Glossary of Frequently Used Mapping Terms

0.2-Percent-Annual-Chance Flood - The flood that has a 0.2-percent chance of being equaled or exceeded in any given year.

0.2-Percent-Annual-Chance Wave Envelope - The superelevation of flood levels above the stillwater level due to wave effects.

1-Percent-Annual-Chance Flood - The flood that has a 1-percent chance of being equaled or exceeded in any given year. (See Base Flood.)

1-Percent-Annual-Chance Flood Elevation - See Base Flood Elevation (BFE).

2-Percent-Annual-Chance Flood - The flood that has a 2-percent chance of being equaled or exceeded in any given year.

6-Month Compliance Period - See Adoption/Compliance Period.

10-Percent-Annual-Chance Flood - The flood that has a 10-percent chance of being equaled or exceeded in any given year.

10-Year Flood - See 10-Percent-Annual-Chance Flood.

50-Year Flood - See 2-Percent-Annual-Chance Flood.

90-Day Appeal Period - See Appeal Period.

100-Year Flood - See 1-Percent-Annual-Chance Flood.

500-Year Flood - See 0.2-Percent-Annual-Chance Flood.

Accredited Levee - A levee that FEMA has shown on a Flood Insurance Rate Map (FIRM) as providing protection from the 1-percent-annual-chance or greater flood. This determination is based on the submittal of data and documentation as required by Section 65.10 of the NFIP regulations (44CFR65.10). The area landward of an accredited levee is shown as Zone X (shaded) on the FIRM, except for areas of residual flooding, such as ponding areas, which is shown as Special Flood Hazard Area (SFHA).

ADCIRC Coastal Circulation and Storm Surge Model - A system of computer programs for solving time-dependent, free surface circulation and transport problems in two and three dimensions. These programs use the finite element method in space allowing the use of highly flexible, unstructured grids.

Introduction

The terms in this Glossary will be encountered regularly by people who are actively involved in, or otherwise interested in, the flood hazard mapping effort in the Southeastern United States. This would include:

- Federal Emergency Management Agency (FEMA) staff;
- Federal, State, and regional entities;
- Community officials;
- Citizens; and
- Other public- and private-sector stakeholders that are actively involved in the National Flood Insurance Program (NFIP) and the Risk Mapping, Assessment, and Planning (Risk MAP) program.

Additional terms related to coastal engineering analyses and flood hazard mapping are provided in Subsection D.2.16 of FEMA document titled Atlantic Ocean and Gulf of Mexico Coastal Guidelines dated February 2007 (PDF).

A Glossary of Frequently Used Coastal Terms (PDF) also is available.

For Additional Information

For additional information about the coastal analysis and mapping effort in the Southeastern U.S., please visit: [www.southeastcoastalmaps.com](http://www.southeastcoastalmaps.com).

Adjacent Grade - Elevation of the natural or graded ground surface, or structural fill, abutting the walls of a building.

Adoption/Compliance Period - The period that begins with the issuance of a Letter of Final Determination and ends when a new or revised FIRM becomes effective, during which a community must enact and adopt new or revised floodplain management ordinances required for participation in the NFIP.

Advisory Base Flood Elevations (ABFEs) - The updated 1-percent-annual-chance stillwater elevations that FEMA developed, following Hurricane Katrina, for coastal parishes in Louisiana and coastal counties in Mississippi (and for coastal communities in New Jersey following Superstorm Sandy) to provide communities with advisory building elevations for reference during the reconstruction process.

Appeal - A formal objection to FEMA’s proposed flood hazard determinations (i.e., addition or modification of Base Flood Elevations (BFEs), base flood depths, SFHAs, zone designations, and regulatory floodways) shown on a new or revised FIRM and/or a new or revised FIS report subject to the NFIP due process requirements cited at Title 44, Chapter I, Part 67 of the Code of Federal Regulations (44 CFR Part 67).

Appeal Period - The period, beginning on the date of the second publication of FEMA’s proposed flood hazard determination notice in a local newspaper with wide circulation, during which community officials or owners or lessees of real property within the community may submit formal objections to the proposed flood hazard information (i.e., new or modified BFEs, base flood depths, SFHAs, zone designations, regulatory floodways) shown on new or revised FIRM panels and/or new or revised FIS report materials by submitting data to show that the proposed flood hazard information is scientifically or technically incorrect.

Application Forms - The comprehensive, easy-to-use forms that were implemented by FEMA in 1992 to facilitate the processing of requests for conditional and final revisions or amendments to NFIP maps. Updated versions of these forms continue to be used for such requests.

Approved Model - A numerical computer model that has been accepted by FEMA for use in performing new or revised hydrologic or hydraulic analyses for NFIP purposes. All accepted models must meet the requirements set forth in Subparagraph 65.6(a)(6) of the NFIP regulations (44CFR65.6(a)(6)).

Approximate Study - A flood hazard study that results in the delineation of floodplain boundaries for the 1-percent-annual-chance flood, but does not include the determination of BFEs or base flood depths.

Area Not Included (ANI) - An area that is excluded from the mapping for a subject community because (1) the area is under the jurisdiction of another community or county and is shown on the mapping for that community or county, or (2) access to the area is limited for security reasons (e.g., military installations).

Areas of Mitigation Interest (AOMI) - A FEMA Flood Risk Dataset that identifies physical factors that may contribute (positively or negatively) to flooding and flood losses warranting further research and focus to determine if it is feasible to address them through the implementation of future mitigation actions.

Armor Layer - The protective layer on a breakwater or seawall composed of "armor units."

Armor Units - A relatively large quarrystone or concrete shape that is selected to fit specified geometric characteristics or density.

Artificial Nourishment - The process of replenishing a beach with material (usually sand) obtained from another location.

As-Built - A term used to describe mapping and mapping-related data that reflect conditions within a floodplain based on flood-control structures and other structures being completed.
Astronomical Tide - The tidal levels and character that would result from gravitational effects of the Earth, Sun, and Moon without any atmospheric influences.

Backrush - The seaward return of the waves following the uprush of the waves.

Backshore - The zone of the shore or beach lying behind the upper swash zone.

Backwater - Water that is backed up or retarded in its course as compared with its normal or natural condition of flow.

Base Flood - The flood that has a 1-percent chance of being equaled or exceeded in any given year.

Base Flood Elevation (BFE) - The elevation of a flood having a 1-percent chance of being equaled or exceeded in any given year.

Base Map - The map of the community that depicts cultural features (e.g., roads, railroad, bridges, dams, culverts), drainage features, and corporate limits.

Bathymetric Chart - A topographic map of the bed of an ocean, sea, or other large body of water, with depths indicated by contours (isobaths) drawn at regular intervals.

Bathymetry - The measurement of depths of water in oceans, seas, or large bodies of water; also, information derived from such measurements.

Beach - The zone of unconsolidated material that extends landward from the low water line to the place where there is marked change in material or physiographic form, or to the line of permanent vegetation (usually the effective limit of storm waves).

Beach Berm - A nearly horizontal plateau on the beach face or backshore, formed by the deposition of beach material by wave action or as part of a beach nourishment effort.

Beach Erosion - The carrying away of beach materials by wave action, tidal currents, littoral currents, or wind.

Beach Face - The section of the beach that is normally exposed to the action of the wave uprush.

Beach Head - The cliff, dune, or seawall looming above the landward limit of the active beach.

Beach Nourishment - The replacement of beach sand removed by erosion; also referred to as beach replenishment or sand replenishment.

Beach Profile - A cross section taken perpendicular to a given beach contour; the profile may include the face of a dune or seawall, and it may extend over the backshore, across the foreshore, and seaward underwater into the nearshore zone.

Bench Mark (BM) - A permanent monument established by any Federal, State, or local agency, whose elevation and description are well documented and referenced to the National Geodetic Vertical Datum of 1929 or the North American Vertical Datum of 1988.

Berm - A nearly horizontal plateau on the beach face or backshore, formed by the deposition of beach material by wave action or by means of a mechanical plant as part of a beach nourishment scheme.

Berm Breakwater - A rubble mound structure with horizontal berm of armor stones at about sea level that is allowed to be shaped or reshaped by the waves.

Bluff - A high, steep bank or cliff.
**Breakaway Wall** - A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

**Breakwater** - A structure protecting a shore area, harbor, anchorage, or basin from waves.

**Building** - A structure with two or more outside rigid walls and a fully secured roof, that is affixed to a permanent site; a manufactured home (a structure built on a permanent chassis, transported to its site in one or more sections and affixed to a permanent foundation); or travel trailer without wheels, built on a chassis and affixed to a permanent foundation, that is regulated under a community's floodplain management and building ordinances or laws.

**Bulkhead** - A structure or partition to retain or prevent sliding of the land.

**Central Pressure Index (CPI)** - The estimated minimum barometric pressure in the eye (approximate center) of a particular hurricane. The CPI is considered the most stable index to intensity of hurricane wind velocities in the periphery of the storm; the highest winds are associated with storms having the lowest CPI.

**Changes Since Last FIRM (CSLF)** – A FEMA Flood Risk Dataset that provides information regarding changes made to the mapped floodplain and regulatory floodway boundaries that result from an updated study of flood hazards for an impacted jurisdiction.

**Channel** - A naturally or artificially created open conduit that periodically or continuously contains moving water or which forms a connecting link between two bodies of water.

**Chief Executive Officer (CEO)** - The official of a community who has the authority to implement and administer laws, ordinances, and regulations for that community.

**Coast** - A strip of land of indefinite width (may be several kilometers) that extends from the shoreline inland to the first major change in terrain features.

**Coastal A Zone** - A term used to describe an area of special flood hazards landward of the Coastal High Hazard Area that is subject to wave heights that are less than 3 feet but greater than or equal to 1.5 feet. These moderate waves can cause significant damage to structures, although the damage would not be as severe as the damage caused by the 3-foot or greater breaking waves in the Coastal High Hazard Area. These areas are designated Zone AE on the Flood Insurance Rate Map.

**Coastal Barrier Resources System (CBRS)** - A system of protected coastal areas (including the Great Lakes). The areas within the CBRS are defined as depositional geologic features consisting of unconsolidated sedimentary materials; subject to wave, tidal, and wind energies; and protecting landward aquatic habitats from direct wave attack.

**Coastal Base Flood Elevations (BFEs)** - The 1-percent-annual-chance flood elevations shown on a FIRM within the Coastal High Hazard Area. Coastal BFEs can be calculated using the following equation: Stillwater Flood Elevation + Wave Height = Coastal BFE.

**Coastal Flooding** - The wearing away of land and the removal of beach or dune sediments by wave action, tidal currents, wave currents, drainage, or high winds.

**Coastal Flooding** - Flooding that occurs along the Great Lakes, the Atlantic and Pacific Oceans, and the Gulf of Mexico.

**Coastal Flood Risk Study** - A term used to describe the engineering analysis of flood hazards along the Gulf or Atlantic coast performed by FEMA using the ADCIRC computer model, with the results of that analysis being reflected on the FIRM panels and FIS report materials for the affected communities.
Coastal High Hazard Area (CHHA) - An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high-velocity wave actions from storms or seismic sources.

Coastal Processes - A collective term covering the action of natural forces on the shoreline and nearshore seabed.

Coastal Zone Management (CZM) - The integrated and general development of the coastal zone. Coastal Zone Management is not restricted to coastal defense works, but includes also a development in economical, ecological, and social terms. Coastline Management is a part of Coastal Zone Management.

Coastline - Technically, the line that forms the boundary between the coast and the shore; commonly, the line that forms the boundary between the land and the water, especially the water of a sea or ocean.

Code of Federal Regulations (CFR) - The codification of the general and permanent rules published in the NFIP by the Executive Departments and agencies of the Federal Government. NFIP regulations appear at Title 44, Chapter 1, Parts 59 through 77 of the CFR.

Comment - A formal objection to information that is not related to the proposed or proposed modified flood hazard determinations, submitted through the CEO, FPA, or other community official designated by the CEO during the appeal period. Comments would include changes to road names and configurations, changes to corporate limits boundaries, and requests that changes effected by Letter of Map Change be incorporated.

Community - Any State or area or political subdivision thereof, or any Indian tribe or authorized tribal organization, or Alaska Native village or authorized native organization, which has the authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction.

Community Assistance Call (CAC) - A telephone call made by FEMA Regional Office staff or the State NFIP Coordinator to a community to supplement or replace a Community Assistance Visit.

Community Assistance Program (CAP) – An NFIP-funded FEMA program under which cost-shared funds are provided to States to provide technical assistance support to communities participating in the NFIP. The purpose of the CAP is to identify, prevent, and resolve floodplain management issues in NFIP participating communities.

Community Assistance Visit (CAV) - A visit by FEMA or State NFIP Coordinator staff to a community to assess whether the community’s floodplain management program meets NFIP requirements.

Community Coordination Meeting - A meeting during which Project Team members discuss plans for a flood risk project, interim results of a flood risk project, and final results of a flood risk project for a particular community or group of communities.

Community Engagement and Risk Communication (CERC) Provider - A team of private-sector firms that, under contract to FEMA, provides a variety of program support, risk communications, community engagement, and mitigation planning services for the Risk MAP program; services include stakeholder outreach and engagement strategy development and implementation, stakeholder engagement guidance development, partnership building, training development and implementation, meeting facilitation, dispute resolution, mitigation planning support, and disaster response support.

Community Engagement and Risk Communication Liaison (CERC-L) – The individual in each FEMA Region who coordinates with FEMA Regional Office staff regarding the community engagement and risk communication services to be provided in that Region in support of the Risk MAP program.

Community Identification Number (CID) - A six-digit code used by FEMA to identify each community that is potentially subject to flood hazards.
Community Information System (CIS) - An Oracle database system used by FEMA to track and report on all communities identified by FEMA as potentially floodprone, especially with regard to mapping actions, including Letters of Map Change, taken by FEMA to identify flood hazards in each community.

Community Map Repository (CMR) - The community office where the NFIP flood hazard maps and related products are kept for local use and viewing by citizens and other stakeholders.

Community Rating System (CRS) - A FEMA initiative, established under the NFIP, to recognize and reward communities that have implemented floodplain management measures beyond the minimum NFIP requirements. Under the CRS, those communities that choose to participate voluntarily may reduce the flood insurance premium rates for property owners in the community by taking these additional actions.

Community Resilience – An inclusive, informed process that addresses social, economic, natural, cultural, technical, and organizational dimensions within a community—preparing a community to consciously mitigate rather than ignore risks.

Conditional Letter of Map Amendment (CLOMA) - The FEMA response to a requester who believes his or her proposed structure, when constructed on natural ground at or above the BFE, will be outside the 1-percent-annual-chance floodplain (i.e., the SFHA). FEMA will not issue CLOMAs for unimproved or undeveloped property.

Conditional Letter of Map Revision (CLOMR) - The FEMA response to a community request for FEMA’s comment on proposed alterations to the floodplain conditions within that community. The CLOMR describes the effect of the proposed project, if constructed as proposed, on the effective FIRM and/or FIS report. A CLOMR often contains detailed information on conditions that must be met by a requester before FEMA will issue a final determination regarding revising the FIRM and/or FIS report.

Conditional Letter of Map Revision Based on Fill (CLOMR-F) - The FEMA response to a community request for FEMA’s comment on the effect(s) that a proposed project involving the placement of earthen fill within the SFHA will have on the SFHA designation for one or more legally defined parcels of land or one or more proposed structures.

Condominium - That form of ownership of real property in which each unit owner has an undivided interest in common elements.

Confluence - The junction of two or more river or stream reaches or branches.

Consultation Coordination Officer (CCO) - The individual on the FEMA Regional Office staff who is responsible for coordinating with a community on NFIP-related activities.

Consultation Coordination Officer (CCO) Meeting - The term used to describe a formal meeting with community officials and select stakeholders for coastal flood risk studies carried out under the FEMA Risk MAP program. The CCO Meeting, sometimes referred to as the “Preliminary DFIRM Community Coordination (PDCC) Meeting”, focuses on the release of the Preliminary version of the FIRM and FIS report and the process for reviewing and adopting the FIRM before the FIRM effective date. Discussion during the CCO Meeting also includes a review of actions taken to reduce flood risk in the community.

Cooperating Technical Partners (CTP) Program - An innovative FEMA program to create partnerships between FEMA and participating NFIP communities, regional agencies, and State agencies that have the interest and capability to become more active participants in the FEMA Flood Hazard Mapping Program.

Countywide Format - A format used by FEMA to show flooding information for the entire geographic area of a county, including the incorporated communities in the county, on one set of FIRM panels and in one FIS report.
Critical Facilities - Facilities that, if damaged, would present an immediate threat to life, public health, and safety. Critical and essential facilities include, but are not limited to, hospitals, emergency operations centers, water systems, and utilities.

Cultural Features - Railroads, airfields, streets, roads, highways, levees, dikes, seawalls, dams and other flood-control structures, and other prominent manmade features and landmarks shown on an NFIP map.

Current Effective Base Flood Elevations (BFEs) - See Effective Base Flood Elevations (BFEs).

Current Effective Date - See Effective Date.

Current Effective Flood Insurance Study (FIS) Report - See Effective Flood Insurance Study (FIS) Report.

Current Effective Map - See Effective Map.

Customer and Data Services (CDS) Provider - A team of private-sector firms that, under contract to FEMA, maintains the archives of flood hazard mapping and related data and performs activities related to program development and program support, including maintenance of the Flood Hazard Mapping pages on the FEMA website and operation and maintenance of the FEMA Map Information eXchange (FMIX), FEMA Mapping Information Platform (MIP), FEMA Flood Map Service Center (MSC), and FEMA Engineering Library (EL).

De-Accredited Levee System - A levee system that was once shown on the FIRM as providing protection from the 1-percent-annual-chance or greater flood, but is no longer accredited with providing this protection because FEMA has not been provided with sufficient data and documentation to determine that the levee continues to meet the requirements of Section 65.10 of the NFIP regulations (44CFR65.10). The area landward of a de-accredited levee is shown as an SFHA.

Deep Water - Water so deep that surface waves are little affected by the ocean bottom. Generally, water deeper than one-half the surface wavelength is considered deep water.

Deep Water Wave - A wave in water the depth of which is greater than one-half the wave length.

Detailed Study - A flood hazard study that, at a minimum, results in the delineation of floodplain boundaries for the 1-percent-annual-chance flood and the determination of BFEs or base flood depths.

Development - Any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

Digital Elevation Model (DEM) - A file with terrain elevations recorded for the intersection of a fine-grained grid and organized by quadrangle as the digital equivalent of the elevation data on a topographic base map.

Digital Flood Insurance Rate Map - See Flood Insurance Rate Map (FIRM).

Digital Flood Insurance Rate Map Database - A database designed to facilitate collecting, storing, processing, and accessing data developed by FEMA, enabling mapping partners to share the data necessary for the digital FIRM production and conversion process. Where possible, all mapping and engineering data elements are linked to physical geographic features and georeferenced. The use of a Geographic Information System (GIS) as a component of the digital FIRM database provides the ability to georeference and overlay the mapping and engineering data, allowing the database to support a variety of existing and forthcoming engineering and mapping products.
Digital Orthophoto Quadrangle (DOQ) - Photographic maps distributed by the U.S. Geological Survey. A DOQ is an aerial photograph that is adjusted to remove distortions caused by variations in terrain and the camera lens to produce a photograph that displays features in their planimetrically correct location. This term is sometimes used loosely to mean any photographic map produced by this process.

Digital Terrain Model (DTM) - A land surface represented in digital form by an elevation grid or lists of three-dimensional coordinates.

Discovery - The term used to describe the process, during a flood risk project carried out under the Risk MAP program, for collecting information that allows for a more comprehensive understanding of flood risk and flood mitigation capabilities within a watershed or other geographical area and initiates a conversation about establishing or enhancing a watershed or geographic area vision to stakeholders. Data gathered includes information that influences flood risk or risk decision-making, historical flooding information, existing flood hazard data and information, and mitigation activities.

Discovery Kickoff Meeting/Conference Call - The term used to describe a meeting/conference call, hosted by FEMA, to be held before the Discovery process for a coastal flood risk study begins, to provide an overview of the Discovery process to community officials and other identified stakeholders.

Discovery Map - The term used to describe the product (i.e., paper map, set of maps, or GIS-generated series of map layers) created to illustrate the data and information collected during the Discovery effort. The Discovery Map generally is used to facilitate decision-making during the Discovery Meeting.

Discovery Meeting - The term used to describe the first formal meeting held with community officials and stakeholders for a flood risk project carried out under the Risk MAP Program. During the Discovery Meeting, FEMA, community, and stakeholder representatives discuss the results of the data collection and coordination during the Discovery phase as depicted on a draft Discovery Map; watershed or study vision; and flood risks and mitigation needs.

Duration - In wave forecasting, the length of time the wind blows in nearly the same direction over the fetch, or "generating area."

East Coast Central Florida (ECCFL) Study Area - The area covered by a FEMA coastal flood risk study performed for Brevard, Indian River, Martin, and St. Lucie Counties under the Risk MAP program.

Effective Base Flood Elevations (BFEs) - The BFEs that are shown on the FIRM that is in effect for a community for flood insurance and floodplain management purposes.

Effective Date - The date on which the NFIP map for a community becomes effective and all sanctions of the NFIP apply.

Effective Map - The NFIP map issued by FEMA, usually a FIRM, that is in effect as of the date shown in the title block of the map as "Effective Date," "Revised," or "Map Revised" and is to be used by the community and others for flood insurance and floodplain management purposes.

Elevated Building - A building that has no basement and a lowest floor that is elevated to or above the BFE by foundation walls, shear walls, posts, piers, pilings, or columns. Solid (perimeter) foundation walls are not an acceptable means of elevating buildings in V or VE zones.

Elevation Certificate (EC) - The form, developed by FEMA, to be used to provide elevation information necessary to ensure compliance with community floodplain management ordinances, to determine proper insurance premium rates, and to support a request for a Letter of Map Amendment or Letter of Map Revision Based on Fill.

Elevation Reference Mark (ERM) - Temporary vertical control monument established by a FEMA Study Contractor during the performance of a study or restudy.
**Embayment** - An indentation in the shoreline forming an open bay.

**Emergency Phase** - The phase of the NFIP that was implemented, on an emergency basis, to provide a first-layer amount of insurance on all insurable structures before the effective date of the initial FIS report and FIRM.

**Encroachment** - Construction, placement of fill, or similar alteration of topography in the floodplain that reduces the area available to convey floodwaters.

**Erosion** - The process by which floodwaters lower the ground surface in an area by removing upper layers of soil.

**Erosion Analysis** - The analysis of the short- and long-term erosion potential of soil or strata, including the effects of flooding or storm surge, moving water, wave action, and the interaction of water and structural components.

**Estuary** - The part of a river that is affected by tides; the region near a river mouth in which the fresh water of the river mixes with the salt water of the sea.

**Expanded Appeals Process (EAP)** - The term used to describe the process implemented by FEMA effective December 1, 2011, to expand the appeal procedures to include all new or modified flood hazard information (i.e., BFEs, base flood depths, SFHAs, zone designations, and/or regulatory floodways) shown on FIRMs and/or in FIS reports, rather than just BFEs and base flood depths.

**External Data Request (EDR)** - A request from a State, community, or other non-FEMA source for the archived technical and administrative support data developed and maintained by FEMA for the NFIP.

**Extraterritorial Jurisdiction (ETJ) Limits** - Areas outside of a community's corporate limits where the community has authority to regulate zoning and issue building permits.

**Eye** - The roughly circular area of comparatively light winds that encompasses the center of a severe tropical cyclone. The eye is either completely or partially surrounded by the eyewall cloud.

**Eyewall/Wall Cloud** - An organized band or ring of cumulonimbus clouds that surround the eye, or light-wind center of a tropical cyclone. Eyewall and wall cloud are used synonymously.

**Federal Emergency Management Agency (FEMA)** - The component of the U.S. Department of Homeland security that oversees the administration of the NFIP.

**Federal Insurance and Mitigation Administration (FIMA)** - The component of FEMA Headquarters that, among other responsibilities, administers the NFIP. FIMA works with partners at the Federal, State, and local level to facilitate efforts toward achieving resilience from natural hazards. FIMA works to reduce risk to life and property damage through a variety of grant programs.

**Federal Insurance Directorate (FID)** - The component of FIMA that helps reduce flood losses by providing affordable flood insurance for property owners and by encouraging communities to adopt and enforce floodplain management regulations that mitigate the effects of flooding on new and improved structures. Key programs and activities managed by FID staff include the NFIP and FloodSmart.

**FEDERAL REGISTER** - The document, published daily by the Federal Government, that presents regulation changes and legal notices issued by Federal agencies. FEMA publications for the NFIP include proposed and final flood hazard determination notices, notices concerning changes in the fee structure for map change requests, and Final Rules concerning community eligibility for the sale of flood insurance.
**FEMA Engineering Library** - The facility in which all technical and administrative support data and related publications associated with the NFIP, including flood risk studies and conditional and final map changes, are archived and maintained.

**FEMA Map Assistance Center (FMAC)** - See FEMA Map Information eXchange (FMIX).

**FEMA Map Information eXchange (FMIX)** - The FEMA customer service center staffed by Map Specialists who are specially trained to answer specific questions about NFIP mapping and related issues, including: what products are available from the FEMA Map Service Center and how to obtain them; levee resources; status of active and completed studies/mapping projects, conditional and final map revision requests, and conditional and final map amendment requests; technical and administrative support data available from the FEMA archives.

**Fetch** - The distance along open water or land over which the wind blows.

**Fill** - Soil that is brought in to raise the level of the ground. Depending on where the soil is placed, fill may change the flow of water or increase flood elevations. Fill may be used to elevate a building to meet NFIP requirements. Sometimes fill is combined with other methods of elevation such as pilings or foundation walls. Placement of fill requires a local permit from the community.

**Final Flood Hazard Determination Notice** - The notice published in the Federal Register to announce the finalization of new or modified flood hazard information (BFEs, base flood depths, SFHAs, flood insurance risk zone designations, and/or regulatory floodways) included on FIRMs and in FIS reports.

**First-Layer Coverage** - The maximum amount of structural and contents insurance coverage available under the Emergency Phase of the NFIP.

**Fiscal Year** - The 12-month period that begins on October 1 and ends on September 30.

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

**Flood Boundary and Floodway Map (FBFM)** - The previously issued FEMA floodplain management map that depicted, based on detailed flood hazard analyses, the boundaries of the 1- and 0.2-percent-annual-chance floodplains and, when appropriate, the regulatory floodway. The FBFM did not show flood insurance risk zone designations or BFEs. The information from the FBFM is included on modernized FIRMs.

**Flood-Control Storage** - Storage of water in reservoirs to abate flood damage.

**Flood Elevation Determination Docket (FEDD)** - A file maintained by FEMA that includes all correspondence between FEMA and the community concerning a flood risk study; reports of meetings held among FEMA representatives, community representatives, the State NFIP Coordinator, private citizens, FEMA and community contractors, or other interested parties; relevant publications (e.g., newspaper notices, Federal Register notices); Letter of Final Determination; and copies of the FIRM, FIS report, and FBFM (if an FBFM was published).

**Floodflow-Frequency Curve** - A graph showing the number of times per year on the average that floods of certain magnitudes are equaled or exceeded.

**Flood-Frequency Analysis** - An analytical technique that involves using observed annual peak flow data to calculate statistical information, such as mean values, standard deviations, skewness, and recurrence intervals. The statistical information is then used to construct frequency distributions, which are graphs and tables that tell the likelihood of various discharges as a function of recurrence interval or exceedence probability.
Flood Gate - A gravity outlet fitted with vertically hinged doors, opening if the inner water level is higher than the outer water level, so that drainage takes place during low water.

Flood Hazard Boundary Map (FHBM) - The initial insurance map issued by FEMA that identifies, based on approximate analyses, the areas of the 1-percent-annual-chance flood hazard within a community.

Flood Hazard Mapping Program - The program undertaken by FEMA to conduct flood hazard analyses and prepare reports and maps delineating flood hazards in floodprone communities throughout the United States.

Flood Insurance Rate Map (FIRM) - The insurance and floodplain management map produced by FEMA that identifies, based on detailed or approximate analyses, the areas subject to flooding during a 1-percent-annual-chance flood event in a community. Flood insurance risk zones, which are used to compute actuarial flood insurance rates, also are shown. In areas studied by detailed analyses, the FIRM shows BFEs to reflect the elevations of the 1-percent-annual-chance flood. For many communities, when detailed analyses are performed, the FIRM also may show areas inundated by 0.2-percent-annual-chance flood and regulatory floodway areas.

Flood Insurance Rate Zones - See Flood Insurance Risk Zones.

Flood Insurance Risk Zones - The zones, also referred to as "risk premium rate zones" and "flood insurance rate zones", shown on a FIRM or FHBM that are used to determine flood insurance premium rates for properties in a mapped area. Flood insurance risk zones include SFHAs and non-SFHA areas.

Flood Insurance Study (FIS) - See Flood Risk Study.

Flood Insurance Study (FIS) Report - A document, prepared and issued by FEMA, that documents the results of the detailed flood hazard assessment performed for a community. The primary components of the FIS report are text, data tables, photographs, and Flood Profiles.

Flood Map Modernization (Map Mod) - The multiyear effort undertaken by FEMA to perform flood hazard assessments and produce new or updated flood hazard maps and related products for communities throughout the United States. Through Map Mod, FEMA (with the help of its providers and mapping partners) has transformed the flood hazard maps into a more reliable, easier-to-use, and readily available product.

Flood Map Project - See Flood Risk Project.

Flood Map Service Center (MSC) - The FEMA facility through which flood hazard maps and an array of related products are distributed in electronic form.

Flood Mitigation Assistance (FMA) Program - The program through which FEMA provides funding to States and communities for measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the NFIP. The FMA Program provides grants for mitigation planning and projects with a goal of reducing claims under the NFIP.

Floodplain - Any land area that is susceptible to being inundated by water from any source.

Floodplain Administrator (FPA) - The community official that is responsible for implementing and enforcing floodplain management measures and for monitoring floodplain development.

Floodplain Management - The operation of a program of corrective and preventative measures for reducing flood damage, including, but not limited to, emergency preparedness plans, flood-control works, and floodplain management regulations.
Glossary of Frequently Used Mapping Terms

**Floodplain Management and Insurance (FMI) Branch** - The component of the Mitigation Division in a FEMA Regional Office that helps reduce flood losses by providing affordable flood insurance for property owners; by encouraging communities to adopt and enforce floodplain management regulations that mitigate the effects of flooding on new and improved structures; and by working to reduce risk to life and property through the use of land use controls, building practices, and other tools.

**Floodplain Management Regulations** - The zoning ordinances, subdivision regulations, building codes, health regulations, special-purpose ordinances, and other applications of enforcement used by a community to manage development in its floodplain areas.

**Floodprone Area** - See Floodplain.

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

**Flood Profile** - A graph showing the relationship of water-surface elevation to location, with the latter generally expressed as distance above the mouth for a stream of water flowing in an open channel.

**Flood Protection System** - Those physical works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding to reduce the extent of the area subject to a "special flood hazard" and the extent of the depths of the associated flooding. Flood protection systems typically include hurricane tidal barriers, dams, reservoirs, levees, or dikes.

**Flood Recovery Maps** - The maps showing the extent and magnitude of Hurricane Katrina’s surge, as well as information on advisory flood data, which were created for the areas of the Gulf coast that were most severely impacted by coastal flooding. These maps show high-water marks surveyed after the storm, an inundation limit developed from these surveyed points, and ABFEs and estimated zones of wave impacts.

**Flood Risk Assessment Dataset** – The FEMA dataset that provides an assessment of the potential financial consequences associated with structures located within the full extent of the 0.2-percent-annual-chance floodplain. Flood risk assessment data are also expressed as an annualized estimate of damages that (for example) homeowners might expect to incur in any given year if they are located within the floodplain.

**Flood Risk Database** - The FEMA non-regulatory product that stores all flood risk data for a flood risk project, including the information shown in the Flood Risk Report and on the Flood Risk Map. The Flood Risk Database contains a wide variety of flood risk data, ranging from potential annual flood losses to the probability of being flooded in any given year or in a 30-year period.

**Flood Risk Dataset** – A compilation of data gathered during a flood risk project. The information in a dataset is typically provided electronically in table format and is able to be used in other format, such as in a Geographic Information System. Four groupings of information that are typically provided as a result of a flood risk project are the Changes Since Last FIRM, Flood Depth and Analysis Grids, Flood Risk Assessment Data, and Areas of Mitigation Interest Datasets..

**Flood Risk Map** - The FEMA non-regulatory product that provides a high level overview of specific flood risk data for the project area, such as the potential flood losses associated with a 1-percent-annual-chance event reported for each census block within the project area. The Flood Risk Map may be used by community and elected officials to visually support presentations, proposals, and discussions about flood risks in the watershed.

**Flood Risk Open House** - The term used for coastal flood risk studies to describe the public open house held after the CCO Meeting with community officials to familiarize the public with the coastal analysis; resulting FIRM, FIS report, and related products; potential impacts on individual property owners; and the availability of flood insurance.
Flood Risk Products – The term used to describe products provided to community officials by FEMA as a result of a flood risk project that, unlike the FIRM and FIS report, are not subject to statutory due-process requirements. Flood Risk Products include the Flood Risk Database, Flood Risk Map, and Flood Risk Report.

Flood Risk Project - A term used to describe a project undertaken by FEMA or a mapping partner under the Risk MAP program to create a new FIRM and FIS report or update an existing FIRM and FIS report.

Flood Risk Report - The FEMA non-regulatory product that provides summary flood risk data for the flood risk project area and also provides summary information, such as flood risk data for the entire flood risk project as well as the individual communities within the project area. The Flood Risk Report is not intended to be the regulatory or final authoritative source of all flood risk data in the project area. The Flood Risk Report is to be used in conjunction with other data sources to provide a comprehensive picture of flood risk within a project area.

Flood Risk Review Meeting - The term used to describe a meeting held with community officials and stakeholders for a flood risk project carried out under the Risk MAP program during which the results of the engineering analyses are discussed and draft work maps showing flood hazard zones and elevations are presented.

Flood Risk Study - An activity undertaken by FEMA under the Risk MAP program, separately or in partnership with a mapping partner, to create a new or updated digital FIRM, including detailed engineering studies, approximate engineering studies, and floodplain boundary redelineations based on updated topographic information.

Floodwall - A long, narrow concrete or masonry wall built to protect land from flooding.

Floodway - See Regulatory Floodway.

Floodway Fringe - The portion of the 1-percent-annual-chance floodplain that is not within the regulatory floodway and in which development and other forms of encroachment may be permitted under certain circumstances.

Florida Division of Emergency Management (FDEM) - The Florida agency that has been designated by the Governor of Florida or by State statute at the request of FEMA to assist in the implementation of the NFIP.

Footprint - The land area occupied by a structure.

Foreshore - The part of the shore, lying between the crest of the seaward berm (or upper limit of wave wash at high tide), and the ordinary low-water mark, that is ordinarily transverse by the uprush and backrush of the waves as the tides rise and fall.

Freeboard - A factor of safety usually expressed in feet above a flood level for purposes of floodplain management.

Frontal Dune - A ridge or mound of unconsolidated sandy soil, extending alongshore landward of the sand beach and defined by relatively steep slopes abutting markedly flatter and lower regions on each side. See Primary Frontal Dune.

Generating Area - In wave forecasting, the continuous area of water surface over which the wind blows in nearly a constant direction.

Geographic Information System (GIS) - A system of computer hardware, software, and procedures designed to support the capture, management, manipulation, analysis, modeling, and display of spatially referenced data for solving complex planning and management problems.


Governor’s Authorized Representative (GAR): The individual, designated by the Governor, who serves as the grant administrator for all funds provided under the Hazard Mitigation Grant Program (HMGP); the person empowered by the Governor to execute, on behalf of the State, all necessary documents for disaster assistance.
Grandfathering – An exemption based on previously existing circumstances.

Hazard - An event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, damage to the environment, interruption of business, and other types of loss or harm.

Hazus-MH - A nationally applicable standardized methodology, developed by FEMA under contract with the National Institute of Building Sciences for estimating potential losses from earthquakes, hurricane winds, and floods. Hazus-MH uses state-of-the-art GIS software to map and display hazard data and the results of damage and economic loss estimates for buildings and infrastructure. It also allows users to estimate the impacts of earthquakes, hurricane winds, and floods on populations.

Hazard Mitigation Assistance (HMA) Branch - The component of the Mitigation Division in a FEMA Regional Office that administers the Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program.

Hazard Mitigation Grant Program (HMGP) - The program, authorized under Section 404 of the Stafford Act, under which FEMA provides grants to States and local governments to implement long-term hazard mitigation measures after a presidential 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 presidentially declared disaster.

Hazard Mitigation Planning - A process used by governments to identify risks, assess vulnerabilities, and develop long-term strategies for protecting people and property from the effects of future natural hazard events.

Headquarters (HQ) - The FEMA office in Washington, DC.

Highest Adjacent Grade (HAG) - The elevation of the highest natural or regarded group surface, or structural fill, that abuts the walls of a building.

High-Velocity Wave Action - A condition in which wave heights or wave runup depths are greater than or equal to 3.0 feet.

High Water (HW) - The maximum height reached by a rising tide; also called the high tide. The height may be solely due to the periodic tidal forces or it may have superimposed upon it the effects of prevailing meteorological conditions.

High-Water Mark (HWM) - A physical mark, such as a mud line, that designates the location and elevation of floodwaters from a storm event.

Higher High Water (HHW) - The higher of the two high waters of any tidal day.

Holland B Coefficient - A parameter used in some hurricane wind models to control the peakedness of the hurricane wind profile.

Hurricane - A tropical cyclone, formed in the atmosphere over warm ocean areas, with a well-defined counter-clockwise circulation and sustained winds of 74 miles per hour or higher.

Hydraulic Analysis - An engineering analysis of a flooding source carried out to provide estimates of the elevations of floods of selected recurrence intervals.

Hydraulic Computer Model - A computer program that uses flood discharge values and floodplain characteristic data to simulate flow conditions and determine flood elevations.

Hydraulic Methodology - Analytical methodology used for assessing the movement and behavior of floodwater and determining flood elevations and regulatory floodway data.
Hydrologic Analysis - An engineering analysis of a flooding source carried out to establish peak flood discharges and their frequencies of occurrence.

Hydrologic Unit Code (HUC) - A unique code, consisting of two to eight digits, used to identify units (watersheds) in the U.S. Geological Survey four-level classification system.

Hydrology - The science encompassing the behavior of water as it occurs in the atmosphere, on the surface of the ground, and underground.

Increased Cost of Compliance (ICC) - The insurance coverage (i.e., an endorsement to a Standard Flood Insurance Policy) that is made available to policyholders for homes or businesses that are damaged by a flood. ICC coverage allows policyholders to meet certain building requirements in their community to reduce future flood damage before they repair or rebuild their home or business.

Interior Drainage Systems - Systems associated with levee systems that usually include storage areas, gravity outlets, pumping stations, or a combination thereof.

Jetty - A wall built out into the water to restrain currents or protect a structure. Jetties are built at the mouths of rivers or tidal inlets to help deepen and stabilize a channel.

Joint Probability Method-Optimal Sampling (JPM-OS) - A statistical procedure for selecting the optimal configuration of hypothetical hurricanes required to develop storm surge frequency curves.

Key - A cay, especially one of the low, insular banks of sand, coral, and limestone off the southern coast of Florida.

Landmark - A conspicuous object, natural or artificial, located near or on land, which aids in fixing the position of an observer.

Legally Defined Parcel of Land - Parcel of land for which a metes and bounds description or a plat has been recorded. Structures may exist on legally defined parcels of land.

Letter of Determination Review (LODR) - A FEMA response to a request from a borrower and lender that FEMA provide its concurrence or disagreement with the lender’s determination on whether the borrower’s building is in the SFHA shown on the effective NFIP map.

Letter of Final Determination (LFD) - The letter in which FEMA announces its final determination regarding new or modified flood hazard information (BFEs, base flood depths, SFHAs, flood insurance risk zone designations, and/or regulatory floodways) presented on a new or revised FIRM and FIS report (and, when appropriate, FBFM) for a particular community. By issuing the LFD, FEMA begins the adoption/compliance period and establishes the effective date for the new or revised FIRM and FIS report (and, when appropriate, FBFM).

Letter of Map Amendment (LOMA) - An official determination by FEMA that a property has been inadverently included in an SFHA as shown on an effective FHBM or FIRM and is not subject to inundation by the 1-percent-annual-chance flood. Generally, the property is located on natural high ground at or above the BFE or on fill placed prior to the effective date of the first NFIP map designating the property as within an SFHA. Limitations of map scale and development of topographic data more accurately reflecting the existing ground elevations at the time the maps were prepared are the two most common bases for LOMA requests.

Letter of Map Change (LOMC) - A collective term used to describe official amendments and revisions to NFIP maps that are accomplished by cost-effective administrative procedures and disseminated by letter.
Letter of Map Change Revalidation (LOMC-VALID) Letter - A letter issued by FEMA, immediately before the effective date of a revised FIRM, to notify community officials about LOMCs that will remain in effect after a revised FIRM becomes effective and the LOMCs that will be superseded when a revised FIRM becomes effective.

Letter of Map Revision (LOMR) - A letter issued by FEMA to revise the effective FIRM panel(s), FBFM panel(s), and/or FIS report materials for a community to change BFEs, base flood depths, floodplain and regulatory floodway boundary delineations, and/or flood insurance risk zone designations.

Letter of Map Revision Based on Fill (LOMR-F) - A letter issued by FEMA when FEMA determines that a legally defined parcel of land or structure has been elevated above the BFE based on the placement of earthen fill after the date of the first NFIP map.

Levee - A manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

Levee Owner - A Federal or State agency, a water management or flood control district, a local community, a levee district, a nonpublic organization, or an individual considered the proprietor of a levee.

Levee System - A flood protection system that consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

Light Detection and Ranging (LIDAR) System - An airborne laser system, flown aboard rotary or fixed-wing aircraft, that is used to acquire x, y, and z coordinates of terrain and terrain features that are both manmade and naturally occurring. LIDAR systems consist of an airborne Global Positioning System with attendant base station(s), Inertial Measuring Unit, and light-emitting scanning laser.

Limit of Moderate Wave Action (LiMWA) - A line within the SFHA designated Zone AE on a FIRM that marks the inland limit of the area inundated by the 1-percent-annual-chance, 1.5-foot breaking wave. The LiMWA is provided on the FIRM, for informational purposes, because these moderate waves can cause damage to structures; the damage would not be as severe as the damage caused by the 1-percent-annual-chance, 3-foot breaking waves. A FEMA animation describes the LiMWA and other coastal zones.

Local Newspaper - The community newspaper, identified by the CEO or other designated community official, in which FEMA publishes notices related to a flood risk project or map revision.

Lot - A parcel of land for which a metes and bounds description or a plat has been recorded and on which one or more structures may be built.

Lowest Adjacent Grade (LAG) - The lowest natural elevation of the ground surface next to a structure.

Lowest Floor Elevation (LFE) - The elevation of the lowest floor of the lowest enclosed area (including basement) of a structure.

Manning’s n - A coefficient of roughness, used in a formula for estimating the capacity of channel to convey water.

Manufactured Home - Any building that is transportable in one or more sections and that is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. Park trailers, recreational vehicles, and other similar vehicles are not considered manufactured homes.

Map Amendment - A change to an effective NFIP map that results in the exclusion from the SFHA of an individual structure or legally defined parcel of land that has been inadvertently included in the SFHA (i.e., no alterations of topography have occurred since the date of the first NFIP map that showed the structure or parcel to be within the SFHA).
Map Assistance Center - See FEMA Map Information eXchange (FMIX).

Map Modernization (Map Mod) - See Flood Map Modernization.

Mapping Activity Statement (MAS) - An agreement signed by FEMA and a participant (i.e., community, regional entity, State agency) in the CTP Program under which the participant will complete specific mapping-related activities.

Mapping Information Platform (MIP) - An online portal, developed for the FEMA Map Mod initiative, that provides numerous sets of hazards data and a suite of tools for use by FEMA approved map-generating partners. The MIP is also being used to help deliver and standardize digital maps and other geospatial products as part of the National Spatial Data Infrastructure.

Mapping Project - See Flood Risk Project.

Map Revision - A change to an effective NFIP map that is accomplished by a LOMR or a Physical Map Revision.

Map Service Center (MSC) - See Flood Map Service Center (MSC).

Marsh - A wetland dominated by herbaceous or nonwoody plants often developing in shallow ponds or depressions, river margins, tidal areas, and estuaries.

Mean High Water (MHW) - The average height of the high waters over a 19-year period.

Mean Higher High Water (MHHW) - The average height of the higher high waters over a 19-year period.

Mean Low Water (MLW) - The average height of the low waters over a 19-year period.

Mean Lower Low Water (MLLW) - The average height of the lower low waters over a 19-year period.

Mean Sea Level (MSL) - The average height of the surface of the sea for all stages of the tide over a 19-year period, usually determined from hourly height readings.

Minimally Floodprone Community - A community that FEMA has determined to be subject to inundation by the 1-percent-annual-chance flood, but for which existing conditions indicate that the area is unlikely to be developed in the foreseeable future. The criteria used by FEMA to evaluate a community’s development potential are as follows: (1) Floodplains are publicly owned and designed for open space or preservation; (2) Zoning laws, sanitary codes, subdivision regulations, shore land regulations, or community regulations effectively prohibit floodplain development; (3) Surrounding land use or topography effectively limits the development potential; (4) Population is decreasing or stable, and there is no foreseeable pressure for floodplain development; and (5) Floodplains are remote and uninhabited, and future development is unlikely.

Mitigation - A sustained action taken to reduce or eliminate long-term risk to people and property from flood hazards and their effects. Mitigation distinguishes actions that have a long-term impact from those that are more closely associated with preparedness for, immediate response to, and short-term recovery from specific events.

Mitigation Directorate - The component of FIMA that works to reduce risk to life and property through the use of land use controls, building practices, and other tools. These activities address risk in both the existing built environment and in future development, and they occur in both pre- and post-disaster environments. Some of the key programs, initiatives, and activities managed by the MTD Mitigation Directorate staff are: CAP, CAP – State Support Services Element, CRS, FMA Program, floodplain management, HMGP, hazard mitigation planning, Interagency Floodplain Management Task Force, and Pre-Disaster Mitigation Grant Program.

Monochromatic Waves - A series of waves generated in a laboratory; each wave has the same length and period.
MT-1 Provider - A team of private-sector firms that reviews and processes requests for CLOMAs, CLOMR-Fs, LOMAs, and LOMR-Fs in support of the Risk MAP program.

National Elevation Dataset (NED) - The primary elevation data product of the U.S. Geological Survey. The NED is a seamless dataset with the best available raster elevation data of the contiguous United States, Alaska, Hawaii, and territorial islands.

National Flood Insurance Fund (NFIF) - The fund used as the funding mechanism for the NFIP.

National Flood Insurance Program (NFIP) - Federal program under which floodprone areas are identified and flood insurance is made available to the owners of the property in participating communities.

National Spatial Data Infrastructure - The technologies, policies, and people necessary to promote sharing of geospatial data throughout all levels of government, the private and non-profit sectors, and the academic community.

Non-Floodprone Community - See Non-SFHA Community.

Non-Participating Community - A community that has been identified by FEMA as being floodprone and that has chosen not to participate in the NFIP.

Non-Primary Residence - For rating purposes only, FEMA defines a non-primary residence as a building that will not be lived in by an insured or an insured’s spouse for more than 50 percent of the 365 days following the policy effective date.

Non-Regulatory Products - The term used to describe products that FEMA provides to a community to assist the community in understanding and communicating about the risk of flooding to a community. These products are considered “non-regulatory” because a community is not required to adopt them in order to remain a participant in good standing in the NFIP.

Non-SFHA Community - A community that FEMA has determined not to be subject to inundation by the 1-percent-annual-chance flood. The FEMA guidelines employed for determining whether a community is designated as a "non-SFHA community” are that the SFHAs are less than 200 feet wide and all drain less than 1 square mile, or physiographic features that preclude floodplain development exist in the community.

Open House – See Flood Risk Open House.

Operating Guidance - A term used to describe interim FEMA guidance documents that provided best practices for the FEMA Risk MAP program. These guidance documents are intended to support current FEMA standards and facilitate effective and efficient implementation of these standards.

Orthophotograph - An aerial photograph from which distortions owing to camera tilt and ground relief have been removed. An orthophotograph has the same scale throughout and can be used as a map.

Otherwise Protected Area (OPA) - An undeveloped coastal barrier within the boundaries of an area established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes.

Oversplash - The water that splashes over the top of a breakwater, seawall, etc.

Overtopping - The passing of water over the top of a structure as a result of wave runup or surge action.

Overwash - The mass of water representing the part of the wave advancing up a beach that runs over the highest part of a berm or other structure and that does not flow directly back to the sea or lake in which the wave originated.
Participating Community - Any community that voluntarily elects to participate in the NFIP by adopting and enforcing floodplain management regulations that are consistent with NFIP standards.

Partnership Agreement - An agreement, sometimes referred to as a Memorandum of Agreement, that is signed by FEMA and a community, regional agency, or State agency that wishes to participate in the CTP Program. The Partnership Agreement is a broad statement of principle, emphasizing the value of the NFIP’s three components of insurance, floodplain management, and mapping.

Physical Map Revision (PMR) - A revision made by FEMA to an effective FIRM, FBFM, and/or FIS report based on community-supplied data. FEMA issues PMRs when (1) changes resulting from the requested revision are extensive, affecting significant portions of a FIRM panel or multiple FIRM panels; (2) revision will add significant SFHAs to the effective FIRM; or (3) revision will result in an increase in the BFEs and/or regulatory floodway for an extended area.

Planimetric Map – A map representing only horizontal positions from features represented; distinguished from a topographic map by the omission of relief in measurable form. A planimetrically accurate map shows accurate horizontal distances between features.

Ponding - The result of runoff or flows collecting in a depression that may have no outlet, subterranean outlets, rim outlets, or manmade outlets such as culverts or pumping stations. Impoundments behind manmade obstructions are included in this type of shallow flooding as long as they are not backwater from a defined channel or do not exceed 3.0 feet in depth.

Post-FIRM Structure – A structure that was built after the first FIRM was adopted for the community in which the structure is located.

Preliminary DFIRM Community Coordination (PDCC) Meeting - See Consultation Coordination Officer (CCO) Meeting.

Pre-Disaster Mitigation (PDM) Program - The program through which FEMA assists States, Indian Tribal governments, and local governments with cost-effective hazard mitigation activities that complement a comprehensive mitigation program. The program provides applicants with an opportunity before disasters strike to raise risk awareness and reduce disaster losses through planning and project grants.

Preferred Risk Policy (PRP) - A flood insurance policy that offers low-cost coverage to qualifying owners and tenants of eligible structures located in moderate-risk areas (i.e., Zone B, Zone C, Zone X, Zone X (shaded)) on the current effective FIRM.

Pre-FIRM Structure - A structure that was built before December 31, 1974, or before the first FIRM was adopted for the community in which he structure is located, whichever is later.

Preliminary DFIRM Community Coordination (PDCC) Meeting - See Consultation Coordination Officer (CCO) Meeting.

Preliminary Flood Hazard Information - The flood hazard information (new or modified BFEs, base flood depths, SFHAs, flood insurance risk zone designations, and/or regulatory floodways) shown on a Preliminary FIRM and/or in a Preliminary FIS report before a CCO Meeting and Flood Risk Open House are held, a 90-day appeal period is initiated, or an LFD is issued.

Preliminary Flood Insurance Rate Map (FIRM) - The NFIP map that reflects the initial results of a flood risk project that is performed by or for FEMA. Copies of the Preliminary FIRM are provided to CEOs and FPAs of all affected communities and posted to a publicly accessible website before a 90-day appeal period is initiated.
Glossary of Frequently Used Mapping Terms

Preliminary Flood Insurance Study (FIS) Report - The report that reflects the initial results of a flood risk project that is performed by or for FEMA. Copies of the Preliminary FIS report are provided to CEOs and FPAs of all affected communities and posted to a publicly accessible website before a 90-day appeal period is initiated.

Primary Frontal Dune (PFD) - A continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the PFD occurs at the point where there is a distinct change from a relatively steep to a relatively mild slope. See also Frontal Dune.

Primary Residence - A building that will be lived in by an insured or an insured’s spouse for more than 50 percent of the 365 days following the policy effective date.

Private Nonprofit (PNP) - Any nongovernmental agency or entity that currently has (i) an effective ruling letter from the Internal Revenue Service granting tax exemption under section 501(c), (d), or (e) of the Internal Revenue Code of 1954, or (ii) satisfactory evidence from the State that the organization or entity is a nonprofit one organized or doing business under State law.

Probation - A FEMA-imposed change in a community's status resulting from violations and deficiencies in the administration and enforcement of NFIP local floodplain management regulations.

Procedure Memorandum (PM) - A guidance document issued by FEMA to implement updates to the requirements documented in FEMA’s guidelines and standards; to provide additional clarification of procedures to be followed by FEMA and FEMA mapping partners that are not documented in the FEMA guidelines and standards; and to establish new procedures and policies for FEMA and FEMA mapping partners that will be incorporated at a later date.

Production and Technical Services (PTS) Provider - A team of private-sector firms (including firms specializing in engineering, information technology (IT), and program management) that provides a variety of engineering services under contract to FEMA in support of the Risk MAP program, including performing flood risk studies (including coastal analyses); reviewing and processing flood risk studies performed by State and regional participants in the CTP Program; reviewing and processing requests for CLOMRs and LOMRs; reviewing and processing appeals and other comments submitted during the 90-day appeal period for flood risk studies and LOMRs; preparing technical and administrative support data for storage in the FEMA Engineering Library; and providing updates for FEMA web and IT reporting systems as required.

Program Management (PM) Provider - A team of private-sector firms that, under contract to FEMA, provides a variety of program management activities in support of the Risk MAP program.

Project Charter – A document, usually produced during and following the Discovery Meeting for a flood risk project carried out under the Risk MAP program, that summarizes the watershed/project area vision; the products that each affected community will receive; mitigation technical assistance to be provided; roles and responsibilities for all parties involved; data to be provided with associated deadlines; projected timeline for the project; and an explanation of what is expected from partners at each milestone on the timeline.

Proposed Flood Hazard Determination Notices - The notices published in the FEDERAL REGISTER and on the FEMA website to announce proposed flood hazard determinations for a community (i.e., new and/or modified BFEs, base flood depths, SFHAs, zone designations, and/or regulatory floodways). FEMA began publishing the proposed flood hazard determination notices on December 1, 2011, as part of implementing EAP.

Protest - See Comment.

Public Assistance (PA) Program - The program through which FEMA provides Federal funding to State and local governments, Tribal entities, and certain types of private nonprofit organizations, so that communities can quickly respond to and recover from major disasters or emergencies declared by the President.
Quadrangle - A U.S. Geological Survey (USGS) topographic map.

Quality Assurance/Quality Control (QA/QC) Reviews - The reviews of the FIS reports, maps, and related products and data performed to ensure compliance with FEMA standards.

Radius of Maximum Winds - The distance from the eye of a hurricane, where surface and wind velocities are zero, to the place where surface wind speeds are maximum.

Really Simple Syndication (RSS) Feed – See Rich Site Summary (RSS) Feed.

Recurrence Interval - The average interval of time within which a given flood will be equaled or exceeded once.

Regional Mitigation Divisions - The components of the FEMA Regional Offices that, among other responsibilities, administer the NFIP.

Regional Offices - The FEMA offices located in Boston, Massachusetts; New York, New York; Philadelphia, Pennsylvania; Atlanta, Georgia; Chicago, Illinois; Denton, Texas; Kansas City, Missouri; Denver, Colorado; San Francisco, California; and Bothell, Washington.

Regional Support Centers (RSCs) - The PTS provider offices that provide Risk MAP program-related technical and program support services to the FEMA Regional Offices.

Regular Phase - The phase of a community’s participation in the NFIP when more comprehensive floodplain management requirements are imposed and higher amounts of insurance are available. The FIRM forms the basis for this phase of participation in the NFIP.

Regulatory Floodway - A floodplain management tool that is the regulatory area defined as the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the base flood discharge can be conveyed without increasing the BFEs more than a specified amount. The regulatory floodway is not an insurance rating factor.

Repellent Flood Claims (RFC) Program - A grant program, authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004, through which FEMA provided funding to reduce or eliminate the long-term risk of flood damage to structures insured under the NFIP that had one or more claim payments for flood damage. The Biggert-Waters Flood Insurance Reform Act of 2012 eliminated the RFC Program.

Residential Condominium Building – A building, owned and administered as a condominium, containing 1 or more family units and in which at least 75 percent of the floor area is residential.


Resilience - The ability to adapt to changing conditions.

Resilience Meeting - The term used to describe a formal meeting held with community officials and stakeholders for a flood risk project carried out under the Risk MAP program. The meeting is held to assess Risk MAP products and potential actions to incorporate into hazard mitigation plans.

Rich Site Summary (RSS) Feed – A format for delivering regularly changing web content through which many news-related websites, weblogs, and other online publishers syndicate their content as an RSS feed to whoever wants it.

Risk Analysis (RA) Branch - The component of the Mitigation Division in a FEMA Regional Office that applies engineering and planning practices in conjunction with advanced technology tools to identify hazards, assess vulnerabilities, and develop strategies to manage the risks associated with natural hazards.
**Risk Analysis Division (RAD)** - The component of FIMA at FEMA HQ that applies engineering and planning practices in conjunction with advanced technology tools to identify hazards, assess vulnerabilities, and develop strategies to manage the risks associated with natural hazards.

**Risk Assessment** - The process by which hazards and their associated risks (including threats to public health and safety, the environment, property damage, and economic loss) are identified. The assessment combines probabilities of occurrence with consequences in a way that quantifies risk. Quantifying risk is a powerful way to communicate a threat, determine the key factors that cause the threat to be high, and perform trade-off analyses to determine the most effective way to reduce, avoid, or otherwise control the threat. Risk assessments can include information such as the following: a description of the type, location, and extent of natural hazards; a jurisdiction’s vulnerability to the hazards; and the type and number of buildings, infrastructure, and critical facilities located in identified hazard areas.

**Risk Insurance Division (RID)** - The component of FIMA at FEMA HQ that helps reduce flood losses by providing affordable flood insurance for property owners and by encouraging communities to adopt and enforce floodplain management regulations that mitigate the effects of flooding on new and improved structures.

**Risk Management Directorate (RMD)** - The component of FIMA that applies engineering and planning practices in conjunction with advanced technology tools to identify hazards, assess vulnerabilities, and develop strategies to manage the risks associated with natural hazards. Some of the key programs, initiatives, and activities managed by the RMD staff are: CTP Program, data warehouse management, FMIX management, Mitigation Assessment Team Program, Multi-Hazard Risk Assessment, National Dam Safety Program, National Hurricane Program, National Earthquake Hazards Reduction Program, national hazard mitigation planning, National Levee Safety Program, and Risk MAP program.

**Risk Management Directorate SharePoint Portal** - An integrated, password-protected program website designed to encourage information sharing and collaboration across FEMA, mapping partner, and provider teams involved in the Risk MAP effort.

**Risk Mapping, Assessment, and Planning (Risk MAP) Program** - A program developed by FEMA to leverage the successes of Map Mod and further enhance the usability and value of flood hazard mapping. The Risk MAP program combines flood hazard mapping, risk assessment tools, and mitigation planning into one seamless program. The intent of this integrated program is to encourage beneficial partnerships and innovative uses of flood hazard and risk assessment data in order to maximize flood loss reduction.


**Risk Reduction Division** – See Mitigation Directorate.

**Riverine Flooding** - The overbank flooding of rivers and streams.

**River Mile Marker (RMM)** - A marker that indicates the distance in miles from a reference point on a river or other major watercourse.

**RUNUP** - A DOS-based program that uses stillwater flood elevation, shore profile and roughness, and incident wave condition input information to compute a wave runup elevation that is consistent with the most detailed guidance available.

**Saffir-Simpson Scale** - A scale (Categories 1 through 5) that measures a hurricane’s intensity to give an estimate of the potential property damage and flooding expected. Windspeed is the determining factor in the scale.
Scientifically Incorrect Flood Hazard Information - The flood hazard information (including BFEs, base flood depths, SFHAs, flood insurance risk zone designations, and regulatory floodways) determined through analyses in which the methodologies used and/or assumptions made are inappropriate for the physical processes being evaluated or are otherwise erroneous.

Scientific Resolution Panel (SRP) - A three- to five-member independent review body composed of technical experts who will review appeals of proposed flood hazard determinations. The panel members are experts in surface-water hydrology, hydraulics, coastal engineering, and other engineering and scientific fields that relate to the creation of FIRMs and FIS reports. The SRP process is managed by the National Institute of Building Sciences, a non-profit organization that is independent from FEMA.

Scoping Meeting - The meeting, held during Map Mod, where all interested parties came together to discuss, and perhaps finalize, the scope for a particular study/mapping project (including the areas to be studied) and the task assignments.

Sea, Lake, and Overland Surge from Hurricanes (SLOSH) Model - A computerized model run by the National Hurricane Center to estimate storm surge heights and winds resulting from historical, hypothetical, or predicted hurricanes (by taking into account pressure, size, forward speed, track, winds).

Seawall - A solid barricade, often concrete or stone, built at the water’s edge to protect the shore and to prevent inland flooding. Generally built parallel to the shore, a seawall is typically more massive and capable of resisting greater wave forces than a bulkhead.

Second-Layer Coverage - Limit of coverage equal to the amounts made available under the Emergency and Regular Phases of the NFIP.

Section 65.10 Requirements - The NFIP regulatory criteria for the evaluation and mapping of areas protected by levee systems, which are presented at Title 44, Chapter 1, Section 65.10 of the Code of Federal Regulations (44CFR65.10).

Sediment - Fragmental material that originates from the weathering of rocks and is transported by, suspended in, or deposited by water or air or is accumulated in beds by other natural occurrence.

Sediment Cell - A length of coastline in which interruptions to the movement of sand or shingle along the beaches or near shore sea bed do not significantly affect beaches in the adjacent lengths of coastline.

Self-Sustaining Beach - A beach that has either natural or engineered sand retention and that can be stable through the continued supply of natural sediment sources, without and mechanical nourishment needed over a long period.

Severe Repetitive Loss (SRL) Program - A grant program, authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004, which allowed FEMA to provide funding to reduce or eliminate the long-term risk of flood damage to severe repetitive loss structures insured under the NFIP. The U.S. Congress eliminated the SRL Program when it enacted BW-12.

Shallow Flooding - Unconfined flows over broad, relatively low relief areas, such as alluvial plains; intermittent flows in arid regions that have not developed a system of well-defined channels; overbank flows that remain unconfined, such as on delta formations; overland flow in urban areas; and flows collecting in depressions to form ponding areas. For NFIP purposes, shallow flooding conditions are defined as flooding that is limited to 3.0 feet or less in depth where no defined channel exists.

Sheet Runoff - The broad, relatively unconfined downslope movement of water across sloping terrain that results from many sources, including intense rainfall and/or snowmelt, overflow from a channel that crosses a drainage divide, and overflow from a perched channel onto deltas or plains of lower elevation. Sheet runoff is typical in areas of low topographic relief and poorly established drainage systems.
Shore - The narrow strip of land in immediate contact with the sea, including the zone between high and low water lines.

Shoreline Management - The development of strategic, long-term and sustainable coastal defense and land-use policy within a sediment cell.

Significant Wave - A statistical term relating to the 1/3 highest waves of a given wave group and defined by the average of their heights and periods.

Significant Wave Height - The average of the 1/3 highest waves of a given wave group.

Significant Wave Period - An arbitrary period generally taken as the period of 1/3 highest waves of a given wave group.

Silver Jackets - An innovative program undertaken by the U.S. Army Corps of Engineers in an effort to establish effective and continuous collaboration between State and Federal agencies to facilitate successfully reducing the risk of flooding and other natural disasters in the United States and enhancing response and recovery efforts when such events do occur. This program provides an opportunity to consistently bring together multiple Federal, State and sometimes local agencies to learn from one another and apply that knowledge to reduce risk.

Simulating WAves Nearshore (SWAN) Model - A third-generation, stand-alone (phase-averaged) model for the simulation of waves in waters of deep, intermediate, and finite depth. It is also suitable for use as a wave hindcast model.

Slab-on-Grade Foundation - The type of foundation in which the lowest floor of the house is formed by a concrete slab that sits directly on the ground.

Slough - A small muddy marshland or tidal waterway which usually connects other tidal areas.

Sluice - A structure containing a gate to control the flow of water from one area to another.

Sounding - A measured depth of water. On hydrographic charts, the soundings are adjusted to a specific plane of reference called a sounding datum.

Special Conversion - An action taken by FEMA to convert a community to the Regular Phase of the NFIP without preparing a FIRM with detailed flood risk zones. The exact action taken depends on whether FEMA determines the community is "non-floodprone" or "minimally floodprone."

Special Flood Hazard Area (SFHA) - The area delineated on an NFIP map as being subject to inundation by the 1-percent-annual-chance flood. SFHAs are determined using statistical analyses of records of riverflow, storm tides, and rainfall; information obtained through consultation with a community; floodplain topographic surveys; and hydrologic and hydraulic analyses.

Special Problem Report (SPR) - A report, prepared by the agency/provider that is performing an engineering study or other mapping activity, that documents special problems or issues encountered during the performance of the work.

Standard Flood Insurance Policy (SFIP) - The flood insurance policy issued by FEMA or an insurer pursuant to an arrangement with FEMA pursuant to Federal statutes and regulations. State - Any State, the District of Columbia, the territories and possessions of the United States, the Commonwealth of Puerto Rico, and the Trust Territory of the Pacific Islands.

Standard Flood Insurance Policy (SFIP) - Residential Condominium Building Association Policy (RCBAP) – The policy form used to insure a building, owned and administered as a condominium, containing 1 or more units and in which at least 75 percent of the floor area is residential. The building must be located in a community participating in the Regular Phase of the NFIP.
Start of Construction - For other than new construction or substantial improvements, under the Coastal Barrier Resources Act, this is the date the building permit was issued, provided that the actual start of construction, repair, rehabilitation, addition, placement or other improvement was within 180 days of the permit date.

State Coordinating Agency - See State NFIP Coordinator.

State Hazard Mitigation Officer (SHMO) - The representative of a State government who is the primary point of contact with FEMA, other Federal agencies, and local units of government in the planning and implementation of pre- and post-disaster mitigation activities.

State NFIP Coordinator - The agency of the State government, or other office designated by the Governor of the State or by State statute at the request of FEMA, to assist in the implementation of the NFIP in that state; also, the individual within the State agency that leads the implementation of the NFIP in that state. Names and contact information for the State NFIP Coordinator can be found on the Association of State Floodplain Managers website.

State Plane Coordinates - A system of X,Y coordinates defined by the U.S. Geological Survey for each state. Locations are based on the distance from an origin within each state.

STeady State Irregular Wave (STWAVE) - An easy-to-apply, flexible, robust, half-plane model for nearshore wind-wave growth and propagation.

Stillwater Flood Elevation (SWEL) - Projected elevation that floodwaters would assume in the absence of waves caused by winds.

Stillwater Flood Level (SWFL) - Rise in the water surface above normal water level on the open coast due to the action of wind stress and atmospheric pressure on the water surface.

Storm Surge - The water that is pushed toward land from the high winds of a major storm (e.g., hurricane, tropical storm). Storm surge is usually estimated by subtracting the normal or astronomic high tide from the observed storm tide.

Storm Surge Analysis Update (SSAU) Meeting - The term used to describe a meeting held with community officials for a coastal flood risk project carried out under the Risk MAP program during which the results of the storm surge analyses are presented and discussed.

Storm Tide - The combined effect of storm surge, existing astronomical tide conditions, and breaking wave setup.

Structural Fill - See fill.

Structure - For floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank that is principally above ground, as well as a manufactured home. For flood insurance purposes, a walled and roofed building, other than a gas or liquid storage tank, that is principally above ground and affixed to a permanent site, as well as a manufactured home on a permanent foundation.

Study/Mapping Project – See Flood Risk Study.

Subcritical Flow - Flow with a mean velocity that is less than the critical velocity; in other words, tranquil flow.

Submit-for-Rate (SFR) - An application for flood insurance on a building for which no risk rate is published in the NFIP Flood Insurance Manual. Insurance coverage can be obtained only after the insurer has approved the application and has established the risk premium rate.

Substantial Damage - Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
Substantial Improvement - Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. Substantial improvement includes buildings that have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either any project for improvement of a building to correct existing state or local code violations or any alteration to a "historic building," provided that the alteration will not preclude the building's continued designation as a "historic building."

Summary of Map Actions (SOMA) - A list, generated by FEMA and delivered to the community CEO and FPA that summarizes the LOMAs, LOMR-Fs, and LOMRs that are or will be affected by a physical update to an effective FIRM.

Supercritical Flow - Flow with a mean velocity that is greater than the critical velocity; i.e., rapid flow.

Surge - See storm surge.

Suspension - FEMA's removal of an NFIP participating community from the program because the community has not enacted and/or enforced the proper floodplain management regulations required for participation.

Swale - The depression between the beach ridges.

Swash - The rush of water up onto the beach face following the breaking of a wave.

Swell - Wind-generated waves that have traveled out of their generating area.

Technical Support Data Notebook (TSDN) - The format for the FEMA-maintained file that contains all of the technical and administrative support data for a community for which FEMA published an NFIP map and all revisions to that map.

Technically Incorrect Flood Hazard Information - The flood hazard information (including BFEs, base flood depths, SFHAs, flood insurance risk zone designations, and regulatory floodways) determined through analyses in which the methodologies used have not been applied properly, are based on insufficient or poor-quality data, or do not account for the effects of physical changes that have occurred in the floodplain.

Temporary Benchmark (TBM) - A benchmark established for a particular study/mapping project or community.

Tidal Benchmark - A benchmark whose elevation has been determined with respect to mean sea level at a nearby tide gage; the tidal bench mark is used as reference for that tide gage.

Topographic Map - A map on which elevations are shown by means of contour lines.

Transect - Cross section taken perpendicular to the shoreline to represent a segment of coast with similar characteristics.

Triangulated Irregular Network (TIN) - A set of non-overlapping triangles developed from irregularly spaced points that are used to represent the facets of a surface.

Tropical Cyclone - A warm-core non-frontal synoptic-scale cyclone, originating over tropical or subtropical waters, with organized deep convection and a closed surface wind circulation about a well-defined center.

Tropical Depression - A tropical cyclone with some rotary circulation at the water surface, with maximum sustained windspeeds of up to 39 miles per hour. The tropical depression is the second phase in the development of a hurricane.

Tropical Disturbance - A tropical cyclone that maintains its identify for at least 24 hours and is marked by moving thunderstorms and with slight or no rotary circulation at the water surface. Winds are not strong. It is a common phenomenon in the tropics and is the first discernible phase of hurricane development.

Tropical Storm - A tropical cyclone with maximum sustained (1-minute average) winds of 39 to 73 miles per hour.
Glossary of Frequently Used Mapping Terms

Undeveloped Coastal Barrier - Any land area adjacent to the Atlantic Ocean, Pacific Ocean, or Great Lakes, where flood insurance will not be available for new or substantially improved structures. These areas are protected by law to discourage development and to preserve dunes, beaches, and wildlife habitats.

Universal Transverse Mercator (UTM) Grid - A system of plane coordinates based on 60 north-south trending zones, each 16 degrees of longitude wide, that circle the globe.

Unnumbered A Zones - Flood insurance risk zones, designated Zone A on a FIRM, that are based on approximate studies.

U.S. Government Printing Office (GPO) - The Federal Government office that is responsible for producing printed copies of Federal Government resources and delivering them to the originating Federal agency offices for distribution. GPO works directly with the FEMA Map Service Center on the distribution of flood maps and related products.

Variance - A grant of relief by an NFIP participating community from the terms of its floodplain management regulations.

Velocity Zone/V Zone - See Coastal High Hazard Area (CHHA).

Violation - The failure of a structure or other development to be fully compliant with a participating community’s floodplain management regulations.

Watershed - An area of land that drains into a single outlet and is separated from other drainage basins by a divide.

Water-Surface Elevations (WSELs) - The heights of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas, in relation to a specified vertical datum.

Wave - A ridge, deformation, or undulation of the water surface.

Wave Amplitude - The magnitude of the displacement of a wave from a mean value. An ocean wave has an amplitude equal to the vertical distance from stillwater level to wave crest.

Wave Crest - The highest part of a wave; that part of the wave above the stillwater level.

Wave Crest Elevation - The elevation of the crest of the wave.

Wave Crest Length - The length of a wave along its crest, sometimes called crest width.

Wave Forecasting - The theoretical determination of future wave characteristics, usually from observed or predicted meteorological phenomena.

Wave Generation - The creation of waves by natural or mechanical means; the creation and growth of waves caused by a wind blowing over a water surface for a certain period of time. The area involved is called the “generating area” or “fetch.”

Wave Height - The vertical distance between the highest part of the wave (wave crest) and the lowest part of the wave (wave trough).

Wave Height Analysis for Flood Insurance Studies (WHAFIS) - A DOS-based program that uses representative transects (selected considering major topographic, vegetative, and cultural features) to compute wave crest elevations in a given study area.

Wave Hindcasting - The use of historical synoptic windfields to calculate characteristics of waves that probably occurred at some past time.
**Wave Propagation** - The transmission of waves through water.

**Wave Runup** - The rush of wave water up a slope or structure.

**Wave Runup Depth** - The vertical distance between the maximum wave runup elevation and the eroded ground elevation.

**Wave Runup Elevation** - The elevation, referenced to NGVD29, NAVD88, or other datum, reached by wave runup.

**Wave Setup** - The increase in the stillwater surface near the shoreline, due to the presence of breaking waves.

**Wave Steepness** - The ratio of the wave height to the wave length.

**Windfield** - The three-dimensional spatial pattern of winds.

**Wind Waves** - The waves being formed and built up by the wind; any wave generated by wind.

**X Zones** - Flood insurance risk zones used for areas outside the 0.2-percent-annual-chance floodplain. No BFEs or depths are shown in this zone, and mandatory insurance purchase requirements of the NFIP do not apply.

**Zone Gutter** - Boundary, shown on a FIRM, dividing SFHAs of different BFEs, base flood depths, flow velocities, or flood insurance risk zone designations.