

CRB GLOSSARY

Acute: Shocks that are sudden, sharp events that threaten a city. Coastal and riverine flooding that is less frequent than monthly tidal events are considered acute hazards in the context of this assessment.

Annualized values: Represent the total of the product of single losses expected for each projected sea level rise condition and the chance of occurring in any given year. This method facilitates mitigation planning and comparison of hazards by normalizing the results of an evaluation to communicate risk.

Business interruption: Associated income lost because of an event that disrupts the operations of the business, or the removal of a piece of real estate, from the market as a result of disaster impacts. Impacts considered include loss of employment, and output loss (sales and revenue).

Chronic: Stresses that weaken the fabric of a city on a daily or cyclical basis. Heat, stormwater flooding, and monthly tidal flooding are considered chronic hazards in the context of this assessment.

Coastal and riverine flooding: Coastal and riverine flood hazard data used in this vulnerability assessment define estimated flood depths and extents because of tide levels, riverine flows, coastal storm surge, and sea level rise. The flood hazard data were selected to capture a spectrum of acute events (e.g., severe coastal storms combined with sea level rise) and chronic flooding (e.g., potential frequent flooding due to high tide and sea level rise alone).

Consequence analysis: Illustrates to what extent people or assets can be expected to be affected by a hazard, as a result of combined vulnerability and exposure. Consequences are qualitative and quantitative impacts to exposed and vulnerable people, buildings, or infrastructure, and many can be communicated in terms of economic losses.

Direct physical damage: A quantitative assessment of the destruction and degradation of buildings as a result of coastal and riverine flooding. Losses considered under this category include structure damage and contents loss.

Displacement costs: Costs associated with moving a household or a business to a new location and resuming activity in that new location.

Exposure: Signifies people, buildings, infrastructure, and other resources that are located within areas that are most likely to experience hazard impacts. Exposure analysis does not provide insight into the extent, severity, or even whether the people, buildings, or infrastructure will experience loss, as it does not consider site specific conditions that may prevent or limit impacts.

Extreme heat: Refers to increases in average temperature and extreme heat events (heat waves) expected with climate change. The vulnerability assessment used data and projections to best understand and analyze frequency, intensity, and duration of extreme temperatures in Boston.

Focus areas: Neighborhood or groups of neighborhoods that explore exposure and consequences of hazards at a deeper level than the Citywide vulnerability assessment. Focus areas are concentrated on the impacts of coastal and riverine flooding, with the exception of the Roxbury focus area, which examines the dynamics of all three hazards assessed in this report and the effects of such hazards on vulnerable populations.

Heat wave: In the context of this assessment, a heat wave is defined as three or more days in a row with maximum ambient temperatures greater than 90 degrees Fahrenheit.

High probability: Qualitative description of the 10 percent annual chance event for any given sea level rise scenario.

Late century: Refers to the “2070s or later” timeframe, and corresponds to the 36 inch sea level rise scenario.

Low probability: Qualitative description of the 1 percent annual chance event for any given sea level rise scenario.

Mid-century: Refers to the “Beginning 2050s” timeframe, and corresponds to the 21 inch sea level rise scenario.

Near-term: Refers “Beginning 2030s” timeframe, and corresponds to the 9 inch sea level rise scenario.

Nuisance flooding: Chronic flooding that affects quality of life and daily operations for people in general. Nuisance flooding rarely damages property but impacts road access and mobility. Flooded sidewalks, for example, can especially impact someone in a wheelchair or someone who has difficulty walking.

Percent Annual Chance: This term is used to describe the frequency of a storm event. The 1 percent annual chance flood has a 1 in 100 chance of occurring or being exceeded in any given year and is the primary coastal flood hazard delineated in FEMA FIRMs. Percent annual chance flood elevations do not imply a period of time between occurrences. Though the chance of occurrence each year may seem relatively low, a 1 percent annual chance event could occur multiple times in a given year, decade, or century. CRB uses a 1 percent annual chance flood nomenclature rather than the “100-year” flood, in order to limit confusion related to the possible time horizon of an event occurring. The 100-year flood event terminology can more easily be misinterpreted to imply that 100-year events occur only once every 100 years. In reality, these events have close to a 1 in 3 chance of occurring at least once during a 30-year period.

Risk: The combination of exposure, vulnerability, and consequences. Risk is often defined as the product of both the probability and consequences of an impact.

Social vulnerability: The disproportionate susceptibility of some social groups to the impacts of hazards. These impacts could include death, injury, loss, or disruption of life or livelihood. Social vulnerability also affects a population’s resilience: ability to adequately recover from or avoid impacts. Vulnerability is a function of demographic characteristics of the population, as well as environmental

and community conditions such as healthcare provision, social capital, access to social networks, and social isolation.

Stress factors: A quantitative assessment of the product of damage to a person's home due to flood impacts. Losses considered under stress factors include mental stress and anxiety, and lost productivity, which are quantified as mental treatment costs and lost income.

Stormwater flooding: Flooding that occurs as a result of extreme precipitation and sea level rise which overwhelms Boston's existing stormwater drainage system. For the purposes of this study, stormwater flooding has been assessed using a 10-year, 24-hour design storm. The result is pooling of water on streets and localized flooding.

Very low probability, or extremely low probability: Qualitative description of the 0.1 percent annual chance event for any given sea level rise scenario.

Vulnerability: Refers to how and why people or assets could be affected by a hazard, or how and why that affect could be exacerbated or limited. Assessing vulnerabilities requires site-specific or demographic information, such as existing flood-proofing measures or whether a person has a vehicle that could facilitate evacuation.

10-year, 24-hour design storm: The term used to define the frequency of stormwater flooding. A 10-year storm has a 10 percent chance of being equaled or exceeded any given year. A 24-hour design condition defines the duration of intense rainfall. Presently, the 10-year, 24-hour storm for Boston is equal to approximately 5.24 inches of rain in 24 hours.