

For Homeowners:

Cleaning And Disinfecting

- Remove mud, dirt, and flood debris. Do not wait until the material is dry. It is safer and easier to remove the mud when it is still wet.
- Rinse surfaces with clean water. Avoid using high pressure water on historic materials.
- Use a disinfectant to kill the germs, bacterial, and odor left by floodwater.
- Discard any food or medicine that came in contact with floodwaters.
- Remove all porous items, such as wet carpeting, sheet rock and insulation, that cannot be thoroughly cleaned or dried within 24-48 hours. These materials absorb water and contaminants, and are prone to mold growth.

Note: Many historic architectural materials and features can be salvaged, such as plaster walls and ceilings, wood floors, built-in cabinets and trim. Do not throw away materials at will.

Drying And Ventilation

- Make temporary repairs to roofs and windows to prevent additional water from entering as you begin the drying process.
- Water and moisture can collect in wall and ceiling cavities. It may be necessary to open walls to provide ventilation.
- Open windows in all rooms even if there is no evidence of moisture retention. Fans can be used to speed evaporation.
- Heaters, air conditioners, and dehumidifiers should be used with caution. Drying a building too quickly can cause additional damage.
- Do not drain or pump the water from your basement until the ground water table sinks and the water recedes by itself. This is necessary to avoid the bulking or collapse of foundation walls.

Note: Ventilation and drying should occur as soon as possible. Do not wait until the basement can be pumped.

For Homeowners:

What To Look For In Your Basement

- Look for evidence of structural stresses, including:
 - Movement and bulges in walls.
 - Visible cracks in foundation floor and walls.
 - Undermined support structures. Make sure that supports are still plumb.
- If you are concerned about the structural integrity of your home, contact the Preservation Trust of Vermont for assistance contacting a structural engineer.

Treatment Recommendations For Historic Building Materials

Treatment Of Plaster

- Historic plaster can survive floods and water saturation. Sound plaster, especially decorative plaster, should be retained in place if salvagable.
- It is important to allow it to thoroughly dry before any decisions are made. Do not remove plaster walls or ceilings before allowing them to dry.
- Check for obvious areas where plaster should be removed, such as ceilings with large sags.
- After drying, closely inspect the plaster to determine if it can be repaired:
 - Falling plaster, especially wet plaster, can be dangerous. Do not stand directly underneath sags.
 - Tap lightly on the walls with a piece of wood to determine if the plaster is sound. Unsound plaster will sound hollow.
 - Ventilate walls by opening small holes, look for broken plaster keys. There will always be some broken keys but if there are an excessive amount that plaster is likely in poor condition.
- Most exterior plaster walls contain insulation. As previously stated, insulation cannot be salvaged. It is likely that these plaster walls will need to be removed to discard the damaged insulation.

For Homeowners:

Treatment Recommendations For Historic Building Materials

Treatment of Wood Floors and Trim

- Damage to wood floors and trim will depend on the quality and species of the wood, method of anchoring, and length of water submersion.
- Allow floors and trim to completely dry before considering removal.
- Wood flooring has the tendency to cup at the edges of the boards. If after drying, the boards are still cupped you can decide to either sand them flat or replace the flooring.
- Tongue and groove hard wood floor is unlikely to return to its original condition. When they expand the grain structure is usually damaged.
- Non-interlocking wood floors, like plain pine boards, stand a good chance of returning to their original shape when dried.
- Paneled doors usually survive flooding, as they dry wrapping can disappear. Carefully inspect panels and wood joints.

Interior Paint And Wallpaper

- Most painted surfaces will have to be repainted. Do not paint wet surfaces.
- Historic wallpaper can be saved. The decision is left to the homeowner.

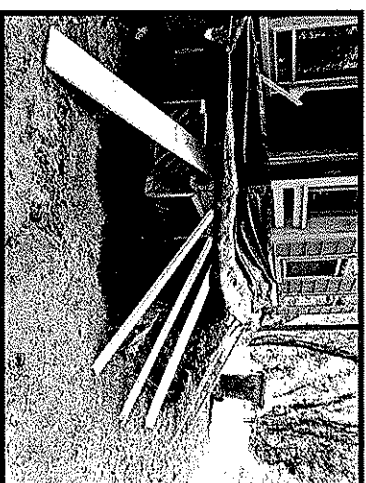
For Homeowners:

After the Floodwaters Recede

Important Reminder:

Older, historic buildings may contain hazardous materials, such as lead-based paints and products containing asbestos. A licensed professional should be consulted and all federal, state, and local regulations and ordinances must be followed.

- Observe safety precautions:
 - Follow all emergency rules, laws, and regulations.
 - Do not walk or drive through a flooded area.
 - Stay away from power lines and electrical wires.
 - Turn off gas, electric, and other utilities until conditions are stable and safe. Be alert for gas leaks.
 - Wear protective clothing. Floodwaters and mud may be contaminated by sewage and chemicals.
- Document current conditions:
 - Before anything is cleaned or repaired, take notes, pictures, and/or video. This can be used for insurance purposes and repairs.
- If needed, stabilize any structures with temporary bracing. Contact the Preservation Trust of Vermont for assistance contacting an engineer or architect.



Example of temporary bracing after 2011 flood

For Homeowners:

Advanced Preparations

- Copy important documents. Keep one copy at home and the originals in a safe place, like a bank deposit box.
- For insurance purposes:
 - Take photographs of every room in your home, creating a record of your possessions.
 - Save receipts of expensive household items.
 - Create an itemized list of possessions, the more detailed the better.
 - Review your insurance policy and be aware of what it covers. If necessary, contact your insurance provider with questions.
- In certain flood-prone areas, FEMA may recommend that mechanical components be raised off of the basement floor using materials such as concrete blocks. Components may include the furnace, hot water tank, and electrical breaker.

Immediate Preparations

- Tie down your heating fuel tank.
- Turn off electricity and natural gas.
- Move vulnerable items and valuables to the highest level of the building.
- Remove loose items from your yard. These can become floating debris.

Who To Contact Immediately After A Flood

- Your insurance provider.
- FEMA (Federal Emergency Management Agency)
www.fema.gov
- Vermont Emergency Management
www.vern.vermont.gov
- Preservation Trust of Vermont, who can put you in contact with a qualified engineer or architect.
www.ptv.org

For Homeowners:

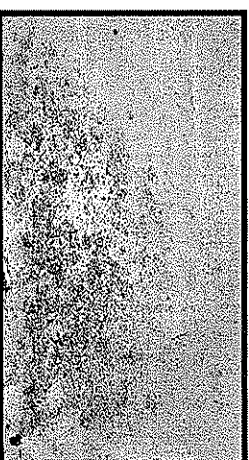
Mold Removal Guidelines

Mold begins to grow on objects that stay wet longer than two or three days. The longer it grows the greater the health hazard and the harder it is to control. It can trigger allergic reactions and asthma attacks, may lower resistance to illnesses, or have other effects. Do not delay clean up.

Quick DIY clean up tips:

- Wear protective gear during clean up. Use an "N95" dust mask.
- Isolate work area and ventilate to outdoors.
- Remove moldy porous materials.
- Put moldy materials in plastic bags and dispose.
- Clean and disinfect with a solution of chlorine bleach and water. Less corrosive disinfectants, such as alcohols, phenolics, and hydrogen peroxide, can also used.
- Consider having a professional apply a borate treatment to wood elements.
- After cleaning and disinfecting, flush the air.
- Do not restore your building until all materials have dried completely.
- Remain on mold alert.

The EPA offers do-it-yourself clean up guidelines at www.epa.gov/mold. You may also seek a licensed mold remediation contractor.



An example of mold on drywall

For Municipalities:

Preparations

- Have a preservation plan in place that is updated and reviewed annually along with other emergency plans.
- Locate and identify historic districts and buildings located within your town. These resources can be of national, state, or local significance. Identify high risk, highly developed areas that are prone to disasters. Keep an updated inventory that can be easily accessed in the event of a flood. For assistance, contact the Vermont Division for Historic Preservation.
- Locate or create maps of the historic districts in your town. This can be helpful when conducting surveys of effected areas.
- Have copies of survey forms and educational materials available.
- Compile a list of local volunteers who are willing to assist with survey work and additional tasks, including distributing educational handouts.
- Devise a system to efficiently and rapidly move important documents and materials to upper floors.
- Have a pre-approved contract in place for emergency response clean-up contractors, with conservation and historic preservation training.

Responding After A Flood

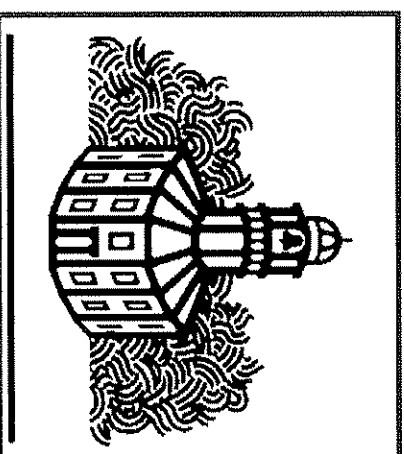
- Contact important organizations including, but not limited to: Vermont Emergency Management, FEMA, Preservation Trust of Vermont, National Trust for Historic Preservation, and the State Historic Preservation Officer.
- Contact emergency response clean-up contractors.
- Arrange for volunteers to survey effected areas. Surveyors should submit information daily. These volunteers should distribute educational materials to property owners immediately. This is a crucial step in aiding the community.
- Develop a way to quickly and efficiently communicate with property owners who may need further guidance in dealing with their damaged property.

Preservation Trust of Vermont

Founded in 1980, the Preservation Trust of Vermont is a nonprofit organization that works with local groups to help save and use historic places. Through a variety of programs and services, Preservation Trust builds local capacity and stronger communities, bringing new life to old buildings.

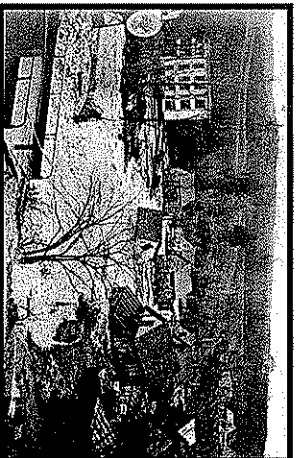
Immediately after the flood, PTV staff fanned out into communities to assess damage and provide cleanup information and contacts for help. The Preservation Trust received an outpouring of donations from individuals and charitable foundations that we put to good use to hire architects and engineers to assess flood-damaged historic buildings at no cost to owners. Preservation Staff and volunteers surveyed 700 downtown and village center buildings that were damaged. We continue to help rebuild with grants for nonprofit- and municipally-owned buildings, community gathering places and covered bridges. As we work in flood-stricken communities, we carry a message of compassion that accompanied each and every donation we received.

We remain grateful for the generosity that enables us to help. For more information about the programs and services of the Preservation Trust of Vermont or to sign up for our electronic newsletter, please visit us at: www.ptvermont.org.



Flooding In Vermont

The state of Vermont has a long history of flooding and other weather-related disasters. The most notorious historic event was the 1927 flood, which devastated the state from Newport to Bennington. Nine inches of rain fell within a thirty-six hour period, overflowing the already swollen rivers. Eighty-five people lost their lives, and nearly 9,000 were



1927 Flood in Barre (Vermont Historical Society)

left homeless. The flood washed away miles of roads and railroad tracks, and over 1,200 bridges. Countless buildings were destroyed.

No event since has reached the extent of the November 1927 flood. However, widespread flooding occurred in Vermont following a hurricane in September 1938. In August 2011, Tropical Storm Irene again caused flooding across the state, damaging a significant amount of property. In all three historic events, similar patterns of flooding and general damage were observed.

Vermonters have become more aware of the potential of future floods and other disasters. Because of the state's diverse geography, it is inevitable that floods will continue to occur. The magnitude of future floods will vary, yet it is important for homeowners and municipalities to be prepared. Narrow valleys easily funnel extensive amounts of floodwater into towns, destroying property. Floods in Vermont tend to occur quickly and recede within a matter of hours or days.

This document is intended to provide Vermont homeowners and municipalities with basic information regarding flood preparation, response, and recovery. Contact the Preservation Trust of Vermont with any questions.

Additional Contacts

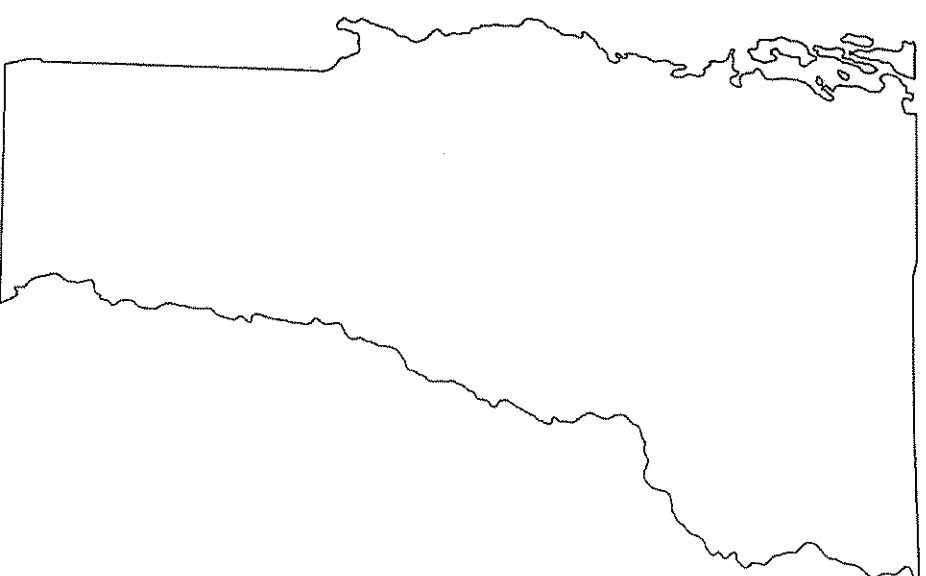
- **Preservation Trust of Vermont:** Preserves and protects historic resources within the state, also aiding communities in need.
www.ptvermont.org
- **Vermont Emergency Management:** Works to inform and assist Vermonters during emergency situations.
www.ven.vermont.gov
- **Vermont Economic Development Authority:** Provides Vermonters with financial assistance.
www.veda.org
- **Vermont State Housing Authority:** Provides critical housing assistance in Vermont.
www.vsha.org
- **Vermont League of Cities and Towns:** Provides assistance to municipalities.
www.vlct.org
- **Efficiency Vermont:** Provides technical assistance and financial incentives to help reduce energy costs.
www.encyvermont.com
- **AIA Vermont:** Educates the public about the architectural profession and provides assistance.
www.aiavt.org
- **FEMA (Federal Emergency Management Agency):** Supports citizens and communities during and following natural disasters. Be familiar with FEMA's specific regulations regarding historic properties.
www.fema.gov

Additional Information

- "Treatment of Flood-Damaged Older and Historic Buildings," National Trust for Historic Preservation.
- "Recovering From and Coping With Flood Damaged Property," FEMA.
www.fema.org/hazard/flood/coping.shtm
- "Tips for the Care for Water-Damaged Family Heirlooms and Other Valuables," FEMA.
www.fema.gov/hazard/flood/care.shtm

Vermont Flood Guide

Preparation, Response & Recovery



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