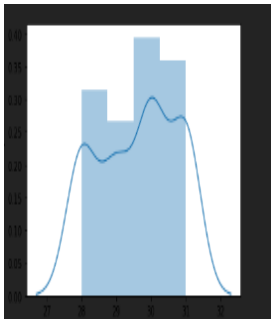
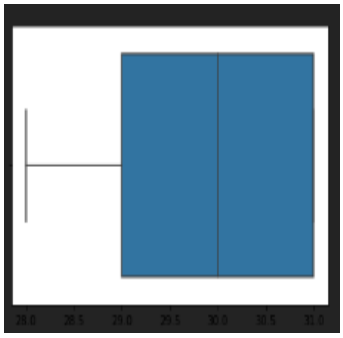
# Data Collection and Preprocessing Phase

| | |
|---|---|
| Date | 10 July 2024 |
| Team ID | 739745 |
| Project Title | Rising Waters:Machine Learning Approch To Flood Prediction |
| Maximum Marks | 6 Marks |

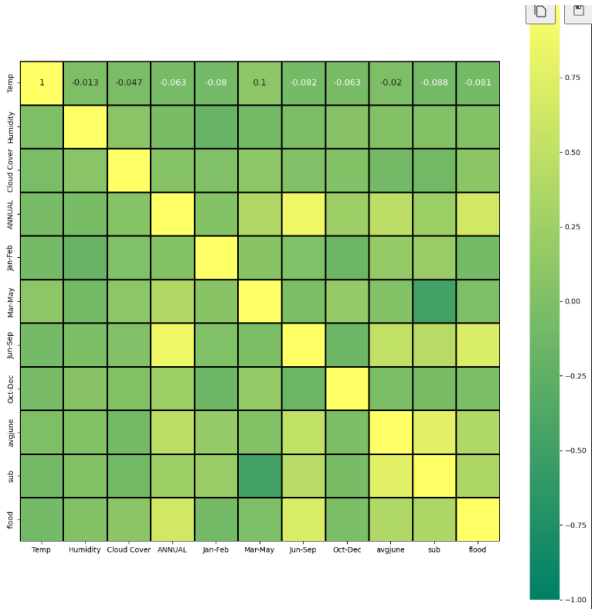
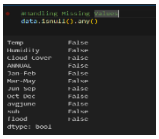
## Data Exploration and Preprocessing Template

Identifies data sources, assesses quality issues like missing values and duplicates, and implements resolution plans to ensure accurate and reliable analysis.

| Section | Description |
|---|---|
| Data Overview | Dimensions<br>115rows x 9columns |
| Univariate Analysis |   |

| | Temp | Humidity | Cloud Cover | ANNUAL | Jan-Feb | Mar-May | Jun-Sep | Oct-Dec | avgjune |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 29 | 70 | 30.0 | 3248.6 | 73.4 | 386.2 | 2122.8 | 666.1 | 274.866667 |
| 1 | 28 | 75 | 40.0 | 3326.6 | 9.3 | 275.7 | 2403.4 | 638.2 | 130.300000 |
| 2 | 28 | 75 | 42.0 | 3271.2 | 21.7 | 336.3 | 2343.0 | 570.1 | 186.200000 |
| 3 | 29 | 71 | 44.0 | 3129.7 | 26.7 | 339.4 | 2398.2 | 365.3 | 366.066667 |
| 4 | 31 | 74 | 40.0 | 2741.6 | 23.4 | 378.5 | 1881.5 | 458.1 | 283.400000 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 110 | 28 | 71 | 30.0 | 3035.1 | 66.2 | 313.5 | 2209.1 | 446.3 | 262.833333 |
| 111 | 29 | 71 | 37.0 | 2151.1 | 18.3 | 287.4 | 1535.6 | 309.8 | 143.433333 |
| 112 | 30 | 74 | 42.0 | 3255.4 | 43.9 | 218.5 | 2561.2 | 431.8 | 347.566667 |
| 113 | 31 | 71 | 31.0 | 3046.4 | 14.9 | 364.5 | 2164.8 | 502.1 | 151.466667 |
| 114 | 28 | 71 | 34.0 | 2600.6 | 8.9 | 465.9 | 1514.7 | 611.1 | 187.866667 |

115 rows × 9 columns

| | |
|---|---|
| Bivariate Analysis | - |
| Multivariate Analysis |  |
| Outliers and Anomalies | - |
| **Data Preprocessing Code Screenshots** | |
| Loading Data | `data=pd.read_excel("flood dataset.xlsx")` |
| Handling Missing Values |  |
| Feature Scaling | `#import Standardscaler`<br>`from sklearn.preprocessing import StandardScaler`<br>`#create object to Standardscaler class`<br>`sc=StandardScaler()`<br>`x_train=sc.fit_transform(x_train)`<br>`x_test=sc.fit_transform(x_test)`<br><br>`#import dump class from joblib`<br>`from joblib import dump`<br>`dump(sc,"transform.save")` |

| | |
|---|---|
| Feature Engineering | Attached code in final submission. |
| Save Processed Data | - |