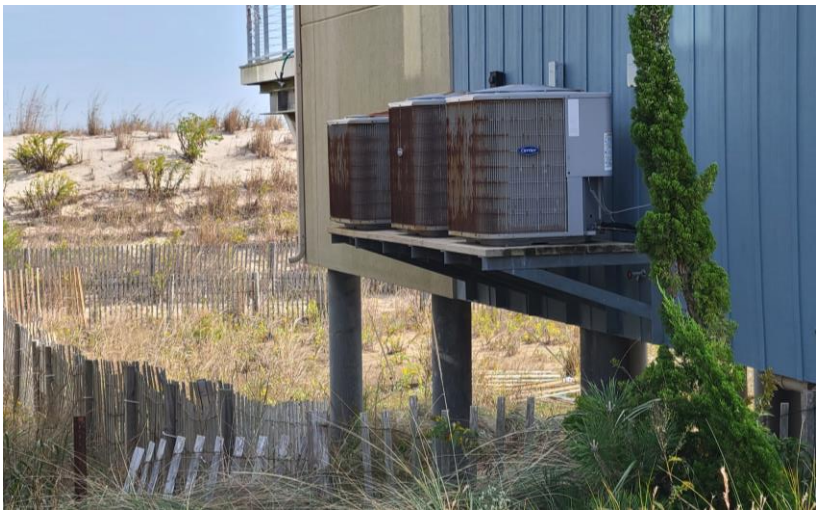
Elevate Outdoor HVAC Equipment

Overview

- If you have outdoor HVAC equipment below the Base Flood Elevation line, the equipment may be at risk during flood events.
- Outdoor HVAC equipment can include the following:
  - Condenser unit
  - Refrigerant lines
  - Wiring lines
- Types of platforms for elevating outdoor HVAC equipment:
  - Cantilevered platforms supported by the first-floor framing system
  - Elevation onto a platform or pedestal of the same foundation type as the structure (e.g., piles, brick)
- Anchoring the equipment to the platform is recommended to make sure it is secure.
- If replacing HVAC equipment, upgrade to more efficient equipment, if possible.
- The cost of elevating outdoor HVAC equipment depends on the type of building and the location of the utilities.
- Elevating equipment onto a cantilevered platform is effective against coastal flooding and high velocity river flooding.
- This strategy may enable the property owner to lower their NFIP flood insurance premium.
- This strategy will not protect the building from flooding but will help reduce flooding associated costs.



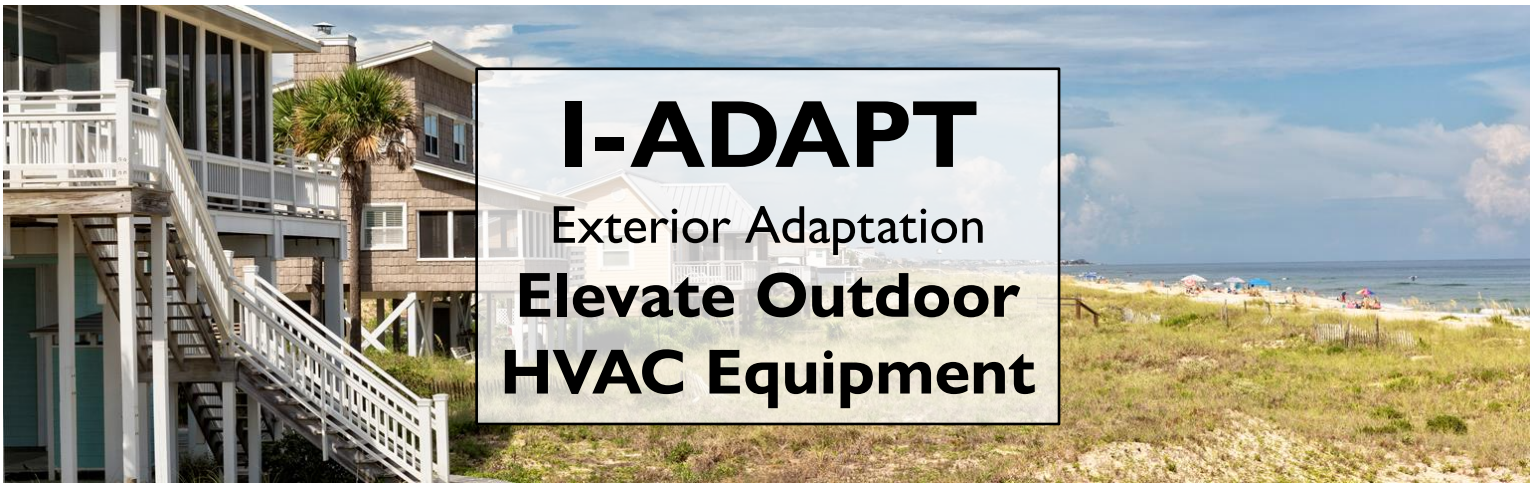
Key Takeaways

During flood events, flood water can damage outdoor HVAC equipment.

The equipment can float and become a projectile during high flooding events, which can cause more damage to the structure and neighboring structures.

To avoid replacement or repair costs related to flood damage, elevate equipment onto a platform or pedestal above the Base Flood Elevation line (BFE).

Photo credit: FEMA



I-ADAPT

Exterior Adaptation

Elevate Outdoor HVAC Equipment

Estimated Costs/Benefits

*U.S. dollars (2022), estimates are subject to change

Potential Costs			Potential Benefits	
Item		*Estimate*	*Post-Flooding Recovery Action*	*Estimate*
Cantilevered wooden platform (4'x5' platform)		$900-$1,000	New HVAC condenser unit	$2,000-$4,000
OR				
Ground platform or pedestal (4'x5' platform on 4' base)	Wood	$900-$1,000		
	Brick/concrete	$400-$1,700		
	Piles	$1,800-$4,800		
AND				
Re-installation of refrigerant lines and wiring		$1,000-$2,000	Re-installation of refrigerant lines and wiring	$1,000-$2,000
ESTIMATED TOTAL COST		**$1,400-$6,800**	**ESTIMATED TOTAL SAVINGS**	**$3,000-$6,000**

Potential Funding Sources

- Building Resilient Infrastructure and Communities (BRIC)

Additional Resources

- FEMA Protecting Building Utility Systems from Flood Damage
- FEMA Principles and Practices for the Design and Construction of Flood Resistant Building Utility Systems
- FEMA 9.0 Protecting Service Equipment

Resources can also be found at https://de.gov/iadapt

Expected Maintenance

- Regular HVAC maintenance.
- Periodically ensure that there is no damage to platforms/pedestals.
- Follow all permitting requirements.

Additional Actions

- Elevate other outdoor utility equipment.

Permitting Agencies

Contacts for permitting requirements include but are not limited to the following:

- DNREC Coastal Construction Permit
- Your city and/or county government for local flood ordinances or regulations
- Your city and/or county government for building permits
- Electrical permit for re-wiring

Who to Contact

- HVAC contractor
- Electrician

Technical definitions and more information are located on the I-ADAPT website: https://de.gov/iadapt.

For more information, contact DNREC's Division of Climate, Coastal and Energy at DNREC_IADAPT@Delaware.gov