Mini project 1

Heidi

Welcome Property Developers

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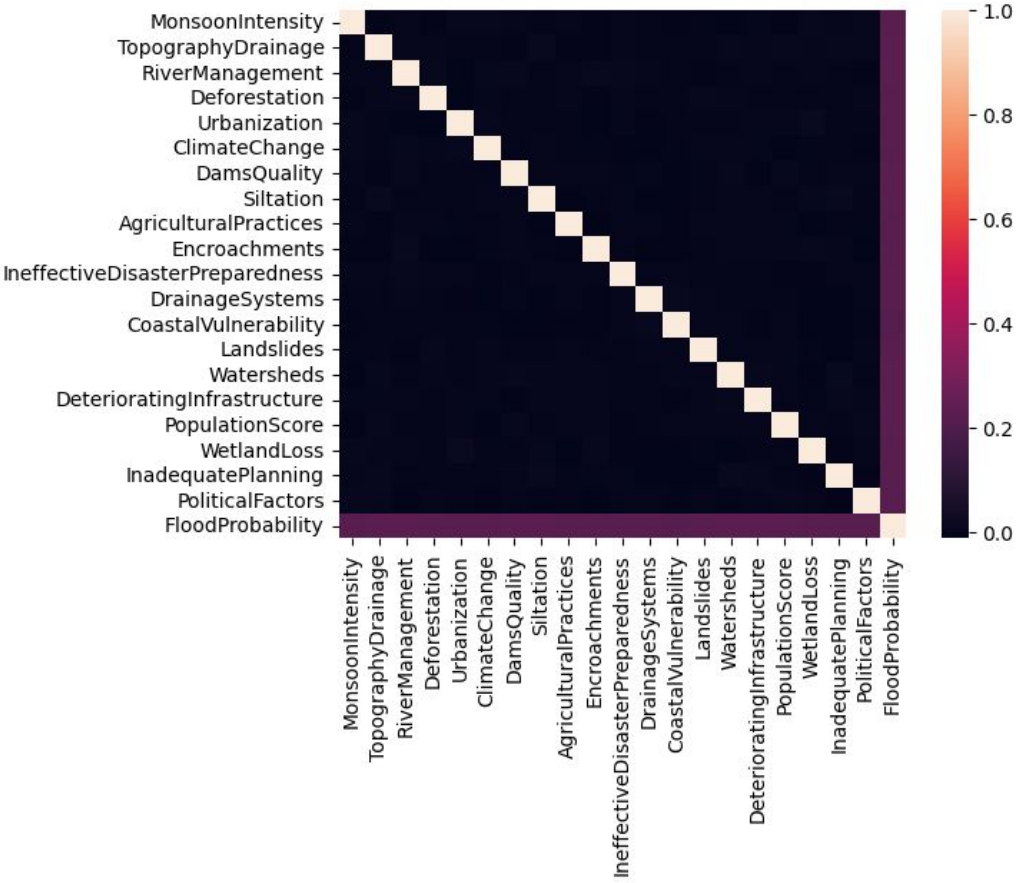
We need to predict how various factors influence flood probability so that we may be more effective in the land we choose to develop to mitigate risks of flooding. The model should be created within 3 months to account for seasons and then updated yearly.

DATA

Flood prediction data

- Monsoon Intensity
- Topography Drainage
- River Management
- Deforestation
- Urbanization
- Climate Change
- DamsQuality
- Siltation
- Agricultural Practices
- Encroachments
- Ineffective Disaster Preparedness
- Drainage Systems
- Coastal Vulnerability
- Landslides
- Watersheds
- Deteriorating Infrastructure
- PopulationScore
- Wetland Loss
- Inadequate Planning
- Political Factors

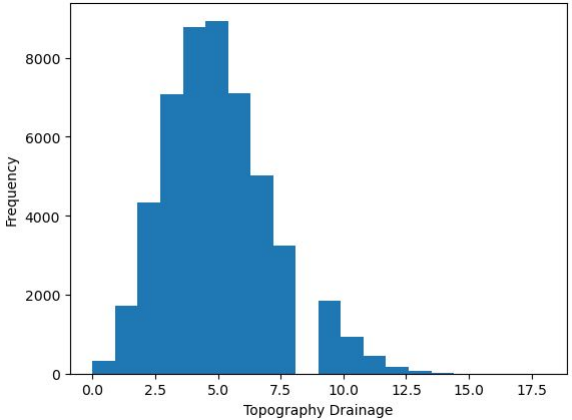
Correlations

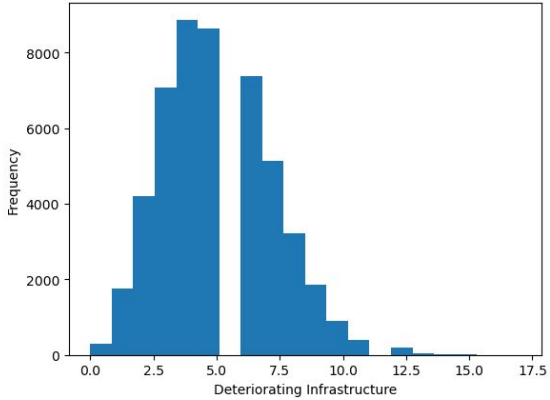


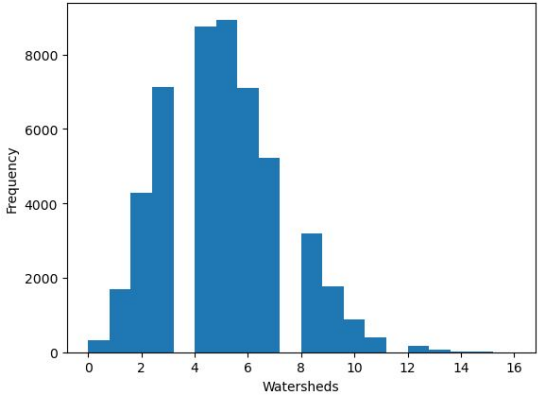
Chosen features

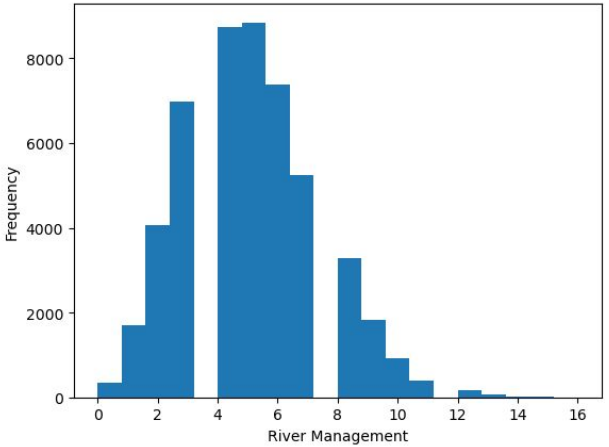
- **Deteriorating Infrastructure:** Clogged culverts, damaged drainage channels, and other deficient infrastructure can increase the risk of floods.
- **Watersheds**: Regions with more watersheds may have a higher or lower risk of flooding, depending on various factors.
- **Topography Drainage:** The drainage capacity based on the region's topography.
- **River Management:** The quality and effectiveness of river management practices. Proper river management, including dredging and bank maintenance, can improve water flow and reduce floods.

Graphs

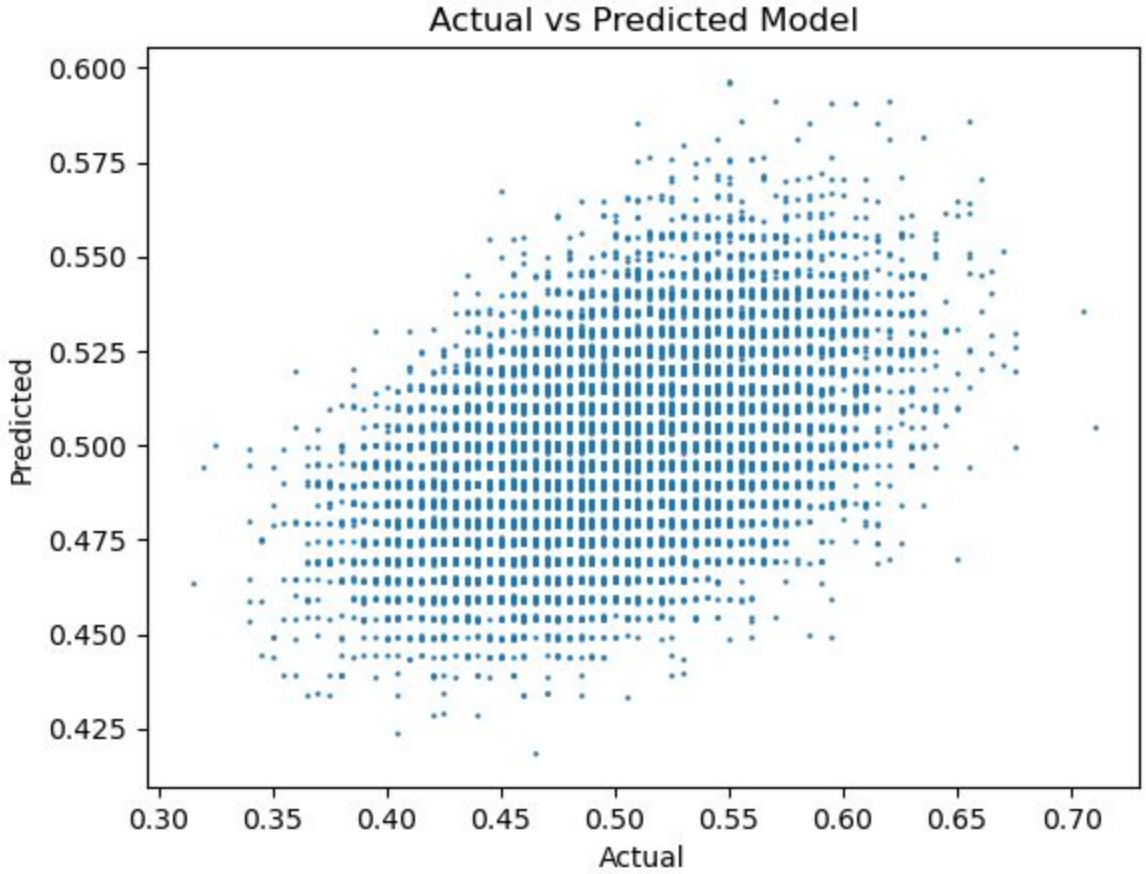

Frequency
Topography Drainage


Frequency
Deteriorating Infrastructure


Frequency
Watersheds


Frequency
River Management

Model


Actual vs Predicted Model
Predicted
0.600
0.575
0.550
0.525
0.500
0.475
0.450
0.425
0.30
0.35
0.40
0.45
0.50
0.55
0.60
0.65
0.70
Actual

Model Evaluation

r2 = 0.2091820458252931

Mean square error = 0.0019976279007056 05

Mean absolute error = 0.03568386807954468

The future

- Plan accordingly

The End