



HEC-RAS MODELING – TOWN OF WAKEFIELD, VIRGINIA

*Flood inundation modeling to evaluate frequent flooding events
in the Town of Wakefield, Virginia.*



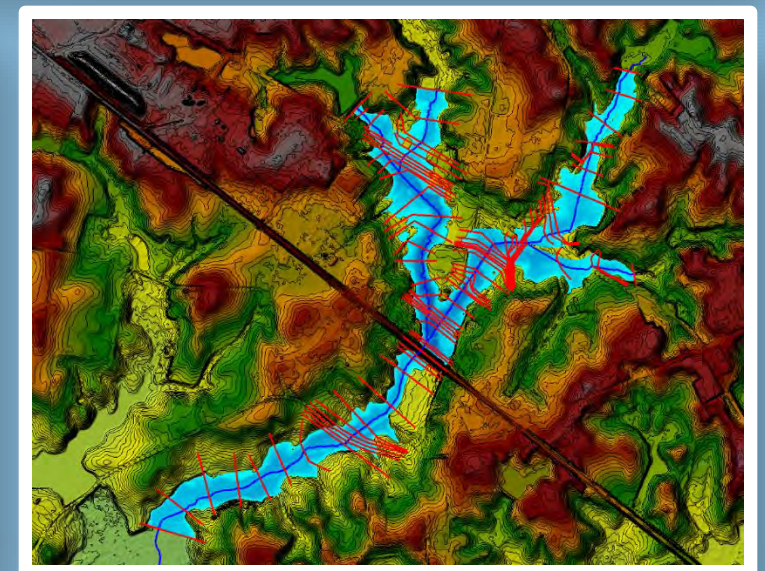
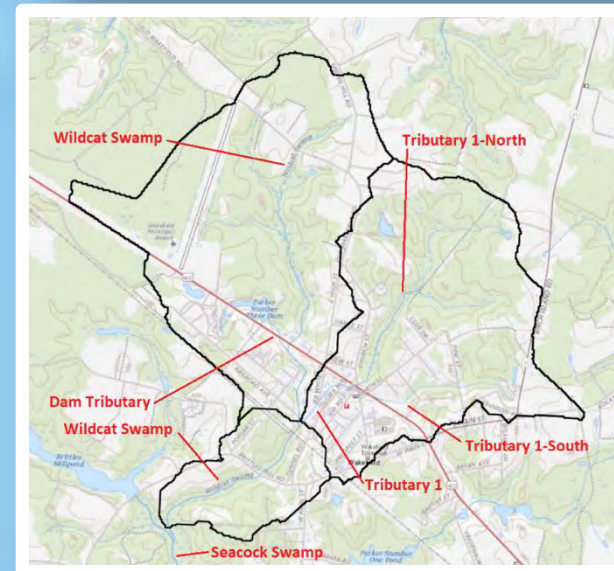
POC: Faraz Ahmed, USACE Norfolk District

PRIMARY OUTCOME & CHALLENGES

In coordination with Sussex County, VA and the VA Department of Emergency Management (VDEM, Silver Jackets Co-Chair), HEC-RAS modeling was completed for streams within the Town of Wakefield to help evaluate ongoing flooding issues. The Town experiences frequent flooding during rain events, resulting in property damage and financial loss to businesses. U.S. Route 460 is a major transportation and hurricane evacuation route that experiences repetitive flooding.

Culverts and drainage channels have been in place since before the 1930s and have significantly narrowed due to erosion and vegetation growth, restricting rainwater flow. As a rural county, population of 11,000, it has been challenging for the County to fund and maintain the drainage system.

To help address the flooding, the County requested technical assistance through USACE's FPMS Program. USACE, Norfolk District developed HEC-RAS modeling to help evaluate existing conditions for the streams studied. Using VDEM funding, the County, through its contractor (Wooten), used the HEC-RAS modeling to help evaluate and recommend flood mitigation solutions. As a result, in February 2025, the County received FEMA Hazard Mitigation Grant Program funds of \$1.05 million to complete engineering design work for the proposed stream improvements.



VIRGINIA SILVER JACKETS TEAM PROJECT PARTNERS

- Richard Douglas, Sussex County, VA
- Donna Pletch, VDEM
- Lester Lowe, The Wooten Company
- John Mathews, Virginia Department of Transportation
- USACE Norfolk District