

Town of Windsor

Memorandum

TO: The Honorable Mayor and Members of Town Council
FROM: James Randolph, Planning & Zoning Administrator JR
SUBJECT: Hampton Roads Hazard Mitigation Plan
DATE: July 12, 2022

In 2000, the United States Congress passed the Disaster Mitigation Act. This act requires that all state and local governments develop a hazard mitigation plan. Plans are required as a condition of future funding for mitigation projects under multiple Federal Emergency Management Agency (FEMA) pre- and post-disaster mitigation grant programs. The act also requires that the plan be updated every five years. Council last adopted this plan in April 2017.

In the spirit of cooperation and efficiency, the region has partnered together to develop a regional hazard mitigation plan to comply with the federal requirements. The plan determines what hazards threaten the region and then identifies mitigation measures to address these hazards. There are two mitigation actions listed in the plan for the Town of Windsor. First, provide training for a member of Town staff to become a Certified Floodplain Manager (CFM), and second, to review information required on zoning permit applications to ensure continued compliance with the National Flood Insurance Program (NFIP).

A brief summary version is included for your review. A copy of the full Hampton Roads Hazard Mitigation Plan is available online at hrpdcva.gov

Recommended Motion

Move that Council adopt the enclosed resolution entitled :

Adopting the Updated 2022
Hampton Roads Hazard Mitigation Plan

Adopting the Updated 2022 Hampton Roads Hazard Mitigation Plan

Whereas, the Town Council of the Town of Windsor, Virginia recognizes the threat that natural hazards pose to people and property within our community; and

Whereas, undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences; and

Whereas, an adopted Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

Whereas, the Town of Windsor participated in the FEMA-prescribed mitigation planning process to prepare this Hazard Mitigation Plan; and

Whereas, the Virginia Department of Emergency Management and Federal Emergency Management Agency, Region III officials have reviewed the “2022 Hampton Roads Hazard Mitigation Plan” and approved it contingent upon this official adoption of the participating governments and entities;

Now, therefore, be it resolved, that the Town Council of the Town of Windsor, Virginia adopts the “2022 Hampton Roads Hazard Mitigation Plan” as an official plan; and

Be it further resolved, the Town of Windsor will submit this Adoption Resolution to the Virginia Department of Emergency Management and Federal Emergency Management Agency, Region III officials to enable the Plan’s final approval.

Passed: _____ (date)

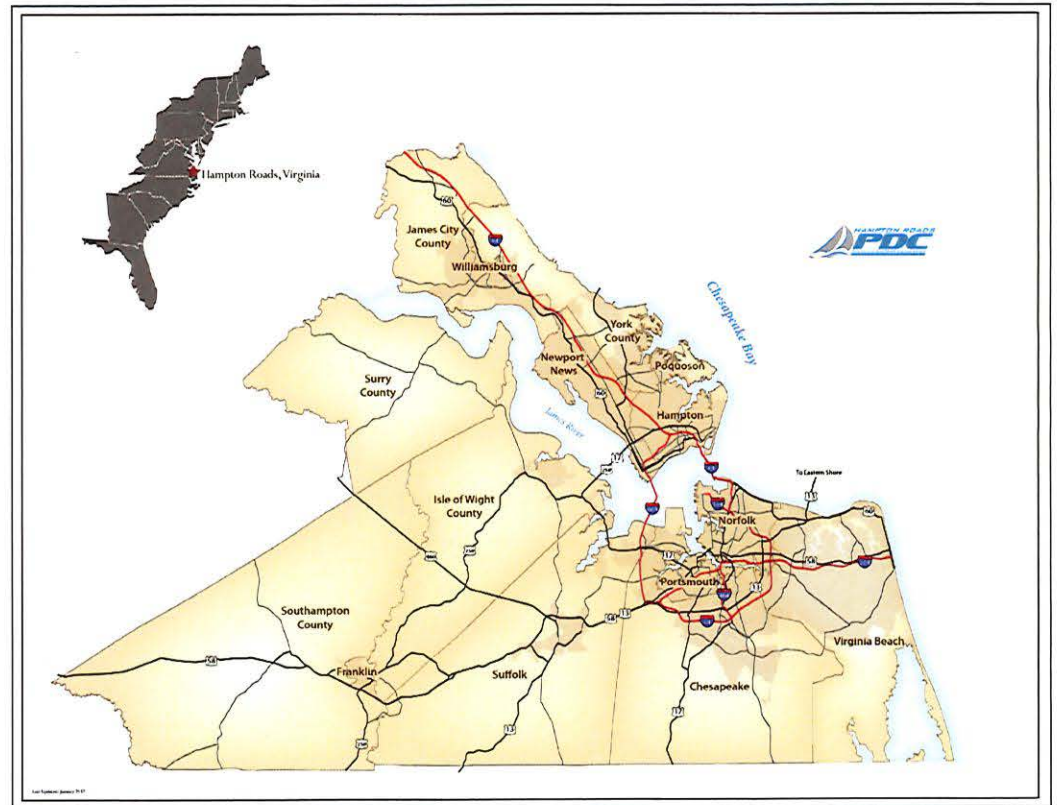
Certifying Official

Updating the Hampton Roads Hazard Mitigation Plan for 2022



17 Participating Jurisdictions

- The Cities of:
 - Chesapeake, Franklin, Hampton, Newport News, Norfolk, Portsmouth, Poquoson, Suffolk, Virginia Beach, and Williamsburg
- The Counties of:
 - Isle of Wight, James City, Southampton, Surry and York
- The Towns of:
 - Smithfield and Windsor



Process

1

Organize Resources

- Get organized
- Plan for involvement
- Coordinate with other departments and agencies

2

Assess Risk

- Identify the hazards
- Assess the risks

3

Develop the Plan

- Review mitigation alternatives
- Set planning goals
- Draft action plan

4

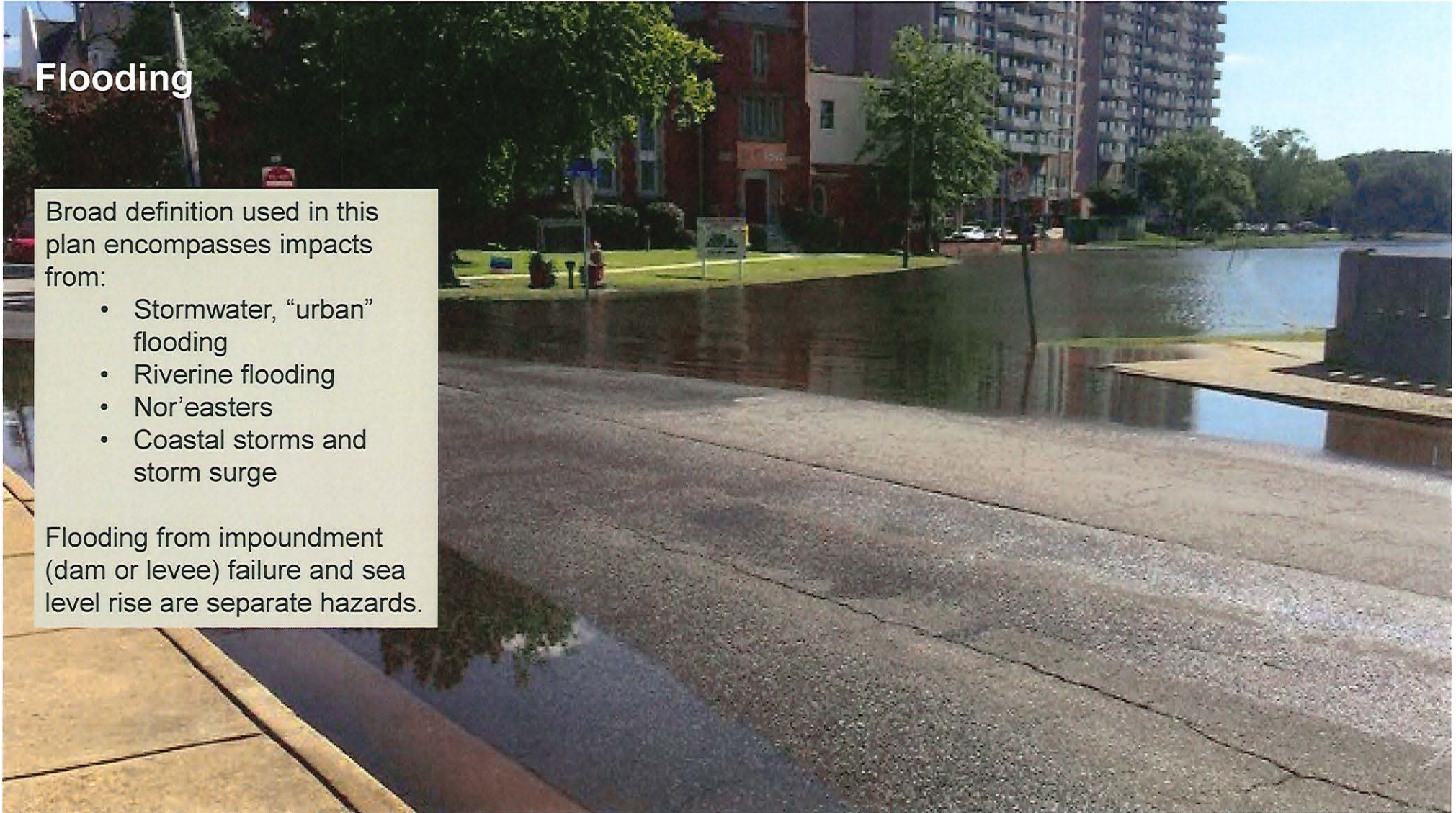
Adopt, Implement & Maintain the Plan

Flooding

Broad definition used in this plan encompasses impacts from:

- Stormwater, “urban” flooding
- Riverine flooding
- Nor’easters
- Coastal storms and storm surge

Flooding from impoundment (dam or levee) failure and sea level rise are separate hazards.



Hazus Level 2 Flood Risk Assessment 100-year Flood Analysis – Annualized Losses

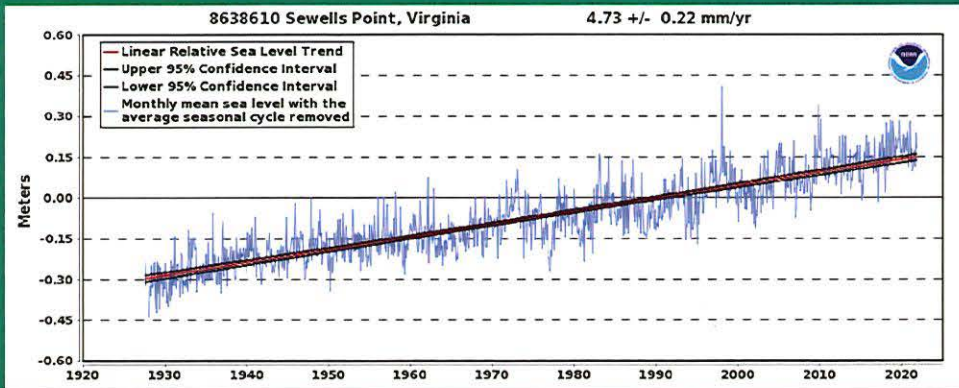
COMMUNITY	# of Residential Buildings Damaged	Average Annual Damages
Hampton	4,012	\$6.8 million
Newport News	435	\$486,000
Poquoson	1,405	\$3.7 million
James City County	64	\$156,000
Williamsburg	0	n/a
York County	266	\$688,000

COMMUNITY	# of Residential Buildings Damaged	Average Annual Damages
Norfolk	2,684	\$19.2 million
Portsmouth	658	\$982,000
Suffolk	40	\$191,000
Virginia Beach	2,322	\$9.5 million
Chesapeake	1,382	\$1.8 million

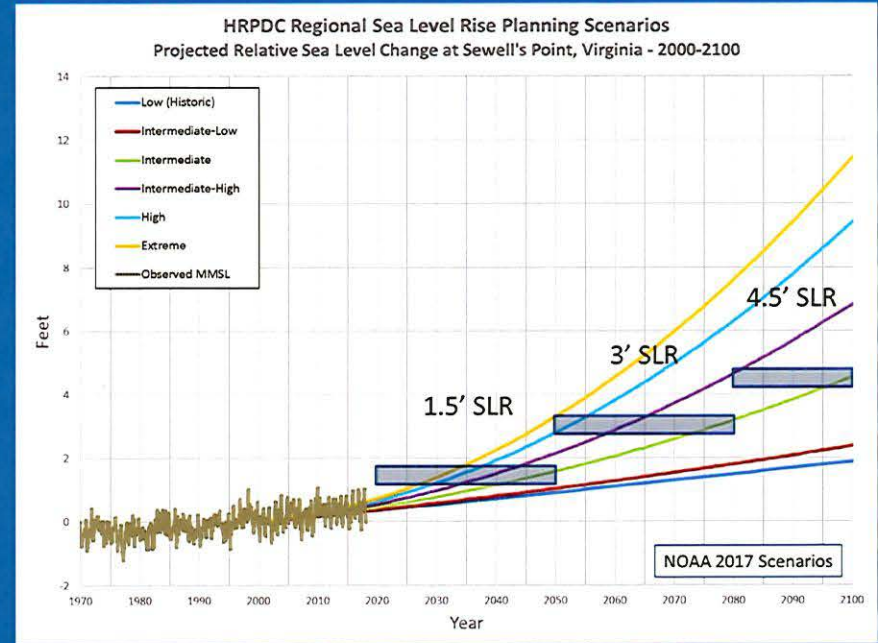
COMMUNITY	# Residential Buildings Damaged	Average Annual Damages
Isle of Wight County	47	\$411,000
Franklin*	n/a	\$11,000
Southampton County*	n/a	\$111,000
Surry County	23	\$111,000

Sea Level Rise

Mean Sea Level Historic Trend

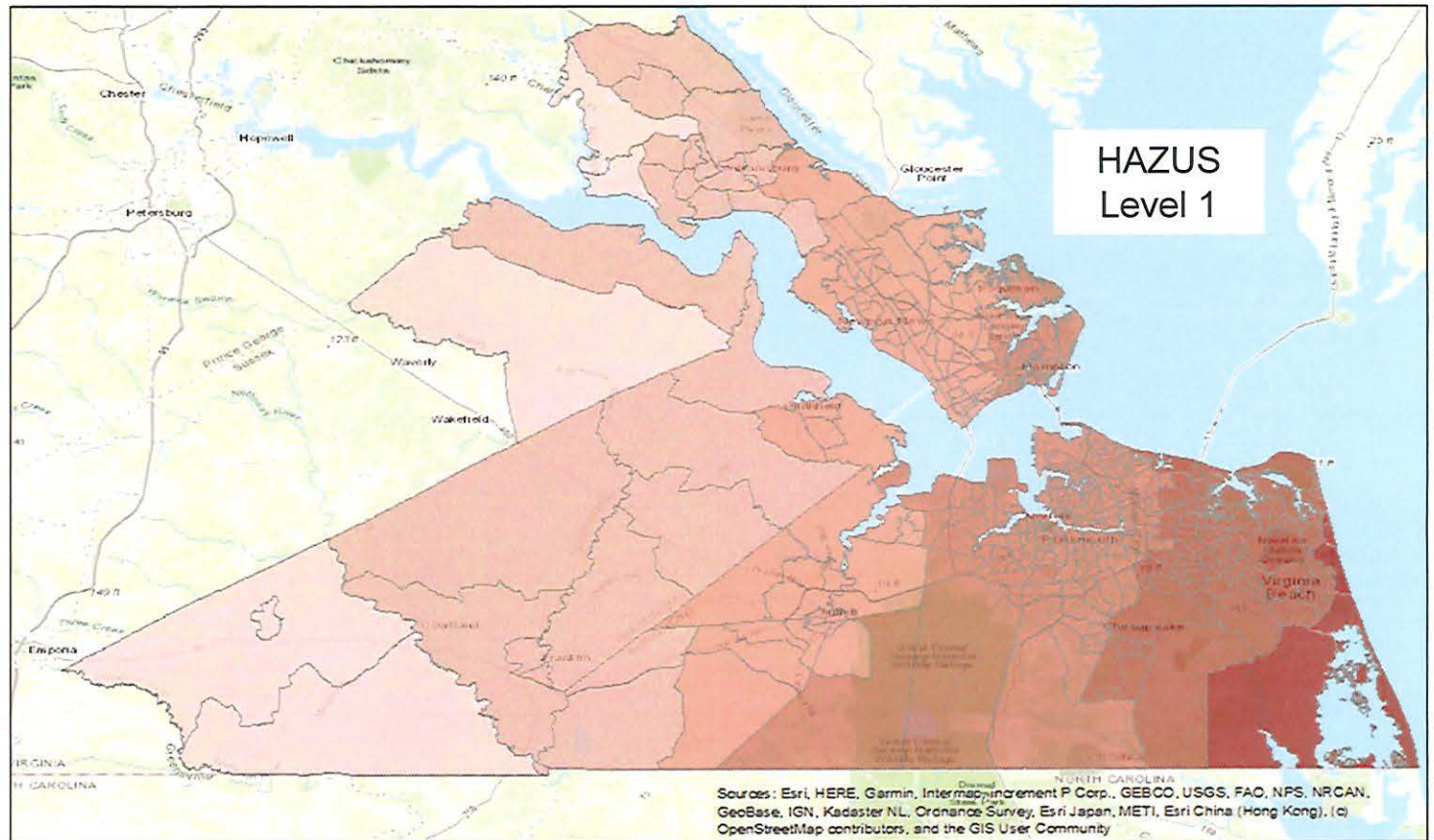
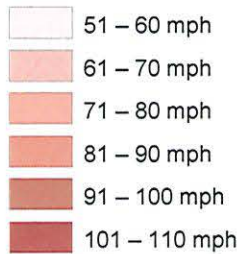


Future Planning Scenarios



Tropical Storms

100-year return period
Peak Gust (mph)
by Census Tract



Tropical Storms

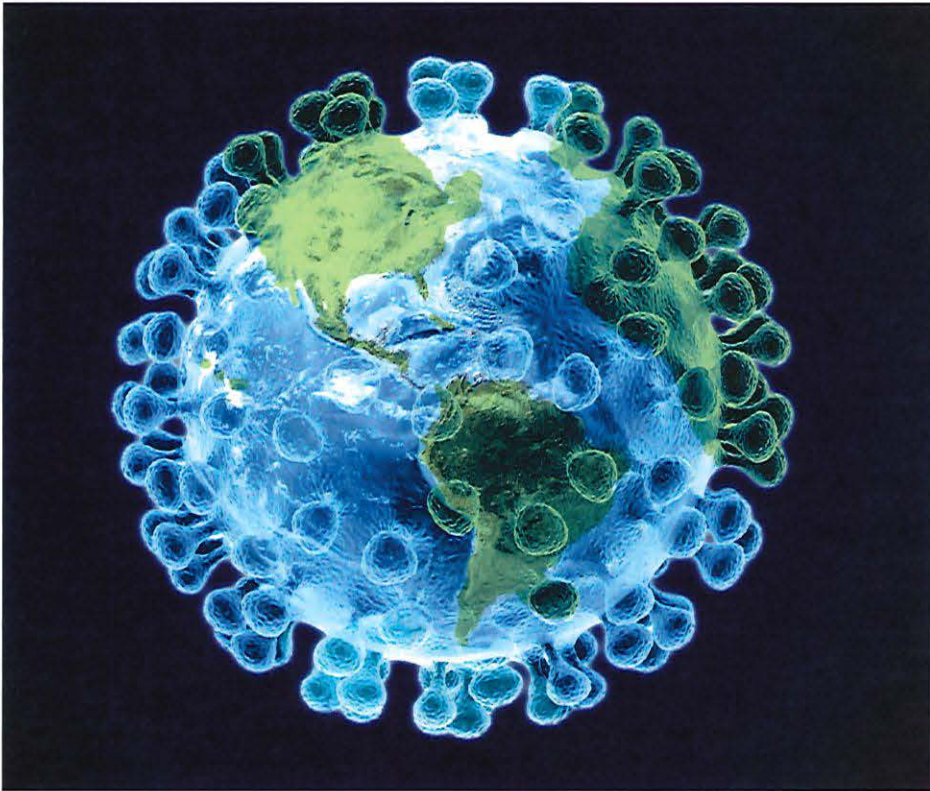
Probabilistic Loss Estimates, ANNUALIZED LOSSES

Peninsula	Total
Hampton	\$7,537,000
Newport News	\$5,166,000
Poquoson	\$698,000
James City County	\$2,081,000
Williamsburg	\$256,000
York County	\$3,161,000

Western Tidewater	Total
Isle of Wight County	\$1,227,000
Franklin	\$215,000
Southampton County	\$457,000
Surry County	\$165,000

Southside	Total
Norfolk	\$10,600,000
Portsmouth	\$3,711,000
Suffolk	\$3,180,000
Virginia Beach	\$3,855,000
Chesapeake	\$13,002,000

Infectious Diseases: Pandemic Flu

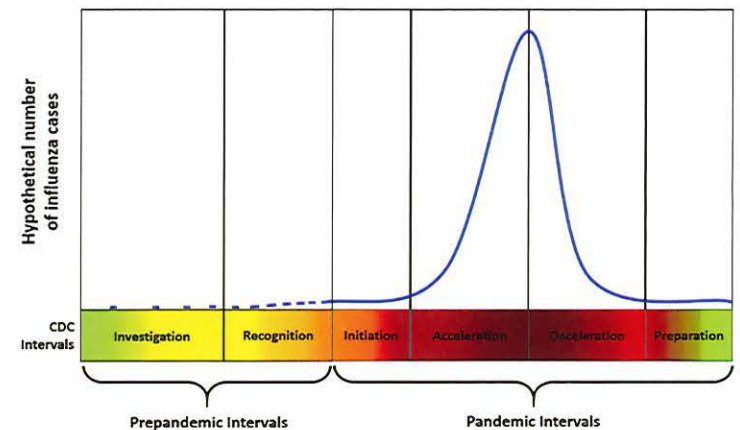


Pandemic is defined as an epidemic of:

- Influenza virus
- Worldwide spread
- Infection of large proportion of human population

Infectious Diseases: Pandemic Flu

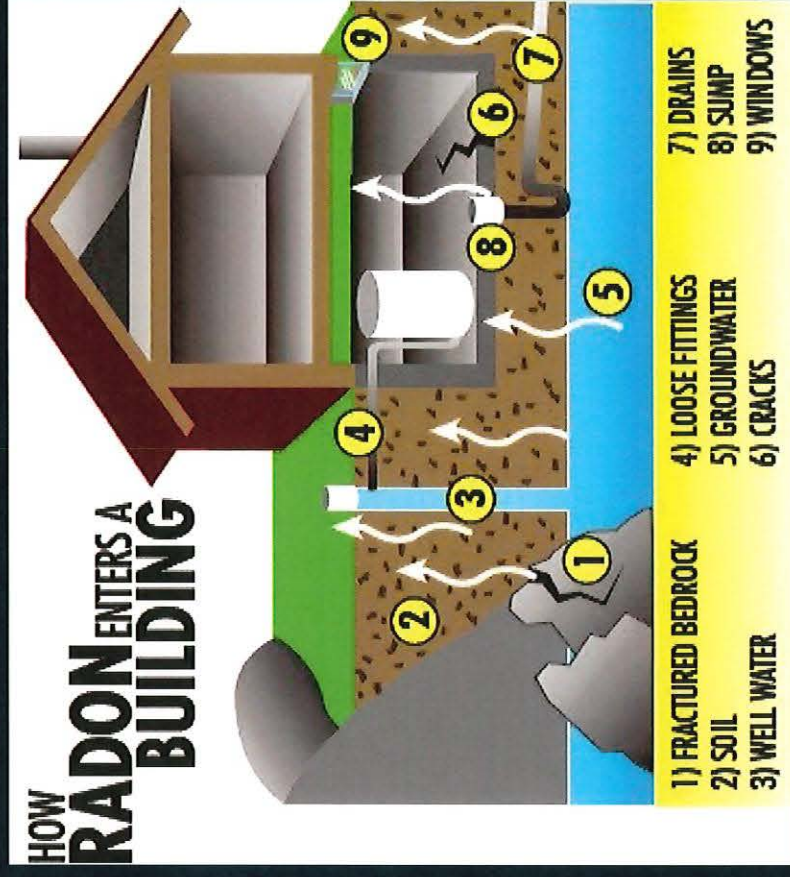
Interval	Description
1) Investigation	Monitoring & investigation of cases in humans
2) Recognition	Control outbreak, treat sick
3) Initiation	Pandemic wave begins when virus has ability to spread person to person
4) Acceleration	Focus on non-pharma interventions and medications to reduce spread/prevent death
5) Deceleration	Pandemic wave slows down when cases consistently decrease; reduce non-pharma interventions
6) Preparation	Monitor for future waves



Radon Exposure

What is Radon?

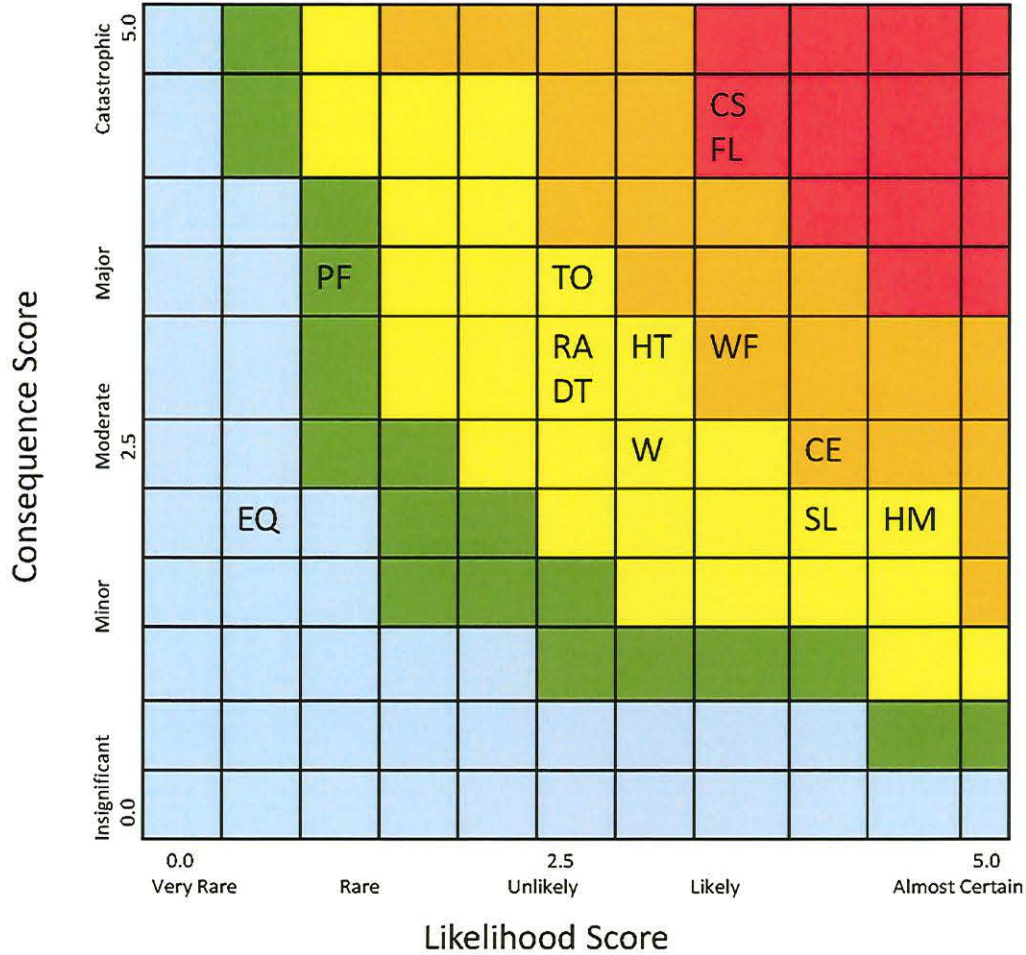
- Colorless, odorless naturally-occurring gas
- Forms by radioactive decay of uranium, thorium or radium
- In Virginia, found in mostly granite & shales (or associated soils & groundwater)



Damages & Frequency

Hazard	Average Annual Estimated Losses
Sea Level Rise and Land Subsidence	\$130.8 million by 2040
Tropical/Coastal Storm	\$86,913,000
Flooding	\$44,261,400
Tornado	\$24,265,000
Earthquake	\$1,119,000
Winter Storm	\$805,000
Hazardous Materials Incident	\$67,500
Wildfire	\$36,900
Extreme Heat	\$0
Flooding Due to Impoundment/High Hazard Dam	Not quantified
Landslide/Coastal Erosion	Not quantified
Radon Exposure	Not quantified
Pandemic Flu or Communicable Disease	Not quantified
Drought	Not quantified

Re-ranking the Hazards for 2022



FL – Flooding (and Impoundment Failure)

SL – Sea Level Rise and Land Subsidence

CS – Tropical/Coastal Storm

CE – Landslide/Coastal Erosion

TO – Tornado

W – Winter Storm

EQ – Earthquake

WF – Wildfire

DT – Drought

HT – Extreme Heat

HM – Hazardous Materials Incident

PF – Pandemic Flu or Communicable Disease

RA – Radon Exposure

Re-ranking the Hazards for 2022

CRITICAL HAZARD - HIGH RISK	FLOODING TROPICAL/COASTAL STORM SEA LEVEL RISE AND LAND SUBSIDENCE
CRITICAL HAZARD - MODERATE RISK	WINTER STORM TORNADO HAZARDOUS MATERIALS INCIDENT
NONCRITICAL HAZARD - LOW RISK	EARTHQUAKE WILDFIRE FLOODING DUE TO IMPOUNDMENT FAILURE/HIGH HAZARD DAM PANDEMIC FLU/COMMUNICABLE DISEASE RADON EXPOSURE
NEGLIGIBLE	EXTREME HEAT LANDSLIDE/SHORELINE EROSION DROUGHT

Revised Planning Goals

Goal 1: Increase community resiliency by reducing vulnerability to hazards.

Objective 1.1: Reduce damage to all repetitively flooded properties, not just NFIP-insured structures

Objective 1.2: Protect existing and future development

Objective 1.3: Protect critical facilities/infrastructure, including High Hazard Potential Dams

Objective 1.4: Maintain diverse, equitable and inclusive government functions and services throughout the duration of hazard events

Objective 1.5: Reduce hazard-related impacts on daily routines

Objective 1.6: Preserve and enhance benefits of natural areas



Revised Planning Goals



Goal 2: Educate the public about hazard vulnerabilities and ways to reduce risk

Objective 2.1: Encourage citizens and businesses ~~property owners~~ to assume responsibility for reducing vulnerability

Objective 2.2: Ensure that information and hazard education opportunities are available to all elements of the communities

Objective 2.3: Pursue public/private partnerships that help facilitate access to hazard-related educational opportunities and gather feedback from citizens

Revised Planning Goals

Goal 3: Strengthen and develop partnerships for mitigating hazard impacts

Objective 3.1: Integrate mitigation concepts into local and regional government plans, policies and actions

Objective 3.2: Improve and standardize hazard data collection and mapping

Objective 3.3: Leverage shared resources in pursuit of funding for hazard mitigation projects

Objective 3.4: Develop partnerships among private, local, regional, national, and international organizations



TYPES OF MITIGATION STRATEGIES

1. PUBLIC EDUCATION & AWARENESS
2. PREVENTION
3. PROPERTY PROTECTION
4. NATURAL RESOURCE PROTECTION
5. STRUCTURAL PROJECTS
6. EMERGENCY SERVICES



Regional Mitigation Action Plan



1. Use existing or create new Elevation Certificates to collect lowest floor elevation data for flood-prone structures in the region, focusing initially on repetitive loss areas in each community.
2. Use AHAC structure and HRPDC resources to develop additional regional mitigation strategies and initiate annual workshop on mitigation project funding.
3. Analyze and update the platform, availability, and accuracy of HAZUS input data and output results for the purposes of conducting future, more detailed vulnerability analyses.

Regional Mitigation Action Plan

4. Use commercially available radon test kits to determine radon levels in structures. Evaluate radon data against known geological formations in the region to determine geographic variability in vulnerability. End product will be a refined map of radon zones.
5. Partner with VDEM to review repetitive flood loss data from FEMA on a regular basis, update repetitive flood loss area polygons and shapefiles, and analyze data for patterns, errors and mitigation opportunities.
6. Address high and significant hazard dam safety in the region, to include: Investigate and conduct risk assessments on dams using risk prioritization methodology; Conduct alternatives analyses to identify preferred plans for dam rehabilitations and the estimated costs for design and construction; Repair, removal, or any other structural or nonstructural measures to rehabilitate an eligible high hazard potential dam, including development of conceptual, preliminary, and final design plans; Conduct additional inundation studies, and use dam inundation data and flood depths to determine if retrofits to affected critical facilities may be necessary.



Regional Mitigation Action Plan

7. Provide regional leadership regarding the new NFIP's new Risk Rating 2.0 system and renewal policy planning, to include assistance with:

- 1) Evaluation of rating accuracy and "minus-rated" policies;
- 2) Messaging and outreach to homeowners;
- 3) Elevation Certificate correction; and
- 4) Mitigation assistance for property protection.

Regional Mitigation Action Plan

8. Strengthen existing and create new regional transportation networks and hubs for evacuation and sheltering. The purposes and needs for evacuation and sheltering are evolving, and communities are moving away from traditional, large shelters to house large populations toward a more targeted approach that tries to anticipate disaster-related needs more specifically. Educating the public about these changes is an important component to this type of regional planning.
9. Work with private companies to advance continuity of operations, including but not limited to power, gas, and water service restoration. Mitigation actions may include implementation of system redundancies, mutual aid agreements or other partnerships to address critical capability gaps. Physical retrofits may increase resilience of critical infrastructure, such as burying power lines and provision of dependable backup power to water and wastewater treatment facilities.



Highlights of Town of Windsor Mitigation Action Plan

- **Provide training for a member of Town staff to become a Certified Floodplain Manager (CFM) through the Association of State Floodplain Managers (ASFPM).**
- **Review information required on the Zoning Permit Application to ensure continued compliance with the NFIP.**