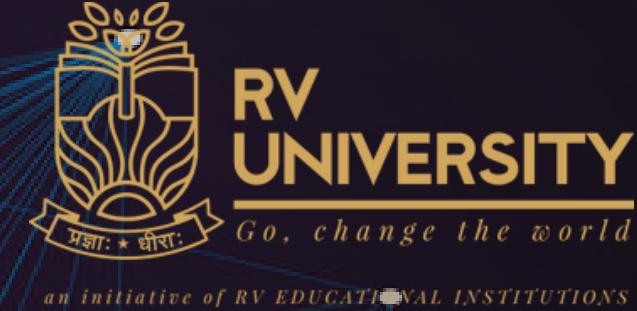


Masters of Universe

Assistance to the farmers on production of plants



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Data Analysis with Python



Introduction

In our Python-based data analysis project, we meticulously gathered three years' worth of monsoon rainfall data in Andhra Pradesh. Our analysis, rooted in Python programming, reveals compelling insights that advocate for a crucial shift in farming practices. Specifically, we recommend farmers abstain from cultivating plants during the monsoon months due to consistently heavy rainfall. This project aims to empower and guide farmers toward more informed and sustainable agricultural decisions, mitigating potential losses in the face of unpredictable weather patterns.

Problems Encountered:

Farmers in Andhra Pradesh are facing severe distress, leading to suicides, as their crops are being destroyed during the monsoon season due to heavy rainfall. This critical issue underscores the urgency of our project, which focuses on data analysis using Python. By examining the past three years of monsoon rainfall data, we aim to assist farmers in making informed decisions, advocating for a pause in cultivation during the months prone to heavy rains. Our mission is to address this crisis and contribute to the well-being and sustainability of the farming community in Andhra Pradesh.

వాన్నివాలకు ఉరి!

దైతుల అత్యహాత్యలై పొర్లమెంటును తప్పదోవ పట్టిస్తున్న కేంద్ర ప్రభుత్వం

- రాష్ట్రంలో ఈ ఏడాది 42 బలవహురణాలే నమోదుయ్యాయిని వెళ్లడి
- విభేదించిన సీలన్లో 2 నెలల్లోనే 157 మంది ప్రాజాలు తీసుతున్నారని స్ఫీక్షించారు

స్క్రీ సైషర్ డెవ్షి: రాష్ట్రంలో దైతుల అత్యహాత్యలై కేంద్రం పొర్లమెంటును తప్పదోవ పట్టిస్తోంది. కేంద్ర వ్యవస్థాయ రాఫ నపాయ మంత్రి హర్ష్ రావత్ ఇచ్చిన రాజ్యభర్తలో ఒక ప్రశ్నలు రాతప్పుర్కుగా నమోదునం ఇష్టా. అంద్రప్రదేశ్ నపాయిం అంతా దైతుల అత్యహాత్యలై తగ్గయిని పోతారు. గత ఏడాది అంద్రప్రదేశ్లో 152 మంది దైతుల అత్యహాత్యలై చేయబడగా, ఈ ఏడాదిలో ఇప్పమెరు 42 మంది దైతుల అత్యహాత్యలై నమోదుయ్యాయిని వివరించారు. అయితే వాన్నిపం జండుక పూర్తి విచ్చుటగా ఉంది. రాష్ట్రంలో ఈ ఏడాది (అక్షేంద్ర 1 మంచి పంచాంగ్ 22 పచు) రెండు నెలల్లోనే 157 మంది



Solution :

In response to this crisis, we have formulated a solution by meticulously collecting three years' worth of previous rainfall data. Utilizing Python for data analysis, our project aims to provide assistance to farmers, offering insights and recommendations to enhance plant production. Through our efforts, we aspire to mitigate the adverse effects of heavy rainfalls on agriculture, thereby contributing to the well-being and sustainability of farmers in Andhra Pradesh.



Methodology

For our study, we accessed historical rainfall data spanning three years from the official weather forecasting website of Andhra Pradesh. The data extraction involved meticulous retrieval from the website, ensuring accuracy and reliability. Subsequently, we employed data visualization techniques to create graphical representations of the rainfall patterns. Python programming served as our primary tool for data analysis, enabling us to uncover trends and variations within the collected dataset. This methodology emphasizes transparency and precision in utilizing official sources for data acquisition and employing graphical representations to facilitate a comprehensive understanding of the rainfall patterns in Andhra Pradesh over the specified timeframe.



District	Districtwise Seasonal Rainfall (mm) Status			
	Actual(mm)	Normal(mm)	Deviation in %	Status
Srikakulam	699.27	696.44	0.41	Normal
Vizianagaram	727.81	666.98	9.12	Normal
Parvathipuram Manyam	818.01	764.3	7.03	Normal
Alluri Sitharama Raju	882.27	894.95	-1.42	Normal
Visakhapatnam	552.6	588.33	-6.07	Normal
Anakapalli	603.63	681.89	-11.48	Normal
Kakinada	500.94	670.13	-25.25	Deficient
Dr. B.R.Ambedkar Konaseema	503.29	778.95	-35.39	Deficient
East Godavari	648.0	775.88	-16.48	Normal

DAP using in project :

In our analysis of Andhra Pradesh rainfall data, we leverage statistical measures such as kurtosis, mean, mode, and skewness to confirm instances of high rainfall. Kurtosis helps identify the distribution's tail characteristics, while mean and mode pinpoint central tendencies. Skewness reveals the asymmetry in the data. By applying these measures, we discern patterns indicating elevated rainfall, crucial for pinpointing months prone to heavy precipitation. This comprehensive statistical approach enhances the accuracy of our insights and recommendations, aiding farmers in mitigating the impact of excessive rainfall on crop cultivation in Andhra Pradesh.

Implementations /Testing :

Directly visited farms in Andhra Pradesh, we conducted surveys with farmers to assess the on-ground rainfall conditions. The accompanying pictures we capture the real-time perspectives of farmers and the impact of rainfall on their agricultural practices.



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Findings and results

After on-site visits to the farms, our findings corroborate the data obtained from the website, confirming that September is indeed the most precarious month with significantly higher rainfall.

This result underscores the accuracy of our analysis and reinforces the critical importance of caution during September for farmers in Andhra Pradesh.



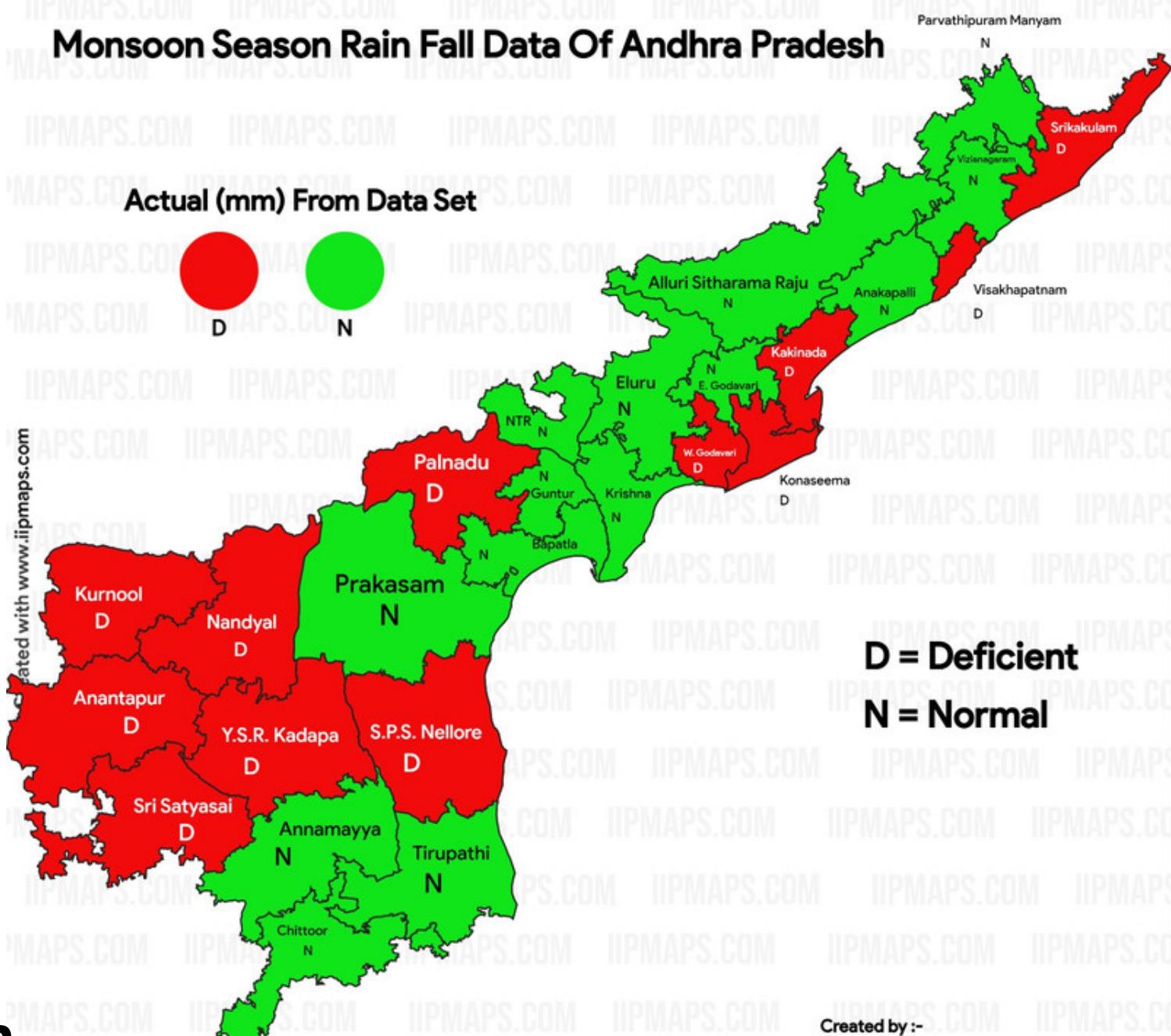
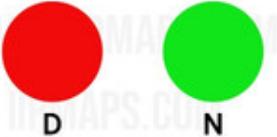
IIP Maps



Data Analysis with Python

Monsoon Season Rain Fall Data Of Andhra Pradesh

Actual (mm) From Data Set



Created by :-

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conclusion

In conclusion, our comprehensive project aimed to address the critical issue of heavy rainfall impacting farmers in Andhra Pradesh. By combining website data analysis with on-site farm visits, we validated the accuracy of our findings by Data analysis of python. Our results emphasize the heightened risk in September, revealing it as the most challenging month for agriculture due to substantial rainfall. Armed with these insights, our project contributes valuable information to assist farmers in making informed decisions, promoting sustainable practices, and ultimately enhancing the resilience of agriculture in Andhra Pradesh in the face of unpredictable weather patterns.

Thank
you!

