

Resilience in Charles County



"The capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from a disruption."

Charles County completed a comprehensive, multi-threat vulnerability and risk assessment that evaluated the effects of four hazards – extreme heat, storm surge flooding, riverine flooding, and high tide flooding – on the people and infrastructure of the County.

Asset Categories Evaluated



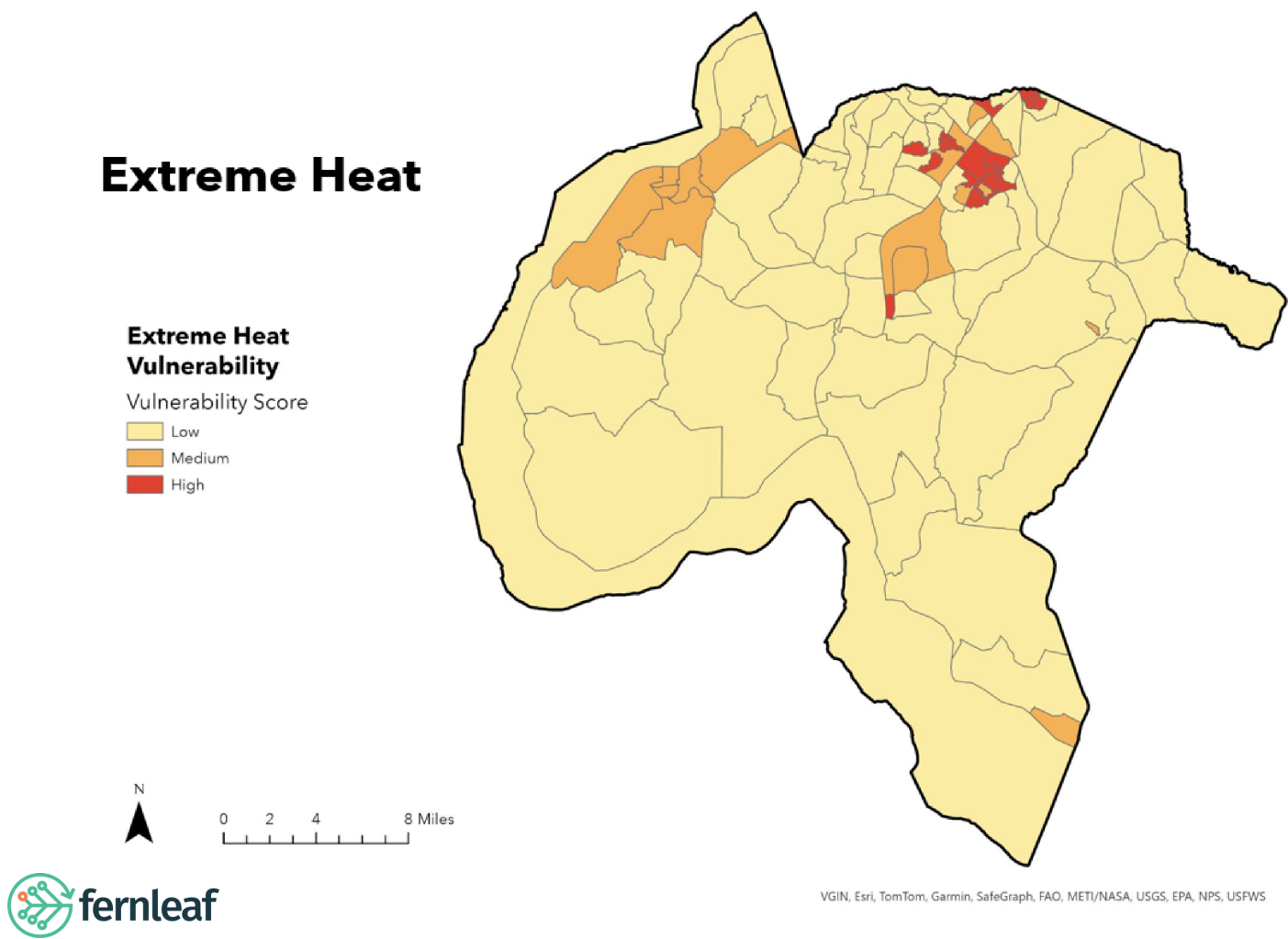
Government Operations Assets: Government owned properties, critical infrastructure.



Community-Wide Assets: residential and commercial properties, cultural and community resources.



Transportation: Roads and parcels potentially isolated from Emergency Services due to flooding.



The patterns of vulnerability tend to follow areas of the County that are more urban, as well as major transportation corridors running through the County.

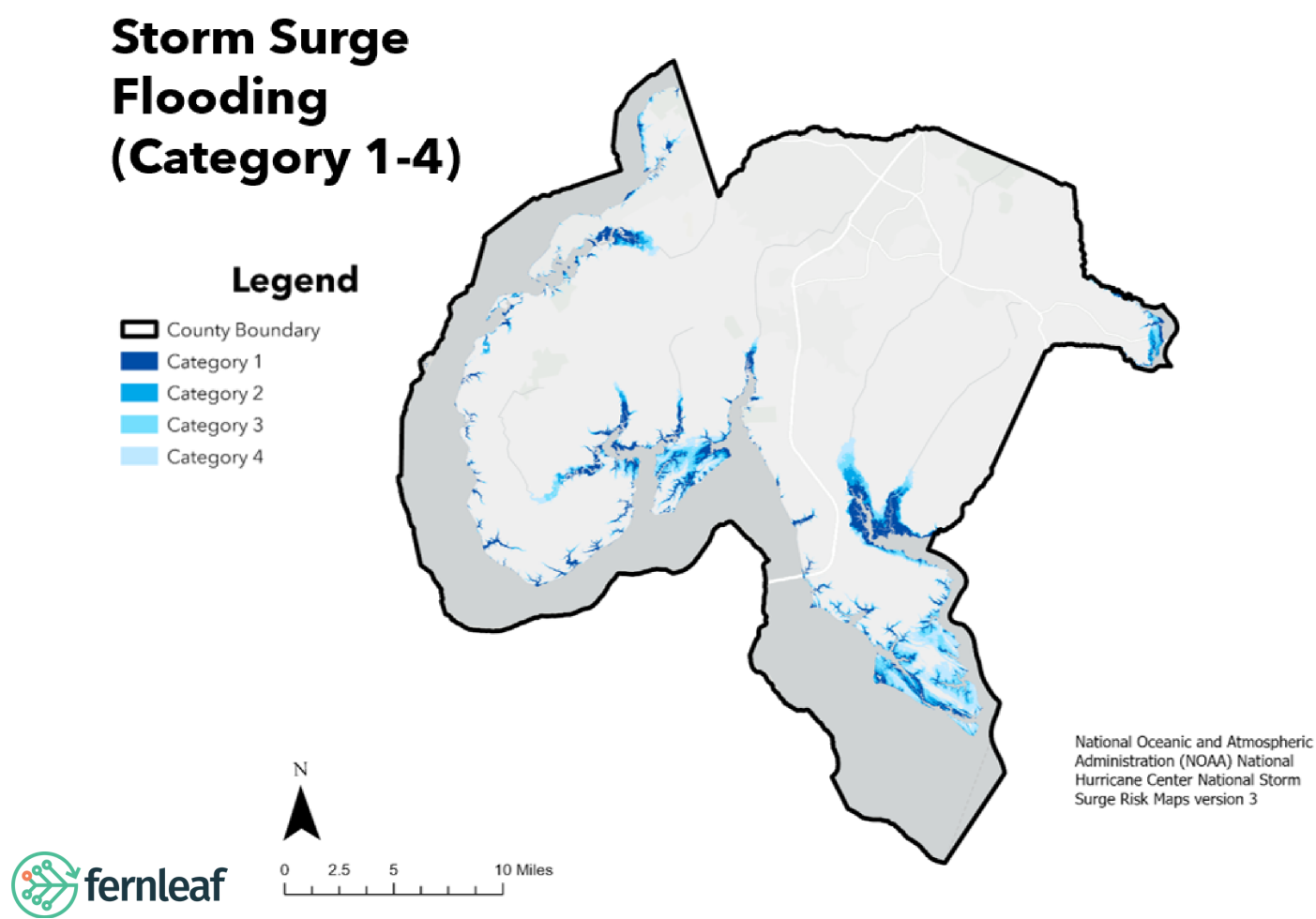
Areas that are highly vulnerable to heat are exposed to a greater extreme heat burden and have limited cooling solutions.

Building Resilience to Extreme Heat



Strategies to reduce vulnerability to extreme heat events include:

- Plant more native trees, shrubs, and plants to create more green spaces – trees provide shade and cool the air, making neighborhoods cooler during heat waves.
- Create cool places for people to go – expand access to cooling centers with air conditioning in community centers or libraries where people can stay safe during heat waves.
- Use cool roofing and pavement materials – light colored or reflective materials on roofs and streets can lower temperatures.
- Help homes stay cooler – provide support to weatherize homes to help people stay safe and cool. Weatherization also helps to reduce energy bills.
- Check in on neighbors – organize community check-ins, especially for older adults, young children, and people with health issues who are more at risk during extreme heat events.



Community-wide assets vulnerable to storm surge flooding are concentrated in the far western and southern portions of the county, as well as the Benedict area.

The storm surge flooding threat is highest in the Benedict Community Park area for all asset categories.

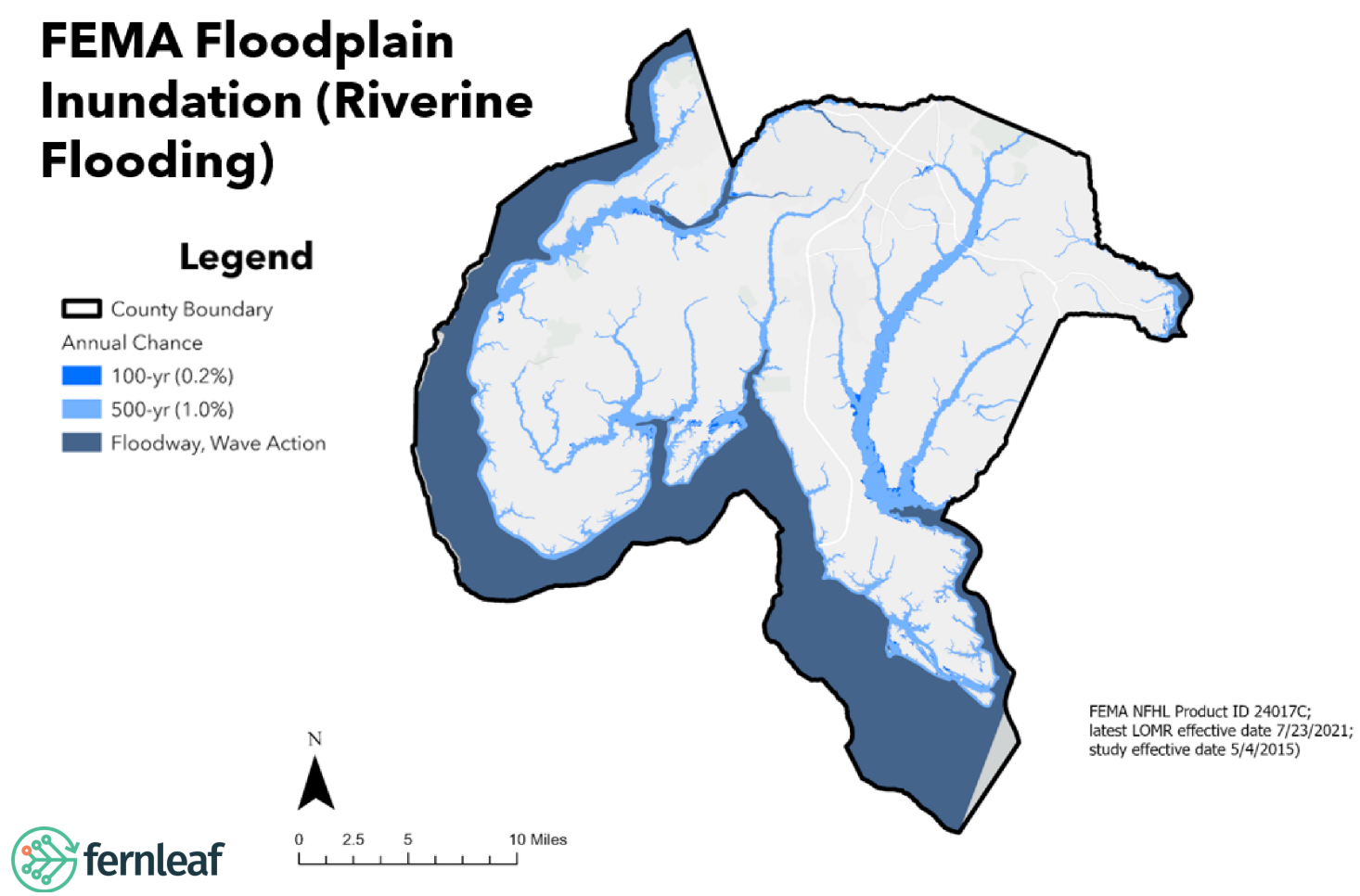
Building Resilience to Flooding

Areas with higher flood vulnerability are susceptible to damage from severe storms and high-tide flooding.



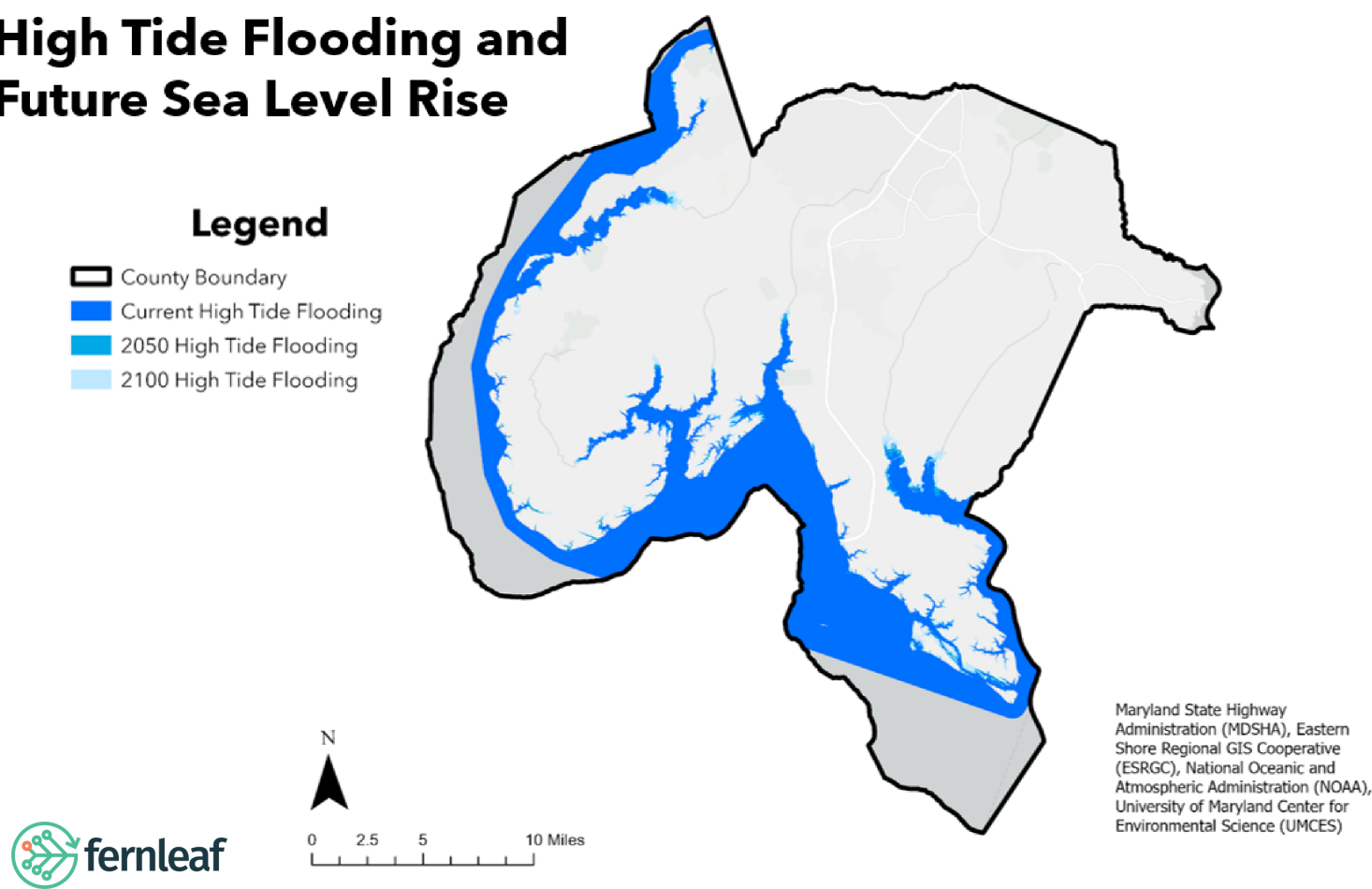
Strategies to reduce vulnerability to flooding include:

- Protect natural areas like wetlands and forests – these areas soak up rain like a sponge and slow down floodwaters.
- Improve stormwater infrastructure – storm drains and ditches help rainwater drain properly and prevent flooding in streets and neighborhoods.
- Raise or flood-proof buildings in risk-prone areas – lifting homes, buildings, and equipment, such as HVAC, or using special materials can help keep floodwater out and reduce damage.
- Share flood warnings and safety information early – early warning can help people prepare so they know when to move to higher ground or protect property.



Vulnerable community-wide assets such as residential and commercial properties, as well as cultural and community resources, are distributed throughout the County, however there are higher concentrations in the south and east ends.

The majority of community-wide assets that are vulnerable to floodplain inundation are medium- or low-risk, meaning that they are outside frequent flooding zones.



The overall vulnerability of community-wide asset categories to current tidal flooding is low. Only 90 assets are at high or medium levels of vulnerability and risk. However, vulnerability to high tide flooding does increase under 2050 and 2100 sea level rise scenarios, particularly among residential properties.

