

# SMPE - Graph analysis

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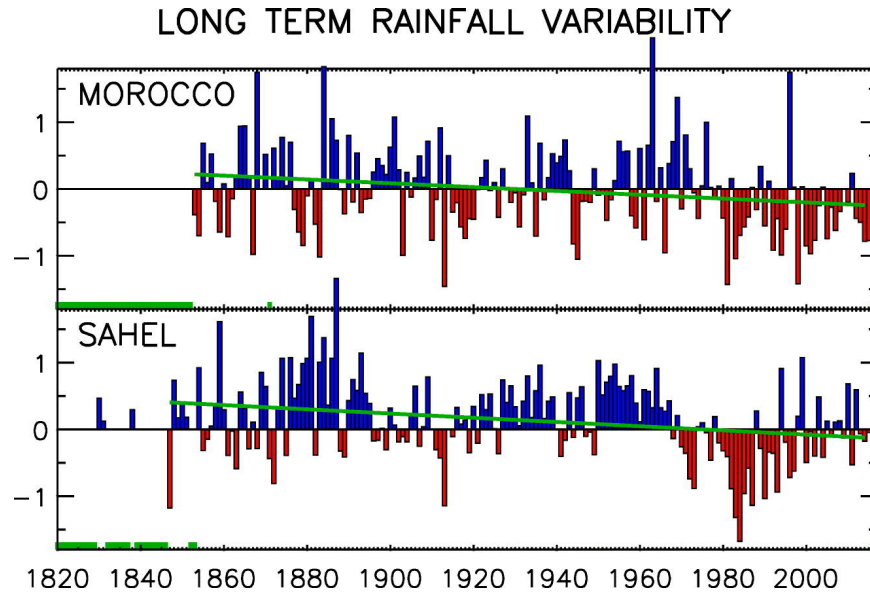


Figure 1: The evolution of rainfall in Morocco compared to Sahel countries

## 1 QUestionning the graph

The graph[1] is an extract from a paper studying rainfall over the African continent. It compares between the levels of rainfall over Morocco and Sahel countries during recorded rain history.

The graph shows on the x-axis the years starting from approximately 1845-1850 to modern times, while on the y-axis it shows a normalized scale ranging from -1 to 1. This graph feature bars that corresponds to the level of rainfall every year, a blue one for a positive rainfall levels, and red one for negative levels. It also features a green line that shows the evolution of the average level of rain.

At first glance, we can easily see the levels of rainfall starting from the 70s, dropped in Morocco and the Sahel countries, with drought getting more and more common and severe specially for the case of Morocco. However this graph also shows, that while throughout the recorded period, dry and rainy years were alternating in Morocco, in the current times, only dry years have been recorded. The situation in the Sahel is quite different, the region while suffering from increasing occurrences of droughts, their siverity is decreasing and rainy years are comming back.

While this graph help us make a simple comparison between the data, the fact that the scale used to calculate variability is not explained, making it a bit harder to understand what the values of the level really mean, besides understanding that the year was a dry or a rainy year.

## References

- [1] Andreas H.Fink Sharon E.Nicholson, Chris Funk. *Rainfall over the African continent from the 19th through the 21st century.*