



NEW RIVER VALLEY

HAZARD MITIGATION PLAN

Update 2017

*FEMA Approved Pending Adoption
November 1, 2017*

Funding provided by:



FEMA



Directed by:
the New River Valley
Hazard Mitigation
Steering Committee

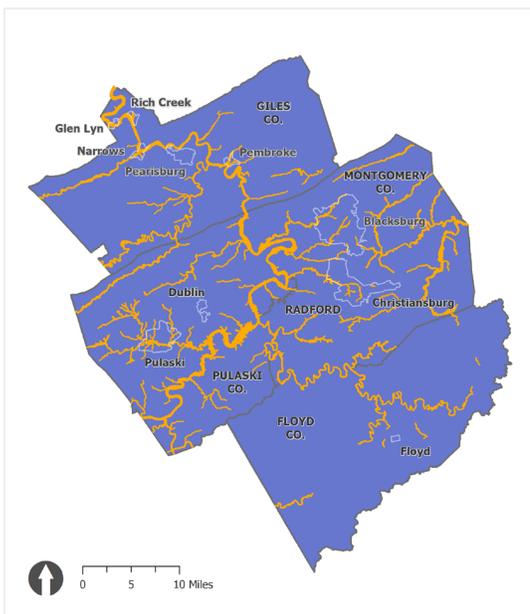
Prepared by:
the New River Valley
Regional Commission

- Floyd County
- Giles County
- Montgomery County
- Pulaski County
- Radford City
- Town of Blacksburg
- Town of Christiansburg
- Town of Narrows
- Town of Pearisburg
- Town of Pembroke
- Town of Pulaski
- Town of Rich Creek

Relative Risk of Regional Natural Hazards

High	Medium	Low
Freezing Temperatures High Winds Flooding	Snowfall Human-caused Drought Ice Storms Wildfire	Karst Landslide Tornado Earthquake Rockfall

NRV's Flooding Risk



Flood Zones
New River Valley

Federal Flood Zones
500-Year or Less Floodplain

Created by NRVRC, 2017. Sources: Federal Emergency Management Agency; U.S. Census Bureau; Virginia Geographic Information Network.

NWS Blacksburg noted a tropical moisture plume in the region in fall 2015 as one of its top five weather and climate events of the year. Flooding from a tropical moisture plume (on September 28th through October 1st) occurred from significant rain that fell in a 6-day period. At least 24 homes were completely destroyed along the Little River basin in Floyd County. Up to \$10 million damage occurred in Floyd, Patrick, and Montgomery counties alone. Floyd County officials described it as one of the worst natural disasters in recent memory there.

The most significant flood history and risks in Pulaski County exist in and around the Town of Pulaski. In the last 90 years, the town has experienced at least 11 100-year floods, plus a 500-year flood in 1929. Based on the frequency of 100+-year floods in the last century, there is a 10-13% chance every year that the town will experience this level of flooding, rather than the anticipated 0.2-1% chance anticipated.

100-year Flood Zone Area

Locality	Flood zone Area (sq. mi)	Total Area (sq. mi)	% of Total
Floyd	7.39	381.78	1.94%
Giles	11.92	360.38	3.31%
Montgomery	11.37	388.72	2.92%
Pulaski	15.36	329.57	4.66%
Radford	0.84	10.21	8.22%
NRVRC Total	46.87	1470.66	3.19%



Selection of Proposed Regional Mitigation Projects

Project	Hazard(s) mitigated
Additional hazard, risk, damage and scientific data points Drought	Flooding, Geologic, Wildfire,
Regional Water Supply Planning	Drought, Wildfire
Create all hazards educational materials	All natural and human-caused
Develop a regional strategy for participation in "Turn Around, Don't Drown"	Flooding
Wildfire prevention and mitigation such as Firewise training at more woodland home communities, creating defensible space, hazardous fuels reduction, and ignition resistant retrofitting	Wildfire
Acquisition and demolition, acquisition and relocation, retrofitting, elevation, floodproofing, mitigation reconstruction of NFIP defined SRL properties, or other mitigation for properties in flood-prone areas	Flooding
Obtain and install VDOT high water area signage with flood-gauge markers	Flooding

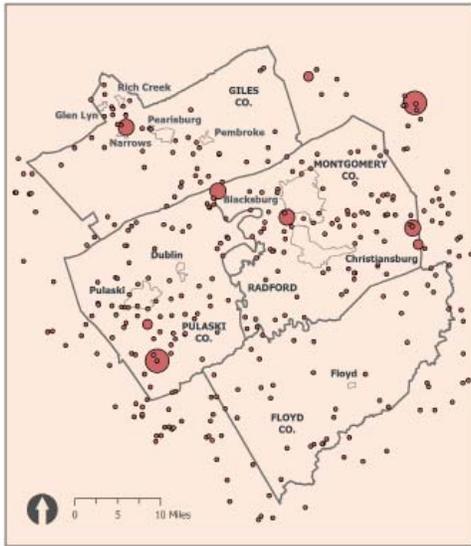
The above is a sample of regional projects developed by the steering committee and working groups. Local mitigation projects are included in Chapter 6 of the complete plan. The 2017 plan is available at <http://nrvc.org/hazardmitigation/>.

Hazard Mitigation & Natural Disasters

When a major natural event strikes, it is often described as a natural disaster. Natural disasters and their aftermath have long affected humans and the built environment. Pre-disaster hazard mitigation is about preventing or minimizing the physical, financial, and human impacts of natural disasters. The Federal Emergency Management Agency (FEMA) describes hazard mitigation as "sustained actions taken to reduce or eliminate long-term risk from hazards and their effects."

The New River Valley Hazard Mitigation Plan 2017 includes the best available data and analysis for the hazard identification and risk assessment used to determine mitigation strategies. Participating local governments (Floyd, Giles, Montgomery, and Pulaski Counties, City of Radford, and the Towns of Blacksburg, Christiansburg, Glen Lyn, Narrows, Pearisburg, Pembroke, Pulaski, and Rich Creek) have completed mitigation projects and identified potential projects to address the natural hazards they face. This plan focuses primarily on natural hazards: flooding, drought, wildfire, landslides, karst, rockfall, earthquake, winter weather, winds, and severe weather.

Wildfire



**Wildfire Incidents
(2002-Spring 2016)**
New River Valley

Fire Size (acres)

- 0 - 100
- 101 - 200
- 201 - 300
- 301 - 665

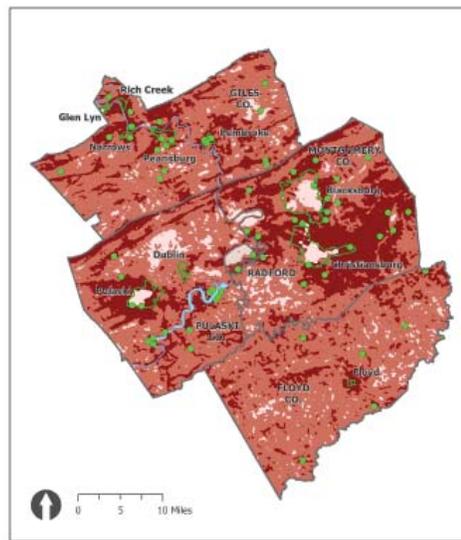
Reported wildfires within five miles of the New River Valley. Data for West Virginia counties not available.

Created by NRVRC, 2017. Sources: U.S. Census Bureau; Virginia Department of Forestry; Virginia Geographic Information Network.

The greatest number of fires occur in February, March, April and May. This period is known as Spring Fire Season. Fall Fire Season in October, November and December. Human populations can also affect wildfire risk, as most of reported wildfires in Virginia were started by humans through arson, smokers, campfires, equipment use, and debris burning. Despite this, urban areas were considered to have a much lower risk of wildfires than rural areas.

Special Hazard Areas

The wildland-urban interface tends to be especially vulnerable to wildfire risks. DOF identified Woodland Home Communities where this interface could potentially put numerous homes and lives at risk during a wildfire. These communities are identified on the adjacent map as part of the existing wildfire mitigation and response. In identifying the woodland home communities, DOF also prioritized these communities and their risk and has begun outreach efforts with those at the most risk of severe impacts from wildfires.



**Wildfire Risk and Woodland
Homes Communities**
New River Valley

Wildfire Risk

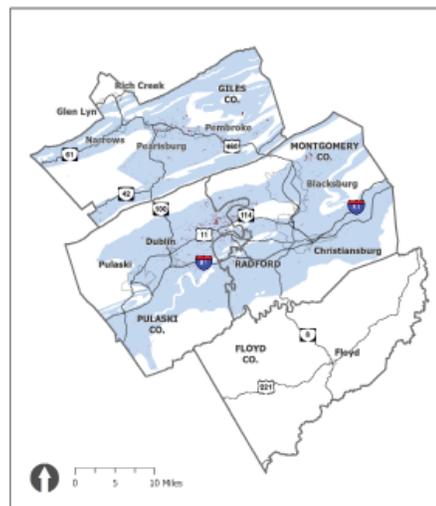
- Low
- Moderate
- High
- Woodland Homes Community

Woodland Homes Communities are clusters of homes located along forested areas at the wildland urban interface that could possibly be damaged during a nearby wildfire incident.

Created by NRVRC, 2016. Sources: U.S. Geological Survey; U.S. Census Bureau; Virginia Department of Forestry; Virginia Geographic Information Network.

Karst Geology

The distribution of karst-forming bedrock throughout the NRVRC area is shown on the adjacent map. Of note is the fact that Floyd County has no karst-forming bedrock formations. The county is underlain by igneous rocks do not lend themselves to karst and the formation of sinkholes.



**Karst Geology and
Sinkholes**
New River Valley

**Karst Forming
Bedrock**

- Carbonate Karst
- Sinkholes

Created by NRVRC, 2017. Sources: U.S. Census Bureau; U.S. Geological Survey; Virginia Geographic Information Network.