


Hazard Risk and Vulnerability Assessment Quick Reference Guide

There are seven elements in a complete hazard profile: Description, Location, Previous Occurrences, Impacts, Probability, Extent, and Vulnerability Summary. Below we will give a brief definition of each element as well as show examples. We hope this quick reference guide will assist you in creating complete hazard profiles to include in your Hazard Mitigation Plan.

Element Name	Definition (FEMA) and Explanation	Examples
Description	<p><i>The plan must include a description of the natural hazards that can affect the jurisdiction(s) in the planning area.</i></p> <p>Briefly describe the hazard itself, a NOAA or NWS definition is perfect.</p>	<p>A tornado is a violently rotating column of air, usually pendant to a cumulonimbus, with circulation reaching the ground. It nearly always starts as a funnel cloud and may be accompanied by a loud roaring noise. On a local scale, it is the most destructive of all atmospheric phenomena.</p> <p>Tornados are categorized using the Enhanced Fujita (EF) Scale, which assigns a 'rating' based on estimated wind speeds and related damage. An EF0 tornado has the lowest wind speeds, while an EF5 tornado has the strongest. The NWS is the only federal agency with authority to provide 'official' tornado EF Scale ratings. The goal is to assign an EF Scale category based on the highest wind speed that occurred within the damage path.</p>
Location	<p><i>Location means the geographic areas in the planning area that are affected by the hazard.</i></p> <p>Describe, using either a map or narrative description, which areas of the country are susceptible to this hazard.</p>	<ul style="list-style-type: none"> • The areas of our county that are highly susceptible to wildfires are the grasslands and prairies in the north. • All areas of the county are equally susceptible to tornadoes. • The map to the right shows flood zones in our county. 
Previous Occurrences	<p><i>The plan must include the history of previous hazard events for each of the identified hazards.</i></p> <p>This includes dates of events since the last update, and any significant events prior to that. If your most recent event was more than a few years ago, please state when the last occurrence was particularly if it was prior to the last update.</p>	<ul style="list-style-type: none"> • March 25, 2015 EF2 • May 31, 2013 EF1 • May 20, 2013 EF5 • May 19, 2013 EF4 • April 13, 2012 EF1 • May 24, 2011 EF4 • Our last period of drought was from August 2010 through February 2015. • We had 4 wildfires in 2012; April 1, April 15, July 30, and August 27

<p>Impacts</p>	<p><i>Impact means the consequence of effect of the hazard on the community and its assets.</i></p> <p>Impacts come from previous occurrences unless this hazard has never happened or hasn't happened recently. In which case, general impacts and/or an estimate of future impacts are sufficient.</p>	<ul style="list-style-type: none"> • May 20, 2013 an EF5 tornado formed west of Newcastle and became destructive within minutes, then tracked east-northeastward across the city of Moore and parts of south Oklahoma City for about 40 minutes before finally dissipating near Lake Stanley Draper. The tornado caused catastrophic damage in these areas, and was given a maximum rating of EF-5. The tornado claimed 24 lives, injured scores of people, and caused billions of dollars in damage. • There was a 315 acre wildfire which was ignited by a lightning storm. One nonresidential structure was destroyed resulting in \$2,500 in damage, no injuries were reported. • Only minor earthquakes have been reported in neighboring jurisdictions, none have occurred here. No damages have been reported so far.
<p>Probability</p>	<p><i>Probability means the likelihood of the hazard occurring and may be defined in terms of general descriptors, historical frequencies, statistical probabilities, and/or hazard probability maps. If general descriptors are used, then they must be defined in the plan.</i></p> <p>The probability needs to have a distinct timeframe and definition.</p>	<ul style="list-style-type: none"> • In the last 50 years we have been affected by 4 tornados therefore there is roughly an 8% chance of a tornado on any given year. • We could see a flood once every 30 years. • We could have 176 severe thunderstorms per year. • The probability of a sinkhole is very low. <ul style="list-style-type: none"> ○ very low = greater than 0% but less than 15% annually low = greater than 15% but less than 35% annually medium = greater than 35% but less than 66% annually high = greater than 66% but less than 85% annually very high = greater than 86% annually
<p>Extent</p>	<p><i>Extent means the strength or magnitude of the hazard. For example, extent could be described in terms of the specific measurement of an occurrence on a scientific scale and/or other hazard factors, such as duration and speed of onset. This is the worst case you could expect or what you could expect in any given year.</i></p>	<ul style="list-style-type: none"> • We could see up to an EF5 in our county. • We could get up to 4 feet of flood waters along Rural Road 105 and Buffalo Creek. • Our area has a lightning density of 4 to 8 flashes per square kilometer per year. • A worst case scenario wildfire would burn up to 1,300 acres. • A winter freeze in our area could consist of temperatures as low as 4°F degrees for up to 3 days.
<p>Vulnerability Summary</p>	<p><i>The plan must provide an overall summary of each jurisdiction's vulnerability to the identified hazards. Vulnerable assets and potential losses is more than a list of the total exposure of population, structures, and critical facilities in the planning area.</i></p> <p>These summaries should answer the question "why is your jurisdiction, specifically, vulnerable to this hazard?" and lead to problem statements that identify gaps where projects should be focused on resolving.</p>	<ul style="list-style-type: none"> • Although annual winter storms do not normally have, the population in the western part of our county is particularly vulnerable to winter storms because of the high density of power lines leading to and from the power plant. Icing has caused long term blackouts in the past. Farmers and their crops/livestock in the southern part of the jurisdiction are also particularly vulnerable because the 5,500 acres of devoted farmlands are adversely affected by extreme temperatures. • 2,000 residents in the central part of the jurisdiction live in mobile homes which are particularly vulnerable to straight-line and tornadic winds. • While there is a dam within our county, the dam only holds enough water to cover 100 acres of land with 1 foot of water. If the dam were to fail the area the water would inundate is part of public lands and would therefore have no impact on people or structures. For this reason we are not vulnerable to dam failure in our county.