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6 A.1 Glossary

7 100-year flood or 1 percent flood: The flood elevation that has a 1 percent chance of being equaled or
8 exceeded each year (see also BFE, SFHA). Thus, the 1 percent flood could occur more than once in a
9 relatively short period of time. The 100-year flood, which is the standard used by most federal and state
10 agencies, is used by the National Flood Insurance Program (NFIP) as the standard for floodplain
11 management and to determine the need for flood insurance.

12

13 500-year flood or 0.2 percent flood: The flood elevation that has a .02 percent chance of being
14 equaled or exceeded each year.

15

16 Acquisition: Local governments can acquire lands in high hazard areas through conservation easements,
17 purchase of development rights, or outright purchase of property.

18

19 Acquisition of hazard prone structures: Local governments can acquire lands in high hazard areas
20 through conservation easements, purchase of development rights, or outright purchase of property.

21

22 All-hazards approach: Integrated hazard mitigation strategy that incorporates planning for and
23 consideration of all potential natural and manmade hazard threats.

24

25 Asset: Any manmade or natural feature that has value, including, but not limited to people; buildings;
26 infrastructure like bridges, roads, and sewer and water systems; lifelines like electricity and communication
27 resources; or environmental, cultural, or recreational features like parks, dunes, wetlands, or landmarks.

28

29 Base flood: Flood that has a 1 percent probability of being equaled or exceeded in any given year. Also
30 known as the 100-year flood.

31

32 Base Flood Elevation (BFE): Elevation of the base flood in relation to a specified datum, such as the
33 National Geodetic Vertical Datum of 1929. The Base Flood Elevation is used as the standard for the
34 National Flood Insurance Program.

35

36 Bedrock: The solid rock that underlies loose material, such as soil, sand, clay, or gravel.

37

38 Benefit: Net project outcomes, usually defined in monetary terms. Benefits may include direct and
39 indirect effects. For the purposes of conducting a benefit-cost analysis of proposed mitigation measures,

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40 benefits are limited to specific, measurable risk reduction factors, including a reduction in expected
41 property losses (building, contents, and function) and protection of human life.

42

43 **Benefit-cost analysis (BCA):** Benefit-cost analysis is a systematic, quantitative method of comparing the
44 projected benefits to projected costs of a project or policy. It is used as a measure of cost effectiveness.

45

46 **Building:** A structure that is walled and roofed, principally above ground and permanently affixed to a
47 site. The term includes a manufactured home on a permanent foundation on which the wheels and axles
48 carry no weight.

49

50 **CFR:** Code of Federal Regulation

51

52 **Contour:** A line of equal ground elevation on a topographic map.

53

54 **Critical facility:** Facilities that are vital to the health and welfare of the population and that are especially
55 important following disasters. Critical facilities include, but are not limited to, shelters, police and fire
56 facilities, and hospitals.

57

58 **CRS:** Community Rating System a Nation Flood Insurance Program that provides incentives for NFIP-
59 member communities to complete activities that reduce flood hazard risk. When the community
60 completes specified activities, the insurance premiums of NFIP policyholders in these communities are
61 reduced.

62

63 **DFRIM:** Digital Flood Insurance Rate Map

64

65 **Debris:** The scattered remains of assets broken or destroyed in a hazard event. Debris caused by a wind or
66 water hazard event can cause additional damage to other assets.

67

68 **Disaster Mitigation Act of 2000 (DMA 2000):** DMA 2000 (Public Law 106-390) was signed into law on
69 October 10, 2000. This legislation reinforces the importance of mitigation planning and emphasizes
70 planning for disasters before they occur.

71

72 **Drought:** The consequence of anticipated natural precipitation reduction over an extended period of time,
73 usually a season or more in length.

74

75 **Erosion:** Wearing away of the land surface by detachment and movement of soil and rock fragments,
76 during a flood or storm or over a period of years, through the action of wind, water, or other geologic
77 processes.

78

79 **Extent:** The size of an area affected by a hazard or hazard event.

80

81 **Federal Emergency Management Agency (FEMA):** Independent agency created in 1979 to provide a
82 single point of accountability for all federal activities related to disaster mitigation and emergency
83 preparedness, response, and recovery. The agency was later merged into the US Department of Homeland
84 Security.

85

86 **Federal Insurance Administration:** A division of FEMA responsible for administering the flood insurance
87 aspects of the NFIP.

88

89 **Flash flood:** A flash flood is a specific type of flood that appears and moves quickly across the land with
90 little warning, making it very dangerous. A flash flood is the fastest-moving type of flood. It happens when
91 heavy rain collects in a stream or gully, turning the normally calm area into an instant rushing current.

92

93 **Flood:** A general and temporary condition of partial or complete inundation of normally dry land areas
94 from: (1) the overflow of inland or tidal waters; (2) the unusual and rapid accumulation of runoff of
95 surface water from any source.

96

97 **Flood boundary and floodway map:** A flood plain management map issued by FEMA that shows, based
98 on detailed and approximate analyses, the boundaries of the 1 percent and .02 percent floodplains and
99 the 1 percent floodway.

100

101 **Flood depth:** Height of the flood water surface above the ground surface

102

103 **Flood elevation:** Elevation of the water surface above an established datum, e.g. National Geodetic
104 Vertical Datum of 1929, North American Vertical Datum of 1988 or Mean Sea Level.

105

106 **Flood fringe:** That portion of the 1 percent floodplain outside the floodway in which total encroachment
107 is permissible.

108

109 **Flood Hazard Boundary Map (FHBM):** The initial insurance map issued by FEMA that identifies
110 approximate areas of 1 percent flood hazard in a community.

111

112 **Flood Insurance Rate Map (FIRM):** Also referred to as **DFIRM (Digital Flood Insurance Rate Map)**; the
113 official map of a community for which FEMA has delineated both the special hazard areas (1 percent
114 floodplain) and the risk premium zones applicable to the community.

115

116 **Flood Insurance Study (FIS):** A study that is produced by FEMA and evaluates flood hazard areas,
117 describes its causes, and identifies flood protection measures. Depending on the area studied, the FIS
118 may include water surface elevations. An FIS is developed in conjunction with a Flood Insurance Rate Map
119 (FIRM).

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Floodplain: Any land susceptible to inundation by floodwaters from any source.

Floodproofing: Any combination of structural and non-structural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents.

Enhanced Fujita Scale: a damage scale and only a proxy for actual wind speeds. While the wind speeds associated with the damage listed have not undergone empirical analysis (e.g., detailed physical or any numerical modeling) owing to excessive cost, the wind speeds were obtained through a process of expert elicitation based on various engineering studies since the 1970s as well as from field experience of meteorologists and engineers. In addition to damage to structures and vegetation, radar data, photogrammetry, and cycloidal marks (ground swirl patterns) may be utilized when available.

Geographic Information System (GIS): A computer software application that relates physical features on the earth to a database to be used for mapping and analysis.

Hazard: A source of potential danger or adverse conditions.

Hazard identification: The process of identifying hazards that threaten an area.

Hazard mitigation: Sustained actions taken to reduce or eliminate long-term risk from hazards and their effects.

Hazard Mitigation Grant Program (HMGP): Provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

Hazard profile: A description of the physical characteristics of hazards and a determination of various descriptors including magnitude, duration, frequency, probability, and extent.

Hazardous materials incident: A biological, chemical or physical agent with the potential to cause harm to the environment or people on its own or when combined with other factors or materials.

HAZUS (Hazards U.S.): A GIS-based, nationally standardized, loss estimation tool developed by FEMA.

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158 **Heat index:** Heat stress can be indexed by combining the effects of temperature and humidity. The
159 National Weather Service will initiate alert procedures such as special weather statements when the heat
160 index is expected to exceed 105°F-110°F (depending on local climate), for at least two consecutive days.
161

162 **Hydrology:** The science of dealing with the waters of the earth. A flood discharge is developed by a
163 hydrologic study.
164

165 **Infrastructure:** Refers to the public services of a community that have a direct impact on the quality of
166 life. Infrastructure includes communication technology such as phone lines or Internet access, vital services
167 such as public water supplies and sewer treatment facilities, and includes an area's transportation system
168 such as airports, heliports, highways, bridges, tunnels, roadbeds, overpasses, railways, bridges, rail yards,
169 depots; and waterways, piers, and regional dams.
170

171 **Intensity:** A measure of the effects of a hazard event at a particular place.
172

173 **Landslide:** Downward movement of a slope and materials under the force of gravity.
174

175 **Lightning:** An atmospheric discharge of electricity accompanied by thunder, which typically occurs during
176 thunderstorms, and sometimes during volcanic eruptions or dust storms. In the atmospheric electrical
177 discharge, a leader of a bolt of lightning can travel at speeds of 130,000 MPH, and can reach temperatures
178 approaching 54,000 °F, hot enough to fuse silica sand into glass.
179

180 **Local Emergency Planning Committee (LEPC):** LEPCs consist of community representatives and are
181 appointed by the State Emergency Response Commissions (SERCs), as required by Superfund Amendments
182 and Reauthorization Act (SARA), Title III. They develop an emergency plan to prepare for and respond to
183 chemical emergencies. They are also responsible for coordinating with local facilities to find out what they
184 are doing to reduce hazards, prepare for accidents, and reduce hazardous inventories and releases. The
185 LEPC serves as a focal point in the community for information and discussions about hazardous substances,
186 emergency planning, and health and environmental risks.
187

188 **Loss of Function:** Damage to a facility or interruption of service to a point that the facility or service can
189 no longer provide a public benefit. Most often associated with utilities and critical service providers, such
190 as police and fire facilities.
191

192 **Lowest Floor:** Under the NFIP, the lowest floor of the lowest enclosed area (including basement) of a
193 structure.
194

195 **Magnitude:** A measure of the strength of a hazard event. The magnitude (also referred to as severity) of
196 a given hazard is usually determined using technical measures specific to a hazard.
197

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- 198 **Mitigate:** To cause something to become less harsh or hostile, to make less severe or painful.
199
- 200 **Mitigation:** The process of reducing the severity of the impact of natural hazards through planning. Each
201 hazard requires a specific type of mitigation. In some cases, we can use engineering solutions (such as an
202 earthquake-resistant building) to at least temporarily reduce the impact of a natural hazard. In other
203 cases, the only form of mitigation that is guaranteed to be successful is to limit or not allow human
204 activities where the hazard occurs (such as in floodplains).
205
- 206 **Mitigation plan:** A systematic evaluation of the nature and extent of vulnerability to the effects of
207 natural hazards typically present in the state and includes a description of actions to minimize future
208 vulnerability to natural hazards.
209
- 210 **Monitoring:** periodic collection of data to study changes in an environment over time.
211
- 212 **National Fire Danger Rating System (NFDRS):** A set of computer programs and algorithms that allow
213 land management agencies to estimate today's or tomorrow's fire danger for a given rating area. NFDRS
214 characterizes fire danger by evaluating the approximate upper limit of fire behavior in a fire danger rating
215 area during a 24-hour period. Calculations of fire behavior are based on fuels, topography and weather,
216 or what is commonly called the fire triangle.
217
- 218 **National Flood Insurance Program (NFIP):** A federal program enabling property owners in participating
219 communities to purchase insurance protection against losses from flooding. This insurance is designed to
220 provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage
221 to buildings and their contents caused by floods.
222
- 223 **Natural disaster:** A natural hazard event, such as a flood or tornado, which results in widespread
224 destruction of property or caused injury and/or death.
225
- 226 **NFIP:** National Flood Insurance Program
227
- 228 **NOAA:** National Oceanic and Atmospheric Administration
229
- 230 **PA:** Public Assistance
231
- 232 **Palmer Drought Index:** This index was developed by Wayne Palmer in the 1960s and uses temperature
233 and rainfall information in a formula to determine dryness. It has become the semi-official drought index.
234 The Palmer Index is most effective in determining long term drought.
235
- 236 **PDA:** Preliminary Damage Assessment
237

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238 **Planning:** The act or process of making or carrying out plans; the establishment of goals, policies, and
239 procedures for a social or economic unit.

240

241 **Pre-Disaster Mitigation Program (PDM):** Authorized by Section 204 of the Robert T. Stafford Disaster
242 Assistance and Emergency Relief Act (Stafford Act), 42 USC, as amended by 102 of the Disaster Mitigation
243 Act Mitigation Fund to assist States and local governments (to include Indian Tribal governments) in
244 implementing cost-effective hazard mitigation activities that complement a comprehensive mitigation
245 program.

246

247 **Preparedness:** Actions that strengthen the capability of government, citizens, and communities to
248 respond to disasters.

249

250 **Probability:** A statistical measure of the likelihood that a hazard event will occur.

251

252 **Recovery:** The actions taken by an individual or community after a catastrophic event to restore order and
253 lifelines in a community.

254

255 **Regulatory Power:** Local jurisdictions have the authority to regulate certain activities in their jurisdiction.
256 With respect to mitigation planning, the focus is on such things as regulating land use development and
257 construction through zoning, subdivision regulations, design standards, and floodplain regulations.

258

259 **Response:** The actions taken during an event to address immediate life and safety needs and to minimize
260 further damage to properties.

261

262 **Risk:** The estimated impact that a hazard would have on people, services, facilities, and structures in a
263 community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage.
264 Risk is often expressed in relative terms such as a high, moderate, or low likelihood of sustaining damage
265 above a particular threshold due to a specific type of hazard event. It also can be expressed in terms of
266 potential monetary losses associated with the intensity of the hazard.

267

268 **Risk management:** the process by which the results of an assessment are integrated with political,
269 economic, and engineering information to establish programs, projects, and policies for reducing future
270 losses and dealing with the damage after it occurs.

271

272 **Riverine:** Of or produced by a river

273

274 **Scale:** A proportion used in determining a dimensional relationship; the ratio of the distance between two
275 points on a map and the actual distance between the two points on the earth's surface.

276

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277 Scour: Removal of soil or fill material by the flow of floodwaters. The term is frequently used to describe
278 storm-induced, localized conical erosion around pilings and other foundation supports where the
279 obstruction of flow increases turbulence.

280

281 **Special Flood Hazard Area (SFHA):** A high-risk area defined as any land that would be inundated by a
282 flood having a 1 percent chance of occurring in any given year (see also BFE, 100-year flood). The SFHA is
283 commonly identified on NFIP Flood Insurance Rate Maps (FIRMs). A structure located within a SFHA
284 shown on a FIRM has a 26 percent chance of suffering flood damage during the term of a 30-year
285 mortgage.

286

287 **Stafford Act:** The Robert t. Stafford Disaster Relief and Emergency Act, P.L. 100-107 was signed into law
288 November 23, 1988 and amended the Disaster Relief Act of 1974, P.L. 23-288. The Stafford Act is the
289 statutory authority for most federal disaster response activities, especially as they pertain to FEMA and its
290 programs.

291

292 **State Hazard Mitigation Officer (SHMO):** The representative of state government who is the primary
293 point of contact with FEMA, other state and federal agencies, and local units of government in the
294 planning and implementation of pre- and post-disaster mitigation activities.

295

296 **Substantial damage:** Damage of any origin sustained by an obstruction whereby the cost of restoring
297 the obstruction to its before-damage condition would equal or exceed 50 percent of the market value of
298 the obstruction before the damage occurred.

299

300 **Substantial improvement:** Any reconstruction, rehabilitation, addition, or other improvement of an
301 obstruction, the cost of which equals or exceed 50 percent of the obstruction before “start of
302 construction” of the improvement. This includes obstructions which have incurred “substantial damage,
303 “regardless of the actual repair work performed. The term does not, however, include either (1) any
304 project for improvement of a structure or other obstruction to correct existing violations of state or local
305 health, sanitary, or safety code specifications which have been identified by the local code enforcement
306 official and which are the minimum necessary to assure safe living condition, or (2) any alteration of a
307 “historic structure,” provided that the alteration will not preclude the structure’s continued designation
308 as a “historic structure.”

309

310 **Technological disaster:** A disaster that results from a technological or man-made hazard event.

311

312 **Technological hazard:** A hazard that originates in accidental or intentional human activity (oil spill,
313 chemical spill, building fires, terrorism, etc.).

314

315 **Topographic map:** A map that shows natural features and indicates the physical shape of land using
316 contour lines. These maps may also include manmade features.

- 317
- 318 **Tornado:** A violently rotating column of air extending ground-ward.
- 319
- 320 **Tornado and Storm Research Organization (TORRO) Scale:** The scale extends from H0 to H10 with its
- 321 increments of intensity or damage potential related to hail size (distribution and maximum), texture,
- 322 numbers, fall speed, speed of storm translation, and strength of the accompanying wind. This is scale is
- 323 often used in conjunction with the **NOAA hail intensity scale**, which focuses on diameter and description
- 324 (compared to objects such as coins) for the purpose of measuring hail events.
- 325
- 326 **UHMA:** Unified Hazard Mitigation Assistance Program
- 327
- 328 **USACE:** United States Army Corps of Engineers
- 329
- 330 **USDA:** United States Department of Agriculture
- 331
- 332 **US Drought Monitor:** Provides a consolidated depiction of national drought conditions based on a
- 333 combination of drought indicators and field reports.
- 334
- 335 **USGS:** United States Geological Survey
- 336
- 337 **Vulnerability:** Describes how exposed or susceptible to damage an asset is. Vulnerability depends upon
- 338 an asset's construction, contents, and the economic value of its functions. Like indirect damages, the
- 339 vulnerability of one element of the community is often related to the vulnerability of another.
- 340
- 341 **Vulnerability assessment:** the qualitative or quantitative examination of the exposure of some
- 342 component of society, economy, or the environment to natural hazards.
- 343
- 344 **Wildfire:** An uncontrollable fire spreading through vegetative fuels, exposing and possibly consuming
- 345 structures.
- 346
- 347 **Wind:** The horizontal motion of the air past a given point. Winds begin with differences in air pressures.
- 348 Pressure that's higher at one place than another sets up a force pushing from the high toward the low
- 349 pressure. The greater the difference in pressures, the stronger the force. The distance between the area
- 350 of high pressure and the area of low pressure also determines how fast the moving air is accelerated.
- 351 Meteorologists refer to the force that starts the wind flowing as the "pressure gradient force." High and
- 352 low pressures are relative. There's no set number that divides high and low pressure. Wind is used to
- 353 describe the prevailing direction from which the wind is blowing with the speed given usually in miles per
- 354 hour or knots.
- 355
- 356 **Zone A (Unnumbered):** Special Flood Hazard Areas subject to inundation from the 1 percent flood.

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357 Because detailed hydraulic analyses have not been performed, no base flood elevations or depths are
358 shown. Mandatory flood insurance purchase requirements apply.

359

360 **Zone AE and A1-30:** Special Flood Hazard Areas subject to inundation by the 1 percent flood
361 determined in a Flood Insurance Study by detailed methods. Base flood elevations are shown within these
362 zones. Mandatory flood insurance purchase requirements apply. (Zone AE is used on new and revised
363 maps in place of Zones A1-30.)

364

365 **Zone AH:** Special Flood Hazard Areas subject to inundation by 1 percent shallow flooding (usually areas
366 of ponding) where average depths are between one and three feet. Base flood elevations derived from
367 detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements
368 apply.

369

370 **Zone AO:** Special Flood Hazard Areas subject to inundation by 1 percent shallow flooding (usually sheet
371 flow on sloping terrain) where average depths are between one and three feet. Average flood depths
372 derived from detailed hydraulic analyses are shown within this zone. Mandatory flood insurance purchase
373 requirements apply.

374

375 **Zone B, C, and X:** Areas that have been identified in the community flood insurance study as areas of
376 moderate or minimal flooding from a principal source in the area. However, buildings in these zones
377 could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. Flood
378 insurance is available in participating communities but is not required by regulation in these zones. (Zone
379 X is used on new and revised maps in place of Zones B and C.)

380

381 **Zone D:** Unstudied areas where flood hazards are undetermined but flooding is possible. No mandatory
382 flood insurance purchase requirements apply, but coverage is available in participating communities.

383