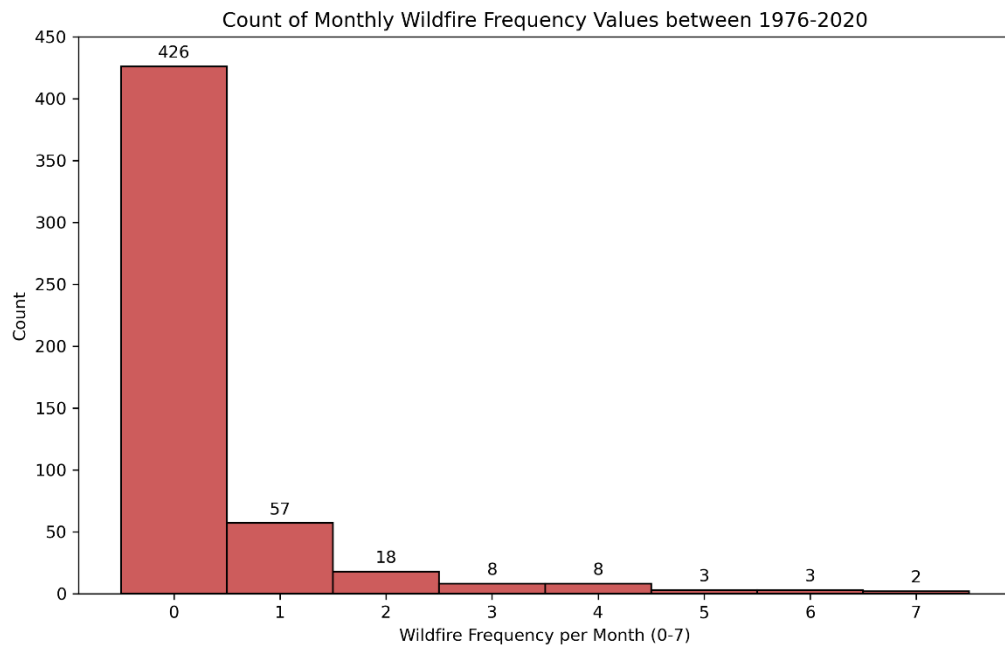**Figures**



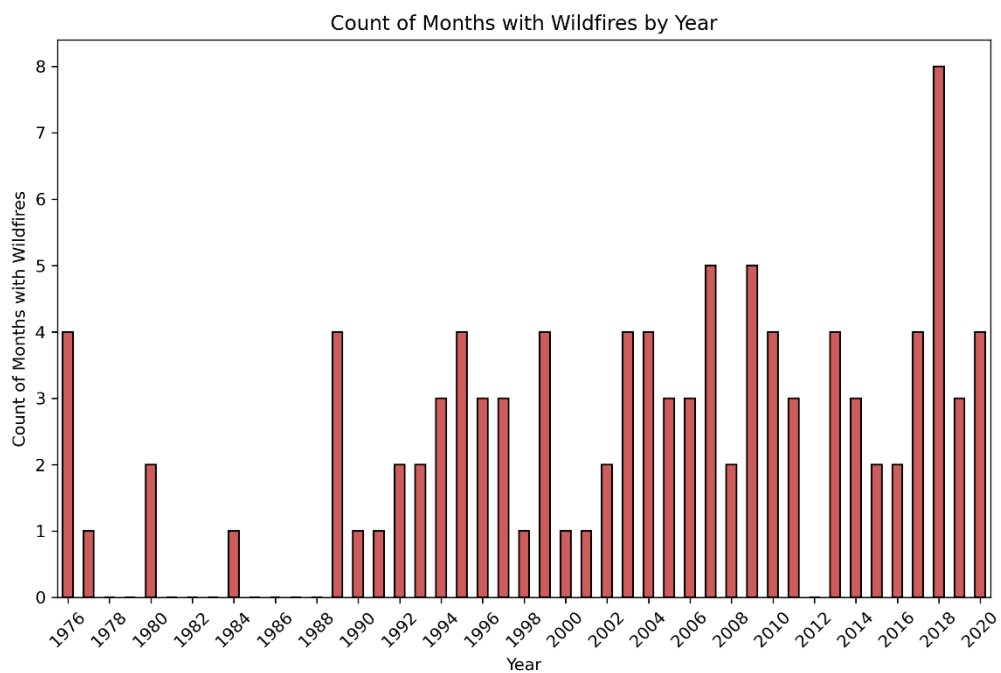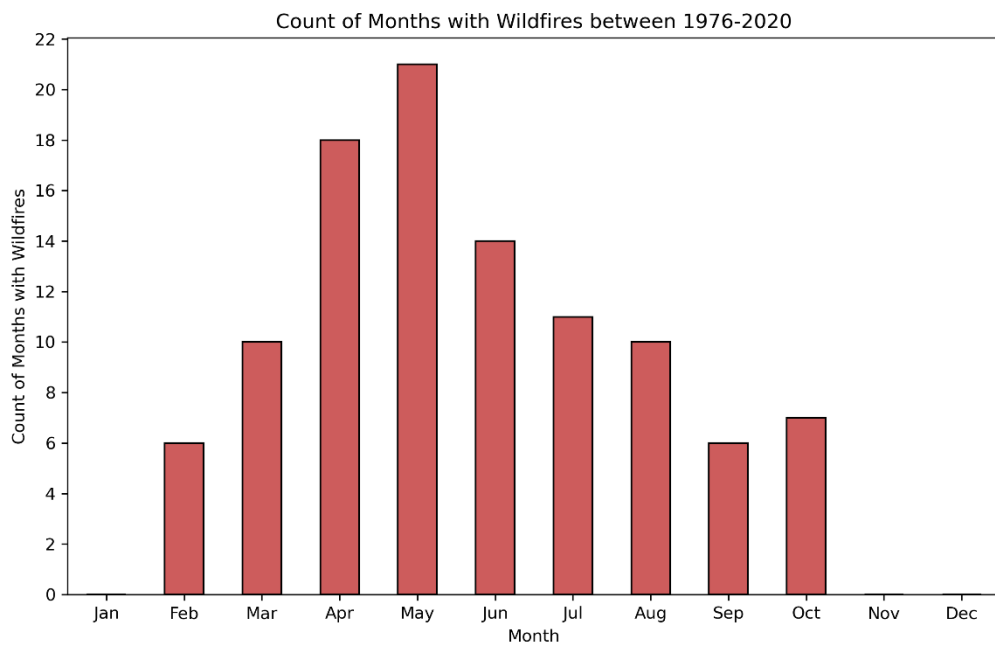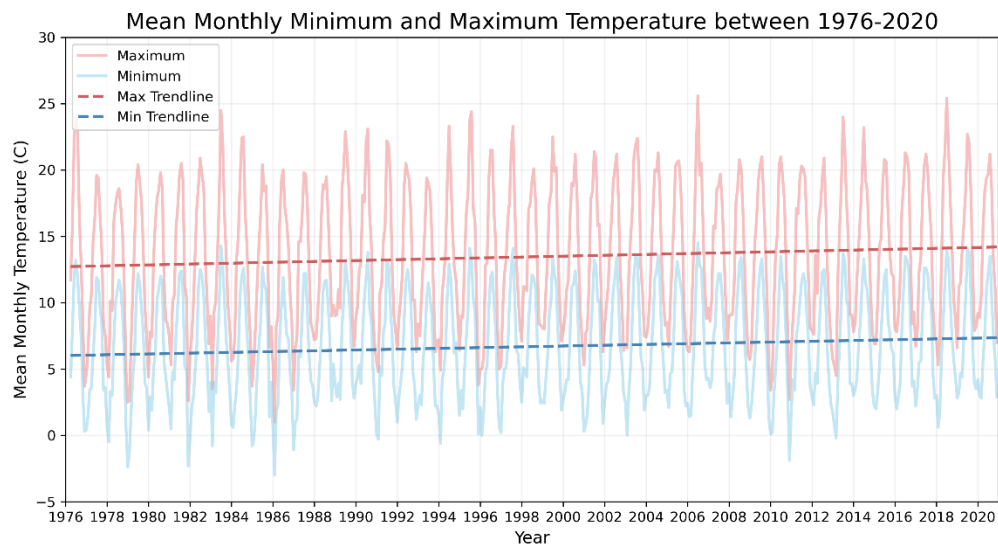*Figure 1: Wildfire frequency count between 1976-2020*



*Figure 2: Count of months with wildfire occurrences by year between 1976-2020*

*Figure 3: Count of months with wildfire occurrences by month between 1976-2020*



*Figure 4: Mean monthly maximum and minimum temperature between 1976-2020; trendline calculated as a linear fit between variables*
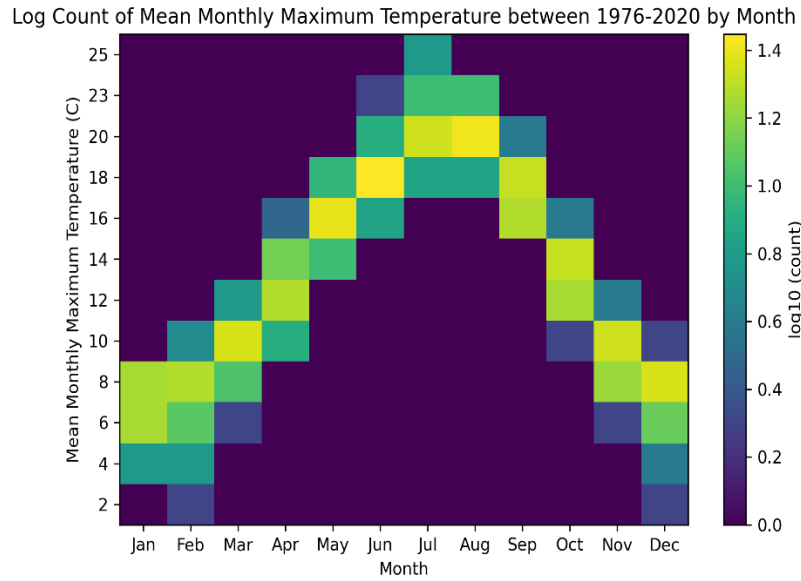
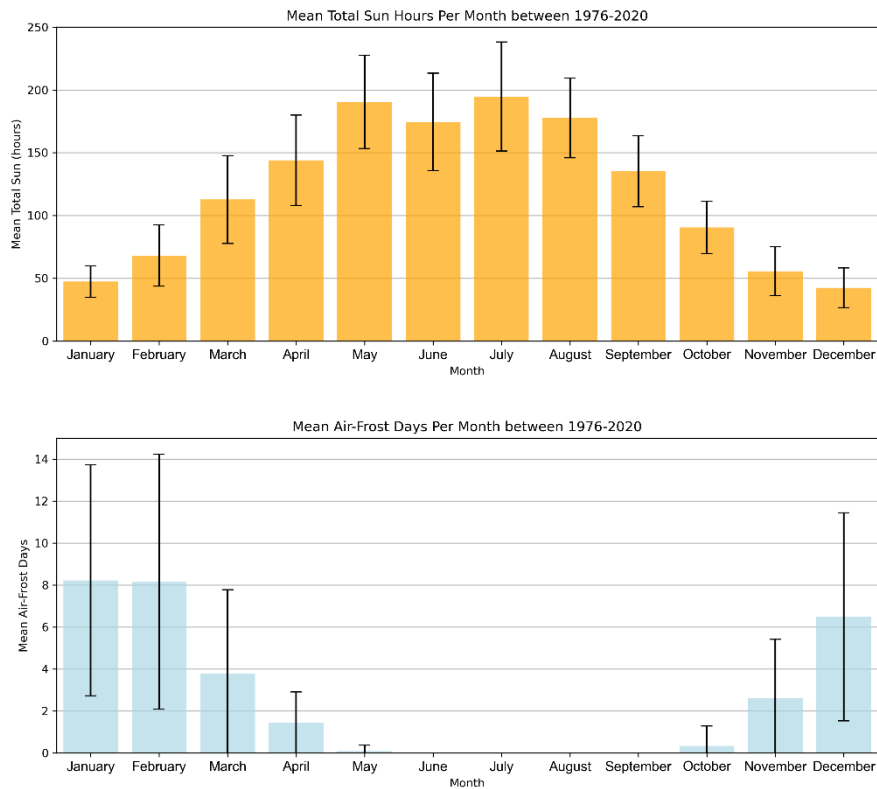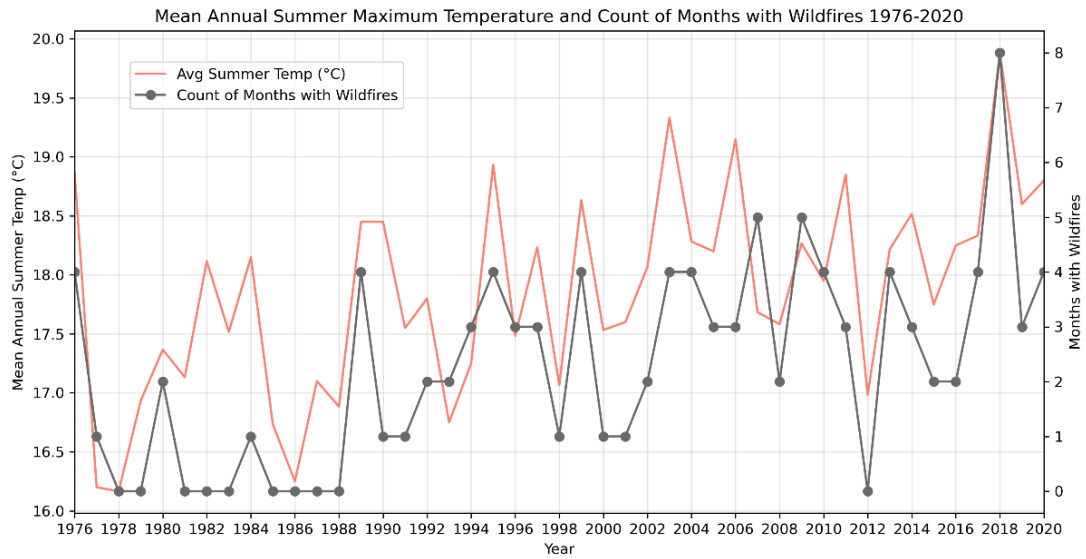*Figure 5: Log count of mean monthly maximum temperature by month between 1976-2020.*
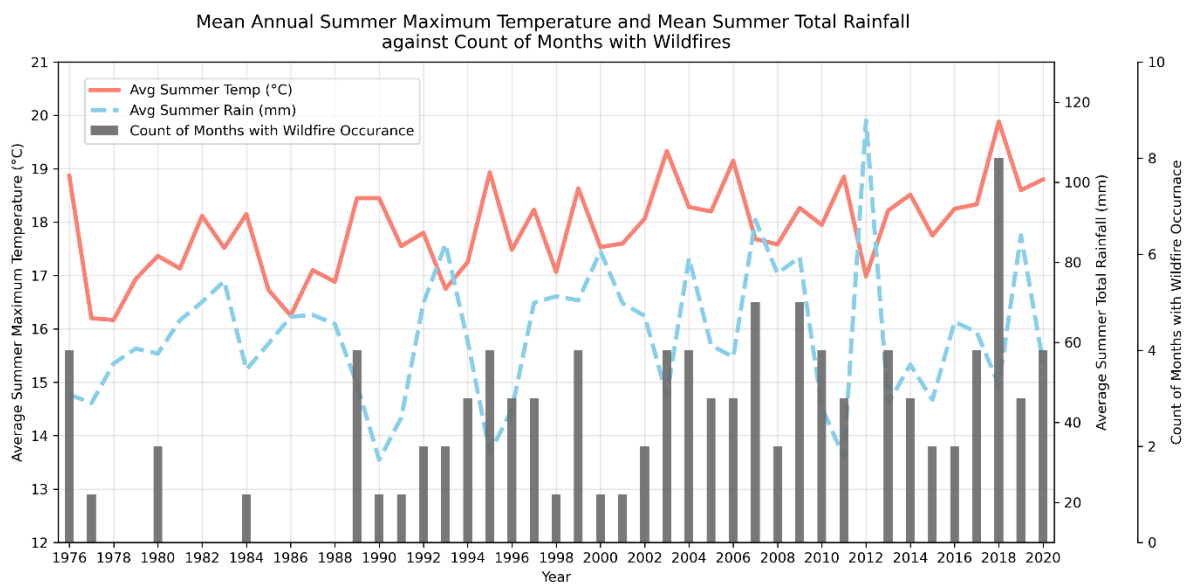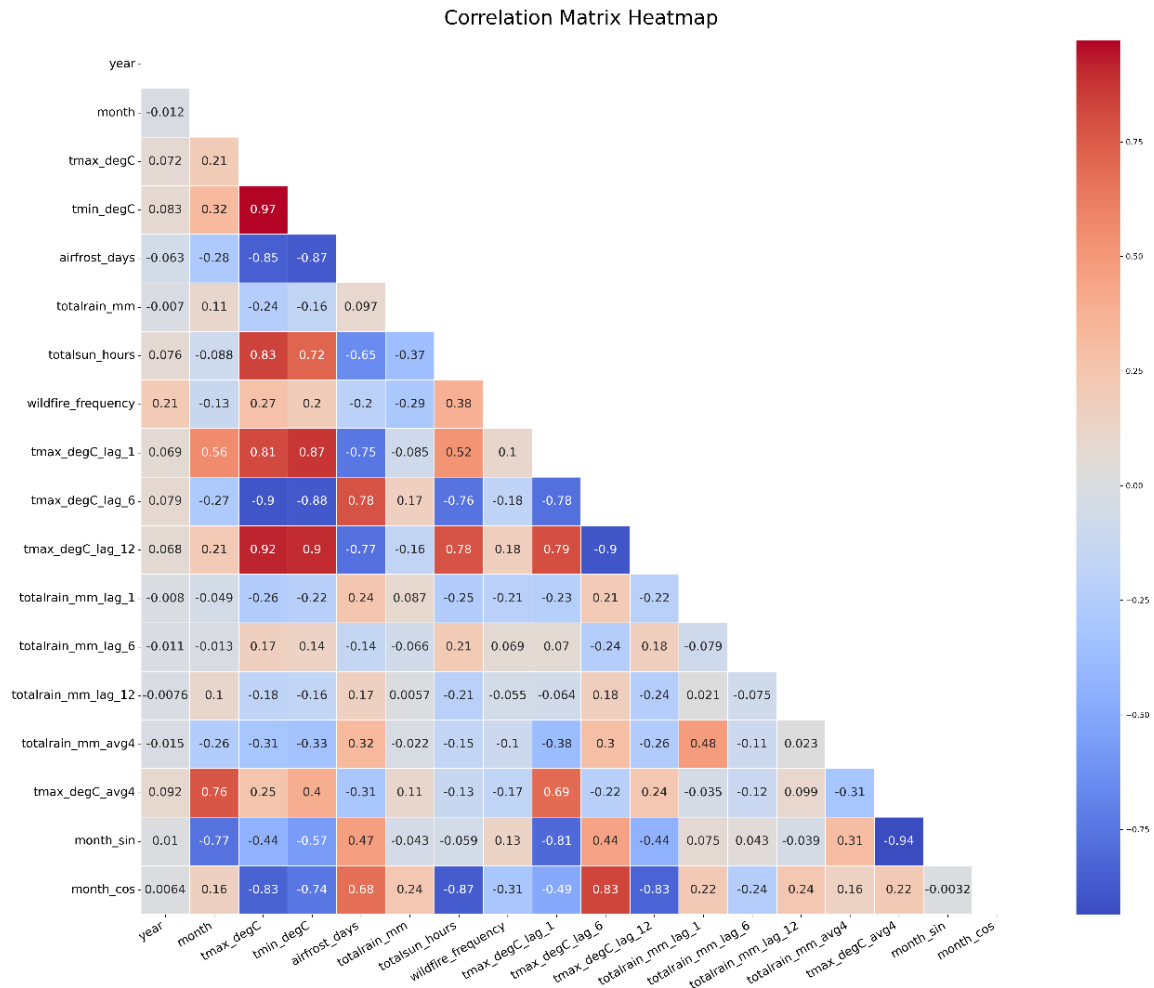


*Figure 6: (a) Mean totalsun_hours per month between 1976-2020. Error bars representing mean plus and minus the standard deviation. (b) Number of mean air-frost_days (air-temperature reaching below 0°C) per month between 1976-2020*

*Figure 7: Average of mean monthly maximum temperature across summer months (April-September) against months with wildfires.*



*Figure 8: Count of months with wildfires against mean summer maximum temperature (°C) and mean summer total rainfall (mm)*

*Figure 9: Feature correlation matrix using spearman's rank to account for non-linear relationships between variables.*
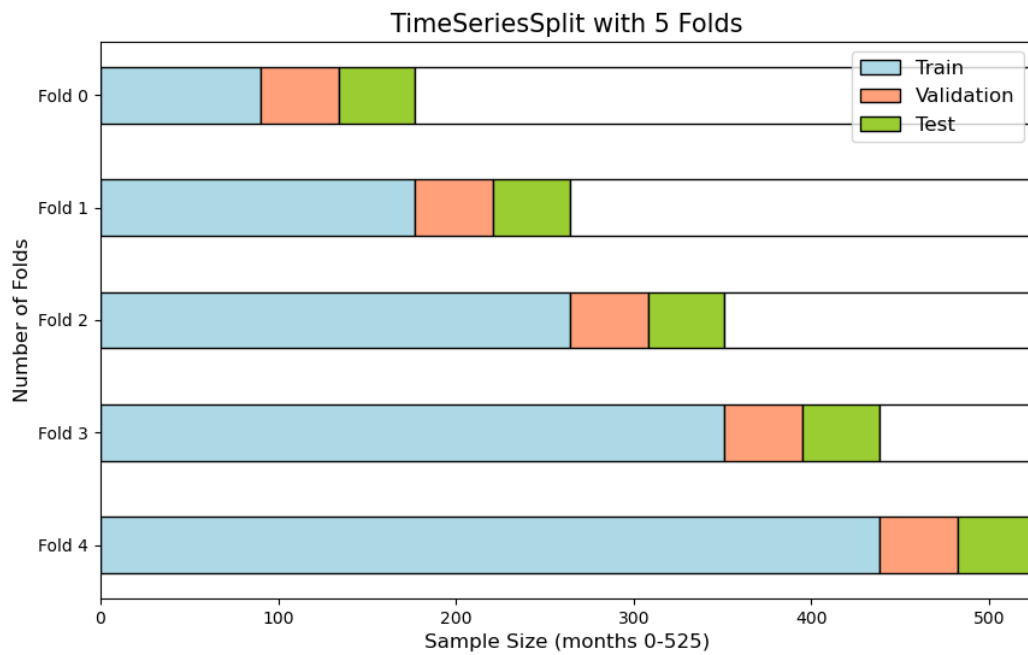
*Figure 10: TimeSeriesSplit with 5 folds across the final sample size of 525 months with a final fold of 80% train, 10% test and 10% validation.*
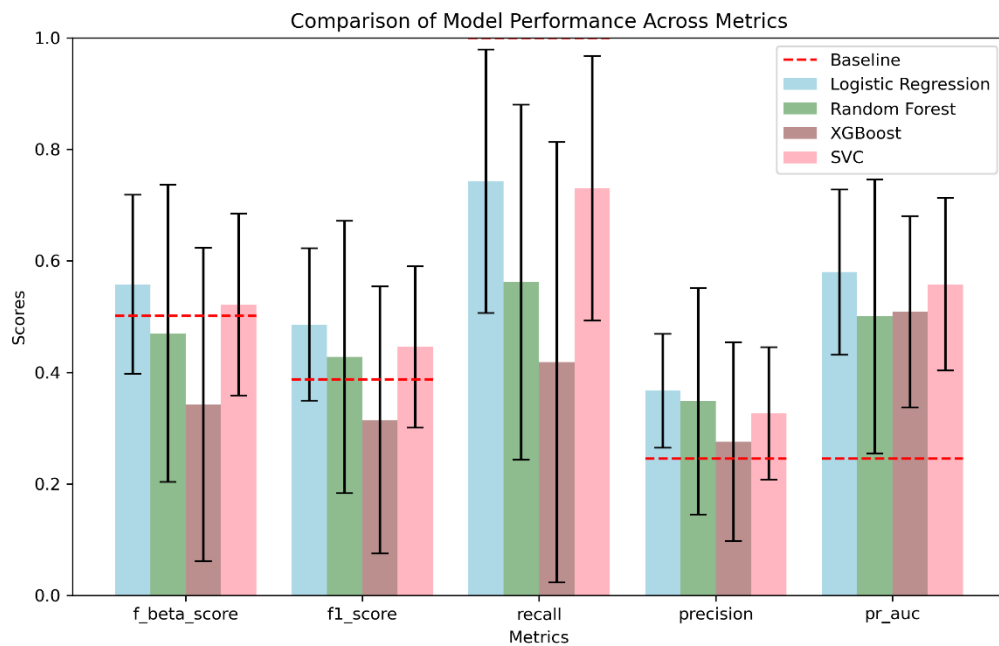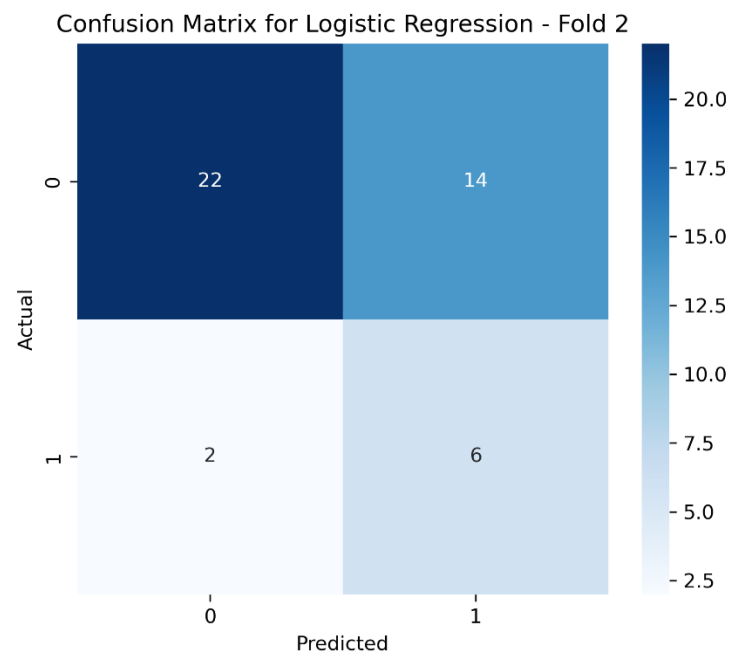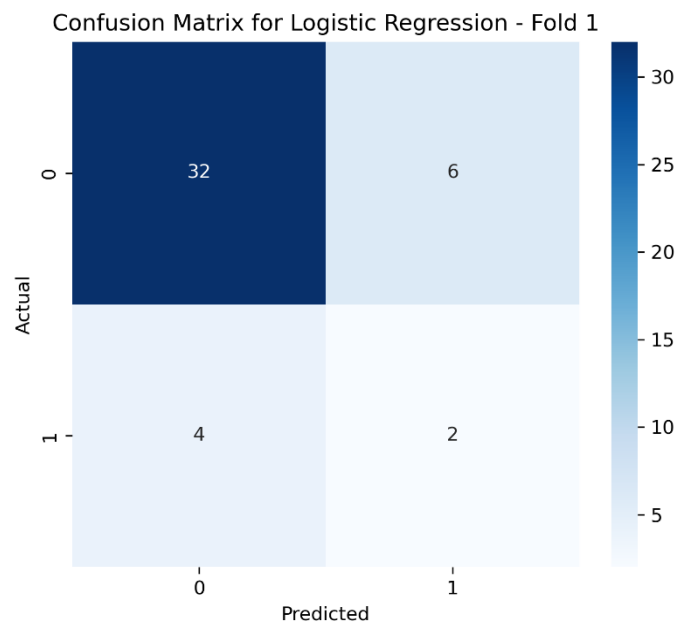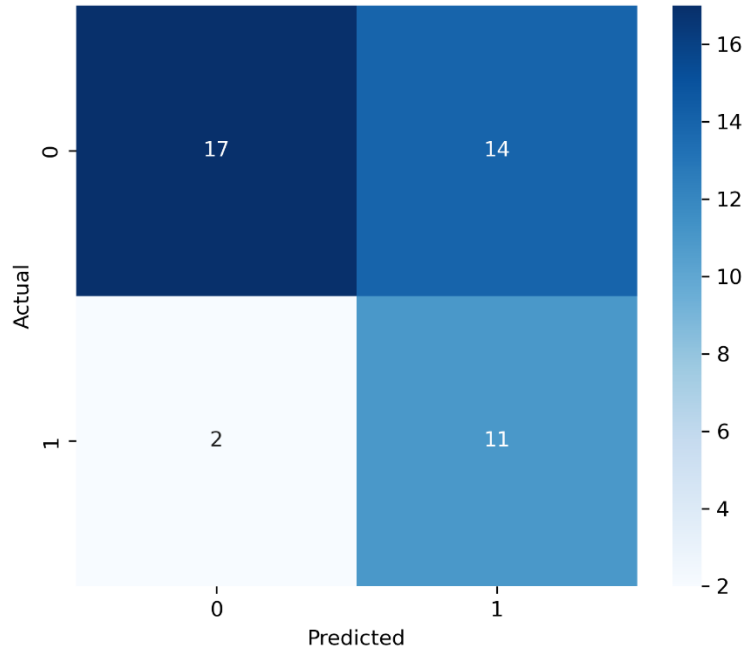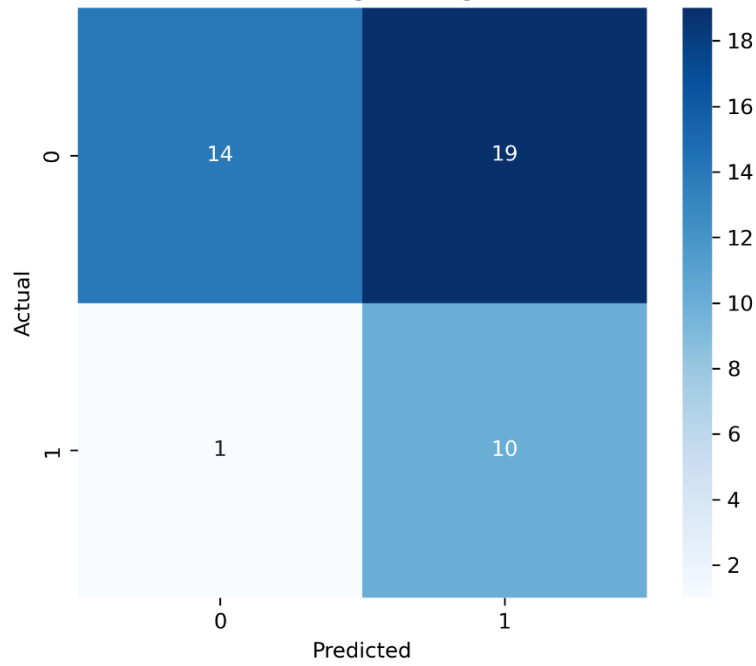


*Figure 11: Test scores and associated standard deviations represented as error bars for each model based on an average of the 5 folds for each metric. Baselines shown in red.*

Confusion Matrix for Logistic Regression - Fold 1



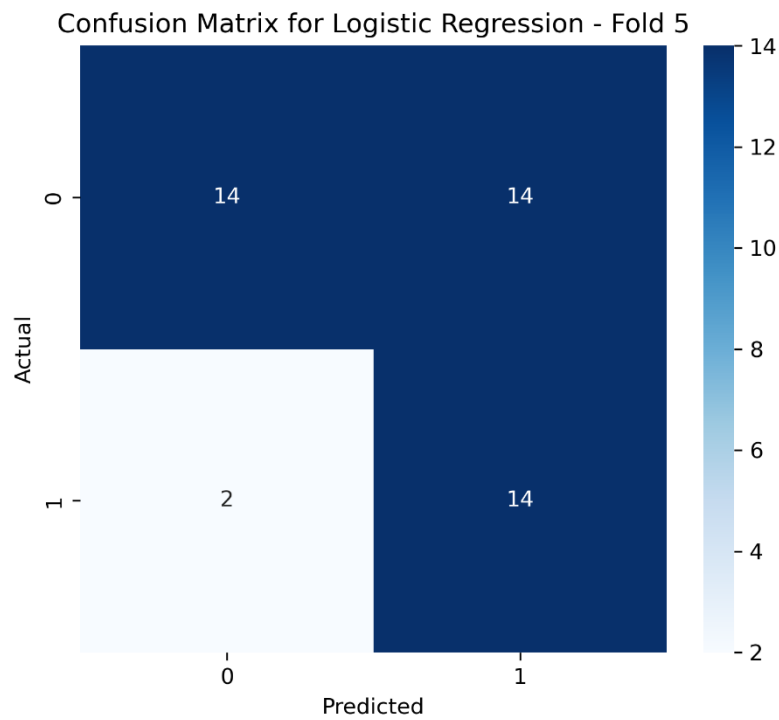Confusion Matrix for Logistic Regression - Fold 2

Confusion Matrix for Logistic Regression - Fold 3



Confusion Matrix for Logistic Regression - Fold 4

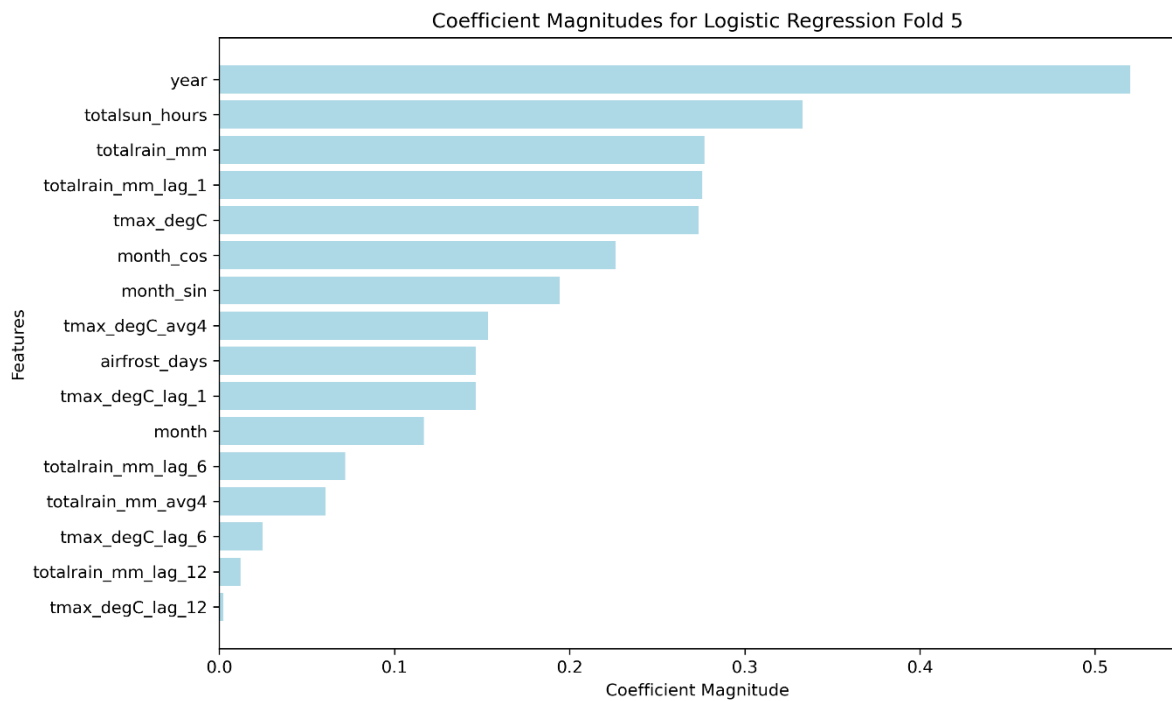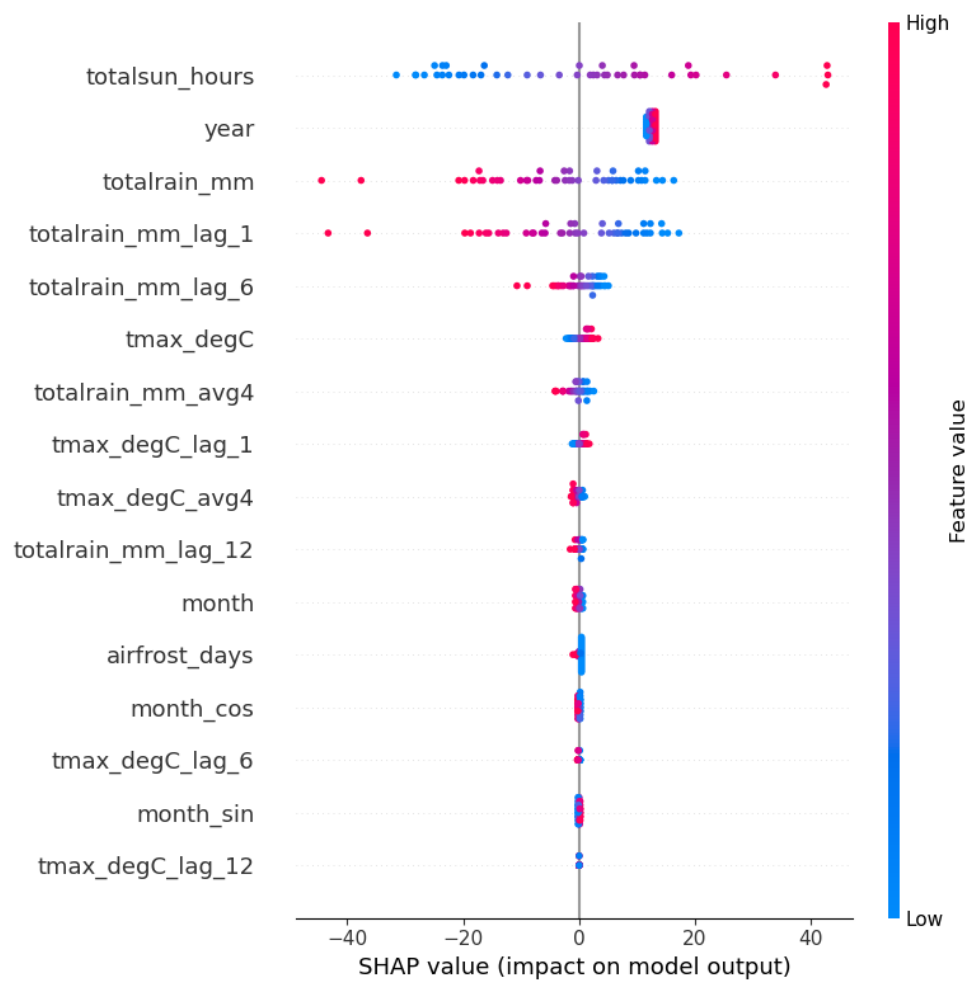*Figure 12: Confusion matrix for folds 1-5 from the logistic regression model.*



*Figure 13: Coefficient magnitudes for logistic regression fold 5*

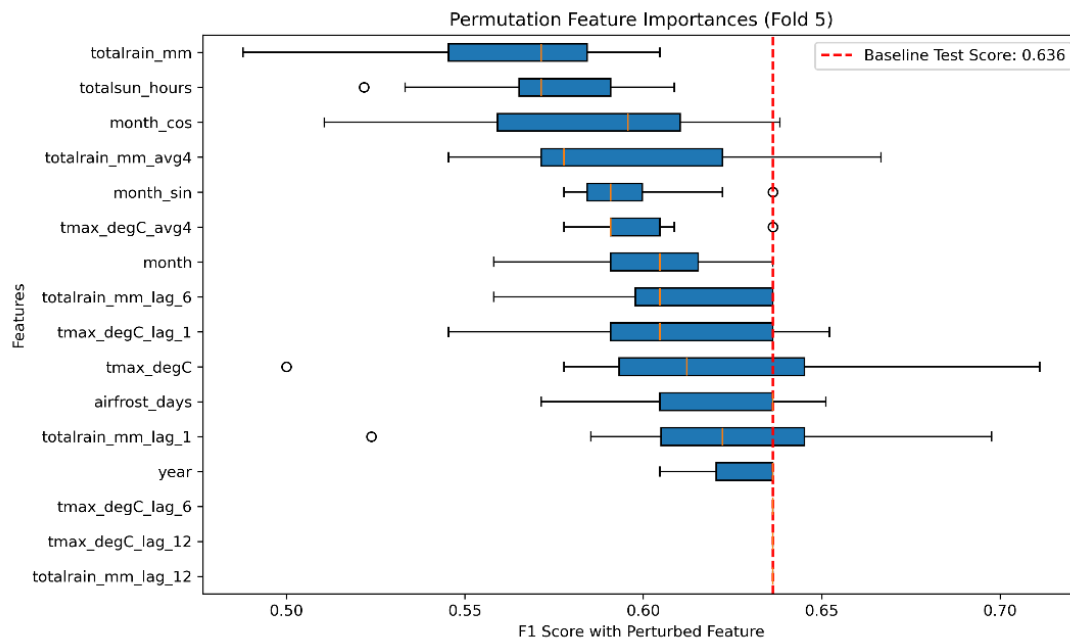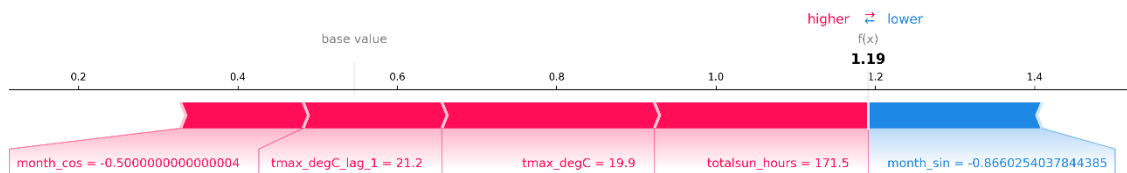*Figure 14: Global SHAP feature importance for fold 5 logistic regression*

*Figure 15:Permutation feature importances for logistic regression model fold 5*

Class 1 – Wildfire Prediction [Index 3]
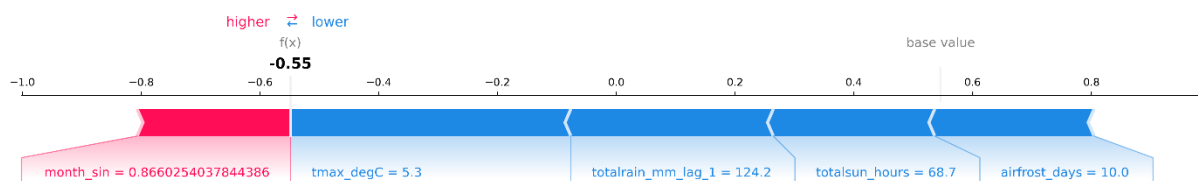


Class 0 – No Wildfire Prediction [Index 9]



*Figure 16: SHAP local feature importance force plots for index 3 and index 9.*