# INTRODUCTION

This section provides a general introduction to the Eastern Shore of Virginia Hazard Mitigation Plan. This section consists of the following subsections:

- Background
- Purpose
- Organization

## BACKGROUND

Since the 1960's, Congress and the President have been under increasing pressure to organize resources for the nation during large disasters. The government has increasingly turned its attention to the federal response for these types of disasters. It was during the 1960's that the National Flood Insurance Program (NFIP) was created in order to shift costs of disasters to those who choose to live in an area at risk. In the 70's, the Federal Emergency Management Agency (FEMA) was created to centralize a great deal of the assistance the federal government offers to states in emergency situations. The Stafford Act was passed in the 80's with the intent to standardize federal response and institute programs to decrease disaster vulnerability for the United States. In the early 1990's, the National Flood Insurance Program was reformed to increase the participation of those most at risk to flooding. Still, disaster assistance costs mounted and the late 80's-early 90's saw some of the largest disasters the country had ever experienced. This included multiple billion-dollar events, such as Hurricane Hugo, the Loma Prieta Earthquake, the Northridge Earthquake, Oakland Wildfires, the Midwest Floods of 1993, Hurricane Andrew, and Hurricane Iniki.

In October of 2000, the United State Congress passed an amendment to the Stafford Act called the Disaster Mitigation Act of 2000. This act seeks to protect lives and property and to reduce disaster assistance costs by mitigation – sustained actions to reduce long-term risk. FEMA has since written regulations based on this Act.

Local governments are required to complete a Hazard Mitigation Plan to continue to receive certain types of disaster assistance.

In Spring of 2003, the Virginia Department of Emergency Management asked the counties on the Eastern Shore of Virginia and the Accomack-Northampton Planning District Commission (A-NPDC) to undertake this work directed the A-NPDC to apply for a Pre-Disaster Mitigation Grant to finance the planning process. The Eastern Shore's plan was originally completed and adopted in 2006 according to 44 CFR Part 78, flood mitigation assistance, and the Disaster Mitigation Act of 2000. The current update to the plan occurred in 2021, with the adoption occurring in 2022.

As these plans continue to evolve across the county, the understanding of different hazards and hazard planning has expanded to include a broad range of potential disasters and a concept of community resiliency. The counties and towns of the Eastern Shore of Virginia have worked diligently to complete the following revised Hazard Mitigation Plan, which is presented to address the requirements of the Disaster Mitigation Act of 2000.

# PURPOSE

The purpose of the Eastern Shore of Virginia Hazard Mitigation Plan is to:

- Ensure the protection of life, safety, and property by reducing the potential for future damaged and economic losses that result from hazards;
- Make local communities safer places to live, work, and play;
- Assist localities in meeting the criteria for grant funding prior to and following disasters;
- Expedite the recovery and redevelopment process following disasters;
- Exhibit a commitment from localities for hazard mitigation in the region; and
- Comply with federal and state legislative requirements for hazard mitigation plans.

# PLAN ORGANIZATION

The chapters comprising this document follow the process spelled out in the Disaster Mitigation Act of 2000 and are organized to be both functional and reader-friendly as possible. The organization and intended flow of this document is described in the following sections.

## Chapter 1: Hazards on the Shore

Provides an overview of the hazards that have historically impacted the region and provides insight into the geographic and geologic setting of the region. A chronology of hazard events documents both pre-historic and historic hazard events that have impacted the Eastern Shore of Virginia.

## Chapter 2: Planning Process

Narrates a complete description of the process used to prepared the Plan, including how the public and other stakeholders were involved and who participated on the Hazard Mitigation Plan Steering Committee.

## Chapter 3: Risk Assessment

Identifies and analyzes hazards, assesses the risks associated with each hazard threatening the region, and gauges the capability of available and cost-effective mitigation options for each hazard. This process builds on available historical data, defines detailed profiles for each hazard, and ranks each hazard for associated risk based on occurrence frequency, affected structures, primary and secondary impacts, and mitigation options. The outcome of this process is a priority ranking of hazards that impact the region.

## Chapters 4 – 8: Hazards

Profile the five hazards that were given the highest priority ranking: High Wind, Coastal Erosion, Coastal Flooding, Storm Water Flooding, and Pandemic. Each chapter provides background information, historical accounts, explanations of potential damages, and vulnerability overviews regarding each of the four high-priority hazards.

## Chapter 9: The Region

Provides insight to the potential impacts of hazards on the regional level. As rural, low-populated, and isolated counties in Virginia, many entities must operate at a regional level to be successful and efficient with resources. This was a new chapter added at the adoption of the 2016 Plan and provides a significant level of detailed information.

## Chapters 10 – 23: Accomack County and its Localities

Profile Accomack County and participating incorporated towns within the County. Communities are ordered alphabetically and provide a general description including geographic, physical, demographic, and economic characteristics. In addition, land-use patterns, general historical disaster data, and building characteristics are discussed. These profiles assist County officials and residents by providing baseline information on concerning environmental and economical characteristics that play a role in determining hazard vulnerability.

## Chapters 24 – 29: Northampton County and its Localities

Profile Northampton County and incorporated towns within the County. Communities are ordered alphabetically and provide a general description including geographic, physical, demographic, and economic characteristics. In addition, land-use patterns, general historical disaster data, and building characteristics are discussed. These profiles assist County officials and residents by providing baseline information on concerning environmental and economical characteristics that play a role in determining hazard vulnerability.

## Chapters 30 – 34: Regional Visions & Goal Statements

Guides the identification and prioritization of specific mitigation projects for the region and for each local government jurisdiction participating in the planning process and funding options for implementation. Descriptions for how the plan is to be maintained by government officials are included in the mitigation strategy chapters for Accomack County, Northampton County, and the Town of Chincoteague (Chapters 31, 32, and 33 respectively). Each specific project is assigned a start timeline and a responsible department/person to ensure action is taken to make localities less vulnerable to the damaging forces of hazards, while improving the economic, social, and environmental health of the community. Chapter 34 describes federal mitigation funding options available to localities prior to and following natural disasters. Together, these chapters are designed to make the Plan both strategic through identification of long-term goals and functions through the identification of short-term and immediate actions that will guide daily decision making and project implementation.

# LIST OF ACRONYMS USED THROUGHOUT THE PLAN

ACS – American Community Survey
ANEC – A & N Electric Cooperative
A-NPDC – Accomack-Northampton Planning District Commission
ANRHA – Accomack Northampton Regional Housing Authority
ANTDC – Accomack Northampton Transportation District Commission
BFE – Base Flood Elevation
CBBT – Chesapeake Bay Bridge Tunnel
CBPA – Chesapeake Bay Preservation Area
CDBG – Community Development Block Grant
CRS – Community Rating System
ESCC – Eastern Shore Community College
ESHD – Eastern Shore Health District
ESVA – Eastern Shore of Virginia
ESVBA – Eastern Shore of Virginia Broadband Authority
FEMA – Federal Emergency Management Agency
FIRM – Flood Insurance Rate Map
FIS – Flood Insurance Study
GIS – Geographical Information System
HAZMAT – Hazardous Materials
HIRA – Hazard Identification and Risk Assessment
HMGP – Hazard Mitigation Grant Program
HMP – Hazard Mitigation Plan
MSC – Marine Science Consortium
NASA – National Aeronautics and Space Administration
NFIP – National Flood Insurance Program
NHC – National Hurricane Center
NOAA – National Oceanic Atmospheric Administration
NOAA CSC – National Oceanic Atmospheric Administration Coastal Services Center
NWS – National Weather Service
RL – Repetitive Loss
RMA – Resource Management Area
RPA – Resource Protection Area
SFHA – Special Flood Hazard Area
SLR – Sea Level Rise
SRL – Severe Repetitive Loss
USACE – United States Army Corps of Engineers
USGS – United States Geological Survey
UVA LTER – University of Virginia Long Term Ecological Research
VCZM – Virginia Coastal Zone Management
VDEM – Virginia Department of Emergency Management
VDEQ – Virginia Department of Environmental Quality
VDOF – Virginia Department of Forestry
VDOT – Virginia Department of Transportation
VIMS – Virginia Institute of Marine Science
WFF – Wallops Flight Facility
WWTP – Waste Water Treatment Plant

# MITIGATION TERMS – DEFINITIONS

**Acquisition of Hazard Prone Structures**
Local governments can acquire lands in high-hazard areas through conservation easements, purchase of development rights, or outright purchase of property.

**Adaptation**
The process of developing traits or habits suitable for sustainment of a given activity.

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

**Capability Assessment**
An assessment that provides a description and analysis of a community or state's capability to address the threats associated with hazards. The capability assessment attempts to identify and evaluate existing policies, regulations, programs, and practices that positively or negatively affect the community or state's vulnerability to hazards.

**Community Rating System (CRS)**
CRS is a program that provides incentives for National Flood Insurance Program communities to complete activities that reduce flood hazard risk. When communities complete specified activities, the insurance premiums of policyholders in the community are reduced.

**Critical Facilities**
Facilities vital to the health, safety, and welfare of the population that are especially important following disasters. These include, but are not limited to, emergency shelters, police stations, fire departments, hospitals, etc.

**Debris**
The scattered remains of assets broken or destroyed in a hazard event. Debris transported by a wind or flood hazard event can cause additional damage to other assets.

**Disability**
ACS: Covers six different disability types including heading, vision, cognitive, ambulatory (serious difficulty walking or climbing stairs), self-care (difficulty bathing or dressing), and/or independent living.

**Disaster Mitigation Act of 2000**
The latest legislation to improve the planning process. Signed into federal law on October 30, 2000. This legislation reinforces the importance of mitigation planning and emphasizes planning for disasters prior to their occurrence.

**Displacement Time**
The average time which the building's occupants typically must operate from a temporary location while repairs are made to the original building due to damages resulting from a hazard event.

**Elevation of Structures**
Raising structures above the BFE to protect structures located in areas prone to flooding.

**Erosion**
Wearing away of the land surface by detachment and movement of sediments during a flood or storm through the action of wind, water, or other geological processes.

**Federal Emergency Management Agency (FEMA)**
Federal agency created in 1979 to provide a single point of accountability for all federal activities related to disaster mitigation and emergency preparedness, response, and recovery. FEMA is currently part of the U.S. Department of Homeland Security.

**Flood**
A general and temporary condition of partial or complete inundation of normally dry areas from (1) the overflow or inland or tidal waters, (2) the unusual and rapid accumulation of runoff or surface waters from any source, or (3) mudflows or the sudden collapse of shoreline land.

**Flood Depth**
Height of the flood water surface above ground surface.

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

**Flood Insurance Rate Map (FIRM)**
Map of a community prepared by FEMA that shows both the SFHAs and the risk premium zones applicable to the community.

**Flood Insurance Study (FIS)**
A study that provides an examination, evaluation, and determination of flood hazards and, if appropriate, corresponding water surface elevations in a community or communities.

# LAND USE CATEGORY DESCRIPTIONS

The following table describes land use categories mentioned throughout the plan and their descriptions.

### *Table 1: Land Use Category Descriptions*

| Land Use Category | Description |
|---|---|
| **Developed** | Areas characterized by a high percentage (30% or greater) of constructed materials. e.g., asphalt, concrete, buildings, etc. |
| **High** | Includes infrastructure (e.g., roads, railroads, etc.) and all highly developed areas. |
| **Medium** | Includes highly developed areas where people reside in high numbers. e.g., apartment complexes, row houses, etc. Vegetation accounts for less than 20% of the cover. Constructed materials account for 80-100% of the cover. |
| **Low** | Includes areas with a mixture of constructed materials and vegetation. Constructed materials account for 30-80% of the cover. Vegetation may account for 20-70% of the cover. These areas most commonly include single-family housing units. Population densities will be lower than in high-intensity residential areas. |
| **Open** | Includes areas that have approximately 100% vegetative cover. These areas could be large grass yards, recreational fields, golf courses, etc. |
| **Planted/Cultivated** | Areas characterized by herbaceous vegetation that has been planted or is intensively managed for the production of food, feed, or fiber, or is maintained in developed settings for specific purposes. Herbaceous vegetation accounts for 75-100% of the cover. |
| **Cultivated Crops** | Areas used for the production of crops such as corn, soybeans, vegetables, rice, etc. |
| **Hay/Pasture** | Areas of grasses, legumes, pr grass-legume mixtures planted for livestock grazing or the production of seed of hay crops. |
| **Natural** | Areas where the vegetative cover is in balance |
| **Forest Uplands** | Areas characterized by tree cover (natural or semi-natural woody vegetation, generally greater than 6 meters tall); tree canopy accounts for 25-100% of the cover. |
| **Deciduous Forest** | Areas dominated by trees where 75% or more of the tree species shed foliage simultaneously in response to seasonal change. |
| **Evergreen Forest** | Areas dominated by trees where 75% or more of the tree species maintain their leaves all year. Canopy is never without green foliage. |
| **Mixed Forest** | Areas dominated by trees where neither deciduous nor evergreen species represent more than 75% of the cover present. |
| **Low Vegetation** | |
| **Herbaceous** | Areas dominated by upland grasses and forbs. In rare cases, herbaceous cover is less than 25%, but exceeds the combined cover of the woody species present. These areas are not subject to intensive management, but they are often utilized for grazing. |
| **Shrub/Scrub** | Areas dominated by shrub; shrub canopy accounts for 25-100% of the cover. Shrub cover is generally greater than 25% when tree cover is less than 25%. Shrub cover may be less than 25% in cases when the cover of other life forms (e.g., herbaceous or tree) is less than 25% and shrubs cover exceeds the cover of the other life forms. |
| **Wetlands** | Areas where the soil or substrate is periodically saturated with or covered with water, or may be present at or near the surface all year, seasonally, or varying periods. |
| **Woody Wetlands** | Areas where forest or shrubland vegetation accounts for 25-100% of the cover and the soil or substrate is periodically saturated with or covered with water. |
| **Emergent Herbaceous Wetlands** | Areas where perennial herbaceous vegetations accounts for 75-100% of the cover and the soil or substrate is periodically saturated with or covered with water. |