**A comparison of historical and modern ground-surface temperatures in Tucuman, Argentina**

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**Introduction**

Over the last 30 years, Tucuman province in northwest Argentina, has experienced significant environmental changes as a result of climate change. Given the strengthening of climate-based studies in recent years, understanding the variations in ground-surface temperatures becomes crucial for assessing the environmental shifts in this region. Drastic variations in surface temperatures threaten environmental and social stability. As temperatures undergo unprecedented shifts, ecosystems face the risk of disruption, leading to the loss of biodiversity and the potential collapse of delicate ecological balances. Simultaneously, these fluctuations impact the lives and livelihoods of local communities, posing challenges to agriculture, water resources, and overall socio-economic well-being. Understanding the extent of these temperature variations in Tucuman, Argentina, becomes imperative for formulating adaptive strategies and fostering resilience. Through our analysis, we aim to shed light on the intricate interplay between temperature changes and their cascading effects, contributing to a more informed and proactive approach towards sustainable environmental and social practices in the face of a changing climate.

In the pursuit of this understanding, our project, "A Comparison of Historical and Modern Ground-Surface Temperatures in Tucuman, Argentina," aims to explore and analyse temperature data to discern patterns, trends, and potential implications. This study utilises Python to analyse historical temperature records and juxtapose them with contemporary data. Through this analysis, this study aims to provide a nuanced perspective on the intricate relationship between Tucuman's past and present temperature trends, ultimately contributing to the broader discourse on climate change impact assessment.

**Methodology**