

# Relationship between precipitation extremes and cereal productivity in West Africa over 30years

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**Climatematch**  
Academy

# INTRODUCTION

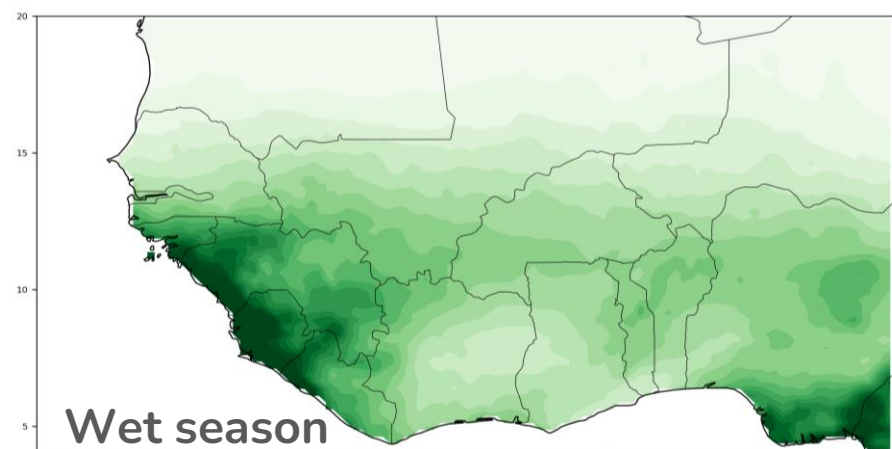
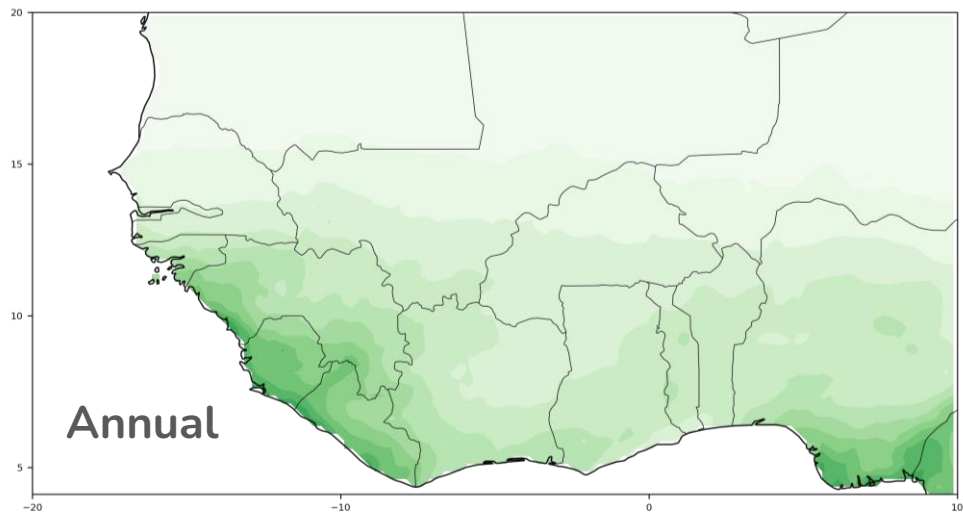
[Speaker  
Zoom  
video]



Climate is the most important factor that governs food production. Precipitation extremes and cereal production in West Africa is a critical aspect of agricultural vulnerability and food security in the region.



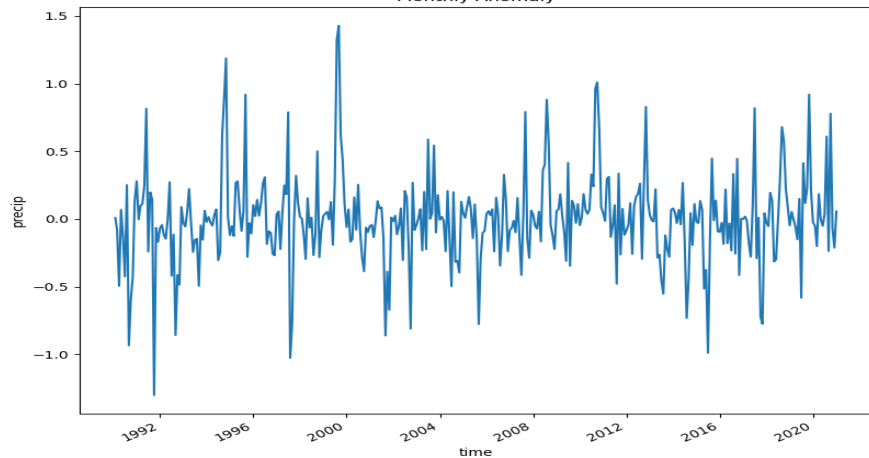
# RESULTS: Spatial Plots



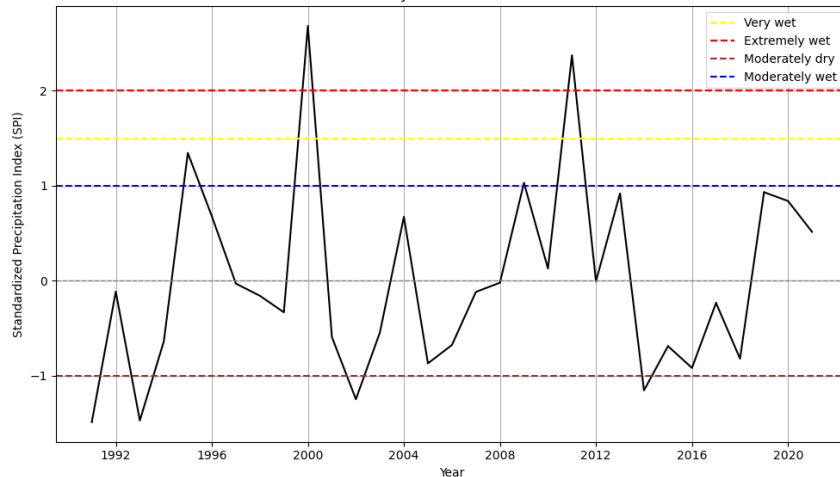
Mean Annual Precipitation (mm/day)



Monthly Anomaly



Yearly SPI over 30 Years



# Anomalies and Standardized precipitation Index (SPI)

[Speaker  
Zoom  
video]

## SPI values

## Class

$\geq 2$

*Extremely wet*

**1.5–1.99**

*Very wet*

**1.0–1.49**

*Moderately wet*

**–0.99 to 0.99**

*Near normal*

**–1 to –1.49**

*Moderately dry*

**–1.5 to –1.99**

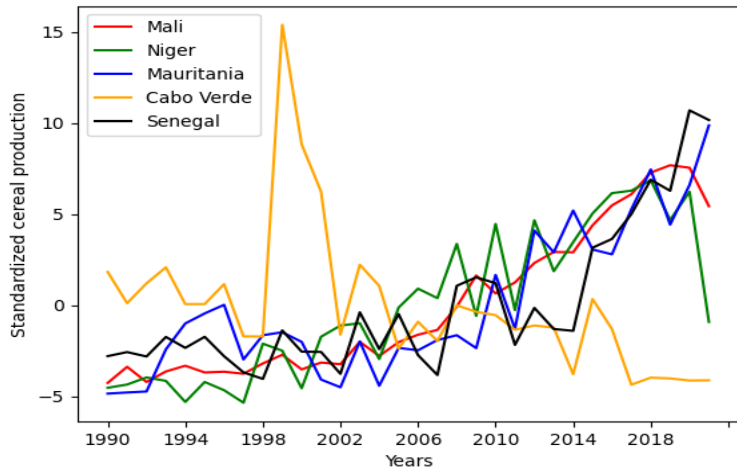
*Very dry*

**$\leq -2$**

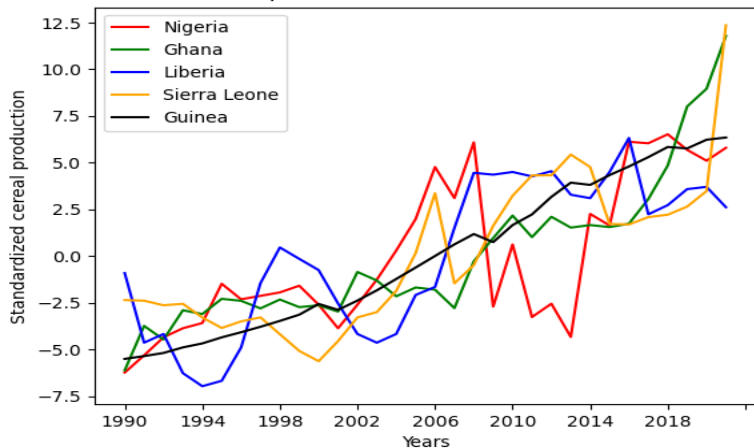
*Extremely dry*



Standardized cereal production over Northern West African countries

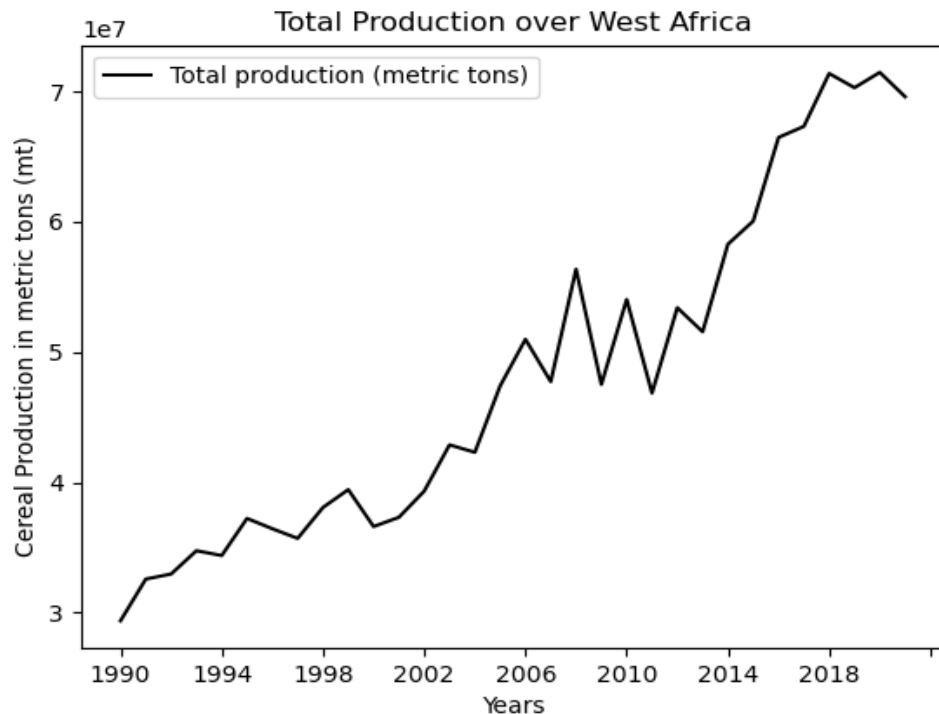


Standardized cereal production over Southern West African countries



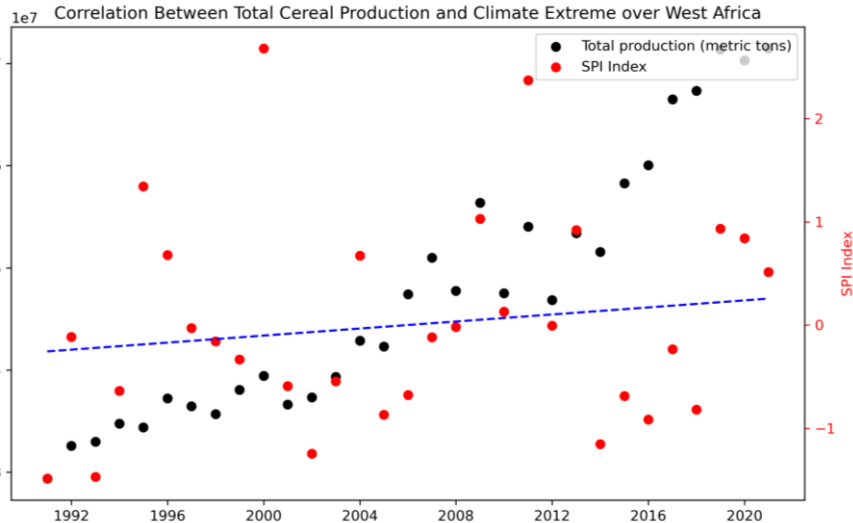
# Cereal Production

[Speaker  
Zoom  
video]



# Correlation

[Speaker  
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video]



- Correlation coefficient = 0.21
- Coefficient of determination = 0.044



# CONCLUSION

- Our results show that although there have been a few extreme events recorded over the past three decades, the relationship between these precipitation extreme values and cereal production in west Africa is weak and not significant. This means that there are other factors (political, economic, sociological, etc.) that affect cereal productivity

