

FOREWORD

This white paper is released jointly by Charlotte Herbert Mears, Regional Director of FEMA Region III, and Anthony Lowe, Administrator, the Federal Insurance and Mitigation Administration of FEMA.

This paper presents a “then” versus “now” look at the levels of flood insurance protection when Hurricane Floyd hit Virginia on September 16, 1999, with those levels today. The paper also describes the mitigation activities in Virginia since Floyd to help get people out of harm’s way, and the preparedness measures undertaken to deal with hurricanes and inland flooding.

The focus of this study was on six communities in the Virginia Tidewater area— the City of Norfolk, the City of Hampton, the City of Suffolk, the City of Virginia Beach, and the unincorporated areas of Southampton and Isle of Wight Counties. Comparative figures were also gathered for the City of Franklin. While Franklin is on the fringe of the Tidewater area, it suffered heavy damage from record Blackwater River flooding as a result of Hurricane Floyd.

Our overall conclusion is that the growth of flood insurance in these communities, since Floyd, is encouraging: Every community in the study group experienced an increase in flood insurance policies in force and the amount of coverage in effect. The growth levels are a testament to the hard work of many—Commonwealth of Virginia’s Department of Conservation and Recreation, Virginia’s Department of Emergency Management, the Commonwealth’s Commissioner of Insurance, local emergency management officials, State and local floodplain managers, lenders, insurance agents, the Write Your Own companies selling flood insurance under the National Flood Insurance Program, and FEMA. The growth is also a testament to the prudence of the property owners in these communities.

The percentage of flood insurance policy retention in the Tidewater study area is slightly higher than State and national percentages. Nevertheless, retention levels of flood insurance need to be higher not only in the Tidewater area but also in the entire State of Virginia for the protection of each and every property owner in the Commonwealth. This paper points out that all of Virginia’s property owners, whether in designated special flood hazard areas or not, need to buy and keep flood insurance protection.

The one message drawn from this study for all the residents of Virginia, their State and local officials, lenders and insurance agents is this: flood insurance is not a luxury, it is a necessity. And for those Virginians who do not yet own a flood insurance policy, they *need to buy* the coverage now in the very heart of the 2002 hurricane season. For Virginians with flood insurance policies now in effect, they *need to keep* the coverage they already have and not let their policies lapse—for the current hurricane season and throughout the year.

The staffs of the Virginia Department of Emergency Management, the Virginia Department of Conservation and Recreation, NOAA, FEMA Region III, the NFIP Bureau, the NFIP direct-side, and the Federal Insurance and Mitigation Administration deserve recognition for their work to prepare this paper.

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FLOYD: SEPTEMBER 16, 1999

Few in Virginia will forget Hurricane Floyd. It became the most powerful storm of the 1999 hurricane season and unleashed headline amounts of rain causing heavy damage in southeastern Virginia and neighboring North Carolina. Hurricane Floyd was also massive, estimated to be between 500 and 600 miles in diameter, as it lumbered toward the U.S. eastern seaboard. According to the National Hurricane Center, Floyd was, at its most intense, a Category 4 Hurricane on the Saffir-Simpson scale—with maximum sustained winds up to 135 mph. (As it approached the Bahamas it had nearly reached Category 5 intensity on the Saffir-Simpson scale.) The National Hurricane Center reports that Floyd was in fact the largest hurricane to make landfall in the U.S. since Hurricane Hugo ten years earlier. It also became the deadliest storm in the U.S. since Tropical Storm Agnes in 1972 leaving 56 dead in its wake.

The size of Floyd, its intensity, and its track stirred uneasy memories of Hugo as well as Hurricane Andrew (August 1992) prompting public officials to launch one of the largest evacuations in U.S. history with an estimated 3 million people moving out of harm's way from the Atlantic coast.

After some fits and starts, Floyd battered the Bahamas, leaving one dead and millions of dollars in property damage. Floyd then lost energy again, only to regain strength once more over the Atlantic. Because of its unpredictability, Floyd was a difficult system for emergency management officials in the U.S. to gauge. But after it stalled off the southeast U.S. coast, this massive system finally spared Florida and moved north.

By the time, Floyd made landfall in the early hours of September 16 at Cape Fear, North Carolina, it had decreased to a Category II Hurricane. By mid-morning, as a Tropical Storm, Floyd hit Virginia at Norfolk. In both locations, Floyd brought torrential rains—the source of the devastation in Virginia. While there was some minor damage in the Tidewater area of Virginia, the most significant damage occurred inland in southeastern Virginia. The USGS reported this on September 17, 1999 for Virginia: “the current river level (i.e., of the Blackwater River) exceeds the peak of record at the gage which has been in operation for 55 years.”

Residents of Franklin noted that flooding in Franklin from the Blackwater River exceeded the large flood of record there of 1940. By the time Floyd was finished with Virginia, it would leave three dead, hundreds of millions of dollars in property damages, and thousands of damaged Virginia homes and businesses. After Floyd had done its initial damage, the President, on September 18, 1999, declared Virginia eligible for Federal disaster assistance.

FEMA disaster records show the following Federal outlays for individuals, families, business, and communities in Virginia as a result of Floyd:

- **Disaster Housing Program:**
 Eligible Applicants: 3242
 Amount Received: \$4.6 million
- **Individual and Family Grant Program:**
 Eligible Applicants: 1317
 Amount Received: \$4.1 million*
- **Public (i.e., infrastructure) Assistance:** \$20.3 million (the Federal share)
- **Certificate holders of the Group Flood Insurance Policy:** 244
- **National Flood Insurance Program (NFIP) claims paid:** 131
- **Total of NFIP Claims payments:** \$2,964,903.64.
- **Average claim payment:** \$30,884.41

*75% Federal/25% State

FLOOD INSURANCE: GROWTH and RETENTION since FLOYD

For the purposes of this white paper we compared flood insurance statistics—policies in force and amount of coverage—for six communities in the Tidewater area in September 1999, when Floyd hit, versus today’s numbers and for Franklin. The six Tidewater communities we looked at were: Norfolk, Hampton, Suffolk, Virginia Beach, Southampton County, and Isle of Wight County. The following comparison is encouraging for flood insurance protection in the Tidewater area and in Franklin:

**TABLE 1
 POLICIES-IN-FORCE (PIF) COMPARISON: THEN vs. NOW**

COMMUNITY	PIF-09-99 (Floyd)	PIF (Today)*	DIFFERENCE
City of Norfolk	7,563	8,407	844+
City of Hampton	8,759	9,762	1,003+
City of Suffolk	215	478	263+
City of Virginia Beach	17,846	20,362	2,516+
Southampton County	42	165	123+
Isle of Wight County	83	191	108+
City of Franklin	25	200	175+
TOTAL	34,508	39,365	4,857+

% of Growth 14.57%

The growth of flood insurance policies in force (PIF) in the Tidewater area and in Franklin exceed the growth levels of approximately 4% for the nation as a whole and are similar to the 15% growth rates for the Commonwealth of Virginia. This indicates that the citizens of the Commonwealth of Virginia have learned from the losses suffered in Hurricane Floyd, not just in the areas that were severely impacted but throughout the commonwealth.

* The latest figures available are as of 05-02-02.

**TABLE 2
INSURANCE-IN-FORCE COMPARISON: THEN vs. NOW**

COMMUNITY	INSURANCE IN FORCE-09-99 (Floyd)	INSURANCE IN FORCE (Today)*	DIFFERENCE
City of Norfolk	\$1,019,639,000	\$1,292,561,900	\$272,922,900+
City of Hampton	\$998,047,000	\$1,235,994,500	\$237,947,500+
City of Suffolk	\$31,815,000	\$81,905,200	\$50,090,200+
City of Virginia Beach	\$2,498,250,000	\$3,213,628,100	\$715,378,100+
Southampton County	\$4,574,000	\$16,389,700	\$11,815,700+
Isle of Wight County	\$12,526,000	\$32,301,900	\$19,775,900+
City of Franklin	\$35,290,000	\$38,544,500	\$3,254,500+
TOTAL	\$4,564,851,000	\$5,872,781,300	\$1,307,930,300+

% of Growth 28.65%

The growth of flood insurance coverage in force in the Tidewater area and in Franklin is almost the same as the rest of the Commonwealth's 32% and is higher than the national growth rate of 19.8%. This too is indicative of the awareness in Virginia of the need for flood insurance.

**TABLE 3
POLICY RETENTION for 2001**

COMMUNITY	RETENTION RATE
City of Norfolk	89%
City of Hampton	93%
City of Suffolk	84%
City of Virginia Beach	89%
Southampton County	91%
Isle of Wight County	84%
City of Franklin	90%

* The latest figures available are as of 05-02-02.

The retention of flood insurance policies in the Tidewater area, as a whole, and in Franklin, are in most cases slightly better than the retention level of 88% for the Commonwealth of Virginia as a whole. Nonetheless, the levels of retention for flood insurance are insufficient not only statewide but also in the Tidewater area. While there is net growth in the study area with an encouraging number of new flood policies bought since Floyd, enough policies in the study area are lapsing to cause concern. The study shows that about one in eight policyholders in the Tidewater area and in Franklin are dropping from the NFIP's rolls. That means 10-12% of the property owners in the study area as well as the Commonwealth of Virginia as a whole are letting their flood policies lapse. While we are about to launch a study to determine nationwide the specific reasons why people let their policies lapse, studies in the past have concluded that people tend to start dropping their flood insurance coverage within two to three years after a significant flood event as the memory of the event recedes with time.

Group Flood Insurance Policy

FEMA provides limited flood insurance coverage under its Group Flood Insurance Policy for the recipients of disaster assistance who receive a grant to meet essential needs caused by the disaster. The recipients of this form of individual assistance have insufficient repayment capability to be eligible for a Federal disaster assistance loan. The State, which administered the grant program at the time of Floyd, paid for the premium for this Group Flood Insurance Policy.

The Commonwealth provided the premium for the Group Flood Insurance Policy for 244 Virginians. Under the rules for the Group Flood Insurance Policy, the group policy became effective on November 17, 1999—60 days after the date of the disaster declaration—September 18, 1999. The policy is in force for 37 months and will terminate on December 17, 2002.

Conclusion

Policy and coverage *growth* in the Tidewater area of Virginia since Floyd is encouraging. The *retention rate* for policies however needs improvement. Only 88% of the State's NFIP policyholders renewed their coverage in 2001.

More Virginians need to buy flood insurance protection. And every Virginian who has a flood insurance policy needs to *keep* their coverage. Attached to this white paper is a copy of a press release on September 30, 1999, from the Federal Coordinating Officer Bob Gunter during the disaster recovery operation in Virginia after Floyd. His message—"Who Needs Flood Insurance? Everyone!"—bears repeating.

With time, people tend to forget the flood risk and the levels of damage in their hometown or State. Also, far too many people think of flooding only in seasonal terms, such as during hurricane season or along the coast, but the threat is continuous: floods can occur any time, and floods can occur almost anywhere. This approaching anniversary of Hurricane Floyd is just a reminder of the damage that floods can do—both along the coast as well as inland on the creeks and rivers—even in areas that were spared in September 1999.

The NFIP paid 131 of Virginia' disaster victims \$2.96 million in flood insurance claims payments. That means that 131 flood victims paid their own way and did not have to rely on Federal disaster relief or a Federal disaster assistance loan, which they would have to repay with interest, to help them recover. (The average NFIP claim payment was \$30,884.41 saving both the taxpayer and the NFIP policyholder.)

The Group Flood Insurance Policy for FEMA-DR-1293-VA will expire on December 17, 2002 so the 244 Virginians who are now on the group policy must buy a separate flood policy, on their own, to make certain they will be eligible for any future Federal disaster assistance.

FLOOD HAZARD MITIGATION

Definition

Flood hazard mitigation describes the actions that individuals, businesses, and governments can take to prevent future flood damages or to reduce or minimize future flood losses. Among the non-structural flood hazard mitigation activities and techniques to prevent or reduce future flood damages are:

- Acquisition of flood-damaged or flood-prone property,
- Relocation of property owners out of flood hazard areas,
- Elevation above the base flood level of the lowest floor of buildings,
- Floodproofing buildings to withstand or minimize future flood damage.

Mitigation activities such as these have been implemented across the country to save lives, reduce property damage and decrease the money spent on recovery actions. Mitigation success at times has been accomplished after a devastating disaster and local government and the public have realized the need to create change in their community.

Mitigation Activities Since Floyd

This was the case in Virginia after Floyd. The President's disaster declaration for Virginia (FEMA-DR-1293-VA) made funding available after Floyd for: disaster victims and their families for essential needs, State and local governments to repair damaged infrastructure, and mitigation efforts to reduce the exposure of people and property to future flood hazards.

There have been a number of mitigation activities that the Commonwealth of Virginia and the Federal Emergency Management Agency have undertaken since the event. The FEMA Region III staff provided Flood Mitigation Assistance (FMA) funds, Hazard Mitigation Grant Program (HMGP) funds, and other disaster mitigation funds to accomplish mitigation throughout the Commonwealth of Virginia.

The following shows the amount of mitigation funding committed to getting Virginians out of harm's way since Floyd through property buy-outs, relocation, elevation, and floodproofing. The mitigation funding used in Virginia since Floyd to move people out

of harm's way or place people above harm's reach has been a partnership arrangement between FEMA and the Commonwealth of Virginia with FEMA providing 75% of the funding for mitigation and the Commonwealth and local governments providing 25% of the project costs.

Hazard Mitigation Funding: Source	Hazard Mitigation: Amount	Number of Buildings Acquired or Demolished	Number of Buildings Elevated	Number of Buildings Floodproofed
Hazard Mitigation Grant Program	\$7,275,520	94	86	1
Floyd 4000 Series	\$1,693,743	35		
Flood Mitigation Assistance 1999	\$525,600	8		
Flood Mitigation Assistance 2000	\$262,100	7		
TOTALs	\$9,756,963	144	86	1

Community Rating System

The NFIP's Community Rating System (CRS) began in 1990 as a voluntary incentive program to recognize and encourage community floodplain management activities that exceed the minimum NFIP standards. Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance.

There are 10 CRS classes earning NFIP policyholders between 5 and 45 % premium discounts: Class 1 requires the most credit points and gives the largest premium reduction; Class 10 receives no premium reduction. 938 CRS communities, representing over 65% of all policyholders, receive flood insurance premium discounts based on their community's implementation of local mitigation, outreach, and educational activities that go well beyond minimum NFIP requirements. Although premium discounts are one of the benefits of participation in the CRS, it is more important that these communities are carrying out activities that save lives and reduce property damage. These 900 plus communities represent a significant portion of the nation's flood risk as evidenced by the fact that they account for over 66% of the NFIP's policy base.

There are six CRS communities in the Virginia Tidewater area—the focus of our study—that are earning at least a 5% discount on the cost of flood insurance for their residents and property owners because the communities have undertaken flood mitigation or other efforts that exceed the National Flood Insurance Program’s minimum requirements. These CRS communities are Accomack County, the Town of Chincoteague, the City of Norfolk, the City of Poquoson, the City of Portsmouth, and the Town of Wachapreague. All of these CRS communities in the Tidewater Virginia area are Class 9 CRS communities earning 5% flood insurance premium discounts except for Accomack County, which is a Class 8 CRS community earning 10% discount on the cost of flood insurance for its property owners.

These Tidewater Virginia communities are reducing the cost of flood insurance and making it easier for their property owners to buy and keep flood insurance protection. The hope of FEMA is that these communities, in partnership with the Commonwealth of Virginia and FEMA, can undertake even more rigorous floodplain management, mitigation, and outreach efforts so that local property owners will pay less for flood insurance protection.

MAP MODERNIZATION

One of FEMA’s standard procedures is to use the flood as an opportunity to gage the accuracy of its flood maps and see where the maps—due to changes in the human and physical landscape—need to be revised and updated. Since Floyd, FEMA has worked with the Commonwealth’s communities to update 80 map panels in four communities: the City of Franklin, the City of Suffolk, Southampton County, and Isle of Wight County.

PREPAREDNESS: *Emergency Plans, Procedures, and Awareness*

General

Twelve communities that were affected by Floyd have upgraded their emergency preparedness plans and procedures. Six communities in the Virginia Tidewater area have upgraded their emergency operations plans since Floyd: Southampton County, the City of Franklin, the City of Hampton, the City of Suffolk, the City of Portsmouth, and the City of Newport News. This is part of the normal maintenance and emergency operations plan updates that communities, States, and Federal agencies undertake on a continuous basis. Floyd however gave those ongoing planning efforts added significance.

Commonwealth of Virginia’s Hurricane’s Plans

Since Floyd, the Commonwealth of Virginia has updated its Hurricane Emergency Response Plan that identifies the roles and responsibilities of all the key State players in a hurricane emergency response. Working with Virginia's Department of Transportation (VDOT), the Virginia State Police, and the Virginia National Guard, the Virginia Department of Emergency Management has also updated the State's Hampton Roads

Hurricane Traffic Control Plan. One of the important developments of this planning is the Interstate lane reversal option now in place for hurricane evacuation for 80 miles of I-64 from the Tidewater area to Richmond. Also, using a \$60,000 grant from the Federal Highway Administration, Virginia's Department of Emergency Management jointly with the VDOT and the US Army Corps of Engineers has been able to jump-start clearance-time analyses for the Tidewater area that will become an essential component of the State's hurricane evacuation planning. The State also is working to put in place-although not yet there-an inland host sheltering plan for hurricane evacuees using available State messaging capability along the evacuation routes to notify evacuees of locations of available shelters, e.g., at churches, schools, etc. The State is working with inland localities, and the American Red Cross in partnering with private sector organizations, and faith-based organizations to put this inland hosting effort in place. The strides being made in evacuation planning for hurricanes may also be transferable to other evacuation scenarios from the Tidewater area such as for weapons of mass destruction.

Hurricane Awareness

Also, a hurricane awareness/preparedness campaign was conducted by the Virginia Department of Emergency Management for the Tidewater area using HMGP funds. These funds produced a brochure titled "Hurricane: Evacuate or Stay?" The brochure gives citizens advice about tracking official hurricane updates and official evacuation advisories and for developing a family preparedness plan. It also provides helpful advice on emergency supplies and items that should be part of a family go-kit, the need for cash, gasoline, and how to handle pets in emergencies.

Urban Search and Rescue

The Urban Search and Rescue (US&R) Task Force of Virginia Beach was one of the initial 25 US&R task forces that formed FEMA's National Urban Search and Rescue Response System. The Virginia Beach team is one of 28 specially trained Urban Search and Rescue (US&R) task forces in FEMA's national system today. These task forces are activated under the Federal Response Plan to carry out life-saving rescue efforts after building or other structural collapses. In fact, Virginia Beach's US&R team was one of the first three task forces that FEMA deployed to the Pentagon on September 11 following the terrorist attacks. Virginia Beach is also one of only six urban search and rescue task forces in the nation today to be certified by FEMA to respond to attacks from weapons of mass destruction.

CONCLUSIONS

From this study of flood insurance, mitigation, and preparedness in the Virginia Tidewater area, we conclude the following:

- A higher percentage of communities in the Virginia Tidewater area

have taken measured steps to increase their CRS rating than other areas of the Commonwealth. The actions of these Tidewater communities have reduced the cost of flood insurance coverage for local property owners.

We applaud these gains, and we encourage these communities to do even more. We hope more Virginia communities will follow their lead in adopting floodplain management standards that exceed the minimum requirements of the National Flood Insurance Program.

- The communities in the study area all have increased the number of new flood insurance policies in force and the amount of flood insurance coverage in effect since Floyd.

Since Floyd, more residents of the Virginia Tidewater area and in Franklin are protected by flood insurance.

- The retention rate (89%) in the study area however is about the same as the State average of 88%.
- The gains in the number of people in the Virginia Tidewater area protected by flood insurance are offset by those who let their flood insurance policies lapse or decided not to renew their coverage.

More property owners not only in the Tidewater but also in the entire Commonwealth need to keep their flood insurance protection.

- Since Floyd, 144 structures in the 100-year floodplain have been bought and demolished with the residents moving out of harm's way. Eighty-six more structures have been elevated above the 100-year flood elevation and one more structure has been floodproofed. The cost of this loss prevention effort totals \$9.75 million.
- Our cost to benefit studies show that for each dollar spent on mitigation such as moving people out of harm's way or getting them above the reach of the base flood will save \$3 in future flood damages. So we expect the savings that result from these mitigation activities that the Commonwealth of Virginia, the local communities, and FEMA in partnership will be about \$30 million in future flood damages.

We encourage the Commonwealth of Virginia, all flood-prone communities in the State, and communities in the Tidewater area to continue to undertake mitigation to prevent future flood damage because mitigation works.

ATTACHMENT

Posted by **FEMA-1293-DR-VA-PR# 22** on Sep-30-99 9:52pm from 209.165.129.172

WHO NEEDS FLOOD INSURANCE? EVERYONE!

HAMPTON, VA - Anyone can get flooded, and anyone can get flood insurance, whether inside or outside a designated flood zone. Anyone, that is, who lives in a community that is participating in the National Flood Insurance Program (NFIP).

"Flood insurance is a basic element in protecting people and their property from the awful destruction that accompanies sudden flooding," said Robert J. Gunter, federal coordinating officer from the Federal Emergency Management Agency (FEMA). Through the FEMA-administered program, a community can make flood insurance available to all of its residents.

"If your community is an NFIP participant - and in Virginia most localities are - you can buy flood insurance no matter where you live in the community," said Michael M. Cline, state coordinating officer from the Virginia Department of Emergency Services. The state is encouraging all communities to participate in the NFIP. Communities must develop, implement, and maintain a flood plain management plan to ensure their residents access to flood insurance.

Summary information about the National Flood Insurance Program follows:

Flood insurance is available through your insurance agent. NFIP flood insurance is sold through private insurance companies and agents, and is backed by the federal government. If your agent does not write flood insurance, you may call 1-800-427-9662 for the name of an agent in your area that can write a flood insurance policy.

Everyone can, and should, have flood insurance. Even if you don't live in a designated flood zone, you can purchase flood insurance if your community participates in the NFIP. Your community must maintain NFIP standards for new development. Nationwide, the average premium is about \$340 per year for approximately \$98,000 of coverage. Depending on the elevation of your home, the annual premium could be lower or higher.

Flood damage is not covered by homeowner's insurance policies. You can protect your home, business and belongings with flood insurance. You can insure your home for up to \$250,000 for the building and up to \$100,000 for the contents. Business owners can purchase up to \$500,000 for building and \$500,000 for contents.

Flood insurance pays even when no disaster is declared. Statistically, federal disaster declarations are issued in less than 50 percent of flooding incidents. An NFIP policy will pay for flood damage whether or not there is a federal disaster declaration.

There is a waiting period before a flood insurance policy becomes effective. You can purchase flood coverage at any time, but there is usually a 30-day waiting period after you have applied and paid the premium before the policy becomes effective. Plan ahead.

For complete information, call the National Flood Insurance Program toll free at 1-800-427-9662.