Flood Prediction Analysis

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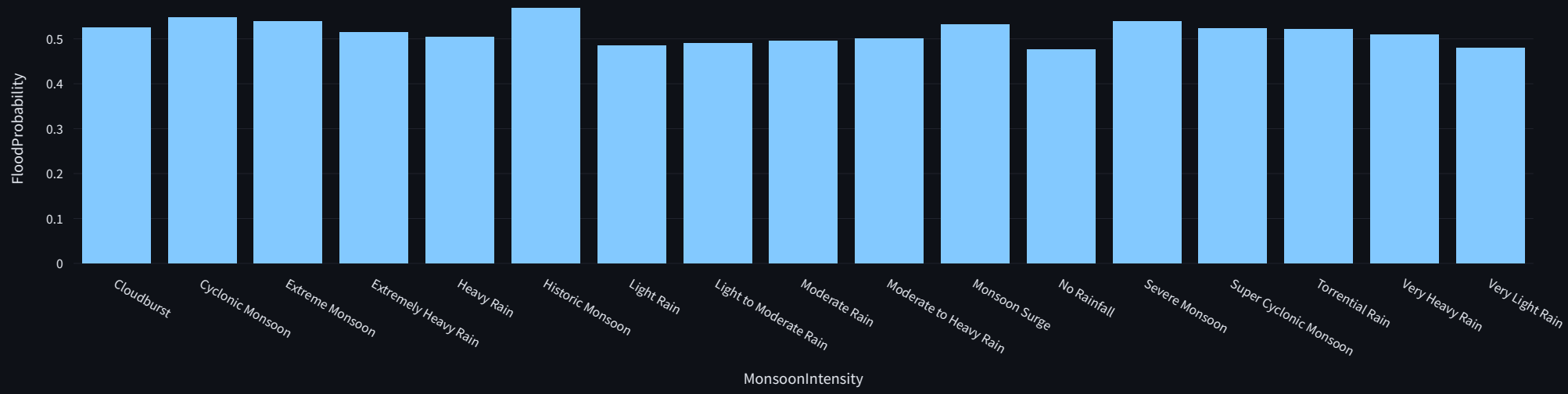
flood_updated_1.csv 22.4MB

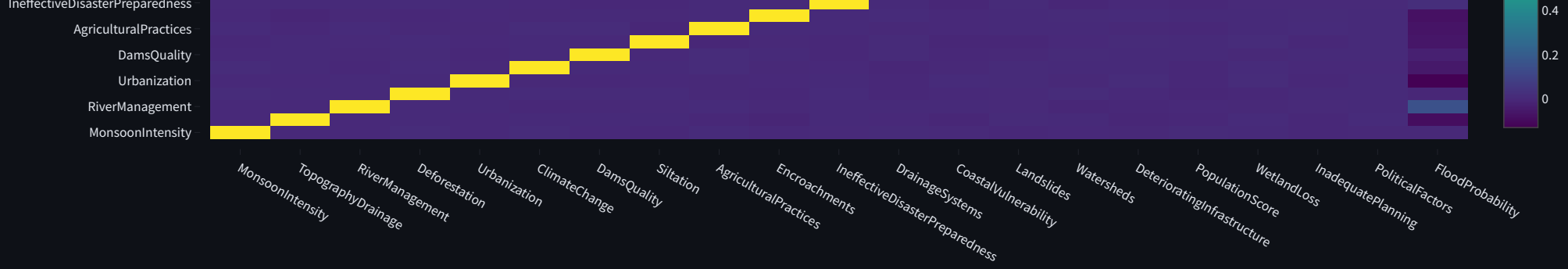
Average Flood Probability by Monsoon Intensity



Insights:

- Monsoon with intensity 'Historic Monsoon' has the highest average flood probability of 0.57.

Correlation Matrix

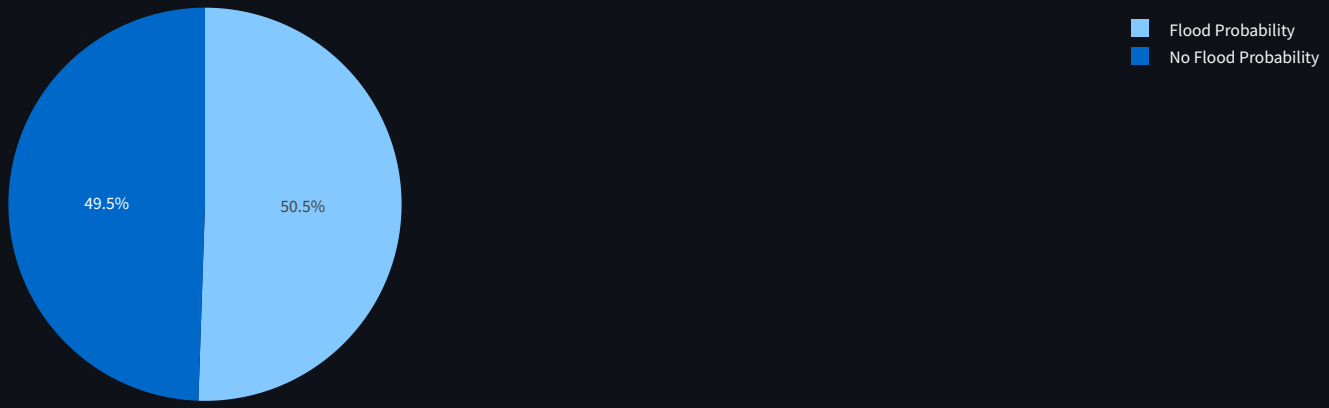


Select Political Factor

Political Instability & Conflict

Average Flood Probability for Political Instability & Conflict: 0.51

Flood Probability Distribution for Political Instability & Conflict

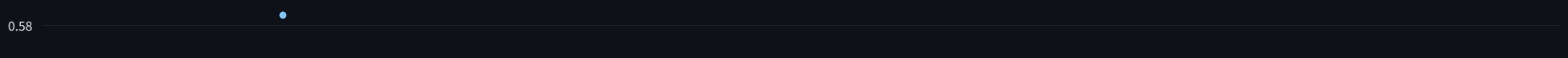


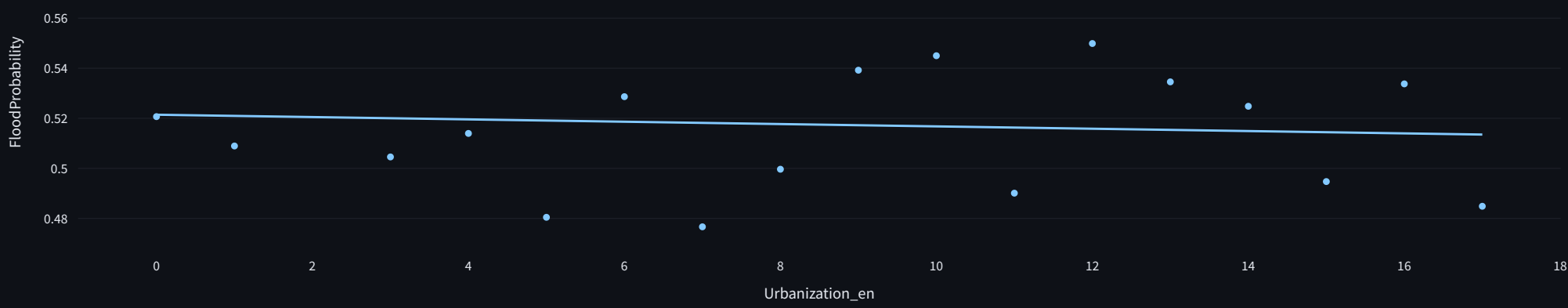
Select Urbanization Encoding:

Central Business District (CBD)

Encoded Value: 0

Average Flood Probability vs. Urbanization





Insights from the Scatter Plot:

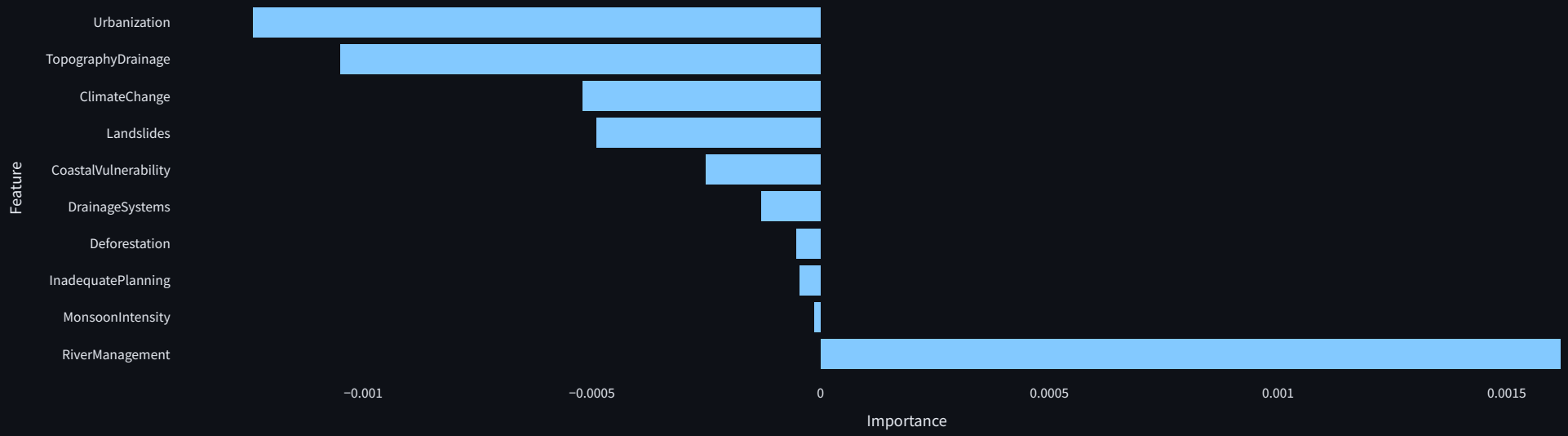
- There seems to be a negative correlation between urbanization and flood probability.
- The linear trendline suggests a relationship of y = -0.00x + 0.52.
- The R-squared value of 0.01 indicates the strength of the linear fit.

Flood Prediction Model

Model R-squared: 0.0464

Mean Squared Error: 0.0024

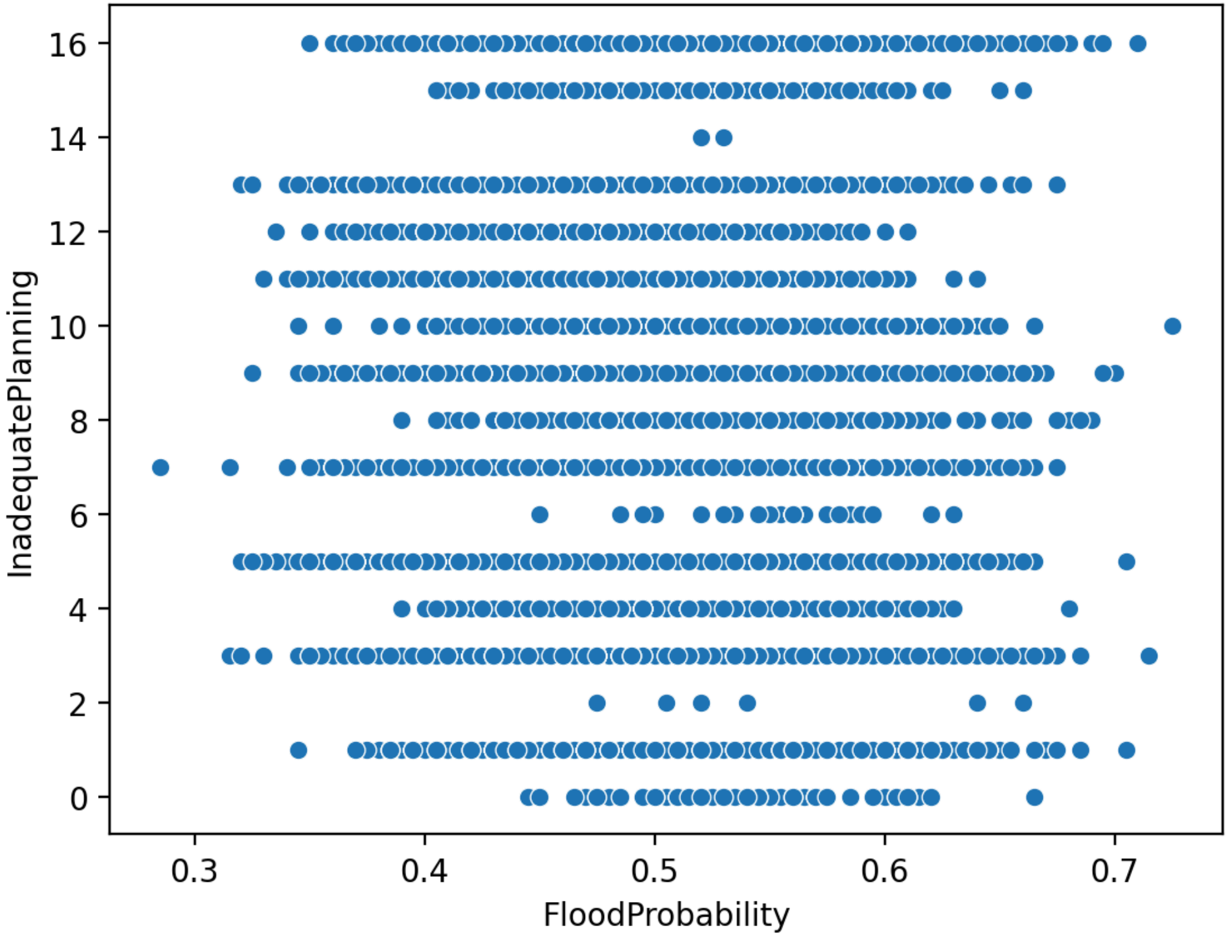
Feature Importance for Flood Prediction



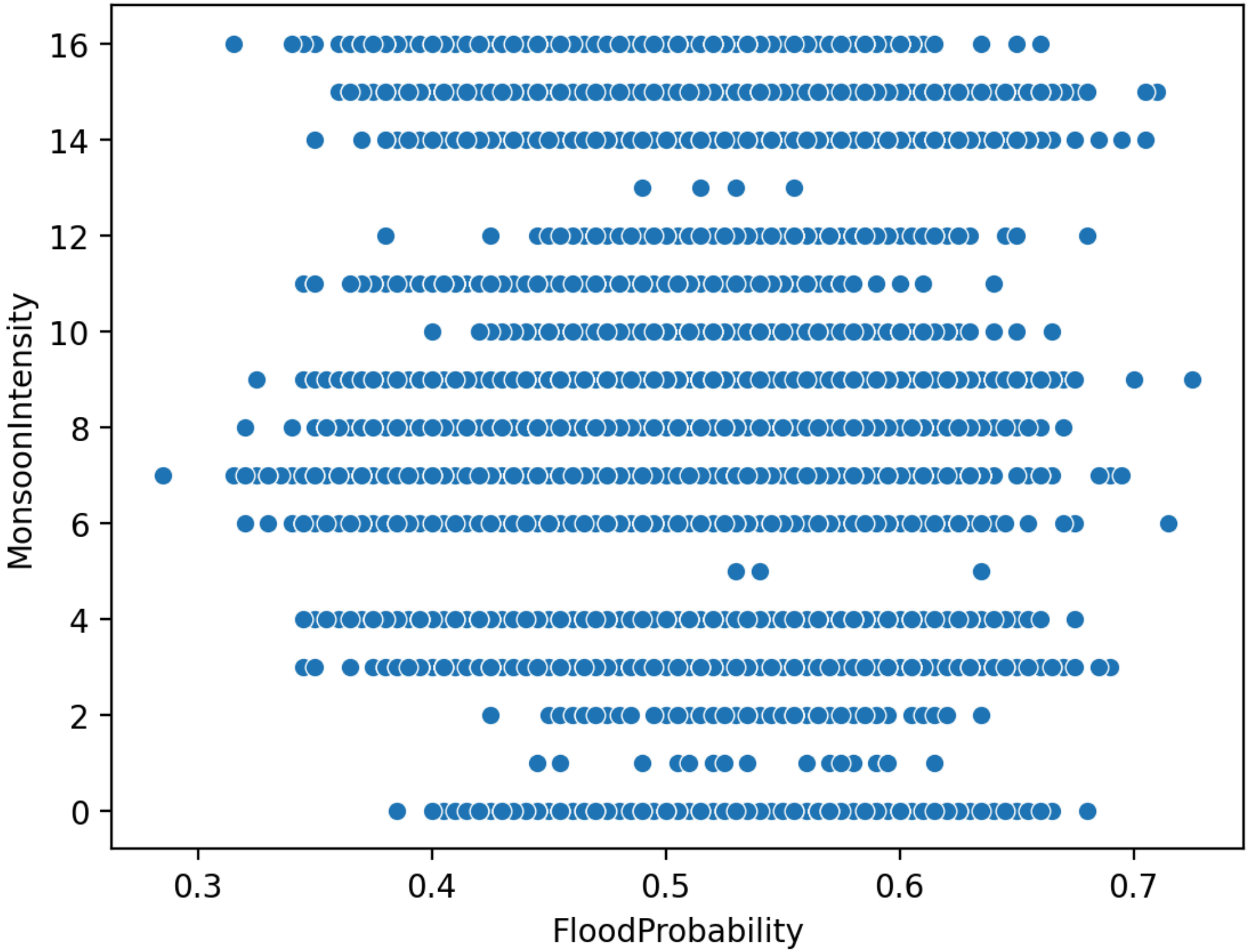
Insights from the Model:

- The model explains 4.64% of the variance in flood probability, indicating a weak fit. Further model exploration or feature selection might be necessary.
- The features with the highest impact on flood probability are: RiverManagement, MonsoonIntensity, InadequatePlanning.

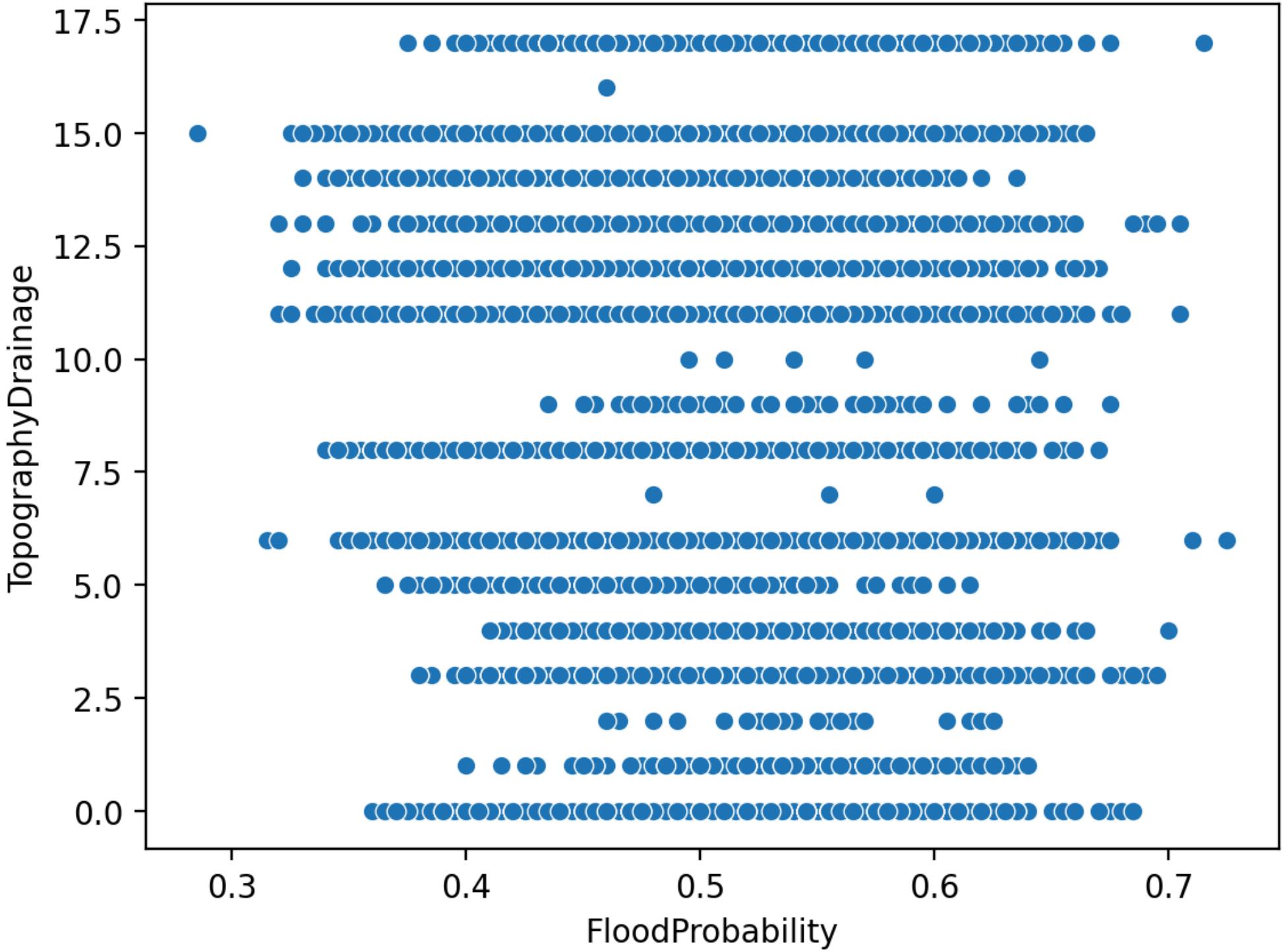
Relationship Between Flood Probability and Contributing Factors



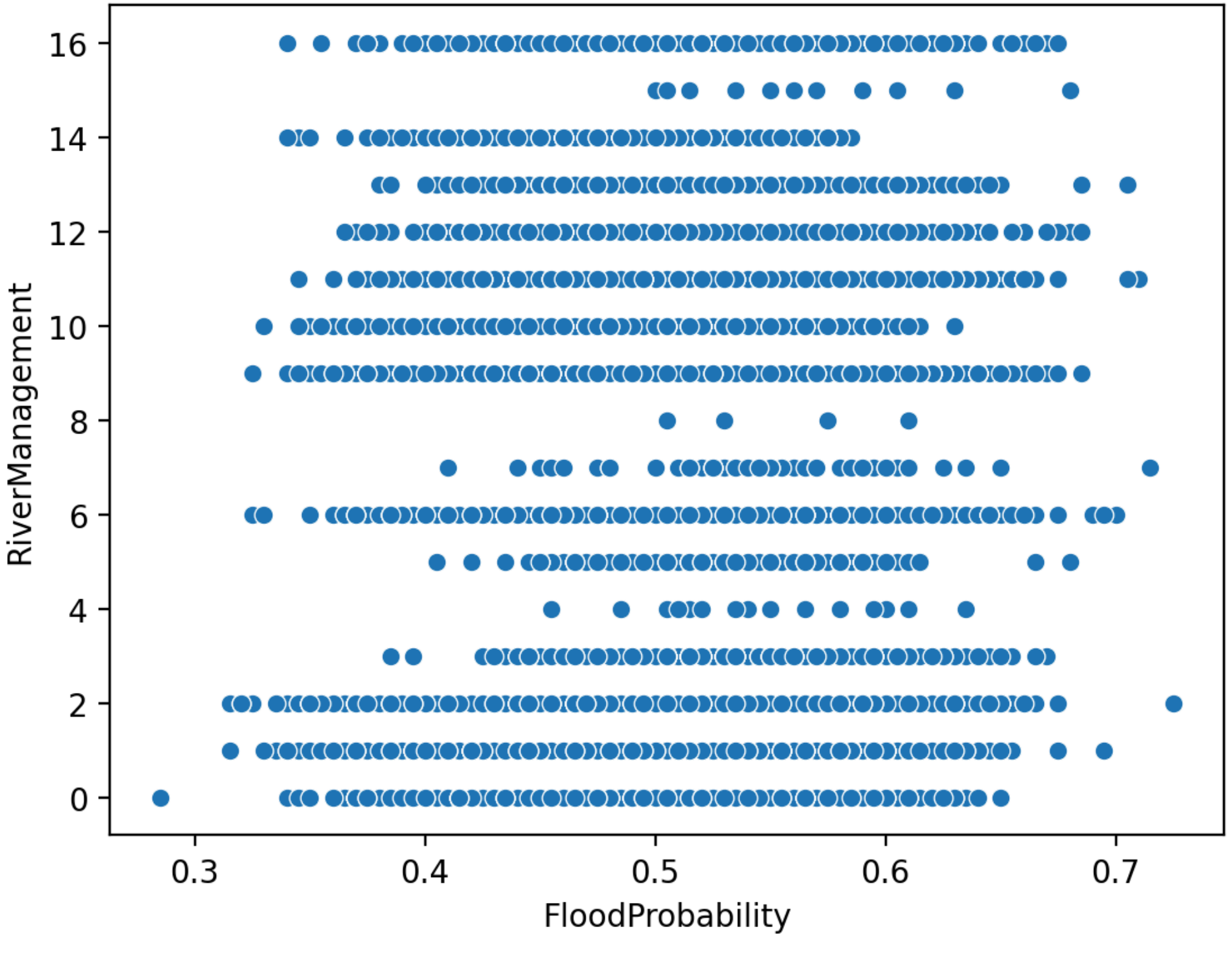
- **InadequatePlanning:** The relationship with flood probability is weak or non-existent.



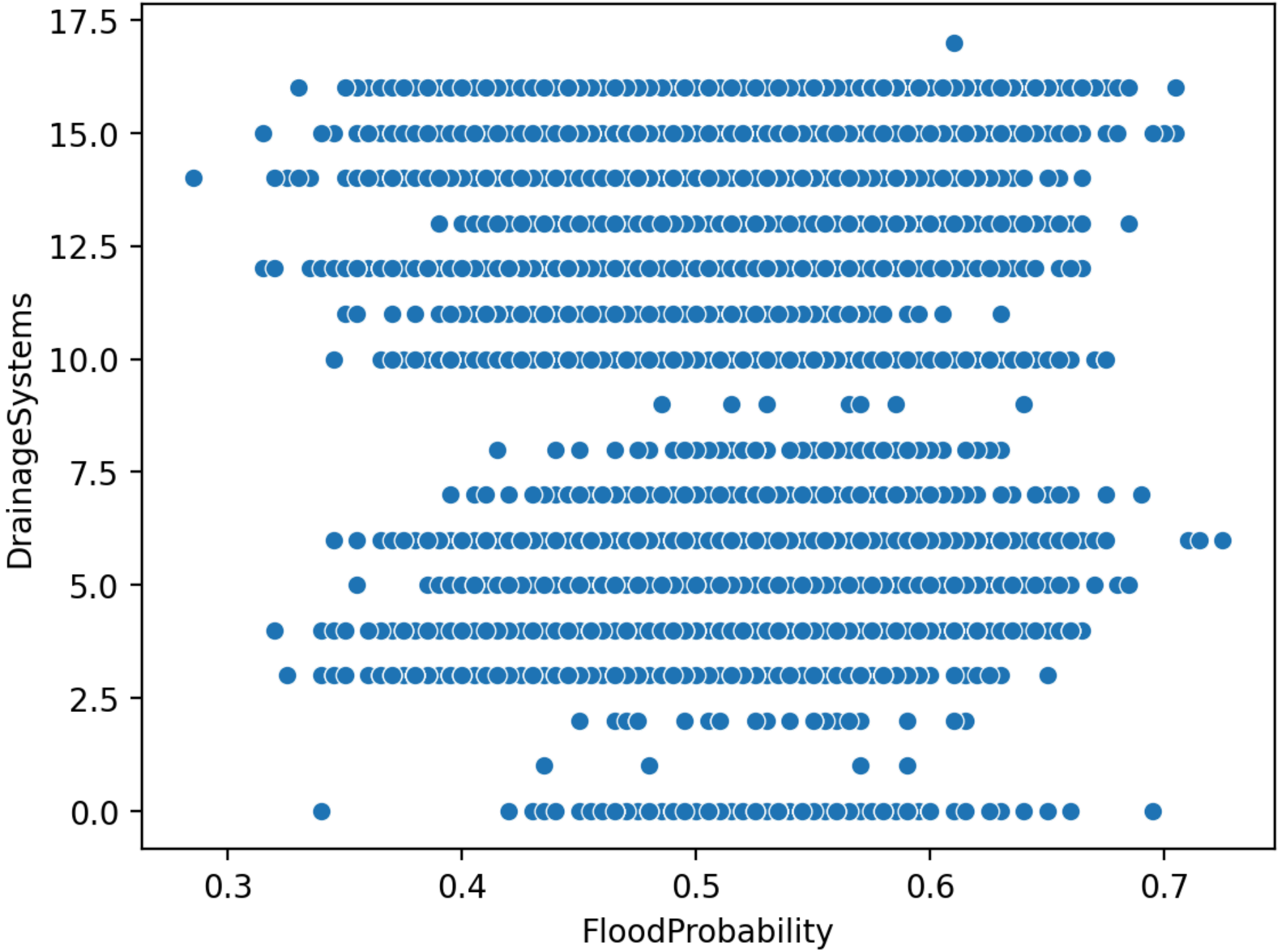
- **MonsoonIntensity:** The relationship with flood probability is weak or non-existent.



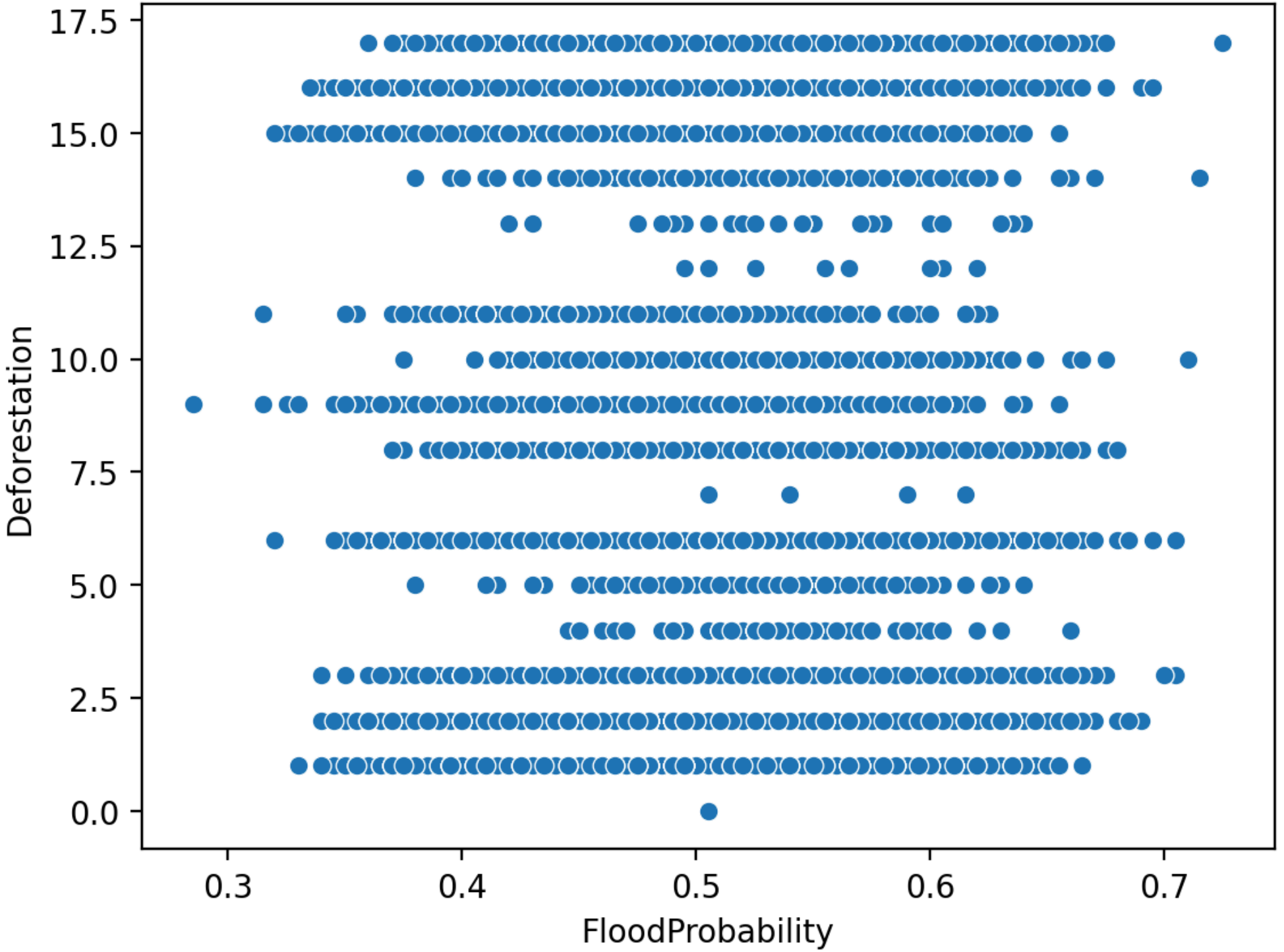
- **TopographyDrainage:** There seems to be a strong negative correlation with flood probability.



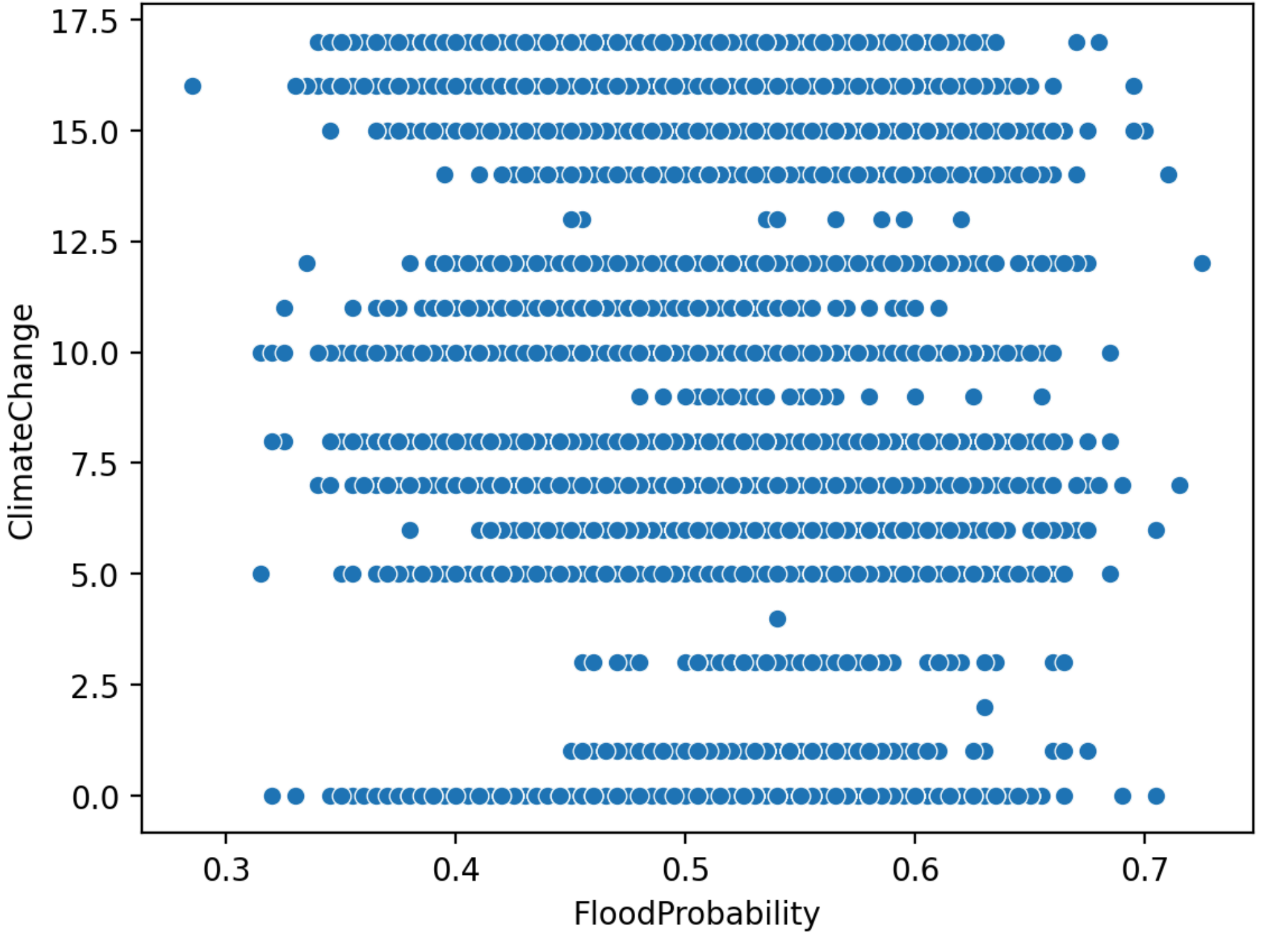
- **RiverManagement:** There seems to be a strong positive correlation with flood probability.



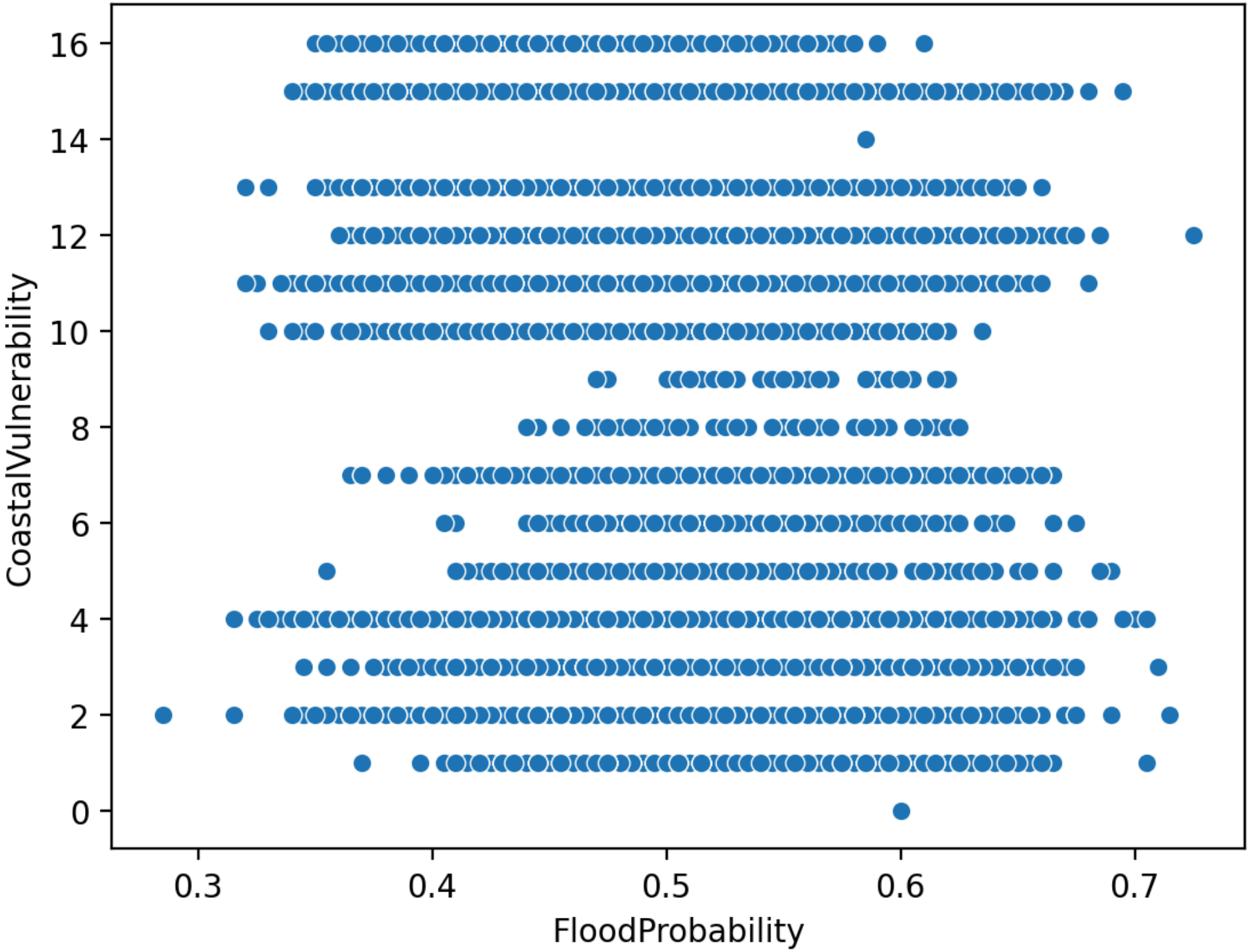
- **DrainageSystems:** The relationship with flood probability is weak or non-existent.



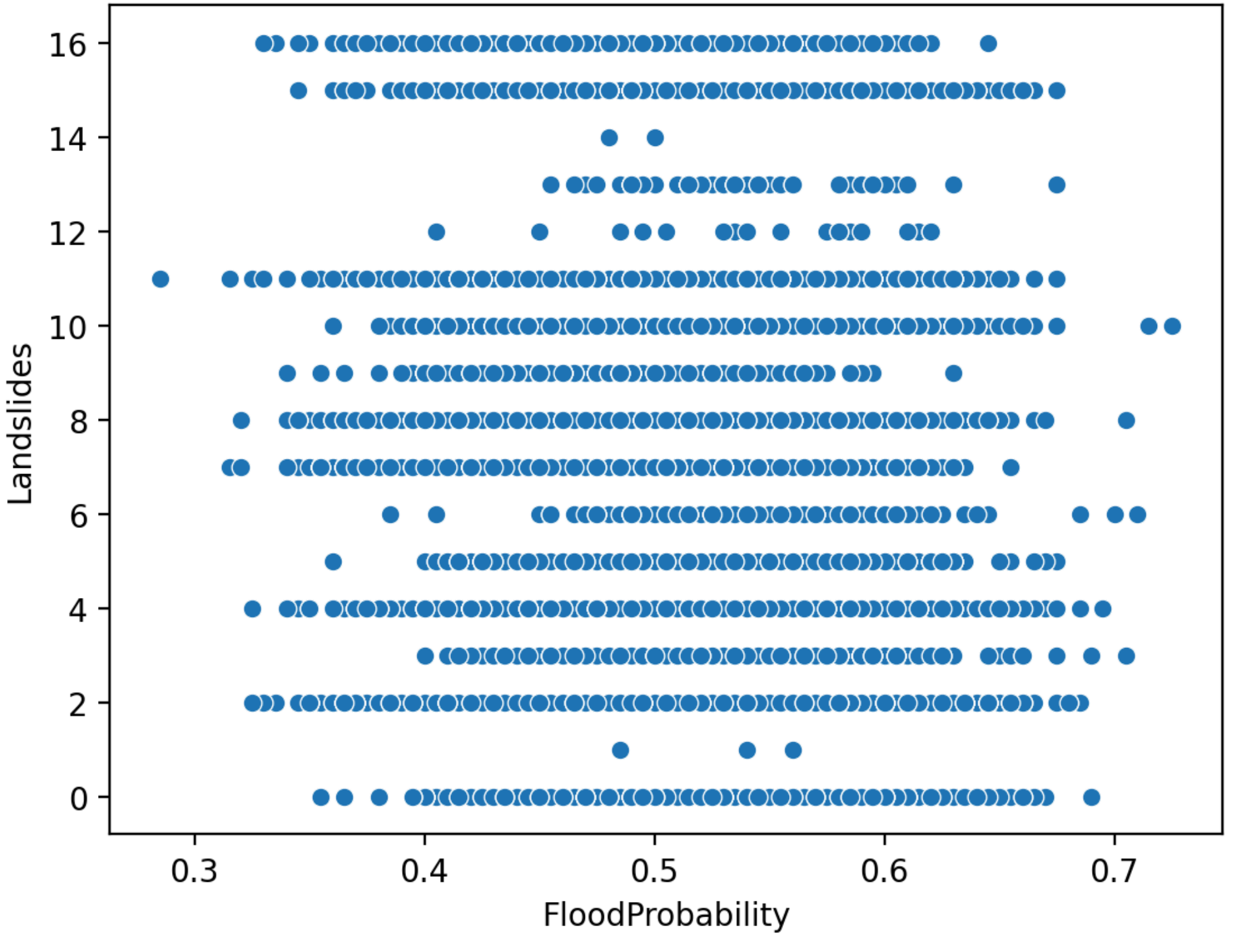
- **Deforestation:** The relationship with flood probability is weak or non-existent.



- **ClimateChange:** There seems to be a strong negative correlation with flood probability.



- **CoastalVulnerability:** The relationship with flood probability is weak or non-existent.



- **Landslides:** The relationship with flood probability is weak or non-existent.