The risk scores and ranges for five of the eleven hazards accounted for within the Enterprise Portfolio Protect tool (cold wave, earthquake, heatwave, hurricane, and strong wind) were retrieved from the FEMA Risk Index. The FEMA Risk Index scores for these hazards account for a natural hazard's component (Expected Annual Loss), a consequence enhancing component (Social Vulnerability), and a consequence reduction component (Community Resilience). The risk score range for the FEMA Risk Index Hazards is scaled 0-5 (0=N/A, 1= Very Low Risk, 2= Relatively Low Risk, 3= Relatively Moderate Risk, 4= Relatively High Risk, and 5= Very High Risk).

The risk scores and ranges for the six hazards not retrieved from the FEMA Risk Index (fire hazard, flood zone, sea level rise, landslide, tornado, and tsunami) were derived from a variety of sources and were originally ranked on various scales. To promote consistency and comparability between hazard risk scores, the risk ranges for these hazards were calibrated to the FEMA Risk Index 0-5 scale. To account for the impact of Social Vulnerability (SVI) on risk for these hazards in a systematic way, SVI was weighed by multiplying individual hazard risk scores by:

- 1.25 [for areas with HIGHEST SVI score (greater than 0.7501)]
- 1.00 [for areas with a HIGH SVI score (greater than 0.5011 and less than 0.7501)]
- 0.75 [for areas with a MEDIUM SVI score (between 0.2501 and .5011)]
- 0.50 [for areas with a LOW SVI score (between 0 and .2501)]

This methodology served to amplify individual hazard risk scores in areas of high social vulnerability and decrease individual hazard risk scores in areas of low social vulnerability, as higher social vulnerability reduces the ability of individuals to confront and recover from stresses such as natural caused disasters, making them more at risk overall. Because the five hazards derived from the FEMA Risk Index already accounted for SVI, the risk for these hazards were not multiplied by SVI, as this would overestimate SVI's impact on overall risk. More specifically, SVI already serves to amplify risk for the hazards included in the FEMA Risk Index, as the Risk Index calculation involves multiplying the Expected Annual Loss **by Social Vulnerability** before dividing this by Community Resilience. Multiplying these hazard risk scores by SVI again would be duplicative.

The final risk equation for the Enterprise Portfolio Protect Tool is as follows:

cold wave risk (0-5) + earthquake risk (0-5) + heatwave risk (0-5) + hurricane risk (0-5) + strong wind risk (0-5) + tornado risk (0-5)	+	fire hazard risk (0-5) x SVI factor (.75-1.25) + flood zone risk (0-5) x SVI factor (.75-1.25) + sea level rise risk (0-5) x SVI factor (.75-1.25) + landslide risk (0-5) x SVI factor (.75-1.25) + tsunami risk (0-5) x SVI factor (.75-1.25)	=	Overall Risk Score and Risk Level (0-30)

The maximum resulting overall risk score across the nation is 30 resulting in a risk score range of 0-30. Areas or properties with an overall risk score of 0-5 are deemed low risk, 6-15 are deemed medium risk, and 15-30 are deemed high risk.