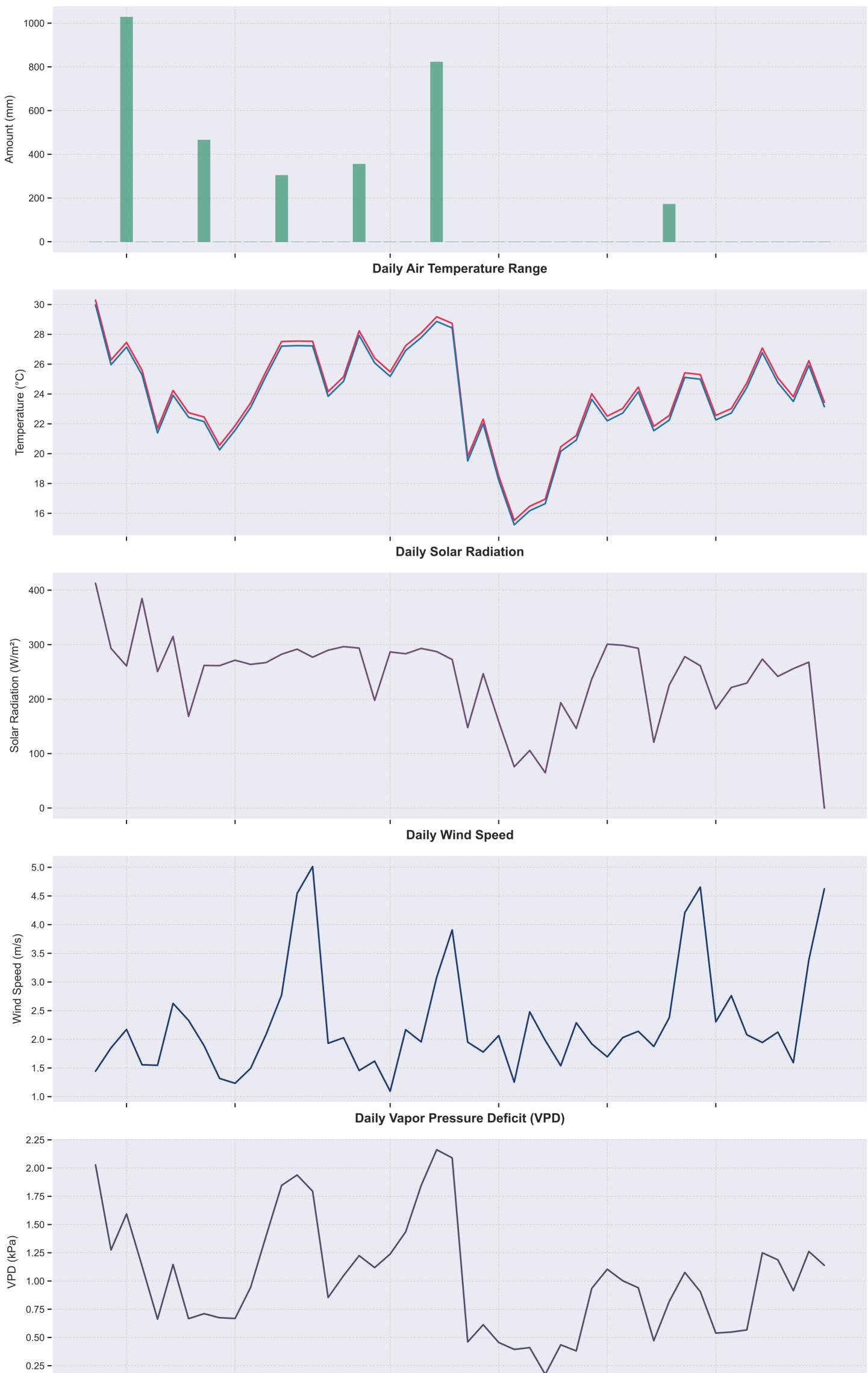
Figure 3: Seasonal Weather Patterns and Environmental Variables

Daily Precipitation and Irrigation Events



2024-08-08

2024-08-01

2024-08-15

2024-08-22

2024-07-15

2024-07-22

Figure 4: CWSI Implementation Analysis
Daily CWSI Values for Corn

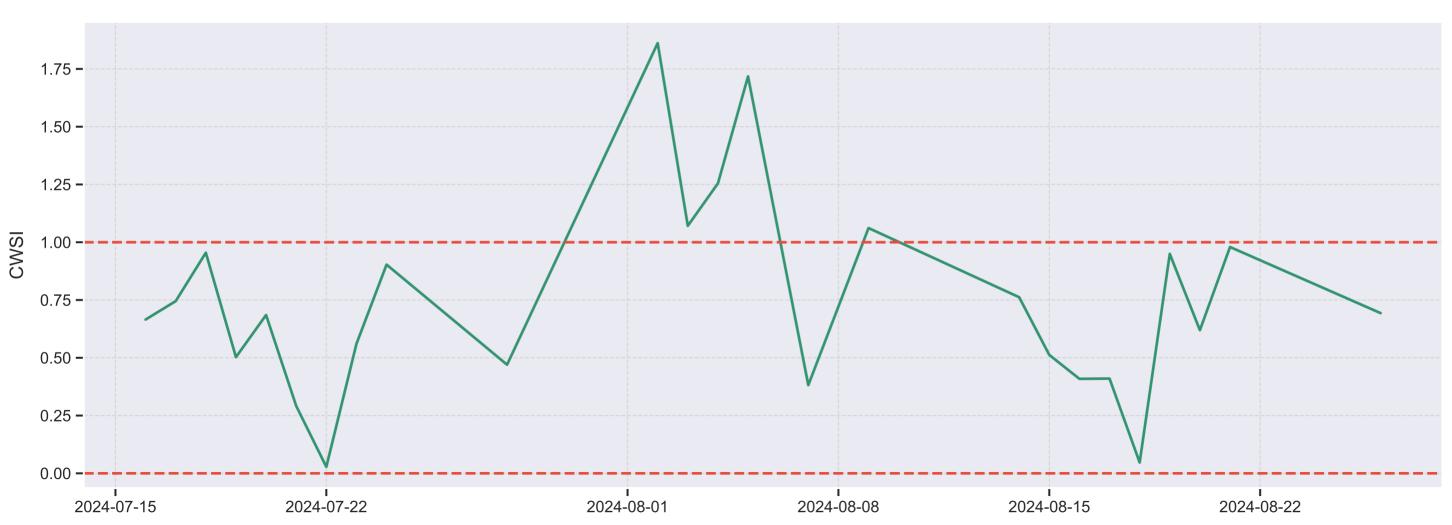


Figure 4b: Daily CWSI for Soybeans with Transition Point
Daily CWSI Values for Soybeans

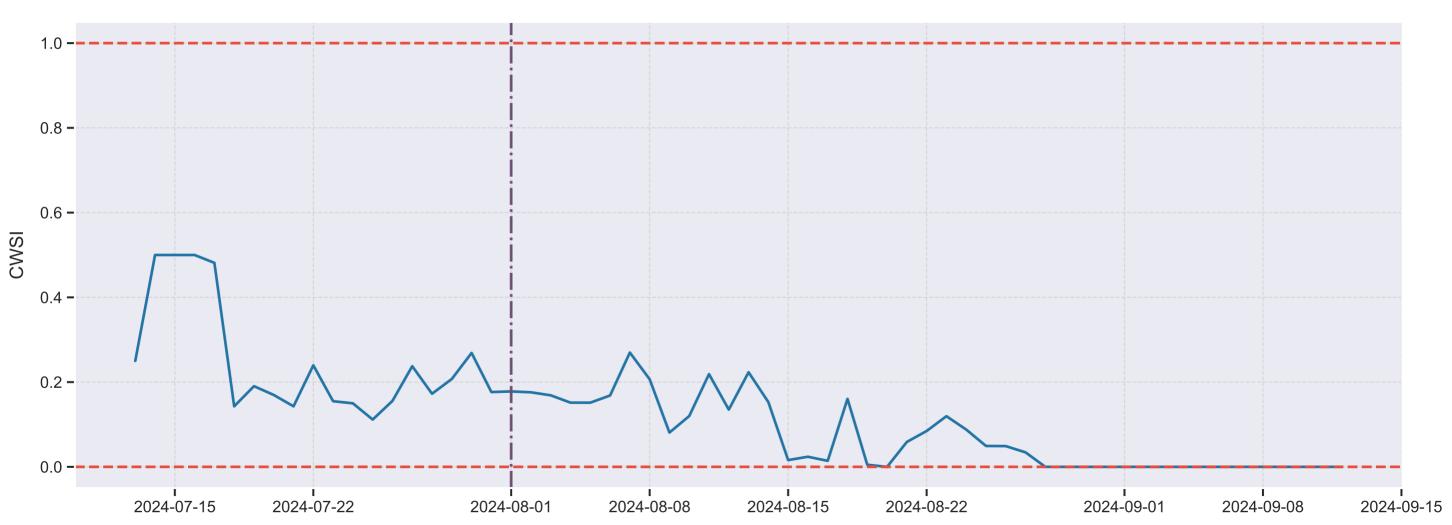


Figure 4: CWSI Implementation Analysis
CWSI Distribution by Growth Stage (Corn)

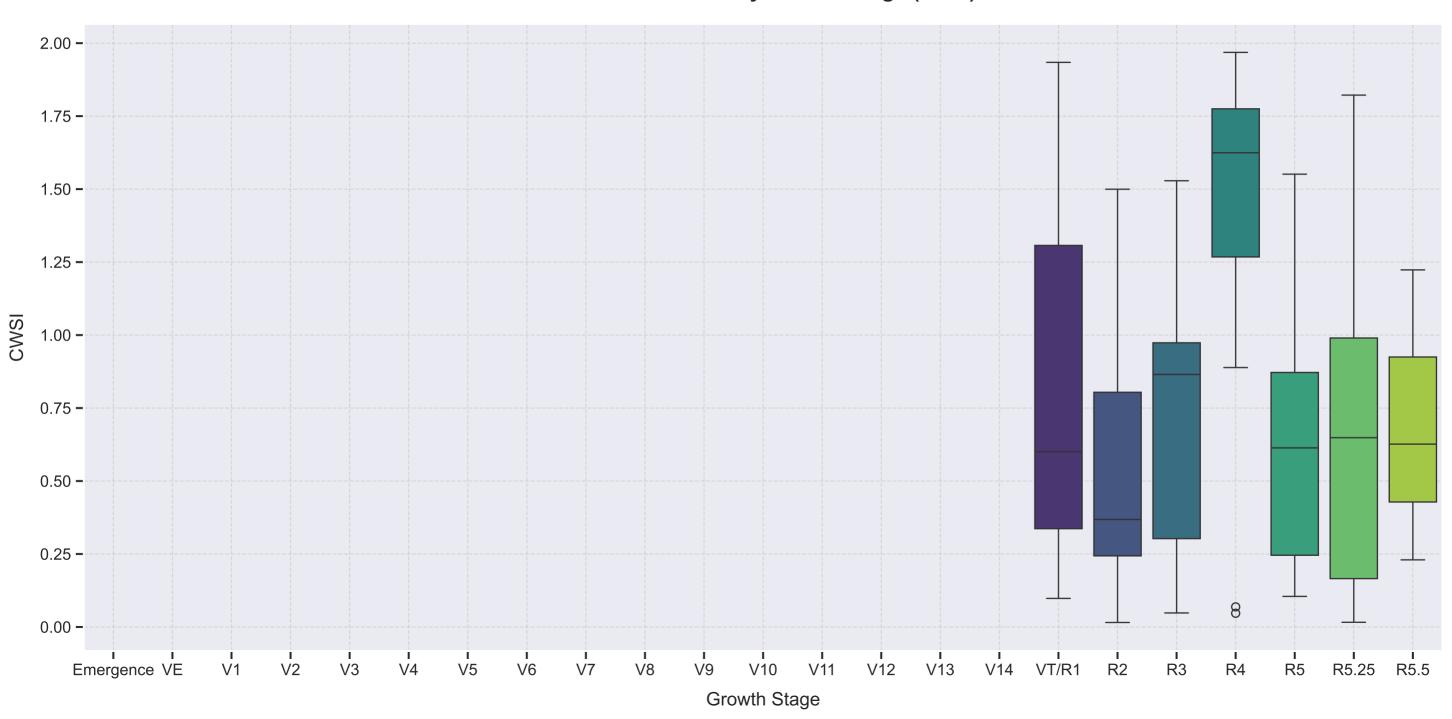


Figure 4: CWSI Implementation Analysis
Comparison of Theoretical vs Empirical CWSI

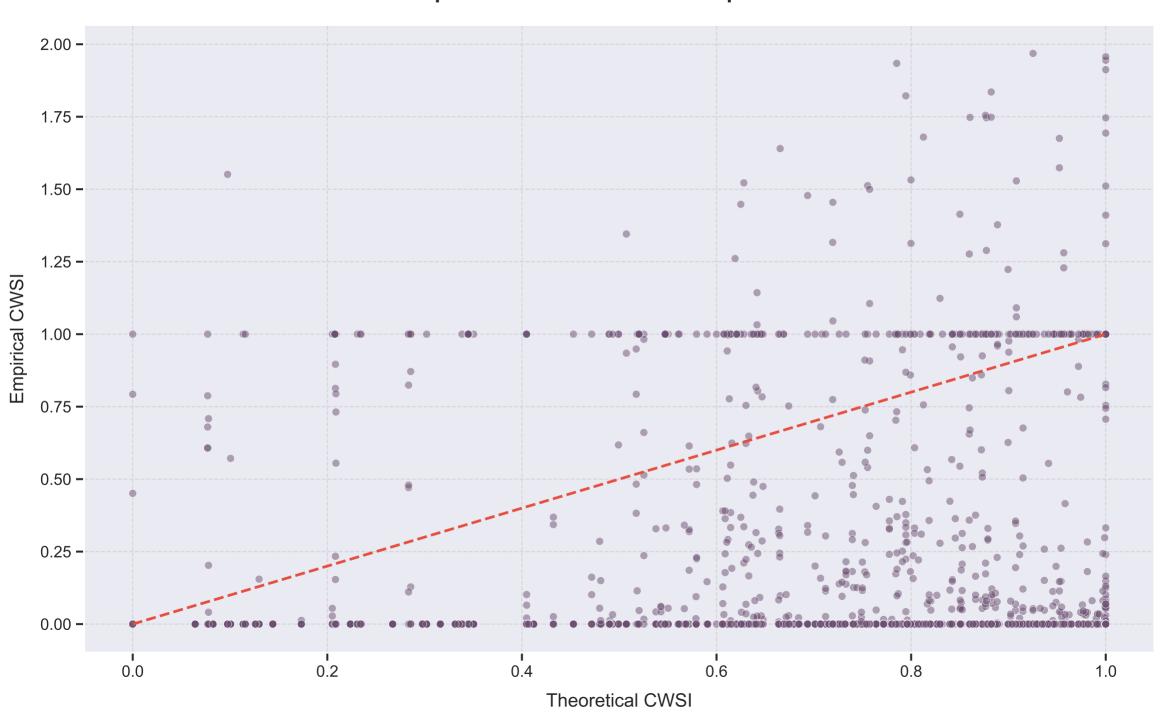


Figure 5: Soil Moisture Monitoring and SWSI Calculation
Soil Moisture at Different Depths Over Time



Figure 5: Soil Moisture Monitoring and SWSI Calculation
Soil Water Stress Index Over Time

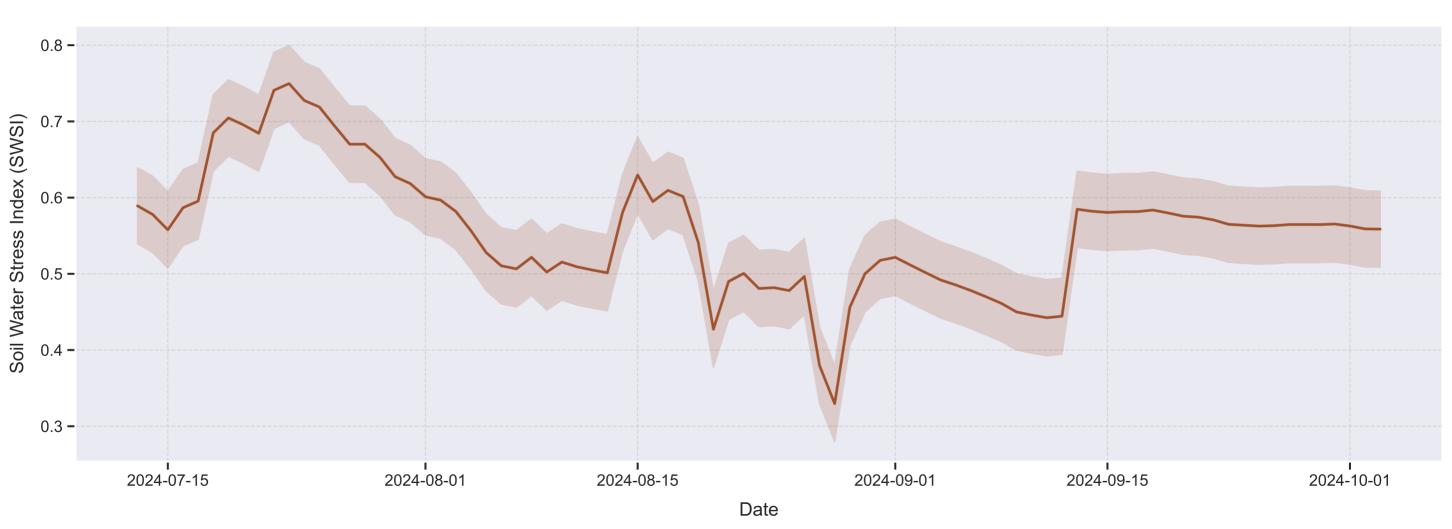


Figure 6: Combined Index Analysis and Weighting System Correlation between SWSI and CWSI 2.00 -Correlation: -0.19 1.75 -1.50 -1.25 -7 1.00 **-**0.75 -0.50 -0.25 -0.00 -Time Series of SWSI, CWSI, and Combined Index 0.8 -0.7 -0.6 -0.5 -Index Value 0.4 -0.3 -0.2 -0.1 -0.0 -Irrigation Decision Threshold Based on Combined Index 0.6 -Combined Index Value

0.0

- 0.0

0.3 0.2 -2010 2020 1980 1990 2000 1970 Date

Figure 7: System Response Analysis Canopy Temperature Response to Irrigation/Rainfall Canopy Temperature (IRT) 24 -22 -Canopy Temperature (°C) 14 -12 -**Soil Moisture Changes** 0.8 -0.7 -0.6 -0.5 -SWSI 0.4 -0.3 -0.2 -0.1 -**Recovery Patterns of SWSI After Irrigation Events** 0.6 -0.5 -Average SWSI - 5.0 0.2 -**Irrigation Events Over Time** 25 -20 -Irrigation Amount (mm) 15 **-**5 -0 -2024-08-01 2024-08-15 2024-09-01 2024-10-01 2024-09-15 2024-07-15 Date

Figure 8: Monthly Stress Index Distributions
Monthly Stress Index Distributions Across Treatments

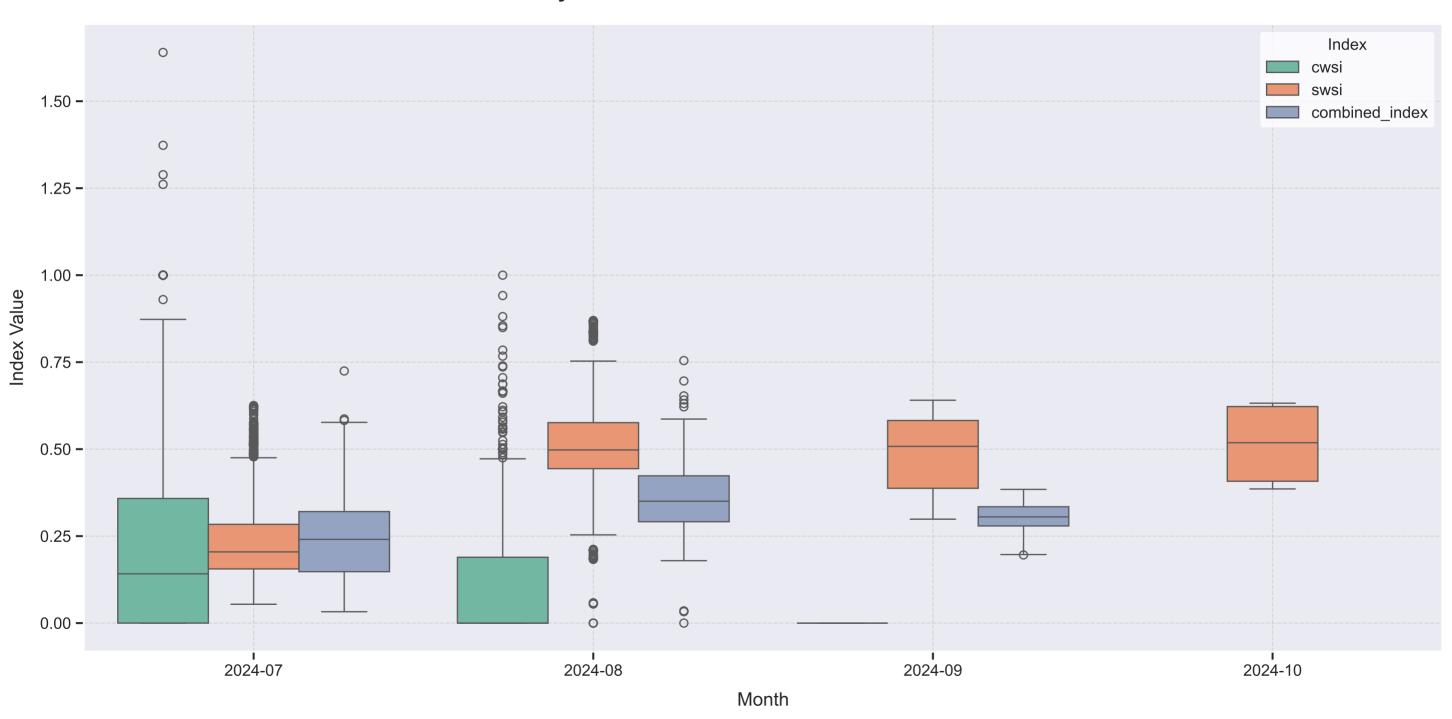


Figure 9: Irrigation Application Patterns
Daily Irrigation Amounts by Treatment

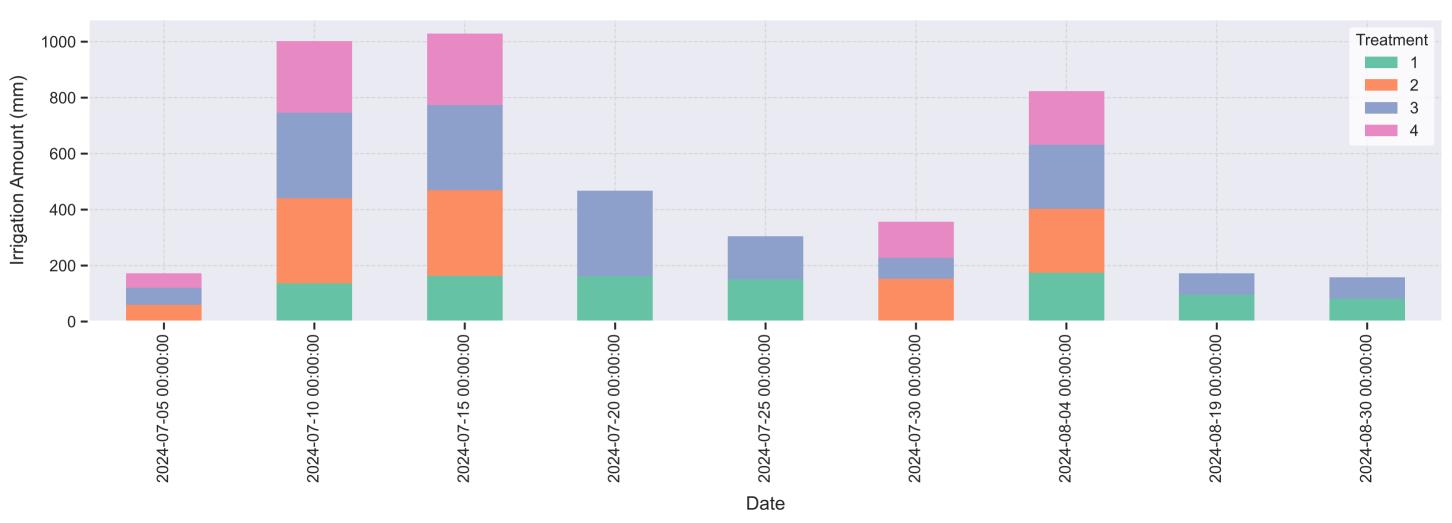


Figure 9: Irrigation Application Patterns
Cumulative Irrigation Amounts by Treatment

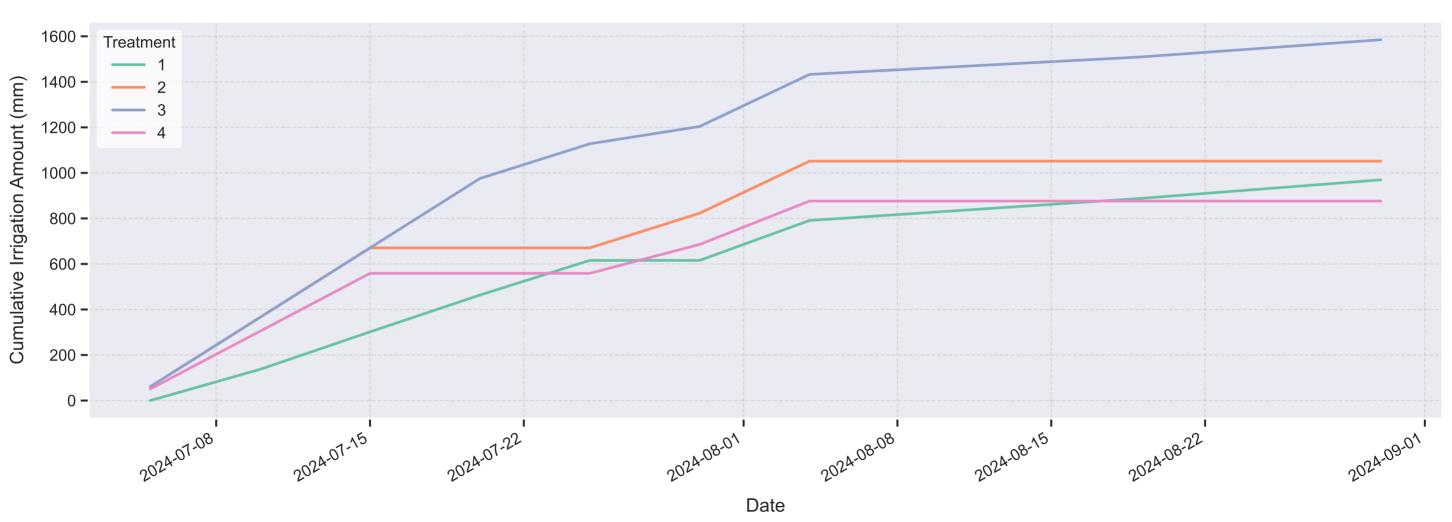


Figure 10: Yield Distribution Analysis

