Appendix 4.1: Risk Analysis Calculation Formula

$$\text{Risk Index} = \frac{\text{Expected Annual Loss X Social Vulnerability}}{\text{Community Resilience}}$$

Expected Annual Loss (EAL) scores are calculated using an equation that combines values for exposure, annualized frequency, and historic loss ratios for natural hazards.

Natural Hazard Exposure
is a natural hazard consequence factor
that measures the building value, people, and/or agricultural value exposed to a natural hazard event

×

Natural Hazard Frequency
is a natural hazard incidence factor
that measures the estimated annual frequency or probability for a given natural hazard event

×

Historic Loss Ratio
is a natural hazard consequence factor
that measures the proportion of building value, people, and/or agricultural value that has been historically impacted by a natural hazard

=

Expected Annual Loss
represents the expected dollar value loss each year due to natural hazards