

Grizzly Insurance

Z-FLOOD Analysis

by Zesty.AI

Abstract

Zesty.Ai's innovative flood assessment tool, Z-FLOOD, aimed at assisting insurance companies in comprehending the flood-related risks associated with each property under consideration for insurance coverage. Z-FLOOD has demonstrated remarkable predictive capabilities, enabling the establishment of two critical risk metrics:

1. **Flood Occurrence Score:** This metric quantifies the probability of a property being susceptible to flooding, with scores ranging from 1 (indicating minimal risk, such as properties atop mountains) to 10 (reflecting significant risk, such as those situated adjacent to rivers).
2. **Flood Damage Score:** Z-FLOOD also assigns a score to assess the potential damage a home might experience in the event of a flood. Scores range from 1 (indicating low risk, such as homes elevated on pillars) to 10 (representing high risk, such as residences with deep basements).

Grizzly Insurance, a potential client of Zesty.ai, has collaborated with our organization by sharing their insurance policy portfolio for testing Z-FLOOD's effectiveness. Z-FLOOD was utilized to evaluate all policies within Grizzly Insurance's portfolio providing comprehensive flood risk assessments.

As Grizzly Insurance considers the adoption of Z-FLOOD, this analysis endeavors to illuminate the potential value and benefits that the tool could offer. Through careful examination and quantification, the following aspects will be addressed:

- The transformation of Grizzly Insurance's existing portfolio with the incorporation of Z-FLOOD.
- The multifaceted advantages that Grizzly Insurance stands to gain from integrating Z-FLOOD into their operations.
- A meticulous exploration and quantification of the positive impact that Z-FLOOD could have on Grizzly's profitability and overall financial performance.
- Strong case for Grizzly insurance to adopt Z-FLOOD software in its operations.

This analysis aims to provide Grizzly Insurance with a comprehensive understanding of the tangible benefits and potential outcomes associated with adopting Z-FLOOD, ultimately guiding their decision-making process and contributing to their risk assessment and underwriting strategies.

Grizzly Insurance Portfolio Analysis and Impact of Z-FLOOD

Grizzly Insurance Portfolio Stats:

Properties Insured = 173,979

Net Insured Value= \$88,202,144,840 (approx. 88 billion)

Average Insured Value= \$506,973

Net Annual Premium= \$209,933,678 (approx. 209 million)

Average Annual Premium= \$1,207

Average Insured Claim Value (20%) = \$101,395

Average Premium to Average Claim Ration = 0.01121

Average Premium to Insured Value Ration = 0.00224

Note:

- We do not have geographical data of the properties to have further geotagged analysis of the portfolio.

Grizzly Insurance Portfolio with Z-FLOOD:

Flood Occurrence Score = 3.81

Flood Damage Score = 6.75

Net Risk Score (Occurrence Score x Damage Score) = 28.01

	<i>Flood occurrence score</i>	<i>Flood damage score</i>	<i>Insured value</i>	<i>Policy Annual Premium</i>
Flood occurrence score	1			
Flood damage score	0.41513238	1		
Insured value	0.357770871	0.101498968	1	
Policy Annual Premium	0.541212289	0.226658988	0.774233297	1

Table 1 : Correlation Analysis

Adjusting Premium based on Z-Flood Scores:

Limitations:

- Not knowing the current mechanism used for premium calculation with respect to insured value. We could use relationship equation but that's not very accurate representation with varied data values.
- Not knowing the company risk policy to understand the acceptable risk range along with respective premium adjustor, so we created a sample policy.

Sample Risk Policy Used for Predictions:

- Low risk for risk score between 0 and 40. Using premium adjustor of 0.8.
- Medium risk for risk score between 40 and 70. Using premium adjustor of 1.5.
- High risk for risk score between 70-100. Using premium adjustor of 2.

Average Predicted Annual Premium
(current premium x risk adjustor based on risk policy) = \$1,400

Annual Premium Current = \$209 million
Annual Premium Predicted = \$243 million

Average Premiums for different risk classes:

	No. of Properties	Current		Predicted	
		Annual Premium	Average Premium	Annual Premium	Average Premium
Low Risk	118,630	101.78 mil	858.02	81.42 mil	686.41
Medium Risk	45,901	88.8 mil	1934.98	133.2 mil	2902.46
High Risk	9450	19.3 mil	2045.99	28 mil	3068.98

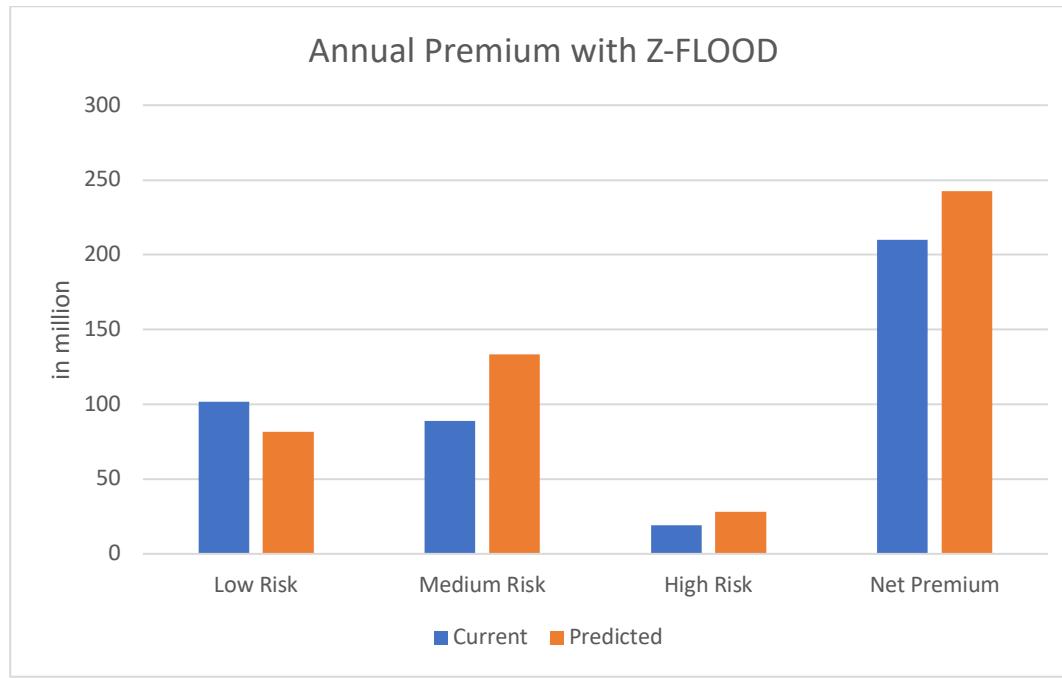


Table 2: Graphical Representation of change in Portfolio with Z-FLOOD

Relationship of premium and risk:

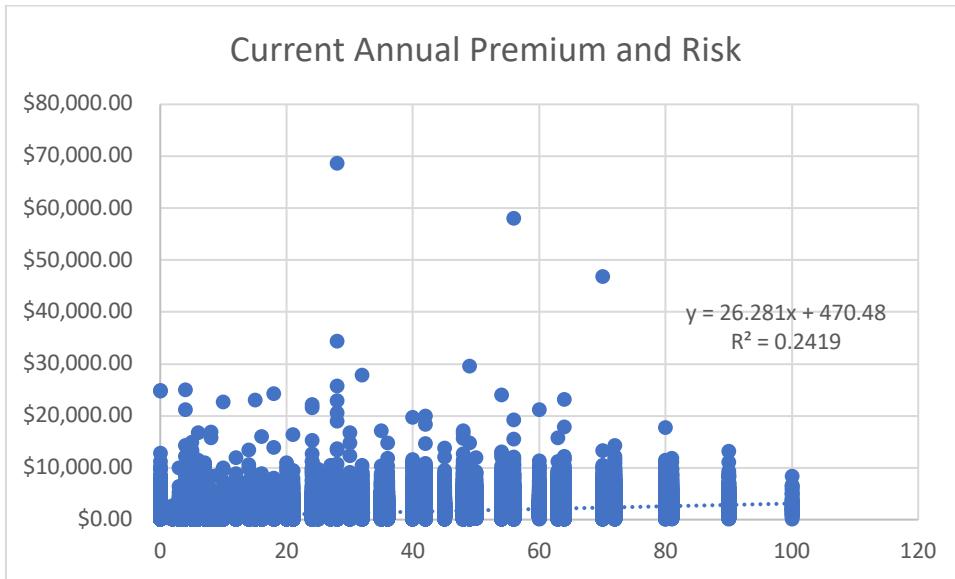
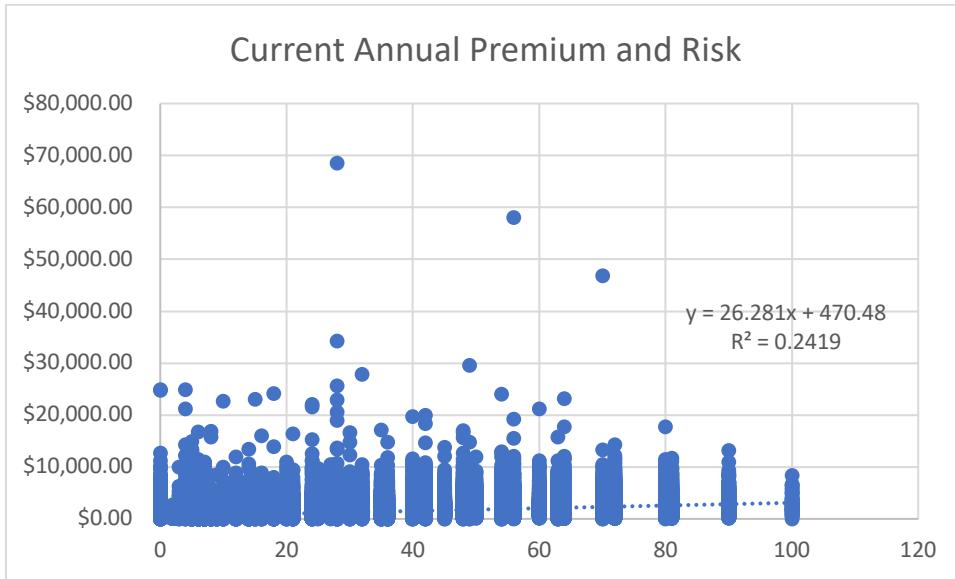


Table 3: Relationship between current annual premium and risk



Benefits of using Z-FLOOD

Quantifying Z-FLOOD's Value to Grizzly's Profitability

Grizzly Insurance to Adopt Z-FLOOD Analysis

Conclusion