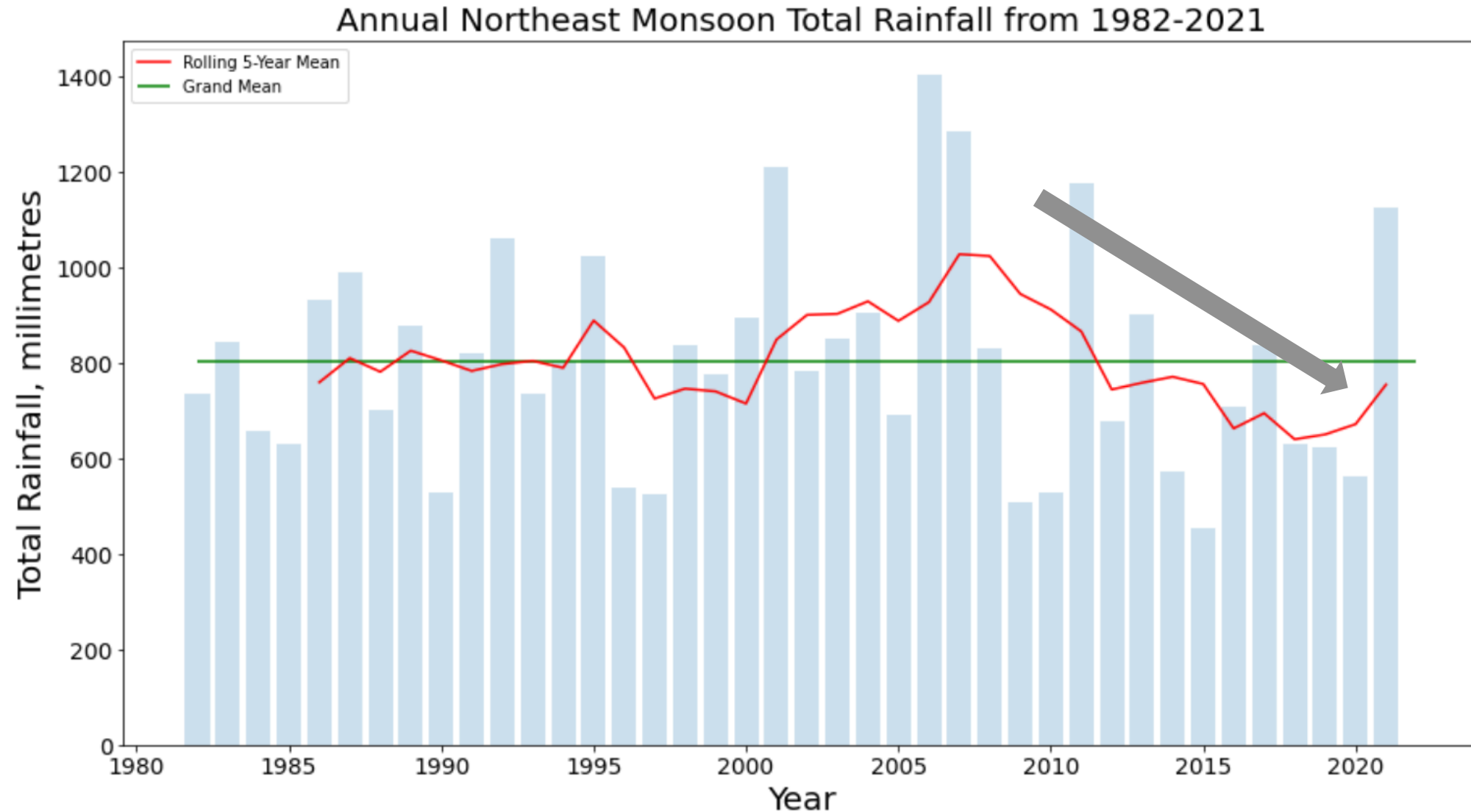


Total rainfall has been on a downtrend...except for 2021 which was due to the La Nina phenomenon

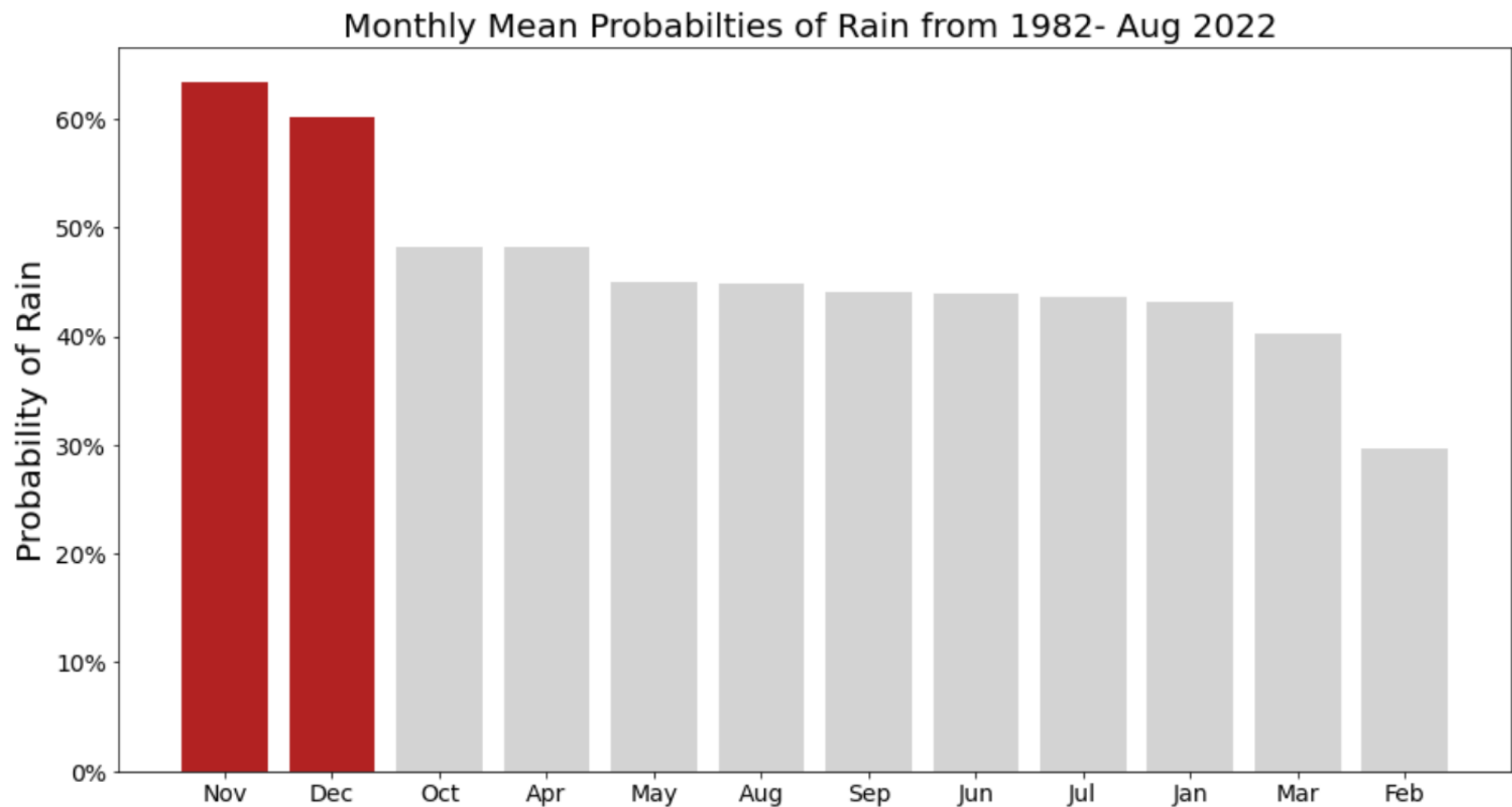




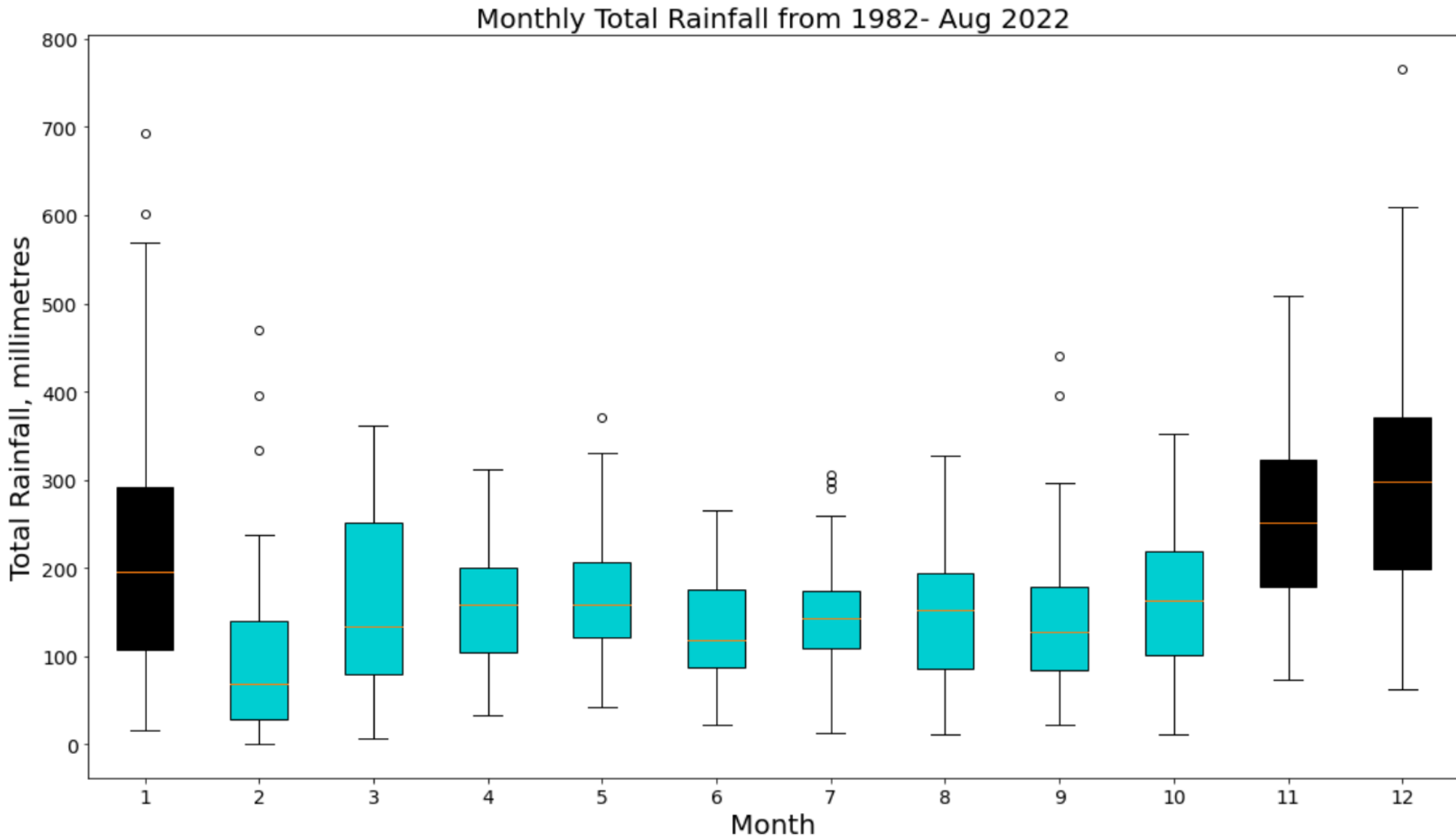
Even the heaviest Northeast Monsoon has also seen a sharp decline in total rainfall on average...except 2021



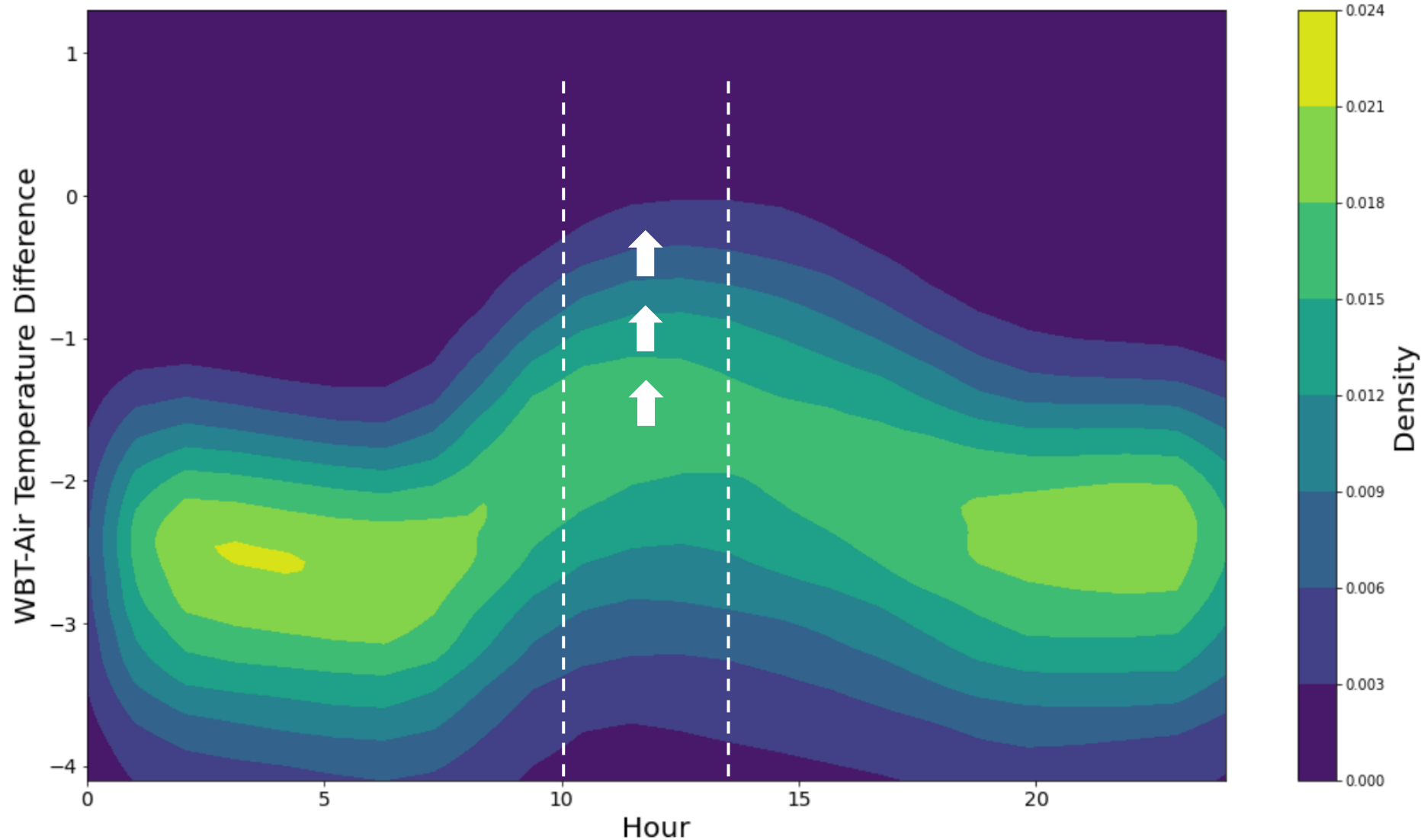
# November and December are most likely to rain



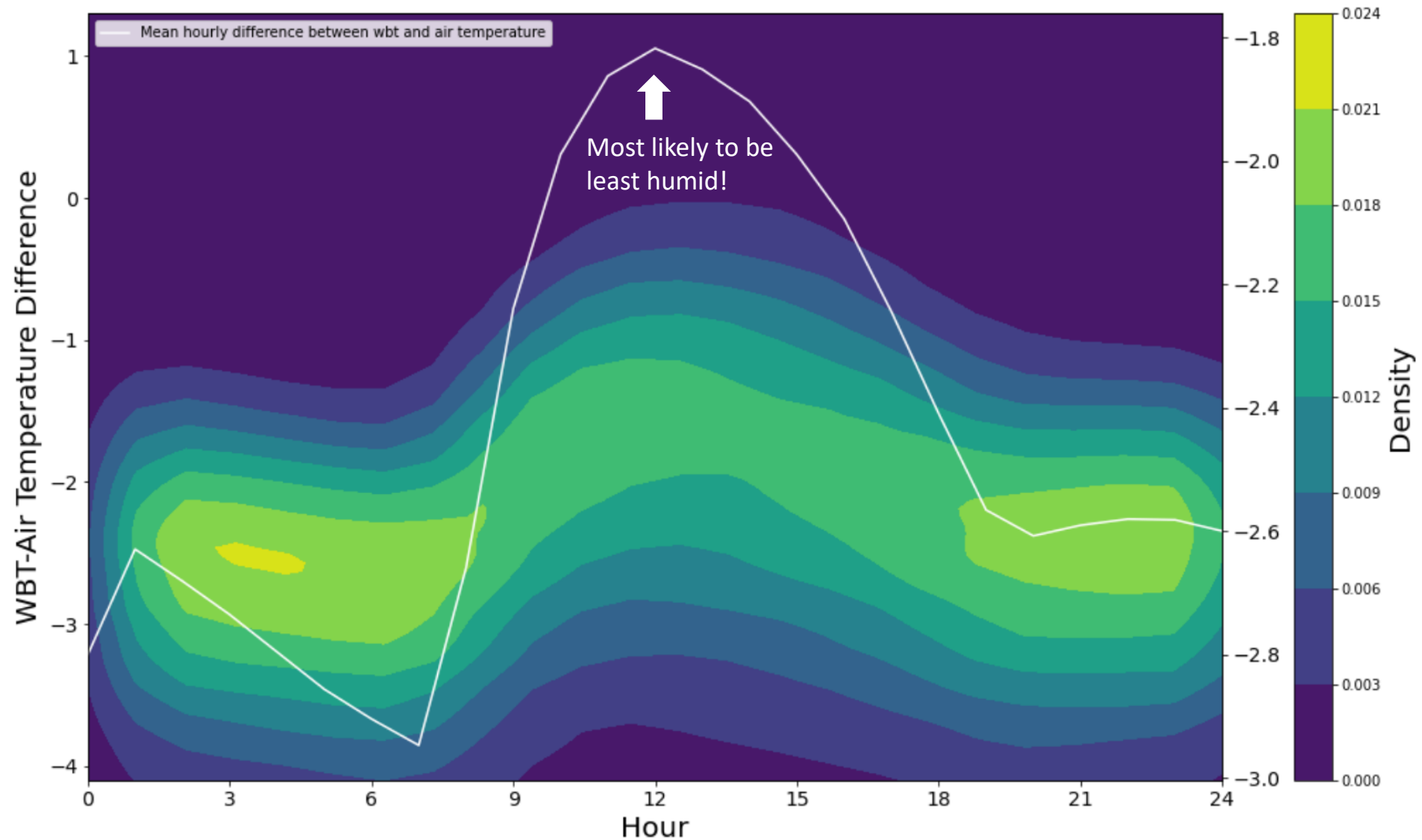
Not only are the Northeast Monsoon heaviest, it is also wildly unpredictable



The most humid hours are most likely to be during the early morning and late evening-night times.  
Between 10am-1pm is the window most likely to be least humid.



In fact, 12-1pm is the optimal time to play during the Monsoon months



# Conclusions

- Avoid the Northeast Monsoon months (Nov/Dec/Jan) if you are playing tennis.
- If you want to take your best chance at the weather, book the 12pm-1pm slot.
- On average, least likely hours to rain are during 10am-1pm.
- Global warming is real!
- Rising air temperatures and falling humidity are a potent combination that increases the risk of heat injuries due to increased dehydration.
- **BE SURE TO DRINK MORE WATER!**